Attachment F-1

Preliminary Drainage Studies

FOR REVIEW ONLY

Birtcher Commerce Center Oak Valley - Building A
DPR 21-03
Calimesa, County of Riverside, California

Preliminary Drainage Study

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SECTION 1 - SUMMARY

PURPOSE

The purpose of this report is to document the hydrologic and hydraulic analyses performed in support of the Birtcher Commerce Center Oak Valley (BCCOV) - Building A project located in the city of Calimesa in the County of Riverside, California. The overall BCCOV project site (PM 37862) consists of approximately 220 acres of currently vacant land and is bounded by the Interstate-10 (I-10) highway along its northeast, the single-family residential tract TR 32702 (currently under construction) along its southeastern boundary, vacant along its southern boundary, and a future residential development to its northwest. The San Timoteo Creek runs from north to south along the eastern boundary of the BCCOV site and continues south of the site.

The BCCOV - Building A project is bounded by Singleton Road to its northwest, the future BCCOV – Building B development to its northeast, the San Timoteo Creek along its southeastern boundary, and vacant areas to its southwest. The project proposes to build an industrial development on approximately 33.4 acres of vacant land. This report will summarize the hydrologic and hydraulic analyses that were conducted in order to determine the necessary drainage improvements required to provide flood protection for the proposed building and safely convey the runoff through the site.

The scope of this report will include the following:

- Determine the peak 100-year and 10-year flow rates for the developed condition using the Riverside County Flood Control and Water Conservation District (RCFC&WCD) Rational Method.
- Determine the required storm drain facilities, alignment, and sizes required to flood protect the project site.
- Determine the necessary flow rate required for water quality treatment.
- Determine the necessary detention volume required to mitigate for increases in runoff for the 24-hour duration storm event for the 2-year return frequency
- Preparation of a preliminary report summarizing the hydrology and hydraulic results.

DESCRIPTION OF WATERSHED

As previously described, the project is proposing an industrial development on approximately 33.4 acres of vacant land within the boundaries of the overall BCCOV project boundary. The overall BCCOV project, and all areas within its boundary including the BCCOV - Building A project, is located within the Summerwind Ranch at Oak Valley Specific Plan which comprises approximately 2,600 acres of land within the city of Calimesa.

The currently vacant overall BCCOV project site generally drains towards the center of the site where a natural streambed area conveys flows from north to south. The project site is currently impacted by considerable offsite flow that enters the site via multiple existing culverts running underneath the I-10 Highway. The existing culverts convey approximately 3730 cfs of flows generated mainly by the San Bernardino Mountains located northeast of the overall BCCOV project site. The offsite flows combine with the existing onsite flows and are conveyed south through the site via the existing streambed areas before ultimately discharging into the San Timoteo Creek.

Prior to any construction commencing for the BCCOV - Building A project, the overall BCCOV project site will be mass graded. The mass grading phase also includes the construction of retaining walls along the boundaries of the overall BCCOV project, graded pads, the construction of backbone street improvements for Singleton Road and Roberts Road, the installation of backbone storm drain facilities, and the installation of storm drain stub-outs for the individual BCCOV industrial developments to discharge into. The overall drainage pattern of the mass grade phase will perpetuate the drainage pattern

of the existing, vacant project site. However, runoff in the mass graded phase will be captured in temporary inlets and conveyed towards the backbone storm drain facilities. The backbone storm drain facilities have been designed to convey the fully developed flows from the overall BCCOV project as well as the existing offsite flows generated north of the I-10 highway southerly towards the San Timoteo Creek. A separate drainage study titled "Hydrology and Hydraulics Study: Oak Valley Town Center Parcel Map No. 37862 Mass Grading Plan" was conducted for the mass grade phase of the project and encompasses the design and layout of the backbone storm drain facilities.

The completion of the mass grade phase (along with backbone improvements for Roberts Road and Singleton Road) for the overall BCCOV project site will be considered the existing condition for the purpose of this preliminary drainage study for the BCCOV - Building A project. Temporary inlets and any existing CMP constructed in the mass grade phase will be removed in the ultimate condition. Storm drain stub-outs constructed in the mass grade phase will remain in place and be used as connection points for the proposed onsite developments of the BCCOV - Building A project.

Existing elevations across the site vary from approximately 2224 to 2183 (NAVD88 datum). Runoff in this existing condition generally surface flows towards a natural streambed area near the center of the project area. From there, flows are conveyed from north to south until they are discharged off the site along the southern boundary and ultimately enter the San Timoteo Creek.

PROPOSED CONDITIONS

In the proposed condition of the BCCOV - Building A project, onsite runoff will be conveyed throughout the site via proposed ribbon gutters and curb & gutters. Onsite runoff will then be captured by a network of catch basins and drainage inlets provided at low points. Proposed private underground storm drain conveys captured flows towards proposed biotreatment devices for water quality treatment. Modular Wetland System (MWS) vaults are being proposed to provide water quality treatment (additional information regarding the MWS vaults can be found in the separate Preliminary WQMP Report). CMP chamber detention systems with orifice outlets are proposed to mitigate onsite flows for the 2-year 24-hour storm event to meet HCOC requirements.

All flows captured onsite are then conveyed towards existing storm drain stub-outs that will be constructed in the mass grading phase of the overall BCCOV project once treated for water quality and mitigated to be within 10% of the pre-development flows for the 2-year storm event with a duration of 24 hours. These stub-outs have been sized to convey the fully developed flows generated by the BCCOV - Building A project per a separate drainage study ("Hydrology and Hydraulics Study: Oak Valley Town Center Parcel Map No. 37862 Mass Grading Plan") and conveys flows towards the backbone storm drain lines which will be constructed in the mass grade phase of the overall BCCOV project. The backbone storm drain line conveys flows towards the southern boundary of the overall BCCOV project boundary and ultimately discharges all captured flows offsite and into the San Timoteo Creek.

METHODOLOGY

HYDROLOGY

Hydrologic calculations were performed in accordance with the RCFC&WCD Hydrology Manual, dated April 1978. The Rational Method was utilized in determining peak flow rates.

The hydrological parameters, including rainfall values and soil types were derived from the RCFC&WCD Hydrology Manual. The isohyetal maps and soil map have been included in Section 2.

Rational Method calculations were performed using a computer program developed by CivilDesign Corporation and Joseph E. Bonadiman and Associates Inc. The computer program is commonly referred to as CivilD which incorporates the hydrological parameters outlined in the RCFC&WCD Hydrology Manual.

The Rational Method was used to determine the peak flow rates to size and design the drainage facilities need to convey onsite flows through the site to the existing stub-outs. The flow rates were computed by generating a hydrologic "link-node" model in which the overall area is divided into separate drainage sub-areas, each tributary to a concentration point (node) determined by the proposed layout and grading.

The Unit Hydrograph Method was used to determine the peak flow rates and volumes associated with the 2-year event for the site. Calculations were performed for both the existing condition and developed condition to be used in the analysis of the proposed detention systems. See Section 4 for additional information and results regarding the hydrologic analyses performed for this project.

HYDRAULICS

Water quality calculations were performed using spreadsheets that were created by RCFC&WCD. Final calculations and additional details can be found in the Preliminary-WQMP.

Basin routing calculations were performed using the CivilD computer program. The CivilD program utilizes the Modified-Puls methodology to routes unit hydrographs through a basin using the stage-storage and stage-discharge curves determined from the proposed basin design. See Section 4 for additional discussion and results.

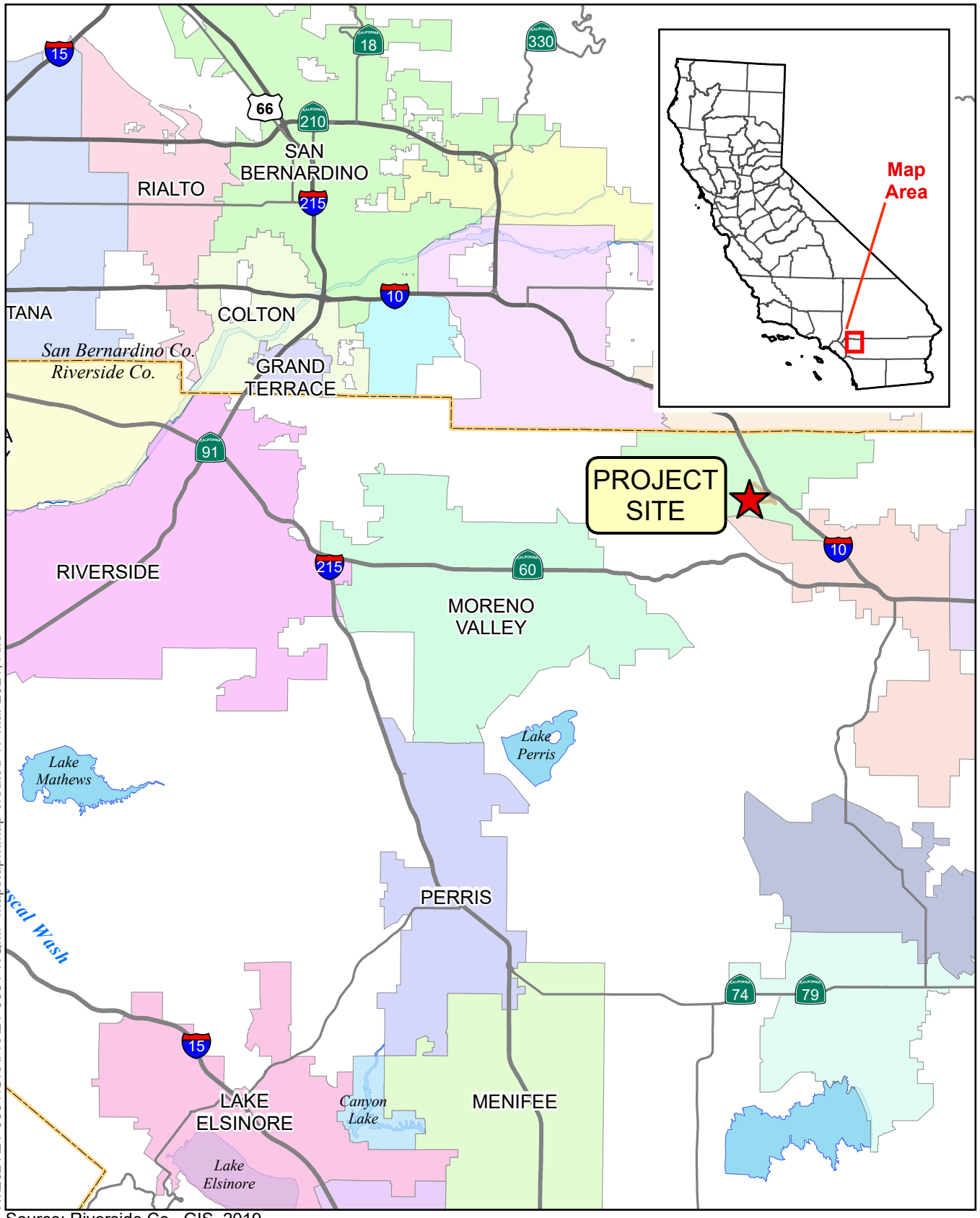
Hydraulic calculations to determine the required pipe sizes of proposed storm drain facilities will be provided in the Final Drainage Study.

FIG. 1 VICINITY MAP

FIG. 2 USGS TOPOGRAPHY MAP

FIG. 3 AERIAL PHOTOGRAPH

FIG. 4 RECEIVING WATERBODIES



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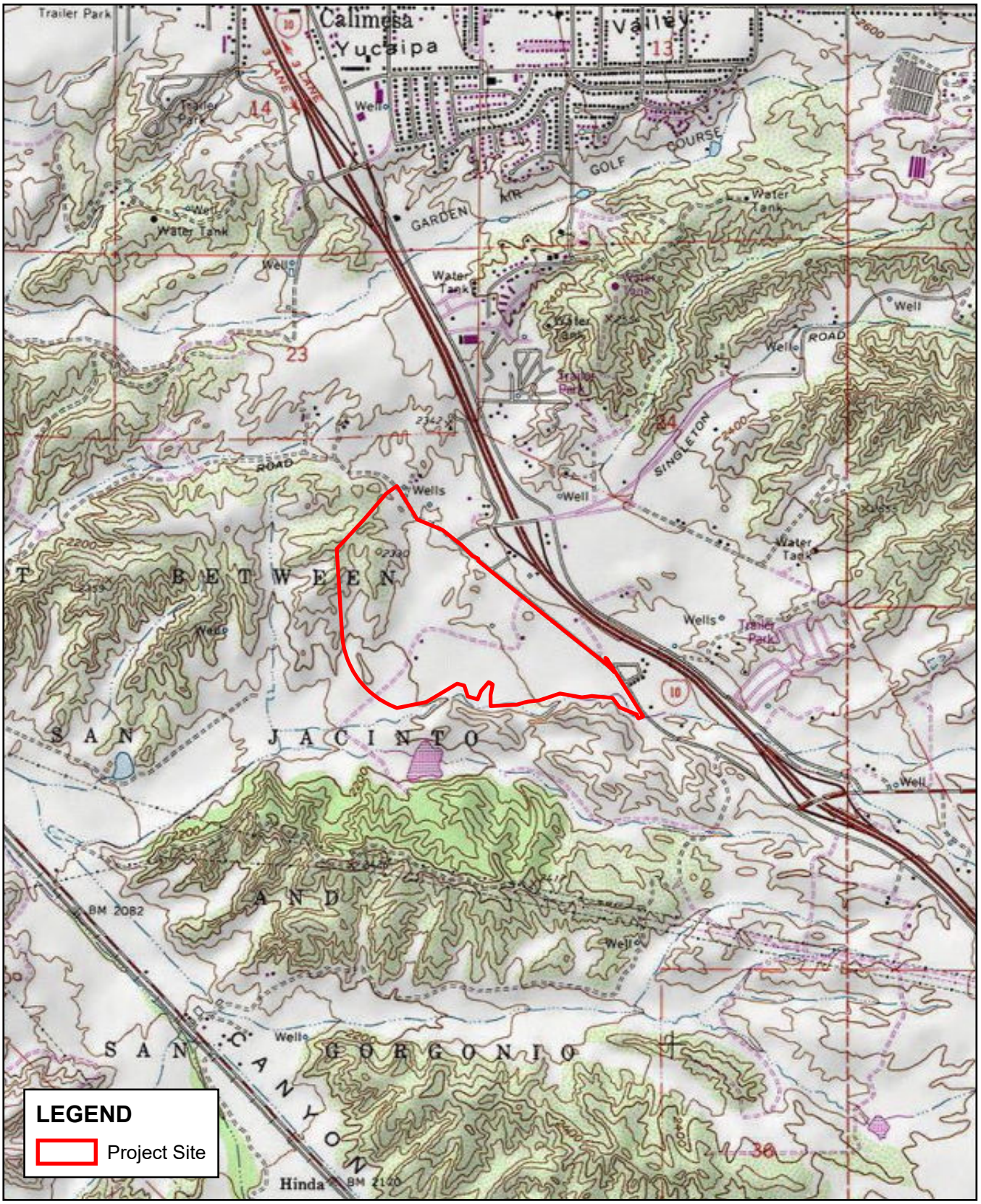
Source: Riverside Co. GIS, 2019

0 2 4 6 Miles

Figure 1 – Vicinity Map

21-0034 OVTC INDUSTRIAL

ALBERT A. WEBB ASSOCIATES



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Sources: ESRI / USGS 7.5min Quad
DRGs: EL CASCO

0 1,000 2,000 3,000 Feet

Figure 2 - USGS Map
21-0034 OVTC INDUSTRIAL

ALBERT A. WEBB ASSOCIATES



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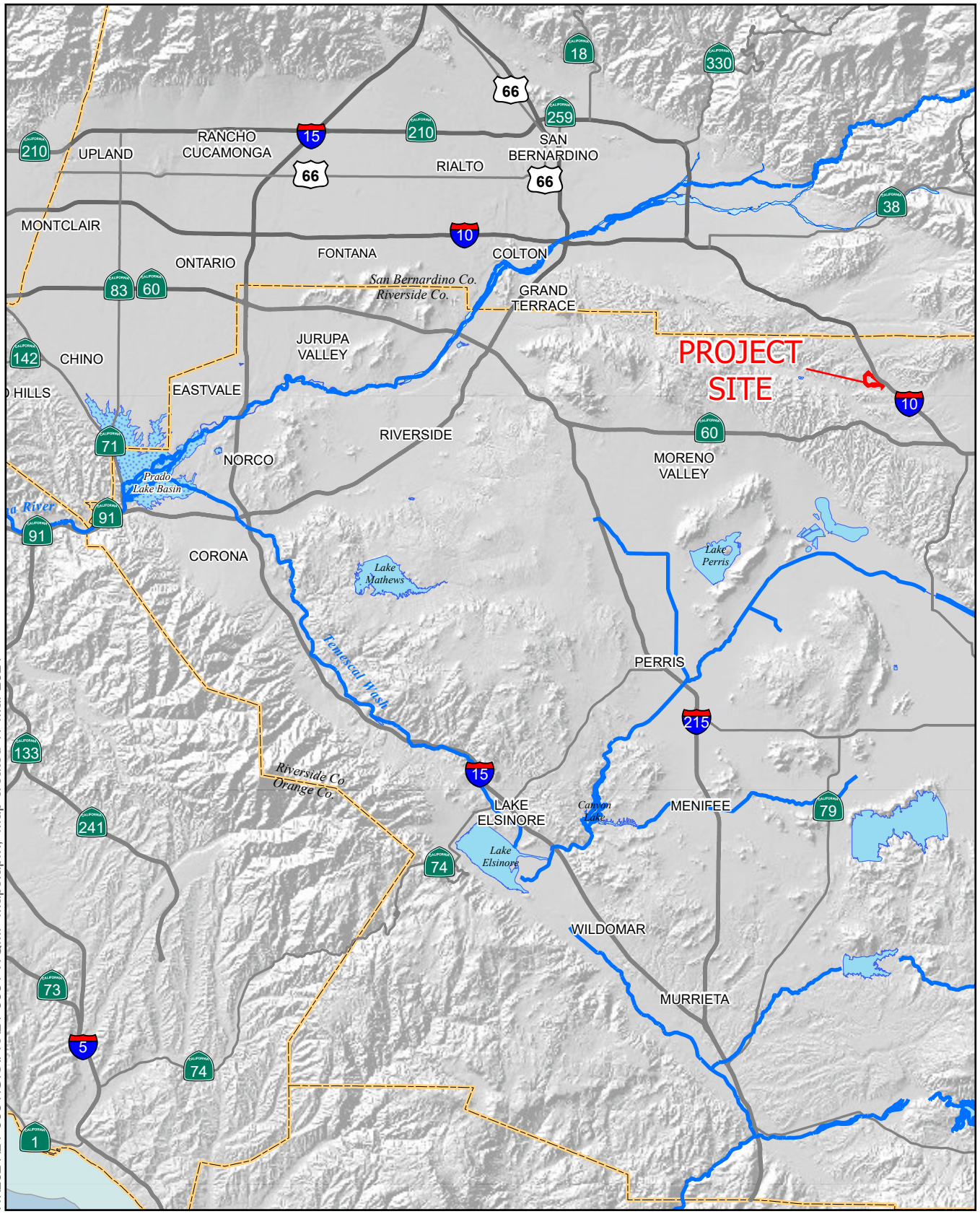
Source: Riverside Co. GIS, Jan. 2020.

0 600 1,200 1,800 Feet

Figure 3 - Aerial Map

21-0034 OVTC INDUSTRIAL

ALBERT A. WEBB ASSOCIATES



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Sources: USGS DLG; USGS 30m DEM

0 2 4 6 8 Miles

Figure 4 – Receiving Waterbodies

21-0034 OVTC INDUSTRIAL

ALBERT A. WEBB ASSOCIATES

SECTION 2 - HYDROLOGY ANALYSIS

HYDROLOGY PARAMETERS

The RCFC&WCD Hydrology Manual was used to determine several of the hydrological parameters. The following rainfall depths were utilized in the hydrology analyses, which were obtained from the isohyetal maps provided in the RCFC&WCD Hydrology Manual:

Table 1 – Precipitation Values

	Duration
Storm Event	1-Hour (inches)
10-Year	0.91
100-Year	1.35

The value for slope of intensity was determined to be 0.550. The standard intensity-duration curve data (Plate D-4.1) has been included in Appendix A.

Based on the Plate C-1.18 [El Casco] in the RCFC&WCD Hydrology Manual, the project site is classified as soil types B, C, and D but is predominately soil type B. The soils map is included in Appendix A.

ON-SITE RATIONAL METHOD HYDROLOGY

The rational method was used to determine peak flow rates in order to adequately size the proposed subsurface storm drains and associated inlets used to convey on-site flows. Calculations were performed for approximately 33.4 acres of total area that is tributary to the proposed storm drain facilities within the BCCOV - Building A project boundary.

The BCCOV – Building A project has been provided three (3) stub-out connections located at various points near the southwestern boundary of the site. These stub-outs have been sized to accept flows from the fully developed BCCOV – Building A project, BCCOV – Building B project, and BCCOV – Parking Lot project areas totaling approximately 66 acres. Flows generated by the future developments of the BCCOV – Building B project and BCCOV – Parking Lot project will enter the storm drain facilities proposed with the BCCOV – Building A project and combine with the flows analyzed in this report before being discharged into the available stub-outs. A hydrologic analysis for the BCCOV – Building B project and BCCOV – Parking Lot project can be found in separate drainage studies specific to those projects. The total flow rates from these areas have been accounted for in these onsite rational method calculations as "User-Defined" nodes.

Subareas within the rational method calculations for the BCCOV – Building A project have been broken up based on the area tributary to the existing stub-outs constructed in the mass grade phase of the overall BCCOV project. The 100-Series consists of approximately 16 acres of area making up the southeastern portion of the project site. The 150-Series consists of approximately 7.5 acres of area making up the southwestern portion of the site. The 200-Series consists of approximately 9 acres of area along the northwestern boundary and the northern portion of the site.

Areas were further broken up based on the location of localized low points throughout the site. In final engineering, areas will be further broken up to determine the 100-year flow rates entering any proposed inlets located onsite. The majority of flows are directed towards the proposed inlets via ribbon gutters

and/or curb & gutters. Most subareas consist of a combination of the proposed building, parking stalls, drive aisles, concrete walkways, and/or landscaped areas. All onsite areas within the calculations were considered as commercial subarea types.

The following table summarizes the rational method results at key points:

Table 3 – Rational Method Results

Point of Interest	10-Year Peak Flow Rate (cfs)	100-Year Peak Flow Rate (cfs)
Node 112* – Total flows entering existing eastern stub-out	75.8	114.3
Node 151.5 – Total flows entering existing center stub-out	17.2	25.7
Node 206* – Total flows entering existing western stub-out	42.9	64.8

**These flowrates include the flows generated by portions of the BCCOV – Building B project and/or BCCOV – Parking Lot projects.*

The rational method output files and hydrology map have been included in Appendix A.

OFF-SITE RATIONAL METHOD HYDROLOGY

Although the BCCOV – Building A project is not impacted by offsite flows, the proposed storm drain facilities for the project site extend beyond the northeastern boundary of the project site in order to collect the flows generated by the future BCCOV - Building B and BCCOV – Parking Lot projects (approximately 32 acres total). As previously described, the hydrologic analysis of these offsite areas have been conducted in separate drainage studies. The results of these separate rational method calculations have been used to preliminarily size the proposed onsite storm drain facilities within the BCCOV – Building A project area.

As described in Section 1, the overall BCCOV project site is impacted by considerable offsite flows generated by the San Bernardino Mountains located northeast of the I-10 Highway. These flows will enter the backbone storm drain facilities and will not impact the BCCOV - Building A project. Details regarding these offsite flows and the backbone storm drain facilities can be found in the separate drainage study titled "Hydrology and Hydraulics Study: Oak Valley Town Center Parcel Map No. 37862 Mass Grading Plan" (excerpts from the report can be found in Appendix C).

SECTION 3 - HYDRAULIC ANALYSIS

ON-SITE STORM DRAIN FACILITIES

Onsite Storm Drain

Existing stub-outs have been sized to accept the flows generated by the fully developed of the BCCOV - Building A project and will be constructed in the mass grade phase (per the separate study titled "Hydrology and Hydraulics Study: Oak Valley Town Center Parcel Map No. 37862 Mass Grading Plan").

Hydraulic calculations will be performed for all proposed, onsite storms drain facilities greater than 12 inches in diameter or greater in the Final Drainage Study.

CMP Chambers A1

To mitigate for HCOC requirements, a CMP detention system is proposed to hold 44,000 cubic ft of runoff. This would require the system to consist of 7 barrels, which are 104 ft long each. Solid chambers are proposed as infiltration is not feasible. An outlet structure is proposed to consist of an orifice with the invert at the bottom of the chambers to mitigate the peak flow rate of the 2-year storm event. The details of the CMP chamber and orifice sizing have been included in Appendix B.

CMP Chambers A2

To mitigate for HCOC requirements, a CMP detention system is proposed to hold 55,000 cubic ft of runoff. This would require the system to consist of 9 barrels, which are 101 ft long each. Solid chambers are proposed as infiltration is not feasible. An outlet structure is proposed to consist of an orifice with the invert at the bottom of the chambers to mitigate the peak flow rate of the 2-year storm event. The details of the CMP chamber and orifice sizing have been included in Appendix B.

CMP Chambers A3

To mitigate for HCOC requirements, a CMP detention system is proposed to hold 48,000 cubic ft of runoff. This would require the system to consist of 5 barrels, which are 171 ft long each. Solid chambers are proposed as infiltration is not feasible. An outlet structure is proposed to consist of an orifice with the invert at the bottom of the chambers to mitigate the peak flow rate of the 2-year storm event. The details of the CMP chamber and orifice sizing have been included in Appendix B.

CMP Chambers A4

To mitigate for HCOC requirements, a CMP detention system is proposed to hold 50,000 cubic ft of runoff. This would require the system to consist of 4 barrels, which are 230 ft long each. Solid chambers are proposed as infiltration is not feasible. An outlet structure is proposed to consist of an orifice with the invert at the bottom of the chambers to mitigate the peak flow rate of the 2-year storm event. The details of the CMP chamber and orifice sizing have been included in Appendix B.

Inlet Capacities

Grate inlets are proposed at the low points within ribbon gutters in order to capture onsite flows. For larger flows, a series of 3'x 3' or 2'x 3' grates are proposed in ribbon gutters to prevent excessive ponding from occurring.

SECTION 4 - DETENTION SYSTEM ANALYSIS

ON-SITE UNIT HYDROGRAPH METHOD HYDROLOGY

The unit hydrograph method was used to determine the peak flow rates and volumes in order to adequately size the proposed chamber detention systems to address HCOC mitigation. Unit hydrographs were performed for the 2-year storm with a duration of 24-hours in the existing condition and developed condition. The existing condition is used to establish a baseline for comparative purposes. The developed condition is used for design purposes, it was utilized in the routing analysis in order to size and analyze the proposed basin and chamber detention systems.

In the existing condition analysis, the Building A project site was broken up and included in the analysis of three main areas which include portions of the Buildings A and B sites as well as the Parking wedge. Approximately 37.7 acres are labelled as Area A1 and are tributary to the existing eastern stub out within the Building A project site. Approximately 7.5 acres are labelled as Area A2 and are tributary to the existing center stub out within the Building A project site. The remaining 21.7 acres are labelled as Area A3 and are tributary to existing western stub out within the Building A project site. In the proposed condition, Area A is divided into Areas, 1, 2, 5 and 6. Area 1 consists of approximately 6.8 acres of the existing condition Area A1. Area 2 consists of approximately 9.5 acres of existing condition area A1. Area 5 consists of approximately 8.1 acres of the existing condition Area A2 as well as a portion of Area A3. Area 6 consists of approximately 9.0 acres of the existing condition Area A3.

The following table summarizes the results of the unit hydrograph analysis:

Table 4 – Unit Hydrograph Results

EXISTING CONDITION 2-YEAR, 24-HOUR STORM			
AREA	A1	A2	A3
VOL (AC-FT)	0.76	0.16	0.45
PEAK (CFS)	1.26	0.48	1.21

PROPOSED CONDITION 2-YEAR, 24-HOUR STORM				
AREA	1	2	5	6
VOL (AC-FT)	1.06	1.4	1.18	1.26
PEAK (CFS)	1.75	2.37	1.94	2.07

BASIN ROUTING ANALYSIS

A routing analysis was completed to demonstrate that the basin and CMP chamber systems contain substantial volume needed to mitigate flows down to existing condition peak flow rates.

Basin routing calculations were conducted for each building area (1, 2, 5 and 6). A stage-storage-discharge table was determined for each area. The stage-storage-discharge tables provide input data at select elevations in the basin and/or chambers which will determine the storage and discharge at each point based on the mitigation configuration of the outlet structures.

For Area 1, the proposed outlet structure consists of a 2-inch orifice with an invert set at the bottom of the chambers to mitigate the 2-year storm event with a duration of 24 hours. The orifice creates a maximum ponding depth of 6.30 ft above the chamber bottom, which is below the 8 ft depth of the top of the

chambers. The routing analysis for the detention chambers resulted in a drawdown time exceeding the 72-hour limit for above ground basins to prevent vector issues. The CMP detention system consists of underground chambers. Therefore, vector issues are not anticipated for the chambers even with a high drawdown time.

For Area 2, the proposed outlet structure consists of two 1.5-inch orifices with an invert set at the bottom of the chambers to mitigate the 2-year storm event with a duration of 24 hours. The orifice creates a maximum ponding depth of 6.27 ft above the chamber bottom, which is below the 8 ft depth of the top of the chambers. The routing analysis for the detention chambers resulted in a drawdown time exceeding the 72-hour limit for above ground basins to prevent vector issues. The CMP detention system consists of underground chambers. Therefore, vector issues are not anticipated for the chambers even with a high drawdown time.

For Area 5, the proposed outlet structure consists of three 1.5-inch orifices with an invert set at the bottom of the chambers to mitigate the 2-year storm event with a duration of 24 hours. The orifice creates a maximum ponding depth of 5.13 ft above the chamber bottom, which is below the 8 ft depth of the top of the chambers.

For Area 6, the proposed outlet structure consists of one 2.5-inch orifice with an invert set at the bottom of the chambers to mitigate the 2-year storm event with a duration of 24 hours. The orifice creates a maximum ponding depth of 5.04 ft above the chamber bottom, which is below the 8 ft depth of the top of the chambers.

The following tables present the result of routing analysis for the 24-hour 2-year storm event to demonstrate that the CMP chamber systems provide the necessary storage volume needed to restrict the outflow to existing condition flow rates.

Table 5 – Basin Routing Results

EXISTING CONDITION 2-YEAR, 24-HOUR STORM			
	VOL (AC-FT)	PEAK FLOW (CFS)	
AREA A1	0.76	1.26	
18.1% A1 (PROP. AREA 1)	-	0.23	
25% A1 (PROP. AREA 2)	-	0.31	
32.4% A1 (PROP AREA 3)	-	0.41	
24.5%A1 (PROP AREA 4)	-	0.31	
AREA A2	0.16	0.48	
AREA A3	0.45	1.21	
41.6% A3 (PROP AREA 6)	-	0.50	
58.4% A3 (PROP AREA 7)	-	0.71	
PROPOSED CONDITION 2-YEAR, 24-HOUR STORM			
	VOL (AC-FT)	PEAK FLOW (CFS)	ROUTING PEAK FLOW (CFS)
AREA 1	1.06	1.75	0.16
AREA 2	1.40	2.37	0.33
AREA 3	1.67	2.75	0.47
AREA 4	1.20	1.96	0.32
A1 COMBINED	5.33	8.83	1.28
AREA 5 (EXISTING A2)	1.18	1.94	0.44
AREA 6	1.26	2.07	0.51
AREA 7	1.70	2.80	0.78
A3 COMBINED	2.96	487	1.29

The basin routing calculations and other hydraulic calculations have been provided in Appendix C. Based on the table above, the proposed detention chambers for have the capacity to mitigate for the required HCOC. All discharge flow rates in the developed condition are lower than or within ten percent of the flow rate exiting the site in the existing condition.

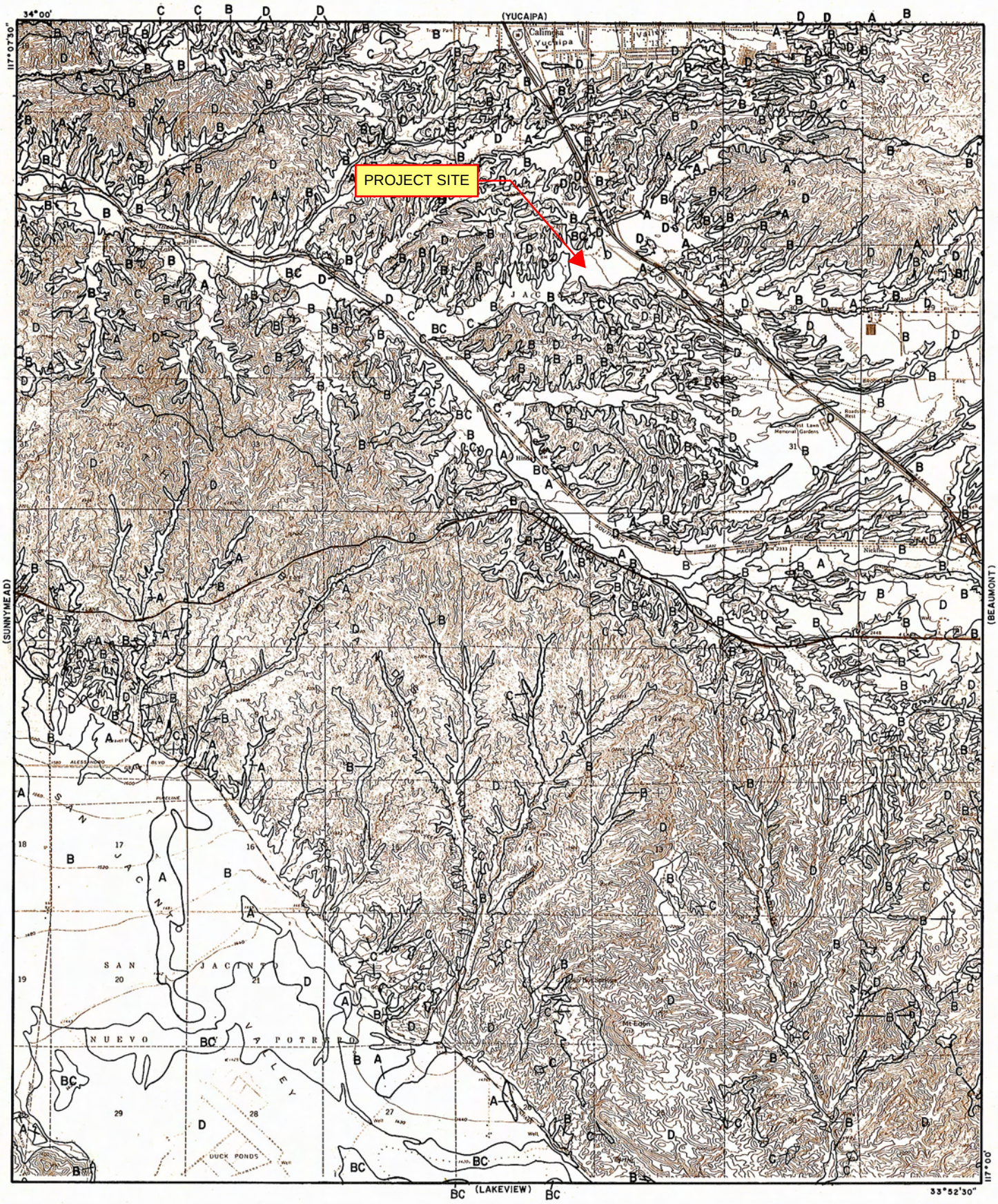
SECTION 5 - CONCLUSION

Based on the analyses and results of this report, the following conclusions were derived from the hydrology and hydraulic results:

- The proposed drainage improvements will adequately convey flows towards the existing backbone storm drain facilities and provide flood protection for the 100-year storm event.
- The proposed MWS biotreatment devices will provide adequate water quality treatment.
- The proposed CMP detention chambers and orifice system will adequately mitigate for increases in runoff for the 24-hour duration storm event for the 2-year return frequency.
- The proposed project will not impact flooding condition to upstream or downstream properties.

APPENDIX A – HYDROLOGY ANALYSIS

HYDROLOGIC SOILS GROUP MAP (PLATE C-1.18)



LEGEND

—— SOILS GROUP BOUNDARY

A SOILS GROUP DESIGNATION

RCFC&WCD

HYDROLOGY MANUAL

0 FEET 5000

HYDROLOGIC SOILS GROUP MAP FOR EL CASCO

PLATE C-1.18

RAINFALL INTENSITY

RCFC & WCD

HYDROLOGY MANUAL

RAINFALL INTENSITY–INCHES PER HOUR

ANZA			BANNING			BEAUMONT			CALIMESA			CANYON LAKE		
DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR	DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR	DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR	DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR	DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR
5	4.23	6.85	5	3.32	4.93	5	3.32	4.93	5	3.57	5.30	5	3.07	4.61
6	3.80	6.16	6	3.02	4.47	6	3.02	4.47	6	3.23	4.79	6	2.81	4.23
7	3.48	5.63	7	2.78	4.12	7	2.78	4.12	7	2.97	4.40	7	2.61	3.93
8	3.22	5.21	8	2.59	3.84	8	2.59	3.84	8	2.76	4.09	8	2.45	3.68
9	3.01	4.87	9	2.43	3.61	9	2.43	3.61	9	2.58	3.83	9	2.31	3.48
10	2.83	4.58	10	2.30	3.41	10	2.30	3.41	10	2.44	3.62	10	2.20	3.31
11	2.67	4.33	11	2.19	3.24	11	2.19	3.24	11	2.31	3.43	11	2.10	3.16
12	2.54	4.12	12	2.09	3.10	12	2.09	3.10	12	2.21	3.27	12	2.01	3.03
13	2.43	3.93	13	2.00	2.97	13	2.00	2.97	13	2.11	3.13	13	1.94	2.92
14	2.33	3.77	14	1.92	2.85	14	1.92	2.85	14	2.03	3.01	14	1.87	2.82
15	2.23	3.62	15	1.86	2.75	15	1.86	2.75	15	1.95	2.89	15	1.81	2.72
16	2.15	3.49	16	1.79	2.66	16	1.79	2.66	16	1.88	2.79	16	1.75	2.64
17	2.08	3.37	17	1.74	2.58	17	1.74	2.58	17	1.82	2.70	17	1.70	2.56
18	2.01	3.26	18	1.68	2.50	18	1.68	2.50	18	1.76	2.62	18	1.66	2.50
19	1.95	3.16	19	1.64	2.43	19	1.64	2.43	19	1.71	2.54	19	1.62	2.43
20	1.89	3.06	20	1.59	2.36	20	1.59	2.36	20	1.67	2.47	20	1.58	2.37
22	1.79	2.90	22	1.51	2.25	22	1.51	2.25	22	1.58	2.34	22	1.51	2.27
24	1.70	2.76	24	1.45	2.15	24	1.45	2.15	24	1.51	2.23	24	1.44	2.17
26	1.62	2.63	26	1.39	2.06	26	1.39	2.06	26	1.44	2.14	26	1.39	2.09
28	1.56	2.52	28	1.33	1.98	28	1.33	1.98	28	1.38	2.05	28	1.34	2.02
30	1.49	2.42	30	1.29	1.91	30	1.29	1.91	30	1.33	1.98	30	1.30	1.95
32	1.44	2.33	32	1.24	1.84	32	1.24	1.84	32	1.29	1.91	32	1.26	1.89
34	1.39	2.25	34	1.20	1.78	34	1.20	1.78	34	1.24	1.85	34	1.22	1.84
36	1.34	2.18	36	1.17	1.73	36	1.17	1.73	36	1.21	1.79	36	1.19	1.79
38	1.30	2.11	38	1.13	1.68	38	1.13	1.68	38	1.17	1.74	38	1.16	1.74
40	1.27	2.05	40	1.10	1.64	40	1.10	1.64	40	1.14	1.69	40	1.13	1.70
45	1.18	1.91	45	1.04	1.54	45	1.04	1.54	45	1.07	1.58	45	1.07	1.61
50	1.11	1.80	50	.98	1.45	50	.98	1.45	50	1.01	1.49	50	1.02	1.53
55	1.05	1.70	55	.93	1.38	55	.93	1.38	55	.95	1.42	55	.97	1.46
60	1.00	1.62	60	.89	1.32	60	.89	1.32	60	.91	1.35	60	.93	1.40
65	.95	1.55	65	.85	1.27	65	.85	1.27	65	.87	1.29	65	.89	1.35
70	.91	1.48	70	.82	1.22	70	.82	1.22	70	.84	1.24	70	.86	1.30
75	.88	1.42	75	.79	1.17	75	.79	1.17	75	.80	1.19	75	.84	1.26
80	.85	1.37	80	.76	1.13	80	.76	1.13	80	.78	1.15	80	.81	1.22
85	.82	1.32	85	.74	1.10	85	.74	1.10	85	.75	1.11	85	.79	1.18
SLOPE = .580			SLOPE = .530			SLOPE = .530			SLOPE = .550			SLOPE = .480		

STANDARD INTENSITY–DURATION CURVES DATA

PLATE D-4.1 (1 of 6)

10-YEAR ONSITE HYDROLOGY (RATIONAL METHOD)

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 12/01/21 File:100.out

BCCOV BLDG A
10-YEAR STORM EVENT 100 SERIES
21-0034 DEVELOPED CONDITION
2021-12-01 EP

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 4010

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Calimesa] area used.
10 year storm 10 minute intensity = 2.440(In/Hr)
10 year storm 60 minute intensity = 0.910(In/Hr)
100 year storm 10 minute intensity = 3.620(In/Hr)
100 year storm 60 minute intensity = 1.350(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.910(In/Hr)
Slope of intensity duration curve = 0.5500

++

Process from Point/Station 101.000 to Point/Station 102.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 460.000(Ft.)
Top (of initial area) elevation = 2224.600(Ft.)
Bottom (of initial area) elevation = 2215.800(Ft.)
Difference in elevation = 8.800(Ft.)
Slope = 0.01913 s(percent)= 1.91
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 7.689 min.
Rainfall intensity = 2.817(In/Hr) for a 10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.880
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.700
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.300
RI index for soil(AMC 2) = 61.70
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 4.212(CFS)
Total initial stream area = 1.700(Ac.)
Pervious area fraction = 0.100

++

Process from Point/Station 102.000 to Point/Station 103.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2212.800(Ft.)
Downstream point/station elevation = 2210.900(Ft.)
Pipe length = 655.00(Ft.) Manning's N = 0.013

```
No. of pipes = 1  Required pipe flow  =     4.212(CFS)
Nearest computed pipe diameter  =     18.00(In.)
Calculated individual pipe flow  =     4.212(CFS)
Normal flow depth in pipe =   11.58(In.)
Flow top width inside pipe =   17.25(In.)
Critical Depth =    9.44(In.)
Pipe flow velocity =      3.51(Ft/s)
Travel time through pipe =    3.11 min.
Time of concentration (TC) =    10.80 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      103.000 to Point/Station      103.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      1.700(Ac.)
Runoff from this stream =      4.212(CFS)
Time of concentration =   10.80 min.
Rainfall intensity =     2.337(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      104.000 to Point/Station      105.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   505.000(Ft.)
Top (of initial area) elevation =  2224.600(Ft.)
Bottom (of initial area) elevation =  2218.800(Ft.)
Difference in elevation =     5.800(Ft.)
Slope =    0.01149  s(percent)=       1.15
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    8.839 min.
Rainfall intensity =      2.609(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.853
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  32.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     10.907(CFS)
Total initial stream area =        4.900(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      105.000 to Point/Station      103.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2214.800(Ft.)
Downstream point/station elevation =  2210.900(Ft.)
Pipe length  =    50.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    10.907(CFS)
Nearest computed pipe diameter  =     15.00(In.)
Calculated individual pipe flow  =    10.907(CFS)
Normal flow depth in pipe =    8.41(In.)
Flow top width inside pipe =   14.89(In.)
Critical depth could not be calculated.
Pipe flow velocity =     15.39(Ft/s)
Travel time through pipe =    0.05 min.
Time of concentration (TC) =     8.89 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      103.000 to Point/Station      103.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      4.900(Ac.)
Runoff from this stream =     10.907(CFS)
Time of concentration =    8.89 min.
Rainfall intensity =     2.600(In/Hr)
Summary of stream data:
```

```
Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        4.212     10.80                2.337
2       10.907      8.89                2.600
Largest stream flow has longer or shorter time of concentration
Qp =     10.907 + sum of
          Qa          Tb/Ta
           4.212 *    0.823 =      3.468
Qp =     14.376

Total of 2 streams to confluence:
Flow rates before confluence point:
       4.212      10.907
Area of streams before confluence:
        1.700        4.900
Results of confluence:
Total flow rate =     14.376(CFS)
Time of concentration =     8.893 min.
Effective stream area after confluence =      6.600(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      103.000 to Point/Station      106.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2210.900(Ft.)
Downstream point/station elevation =  2210.000(Ft.)
Pipe length  =   270.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    14.376(CFS)
Nearest computed pipe diameter  =     27.00(In.)
Calculated individual pipe flow  =    14.376(CFS)
Normal flow depth in pipe =   18.33(In.)
Flow top width inside pipe =   25.21(In.)
Critical Depth =   15.84(In.)
Pipe flow velocity =      5.00(Ft/s)
Travel time through pipe =    0.90 min.
Time of concentration (TC) =     9.79 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      106.000 to Point/Station      106.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      6.600(Ac.)
Runoff from this stream =     14.376(CFS)
Time of concentration =    9.79 min.
Rainfall intensity =     2.466(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      107.000 to Point/Station      108.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   495.000(Ft.)
Top (of initial area) elevation =  2224.600(Ft.)
Bottom (of initial area) elevation =  2218.900(Ft.)
Difference in elevation =     5.700(Ft.)
Slope =    0.01152  s(percent)=       1.15
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    8.764 min.
Rainfall intensity =      2.621(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.874
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      6.647(CFS)
Total initial stream area =        2.900(Ac.)
```

```
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      108.000 to Point/Station      106.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  2216.000(Ft.)
Downstream point/station elevation =  2210.000(Ft.)
Pipe length  =    50.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     6.647(CFS)
Nearest computed pipe diameter  =     12.00(In.)
Calculated individual pipe flow  =     6.647(CFS)
Normal flow depth in pipe =    6.27(In.)
Flow top width inside pipe =   11.99(In.)
Critical depth could not be calculated.
Pipe flow velocity =     16.00(Ft/s)
Travel time through pipe =    0.05 min.
Time of concentration (TC) =     8.82 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      106.000 to Point/Station      106.000
**** CONFLUENCE OF MINOR STREAMS ****
------------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      2.900(Ac.)
Runoff from this stream =      6.647(CFS)
Time of concentration =    8.82 min.
Rainfall intensity =     2.613(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1       14.376      9.79                2.466
2        6.647      8.82                2.613
Largest stream flow has longer time of concentration
Qp =     14.376 + sum of
          Qb         Ia/Ib
           6.647 *    0.944 =      6.273
Qp =     20.649

Total of 2 streams to confluence:
Flow rates before confluence point:
      14.376       6.647
Area of streams before confluence:
        6.600        2.900
Results of confluence:
Total flow rate =     20.649(CFS)
Time of concentration =     9.793 min.
Effective stream area after confluence =      9.500(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      106.000 to Point/Station      355.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  2210.000(Ft.)
Downstream point/station elevation =  2207.400(Ft.)
Pipe length  =   877.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    20.649(CFS)
Nearest computed pipe diameter  =     30.00(In.)
Calculated individual pipe flow  =    20.649(CFS)
Normal flow depth in pipe =   22.78(In.)
Flow top width inside pipe =   25.65(In.)
Critical Depth =   18.52(In.)
Pipe flow velocity =      5.16(Ft/s)
Travel time through pipe =    2.83 min.
Time of concentration (TC) =    12.62 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      355.000 to Point/Station      355.000
```

```
**** CONFLUENCE OF MINOR STREAMS ****
------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      9.500(Ac.)
Runoff from this stream =     20.649(CFS)
Time of concentration =   12.62 min.
Rainfall intensity =     2.145(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      355.000 to Point/Station      355.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
------------------------------------------------------------------------
Rainfall intensity =      2.202(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.871
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
User specified values are as follows:
TC =  12.03 min.  Rain intensity =       2.20(In/Hr)
Total area =        12.40(Ac.)  Total runoff =     26.20(CFS)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      355.000 to Point/Station      355.000
**** CONFLUENCE OF MINOR STREAMS ****
------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     12.400(Ac.)
Runoff from this stream =     26.200(CFS)
Time of concentration =   12.03 min.
Rainfall intensity =     2.202(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1       20.649     12.62                 2.145
2       26.200     12.03                 2.202
Largest stream flow has longer or shorter time of concentration
Qp =     26.200 + sum of
          Qa          Tb/Ta
          20.649 *    0.953 =     19.679
Qp =     45.879

Total of 2 streams to confluence:
Flow rates before confluence point:
      20.649      26.200
Area of streams before confluence:
        9.500       12.400
Results of confluence:
Total flow rate =     45.879(CFS)
Time of concentration =    12.030 min.
Effective stream area after confluence =     21.900(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      355.000 to Point/Station      804.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------
Upstream point/station elevation =  2207.400(Ft.)
Downstream point/station elevation =  2207.100(Ft.)
Pipe length  =   110.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    45.879(CFS)
Nearest computed pipe diameter  =     39.00(In.)
Calculated individual pipe flow  =    45.879(CFS)
Normal flow depth in pipe =   34.97(In.)
Flow top width inside pipe =   23.75(In.)
Critical Depth =   25.93(In.)
Pipe flow velocity =      5.85(Ft/s)
```

FLOWS FROM BLDG B SITE

```
Travel time through pipe =    0.31 min.
Time of concentration (TC) =    12.34 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      804.000 to Point/Station      804.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =     21.900(Ac.)
Runoff from this stream =     45.879(CFS)
Time of concentration =   12.34 min.
Rainfall intensity =     2.171(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      804.000 to Point/Station      804.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
______________________________________________________________________________
Rainfall intensity =      2.202(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.871
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
User specified values are as follows:
TC =  12.03 min.  Rain intensity =       2.20(In/Hr)
Total area =         8.60(Ac.)  Total runoff =     18.10(CFS)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      804.000 to Point/Station      804.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      8.600(Ac.)
Runoff from this stream =     18.100(CFS)
Time of concentration =   12.03 min.
Rainfall intensity =     2.202(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1       45.879     12.34                 2.171
2       18.100     12.03                 2.202
Largest stream flow has longer time of concentration
Qp =     45.879 + sum of
          Qb         Ia/Ib
          18.100 *    0.986 =     17.846
Qp =     63.724

Total of 2 streams to confluence:
Flow rates before confluence point:
      45.879      18.100
Area of streams before confluence:
       21.900        8.600
Results of confluence:
Total flow rate =     63.724(CFS)
Time of concentration =    12.343 min.
Effective stream area after confluence =     30.500(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      804.000 to Point/Station      109.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2207.100(Ft.)
Downstream point/station elevation =  2201.000(Ft.)
Pipe length  =  1160.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    63.724(CFS)
```

FLOWS FROM WEDGE PARKING LOT SITE

```
Nearest computed pipe diameter  =     39.00(In.)
Calculated individual pipe flow  =    63.724(CFS)
Normal flow depth in pipe =   35.06(In.)
Flow top width inside pipe =   23.50(In.)
Critical Depth =   30.53(In.)
Pipe flow velocity =      8.12(Ft/s)
Travel time through pipe =    2.38 min.
Time of concentration (TC) =    14.73 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      109.000 to Point/Station      109.000
**** CONFLUENCE OF MINOR STREAMS ****
------------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 1
Stream flow area =     30.500(Ac.)
Runoff from this stream =     63.724(CFS)
Time of concentration =   14.73 min.
Rainfall intensity =     1.971(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      110.000 to Point/Station      111.000
**** INITIAL AREA EVALUATION ****
------------------------------------------------------------------------------
Initial area flow distance =   665.000(Ft.)
Top (of initial area) elevation =  2224.600(Ft.)
Bottom (of initial area) elevation =  2217.300(Ft.)
Difference in elevation =     7.300(Ft.)
Slope =    0.01098  s(percent)=       1.10
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.957 min.
Rainfall intensity =      2.444(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.876
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.800
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.200
RI index for soil(AMC 2)  =  59.80
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     14.554(CFS)
Total initial stream area =        6.800(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      111.000 to Point/Station      109.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  2213.300(Ft.)
Downstream point/station elevation =  2201.000(Ft.)
Pipe length  =   370.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    14.554(CFS)
Nearest computed pipe diameter  =     18.00(In.)
Calculated individual pipe flow  =    14.554(CFS)
Normal flow depth in pipe =   11.74(In.)
Flow top width inside pipe =   17.14(In.)
Critical Depth =   16.75(In.)
Pipe flow velocity =     11.93(Ft/s)
Travel time through pipe =    0.52 min.
Time of concentration (TC) =    10.47 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      109.000 to Point/Station      109.000
**** CONFLUENCE OF MINOR STREAMS ****
------------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      6.800(Ac.)
Runoff from this stream =     14.554(CFS)
Time of concentration =   10.47 min.
Rainfall intensity =     2.377(In/Hr)
Summary of stream data:
```

```
Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1       63.724     14.73                 1.971
2       14.554     10.47                 2.377
Largest stream flow has longer time of concentration
Qp =     63.724 + sum of
          Qb         Ia/Ib
          14.554 *    0.829 =     12.068
Qp =     75.792

Total of 2 streams to confluence:
Flow rates before confluence point:
      63.724      14.554
Area of streams before confluence:
       30.500        6.800
Results of confluence:
Total flow rate =     75.792(CFS)
Time of concentration =    14.725 min.
Effective stream area after confluence =     37.300(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      109.000 to Point/Station      112.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2201.000(Ft.)
Downstream point/station elevation =  2200.000(Ft.)
Pipe length  =   105.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    75.792(CFS)
Nearest computed pipe diameter  =     39.00(In.)
Calculated individual pipe flow  =    75.792(CFS)
Normal flow depth in pipe =   30.05(In.)
Flow top width inside pipe =   32.80(In.)
Critical Depth =   33.00(In.)
Pipe flow velocity =     11.04(Ft/s)
Travel time through pipe =    0.16 min.
Time of concentration (TC) =    14.88 min.
End of computations, total study area =           37.30 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  53.8
```

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 12/01/21 File:150.out

BCCOV BLDG A
10-YEAR STORM EVENT 150 SERIES
21-0034 DEVELOPED CONDITION
2021-12-01 EP

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 4010

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Calimesa] area used.
10 year storm 10 minute intensity = 2.440(In/Hr)
10 year storm 60 minute intensity = 0.910(In/Hr)
100 year storm 10 minute intensity = 3.620(In/Hr)
100 year storm 60 minute intensity = 1.350(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.910(In/Hr)
Slope of intensity duration curve = 0.5500

++

Process from Point/Station 150.000 to Point/Station 151.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 545.000(Ft.)
Top (of initial area) elevation = 2224.600(Ft.)
Bottom (of initial area) elevation = 2217.300(Ft.)
Difference in elevation = 7.300(Ft.)
Slope = 0.01339 s(percent)= 1.34
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 8.837 min.
Rainfall intensity = 2.610(In/Hr) for a 10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.878
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.600
Decimal fraction soil group C = 0.350
Decimal fraction soil group D = 0.050
RI index for soil(AMC 2) = 61.50
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 17.187(CFS)
Total initial stream area = 7.500(Ac.)
Pervious area fraction = 0.100

++

Process from Point/Station 151.000 to Point/Station 151.500
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2213.300(Ft.)
Downstream point/station elevation = 2200.000(Ft.)
Pipe length = 385.00(Ft.) Manning's N = 0.013

No. of pipes = 1 Required pipe flow =   17.187(CFS)
Nearest computed pipe diameter =   18.00(In.)
Calculated individual pipe flow =   17.187(CFS)
Normal flow depth in pipe =   13.10(In.)
Flow top width inside pipe =   16.02(In.)
Critical depth could not be calculated.
Pipe flow velocity =   12.47(Ft/s)
Travel time through pipe =   0.51 min.
Time of concentration (TC) =   9.35 min.
End of computations, total study area =   7.50 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number = 61.5

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 12/01/21 File:200.out

BCCOV BLDG A
10-YEAR STORM EVENT 200 SERIES
21-0034 DEVELOPED CONDITION
2021-12-01 EP

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 4010

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Calimesa] area used.
10 year storm 10 minute intensity = 2.440(In/Hr)
10 year storm 60 minute intensity = 0.910(In/Hr)
100 year storm 10 minute intensity = 3.620(In/Hr)
100 year storm 60 minute intensity = 1.350(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.910(In/Hr)
Slope of intensity duration curve = 0.5500

++

Process from Point/Station 200.000 to Point/Station 201.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 495.000(Ft.)
Top (of initial area) elevation = 2224.600(Ft.)
Bottom (of initial area) elevation = 2218.800(Ft.)
Difference in elevation = 5.800(Ft.)
Slope = 0.01172 s(percent)= 1.17
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 8.734 min.
Rainfall intensity = 2.626(In/Hr) for a 10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.874
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 56.00
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 11.482(CFS)
Total initial stream area = 5.000(Ac.)
Pervious area fraction = 0.100

++

Process from Point/Station 201.000 to Point/Station 202.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2215.000(Ft.)
Downstream point/station elevation = 2208.900(Ft.)
Pipe length = 910.00(Ft.) Manning's N = 0.013

```
No. of pipes = 1  Required pipe flow  =    11.482(CFS)
Nearest computed pipe diameter  =     21.00(In.)
Calculated individual pipe flow  =    11.482(CFS)
Normal flow depth in pipe =   15.35(In.)
Flow top width inside pipe =   18.62(In.)
Critical Depth =   15.16(In.)
Pipe flow velocity =      6.09(Ft/s)
Travel time through pipe =    2.49 min.
Time of concentration (TC) =    11.22 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      202.000 to Point/Station      202.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      5.000(Ac.)
Runoff from this stream =     11.482(CFS)
Time of concentration =   11.22 min.
Rainfall intensity =     2.288(In/Hr)


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Process from Point/Station      203.000 to Point/Station      204.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   720.000(Ft.)
Top (of initial area) elevation =  2232.000(Ft.)
Bottom (of initial area) elevation =  2221.500(Ft.)
Difference in elevation =    10.500(Ft.)
Slope =    0.01458  s(percent)=       1.46
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.711 min.
Rainfall intensity =      2.478(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.876
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.750
Decimal fraction soil group C = 0.250
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  59.25
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      8.678(CFS)
Total initial stream area =        4.000(Ac.)
Pervious area fraction = 0.100


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Process from Point/Station      204.000 to Point/Station      202.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2217.500(Ft.)
Downstream point/station elevation =  2208.900(Ft.)
Pipe length  =   622.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     8.678(CFS)
Nearest computed pipe diameter  =     18.00(In.)
Calculated individual pipe flow  =     8.678(CFS)
Normal flow depth in pipe =   11.12(In.)
Flow top width inside pipe =   17.49(In.)
Critical Depth =   13.68(In.)
Pipe flow velocity =      7.57(Ft/s)
Travel time through pipe =    1.37 min.
Time of concentration (TC) =    11.08 min.


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Process from Point/Station      202.000 to Point/Station      202.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      4.000(Ac.)
Runoff from this stream =      8.678(CFS)
Time of concentration =   11.08 min.
Rainfall intensity =     2.304(In/Hr)
Summary of stream data:
```

```
Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1       11.482     11.22                2.288
2        8.678     11.08                2.304
Largest stream flow has longer time of concentration
Qp =     11.482 + sum of
          Qb         Ia/Ib
           8.678 *    0.993 =      8.617
Qp =     20.099

Total of 2 streams to confluence:
Flow rates before confluence point:
      11.482       8.678
Area of streams before confluence:
        5.000        4.000
Results of confluence:
Total flow rate =     20.099(CFS)
Time of concentration =    11.224 min.
Effective stream area after confluence =      9.000(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      202.000 to Point/Station      205.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2208.900(Ft.)
Downstream point/station elevation =  2207.500(Ft.)
Pipe length  =   210.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    20.099(CFS)
Nearest computed pipe diameter  =     27.00(In.)
Calculated individual pipe flow  =    20.099(CFS)
Normal flow depth in pipe =   18.19(In.)
Flow top width inside pipe =   25.32(In.)
Critical Depth =   18.84(In.)
Pipe flow velocity =      7.06(Ft/s)
Travel time through pipe =    0.50 min.
Time of concentration (TC) =    11.72 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      205.000 to Point/Station      205.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      9.000(Ac.)
Runoff from this stream =     20.099(CFS)
Time of concentration =   11.72 min.
Rainfall intensity =     2.234(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      305.000 to Point/Station      305.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
______________________________________________________________________________
Rainfall intensity =      2.038(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.875
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.600
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.400
RI index for soil(AMC 2)  =  63.60
Pervious area fraction =  0.100; Impervious fraction =  0.900
User specified values are as follows:
TC =  13.85 min.  Rain intensity =       2.04(In/Hr)
Total area =        12.00(Ac.)  Total runoff =     24.60(CFS)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      205.000 to Point/Station      205.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
```

FLOWS FROM BLDG B SITE

```
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     12.000(Ac.)
Runoff from this stream =     24.600(CFS)
Time of concentration =   13.85 min.
Rainfall intensity =     2.038(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1       20.099     11.72                 2.234
2       24.600     13.85                 2.038
Largest stream flow has longer time of concentration
Qp =     24.600 + sum of
          Qb          Ia/Ib
          20.099 *    0.912 =     18.335
Qp =     42.935

Total of 2 streams to confluence:
Flow rates before confluence point:
      20.099      24.600
Area of streams before confluence:
        9.000       12.000
Results of confluence:
Total flow rate =     42.935(CFS)
Time of concentration =    13.850 min.
Effective stream area after confluence =     21.000(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      205.000 to Point/Station      206.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =  2207.500(Ft.)
Downstream point/station elevation =  2207.100(Ft.)
Pipe length  =    64.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    42.935(CFS)
Nearest computed pipe diameter  =     33.00(In.)
Calculated individual pipe flow  =    42.935(CFS)
Normal flow depth in pipe =   27.94(In.)
Flow top width inside pipe =   23.79(In.)
Critical Depth =   26.12(In.)
Pipe flow velocity =      8.01(Ft/s)
Travel time through pipe =    0.13 min.
Time of concentration (TC) =    13.98 min.
End of computations, total study area =           21.00 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  61.0
```

100-YEAR ONSITE HYDROLOGY (RATIONAL METHOD)

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 12/01/21 File:100.out

BCCOV BLDG A
100-YEAR STORM EVENT 100 SERIES
21-0034 DEVELOPED CONDITION
2021-12-01 EP

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 4010

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Calimesa] area used.
10 year storm 10 minute intensity = 2.440(In/Hr)
10 year storm 60 minute intensity = 0.910(In/Hr)
100 year storm 10 minute intensity = 3.620(In/Hr)
100 year storm 60 minute intensity = 1.350(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.350(In/Hr)
Slope of intensity duration curve = 0.5500

++

Process from Point/Station 101.000 to Point/Station 102.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 460.000(Ft.)
Top (of initial area) elevation = 2224.600(Ft.)
Bottom (of initial area) elevation = 2215.800(Ft.)
Difference in elevation = 8.800(Ft.)
Slope = 0.01913 s(percent)= 1.91
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 7.689 min.
Rainfall intensity = 4.179(In/Hr) for a 100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.885
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.700
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.300
RI index for soil(AMC 2) = 61.70
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 6.288(CFS)
Total initial stream area = 1.700(Ac.)
Pervious area fraction = 0.100

++

Process from Point/Station 102.000 to Point/Station 103.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2212.800(Ft.)
Downstream point/station elevation = 2210.900(Ft.)
Pipe length = 655.00(Ft.) Manning's N = 0.013

```
No. of pipes = 1  Required pipe flow  =     6.288(CFS)
Nearest computed pipe diameter  =     21.00(In.)
Calculated individual pipe flow  =     6.288(CFS)
Normal flow depth in pipe =   13.41(In.)
Flow top width inside pipe =   20.18(In.)
Critical Depth =   11.11(In.)
Pipe flow velocity =      3.88(Ft/s)
Travel time through pipe =    2.81 min.
Time of concentration (TC) =    10.50 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      103.000 to Point/Station      103.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      1.700(Ac.)
Runoff from this stream =      6.288(CFS)
Time of concentration =   10.50 min.
Rainfall intensity =     3.520(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      104.000 to Point/Station      105.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   505.000(Ft.)
Top (of initial area) elevation =  2224.600(Ft.)
Bottom (of initial area) elevation =  2218.800(Ft.)
Difference in elevation =     5.800(Ft.)
Slope =    0.01149  s(percent)=       1.15
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    8.839 min.
Rainfall intensity =      3.871(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.862
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  32.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     16.348(CFS)
Total initial stream area =        4.900(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      105.000 to Point/Station      103.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2214.800(Ft.)
Downstream point/station elevation =  2210.900(Ft.)
Pipe length  =    50.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    16.348(CFS)
Nearest computed pipe diameter  =     15.00(In.)
Calculated individual pipe flow  =    16.348(CFS)
Normal flow depth in pipe =   11.19(In.)
Flow top width inside pipe =   13.06(In.)
Critical depth could not be calculated.
Pipe flow velocity =     16.65(Ft/s)
Travel time through pipe =    0.05 min.
Time of concentration (TC) =     8.89 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      103.000 to Point/Station      103.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      4.900(Ac.)
Runoff from this stream =     16.348(CFS)
Time of concentration =    8.89 min.
Rainfall intensity =     3.859(In/Hr)
Summary of stream data:
```

```
Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        6.288     10.50                3.520
2       16.348      8.89                3.859
Largest stream flow has longer or shorter time of concentration
Qp =     16.348 + sum of
          Qa          Tb/Ta
           6.288 *    0.846 =      5.322
Qp =     21.671

Total of 2 streams to confluence:
Flow rates before confluence point:
       6.288      16.348
Area of streams before confluence:
        1.700        4.900
Results of confluence:
Total flow rate =     21.671(CFS)
Time of concentration =     8.889 min.
Effective stream area after confluence =      6.600(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      103.000 to Point/Station      106.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2210.900(Ft.)
Downstream point/station elevation =  2210.000(Ft.)
Pipe length  =   270.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    21.671(CFS)
Nearest computed pipe diameter  =     30.00(In.)
Calculated individual pipe flow  =    21.671(CFS)
Normal flow depth in pipe =   22.57(In.)
Flow top width inside pipe =   25.90(In.)
Critical Depth =   19.01(In.)
Pipe flow velocity =      5.47(Ft/s)
Travel time through pipe =    0.82 min.
Time of concentration (TC) =     9.71 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      106.000 to Point/Station      106.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      6.600(Ac.)
Runoff from this stream =     21.671(CFS)
Time of concentration =    9.71 min.
Rainfall intensity =     3.675(In/Hr)


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Process from Point/Station      107.000 to Point/Station      108.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   495.000(Ft.)
Top (of initial area) elevation =  2224.600(Ft.)
Bottom (of initial area) elevation =  2218.900(Ft.)
Difference in elevation =     5.700(Ft.)
Slope =    0.01152  s(percent)=       1.15
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    8.764 min.
Rainfall intensity =      3.889(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.881
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      9.935(CFS)
Total initial stream area =        2.900(Ac.)
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Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      108.000 to Point/Station      106.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  2216.000(Ft.)
Downstream point/station elevation =  2210.000(Ft.)
Pipe length  =    50.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     9.935(CFS)
Nearest computed pipe diameter  =     12.00(In.)
Calculated individual pipe flow  =     9.935(CFS)
Normal flow depth in pipe =    8.16(In.)
Flow top width inside pipe =   11.20(In.)
Critical depth could not be calculated.
Pipe flow velocity =     17.48(Ft/s)
Travel time through pipe =    0.05 min.
Time of concentration (TC) =     8.81 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      106.000 to Point/Station      106.000
**** CONFLUENCE OF MINOR STREAMS ****
------------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      2.900(Ac.)
Runoff from this stream =      9.935(CFS)
Time of concentration =    8.81 min.
Rainfall intensity =     3.877(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1       21.671      9.71                 3.675
2        9.935      8.81                 3.877
Largest stream flow has longer time of concentration
Qp =     21.671 + sum of
          Qb         Ia/Ib
           9.935 *    0.948 =      9.417
Qp =     31.088

Total of 2 streams to confluence:
Flow rates before confluence point:
      21.671       9.935
Area of streams before confluence:
        6.600        2.900
Results of confluence:
Total flow rate =     31.088(CFS)
Time of concentration =     9.712 min.
Effective stream area after confluence =      9.500(Ac.)


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Process from Point/Station      106.000 to Point/Station      355.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  2210.000(Ft.)
Downstream point/station elevation =  2207.400(Ft.)
Pipe length  =   877.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    31.088(CFS)
Nearest computed pipe diameter  =     36.00(In.)
Calculated individual pipe flow  =    31.088(CFS)
Normal flow depth in pipe =   25.64(In.)
Flow top width inside pipe =   32.60(In.)
Critical Depth =   21.68(In.)
Pipe flow velocity =      5.77(Ft/s)
Travel time through pipe =    2.53 min.
Time of concentration (TC) =    12.24 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      355.000 to Point/Station      355.000
```

```
**** CONFLUENCE OF MINOR STREAMS ****
------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      9.500(Ac.)
Runoff from this stream =     31.088(CFS)
Time of concentration =   12.24 min.
Rainfall intensity =     3.236(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      355.000 to Point/Station      355.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
------------------------------------------------------------------------
Rainfall intensity =      3.282(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.878
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
User specified values are as follows:
TC =  11.93 min.  Rain intensity =       3.28(In/Hr)
Total area =        12.40(Ac.)  Total runoff =     39.00(CFS)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      355.000 to Point/Station      355.000
**** CONFLUENCE OF MINOR STREAMS ****
------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     12.400(Ac.)
Runoff from this stream =     39.000(CFS)
Time of concentration =   11.93 min.
Rainfall intensity =     3.282(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1       31.088     12.24                 3.236
2       39.000     11.93                 3.282
Largest stream flow has longer or shorter time of concentration
Qp =     39.000 + sum of
          Qa          Tb/Ta
          31.088 *    0.974 =     30.292
Qp =     69.292

Total of 2 streams to confluence:
Flow rates before confluence point:
      31.088      39.000
Area of streams before confluence:
        9.500       12.400
Results of confluence:
Total flow rate =     69.292(CFS)
Time of concentration =    11.930 min.
Effective stream area after confluence =     21.900(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      355.000 to Point/Station      804.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------
Upstream point/station elevation =  2207.400(Ft.)
Downstream point/station elevation =  2207.100(Ft.)
Pipe length  =   110.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    69.292(CFS)
Nearest computed pipe diameter  =     48.00(In.)
Calculated individual pipe flow  =    69.292(CFS)
Normal flow depth in pipe =   36.38(In.)
Flow top width inside pipe =   41.13(In.)
Critical Depth =   30.19(In.)
Pipe flow velocity =      6.78(Ft/s)
```

FLOWS FROM BLDG B SITE

```
Travel time through pipe =    0.27 min.
Time of concentration (TC) =    12.20 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      804.000 to Point/Station      804.000
**** CONFLUENCE OF MINOR STREAMS ****
----------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 1
Stream flow area =     21.900(Ac.)
Runoff from this stream =     69.292(CFS)
Time of concentration =   12.20 min.
Rainfall intensity =     3.242(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      804.000 to Point/Station      804.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
----------------------------------------------------------------------------
Rainfall intensity =      3.293(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.878
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
User specified values are as follows:
TC =  11.86 min.  Rain intensity =       3.29(In/Hr)
Total area =         8.60(Ac.)  Total runoff =     27.10(CFS)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      804.000 to Point/Station      804.000
**** CONFLUENCE OF MINOR STREAMS ****
----------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      8.600(Ac.)
Runoff from this stream =     27.100(CFS)
Time of concentration =   11.86 min.
Rainfall intensity =     3.293(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1       69.292     12.20                 3.242
2       27.100     11.86                 3.293
Largest stream flow has longer time of concentration
Qp =     69.292 + sum of
          Qb          Ia/Ib
          27.100 *    0.985 =     26.681
Qp =     95.973

Total of 2 streams to confluence:
Flow rates before confluence point:
      69.292      27.100
Area of streams before confluence:
       21.900        8.600
Results of confluence:
Total flow rate =     95.973(CFS)
Time of concentration =    12.201 min.
Effective stream area after confluence =     30.500(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      804.000 to Point/Station      109.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
----------------------------------------------------------------------------
Upstream point/station elevation =  2207.100(Ft.)
Downstream point/station elevation =  2201.000(Ft.)
Pipe length  =  1160.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    95.973(CFS)
```

FLOWS FROM WEDGE PARKING LOT SITE

```
Nearest computed pipe diameter  =     48.00(In.)
Calculated individual pipe flow  =    95.973(CFS)
Normal flow depth in pipe =   36.33(In.)
Flow top width inside pipe =   41.18(In.)
Critical Depth =   35.63(In.)
Pipe flow velocity =      9.41(Ft/s)
Travel time through pipe =    2.06 min.
Time of concentration (TC) =    14.26 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      109.000 to Point/Station      109.000
**** CONFLUENCE OF MINOR STREAMS ****
------------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 1
Stream flow area =     30.500(Ac.)
Runoff from this stream =     95.973(CFS)
Time of concentration =   14.26 min.
Rainfall intensity =     2.976(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      110.000 to Point/Station      111.000
**** INITIAL AREA EVALUATION ****
------------------------------------------------------------------------------
Initial area flow distance =   665.000(Ft.)
Top (of initial area) elevation =  2224.600(Ft.)
Bottom (of initial area) elevation =  2217.300(Ft.)
Difference in elevation =     7.300(Ft.)
Slope =    0.01098  s(percent)=       1.10
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.957 min.
Rainfall intensity =      3.625(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.882
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.800
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.200
RI index for soil(AMC 2)  =  59.80
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     21.747(CFS)
Total initial stream area =        6.800(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      111.000 to Point/Station      109.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  2213.300(Ft.)
Downstream point/station elevation =  2201.000(Ft.)
Pipe length  =   370.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    21.747(CFS)
Nearest computed pipe diameter  =     21.00(In.)
Calculated individual pipe flow  =    21.747(CFS)
Normal flow depth in pipe =   13.61(In.)
Flow top width inside pipe =   20.06(In.)
Critical Depth =   19.61(In.)
Pipe flow velocity =     13.19(Ft/s)
Travel time through pipe =    0.47 min.
Time of concentration (TC) =    10.42 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      109.000 to Point/Station      109.000
**** CONFLUENCE OF MINOR STREAMS ****
------------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      6.800(Ac.)
Runoff from this stream =     21.747(CFS)
Time of concentration =   10.42 min.
Rainfall intensity =     3.535(In/Hr)
Summary of stream data:
```

```
Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1       95.973     14.26                 2.976
2       21.747     10.42                 3.535
Largest stream flow has longer time of concentration
Qp =     95.973 + sum of
          Qb         Ia/Ib
          21.747 *    0.842 =     18.308
Qp =    114.281

Total of 2 streams to confluence:
Flow rates before confluence point:
      95.973      21.747
Area of streams before confluence:
       30.500        6.800
Results of confluence:
Total flow rate =    114.281(CFS)
Time of concentration =    14.256 min.
Effective stream area after confluence =     37.300(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      109.000 to Point/Station      112.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2201.000(Ft.)
Downstream point/station elevation =  2200.000(Ft.)
Pipe length  =   105.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =   114.281(CFS)
Nearest computed pipe diameter  =     45.00(In.)
Calculated individual pipe flow  =   114.281(CFS)
Normal flow depth in pipe =   35.67(In.)
Flow top width inside pipe =   36.48(In.)
Critical Depth =   38.85(In.)
Pipe flow velocity =     12.17(Ft/s)
Travel time through pipe =    0.14 min.
Time of concentration (TC) =    14.40 min.
End of computations, total study area =           37.30 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  53.8
```

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 12/01/21 File:150.out

BCCOV BLDG A
100-YEAR STORM EVENT 150 SERIES
21-0034 DEVELOPED CONDITION
2021-12-01 EP

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 4010

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Calimesa] area used.
10 year storm 10 minute intensity = 2.440(In/Hr)
10 year storm 60 minute intensity = 0.910(In/Hr)
100 year storm 10 minute intensity = 3.620(In/Hr)
100 year storm 60 minute intensity = 1.350(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.350(In/Hr)
Slope of intensity duration curve = 0.5500

++

Process from Point/Station 150.000 to Point/Station 151.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 545.000(Ft.)
Top (of initial area) elevation = 2224.600(Ft.)
Bottom (of initial area) elevation = 2217.300(Ft.)
Difference in elevation = 7.300(Ft.)
Slope = 0.01339 s(percent)= 1.34
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 8.837 min.
Rainfall intensity = 3.871(In/Hr) for a 100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.884
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.600
Decimal fraction soil group C = 0.350
Decimal fraction soil group D = 0.050
RI index for soil(AMC 2) = 61.50
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 25.668(CFS)
Total initial stream area = 7.500(Ac.)
Pervious area fraction = 0.100

++

Process from Point/Station 151.000 to Point/Station 151.500
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2213.300(Ft.)
Downstream point/station elevation = 2200.000(Ft.)
Pipe length = 385.00(Ft.) Manning's N = 0.013

No. of pipes = 1 Required pipe flow =   25.668(CFS)
Nearest computed pipe diameter =   21.00(In.)
Calculated individual pipe flow =   25.668(CFS)
Normal flow depth in pipe =   15.16(In.)
Flow top width inside pipe =   18.81(In.)
Critical depth could not be calculated.
Pipe flow velocity =   13.80(Ft/s)
Travel time through pipe =   0.47 min.
Time of concentration (TC) =   9.30 min.
End of computations, total study area =   7.50 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number = 61.5

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 12/01/21 File:200.out

BCCOV BLDG A
100-YEAR STORM EVENT 200 SERIES
21-0034 DEVELOPED CONDITION
2021-12-01 EP

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 4010

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Calimesa] area used.
10 year storm 10 minute intensity = 2.440(In/Hr)
10 year storm 60 minute intensity = 0.910(In/Hr)
100 year storm 10 minute intensity = 3.620(In/Hr)
100 year storm 60 minute intensity = 1.350(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.350(In/Hr)
Slope of intensity duration curve = 0.5500

++

Process from Point/Station 200.000 to Point/Station 201.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 495.000(Ft.)
Top (of initial area) elevation = 2224.600(Ft.)
Bottom (of initial area) elevation = 2218.800(Ft.)
Difference in elevation = 5.800(Ft.)
Slope = 0.01172 s(percent)= 1.17
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 8.734 min.
Rainfall intensity = 3.896(In/Hr) for a 100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.881
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 56.00
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 17.162(CFS)
Total initial stream area = 5.000(Ac.)
Pervious area fraction = 0.100

++

Process from Point/Station 201.000 to Point/Station 202.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2215.000(Ft.)
Downstream point/station elevation = 2208.900(Ft.)
Pipe length = 910.00(Ft.) Manning's N = 0.013

```
No. of pipes = 1  Required pipe flow  =    17.162(CFS)
Nearest computed pipe diameter  =     24.00(In.)
Calculated individual pipe flow  =    17.162(CFS)
Normal flow depth in pipe =   18.26(In.)
Flow top width inside pipe =   20.48(In.)
Critical Depth =   17.91(In.)
Pipe flow velocity =      6.69(Ft/s)
Travel time through pipe =    2.27 min.
Time of concentration (TC) =    11.00 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      202.000 to Point/Station      202.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      5.000(Ac.)
Runoff from this stream =     17.162(CFS)
Time of concentration =   11.00 min.
Rainfall intensity =     3.432(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      203.000 to Point/Station      204.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   720.000(Ft.)
Top (of initial area) elevation =  2232.000(Ft.)
Bottom (of initial area) elevation =  2221.500(Ft.)
Difference in elevation =    10.500(Ft.)
Slope =    0.01458  s(percent)=       1.46
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.711 min.
Rainfall intensity =      3.675(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.882
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.750
Decimal fraction soil group C = 0.250
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  59.25
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     12.967(CFS)
Total initial stream area =        4.000(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      204.000 to Point/Station      202.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2217.500(Ft.)
Downstream point/station elevation =  2208.900(Ft.)
Pipe length  =   622.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    12.967(CFS)
Nearest computed pipe diameter  =     21.00(In.)
Calculated individual pipe flow  =    12.967(CFS)
Normal flow depth in pipe =   12.89(In.)
Flow top width inside pipe =   20.45(In.)
Critical Depth =   16.09(In.)
Pipe flow velocity =      8.37(Ft/s)
Travel time through pipe =    1.24 min.
Time of concentration (TC) =    10.95 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      202.000 to Point/Station      202.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      4.000(Ac.)
Runoff from this stream =     12.967(CFS)
Time of concentration =   10.95 min.
Rainfall intensity =     3.441(In/Hr)
Summary of stream data:
```

```
Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                (In/Hr)


1       17.162     11.00                3.432
2       12.967     10.95                3.441
Largest stream flow has longer time of concentration
Qp =     17.162 + sum of
          Qb         Ia/Ib
          12.967 *    0.998 =     12.935
Qp =     30.098

Total of 2 streams to confluence:
Flow rates before confluence point:
      17.162      12.967
Area of streams before confluence:
        5.000        4.000
Results of confluence:
Total flow rate =     30.098(CFS)
Time of concentration =    10.999 min.
Effective stream area after confluence =      9.000(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      202.000 to Point/Station      205.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2208.900(Ft.)
Downstream point/station elevation =  2207.500(Ft.)
Pipe length  =   210.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    30.098(CFS)
Nearest computed pipe diameter  =     30.00(In.)
Calculated individual pipe flow  =    30.098(CFS)
Normal flow depth in pipe =   22.22(In.)
Flow top width inside pipe =   26.30(In.)
Critical Depth =   22.43(In.)
Pipe flow velocity =      7.72(Ft/s)
Travel time through pipe =    0.45 min.
Time of concentration (TC) =    11.45 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      205.000 to Point/Station      205.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      9.000(Ac.)
Runoff from this stream =     30.098(CFS)
Time of concentration =   11.45 min.
Rainfall intensity =     3.357(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      305.000 to Point/Station      305.000
**** USER DEFINED FLOW INFORMATION AT A POINT ****
______________________________________________________________________________
Rainfall intensity =      3.096(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.882
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.600
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.400
RI index for soil(AMC 2)  =  63.60
Pervious area fraction =  0.100; Impervious fraction =  0.900
User specified values are as follows:
TC =  13.27 min.  Rain intensity =       3.10(In/Hr)
Total area =        12.00(Ac.)  Total runoff =     37.00(CFS)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      205.000 to Point/Station      205.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
```

FLOWS FROM BLDG B SITE

```
Along Main Stream number: 1 in normal stream number 2
Stream flow area =     12.000(Ac.)
Runoff from this stream =     37.000(CFS)
Time of concentration =   13.27 min.
Rainfall intensity =     3.096(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)

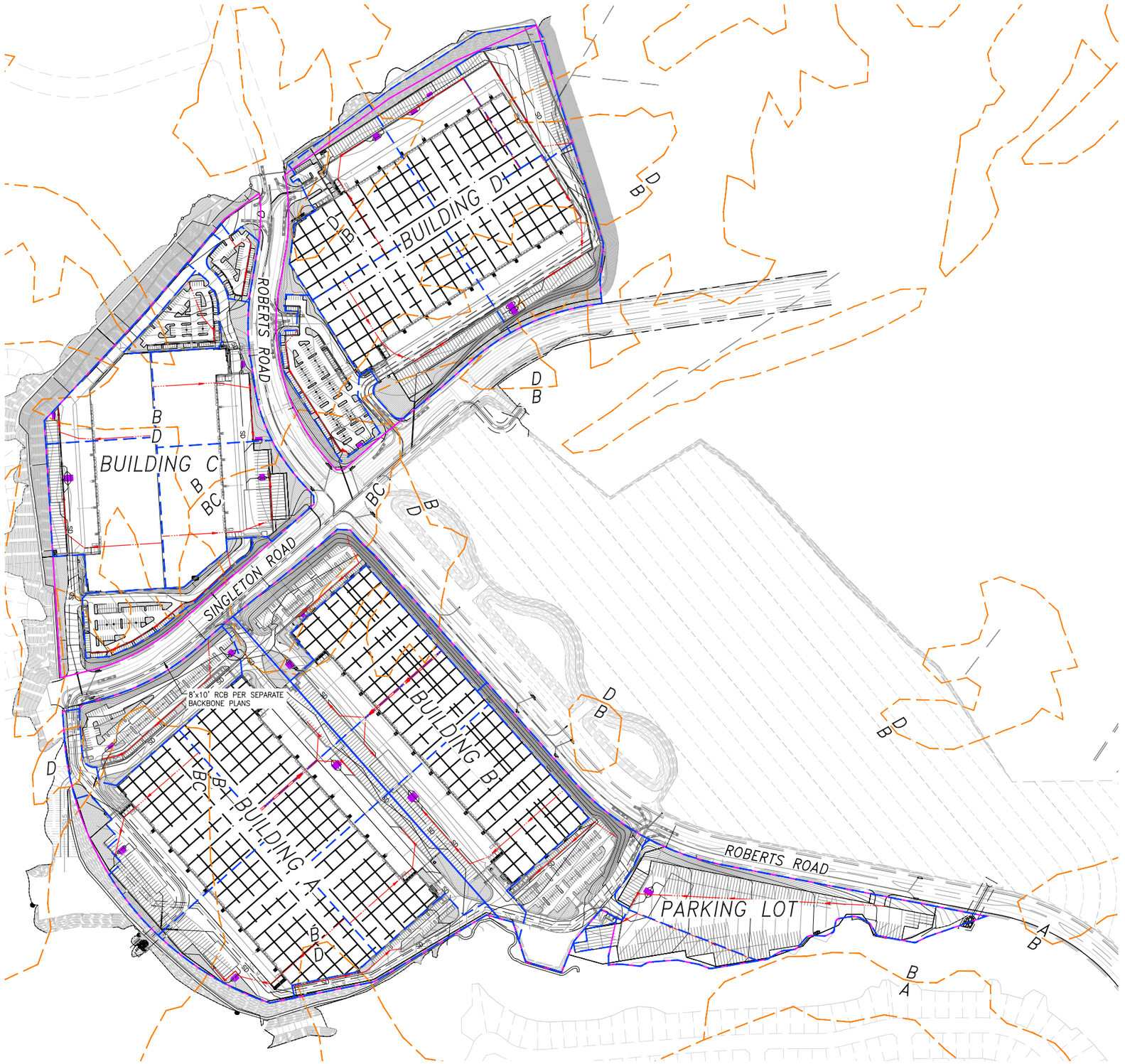

1       30.098     11.45                 3.357
2       37.000     13.27                 3.096
Largest stream flow has longer time of concentration
Qp =     37.000 + sum of
          Qb          Ia/Ib
          30.098 *    0.922 =     27.756
Qp =     64.756

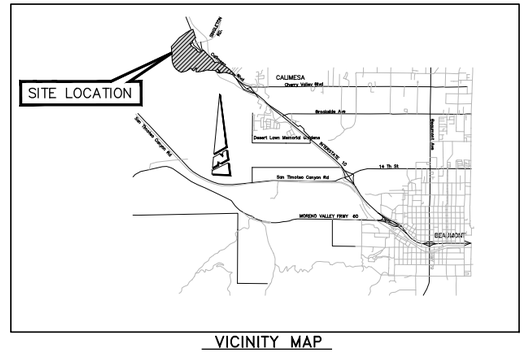
Total of 2 streams to confluence:
Flow rates before confluence point:
      30.098      37.000
Area of streams before confluence:
        9.000       12.000
Results of confluence:
Total flow rate =     64.756(CFS)
Time of concentration =    13.270 min.
Effective stream area after confluence =     21.000(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      205.000 to Point/Station      206.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =  2207.500(Ft.)
Downstream point/station elevation =  2207.100(Ft.)
Pipe length  =    64.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    64.756(CFS)
Nearest computed pipe diameter  =     39.00(In.)
Calculated individual pipe flow  =    64.756(CFS)
Normal flow depth in pipe =   31.69(In.)
Flow top width inside pipe =   30.44(In.)
Critical Depth =   30.74(In.)
Pipe flow velocity =      8.97(Ft/s)
Travel time through pipe =    0.12 min.
Time of concentration (TC) =    13.39 min.
End of computations, total study area =           21.00 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  61.0
```

RATIONAL METHOD HYDROLOGY MAPS





VICINITY MAP
N.T.S.
T2S, R2W, SECTION 23,24,25,26

GENERAL NOTES:

1. OVERALL BLCOV PROJECT AREA WILL BE MASS GRADED AND BACKBONE IMPROVEMENTS WILL BE CONSTRUCTED PRIOR TO ANY CONSTRUCTION COMMENCING FOR THE BUILDING A, BUILDING B, BUILDING C, BUILDING D, OR PARKING LOT PROJECTS.
2. EXISTING CONTOURS SHOWN IN EXHIBITS ARE TAKEN FROM THE MASS GRADING PLAN FOR PARCEL MAP 37862.

LEGEND

- NODE / ELEV – NODE NUMBER / ELEVATION (FT)
- AC / FT – AREA (AC) / LENGTH (FT)
- DRAINAGE AREA BOUNDARY (PROPOSED)
- FLOWLINE (PROPOSED)
- PROJECT BOUNDARY
- NRCS SOIL BOUNDARY
- MWS TREATMENT VAULT (SEE PWQMP)

N
W WEBB E
S

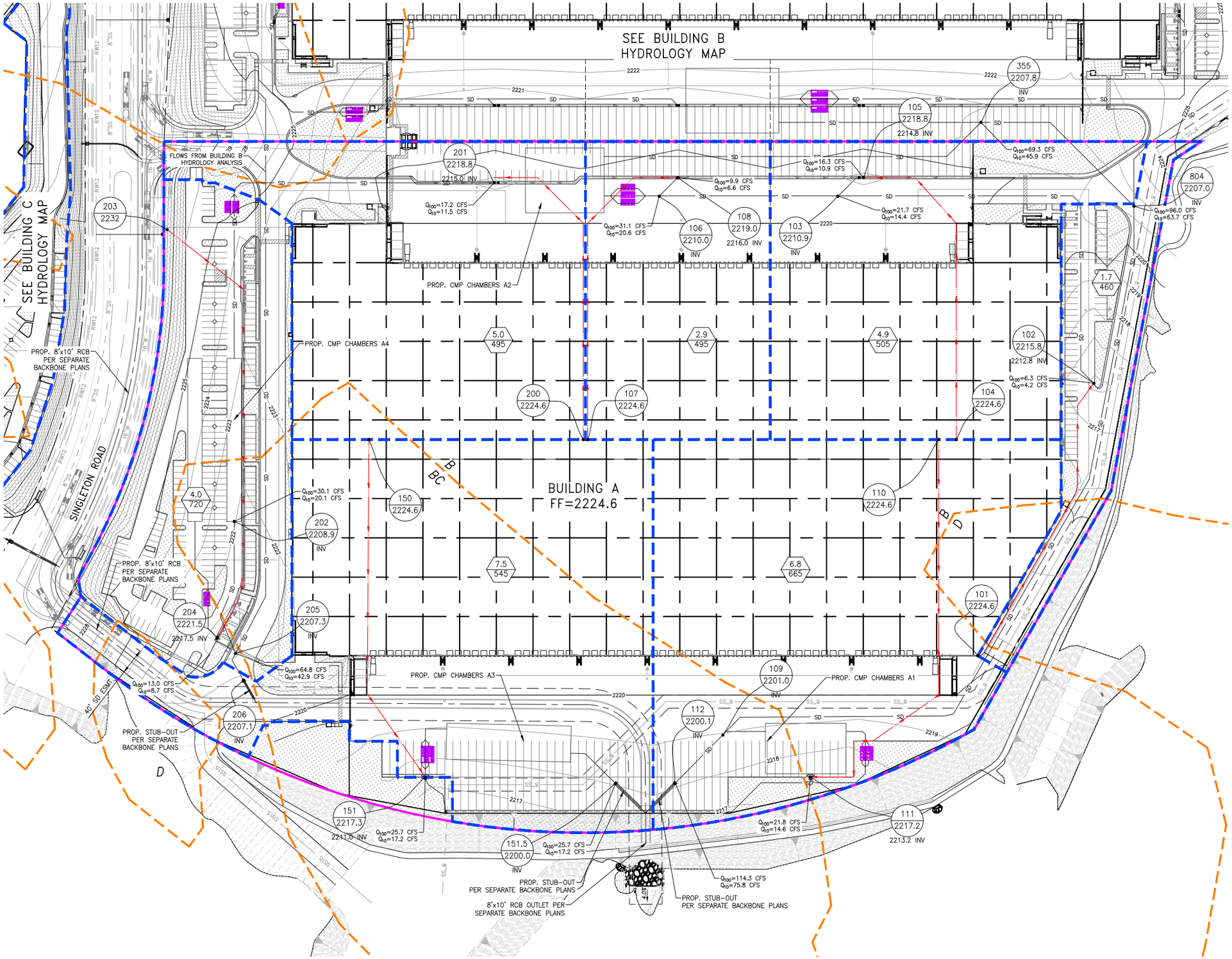
1" = 200'
200 0 200 400 600

CITY OF CALIMESA, COUNTY OF RIVERSIDE
BIRTCHER COMMERCE CENTER OAK VALLEY

OVERALL BCCOV SITE PLAN
INDUSTRIAL DEVELOPMENT
DEVELOPED CONDITION
PRELIMINARY RATIONAL METHOD EXHIBIT

SCALE: 1" = 200'	ALBERT A. WEBB ASSOCIATES	W.O.	21-0034
DATE: 12/14/2020	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	SHEET	1
DESIGNED: EP		OF 2	SHEETS
CHECKED: BJV		DWG. NO.	
PLN CK REF:			
F.B.			

H:\2021\21-0034\DRAINAGE\PHYD\DWG FOLDER\21-0034 PRELIM RATIONAL METHOD.DWG 12/8/2021 9:11:56 AM



LEGEND

- NODE / ELEV – NODE NUMBER / ELEVATION (FT)
- AC / FT – AREA (AC) / LENGTH (FT)
- DRAINAGE AREA BOUNDARY (PROPOSED)
- FLOWLINE (PROPOSED)
- PROJECT BOUNDARY
- NRCS SOIL BOUNDARY
- MWS TREATMENT VAULT (SEE PWQMP)

N E W S WEBB

1" = 70'

70 0 70 140 210

CITY OF CALIMESA, COUNTY OF RIVERSIDE
BIRTCHER COMMERCE CENTER OAK VALLEY

BCCOV – BUILDING A
INDUSTRIAL DEVELOPMENT
DEVELOPED CONDITION
PRELIMINARY RATIONAL METHOD EXHIBIT

SCALE:	1"=70'	ALBERT A. WEBB ASSOCIATES	W.O. 21-0034
DATE:	5/3/2021	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	SHEET 2
DESIGNED:	EP		OF 2 SHEETS
CHECKED:	BJV		DWG. NO.
PLN CK REF:			
F.B.			

H:\2021\21-0034\DRAINAGE\PHYD\DWG FOLDER\21-0034 PRELIM RATIONAL METHOD.DWG 12/8/2021 9:11:56 AM

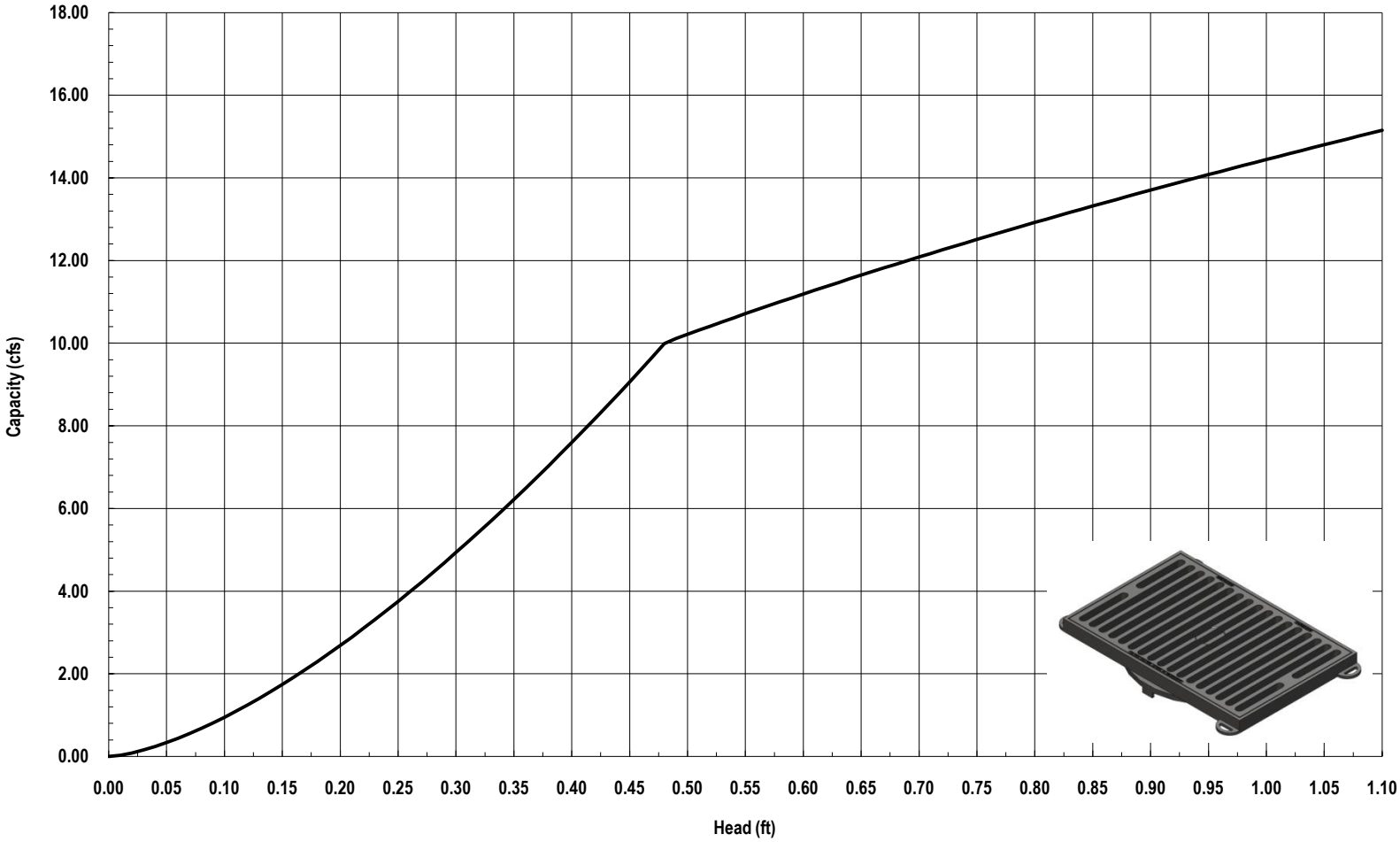
APPENDIX B – HYDRAULIC ANALYSIS

Hydraulic calculations to be provided in Final Engineering.

PRELIMINARY INLET CHARTS

IN FINAL ENGINEERING, EACH INLET WILL BE EVALUATED

Nyloplast 2' x 3' Road & Highway Grate Inlet Capacity Chart



PRELIMINARY Qs

Q= CFS

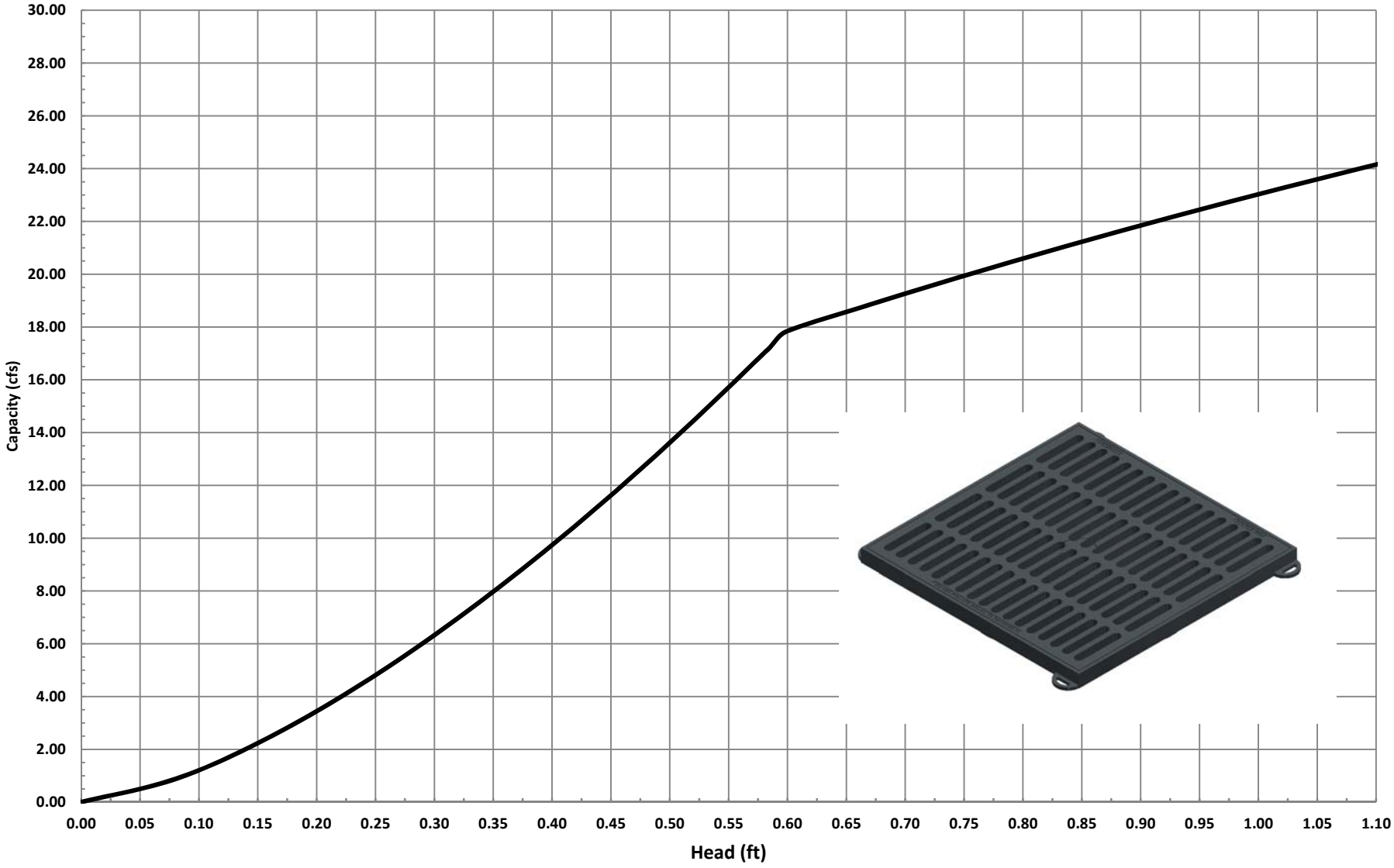
$Q_{2\text{-GRATES}}$= Q/2 = CFS

$Q_{1.5\text{-CLOGGING FACTOR}}$= Q*1.5 =

Nyloplast®
3130 Verona Avenue • Buford, GA 30518
(866) 888-8479 / (770) 932-2443 • Fax: (770) 932-2490
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IN FINAL ENGINEERING, EACH INLET WILL BE EVALUATED

Nyloplast 3' x 3' Road & Highway Inlet Capacity Chart



PRELIMINARY Qs
Q= CFS
$Q_{2\text{-GRATES}}$= Q/2 = CFS
$Q_{1.5\text{-CLOGGING FACTOR}}$= Q*1.5 =

Nyloplast
3130 Verona Avenue • Buford, GA 30518
(866) 888-8479 / (770) 932-2443 • Fax: (770) 932-2490

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CMP CHAMBER SIZING

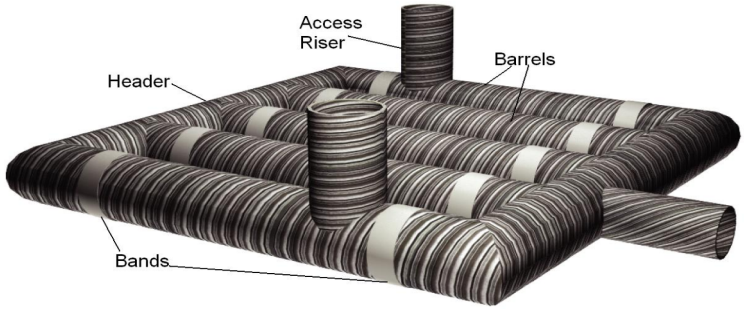
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Project Summary

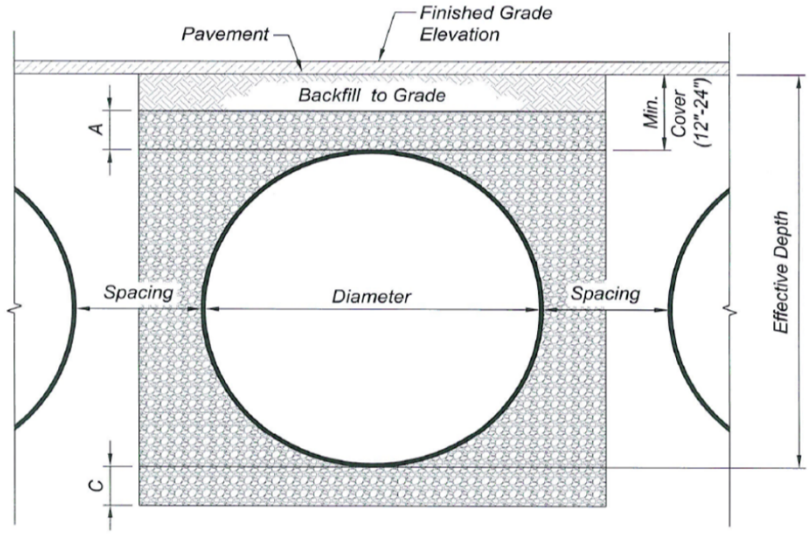
Date:	12/8/2021
Project Name:	BCCOV BLDG A AREA 1
City / County:	Calimesa
State:	CA
Designed By:	EP
Company:	Albert A. Webb Associates
Telephone:	

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	44,000
Limiting Width (ft):	78.00
Invert Depth Below Asphalt (ft):	10.00
Solid or Perforated Pipe:	Solid
Shape Or Diameter (in):	96
Number Of Headers:	2
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	0
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	44,033	cf	
Porous Stone Storage:	0	cf	
Total Storage Provided:	44,033	cf	100.1% Of Required Storage
Number of Barrels:	7	barrels	
Length per Barrel:	104.0	ft	
Length Per Header:	74.0	ft	
Rectangular Footprint (W x L):	77. ft x 123. ft		

CONTECH Materials

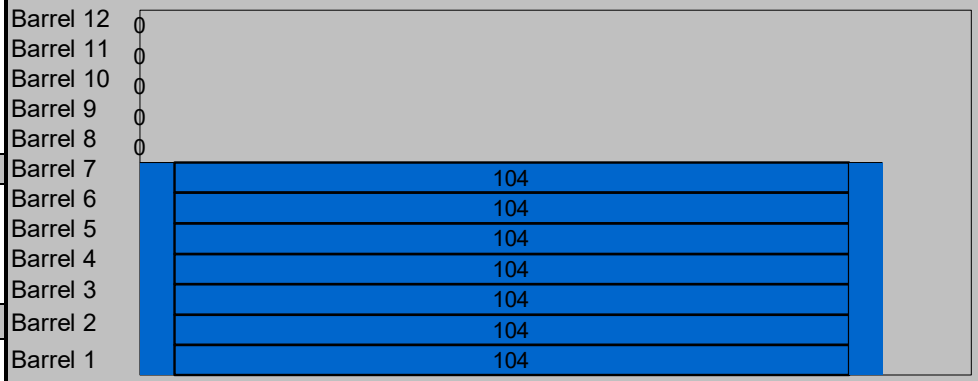
Total CMP Footage:	876	ft
Approximate Total Pieces:	43	pcs
Approximate Coupling Bands:	48	bands
Approximate Truckloads:	22	trucks

Construction Quantities**

Total Excavation:	3508	cy
Porous Stone Backfill For Storage:	0	cy stone
Backfill to Grade Excluding Stone:	1877	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



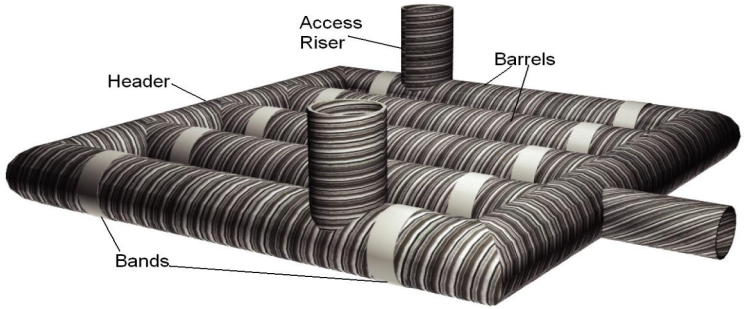
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Project Summary

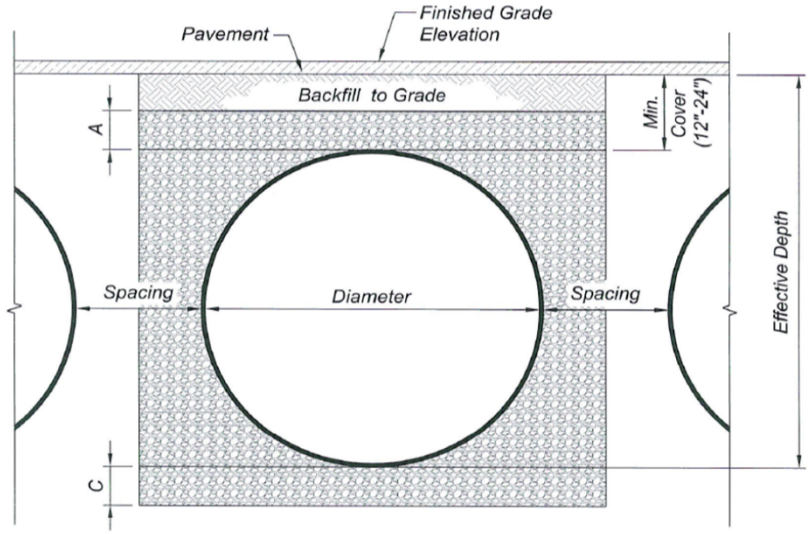
Date:	12/1/2021
Project Name:	BCCOV BLDG A AREA 2
City / County:	Calimesa
State:	CA
Designed By:	EP
Company:	Albert A. Webb Associates
Telephone:	

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	55,000
Limiting Width (ft):	100.00
Invert Depth Below Asphalt (ft):	10.00
Solid or Perforated Pipe:	Solid
Shape Or Diameter (in):	96
Number Of Headers:	2
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	0
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	55,342	cf	
Porous Stone Storage:	0	cf	
Total Storage Provided:	55,342	cf	100.6% Of Required Storage
Number of Barrels:	9	barrels	
Length per Barrel:	101.0	ft	
Length Per Header:	96.0	ft	
Rectangular Footprint (W x L):	99. ft x 120. ft		

CONTECH Materials

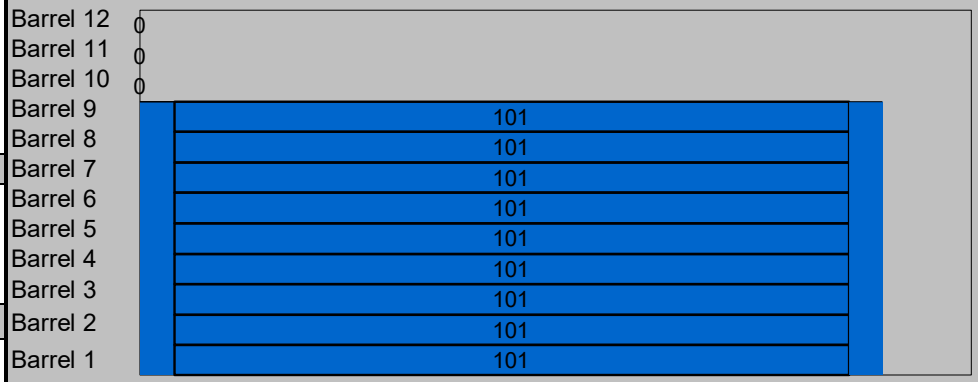
Total CMP Footage:	1,101	ft
Approximate Total Pieces:	53	pcs
Approximate Coupling Bands:	60	bands
Approximate Truckloads:	27	trucks

Construction Quantities**

Total Excavation:	4400	cy
Porous Stone Backfill For Storage:	0	cy stone
Backfill to Grade Excluding Stone:	2350	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



Barrel Footage (w/o headers)

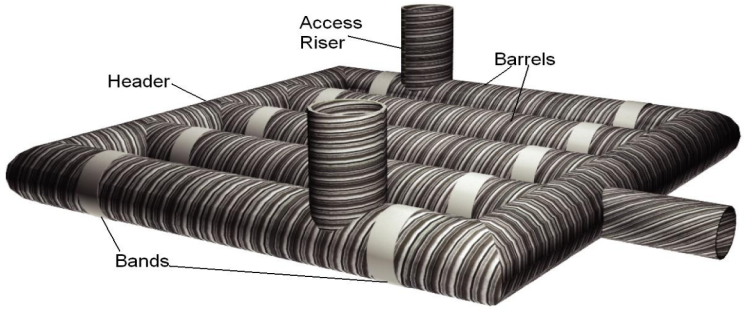
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Project Summary

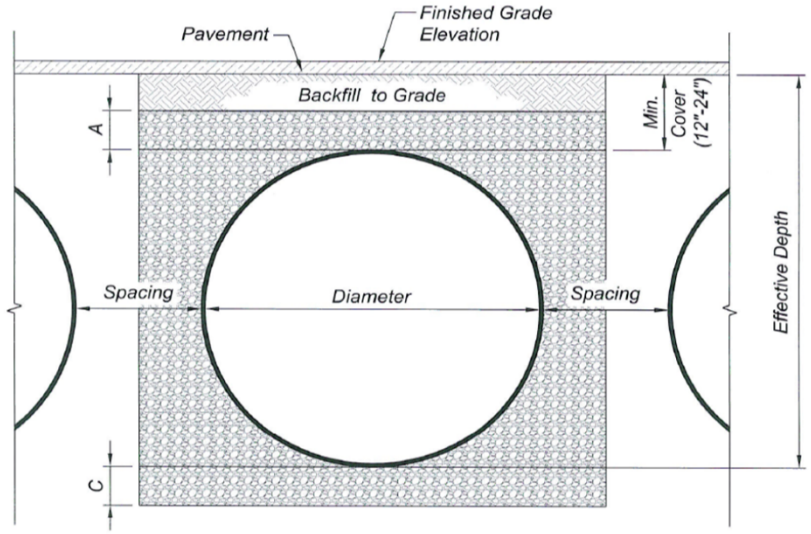
Date:	12/1/2021
Project Name:	BCCOV BLDG A AREA 5
City / County:	Calimesa
State:	CA
Designed By:	EP
Company:	Albert A. Webb Associates
Telephone:	

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	48,000
Limiting Width (ft):	60.00
Invert Depth Below Asphalt (ft):	10.00
Solid or Perforated Pipe:	Solid
Shape Or Diameter (in):	96
Number Of Headers:	2
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	0
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	48,205	cf	
Porous Stone Storage:	0	cf	
Total Storage Provided:	48,205	cf	100.4% Of Required Storage
Number of Barrels:	5	barrels	
Length per Barrel:	171.0	ft	
Length Per Header:	52.0	ft	
Rectangular Footprint (W x L):	55. ft x 190. ft		

CONTECH Materials

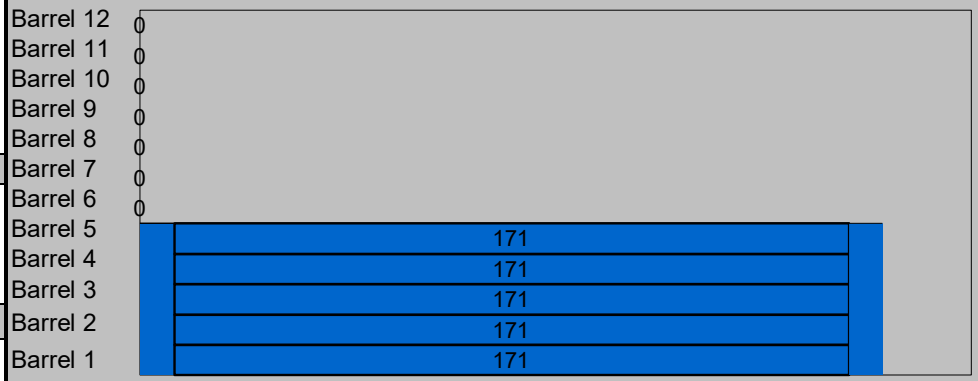
Total CMP Footage:	959	ft
Approximate Total Pieces:	46	pcs
Approximate Coupling Bands:	49	bands
Approximate Truckloads:	23	trucks

Construction Quantities**

Total Excavation:	3871	cy
Porous Stone Backfill For Storage:	0	cy stone
Backfill to Grade Excluding Stone:	2086	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



Barrel Footage (w/o headers)

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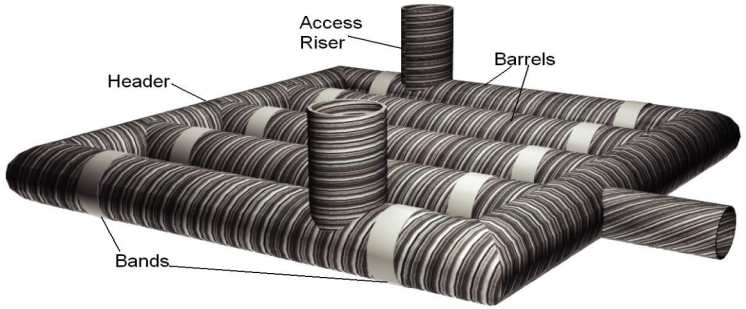
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Project Summary

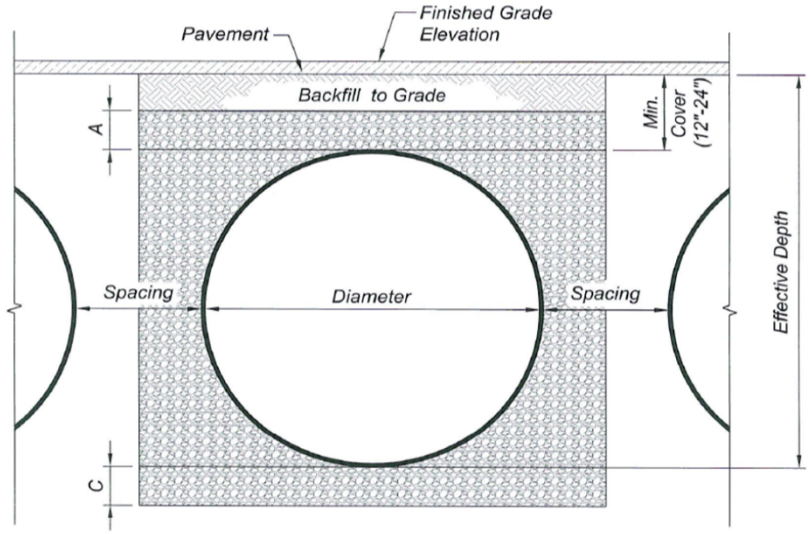
Date:	12/1/2021
Project Name:	BCCOV BLDG A AREA 6
City / County:	Calimesa
State:	CA
Designed By:	EP
Company:	Albert A. Webb Associates
Telephone:	

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	25,000
Limiting Width (ft):	30.00
Invert Depth Below Asphalt (ft):	10.00
Solid or Perforated Pipe:	Solid
Shape Or Diameter (in):	96
Number Of Headers:	2
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	0
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	25,032	cf	
Porous Stone Storage:	0	cf	
Total Storage Provided:	25,032	cf	100.1% Of Required Storage
Number of Barrels:	2	barrels	
Length per Barrel:	230.0	ft	
Length Per Header:	19.0	ft	
Rectangular Footprint (W x L):	22. ft x 249. ft		

CONTECH Materials

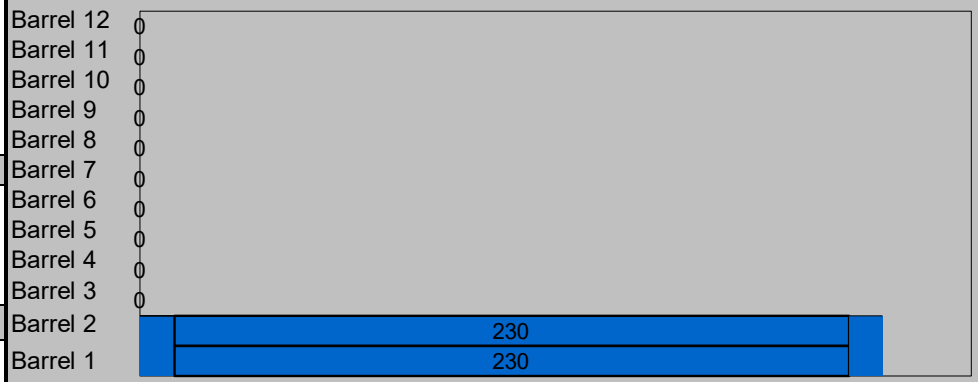
Total CMP Footage:	498	ft
Approximate Total Pieces:	22	pcs
Approximate Coupling Bands:	22	bands
Approximate Truckloads:	11	trucks

Construction Quantities**

Total Excavation:	2029	cy
Porous Stone Backfill For Storage:	0	cy stone
Backfill to Grade Excluding Stone:	1102	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



TWO CHAMBER SYSTEMS CONNECTED BY AN EQUALIZER PIPE ARE PROPOSED TO DETAIN A TOTAL 50,000 CF

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APPENDIX C – UNIT HYDROGRAPH AND ROUTING

EXISTING CONDITION UNIT HYDROGRAPHS (2-YEAR, 24-HOUR STORM)

U n i t H y d r o g r a p h A n a l y s i s

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Study date 11/24/21 File: EX2YRA1242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 4010

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

BCCOV AREA A1 EXISTING CONDITION
2-YEAR 24 HOUR STORM EVENT
21-0034
2021-11-22 EP

Drainage Area = 37.70(Ac.) = 0.059 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 37.70(Ac.) = 0.059 Sq. Mi.
Length along longest watercourse = 3231.00(Ft.)
Length along longest watercourse measured to centroid = 1394.00(Ft.)
Length along longest watercourse = 0.612 Mi.
Length along longest watercourse measured to centroid = 0.264 Mi.
Difference in elevation = 45.30(Ft.)
Slope along watercourse = 74.0279 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.159 Hr.
Lag time = 9.54 Min.
25% of lag time = 2.38 Min.
40% of lag time = 3.82 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
37.70	2.40	90.48

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
37.70	6.20	233.74

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.200(In)

Point rain (area averaged) = 2.400(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.400(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
37.700	86.20	0.000

Total Area Entered = 37.70(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

86.2	71.9	0.339	0.000	0.339	1.000	0.339
					Sum (F) =	0.339

Area averaged mean soil loss (F) (In/Hr) = 0.339
Minimum soil loss rate ((In/Hr)) = 0.170
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	52.421	4.579	1.740
2	0.167	104.842	23.119	8.784
3	0.250	157.263	37.515	14.254
4	0.333	209.684	13.955	5.302
5	0.417	262.105	8.053	3.060
6	0.500	314.526	5.188	1.971
7	0.583	366.947	3.309	1.257
8	0.667	419.368	1.927	0.732
9	0.750	471.789	0.794	0.302
10	0.833	524.210	0.520	0.197
11	0.917	576.631	0.358	0.136
12	1.000	629.052	0.374	0.142
13	1.083	681.473	0.212	0.080
14	1.167	733.894	0.098	0.037
			Sum = 100.000	Sum= 37.995

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.019	(0.602)	0.017	0.002
2	0.17	0.07	0.019	(0.599)	0.017	0.002
3	0.25	0.07	0.019	(0.597)	0.017	0.002
4	0.33	0.10	0.029	(0.595)	0.026	0.003
5	0.42	0.10	0.029	(0.592)	0.026	0.003
6	0.50	0.10	0.029	(0.590)	0.026	0.003
7	0.58	0.10	0.029	(0.588)	0.026	0.003
8	0.67	0.10	0.029	(0.585)	0.026	0.003
9	0.75	0.10	0.029	(0.583)	0.026	0.003
10	0.83	0.13	0.038	(0.581)	0.035	0.004
11	0.92	0.13	0.038	(0.579)	0.035	0.004
12	1.00	0.13	0.038	(0.576)	0.035	0.004
13	1.08	0.10	0.029	(0.574)	0.026	0.003
14	1.17	0.10	0.029	(0.572)	0.026	0.003
15	1.25	0.10	0.029	(0.569)	0.026	0.003
16	1.33	0.10	0.029	(0.567)	0.026	0.003
17	1.42	0.10	0.029	(0.565)	0.026	0.003
18	1.50	0.10	0.029	(0.563)	0.026	0.003
19	1.58	0.10	0.029	(0.560)	0.026	0.003
20	1.67	0.10	0.029	(0.558)	0.026	0.003
21	1.75	0.10	0.029	(0.556)	0.026	0.003
22	1.83	0.13	0.038	(0.554)	0.035	0.004
23	1.92	0.13	0.038	(0.551)	0.035	0.004
24	2.00	0.13	0.038	(0.549)	0.035	0.004
25	2.08	0.13	0.038	(0.547)	0.035	0.004
26	2.17	0.13	0.038	(0.545)	0.035	0.004
27	2.25	0.13	0.038	(0.543)	0.035	0.004
28	2.33	0.13	0.038	(0.540)	0.035	0.004
29	2.42	0.13	0.038	(0.538)	0.035	0.004
30	2.50	0.13	0.038	(0.536)	0.035	0.004
31	2.58	0.17	0.048	(0.534)	0.043	0.005
32	2.67	0.17	0.048	(0.532)	0.043	0.005
33	2.75	0.17	0.048	(0.529)	0.043	0.005
34	2.83	0.17	0.048	(0.527)	0.043	0.005
35	2.92	0.17	0.048	(0.525)	0.043	0.005
36	3.00	0.17	0.048	(0.523)	0.043	0.005

37	3.08	0.17	0.048	(0.521)	0.043	0.005
38	3.17	0.17	0.048	(0.519)	0.043	0.005
39	3.25	0.17	0.048	(0.516)	0.043	0.005
40	3.33	0.17	0.048	(0.514)	0.043	0.005
41	3.42	0.17	0.048	(0.512)	0.043	0.005
42	3.50	0.17	0.048	(0.510)	0.043	0.005
43	3.58	0.17	0.048	(0.508)	0.043	0.005
44	3.67	0.17	0.048	(0.506)	0.043	0.005
45	3.75	0.17	0.048	(0.504)	0.043	0.005
46	3.83	0.20	0.058	(0.501)	0.052	0.006
47	3.92	0.20	0.058	(0.499)	0.052	0.006
48	4.00	0.20	0.058	(0.497)	0.052	0.006
49	4.08	0.20	0.058	(0.495)	0.052	0.006
50	4.17	0.20	0.058	(0.493)	0.052	0.006
51	4.25	0.20	0.058	(0.491)	0.052	0.006
52	4.33	0.23	0.067	(0.489)	0.060	0.007
53	4.42	0.23	0.067	(0.487)	0.060	0.007
54	4.50	0.23	0.067	(0.485)	0.060	0.007
55	4.58	0.23	0.067	(0.483)	0.060	0.007
56	4.67	0.23	0.067	(0.480)	0.060	0.007
57	4.75	0.23	0.067	(0.478)	0.060	0.007
58	4.83	0.27	0.077	(0.476)	0.069	0.008
59	4.92	0.27	0.077	(0.474)	0.069	0.008
60	5.00	0.27	0.077	(0.472)	0.069	0.008
61	5.08	0.20	0.058	(0.470)	0.052	0.006
62	5.17	0.20	0.058	(0.468)	0.052	0.006
63	5.25	0.20	0.058	(0.466)	0.052	0.006
64	5.33	0.23	0.067	(0.464)	0.060	0.007
65	5.42	0.23	0.067	(0.462)	0.060	0.007
66	5.50	0.23	0.067	(0.460)	0.060	0.007
67	5.58	0.27	0.077	(0.458)	0.069	0.008
68	5.67	0.27	0.077	(0.456)	0.069	0.008
69	5.75	0.27	0.077	(0.454)	0.069	0.008
70	5.83	0.27	0.077	(0.452)	0.069	0.008
71	5.92	0.27	0.077	(0.450)	0.069	0.008
72	6.00	0.27	0.077	(0.448)	0.069	0.008
73	6.08	0.30	0.086	(0.446)	0.078	0.009
74	6.17	0.30	0.086	(0.444)	0.078	0.009
75	6.25	0.30	0.086	(0.442)	0.078	0.009
76	6.33	0.30	0.086	(0.440)	0.078	0.009
77	6.42	0.30	0.086	(0.438)	0.078	0.009
78	6.50	0.30	0.086	(0.436)	0.078	0.009
79	6.58	0.33	0.096	(0.434)	0.086	0.010
80	6.67	0.33	0.096	(0.432)	0.086	0.010
81	6.75	0.33	0.096	(0.430)	0.086	0.010
82	6.83	0.33	0.096	(0.428)	0.086	0.010
83	6.92	0.33	0.096	(0.426)	0.086	0.010
84	7.00	0.33	0.096	(0.424)	0.086	0.010
85	7.08	0.33	0.096	(0.422)	0.086	0.010
86	7.17	0.33	0.096	(0.421)	0.086	0.010
87	7.25	0.33	0.096	(0.419)	0.086	0.010
88	7.33	0.37	0.106	(0.417)	0.095	0.011
89	7.42	0.37	0.106	(0.415)	0.095	0.011
90	7.50	0.37	0.106	(0.413)	0.095	0.011
91	7.58	0.40	0.115	(0.411)	0.104	0.012
92	7.67	0.40	0.115	(0.409)	0.104	0.012
93	7.75	0.40	0.115	(0.407)	0.104	0.012
94	7.83	0.43	0.125	(0.405)	0.112	0.012
95	7.92	0.43	0.125	(0.403)	0.112	0.012
96	8.00	0.43	0.125	(0.402)	0.112	0.012
97	8.08	0.50	0.144	(0.400)	0.130	0.014
98	8.17	0.50	0.144	(0.398)	0.130	0.014
99	8.25	0.50	0.144	(0.396)	0.130	0.014
100	8.33	0.50	0.144	(0.394)	0.130	0.014
101	8.42	0.50	0.144	(0.392)	0.130	0.014
102	8.50	0.50	0.144	(0.390)	0.130	0.014
103	8.58	0.53	0.154	(0.389)	0.138	0.015
104	8.67	0.53	0.154	(0.387)	0.138	0.015
105	8.75	0.53	0.154	(0.385)	0.138	0.015
106	8.83	0.57	0.163	(0.383)	0.147	0.016
107	8.92	0.57	0.163	(0.381)	0.147	0.016
108	9.00	0.57	0.163	(0.380)	0.147	0.016
109	9.08	0.63	0.182	(0.378)	0.164	0.018
110	9.17	0.63	0.182	(0.376)	0.164	0.018
111	9.25	0.63	0.182	(0.374)	0.164	0.018

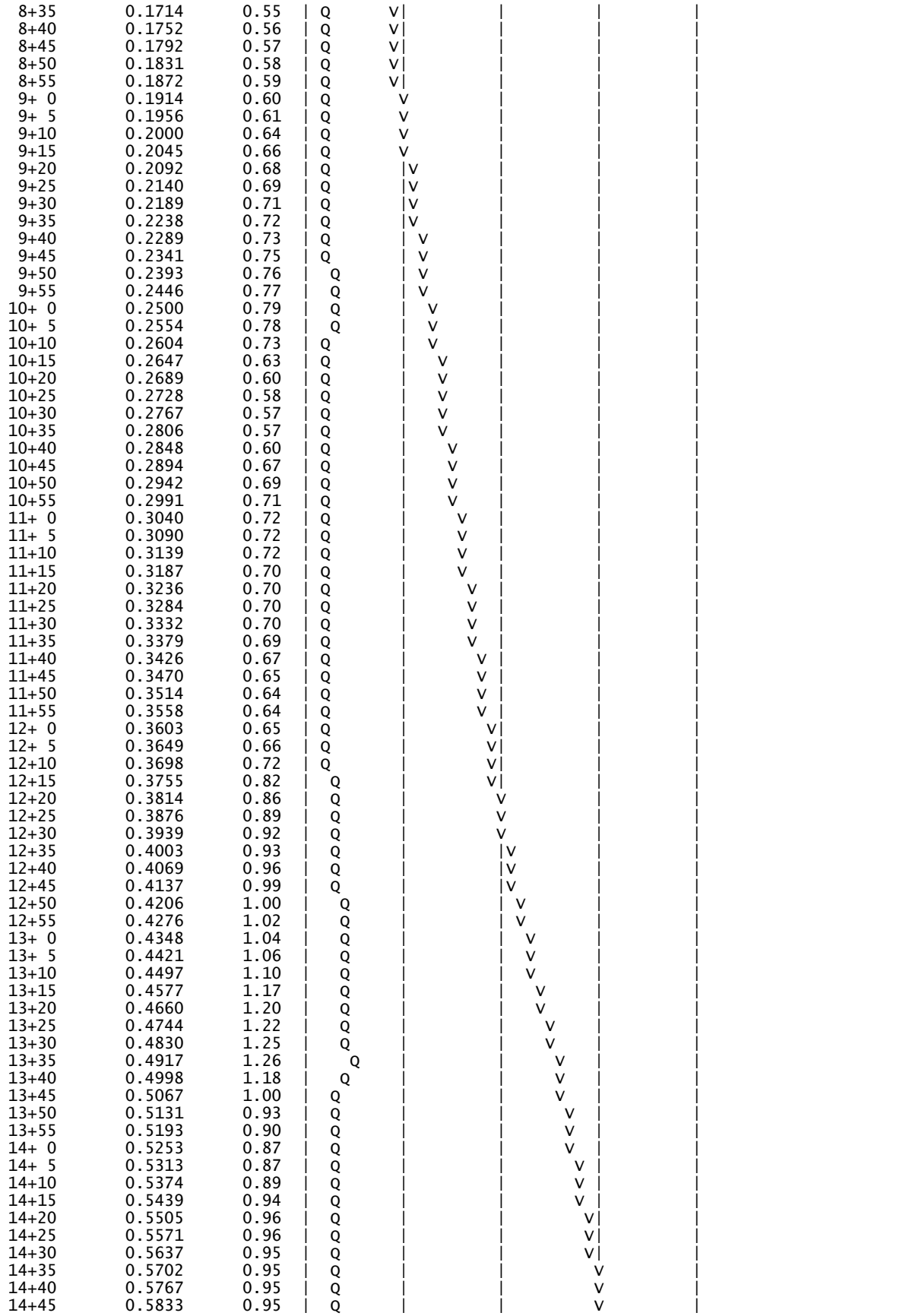
112	9.33	0.67	0.192	(0.372)	0.173	0.019
113	9.42	0.67	0.192	(0.371)	0.173	0.019
114	9.50	0.67	0.192	(0.369)	0.173	0.019
115	9.58	0.70	0.202	(0.367)	0.181	0.020
116	9.67	0.70	0.202	(0.365)	0.181	0.020
117	9.75	0.70	0.202	(0.364)	0.181	0.020
118	9.83	0.73	0.211	(0.362)	0.190	0.021
119	9.92	0.73	0.211	(0.360)	0.190	0.021
120	10.00	0.73	0.211	(0.358)	0.190	0.021
121	10.08	0.50	0.144	(0.357)	0.130	0.014
122	10.17	0.50	0.144	(0.355)	0.130	0.014
123	10.25	0.50	0.144	(0.353)	0.130	0.014
124	10.33	0.50	0.144	(0.351)	0.130	0.014
125	10.42	0.50	0.144	(0.350)	0.130	0.014
126	10.50	0.50	0.144	(0.348)	0.130	0.014
127	10.58	0.67	0.192	(0.346)	0.173	0.019
128	10.67	0.67	0.192	(0.345)	0.173	0.019
129	10.75	0.67	0.192	(0.343)	0.173	0.019
130	10.83	0.67	0.192	(0.341)	0.173	0.019
131	10.92	0.67	0.192	(0.340)	0.173	0.019
132	11.00	0.67	0.192	(0.338)	0.173	0.019
133	11.08	0.63	0.182	(0.336)	0.164	0.018
134	11.17	0.63	0.182	(0.335)	0.164	0.018
135	11.25	0.63	0.182	(0.333)	0.164	0.018
136	11.33	0.63	0.182	(0.331)	0.164	0.018
137	11.42	0.63	0.182	(0.330)	0.164	0.018
138	11.50	0.63	0.182	(0.328)	0.164	0.018
139	11.58	0.57	0.163	(0.326)	0.147	0.016
140	11.67	0.57	0.163	(0.325)	0.147	0.016
141	11.75	0.57	0.163	(0.323)	0.147	0.016
142	11.83	0.60	0.173	(0.322)	0.156	0.017
143	11.92	0.60	0.173	(0.320)	0.156	0.017
144	12.00	0.60	0.173	(0.318)	0.156	0.017
145	12.08	0.83	0.240	(0.317)	0.216	0.024
146	12.17	0.83	0.240	(0.315)	0.216	0.024
147	12.25	0.83	0.240	(0.314)	0.216	0.024
148	12.33	0.87	0.250	(0.312)	0.225	0.025
149	12.42	0.87	0.250	(0.310)	0.225	0.025
150	12.50	0.87	0.250	(0.309)	0.225	0.025
151	12.58	0.93	0.269	(0.307)	0.242	0.027
152	12.67	0.93	0.269	(0.306)	0.242	0.027
153	12.75	0.93	0.269	(0.304)	0.242	0.027
154	12.83	0.97	0.278	(0.303)	0.251	0.028
155	12.92	0.97	0.278	(0.301)	0.251	0.028
156	13.00	0.97	0.278	(0.300)	0.251	0.028
157	13.08	1.13	0.326	(0.298)	0.294	0.033
158	13.17	1.13	0.326	(0.297)	0.294	0.033
159	13.25	1.13	0.326	(0.295)	0.294	0.033
160	13.33	1.13	0.326	0.294	(0.294)	0.033
161	13.42	1.13	0.326	0.292	(0.294)	0.034
162	13.50	1.13	0.326	0.291	(0.294)	0.036
163	13.58	0.77	0.221	(0.289)	0.199	0.022
164	13.67	0.77	0.221	(0.288)	0.199	0.022
165	13.75	0.77	0.221	(0.286)	0.199	0.022
166	13.83	0.77	0.221	(0.285)	0.199	0.022
167	13.92	0.77	0.221	(0.283)	0.199	0.022
168	14.00	0.77	0.221	(0.282)	0.199	0.022
169	14.08	0.90	0.259	(0.280)	0.233	0.026
170	14.17	0.90	0.259	(0.279)	0.233	0.026
171	14.25	0.90	0.259	(0.278)	0.233	0.026
172	14.33	0.87	0.250	(0.276)	0.225	0.025
173	14.42	0.87	0.250	(0.275)	0.225	0.025
174	14.50	0.87	0.250	(0.273)	0.225	0.025
175	14.58	0.87	0.250	(0.272)	0.225	0.025
176	14.67	0.87	0.250	(0.271)	0.225	0.025
177	14.75	0.87	0.250	(0.269)	0.225	0.025
178	14.83	0.83	0.240	(0.268)	0.216	0.024
179	14.92	0.83	0.240	(0.266)	0.216	0.024
180	15.00	0.83	0.240	(0.265)	0.216	0.024
181	15.08	0.80	0.230	(0.264)	0.207	0.023
182	15.17	0.80	0.230	(0.262)	0.207	0.023
183	15.25	0.80	0.230	(0.261)	0.207	0.023
184	15.33	0.77	0.221	(0.260)	0.199	0.022
185	15.42	0.77	0.221	(0.258)	0.199	0.022
186	15.50	0.77	0.221	(0.257)	0.199	0.022

187	15.58	0.63	0.182	(0.256)	0.164	0.018
188	15.67	0.63	0.182	(0.254)	0.164	0.018
189	15.75	0.63	0.182	(0.253)	0.164	0.018
190	15.83	0.63	0.182	(0.252)	0.164	0.018
191	15.92	0.63	0.182	(0.250)	0.164	0.018
192	16.00	0.63	0.182	(0.249)	0.164	0.018
193	16.08	0.13	0.038	(0.248)	0.035	0.004
194	16.17	0.13	0.038	(0.247)	0.035	0.004
195	16.25	0.13	0.038	(0.245)	0.035	0.004
196	16.33	0.13	0.038	(0.244)	0.035	0.004
197	16.42	0.13	0.038	(0.243)	0.035	0.004
198	16.50	0.13	0.038	(0.242)	0.035	0.004
199	16.58	0.10	0.029	(0.240)	0.026	0.003
200	16.67	0.10	0.029	(0.239)	0.026	0.003
201	16.75	0.10	0.029	(0.238)	0.026	0.003
202	16.83	0.10	0.029	(0.237)	0.026	0.003
203	16.92	0.10	0.029	(0.236)	0.026	0.003
204	17.00	0.10	0.029	(0.234)	0.026	0.003
205	17.08	0.17	0.048	(0.233)	0.043	0.005
206	17.17	0.17	0.048	(0.232)	0.043	0.005
207	17.25	0.17	0.048	(0.231)	0.043	0.005
208	17.33	0.17	0.048	(0.230)	0.043	0.005
209	17.42	0.17	0.048	(0.229)	0.043	0.005
210	17.50	0.17	0.048	(0.227)	0.043	0.005
211	17.58	0.17	0.048	(0.226)	0.043	0.005
212	17.67	0.17	0.048	(0.225)	0.043	0.005
213	17.75	0.17	0.048	(0.224)	0.043	0.005
214	17.83	0.13	0.038	(0.223)	0.035	0.004
215	17.92	0.13	0.038	(0.222)	0.035	0.004
216	18.00	0.13	0.038	(0.221)	0.035	0.004
217	18.08	0.13	0.038	(0.220)	0.035	0.004
218	18.17	0.13	0.038	(0.219)	0.035	0.004
219	18.25	0.13	0.038	(0.217)	0.035	0.004
220	18.33	0.13	0.038	(0.216)	0.035	0.004
221	18.42	0.13	0.038	(0.215)	0.035	0.004
222	18.50	0.13	0.038	(0.214)	0.035	0.004
223	18.58	0.10	0.029	(0.213)	0.026	0.003
224	18.67	0.10	0.029	(0.212)	0.026	0.003
225	18.75	0.10	0.029	(0.211)	0.026	0.003
226	18.83	0.07	0.019	(0.210)	0.017	0.002
227	18.92	0.07	0.019	(0.209)	0.017	0.002
228	19.00	0.07	0.019	(0.208)	0.017	0.002
229	19.08	0.10	0.029	(0.207)	0.026	0.003
230	19.17	0.10	0.029	(0.206)	0.026	0.003
231	19.25	0.10	0.029	(0.205)	0.026	0.003
232	19.33	0.13	0.038	(0.204)	0.035	0.004
233	19.42	0.13	0.038	(0.203)	0.035	0.004
234	19.50	0.13	0.038	(0.202)	0.035	0.004
235	19.58	0.10	0.029	(0.202)	0.026	0.003
236	19.67	0.10	0.029	(0.201)	0.026	0.003
237	19.75	0.10	0.029	(0.200)	0.026	0.003
238	19.83	0.07	0.019	(0.199)	0.017	0.002
239	19.92	0.07	0.019	(0.198)	0.017	0.002
240	20.00	0.07	0.019	(0.197)	0.017	0.002
241	20.08	0.10	0.029	(0.196)	0.026	0.003
242	20.17	0.10	0.029	(0.195)	0.026	0.003
243	20.25	0.10	0.029	(0.194)	0.026	0.003
244	20.33	0.10	0.029	(0.194)	0.026	0.003
245	20.42	0.10	0.029	(0.193)	0.026	0.003
246	20.50	0.10	0.029	(0.192)	0.026	0.003
247	20.58	0.10	0.029	(0.191)	0.026	0.003
248	20.67	0.10	0.029	(0.190)	0.026	0.003
249	20.75	0.10	0.029	(0.190)	0.026	0.003
250	20.83	0.07	0.019	(0.189)	0.017	0.002
251	20.92	0.07	0.019	(0.188)	0.017	0.002
252	21.00	0.07	0.019	(0.187)	0.017	0.002
253	21.08	0.10	0.029	(0.187)	0.026	0.003
254	21.17	0.10	0.029	(0.186)	0.026	0.003
255	21.25	0.10	0.029	(0.185)	0.026	0.003
256	21.33	0.07	0.019	(0.184)	0.017	0.002
257	21.42	0.07	0.019	(0.184)	0.017	0.002
258	21.50	0.07	0.019	(0.183)	0.017	0.002
259	21.58	0.10	0.029	(0.182)	0.026	0.003
260	21.67	0.10	0.029	(0.182)	0.026	0.003
261	21.75	0.10	0.029	(0.181)	0.026	0.003

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262  21.83     0.07      0.019       (  0.180)       0.017        0.002
263  21.92     0.07      0.019       (  0.180)       0.017        0.002
264  22.00     0.07      0.019       (  0.179)       0.017        0.002
265  22.08     0.10      0.029       (  0.179)       0.026        0.003
266  22.17     0.10      0.029       (  0.178)       0.026        0.003
267  22.25     0.10      0.029       (  0.177)       0.026        0.003
268  22.33     0.07      0.019       (  0.177)       0.017        0.002
269  22.42     0.07      0.019       (  0.176)       0.017        0.002
270  22.50     0.07      0.019       (  0.176)       0.017        0.002
271  22.58     0.07      0.019       (  0.175)       0.017        0.002
272  22.67     0.07      0.019       (  0.175)       0.017        0.002
273  22.75     0.07      0.019       (  0.174)       0.017        0.002
274  22.83     0.07      0.019       (  0.174)       0.017        0.002
275  22.92     0.07      0.019       (  0.173)       0.017        0.002
276  23.00     0.07      0.019       (  0.173)       0.017        0.002
277  23.08     0.07      0.019       (  0.173)       0.017        0.002
278  23.17     0.07      0.019       (  0.172)       0.017        0.002
279  23.25     0.07      0.019       (  0.172)       0.017        0.002
280  23.33     0.07      0.019       (  0.172)       0.017        0.002
281  23.42     0.07      0.019       (  0.171)       0.017        0.002
282  23.50     0.07      0.019       (  0.171)       0.017        0.002
283  23.58     0.07      0.019       (  0.171)       0.017        0.002
284  23.67     0.07      0.019       (  0.170)       0.017        0.002
285  23.75     0.07      0.019       (  0.170)       0.017        0.002
286  23.83     0.07      0.019       (  0.170)       0.017        0.002
287  23.92     0.07      0.019       (  0.170)       0.017        0.002
288  24.00     0.07      0.019       (  0.170)       0.017        0.002
                (Loss Rate Not Used)
    Sum =     100.0                                  Sum =     2.9
      Flood volume = Effective rainfall      0.24(In)
       times area      37.7(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
      Total soil loss =      2.16(In)
      Total soil loss =     6.784(Ac.Ft)
      Total rainfall =      2.40(In)
      Flood volume =       32896.4 Cubic Feet
      Total soil loss =      295521.8 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      1.264(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0000      0.00  Q         |         |         |         |
   0+10       0.0002      0.02  Q         |         |         |         |
   0+15       0.0005      0.05  Q         |         |         |         |
   0+20       0.0009      0.06  Q         |         |         |         |
   0+25       0.0014      0.07  Q         |         |         |         |
   0+30       0.0020      0.09  Q         |         |         |         |
   0+35       0.0027      0.10  Q         |         |         |         |
   0+40       0.0034      0.10  Q         |         |         |         |
   0+45       0.0042      0.11  Q         |         |         |         |
   0+50       0.0049      0.11  Q         |         |         |         |
   0+55       0.0057      0.12  Q         |         |         |         |
   1+ 0       0.0066      0.13  Q         |         |         |         |
   1+ 5       0.0076      0.14  Q         |         |         |         |
   1+10       0.0085      0.13  Q         |         |         |         |
   1+15       0.0093      0.12  Q         |         |         |         |
   1+20       0.0101      0.12  Q         |         |         |         |
   1+25       0.0109      0.11  Q         |         |         |         |
   1+30       0.0116      0.11  Q         |         |         |         |
   1+35       0.0124      0.11  Q         |         |         |         |
   1+40       0.0132      0.11  Q         |         |         |         |
   1+45       0.0139      0.11  Q         |         |         |         |
   1+50       0.0147      0.11  Q         |         |         |         |
   1+55       0.0155      0.12  Q         |         |         |         |
   2+ 0       0.0164      0.13  Q         |         |         |         |
   2+ 5       0.0174      0.14  Q         |         |         |         |
   2+10       0.0184      0.14  Q         |         |         |         |
   2+15       0.0193      0.14  QV        |         |         |         |
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2+20       0.0203      0.14  QV        |         |         |         |
2+25       0.0213      0.15  QV        |         |         |         |
2+30       0.0223      0.15  QV        |         |         |         |
2+35       0.0233      0.15  QV        |         |         |         |
2+40       0.0244      0.16  QV        |         |         |         |
2+45       0.0256      0.17  QV        |         |         |         |
2+50       0.0268      0.17  QV        |         |         |         |
2+55       0.0280      0.18  QV        |         |         |         |
3+ 0       0.0293      0.18  QV        |         |         |         |
3+ 5       0.0305      0.18  QV        |         |         |         |
3+10       0.0317      0.18  QV        |         |         |         |
3+15       0.0330      0.18  QV        |         |         |         |
3+20       0.0343      0.18  QV        |         |         |         |
3+25       0.0355      0.18  QV        |         |         |         |
3+30       0.0368      0.18  QV        |         |         |         |
3+35       0.0380      0.18  Q V       |         |         |         |
3+40       0.0393      0.18  Q V       |         |         |         |
3+45       0.0405      0.18  Q V       |         |         |         |
3+50       0.0418      0.18  Q V       |         |         |         |
3+55       0.0431      0.19  Q V       |         |         |         |
4+ 0       0.0446      0.21  Q V       |         |         |         |
4+ 5       0.0460      0.21  Q V       |         |         |         |
4+10       0.0475      0.21  Q V       |         |         |         |
4+15       0.0490      0.22  Q V       |         |         |         |
4+20       0.0505      0.22  Q V       |         |         |         |
4+25       0.0521      0.23  Q V       |         |         |         |
4+30       0.0537      0.24  Q V       |         |         |         |
4+35       0.0554      0.25  Q V       |         |         |         |
4+40       0.0571      0.25  |Q V       |         |         |         |
4+45       0.0589      0.25  |Q V       |         |         |         |
4+50       0.0606      0.26  |Q V       |         |         |         |
4+55       0.0625      0.26  |Q V       |         |         |         |
5+ 0       0.0644      0.28  |Q V       |         |         |         |
5+ 5       0.0663      0.28  |Q V       |         |         |         |
5+10       0.0682      0.27  |Q V       |         |         |         |
5+15       0.0698      0.24  Q  V       |         |         |         |
5+20       0.0714      0.23  Q  V       |         |         |         |
5+25       0.0731      0.24  Q  V       |         |         |         |
5+30       0.0748      0.25  Q  V       |         |         |         |
5+35       0.0765      0.25  |Q  V       |         |         |         |
5+40       0.0783      0.26  |Q  V       |         |         |         |
5+45       0.0802      0.28  |Q  V       |         |         |         |
5+50       0.0822      0.28  |Q  V       |         |         |         |
5+55       0.0842      0.29  |Q  V       |         |         |         |
6+ 0       0.0862      0.29  |Q  V       |         |         |         |
6+ 5       0.0882      0.29  |Q  V       |         |         |         |
6+10       0.0902      0.30  |Q  V       |         |         |         |
6+15       0.0924      0.32  |Q  V       |         |         |         |
6+20       0.0946      0.32  |Q   V      |         |         |         |
6+25       0.0968      0.32  |Q   V      |         |         |         |
6+30       0.0991      0.33  |Q   V      |         |         |         |
6+35       0.1013      0.33  |Q   V      |         |         |         |
6+40       0.1037      0.34  |Q   V      |         |         |         |
6+45       0.1061      0.35  |Q   V      |         |         |         |
6+50       0.1085      0.36  |Q   V      |         |         |         |
6+55       0.1110      0.36  |Q   V      |         |         |         |
7+ 0       0.1135      0.36  |Q    V     |         |         |         |
7+ 5       0.1160      0.36  |Q    V     |         |         |         |
7+10       0.1185      0.36  |Q    V     |         |         |         |
7+15       0.1210      0.36  |Q    V     |         |         |         |
7+20       0.1236      0.37  |Q    V     |         |         |         |
7+25       0.1261      0.37  |Q    V     |         |         |         |
7+30       0.1288      0.39  |Q    V     |         |         |         |
7+35       0.1315      0.40  |Q    V     |         |         |         |
7+40       0.1343      0.41  |Q     V    |         |         |         |
7+45       0.1373      0.42  |Q     V    |         |         |         |
7+50       0.1402      0.43  |Q     V    |         |         |         |
7+55       0.1433      0.44  |Q     V    |         |         |         |
8+ 0       0.1464      0.46  |Q     V    |         |         |         |
8+ 5       0.1496      0.47  |Q     V    |         |         |         |
8+10       0.1530      0.49  |Q      V   |         |         |         |
8+15       0.1566      0.52  | Q     V   |         |         |         |
8+20       0.1602      0.53  | Q     V   |         |         |         |
8+25       0.1639      0.54  | Q     V   |         |         |         |
8+30       0.1677      0.54  | Q     V   |         |         |         |
```


8+35 0.1714 0.55
8+40 0.1752 0.56
8+45 0.1792 0.57
8+50 0.1831 0.58
8+55 0.1872 0.59
9+ 0 0.1914 0.60
9+ 5 0.1956 0.61
9+10 0.2000 0.64
9+15 0.2045 0.66
9+20 0.2092 0.68
9+25 0.2140 0.69
9+30 0.2189 0.71
9+35 0.2238 0.72
9+40 0.2289 0.73
9+45 0.2341 0.75
9+50 0.2393 0.76
9+55 0.2446 0.77
10+ 0 0.2500 0.79
10+ 5 0.2554 0.78
10+10 0.2604 0.73
10+15 0.2647 0.63
10+20 0.2689 0.60
10+25 0.2728 0.58
10+30 0.2767 0.57
10+35 0.2806 0.57
10+40 0.2848 0.60
10+45 0.2894 0.67
10+50 0.2942 0.69
10+55 0.2991 0.71
11+ 0 0.3040 0.72
11+ 5 0.3090 0.72
11+10 0.3139 0.72
11+15 0.3187 0.70
11+20 0.3236 0.70
11+25 0.3284 0.70
11+30 0.3332 0.70
11+35 0.3379 0.69
11+40 0.3426 0.67
11+45 0.3470 0.65
11+50 0.3514 0.64
11+55 0.3558 0.64
12+ 0 0.3603 0.65
12+ 5 0.3649 0.66
12+10 0.3698 0.72
12+15 0.3755 0.82
12+20 0.3814 0.86
12+25 0.3876 0.89
12+30 0.3939 0.92
12+35 0.4003 0.93
12+40 0.4069 0.96
12+45 0.4137 0.99
12+50 0.4206 1.00
12+55 0.4276 1.02
13+ 0 0.4348 1.04
13+ 5 0.4421 1.06
13+10 0.4497 1.10
13+15 0.4577 1.17
13+20 0.4660 1.20
13+25 0.4744 1.22
13+30 0.4830 1.25
13+35 0.4917 1.26
13+40 0.4998 1.18
13+45 0.5067 1.00
13+50 0.5131 0.93
13+55 0.5193 0.90
14+ 0 0.5253 0.87
14+ 5 0.5313 0.87
14+10 0.5374 0.89
14+15 0.5439 0.94
14+20 0.5505 0.96
14+25 0.5571 0.96
14+30 0.5637 0.95
14+35 0.5702 0.95
14+40 0.5767 0.95
14+45 0.5833 0.95

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14+50       0.5898      0.95  |  Q       |          |          |V         |
14+55       0.5963      0.94  |  Q       |          |          |V         |
15+ 0       0.6026      0.93  |  Q       |          |          |V         |
15+ 5       0.6090      0.92  |  Q       |          |          | V        |
15+10       0.6152      0.91  |  Q       |          |          | V        |
15+15       0.6213      0.89  |  Q       |          |          | V        |
15+20       0.6274      0.88  |  Q       |          |          |  V       |
15+25       0.6334      0.87  |  Q       |          |          |  V       |
15+30       0.6393      0.86  |  Q       |          |          |  V       |
15+35       0.6451      0.84  |  Q       |          |          |   V      |
15+40       0.6507      0.80  |  Q       |          |          |   V      |
15+45       0.6558      0.75  | Q        |          |          |   V      |
15+50       0.6608      0.73  | Q        |          |          |    V     |
15+55       0.6657      0.71  | Q        |          |          |    V     |
16+ 0       0.6706      0.71  | Q        |          |          |    V     |
16+ 5       0.6752      0.67  | Q        |          |          |    V     |
16+10       0.6790      0.55  | Q        |          |          |    V     |
16+15       0.6813      0.34  |Q         |          |          |     V    |
16+20       0.6831      0.26  |Q         |          |          |     V    |
16+25       0.6846      0.22  Q          |          |          |     V    |
16+30       0.6859      0.19  Q          |          |          |     V    |
16+35       0.6871      0.17  Q          |          |          |     V    |
16+40       0.6881      0.15  Q          |          |          |     V    |
16+45       0.6890      0.13  Q          |          |          |     V    |
16+50       0.6898      0.12  Q          |          |          |     V    |
16+55       0.6906      0.12  Q          |          |          |     V    |
17+ 0       0.6914      0.11  Q          |          |          |     V    |
17+ 5       0.6922      0.11  Q          |          |          |     V    |
17+10       0.6931      0.13  Q          |          |          |     V    |
17+15       0.6942      0.16  Q          |          |          |     V    |
17+20       0.6954      0.17  Q          |          |          |     V    |
17+25       0.6966      0.17  Q          |          |          |     V    |
17+30       0.6978      0.18  Q          |          |          |     V    |
17+35       0.6990      0.18  Q          |          |          |      V   |
17+40       0.7003      0.18  Q          |          |          |      V   |
17+45       0.7015      0.18  Q          |          |          |      V   |
17+50       0.7027      0.18  Q          |          |          |      V   |
17+55       0.7039      0.17  Q          |          |          |      V   |
18+ 0       0.7050      0.16  Q          |          |          |      V   |
18+ 5       0.7061      0.15  Q          |          |          |      V   |
18+10       0.7071      0.15  Q          |          |          |      V   |
18+15       0.7081      0.15  Q          |          |          |      V   |
18+20       0.7092      0.15  Q          |          |          |      V   |
18+25       0.7102      0.15  Q          |          |          |      V   |
18+30       0.7112      0.15  Q          |          |          |      V   |
18+35       0.7122      0.14  Q          |          |          |      V   |
18+40       0.7131      0.14  Q          |          |          |      V   |
18+45       0.7139      0.12  Q          |          |          |      V   |
18+50       0.7147      0.12  Q          |          |          |      V   |
18+55       0.7155      0.10  Q          |          |          |      V   |
19+ 0       0.7161      0.09  Q          |          |          |      V   |
19+ 5       0.7166      0.08  Q          |          |          |      V   |
19+10       0.7173      0.09  Q          |          |          |      V   |
19+15       0.7179      0.10  Q          |          |          |       V  |
19+20       0.7187      0.11  Q          |          |          |       V  |
19+25       0.7195      0.12  Q          |          |          |       V  |
19+30       0.7204      0.13  Q          |          |          |       V  |
19+35       0.7213      0.14  Q          |          |          |       V  |
19+40       0.7222      0.13  Q          |          |          |       V  |
19+45       0.7230      0.12  Q          |          |          |       V  |
19+50       0.7238      0.11  Q          |          |          |       V  |
19+55       0.7245      0.10  Q          |          |          |       V  |
20+ 0       0.7251      0.09  Q          |          |          |       V  |
20+ 5       0.7257      0.08  Q          |          |          |       V  |
20+10       0.7263      0.09  Q          |          |          |       V  |
20+15       0.7270      0.10  Q          |          |          |       V  |
20+20       0.7277      0.10  Q          |          |          |       V  |
20+25       0.7284      0.11  Q          |          |          |       V  |
20+30       0.7292      0.11  Q          |          |          |       V  |
20+35       0.7299      0.11  Q          |          |          |       V  |
20+40       0.7307      0.11  Q          |          |          |       V  |
20+45       0.7314      0.11  Q          |          |          |       V  |
20+50       0.7322      0.11  Q          |          |          |       V  |
20+55       0.7328      0.10  Q          |          |          |       V  |
21+ 0       0.7334      0.09  Q          |          |          |       V  |
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21+ 5	0.7340	0.08	Q	|	|	|	V |
21+10	0.7346	0.09	Q	|	|	|	V |
21+15	0.7353	0.10	Q	|	|	|	V |
21+20	0.7360	0.10	Q	|	|	|	V |
21+25	0.7366	0.10	Q	|	|	|	V|
21+30	0.7372	0.08	Q	|	|	|	V|
21+35	0.7378	0.08	Q	|	|	|	V|
21+40	0.7384	0.09	Q	|	|	|	V|
21+45	0.7391	0.10	Q	|	|	|	V|
21+50	0.7398	0.10	Q	|	|	|	V|
21+55	0.7404	0.10	Q	|	|	|	V|
22+ 0	0.7410	0.08	Q	|	|	|	V|
22+ 5	0.7416	0.08	Q	|	|	|	V|
22+10	0.7422	0.09	Q	|	|	|	V|
22+15	0.7428	0.10	Q	|	|	|	V|
22+20	0.7435	0.10	Q	|	|	|	V|
22+25	0.7442	0.10	Q	|	|	|	V|
22+30	0.7448	0.08	Q	|	|	|	V|
22+35	0.7453	0.08	Q	|	|	|	V|
22+40	0.7458	0.08	Q	|	|	|	V|
22+45	0.7464	0.08	Q	|	|	|	V|
22+50	0.7469	0.07	Q	|	|	|	V|
22+55	0.7474	0.07	Q	|	|	|	V|
23+ 0	0.7479	0.07	Q	|	|	|	V|
23+ 5	0.7484	0.07	Q	|	|	|	V|
23+10	0.7489	0.07	Q	|	|	|	V|
23+15	0.7494	0.07	Q	|	|	|	V|
23+20	0.7499	0.07	Q	|	|	|	V|
23+25	0.7504	0.07	Q	|	|	|	V|
23+30	0.7509	0.07	Q	|	|	|	V|
23+35	0.7514	0.07	Q	|	|	|	V|
23+40	0.7519	0.07	Q	|	|	|	V|
23+45	0.7524	0.07	Q	|	|	|	V|
23+50	0.7529	0.07	Q	|	|	|	V|
23+55	0.7534	0.07	Q	|	|	|	V|
24+ 0	0.7539	0.07	Q	|	|	|	V|
24+ 5	0.7544	0.07	Q	|	|	|	V|
24+10	0.7548	0.05	Q	|	|	|	V|
24+15	0.7549	0.03	Q	|	|	|	V|
24+20	0.7550	0.02	Q	|	|	|	V|
24+25	0.7551	0.01	Q	|	|	|	V|
24+30	0.7551	0.01	Q	|	|	|	V|
24+35	0.7552	0.00	Q	|	|	|	V|
24+40	0.7552	0.00	Q	|	|	|	V|
24+45	0.7552	0.00	Q	|	|	|	V|
24+50	0.7552	0.00	Q	|	|	|	V|
24+55	0.7552	0.00	Q	|	|	|	V|
25+ 0	0.7552	0.00	Q	|	|	|	V|
25+ 5	0.7552	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 11/08/21 File: A1242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 4010

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

BCCOV AREA A2 EXISTING CONDITION
2 YEAR STORM EVENT
21-00034
2021-11-08 EP

Drainage Area = 7.50(Ac.) = 0.012 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 7.50(Ac.) = 0.012 Sq. Mi.
Length along longest watercourse = 526.00(Ft.)
Length along longest watercourse measured to centroid = 234.00(Ft.)
Length along longest watercourse = 0.100 Mi.
Length along longest watercourse measured to centroid = 0.044 Mi.
Difference in elevation = 6.90(Ft.)
Slope along watercourse = 69.2624 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.041 Hr.
Lag time = 2.46 Min.
25% of lag time = 0.61 Min.
40% of lag time = 0.98 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
7.50	2.40	18.00

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
7.50	6.20	46.50

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.200(In)

Point rain (area averaged) = 2.400(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.400(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
7.500	88.00	0.000

Total Area Entered = 7.50(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

88.0	74.8	0.305	0.000	0.305	1.000	0.305
					Sum (F) =	0.305

Area averaged mean soil loss (F) (In/Hr) = 0.305
Minimum soil loss rate ((In/Hr)) = 0.153
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	203.285	42.931	3.245
2	0.167	406.571	49.701	3.757
3	0.250	609.856	6.338	0.479
4	0.333	813.141	1.029	0.078
			Sum = 100.000 Sum=	7.559

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.019	(0.541)	0.017	0.002
2	0.17	0.07	0.019	(0.539)	0.017	0.002
3	0.25	0.07	0.019	(0.537)	0.017	0.002
4	0.33	0.10	0.029	(0.535)	0.026	0.003
5	0.42	0.10	0.029	(0.533)	0.026	0.003
6	0.50	0.10	0.029	(0.531)	0.026	0.003
7	0.58	0.10	0.029	(0.529)	0.026	0.003
8	0.67	0.10	0.029	(0.527)	0.026	0.003
9	0.75	0.10	0.029	(0.525)	0.026	0.003
10	0.83	0.13	0.038	(0.523)	0.035	0.004
11	0.92	0.13	0.038	(0.521)	0.035	0.004
12	1.00	0.13	0.038	(0.519)	0.035	0.004
13	1.08	0.10	0.029	(0.516)	0.026	0.003
14	1.17	0.10	0.029	(0.514)	0.026	0.003
15	1.25	0.10	0.029	(0.512)	0.026	0.003
16	1.33	0.10	0.029	(0.510)	0.026	0.003
17	1.42	0.10	0.029	(0.508)	0.026	0.003
18	1.50	0.10	0.029	(0.506)	0.026	0.003
19	1.58	0.10	0.029	(0.504)	0.026	0.003
20	1.67	0.10	0.029	(0.502)	0.026	0.003
21	1.75	0.10	0.029	(0.500)	0.026	0.003
22	1.83	0.13	0.038	(0.498)	0.035	0.004
23	1.92	0.13	0.038	(0.496)	0.035	0.004
24	2.00	0.13	0.038	(0.494)	0.035	0.004
25	2.08	0.13	0.038	(0.492)	0.035	0.004
26	2.17	0.13	0.038	(0.490)	0.035	0.004
27	2.25	0.13	0.038	(0.488)	0.035	0.004
28	2.33	0.13	0.038	(0.486)	0.035	0.004
29	2.42	0.13	0.038	(0.484)	0.035	0.004
30	2.50	0.13	0.038	(0.482)	0.035	0.004
31	2.58	0.17	0.048	(0.480)	0.043	0.005
32	2.67	0.17	0.048	(0.478)	0.043	0.005
33	2.75	0.17	0.048	(0.476)	0.043	0.005
34	2.83	0.17	0.048	(0.474)	0.043	0.005
35	2.92	0.17	0.048	(0.472)	0.043	0.005
36	3.00	0.17	0.048	(0.470)	0.043	0.005
37	3.08	0.17	0.048	(0.469)	0.043	0.005
38	3.17	0.17	0.048	(0.467)	0.043	0.005
39	3.25	0.17	0.048	(0.465)	0.043	0.005
40	3.33	0.17	0.048	(0.463)	0.043	0.005
41	3.42	0.17	0.048	(0.461)	0.043	0.005
42	3.50	0.17	0.048	(0.459)	0.043	0.005
43	3.58	0.17	0.048	(0.457)	0.043	0.005
44	3.67	0.17	0.048	(0.455)	0.043	0.005
45	3.75	0.17	0.048	(0.453)	0.043	0.005
46	3.83	0.20	0.058	(0.451)	0.052	0.006

47	3.92	0.20	0.058	(0.449)	0.052	0.006
48	4.00	0.20	0.058	(0.447)	0.052	0.006
49	4.08	0.20	0.058	(0.445)	0.052	0.006
50	4.17	0.20	0.058	(0.444)	0.052	0.006
51	4.25	0.20	0.058	(0.442)	0.052	0.006
52	4.33	0.23	0.067	(0.440)	0.060	0.007
53	4.42	0.23	0.067	(0.438)	0.060	0.007
54	4.50	0.23	0.067	(0.436)	0.060	0.007
55	4.58	0.23	0.067	(0.434)	0.060	0.007
56	4.67	0.23	0.067	(0.432)	0.060	0.007
57	4.75	0.23	0.067	(0.430)	0.060	0.007
58	4.83	0.27	0.077	(0.429)	0.069	0.008
59	4.92	0.27	0.077	(0.427)	0.069	0.008
60	5.00	0.27	0.077	(0.425)	0.069	0.008
61	5.08	0.20	0.058	(0.423)	0.052	0.006
62	5.17	0.20	0.058	(0.421)	0.052	0.006
63	5.25	0.20	0.058	(0.419)	0.052	0.006
64	5.33	0.23	0.067	(0.418)	0.060	0.007
65	5.42	0.23	0.067	(0.416)	0.060	0.007
66	5.50	0.23	0.067	(0.414)	0.060	0.007
67	5.58	0.27	0.077	(0.412)	0.069	0.008
68	5.67	0.27	0.077	(0.410)	0.069	0.008
69	5.75	0.27	0.077	(0.408)	0.069	0.008
70	5.83	0.27	0.077	(0.407)	0.069	0.008
71	5.92	0.27	0.077	(0.405)	0.069	0.008
72	6.00	0.27	0.077	(0.403)	0.069	0.008
73	6.08	0.30	0.086	(0.401)	0.078	0.009
74	6.17	0.30	0.086	(0.399)	0.078	0.009
75	6.25	0.30	0.086	(0.398)	0.078	0.009
76	6.33	0.30	0.086	(0.396)	0.078	0.009
77	6.42	0.30	0.086	(0.394)	0.078	0.009
78	6.50	0.30	0.086	(0.392)	0.078	0.009
79	6.58	0.33	0.096	(0.391)	0.086	0.010
80	6.67	0.33	0.096	(0.389)	0.086	0.010
81	6.75	0.33	0.096	(0.387)	0.086	0.010
82	6.83	0.33	0.096	(0.385)	0.086	0.010
83	6.92	0.33	0.096	(0.384)	0.086	0.010
84	7.00	0.33	0.096	(0.382)	0.086	0.010
85	7.08	0.33	0.096	(0.380)	0.086	0.010
86	7.17	0.33	0.096	(0.378)	0.086	0.010
87	7.25	0.33	0.096	(0.377)	0.086	0.010
88	7.33	0.37	0.106	(0.375)	0.095	0.011
89	7.42	0.37	0.106	(0.373)	0.095	0.011
90	7.50	0.37	0.106	(0.372)	0.095	0.011
91	7.58	0.40	0.115	(0.370)	0.104	0.012
92	7.67	0.40	0.115	(0.368)	0.104	0.012
93	7.75	0.40	0.115	(0.366)	0.104	0.012
94	7.83	0.43	0.125	(0.365)	0.112	0.012
95	7.92	0.43	0.125	(0.363)	0.112	0.012
96	8.00	0.43	0.125	(0.361)	0.112	0.012
97	8.08	0.50	0.144	(0.360)	0.130	0.014
98	8.17	0.50	0.144	(0.358)	0.130	0.014
99	8.25	0.50	0.144	(0.356)	0.130	0.014
100	8.33	0.50	0.144	(0.355)	0.130	0.014
101	8.42	0.50	0.144	(0.353)	0.130	0.014
102	8.50	0.50	0.144	(0.351)	0.130	0.014
103	8.58	0.53	0.154	(0.350)	0.138	0.015
104	8.67	0.53	0.154	(0.348)	0.138	0.015
105	8.75	0.53	0.154	(0.346)	0.138	0.015
106	8.83	0.57	0.163	(0.345)	0.147	0.016
107	8.92	0.57	0.163	(0.343)	0.147	0.016
108	9.00	0.57	0.163	(0.342)	0.147	0.016
109	9.08	0.63	0.182	(0.340)	0.164	0.018
110	9.17	0.63	0.182	(0.338)	0.164	0.018
111	9.25	0.63	0.182	(0.337)	0.164	0.018
112	9.33	0.67	0.192	(0.335)	0.173	0.019
113	9.42	0.67	0.192	(0.334)	0.173	0.019
114	9.50	0.67	0.192	(0.332)	0.173	0.019
115	9.58	0.70	0.202	(0.330)	0.181	0.020
116	9.67	0.70	0.202	(0.329)	0.181	0.020
117	9.75	0.70	0.202	(0.327)	0.181	0.020
118	9.83	0.73	0.211	(0.326)	0.190	0.021
119	9.92	0.73	0.211	(0.324)	0.190	0.021
120	10.00	0.73	0.211	(0.322)	0.190	0.021
121	10.08	0.50	0.144	(0.321)	0.130	0.014

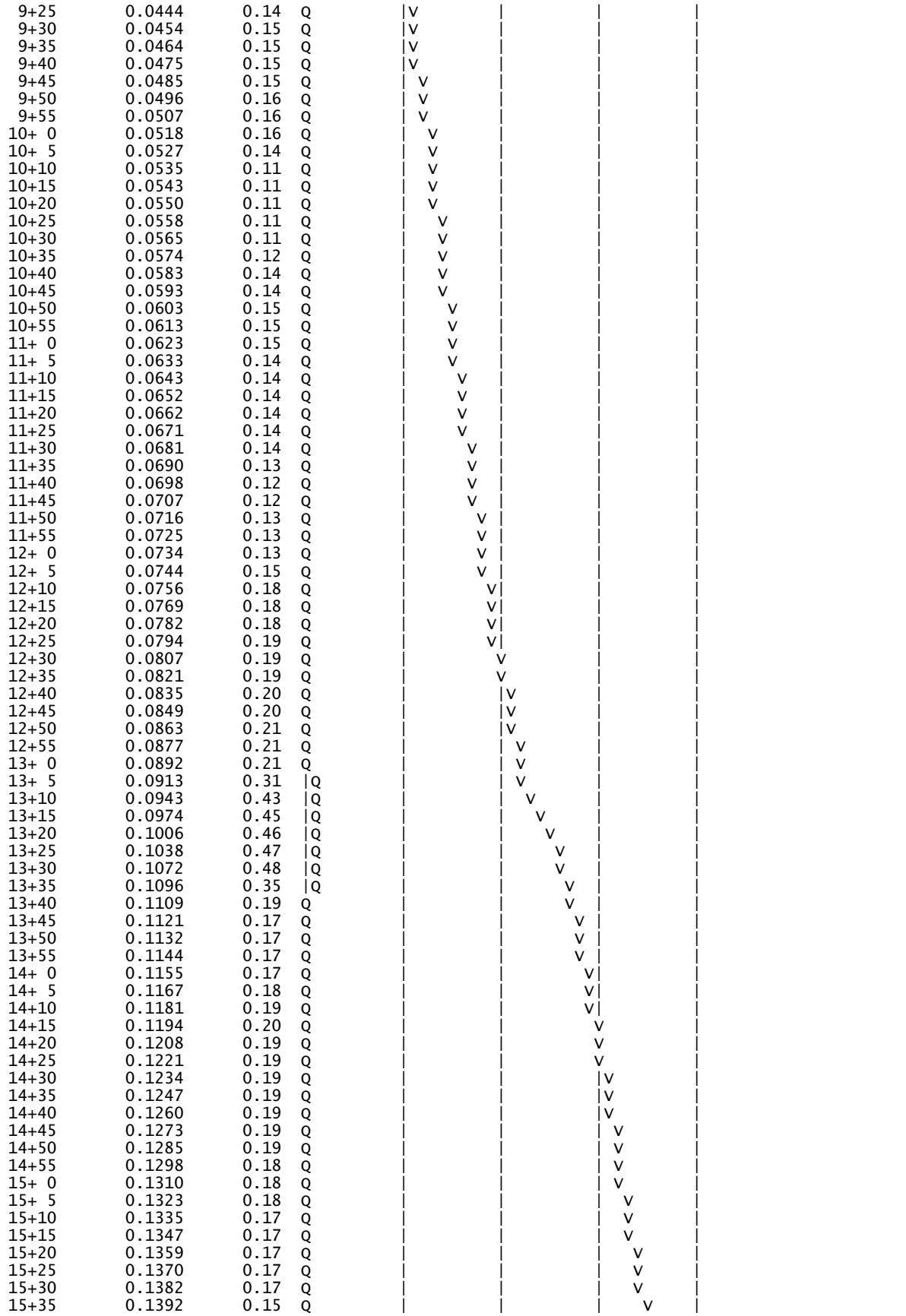
122	10.17	0.50	0.144	(0.319)	0.130	0.014
123	10.25	0.50	0.144	(0.318)	0.130	0.014
124	10.33	0.50	0.144	(0.316)	0.130	0.014
125	10.42	0.50	0.144	(0.315)	0.130	0.014
126	10.50	0.50	0.144	(0.313)	0.130	0.014
127	10.58	0.67	0.192	(0.312)	0.173	0.019
128	10.67	0.67	0.192	(0.310)	0.173	0.019
129	10.75	0.67	0.192	(0.309)	0.173	0.019
130	10.83	0.67	0.192	(0.307)	0.173	0.019
131	10.92	0.67	0.192	(0.306)	0.173	0.019
132	11.00	0.67	0.192	(0.304)	0.173	0.019
133	11.08	0.63	0.182	(0.303)	0.164	0.018
134	11.17	0.63	0.182	(0.301)	0.164	0.018
135	11.25	0.63	0.182	(0.300)	0.164	0.018
136	11.33	0.63	0.182	(0.298)	0.164	0.018
137	11.42	0.63	0.182	(0.297)	0.164	0.018
138	11.50	0.63	0.182	(0.295)	0.164	0.018
139	11.58	0.57	0.163	(0.294)	0.147	0.016
140	11.67	0.57	0.163	(0.292)	0.147	0.016
141	11.75	0.57	0.163	(0.291)	0.147	0.016
142	11.83	0.60	0.173	(0.289)	0.156	0.017
143	11.92	0.60	0.173	(0.288)	0.156	0.017
144	12.00	0.60	0.173	(0.286)	0.156	0.017
145	12.08	0.83	0.240	(0.285)	0.216	0.024
146	12.17	0.83	0.240	(0.284)	0.216	0.024
147	12.25	0.83	0.240	(0.282)	0.216	0.024
148	12.33	0.87	0.250	(0.281)	0.225	0.025
149	12.42	0.87	0.250	(0.279)	0.225	0.025
150	12.50	0.87	0.250	(0.278)	0.225	0.025
151	12.58	0.93	0.269	(0.277)	0.242	0.027
152	12.67	0.93	0.269	(0.275)	0.242	0.027
153	12.75	0.93	0.269	(0.274)	0.242	0.027
154	12.83	0.97	0.278	(0.272)	0.251	0.028
155	12.92	0.97	0.278	(0.271)	0.251	0.028
156	13.00	0.97	0.278	(0.270)	0.251	0.028
157	13.08	1.13	0.326	0.268	(0.294)	0.058
158	13.17	1.13	0.326	0.267	(0.294)	0.059
159	13.25	1.13	0.326	0.266	(0.294)	0.061
160	13.33	1.13	0.326	0.264	(0.294)	0.062
161	13.42	1.13	0.326	0.263	(0.294)	0.064
162	13.50	1.13	0.326	0.262	(0.294)	0.065
163	13.58	0.77	0.221	(0.260)	0.199	0.022
164	13.67	0.77	0.221	(0.259)	0.199	0.022
165	13.75	0.77	0.221	(0.258)	0.199	0.022
166	13.83	0.77	0.221	(0.256)	0.199	0.022
167	13.92	0.77	0.221	(0.255)	0.199	0.022
168	14.00	0.77	0.221	(0.254)	0.199	0.022
169	14.08	0.90	0.259	(0.252)	0.233	0.026
170	14.17	0.90	0.259	(0.251)	0.233	0.026
171	14.25	0.90	0.259	(0.250)	0.233	0.026
172	14.33	0.87	0.250	(0.249)	0.225	0.025
173	14.42	0.87	0.250	(0.247)	0.225	0.025
174	14.50	0.87	0.250	(0.246)	0.225	0.025
175	14.58	0.87	0.250	(0.245)	0.225	0.025
176	14.67	0.87	0.250	(0.243)	0.225	0.025
177	14.75	0.87	0.250	(0.242)	0.225	0.025
178	14.83	0.83	0.240	(0.241)	0.216	0.024
179	14.92	0.83	0.240	(0.240)	0.216	0.024
180	15.00	0.83	0.240	(0.238)	0.216	0.024
181	15.08	0.80	0.230	(0.237)	0.207	0.023
182	15.17	0.80	0.230	(0.236)	0.207	0.023
183	15.25	0.80	0.230	(0.235)	0.207	0.023
184	15.33	0.77	0.221	(0.234)	0.199	0.022
185	15.42	0.77	0.221	(0.232)	0.199	0.022
186	15.50	0.77	0.221	(0.231)	0.199	0.022
187	15.58	0.63	0.182	(0.230)	0.164	0.018
188	15.67	0.63	0.182	(0.229)	0.164	0.018
189	15.75	0.63	0.182	(0.228)	0.164	0.018
190	15.83	0.63	0.182	(0.227)	0.164	0.018
191	15.92	0.63	0.182	(0.225)	0.164	0.018
192	16.00	0.63	0.182	(0.224)	0.164	0.018
193	16.08	0.13	0.038	(0.223)	0.035	0.004
194	16.17	0.13	0.038	(0.222)	0.035	0.004
195	16.25	0.13	0.038	(0.221)	0.035	0.004
196	16.33	0.13	0.038	(0.220)	0.035	0.004

197	16.42	0.13	0.038	(0.219)	0.035	0.004
198	16.50	0.13	0.038	(0.217)	0.035	0.004
199	16.58	0.10	0.029	(0.216)	0.026	0.003
200	16.67	0.10	0.029	(0.215)	0.026	0.003
201	16.75	0.10	0.029	(0.214)	0.026	0.003
202	16.83	0.10	0.029	(0.213)	0.026	0.003
203	16.92	0.10	0.029	(0.212)	0.026	0.003
204	17.00	0.10	0.029	(0.211)	0.026	0.003
205	17.08	0.17	0.048	(0.210)	0.043	0.005
206	17.17	0.17	0.048	(0.209)	0.043	0.005
207	17.25	0.17	0.048	(0.208)	0.043	0.005
208	17.33	0.17	0.048	(0.207)	0.043	0.005
209	17.42	0.17	0.048	(0.206)	0.043	0.005
210	17.50	0.17	0.048	(0.205)	0.043	0.005
211	17.58	0.17	0.048	(0.204)	0.043	0.005
212	17.67	0.17	0.048	(0.203)	0.043	0.005
213	17.75	0.17	0.048	(0.202)	0.043	0.005
214	17.83	0.13	0.038	(0.201)	0.035	0.004
215	17.92	0.13	0.038	(0.200)	0.035	0.004
216	18.00	0.13	0.038	(0.199)	0.035	0.004
217	18.08	0.13	0.038	(0.198)	0.035	0.004
218	18.17	0.13	0.038	(0.197)	0.035	0.004
219	18.25	0.13	0.038	(0.196)	0.035	0.004
220	18.33	0.13	0.038	(0.195)	0.035	0.004
221	18.42	0.13	0.038	(0.194)	0.035	0.004
222	18.50	0.13	0.038	(0.193)	0.035	0.004
223	18.58	0.10	0.029	(0.192)	0.026	0.003
224	18.67	0.10	0.029	(0.191)	0.026	0.003
225	18.75	0.10	0.029	(0.190)	0.026	0.003
226	18.83	0.07	0.019	(0.189)	0.017	0.002
227	18.92	0.07	0.019	(0.188)	0.017	0.002
228	19.00	0.07	0.019	(0.187)	0.017	0.002
229	19.08	0.10	0.029	(0.186)	0.026	0.003
230	19.17	0.10	0.029	(0.186)	0.026	0.003
231	19.25	0.10	0.029	(0.185)	0.026	0.003
232	19.33	0.13	0.038	(0.184)	0.035	0.004
233	19.42	0.13	0.038	(0.183)	0.035	0.004
234	19.50	0.13	0.038	(0.182)	0.035	0.004
235	19.58	0.10	0.029	(0.181)	0.026	0.003
236	19.67	0.10	0.029	(0.181)	0.026	0.003
237	19.75	0.10	0.029	(0.180)	0.026	0.003
238	19.83	0.07	0.019	(0.179)	0.017	0.002
239	19.92	0.07	0.019	(0.178)	0.017	0.002
240	20.00	0.07	0.019	(0.177)	0.017	0.002
241	20.08	0.10	0.029	(0.177)	0.026	0.003
242	20.17	0.10	0.029	(0.176)	0.026	0.003
243	20.25	0.10	0.029	(0.175)	0.026	0.003
244	20.33	0.10	0.029	(0.174)	0.026	0.003
245	20.42	0.10	0.029	(0.173)	0.026	0.003
246	20.50	0.10	0.029	(0.173)	0.026	0.003
247	20.58	0.10	0.029	(0.172)	0.026	0.003
248	20.67	0.10	0.029	(0.171)	0.026	0.003
249	20.75	0.10	0.029	(0.171)	0.026	0.003
250	20.83	0.07	0.019	(0.170)	0.017	0.002
251	20.92	0.07	0.019	(0.169)	0.017	0.002
252	21.00	0.07	0.019	(0.169)	0.017	0.002
253	21.08	0.10	0.029	(0.168)	0.026	0.003
254	21.17	0.10	0.029	(0.167)	0.026	0.003
255	21.25	0.10	0.029	(0.167)	0.026	0.003
256	21.33	0.07	0.019	(0.166)	0.017	0.002
257	21.42	0.07	0.019	(0.165)	0.017	0.002
258	21.50	0.07	0.019	(0.165)	0.017	0.002
259	21.58	0.10	0.029	(0.164)	0.026	0.003
260	21.67	0.10	0.029	(0.163)	0.026	0.003
261	21.75	0.10	0.029	(0.163)	0.026	0.003
262	21.83	0.07	0.019	(0.162)	0.017	0.002
263	21.92	0.07	0.019	(0.162)	0.017	0.002
264	22.00	0.07	0.019	(0.161)	0.017	0.002
265	22.08	0.10	0.029	(0.161)	0.026	0.003
266	22.17	0.10	0.029	(0.160)	0.026	0.003
267	22.25	0.10	0.029	(0.160)	0.026	0.003
268	22.33	0.07	0.019	(0.159)	0.017	0.002
269	22.42	0.07	0.019	(0.159)	0.017	0.002
270	22.50	0.07	0.019	(0.158)	0.017	0.002
271	22.58	0.07	0.019	(0.158)	0.017	0.002

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272  22.67     0.07      0.019       (  0.157)       0.017        0.002
273  22.75     0.07      0.019       (  0.157)       0.017        0.002
274  22.83     0.07      0.019       (  0.156)       0.017        0.002
275  22.92     0.07      0.019       (  0.156)       0.017        0.002
276  23.00     0.07      0.019       (  0.156)       0.017        0.002
277  23.08     0.07      0.019       (  0.155)       0.017        0.002
278  23.17     0.07      0.019       (  0.155)       0.017        0.002
279  23.25     0.07      0.019       (  0.155)       0.017        0.002
280  23.33     0.07      0.019       (  0.154)       0.017        0.002
281  23.42     0.07      0.019       (  0.154)       0.017        0.002
282  23.50     0.07      0.019       (  0.154)       0.017        0.002
283  23.58     0.07      0.019       (  0.154)       0.017        0.002
284  23.67     0.07      0.019       (  0.153)       0.017        0.002
285  23.75     0.07      0.019       (  0.153)       0.017        0.002
286  23.83     0.07      0.019       (  0.153)       0.017        0.002
287  23.92     0.07      0.019       (  0.153)       0.017        0.002
288  24.00     0.07      0.019       (  0.153)       0.017        0.002
               (Loss Rate Not Used)
    Sum =     100.0                                  Sum =     3.1
      Flood volume = Effective rainfall      0.25(In)
       times area       7.5(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
      Total soil loss =      2.15(In)
      Total soil loss =     1.341(Ac.Ft)
      Total rainfall =      2.40(In)
      Flood volume =        6926.6 Cubic Feet
      Total soil loss =       58412.5 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      0.484(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5        5.0        7.5       10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0000      0.01  Q          |          |          |          |
   0+10       0.0001      0.01  Q          |          |          |          |
   0+15       0.0002      0.01  Q          |          |          |          |
   0+20       0.0004      0.02  Q          |          |          |          |
   0+25       0.0005      0.02  Q          |          |          |          |
   0+30       0.0007      0.02  Q          |          |          |          |
   0+35       0.0008      0.02  Q          |          |          |          |
   0+40       0.0010      0.02  Q          |          |          |          |
   0+45       0.0011      0.02  Q          |          |          |          |
   0+50       0.0013      0.02  Q          |          |          |          |
   0+55       0.0015      0.03  Q          |          |          |          |
   1+ 0       0.0017      0.03  Q          |          |          |          |
   1+ 5       0.0018      0.03  Q          |          |          |          |
   1+10       0.0020      0.02  Q          |          |          |          |
   1+15       0.0022      0.02  Q          |          |          |          |
   1+20       0.0023      0.02  Q          |          |          |          |
   1+25       0.0025      0.02  Q          |          |          |          |
   1+30       0.0026      0.02  Q          |          |          |          |
   1+35       0.0028      0.02  Q          |          |          |          |
   1+40       0.0029      0.02  Q          |          |          |          |
   1+45       0.0031      0.02  Q          |          |          |          |
   1+50       0.0032      0.02  Q          |          |          |          |
   1+55       0.0034      0.03  Q          |          |          |          |
   2+ 0       0.0036      0.03  Q          |          |          |          |
   2+ 5       0.0038      0.03  Q          |          |          |          |
   2+10       0.0040      0.03  QV         |          |          |          |
   2+15       0.0042      0.03  QV         |          |          |          |
   2+20       0.0044      0.03  QV         |          |          |          |
   2+25       0.0046      0.03  QV         |          |          |          |
   2+30       0.0048      0.03  QV         |          |          |          |
   2+35       0.0050      0.03  QV         |          |          |          |
   2+40       0.0053      0.04  QV         |          |          |          |
   2+45       0.0055      0.04  QV         |          |          |          |
   2+50       0.0058      0.04  QV         |          |          |          |
   2+55       0.0060      0.04  QV         |          |          |          |
   3+ 0       0.0063      0.04  QV         |          |          |          |
   3+ 5       0.0065      0.04  QV         |          |          |          |
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3+10       0.0068      0.04  QV          |           |           |           |
3+15       0.0070      0.04  QV          |           |           |           |
3+20       0.0073      0.04  QV          |           |           |           |
3+25       0.0075      0.04  QV          |           |           |           |
3+30       0.0078      0.04  QV          |           |           |           |
3+35       0.0080      0.04  Q V         |           |           |           |
3+40       0.0083      0.04  Q V         |           |           |           |
3+45       0.0085      0.04  Q V         |           |           |           |
3+50       0.0088      0.04  Q V         |           |           |           |
3+55       0.0091      0.04  Q V         |           |           |           |
4+ 0       0.0094      0.04  Q V         |           |           |           |
4+ 5       0.0097      0.04  Q V         |           |           |           |
4+10       0.0100      0.04  Q V         |           |           |           |
4+15       0.0103      0.04  Q V         |           |           |           |
4+20       0.0106      0.05  Q V         |           |           |           |
4+25       0.0110      0.05  Q V         |           |           |           |
4+30       0.0113      0.05  Q V         |           |           |           |
4+35       0.0117      0.05  Q V         |           |           |           |
4+40       0.0120      0.05  Q  V        |           |           |           |
4+45       0.0124      0.05  Q  V        |           |           |           |
4+50       0.0127      0.05  Q  V        |           |           |           |
4+55       0.0131      0.06  Q  V        |           |           |           |
5+ 0       0.0135      0.06  Q  V        |           |           |           |
5+ 5       0.0139      0.05  Q  V        |           |           |           |
5+10       0.0142      0.04  Q  V        |           |           |           |
5+15       0.0145      0.04  Q  V        |           |           |           |
5+20       0.0148      0.05  Q  V        |           |           |           |
5+25       0.0152      0.05  Q  V        |           |           |           |
5+30       0.0155      0.05  Q  V        |           |           |           |
5+35       0.0159      0.05  Q  V        |           |           |           |
5+40       0.0163      0.06  Q   V       |           |           |           |
5+45       0.0167      0.06  Q   V       |           |           |           |
5+50       0.0171      0.06  Q   V       |           |           |           |
5+55       0.0175      0.06  Q   V       |           |           |           |
6+ 0       0.0179      0.06  Q   V       |           |           |           |
6+ 5       0.0183      0.06  Q   V       |           |           |           |
6+10       0.0188      0.06  Q   V       |           |           |           |
6+15       0.0192      0.07  Q   V       |           |           |           |
6+20       0.0197      0.07  Q   V       |           |           |           |
6+25       0.0201      0.07  Q    V      |           |           |           |
6+30       0.0206      0.07  Q    V      |           |           |           |
6+35       0.0210      0.07  Q    V      |           |           |           |
6+40       0.0215      0.07  Q    V      |           |           |           |
6+45       0.0220      0.07  Q    V      |           |           |           |
6+50       0.0225      0.07  Q    V      |           |           |           |
6+55       0.0230      0.07  Q    V      |           |           |           |
7+ 0       0.0235      0.07  Q    V      |           |           |           |
7+ 5       0.0240      0.07  Q     V     |           |           |           |
7+10       0.0245      0.07  Q     V     |           |           |           |
7+15       0.0250      0.07  Q     V     |           |           |           |
7+20       0.0255      0.08  Q     V     |           |           |           |
7+25       0.0261      0.08  Q     V     |           |           |           |
7+30       0.0266      0.08  Q     V     |           |           |           |
7+35       0.0272      0.08  Q     V     |           |           |           |
7+40       0.0278      0.09  Q     V     |           |           |           |
7+45       0.0284      0.09  Q      V    |           |           |           |
7+50       0.0290      0.09  Q      V    |           |           |           |
7+55       0.0297      0.09  Q      V    |           |           |           |
8+ 0       0.0303      0.09  Q      V    |           |           |           |
8+ 5       0.0310      0.10  Q      V    |           |           |           |
8+10       0.0318      0.11  Q      V    |           |           |           |
8+15       0.0325      0.11  Q       V   |           |           |           |
8+20       0.0333      0.11  Q       V   |           |           |           |
8+25       0.0340      0.11  Q       V   |           |           |           |
8+30       0.0348      0.11  Q       V   |           |           |           |
8+35       0.0355      0.11  Q       V   |           |           |           |
8+40       0.0363      0.12  Q        V  |           |           |           |
8+45       0.0371      0.12  Q        V  |           |           |           |
8+50       0.0379      0.12  Q        V  |           |           |           |
8+55       0.0388      0.12  Q        V  |           |           |           |
9+ 0       0.0396      0.12  Q        V  |           |           |           |
9+ 5       0.0405      0.13  Q         V |           |           |           |
9+10       0.0415      0.14  Q         V |           |           |           |
9+15       0.0424      0.14  Q         V |           |           |           |
9+20       0.0434      0.14  Q         V |           |           |           |
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15+40	0.1402	0.14	Q	|	|	|	V |
15+45	0.1411	0.14	Q	|	|	|	V |
15+50	0.1421	0.14	Q	|	|	|	V |
15+55	0.1430	0.14	Q	|	|	|	V |
16+ 0	0.1440	0.14	Q	|	|	|	V |
16+ 5	0.1446	0.09	Q	|	|	|	V |
16+10	0.1449	0.04	Q	|	|	|	V |
16+15	0.1451	0.03	Q	|	|	|	V |
16+20	0.1453	0.03	Q	|	|	|	V |
16+25	0.1455	0.03	Q	|	|	|	V |
16+30	0.1457	0.03	Q	|	|	|	V |
16+35	0.1459	0.03	Q	|	|	|	V |
16+40	0.1460	0.02	Q	|	|	|	V |
16+45	0.1462	0.02	Q	|	|	|	V |
16+50	0.1463	0.02	Q	|	|	|	V |
16+55	0.1465	0.02	Q	|	|	|	V |
17+ 0	0.1466	0.02	Q	|	|	|	V |
17+ 5	0.1468	0.03	Q	|	|	|	V |
17+10	0.1471	0.04	Q	|	|	|	V |
17+15	0.1473	0.04	Q	|	|	|	V |
17+20	0.1475	0.04	Q	|	|	|	V |
17+25	0.1478	0.04	Q	|	|	|	V |
17+30	0.1480	0.04	Q	|	|	|	V |
17+35	0.1483	0.04	Q	|	|	|	V |
17+40	0.1485	0.04	Q	|	|	|	V |
17+45	0.1488	0.04	Q	|	|	|	V |
17+50	0.1490	0.03	Q	|	|	|	V |
17+55	0.1492	0.03	Q	|	|	|	V |
18+ 0	0.1494	0.03	Q	|	|	|	V |
18+ 5	0.1496	0.03	Q	|	|	|	V |
18+10	0.1498	0.03	Q	|	|	|	V |
18+15	0.1500	0.03	Q	|	|	|	V |
18+20	0.1502	0.03	Q	|	|	|	V |
18+25	0.1504	0.03	Q	|	|	|	V |
18+30	0.1506	0.03	Q	|	|	|	V |
18+35	0.1508	0.03	Q	|	|	|	V |
18+40	0.1510	0.02	Q	|	|	|	V |
18+45	0.1511	0.02	Q	|	|	|	V |
18+50	0.1512	0.02	Q	|	|	|	V |
18+55	0.1513	0.02	Q	|	|	|	V |
19+ 0	0.1514	0.01	Q	|	|	|	V |
19+ 5	0.1516	0.02	Q	|	|	|	V |
19+10	0.1517	0.02	Q	|	|	|	V |
19+15	0.1519	0.02	Q	|	|	|	V |
19+20	0.1520	0.02	Q	|	|	|	V |
19+25	0.1522	0.03	Q	|	|	|	V |
19+30	0.1524	0.03	Q	|	|	|	V |
19+35	0.1526	0.03	Q	|	|	|	V |
19+40	0.1528	0.02	Q	|	|	|	V |
19+45	0.1529	0.02	Q	|	|	|	V |
19+50	0.1530	0.02	Q	|	|	|	V |
19+55	0.1531	0.02	Q	|	|	|	V |
20+ 0	0.1532	0.01	Q	|	|	|	V |
20+ 5	0.1534	0.02	Q	|	|	|	V |
20+10	0.1535	0.02	Q	|	|	|	V |
20+15	0.1537	0.02	Q	|	|	|	V |
20+20	0.1538	0.02	Q	|	|	|	V |
20+25	0.1540	0.02	Q	|	|	|	V |
20+30	0.1541	0.02	Q	|	|	|	V |
20+35	0.1543	0.02	Q	|	|	|	V |
20+40	0.1544	0.02	Q	|	|	|	V |
20+45	0.1546	0.02	Q	|	|	|	V |
20+50	0.1547	0.02	Q	|	|	|	V |
20+55	0.1548	0.02	Q	|	|	|	V |
21+ 0	0.1549	0.01	Q	|	|	|	V |
21+ 5	0.1550	0.02	Q	|	|	|	V |
21+10	0.1552	0.02	Q	|	|	|	V|
21+15	0.1553	0.02	Q	|	|	|	V|
21+20	0.1554	0.02	Q	|	|	|	V|
21+25	0.1555	0.02	Q	|	|	|	V|
21+30	0.1556	0.01	Q	|	|	|	V|
21+35	0.1558	0.02	Q	|	|	|	V|
21+40	0.1559	0.02	Q	|	|	|	V|
21+45	0.1561	0.02	Q	|	|	|	V|
21+50	0.1562	0.02	Q	|	|	|	V|

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   21+55       0.1563      0.02  Q          |          |          |         v|
   22+ 0       0.1564      0.01  Q          |          |          |         v|
   22+ 5       0.1565      0.02  Q          |          |          |         v|
   22+10       0.1567      0.02  Q          |          |          |         v|
   22+15       0.1568      0.02  Q          |          |          |         v|
   22+20       0.1569      0.02  Q          |          |          |         v|
   22+25       0.1570      0.02  Q          |          |          |         v|
   22+30       0.1571      0.01  Q          |          |          |         v|
   22+35       0.1572      0.01  Q          |          |          |         v|
   22+40       0.1573      0.01  Q          |          |          |         v|
   22+45       0.1574      0.01  Q          |          |          |         v|
   22+50       0.1575      0.01  Q          |          |          |         v|
   22+55       0.1576      0.01  Q          |          |          |         v|
   23+ 0       0.1577      0.01  Q          |          |          |         v|
   23+ 5       0.1578      0.01  Q          |          |          |         v|
   23+10       0.1579      0.01  Q          |          |          |         v|
   23+15       0.1580      0.01  Q          |          |          |         v|
   23+20       0.1581      0.01  Q          |          |          |         v|
   23+25       0.1582      0.01  Q          |          |          |         v|
   23+30       0.1583      0.01  Q          |          |          |         v|
   23+35       0.1584      0.01  Q          |          |          |         v|
   23+40       0.1585      0.01  Q          |          |          |         v|
   23+45       0.1586      0.01  Q          |          |          |         v|
   23+50       0.1587      0.01  Q          |          |          |         v|
   23+55       0.1588      0.01  Q          |          |          |         v|
   24+ 0       0.1589      0.01  Q          |          |          |         v|
   24+ 5       0.1590      0.01  Q          |          |          |         v|
   24+10       0.1590      0.00  Q          |          |          |         v|
   24+15       0.1590      0.00  Q          |          |          |         v|
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 11/24/21 File: EX2YRA3242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 4010

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

BCCOV AREA A3 EXISTING CONDITION
2-YEAR STORM EVENT
21-0034
2021-11-08 EP

Drainage Area = 21.70(Ac.) = 0.034 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.70(Ac.) = 0.034 Sq. Mi.
Length along longest watercourse = 1790.00(Ft.)
Length along longest watercourse measured to centroid = 939.00(Ft.)
Length along longest watercourse = 0.339 Mi.
Length along longest watercourse measured to centroid = 0.178 Mi.
Difference in elevation = 21.70(Ft.)
Slope along watercourse = 64.0089 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.112 Hr.
Lag time = 6.74 Min.
25% of lag time = 1.69 Min.
40% of lag time = 2.70 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.70	2.40	52.08

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.70	6.20	134.54

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.200(In)

Point rain (area averaged) = 2.400(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.400(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.700	87.60	0.000

Total Area Entered = 21.70(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

87.6	74.2	0.313	0.000	0.313	1.000	0.313
					Sum (F) =	0.313

Area averaged mean soil loss (F) (In/Hr) = 0.313
Minimum soil loss rate ((In/Hr)) = 0.156
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	74.161	7.891	1.726
2	0.167	148.322	44.381	9.706
3	0.250	222.484	27.055	5.917
4	0.333	296.645	10.417	2.278
5	0.417	370.806	5.563	1.217
6	0.500	444.967	2.594	0.567
7	0.583	519.128	0.909	0.199
8	0.667	593.290	0.552	0.121
9	0.750	667.451	0.454	0.099
10	0.833	741.612	0.184	0.040
			Sum = 100.000 Sum=	21.870

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.019	(0.555)	0.017	0.002
2	0.17	0.07	0.019	(0.553)	0.017	0.002
3	0.25	0.07	0.019	(0.550)	0.017	0.002
4	0.33	0.10	0.029	(0.548)	0.026	0.003
5	0.42	0.10	0.029	(0.546)	0.026	0.003
6	0.50	0.10	0.029	(0.544)	0.026	0.003
7	0.58	0.10	0.029	(0.542)	0.026	0.003
8	0.67	0.10	0.029	(0.540)	0.026	0.003
9	0.75	0.10	0.029	(0.538)	0.026	0.003
10	0.83	0.13	0.038	(0.536)	0.035	0.004
11	0.92	0.13	0.038	(0.533)	0.035	0.004
12	1.00	0.13	0.038	(0.531)	0.035	0.004
13	1.08	0.10	0.029	(0.529)	0.026	0.003
14	1.17	0.10	0.029	(0.527)	0.026	0.003
15	1.25	0.10	0.029	(0.525)	0.026	0.003
16	1.33	0.10	0.029	(0.523)	0.026	0.003
17	1.42	0.10	0.029	(0.521)	0.026	0.003
18	1.50	0.10	0.029	(0.519)	0.026	0.003
19	1.58	0.10	0.029	(0.517)	0.026	0.003
20	1.67	0.10	0.029	(0.515)	0.026	0.003
21	1.75	0.10	0.029	(0.513)	0.026	0.003
22	1.83	0.13	0.038	(0.511)	0.035	0.004
23	1.92	0.13	0.038	(0.508)	0.035	0.004
24	2.00	0.13	0.038	(0.506)	0.035	0.004
25	2.08	0.13	0.038	(0.504)	0.035	0.004
26	2.17	0.13	0.038	(0.502)	0.035	0.004
27	2.25	0.13	0.038	(0.500)	0.035	0.004
28	2.33	0.13	0.038	(0.498)	0.035	0.004
29	2.42	0.13	0.038	(0.496)	0.035	0.004
30	2.50	0.13	0.038	(0.494)	0.035	0.004
31	2.58	0.17	0.048	(0.492)	0.043	0.005
32	2.67	0.17	0.048	(0.490)	0.043	0.005
33	2.75	0.17	0.048	(0.488)	0.043	0.005
34	2.83	0.17	0.048	(0.486)	0.043	0.005
35	2.92	0.17	0.048	(0.484)	0.043	0.005
36	3.00	0.17	0.048	(0.482)	0.043	0.005
37	3.08	0.17	0.048	(0.480)	0.043	0.005
38	3.17	0.17	0.048	(0.478)	0.043	0.005
39	3.25	0.17	0.048	(0.476)	0.043	0.005
40	3.33	0.17	0.048	(0.474)	0.043	0.005

41	3.42	0.17	0.048	(0.472)	0.043	0.005
42	3.50	0.17	0.048	(0.470)	0.043	0.005
43	3.58	0.17	0.048	(0.468)	0.043	0.005
44	3.67	0.17	0.048	(0.466)	0.043	0.005
45	3.75	0.17	0.048	(0.464)	0.043	0.005
46	3.83	0.20	0.058	(0.462)	0.052	0.006
47	3.92	0.20	0.058	(0.460)	0.052	0.006
48	4.00	0.20	0.058	(0.458)	0.052	0.006
49	4.08	0.20	0.058	(0.457)	0.052	0.006
50	4.17	0.20	0.058	(0.455)	0.052	0.006
51	4.25	0.20	0.058	(0.453)	0.052	0.006
52	4.33	0.23	0.067	(0.451)	0.060	0.007
53	4.42	0.23	0.067	(0.449)	0.060	0.007
54	4.50	0.23	0.067	(0.447)	0.060	0.007
55	4.58	0.23	0.067	(0.445)	0.060	0.007
56	4.67	0.23	0.067	(0.443)	0.060	0.007
57	4.75	0.23	0.067	(0.441)	0.060	0.007
58	4.83	0.27	0.077	(0.439)	0.069	0.008
59	4.92	0.27	0.077	(0.437)	0.069	0.008
60	5.00	0.27	0.077	(0.435)	0.069	0.008
61	5.08	0.20	0.058	(0.434)	0.052	0.006
62	5.17	0.20	0.058	(0.432)	0.052	0.006
63	5.25	0.20	0.058	(0.430)	0.052	0.006
64	5.33	0.23	0.067	(0.428)	0.060	0.007
65	5.42	0.23	0.067	(0.426)	0.060	0.007
66	5.50	0.23	0.067	(0.424)	0.060	0.007
67	5.58	0.27	0.077	(0.422)	0.069	0.008
68	5.67	0.27	0.077	(0.420)	0.069	0.008
69	5.75	0.27	0.077	(0.419)	0.069	0.008
70	5.83	0.27	0.077	(0.417)	0.069	0.008
71	5.92	0.27	0.077	(0.415)	0.069	0.008
72	6.00	0.27	0.077	(0.413)	0.069	0.008
73	6.08	0.30	0.086	(0.411)	0.078	0.009
74	6.17	0.30	0.086	(0.409)	0.078	0.009
75	6.25	0.30	0.086	(0.408)	0.078	0.009
76	6.33	0.30	0.086	(0.406)	0.078	0.009
77	6.42	0.30	0.086	(0.404)	0.078	0.009
78	6.50	0.30	0.086	(0.402)	0.078	0.009
79	6.58	0.33	0.096	(0.400)	0.086	0.010
80	6.67	0.33	0.096	(0.398)	0.086	0.010
81	6.75	0.33	0.096	(0.397)	0.086	0.010
82	6.83	0.33	0.096	(0.395)	0.086	0.010
83	6.92	0.33	0.096	(0.393)	0.086	0.010
84	7.00	0.33	0.096	(0.391)	0.086	0.010
85	7.08	0.33	0.096	(0.390)	0.086	0.010
86	7.17	0.33	0.096	(0.388)	0.086	0.010
87	7.25	0.33	0.096	(0.386)	0.086	0.010
88	7.33	0.37	0.106	(0.384)	0.095	0.011
89	7.42	0.37	0.106	(0.382)	0.095	0.011
90	7.50	0.37	0.106	(0.381)	0.095	0.011
91	7.58	0.40	0.115	(0.379)	0.104	0.012
92	7.67	0.40	0.115	(0.377)	0.104	0.012
93	7.75	0.40	0.115	(0.376)	0.104	0.012
94	7.83	0.43	0.125	(0.374)	0.112	0.012
95	7.92	0.43	0.125	(0.372)	0.112	0.012
96	8.00	0.43	0.125	(0.370)	0.112	0.012
97	8.08	0.50	0.144	(0.369)	0.130	0.014
98	8.17	0.50	0.144	(0.367)	0.130	0.014
99	8.25	0.50	0.144	(0.365)	0.130	0.014
100	8.33	0.50	0.144	(0.363)	0.130	0.014
101	8.42	0.50	0.144	(0.362)	0.130	0.014
102	8.50	0.50	0.144	(0.360)	0.130	0.014
103	8.58	0.53	0.154	(0.358)	0.138	0.015
104	8.67	0.53	0.154	(0.357)	0.138	0.015
105	8.75	0.53	0.154	(0.355)	0.138	0.015
106	8.83	0.57	0.163	(0.353)	0.147	0.016
107	8.92	0.57	0.163	(0.352)	0.147	0.016
108	9.00	0.57	0.163	(0.350)	0.147	0.016
109	9.08	0.63	0.182	(0.348)	0.164	0.018
110	9.17	0.63	0.182	(0.347)	0.164	0.018
111	9.25	0.63	0.182	(0.345)	0.164	0.018
112	9.33	0.67	0.192	(0.343)	0.173	0.019
113	9.42	0.67	0.192	(0.342)	0.173	0.019
114	9.50	0.67	0.192	(0.340)	0.173	0.019
115	9.58	0.70	0.202	(0.339)	0.181	0.020

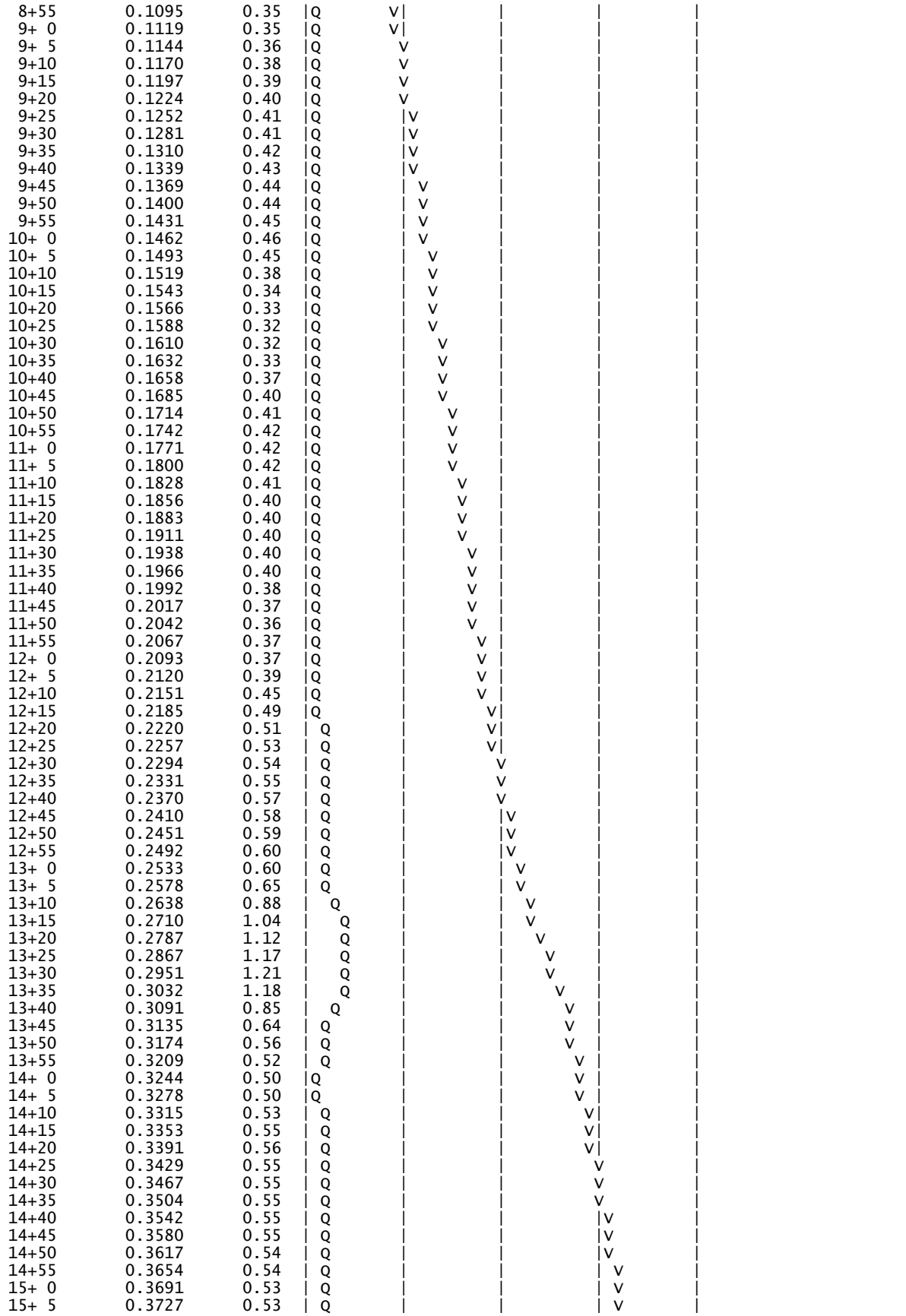
116	9.67	0.70	0.202	(	0.337)	0.181	0.020
117	9.75	0.70	0.202	(	0.335)	0.181	0.020
118	9.83	0.73	0.211	(	0.334)	0.190	0.021
119	9.92	0.73	0.211	(	0.332)	0.190	0.021
120	10.00	0.73	0.211	(	0.330)	0.190	0.021
121	10.08	0.50	0.144	(	0.329)	0.130	0.014
122	10.17	0.50	0.144	(	0.327)	0.130	0.014
123	10.25	0.50	0.144	(	0.326)	0.130	0.014
124	10.33	0.50	0.144	(	0.324)	0.130	0.014
125	10.42	0.50	0.144	(	0.322)	0.130	0.014
126	10.50	0.50	0.144	(	0.321)	0.130	0.014
127	10.58	0.67	0.192	(	0.319)	0.173	0.019
128	10.67	0.67	0.192	(	0.318)	0.173	0.019
129	10.75	0.67	0.192	(	0.316)	0.173	0.019
130	10.83	0.67	0.192	(	0.315)	0.173	0.019
131	10.92	0.67	0.192	(	0.313)	0.173	0.019
132	11.00	0.67	0.192	(	0.312)	0.173	0.019
133	11.08	0.63	0.182	(	0.310)	0.164	0.018
134	11.17	0.63	0.182	(	0.309)	0.164	0.018
135	11.25	0.63	0.182	(	0.307)	0.164	0.018
136	11.33	0.63	0.182	(	0.306)	0.164	0.018
137	11.42	0.63	0.182	(	0.304)	0.164	0.018
138	11.50	0.63	0.182	(	0.302)	0.164	0.018
139	11.58	0.57	0.163	(	0.301)	0.147	0.016
140	11.67	0.57	0.163	(	0.299)	0.147	0.016
141	11.75	0.57	0.163	(	0.298)	0.147	0.016
142	11.83	0.60	0.173	(	0.297)	0.156	0.017
143	11.92	0.60	0.173	(	0.295)	0.156	0.017
144	12.00	0.60	0.173	(	0.294)	0.156	0.017
145	12.08	0.83	0.240	(	0.292)	0.216	0.024
146	12.17	0.83	0.240	(	0.291)	0.216	0.024
147	12.25	0.83	0.240	(	0.289)	0.216	0.024
148	12.33	0.87	0.250	(	0.288)	0.225	0.025
149	12.42	0.87	0.250	(	0.286)	0.225	0.025
150	12.50	0.87	0.250	(	0.285)	0.225	0.025
151	12.58	0.93	0.269	(	0.283)	0.242	0.027
152	12.67	0.93	0.269	(	0.282)	0.242	0.027
153	12.75	0.93	0.269	(	0.281)	0.242	0.027
154	12.83	0.97	0.278	(	0.279)	0.251	0.028
155	12.92	0.97	0.278	(	0.278)	0.251	0.028
156	13.00	0.97	0.278	(	0.276)	0.251	0.028
157	13.08	1.13	0.326		0.275	(0.294)	0.051
158	13.17	1.13	0.326		0.274	(0.294)	0.053
159	13.25	1.13	0.326		0.272	(0.294)	0.054
160	13.33	1.13	0.326		0.271	(0.294)	0.056
161	13.42	1.13	0.326		0.269	(0.294)	0.057
162	13.50	1.13	0.326		0.268	(0.294)	0.058
163	13.58	0.77	0.221	(	0.267)	0.199	0.022
164	13.67	0.77	0.221	(	0.265)	0.199	0.022
165	13.75	0.77	0.221	(	0.264)	0.199	0.022
166	13.83	0.77	0.221	(	0.263)	0.199	0.022
167	13.92	0.77	0.221	(	0.261)	0.199	0.022
168	14.00	0.77	0.221	(	0.260)	0.199	0.022
169	14.08	0.90	0.259	(	0.259)	0.233	0.026
170	14.17	0.90	0.259	(	0.257)	0.233	0.026
171	14.25	0.90	0.259	(	0.256)	0.233	0.026
172	14.33	0.87	0.250	(	0.255)	0.225	0.025
173	14.42	0.87	0.250	(	0.253)	0.225	0.025
174	14.50	0.87	0.250	(	0.252)	0.225	0.025
175	14.58	0.87	0.250	(	0.251)	0.225	0.025
176	14.67	0.87	0.250	(	0.249)	0.225	0.025
177	14.75	0.87	0.250	(	0.248)	0.225	0.025
178	14.83	0.83	0.240	(	0.247)	0.216	0.024
179	14.92	0.83	0.240	(	0.246)	0.216	0.024
180	15.00	0.83	0.240	(	0.244)	0.216	0.024
181	15.08	0.80	0.230	(	0.243)	0.207	0.023
182	15.17	0.80	0.230	(	0.242)	0.207	0.023
183	15.25	0.80	0.230	(	0.241)	0.207	0.023
184	15.33	0.77	0.221	(	0.239)	0.199	0.022
185	15.42	0.77	0.221	(	0.238)	0.199	0.022
186	15.50	0.77	0.221	(	0.237)	0.199	0.022
187	15.58	0.63	0.182	(	0.236)	0.164	0.018
188	15.67	0.63	0.182	(	0.235)	0.164	0.018
189	15.75	0.63	0.182	(	0.233)	0.164	0.018
190	15.83	0.63	0.182	(	0.232)	0.164	0.018

191	15.92	0.63	0.182	(0.231)	0.164	0.018
192	16.00	0.63	0.182	(0.230)	0.164	0.018
193	16.08	0.13	0.038	(0.229)	0.035	0.004
194	16.17	0.13	0.038	(0.227)	0.035	0.004
195	16.25	0.13	0.038	(0.226)	0.035	0.004
196	16.33	0.13	0.038	(0.225)	0.035	0.004
197	16.42	0.13	0.038	(0.224)	0.035	0.004
198	16.50	0.13	0.038	(0.223)	0.035	0.004
199	16.58	0.10	0.029	(0.222)	0.026	0.003
200	16.67	0.10	0.029	(0.221)	0.026	0.003
201	16.75	0.10	0.029	(0.219)	0.026	0.003
202	16.83	0.10	0.029	(0.218)	0.026	0.003
203	16.92	0.10	0.029	(0.217)	0.026	0.003
204	17.00	0.10	0.029	(0.216)	0.026	0.003
205	17.08	0.17	0.048	(0.215)	0.043	0.005
206	17.17	0.17	0.048	(0.214)	0.043	0.005
207	17.25	0.17	0.048	(0.213)	0.043	0.005
208	17.33	0.17	0.048	(0.212)	0.043	0.005
209	17.42	0.17	0.048	(0.211)	0.043	0.005
210	17.50	0.17	0.048	(0.210)	0.043	0.005
211	17.58	0.17	0.048	(0.209)	0.043	0.005
212	17.67	0.17	0.048	(0.208)	0.043	0.005
213	17.75	0.17	0.048	(0.207)	0.043	0.005
214	17.83	0.13	0.038	(0.206)	0.035	0.004
215	17.92	0.13	0.038	(0.205)	0.035	0.004
216	18.00	0.13	0.038	(0.204)	0.035	0.004
217	18.08	0.13	0.038	(0.203)	0.035	0.004
218	18.17	0.13	0.038	(0.202)	0.035	0.004
219	18.25	0.13	0.038	(0.201)	0.035	0.004
220	18.33	0.13	0.038	(0.200)	0.035	0.004
221	18.42	0.13	0.038	(0.199)	0.035	0.004
222	18.50	0.13	0.038	(0.198)	0.035	0.004
223	18.58	0.10	0.029	(0.197)	0.026	0.003
224	18.67	0.10	0.029	(0.196)	0.026	0.003
225	18.75	0.10	0.029	(0.195)	0.026	0.003
226	18.83	0.07	0.019	(0.194)	0.017	0.002
227	18.92	0.07	0.019	(0.193)	0.017	0.002
228	19.00	0.07	0.019	(0.192)	0.017	0.002
229	19.08	0.10	0.029	(0.191)	0.026	0.003
230	19.17	0.10	0.029	(0.190)	0.026	0.003
231	19.25	0.10	0.029	(0.189)	0.026	0.003
232	19.33	0.13	0.038	(0.188)	0.035	0.004
233	19.42	0.13	0.038	(0.188)	0.035	0.004
234	19.50	0.13	0.038	(0.187)	0.035	0.004
235	19.58	0.10	0.029	(0.186)	0.026	0.003
236	19.67	0.10	0.029	(0.185)	0.026	0.003
237	19.75	0.10	0.029	(0.184)	0.026	0.003
238	19.83	0.07	0.019	(0.183)	0.017	0.002
239	19.92	0.07	0.019	(0.183)	0.017	0.002
240	20.00	0.07	0.019	(0.182)	0.017	0.002
241	20.08	0.10	0.029	(0.181)	0.026	0.003
242	20.17	0.10	0.029	(0.180)	0.026	0.003
243	20.25	0.10	0.029	(0.179)	0.026	0.003
244	20.33	0.10	0.029	(0.179)	0.026	0.003
245	20.42	0.10	0.029	(0.178)	0.026	0.003
246	20.50	0.10	0.029	(0.177)	0.026	0.003
247	20.58	0.10	0.029	(0.176)	0.026	0.003
248	20.67	0.10	0.029	(0.176)	0.026	0.003
249	20.75	0.10	0.029	(0.175)	0.026	0.003
250	20.83	0.07	0.019	(0.174)	0.017	0.002
251	20.92	0.07	0.019	(0.173)	0.017	0.002
252	21.00	0.07	0.019	(0.173)	0.017	0.002
253	21.08	0.10	0.029	(0.172)	0.026	0.003
254	21.17	0.10	0.029	(0.171)	0.026	0.003
255	21.25	0.10	0.029	(0.171)	0.026	0.003
256	21.33	0.07	0.019	(0.170)	0.017	0.002
257	21.42	0.07	0.019	(0.169)	0.017	0.002
258	21.50	0.07	0.019	(0.169)	0.017	0.002
259	21.58	0.10	0.029	(0.168)	0.026	0.003
260	21.67	0.10	0.029	(0.168)	0.026	0.003
261	21.75	0.10	0.029	(0.167)	0.026	0.003
262	21.83	0.07	0.019	(0.166)	0.017	0.002
263	21.92	0.07	0.019	(0.166)	0.017	0.002
264	22.00	0.07	0.019	(0.165)	0.017	0.002
265	22.08	0.10	0.029	(0.165)	0.026	0.003

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266  22.17     0.10      0.029       (  0.164)       0.026        0.003
267  22.25     0.10      0.029       (  0.164)       0.026        0.003
268  22.33     0.07      0.019       (  0.163)       0.017        0.002
269  22.42     0.07      0.019       (  0.163)       0.017        0.002
270  22.50     0.07      0.019       (  0.162)       0.017        0.002
271  22.58     0.07      0.019       (  0.162)       0.017        0.002
272  22.67     0.07      0.019       (  0.161)       0.017        0.002
273  22.75     0.07      0.019       (  0.161)       0.017        0.002
274  22.83     0.07      0.019       (  0.160)       0.017        0.002
275  22.92     0.07      0.019       (  0.160)       0.017        0.002
276  23.00     0.07      0.019       (  0.160)       0.017        0.002
277  23.08     0.07      0.019       (  0.159)       0.017        0.002
278  23.17     0.07      0.019       (  0.159)       0.017        0.002
279  23.25     0.07      0.019       (  0.158)       0.017        0.002
280  23.33     0.07      0.019       (  0.158)       0.017        0.002
281  23.42     0.07      0.019       (  0.158)       0.017        0.002
282  23.50     0.07      0.019       (  0.158)       0.017        0.002
283  23.58     0.07      0.019       (  0.157)       0.017        0.002
284  23.67     0.07      0.019       (  0.157)       0.017        0.002
285  23.75     0.07      0.019       (  0.157)       0.017        0.002
286  23.83     0.07      0.019       (  0.157)       0.017        0.002
287  23.92     0.07      0.019       (  0.157)       0.017        0.002
288  24.00     0.07      0.019       (  0.156)       0.017        0.002
               (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     3.0
      Flood volume = Effective rainfall      0.25(In)
       times area      21.7(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
      Total soil loss =      2.15(In)
      Total soil loss =     3.886(Ac.Ft)
      Total rainfall =      2.40(In)
      Flood volume =       19782.0 Cubic Feet
      Total soil loss =      169260.4 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      1.214(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0000      0.00  Q          |         |         |         |
  0+10       0.0002      0.02  Q          |         |         |         |
  0+15       0.0004      0.03  Q          |         |         |         |
  0+20       0.0007      0.04  Q          |         |         |         |
  0+25       0.0010      0.05  Q          |         |         |         |
  0+30       0.0014      0.06  Q          |         |         |         |
  0+35       0.0018      0.06  Q          |         |         |         |
  0+40       0.0023      0.06  Q          |         |         |         |
  0+45       0.0027      0.06  Q          |         |         |         |
  0+50       0.0031      0.06  Q          |         |         |         |
  0+55       0.0036      0.07  Q          |         |         |         |
  1+ 0       0.0042      0.08  Q          |         |         |         |
  1+ 5       0.0047      0.08  Q          |         |         |         |
  1+10       0.0052      0.07  Q          |         |         |         |
  1+15       0.0057      0.07  Q          |         |         |         |
  1+20       0.0062      0.06  Q          |         |         |         |
  1+25       0.0066      0.06  Q          |         |         |         |
  1+30       0.0070      0.06  Q          |         |         |         |
  1+35       0.0075      0.06  Q          |         |         |         |
  1+40       0.0079      0.06  Q          |         |         |         |
  1+45       0.0083      0.06  Q          |         |         |         |
  1+50       0.0088      0.06  Q          |         |         |         |
  1+55       0.0093      0.07  Q          |         |         |         |
  2+ 0       0.0098      0.08  Q          |         |         |         |
  2+ 5       0.0104      0.08  Q          |         |         |         |
  2+10       0.0110      0.08  Q          |         |         |         |
  2+15       0.0115      0.08  QV         |         |         |         |
  2+20       0.0121      0.08  QV         |         |         |         |
  2+25       0.0127      0.08  QV         |         |         |         |
  2+30       0.0133      0.08  QV         |         |         |         |
  2+35       0.0139      0.09  QV         |         |         |         |
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2+40       0.0145      0.09  QV         |          |          |          |
2+45       0.0152      0.10  QV         |          |          |          |
2+50       0.0159      0.10  QV         |          |          |          |
2+55       0.0166      0.10  QV         |          |          |          |
3+ 0       0.0174      0.10  QV         |          |          |          |
3+ 5       0.0181      0.10  QV         |          |          |          |
3+10       0.0188      0.10  QV         |          |          |          |
3+15       0.0195      0.10  QV         |          |          |          |
3+20       0.0203      0.11  QV         |          |          |          |
3+25       0.0210      0.11  QV         |          |          |          |
3+30       0.0217      0.11  QV         |          |          |          |
3+35       0.0224      0.11  QV         |          |          |          |
3+40       0.0231      0.11  Q V        |          |          |          |
3+45       0.0239      0.11  Q V        |          |          |          |
3+50       0.0246      0.11  Q V        |          |          |          |
3+55       0.0254      0.12  Q V        |          |          |          |
4+ 0       0.0262      0.12  Q V        |          |          |          |
4+ 5       0.0271      0.12  Q V        |          |          |          |
4+10       0.0280      0.13  Q V        |          |          |          |
4+15       0.0288      0.13  Q V        |          |          |          |
4+20       0.0297      0.13  Q V        |          |          |          |
4+25       0.0306      0.14  Q V        |          |          |          |
4+30       0.0316      0.14  Q V        |          |          |          |
4+35       0.0326      0.14  Q V        |          |          |          |
4+40       0.0336      0.15  Q V        |          |          |          |
4+45       0.0346      0.15  Q  V       |          |          |          |
4+50       0.0357      0.15  Q  V       |          |          |          |
4+55       0.0367      0.16  Q  V       |          |          |          |
5+ 0       0.0379      0.16  Q  V       |          |          |          |
5+ 5       0.0390      0.16  Q  V       |          |          |          |
5+10       0.0400      0.15  Q  V       |          |          |          |
5+15       0.0409      0.13  Q  V       |          |          |          |
5+20       0.0418      0.13  Q  V       |          |          |          |
5+25       0.0428      0.14  Q  V       |          |          |          |
5+30       0.0438      0.14  Q  V       |          |          |          |
5+35       0.0448      0.15  Q  V       |          |          |          |
5+40       0.0459      0.16  Q   V      |          |          |          |
5+45       0.0470      0.16  Q   V      |          |          |          |
5+50       0.0481      0.17  Q   V      |          |          |          |
5+55       0.0493      0.17  Q   V      |          |          |          |
6+ 0       0.0504      0.17  Q   V      |          |          |          |
6+ 5       0.0516      0.17  Q   V      |          |          |          |
6+10       0.0528      0.18  Q   V      |          |          |          |
6+15       0.0541      0.18  Q   V      |          |          |          |
6+20       0.0554      0.19  Q   V      |          |          |          |
6+25       0.0567      0.19  Q   V      |          |          |          |
6+30       0.0580      0.19  Q    V     |          |          |          |
6+35       0.0593      0.19  Q    V     |          |          |          |
6+40       0.0607      0.20  Q    V     |          |          |          |
6+45       0.0621      0.21  Q    V     |          |          |          |
6+50       0.0635      0.21  Q    V     |          |          |          |
6+55       0.0650      0.21  Q    V     |          |          |          |
7+ 0       0.0664      0.21  Q    V     |          |          |          |
7+ 5       0.0679      0.21  Q    V     |          |          |          |
7+10       0.0693      0.21  Q     V    |          |          |          |
7+15       0.0707      0.21  Q     V    |          |          |          |
7+20       0.0722      0.21  Q     V    |          |          |          |
7+25       0.0737      0.22  Q     V    |          |          |          |
7+30       0.0753      0.23  Q     V    |          |          |          |
7+35       0.0769      0.23  Q     V    |          |          |          |
7+40       0.0785      0.24  Q     V    |          |          |          |
7+45       0.0802      0.25  Q      V   |          |          |          |
7+50       0.0820      0.25  |Q     V   |          |          |          |
7+55       0.0838      0.26  |Q     V   |          |          |          |
8+ 0       0.0856      0.27  |Q     V   |          |          |          |
8+ 5       0.0875      0.27  |Q     V   |          |          |          |
8+10       0.0895      0.29  |Q     V   |          |          |          |
8+15       0.0916      0.31  |Q      V  |          |          |          |
8+20       0.0938      0.31  |Q      V  |          |          |          |
8+25       0.0959      0.31  |Q      V  |          |          |          |
8+30       0.0981      0.31  |Q      V  |          |          |          |
8+35       0.1003      0.32  |Q      V  |          |          |          |
8+40       0.1025      0.33  |Q       V |          |          |          |
8+45       0.1048      0.33  |Q       V |          |          |          |
8+50       0.1071      0.34  |Q       V |          |          |          |
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15+10       0.3762      0.52  | Q       |         |         |  V      |
15+15       0.3797      0.51  | Q       |         |         |  V      |
15+20       0.3832      0.50  | Q       |         |         |  V      |
15+25       0.3866      0.49  |Q        |         |         |   V     |
15+30       0.3900      0.49  |Q        |         |         |   V     |
15+35       0.3933      0.48  |Q        |         |         |   V     |
15+40       0.3963      0.44  |Q        |         |         |   V     |
15+45       0.3992      0.42  |Q        |         |         |    V    |
15+50       0.4020      0.41  |Q        |         |         |    V    |
15+55       0.4048      0.40  |Q        |         |         |    V    |
16+ 0       0.4075      0.40  |Q        |         |         |    V    |
16+ 5       0.4101      0.38  |Q        |         |         |     V   |
16+10       0.4117      0.23  Q         |         |         |     V   |
16+15       0.4128      0.15  Q         |         |         |     V   |
16+20       0.4136      0.12  Q         |         |         |     V   |
16+25       0.4142      0.10  Q         |         |         |     V   |
16+30       0.4149      0.09  Q         |         |         |     V   |
16+35       0.4155      0.09  Q         |         |         |     V   |
16+40       0.4160      0.08  Q         |         |         |     V   |
16+45       0.4164      0.07  Q         |         |         |     V   |
16+50       0.4169      0.07  Q         |         |         |     V   |
16+55       0.4173      0.06  Q         |         |         |     V   |
17+ 0       0.4178      0.06  Q         |         |         |     V   |
17+ 5       0.4182      0.07  Q         |         |         |     V   |
17+10       0.4188      0.09  Q         |         |         |     V   |
17+15       0.4195      0.10  Q         |         |         |     V   |
17+20       0.4202      0.10  Q         |         |         |      V  |
17+25       0.4209      0.10  Q         |         |         |      V  |
17+30       0.4216      0.10  Q         |         |         |      V  |
17+35       0.4223      0.10  Q         |         |         |      V  |
17+40       0.4230      0.10  Q         |         |         |      V  |
17+45       0.4238      0.10  Q         |         |         |      V  |
17+50       0.4245      0.10  Q         |         |         |      V  |
17+55       0.4251      0.09  Q         |         |         |      V  |
18+ 0       0.4257      0.09  Q         |         |         |      V  |
18+ 5       0.4263      0.09  Q         |         |         |      V  |
18+10       0.4269      0.09  Q         |         |         |      V  |
18+15       0.4275      0.08  Q         |         |         |      V  |
18+20       0.4281      0.08  Q         |         |         |      V  |
18+25       0.4286      0.08  Q         |         |         |      V  |
18+30       0.4292      0.08  Q         |         |         |      V  |
18+35       0.4298      0.08  Q         |         |         |      V  |
18+40       0.4303      0.07  Q         |         |         |      V  |
18+45       0.4308      0.07  Q         |         |         |      V  |
18+50       0.4312      0.06  Q         |         |         |      V  |
18+55       0.4316      0.05  Q         |         |         |       V |
19+ 0       0.4319      0.05  Q         |         |         |       V |
19+ 5       0.4322      0.05  Q         |         |         |       V |
19+10       0.4326      0.05  Q         |         |         |       V |
19+15       0.4330      0.06  Q         |         |         |       V |
19+20       0.4334      0.06  Q         |         |         |       V |
19+25       0.4339      0.07  Q         |         |         |       V |
19+30       0.4345      0.08  Q         |         |         |       V |
19+35       0.4350      0.08  Q         |         |         |       V |
19+40       0.4355      0.07  Q         |         |         |       V |
19+45       0.4360      0.07  Q         |         |         |       V |
19+50       0.4364      0.06  Q         |         |         |       V |
19+55       0.4368      0.05  Q         |         |         |       V |
20+ 0       0.4371      0.05  Q         |         |         |       V |
20+ 5       0.4374      0.05  Q         |         |         |       V |
20+10       0.4378      0.05  Q         |         |         |       V |
20+15       0.4382      0.06  Q         |         |         |       V |
20+20       0.4386      0.06  Q         |         |         |       V |
20+25       0.4390      0.06  Q         |         |         |       V |
20+30       0.4395      0.06  Q         |         |         |       V |
20+35       0.4399      0.06  Q         |         |         |       V |
20+40       0.4403      0.06  Q         |         |         |       V |
20+45       0.4408      0.06  Q         |         |         |       V |
20+50       0.4412      0.06  Q         |         |         |       V |
20+55       0.4415      0.05  Q         |         |         |       V |
21+ 0       0.4419      0.05  Q         |         |         |       V |
21+ 5       0.4422      0.05  Q         |         |         |       V |
21+10       0.4426      0.05  Q         |         |         |       V |
21+15       0.4430      0.06  Q         |         |         |        V|
21+20       0.4434      0.06  Q         |         |         |        V|
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  21+25       0.4437      0.05  Q          |          |          |         v|
  21+30       0.4440      0.05  Q          |          |          |         v|
  21+35       0.4444      0.05  Q          |          |          |         v|
  21+40       0.4447      0.05  Q          |          |          |         v|
  21+45       0.4451      0.06  Q          |          |          |         v|
  21+50       0.4455      0.06  Q          |          |          |         v|
  21+55       0.4459      0.05  Q          |          |          |         v|
  22+ 0       0.4462      0.05  Q          |          |          |         v|
  22+ 5       0.4465      0.05  Q          |          |          |         v|
  22+10       0.4469      0.05  Q          |          |          |         v|
  22+15       0.4473      0.06  Q          |          |          |         v|
  22+20       0.4477      0.06  Q          |          |          |         v|
  22+25       0.4481      0.05  Q          |          |          |         v|
  22+30       0.4484      0.05  Q          |          |          |         v|
  22+35       0.4487      0.04  Q          |          |          |         v|
  22+40       0.4490      0.04  Q          |          |          |         v|
  22+45       0.4493      0.04  Q          |          |          |         v|
  22+50       0.4496      0.04  Q          |          |          |         v|
  22+55       0.4499      0.04  Q          |          |          |         v|
  23+ 0       0.4501      0.04  Q          |          |          |         v|
  23+ 5       0.4504      0.04  Q          |          |          |         v|
  23+10       0.4507      0.04  Q          |          |          |         v|
  23+15       0.4510      0.04  Q          |          |          |         v|
  23+20       0.4513      0.04  Q          |          |          |         v|
  23+25       0.4516      0.04  Q          |          |          |         v|
  23+30       0.4519      0.04  Q          |          |          |         v|
  23+35       0.4522      0.04  Q          |          |          |         v|
  23+40       0.4525      0.04  Q          |          |          |         v|
  23+45       0.4527      0.04  Q          |          |          |         v|
  23+50       0.4530      0.04  Q          |          |          |         v|
  23+55       0.4533      0.04  Q          |          |          |         v|
  24+ 0       0.4536      0.04  Q          |          |          |         v|
  24+ 5       0.4539      0.04  Q          |          |          |         v|
  24+10       0.4540      0.02  Q          |          |          |         v|
  24+15       0.4541      0.01  Q          |          |          |         v|
  24+20       0.4541      0.00  Q          |          |          |         v|
  24+25       0.4541      0.00  Q          |          |          |         v|
  24+30       0.4541      0.00  Q          |          |          |         v|
  24+35       0.4541      0.00  Q          |          |          |         v|
  24+40       0.4541      0.00  Q          |          |          |         v|
  24+45       0.4541      0.00  Q          |          |          |         v|
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PROPOSED CONDITION UNIT HYDROGRAPHS (2-YEAR, 24-HOUR STORM)

U n i t H y d r o g r a p h A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2008, Version 8.1
Study date 11/23/21 File: PROP2YR1A242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 4010

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

BCCOV BLDG A AREA 1 DEVELOPED CONDITION
2-YEAR 24-HOUR STORM EVENT
21-0034
2021-11-23 EP

Drainage Area = 6.80(Ac.) = 0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.80(Ac.) = 0.011 Sq. Mi.
Length along longest watercourse = 1116.00(Ft.)
Length along longest watercourse measured to centroid = 860.00(Ft.)
Length along longest watercourse = 0.211 Mi.
Length along longest watercourse measured to centroid = 0.163 Mi.
Difference in elevation = 6.50(Ft.)
Slope along watercourse = 30.7527 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.052 Hr.
Lag time = 3.13 Min.
25% of lag time = 0.78 Min.
40% of lag time = 1.25 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
6.80	2.40	16.32

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
6.80	6.20	42.16

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.200(In)

Point rain (area averaged) = 2.400(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.400(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
6.800	58.50	0.850

Total Area Entered = 6.80(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

58.5	38.5	0.684	0.850	0.161	1.000	0.161
					Sum (F) =	0.161

Area averaged mean soil loss (F) (In/Hr) = 0.161
Minimum soil loss rate ((In/Hr)) = 0.080
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.220

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %		Unit Hydrograph (CFS)
1	0.083	159.659	33.117		2.270
2	0.167	319.318	53.580		3.672
3	0.250	478.978	10.719		0.735
4	0.333	638.637	1.961		0.134
5	0.417	798.296	0.622		0.043
			Sum = 100.000	Sum=	6.853

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time		Pattern	Storm Rain	Loss rate(In./Hr)		Effective
	(Hr.)	Percent	(In/Hr)	Max	Low	(In/Hr)
1	0.08	0.07	0.019	(0.285)	0.004	0.015
2	0.17	0.07	0.019	(0.284)	0.004	0.015
3	0.25	0.07	0.019	(0.283)	0.004	0.015
4	0.33	0.10	0.029	(0.281)	0.006	0.022
5	0.42	0.10	0.029	(0.280)	0.006	0.022
6	0.50	0.10	0.029	(0.279)	0.006	0.022
7	0.58	0.10	0.029	(0.278)	0.006	0.022
8	0.67	0.10	0.029	(0.277)	0.006	0.022
9	0.75	0.10	0.029	(0.276)	0.006	0.022
10	0.83	0.13	0.038	(0.275)	0.008	0.030
11	0.92	0.13	0.038	(0.274)	0.008	0.030
12	1.00	0.13	0.038	(0.273)	0.008	0.030
13	1.08	0.10	0.029	(0.272)	0.006	0.022
14	1.17	0.10	0.029	(0.271)	0.006	0.022
15	1.25	0.10	0.029	(0.270)	0.006	0.022
16	1.33	0.10	0.029	(0.268)	0.006	0.022
17	1.42	0.10	0.029	(0.267)	0.006	0.022
18	1.50	0.10	0.029	(0.266)	0.006	0.022
19	1.58	0.10	0.029	(0.265)	0.006	0.022
20	1.67	0.10	0.029	(0.264)	0.006	0.022
21	1.75	0.10	0.029	(0.263)	0.006	0.022
22	1.83	0.13	0.038	(0.262)	0.008	0.030
23	1.92	0.13	0.038	(0.261)	0.008	0.030
24	2.00	0.13	0.038	(0.260)	0.008	0.030
25	2.08	0.13	0.038	(0.259)	0.008	0.030
26	2.17	0.13	0.038	(0.258)	0.008	0.030
27	2.25	0.13	0.038	(0.257)	0.008	0.030
28	2.33	0.13	0.038	(0.256)	0.008	0.030
29	2.42	0.13	0.038	(0.255)	0.008	0.030
30	2.50	0.13	0.038	(0.254)	0.008	0.030
31	2.58	0.17	0.048	(0.253)	0.011	0.037
32	2.67	0.17	0.048	(0.252)	0.011	0.037
33	2.75	0.17	0.048	(0.251)	0.011	0.037
34	2.83	0.17	0.048	(0.250)	0.011	0.037
35	2.92	0.17	0.048	(0.249)	0.011	0.037
36	3.00	0.17	0.048	(0.247)	0.011	0.037
37	3.08	0.17	0.048	(0.246)	0.011	0.037
38	3.17	0.17	0.048	(0.245)	0.011	0.037
39	3.25	0.17	0.048	(0.244)	0.011	0.037
40	3.33	0.17	0.048	(0.243)	0.011	0.037
41	3.42	0.17	0.048	(0.242)	0.011	0.037
42	3.50	0.17	0.048	(0.241)	0.011	0.037
43	3.58	0.17	0.048	(0.240)	0.011	0.037
44	3.67	0.17	0.048	(0.239)	0.011	0.037
45	3.75	0.17	0.048	(0.238)	0.011	0.037

46	3.83	0.20	0.058	(0.237)	0.013	0.045
47	3.92	0.20	0.058	(0.236)	0.013	0.045
48	4.00	0.20	0.058	(0.235)	0.013	0.045
49	4.08	0.20	0.058	(0.234)	0.013	0.045
50	4.17	0.20	0.058	(0.233)	0.013	0.045
51	4.25	0.20	0.058	(0.232)	0.013	0.045
52	4.33	0.23	0.067	(0.231)	0.015	0.052
53	4.42	0.23	0.067	(0.230)	0.015	0.052
54	4.50	0.23	0.067	(0.229)	0.015	0.052
55	4.58	0.23	0.067	(0.228)	0.015	0.052
56	4.67	0.23	0.067	(0.227)	0.015	0.052
57	4.75	0.23	0.067	(0.226)	0.015	0.052
58	4.83	0.27	0.077	(0.225)	0.017	0.060
59	4.92	0.27	0.077	(0.224)	0.017	0.060
60	5.00	0.27	0.077	(0.224)	0.017	0.060
61	5.08	0.20	0.058	(0.223)	0.013	0.045
62	5.17	0.20	0.058	(0.222)	0.013	0.045
63	5.25	0.20	0.058	(0.221)	0.013	0.045
64	5.33	0.23	0.067	(0.220)	0.015	0.052
65	5.42	0.23	0.067	(0.219)	0.015	0.052
66	5.50	0.23	0.067	(0.218)	0.015	0.052
67	5.58	0.27	0.077	(0.217)	0.017	0.060
68	5.67	0.27	0.077	(0.216)	0.017	0.060
69	5.75	0.27	0.077	(0.215)	0.017	0.060
70	5.83	0.27	0.077	(0.214)	0.017	0.060
71	5.92	0.27	0.077	(0.213)	0.017	0.060
72	6.00	0.27	0.077	(0.212)	0.017	0.060
73	6.08	0.30	0.086	(0.211)	0.019	0.067
74	6.17	0.30	0.086	(0.210)	0.019	0.067
75	6.25	0.30	0.086	(0.209)	0.019	0.067
76	6.33	0.30	0.086	(0.208)	0.019	0.067
77	6.42	0.30	0.086	(0.207)	0.019	0.067
78	6.50	0.30	0.086	(0.206)	0.019	0.067
79	6.58	0.33	0.096	(0.205)	0.021	0.075
80	6.67	0.33	0.096	(0.205)	0.021	0.075
81	6.75	0.33	0.096	(0.204)	0.021	0.075
82	6.83	0.33	0.096	(0.203)	0.021	0.075
83	6.92	0.33	0.096	(0.202)	0.021	0.075
84	7.00	0.33	0.096	(0.201)	0.021	0.075
85	7.08	0.33	0.096	(0.200)	0.021	0.075
86	7.17	0.33	0.096	(0.199)	0.021	0.075
87	7.25	0.33	0.096	(0.198)	0.021	0.075
88	7.33	0.37	0.106	(0.197)	0.023	0.082
89	7.42	0.37	0.106	(0.196)	0.023	0.082
90	7.50	0.37	0.106	(0.195)	0.023	0.082
91	7.58	0.40	0.115	(0.195)	0.025	0.090
92	7.67	0.40	0.115	(0.194)	0.025	0.090
93	7.75	0.40	0.115	(0.193)	0.025	0.090
94	7.83	0.43	0.125	(0.192)	0.027	0.097
95	7.92	0.43	0.125	(0.191)	0.027	0.097
96	8.00	0.43	0.125	(0.190)	0.027	0.097
97	8.08	0.50	0.144	(0.189)	0.032	0.112
98	8.17	0.50	0.144	(0.188)	0.032	0.112
99	8.25	0.50	0.144	(0.187)	0.032	0.112
100	8.33	0.50	0.144	(0.187)	0.032	0.112
101	8.42	0.50	0.144	(0.186)	0.032	0.112
102	8.50	0.50	0.144	(0.185)	0.032	0.112
103	8.58	0.53	0.154	(0.184)	0.034	0.120
104	8.67	0.53	0.154	(0.183)	0.034	0.120
105	8.75	0.53	0.154	(0.182)	0.034	0.120
106	8.83	0.57	0.163	(0.181)	0.036	0.127
107	8.92	0.57	0.163	(0.181)	0.036	0.127
108	9.00	0.57	0.163	(0.180)	0.036	0.127
109	9.08	0.63	0.182	(0.179)	0.040	0.142
110	9.17	0.63	0.182	(0.178)	0.040	0.142
111	9.25	0.63	0.182	(0.177)	0.040	0.142
112	9.33	0.67	0.192	(0.176)	0.042	0.150
113	9.42	0.67	0.192	(0.175)	0.042	0.150
114	9.50	0.67	0.192	(0.175)	0.042	0.150
115	9.58	0.70	0.202	(0.174)	0.044	0.157
116	9.67	0.70	0.202	(0.173)	0.044	0.157
117	9.75	0.70	0.202	(0.172)	0.044	0.157
118	9.83	0.73	0.211	(0.171)	0.046	0.165
119	9.92	0.73	0.211	(0.170)	0.046	0.165
120	10.00	0.73	0.211	(0.170)	0.046	0.165

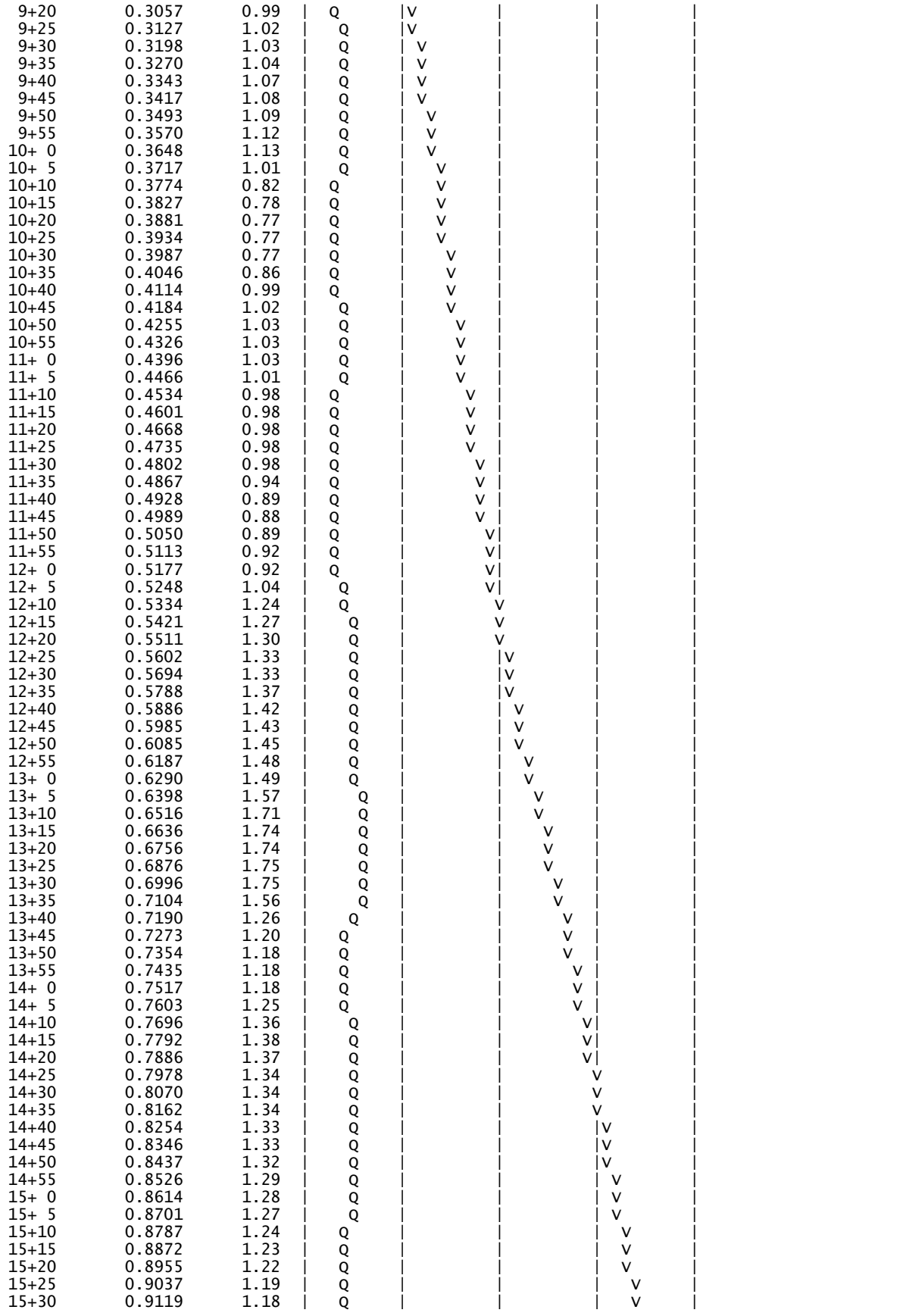
121	10.08	0.50	0.144	(0.169)	0.032	0.112
122	10.17	0.50	0.144	(0.168)	0.032	0.112
123	10.25	0.50	0.144	(0.167)	0.032	0.112
124	10.33	0.50	0.144	(0.166)	0.032	0.112
125	10.42	0.50	0.144	(0.166)	0.032	0.112
126	10.50	0.50	0.144	(0.165)	0.032	0.112
127	10.58	0.67	0.192	(0.164)	0.042	0.150
128	10.67	0.67	0.192	(0.163)	0.042	0.150
129	10.75	0.67	0.192	(0.162)	0.042	0.150
130	10.83	0.67	0.192	(0.162)	0.042	0.150
131	10.92	0.67	0.192	(0.161)	0.042	0.150
132	11.00	0.67	0.192	(0.160)	0.042	0.150
133	11.08	0.63	0.182	(0.159)	0.040	0.142
134	11.17	0.63	0.182	(0.158)	0.040	0.142
135	11.25	0.63	0.182	(0.158)	0.040	0.142
136	11.33	0.63	0.182	(0.157)	0.040	0.142
137	11.42	0.63	0.182	(0.156)	0.040	0.142
138	11.50	0.63	0.182	(0.155)	0.040	0.142
139	11.58	0.57	0.163	(0.155)	0.036	0.127
140	11.67	0.57	0.163	(0.154)	0.036	0.127
141	11.75	0.57	0.163	(0.153)	0.036	0.127
142	11.83	0.60	0.173	(0.152)	0.038	0.135
143	11.92	0.60	0.173	(0.151)	0.038	0.135
144	12.00	0.60	0.173	(0.151)	0.038	0.135
145	12.08	0.83	0.240	(0.150)	0.053	0.187
146	12.17	0.83	0.240	(0.149)	0.053	0.187
147	12.25	0.83	0.240	(0.148)	0.053	0.187
148	12.33	0.87	0.250	(0.148)	0.055	0.195
149	12.42	0.87	0.250	(0.147)	0.055	0.195
150	12.50	0.87	0.250	(0.146)	0.055	0.195
151	12.58	0.93	0.269	(0.145)	0.059	0.210
152	12.67	0.93	0.269	(0.145)	0.059	0.210
153	12.75	0.93	0.269	(0.144)	0.059	0.210
154	12.83	0.97	0.278	(0.143)	0.061	0.217
155	12.92	0.97	0.278	(0.143)	0.061	0.217
156	13.00	0.97	0.278	(0.142)	0.061	0.217
157	13.08	1.13	0.326	(0.141)	0.072	0.255
158	13.17	1.13	0.326	(0.140)	0.072	0.255
159	13.25	1.13	0.326	(0.140)	0.072	0.255
160	13.33	1.13	0.326	(0.139)	0.072	0.255
161	13.42	1.13	0.326	(0.138)	0.072	0.255
162	13.50	1.13	0.326	(0.138)	0.072	0.255
163	13.58	0.77	0.221	(0.137)	0.049	0.172
164	13.67	0.77	0.221	(0.136)	0.049	0.172
165	13.75	0.77	0.221	(0.135)	0.049	0.172
166	13.83	0.77	0.221	(0.135)	0.049	0.172
167	13.92	0.77	0.221	(0.134)	0.049	0.172
168	14.00	0.77	0.221	(0.133)	0.049	0.172
169	14.08	0.90	0.259	(0.133)	0.057	0.202
170	14.17	0.90	0.259	(0.132)	0.057	0.202
171	14.25	0.90	0.259	(0.131)	0.057	0.202
172	14.33	0.87	0.250	(0.131)	0.055	0.195
173	14.42	0.87	0.250	(0.130)	0.055	0.195
174	14.50	0.87	0.250	(0.129)	0.055	0.195
175	14.58	0.87	0.250	(0.129)	0.055	0.195
176	14.67	0.87	0.250	(0.128)	0.055	0.195
177	14.75	0.87	0.250	(0.127)	0.055	0.195
178	14.83	0.83	0.240	(0.127)	0.053	0.187
179	14.92	0.83	0.240	(0.126)	0.053	0.187
180	15.00	0.83	0.240	(0.125)	0.053	0.187
181	15.08	0.80	0.230	(0.125)	0.051	0.180
182	15.17	0.80	0.230	(0.124)	0.051	0.180
183	15.25	0.80	0.230	(0.124)	0.051	0.180
184	15.33	0.77	0.221	(0.123)	0.049	0.172
185	15.42	0.77	0.221	(0.122)	0.049	0.172
186	15.50	0.77	0.221	(0.122)	0.049	0.172
187	15.58	0.63	0.182	(0.121)	0.040	0.142
188	15.67	0.63	0.182	(0.120)	0.040	0.142
189	15.75	0.63	0.182	(0.120)	0.040	0.142
190	15.83	0.63	0.182	(0.119)	0.040	0.142
191	15.92	0.63	0.182	(0.119)	0.040	0.142
192	16.00	0.63	0.182	(0.118)	0.040	0.142
193	16.08	0.13	0.038	(0.117)	0.008	0.030
194	16.17	0.13	0.038	(0.117)	0.008	0.030
195	16.25	0.13	0.038	(0.116)	0.008	0.030

196	16.33	0.13	0.038	(0.116)	0.008	0.030
197	16.42	0.13	0.038	(0.115)	0.008	0.030
198	16.50	0.13	0.038	(0.114)	0.008	0.030
199	16.58	0.10	0.029	(0.114)	0.006	0.022
200	16.67	0.10	0.029	(0.113)	0.006	0.022
201	16.75	0.10	0.029	(0.113)	0.006	0.022
202	16.83	0.10	0.029	(0.112)	0.006	0.022
203	16.92	0.10	0.029	(0.112)	0.006	0.022
204	17.00	0.10	0.029	(0.111)	0.006	0.022
205	17.08	0.17	0.048	(0.110)	0.011	0.037
206	17.17	0.17	0.048	(0.110)	0.011	0.037
207	17.25	0.17	0.048	(0.109)	0.011	0.037
208	17.33	0.17	0.048	(0.109)	0.011	0.037
209	17.42	0.17	0.048	(0.108)	0.011	0.037
210	17.50	0.17	0.048	(0.108)	0.011	0.037
211	17.58	0.17	0.048	(0.107)	0.011	0.037
212	17.67	0.17	0.048	(0.107)	0.011	0.037
213	17.75	0.17	0.048	(0.106)	0.011	0.037
214	17.83	0.13	0.038	(0.106)	0.008	0.030
215	17.92	0.13	0.038	(0.105)	0.008	0.030
216	18.00	0.13	0.038	(0.104)	0.008	0.030
217	18.08	0.13	0.038	(0.104)	0.008	0.030
218	18.17	0.13	0.038	(0.103)	0.008	0.030
219	18.25	0.13	0.038	(0.103)	0.008	0.030
220	18.33	0.13	0.038	(0.102)	0.008	0.030
221	18.42	0.13	0.038	(0.102)	0.008	0.030
222	18.50	0.13	0.038	(0.101)	0.008	0.030
223	18.58	0.10	0.029	(0.101)	0.006	0.022
224	18.67	0.10	0.029	(0.100)	0.006	0.022
225	18.75	0.10	0.029	(0.100)	0.006	0.022
226	18.83	0.07	0.019	(0.100)	0.004	0.015
227	18.92	0.07	0.019	(0.099)	0.004	0.015
228	19.00	0.07	0.019	(0.099)	0.004	0.015
229	19.08	0.10	0.029	(0.098)	0.006	0.022
230	19.17	0.10	0.029	(0.098)	0.006	0.022
231	19.25	0.10	0.029	(0.097)	0.006	0.022
232	19.33	0.13	0.038	(0.097)	0.008	0.030
233	19.42	0.13	0.038	(0.096)	0.008	0.030
234	19.50	0.13	0.038	(0.096)	0.008	0.030
235	19.58	0.10	0.029	(0.095)	0.006	0.022
236	19.67	0.10	0.029	(0.095)	0.006	0.022
237	19.75	0.10	0.029	(0.095)	0.006	0.022
238	19.83	0.07	0.019	(0.094)	0.004	0.015
239	19.92	0.07	0.019	(0.094)	0.004	0.015
240	20.00	0.07	0.019	(0.093)	0.004	0.015
241	20.08	0.10	0.029	(0.093)	0.006	0.022
242	20.17	0.10	0.029	(0.092)	0.006	0.022
243	20.25	0.10	0.029	(0.092)	0.006	0.022
244	20.33	0.10	0.029	(0.092)	0.006	0.022
245	20.42	0.10	0.029	(0.091)	0.006	0.022
246	20.50	0.10	0.029	(0.091)	0.006	0.022
247	20.58	0.10	0.029	(0.090)	0.006	0.022
248	20.67	0.10	0.029	(0.090)	0.006	0.022
249	20.75	0.10	0.029	(0.090)	0.006	0.022
250	20.83	0.07	0.019	(0.089)	0.004	0.015
251	20.92	0.07	0.019	(0.089)	0.004	0.015
252	21.00	0.07	0.019	(0.089)	0.004	0.015
253	21.08	0.10	0.029	(0.088)	0.006	0.022
254	21.17	0.10	0.029	(0.088)	0.006	0.022
255	21.25	0.10	0.029	(0.088)	0.006	0.022
256	21.33	0.07	0.019	(0.087)	0.004	0.015
257	21.42	0.07	0.019	(0.087)	0.004	0.015
258	21.50	0.07	0.019	(0.087)	0.004	0.015
259	21.58	0.10	0.029	(0.086)	0.006	0.022
260	21.67	0.10	0.029	(0.086)	0.006	0.022
261	21.75	0.10	0.029	(0.086)	0.006	0.022
262	21.83	0.07	0.019	(0.085)	0.004	0.015
263	21.92	0.07	0.019	(0.085)	0.004	0.015
264	22.00	0.07	0.019	(0.085)	0.004	0.015
265	22.08	0.10	0.029	(0.085)	0.006	0.022
266	22.17	0.10	0.029	(0.084)	0.006	0.022
267	22.25	0.10	0.029	(0.084)	0.006	0.022
268	22.33	0.07	0.019	(0.084)	0.004	0.015
269	22.42	0.07	0.019	(0.083)	0.004	0.015
270	22.50	0.07	0.019	(0.083)	0.004	0.015

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271  22.58     0.07      0.019       (  0.083)       0.004        0.015
272  22.67     0.07      0.019       (  0.083)       0.004        0.015
273  22.75     0.07      0.019       (  0.083)       0.004        0.015
274  22.83     0.07      0.019       (  0.082)       0.004        0.015
275  22.92     0.07      0.019       (  0.082)       0.004        0.015
276  23.00     0.07      0.019       (  0.082)       0.004        0.015
277  23.08     0.07      0.019       (  0.082)       0.004        0.015
278  23.17     0.07      0.019       (  0.082)       0.004        0.015
279  23.25     0.07      0.019       (  0.081)       0.004        0.015
280  23.33     0.07      0.019       (  0.081)       0.004        0.015
281  23.42     0.07      0.019       (  0.081)       0.004        0.015
282  23.50     0.07      0.019       (  0.081)       0.004        0.015
283  23.58     0.07      0.019       (  0.081)       0.004        0.015
284  23.67     0.07      0.019       (  0.081)       0.004        0.015
285  23.75     0.07      0.019       (  0.081)       0.004        0.015
286  23.83     0.07      0.019       (  0.080)       0.004        0.015
287  23.92     0.07      0.019       (  0.080)       0.004        0.015
288  24.00     0.07      0.019       (  0.080)       0.004        0.015
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    22.5
      Flood volume = Effective rainfall      1.87(In)
       times area       6.8(Ac.)/[(In)/(Ft.)] =       1.1(Ac.Ft)
      Total soil loss =      0.53(In)
      Total soil loss =     0.299(Ac.Ft)
      Total rainfall =      2.40(In)
      Flood volume =       46207.8 Cubic Feet
      Total soil loss =       13033.0 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      1.746(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ------------------------------------------------------------------------
   0+ 5       0.0002      0.03  Q         |         |         |         |
   0+10       0.0008      0.09  Q         |         |         |         |
   0+15       0.0015      0.10  Q         |         |         |         |
   0+20       0.0024      0.12  Q         |         |         |         |
   0+25       0.0034      0.15  Q         |         |         |         |
   0+30       0.0044      0.15  Q         |         |         |         |
   0+35       0.0055      0.15  Q         |         |         |         |
   0+40       0.0065      0.15  Q         |         |         |         |
   0+45       0.0076      0.15  Q         |         |         |         |
   0+50       0.0088      0.17  Q         |         |         |         |
   0+55       0.0101      0.20  Q         |         |         |         |
   1+ 0       0.0116      0.20  Q         |         |         |         |
   1+ 5       0.0128      0.19  Q         |         |         |         |
   1+10       0.0140      0.16  Q         |         |         |         |
   1+15       0.0150      0.16  Q         |         |         |         |
   1+20       0.0161      0.15  Q         |         |         |         |
   1+25       0.0171      0.15  Q         |         |         |         |
   1+30       0.0182      0.15  Q         |         |         |         |
   1+35       0.0193      0.15  Q         |         |         |         |
   1+40       0.0203      0.15  Q         |         |         |         |
   1+45       0.0214      0.15  Q         |         |         |         |
   1+50       0.0226      0.17  Q         |         |         |         |
   1+55       0.0239      0.20  Q         |         |         |         |
   2+ 0       0.0253      0.20  Q         |         |         |         |
   2+ 5       0.0268      0.21  QV        |         |         |         |
   2+10       0.0282      0.21  QV        |         |         |         |
   2+15       0.0296      0.21  QV        |         |         |         |
   2+20       0.0310      0.21  QV        |         |         |         |
   2+25       0.0324      0.21  QV        |         |         |         |
   2+30       0.0338      0.21  QV        |         |         |         |
   2+35       0.0354      0.22  QV        |         |         |         |
   2+40       0.0371      0.25  QV        |         |         |         |
   2+45       0.0388      0.26  |Q        |         |         |         |
   2+50       0.0406      0.26  |Q        |         |         |         |
   2+55       0.0424      0.26  |Q        |         |         |         |
   3+ 0       0.0441      0.26  |Q        |         |         |         |
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3+ 5       0.0459      0.26  |Q         |          |          |          |
3+10       0.0477      0.26  |Q         |          |          |          |
3+15       0.0494      0.26  |Q         |          |          |          |
3+20       0.0512      0.26  |Q         |          |          |          |
3+25       0.0530      0.26  |Q         |          |          |          |
3+30       0.0547      0.26  |QV        |          |          |          |
3+35       0.0565      0.26  |QV        |          |          |          |
3+40       0.0583      0.26  |QV        |          |          |          |
3+45       0.0601      0.26  |QV        |          |          |          |
3+50       0.0619      0.27  |QV        |          |          |          |
3+55       0.0640      0.30  |QV        |          |          |          |
4+ 0       0.0661      0.31  |QV        |          |          |          |
4+ 5       0.0682      0.31  |QV        |          |          |          |
4+10       0.0704      0.31  |QV        |          |          |          |
4+15       0.0725      0.31  |QV        |          |          |          |
4+20       0.0747      0.33  |QV        |          |          |          |
4+25       0.0772      0.35  |QV        |          |          |          |
4+30       0.0796      0.36  |Q V       |          |          |          |
4+35       0.0821      0.36  |Q V       |          |          |          |
4+40       0.0846      0.36  |Q V       |          |          |          |
4+45       0.0870      0.36  |Q V       |          |          |          |
4+50       0.0896      0.38  |Q V       |          |          |          |
4+55       0.0924      0.40  |Q V       |          |          |          |
5+ 0       0.0952      0.41  |Q V       |          |          |          |
5+ 5       0.0978      0.38  |Q V       |          |          |          |
5+10       0.1000      0.32  |Q V       |          |          |          |
5+15       0.1022      0.31  |Q V       |          |          |          |
5+20       0.1044      0.33  |Q V       |          |          |          |
5+25       0.1069      0.35  |Q  V      |          |          |          |
5+30       0.1093      0.36  |Q  V      |          |          |          |
5+35       0.1119      0.38  |Q  V      |          |          |          |
5+40       0.1147      0.40  |Q  V      |          |          |          |
5+45       0.1175      0.41  |Q  V      |          |          |          |
5+50       0.1203      0.41  |Q  V      |          |          |          |
5+55       0.1232      0.41  |Q  V      |          |          |          |
6+ 0       0.1260      0.41  |Q  V      |          |          |          |
6+ 5       0.1289      0.43  |Q  V      |          |          |          |
6+10       0.1321      0.46  |Q  V      |          |          |          |
6+15       0.1353      0.46  |Q   V     |          |          |          |
6+20       0.1384      0.46  |Q   V     |          |          |          |
6+25       0.1416      0.46  |Q   V     |          |          |          |
6+30       0.1448      0.46  |Q   V     |          |          |          |
6+35       0.1481      0.48  |Q   V     |          |          |          |
6+40       0.1516      0.51  | Q  V     |          |          |          |
6+45       0.1551      0.51  | Q  V     |          |          |          |
6+50       0.1586      0.51  | Q  V     |          |          |          |
6+55       0.1622      0.51  | Q   V    |          |          |          |
7+ 0       0.1657      0.51  | Q   V    |          |          |          |
7+ 5       0.1693      0.51  | Q   V    |          |          |          |
7+10       0.1728      0.51  | Q   V    |          |          |          |
7+15       0.1763      0.51  | Q   V    |          |          |          |
7+20       0.1800      0.53  | Q   V    |          |          |          |
7+25       0.1838      0.56  | Q   V    |          |          |          |
7+30       0.1877      0.56  | Q    V   |          |          |          |
7+35       0.1917      0.58  | Q    V   |          |          |          |
7+40       0.1959      0.61  | Q    V   |          |          |          |
7+45       0.2001      0.61  | Q    V   |          |          |          |
7+50       0.2045      0.63  | Q    V   |          |          |          |
7+55       0.2090      0.66  | Q    V   |          |          |          |
8+ 0       0.2136      0.67  | Q     V  |          |          |          |
8+ 5       0.2185      0.70  | Q     V  |          |          |          |
8+10       0.2237      0.76  |  Q    V  |          |          |          |
8+15       0.2290      0.77  |  Q    V  |          |          |          |
8+20       0.2343      0.77  |  Q    V  |          |          |          |
8+25       0.2396      0.77  |  Q     V |          |          |          |
8+30       0.2449      0.77  |  Q     V |          |          |          |
8+35       0.2503      0.79  |  Q     V |          |          |          |
8+40       0.2559      0.81  |  Q     V |          |          |          |
8+45       0.2615      0.82  |  Q     V |          |          |          |
8+50       0.2673      0.84  |  Q      V          |          |          |
8+55       0.2733      0.87  |  Q      V          |          |          |
9+ 0       0.2793      0.87  |  Q      V          |          |          |
9+ 5       0.2855      0.91  |  Q      V          |          |          |
9+10       0.2921      0.96  |  Q      |V         |          |          |
9+15       0.2988      0.97  |  Q      |V         |          |          |
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15+35	0.9195	1.11	| Q	|	|	| V	|
15+40	0.9264	1.00	| Q	|	|	| V	|
15+45	0.9332	0.98	| Q	|	|	| V	|
15+50	0.9399	0.98	| Q	|	|	| V	|
15+55	0.9466	0.98	| Q	|	|	| V	|
16+ 0	0.9533	0.98	| Q	|	|	| V	|
16+ 5	0.9583	0.72	| Q	|	|	| V	|
16+10	0.9604	0.31	|Q	|	|	| V	|
16+15	0.9620	0.23	Q	|	|	| V	|
16+20	0.9634	0.21	Q	|	|	| V	|
16+25	0.9648	0.21	Q	|	|	| V	|
16+30	0.9663	0.21	Q	|	|	| V	|
16+35	0.9676	0.19	Q	|	|	| V	|
16+40	0.9687	0.16	Q	|	|	| V	|
16+45	0.9697	0.16	Q	|	|	| V	|
16+50	0.9708	0.15	Q	|	|	| V	|
16+55	0.9719	0.15	Q	|	|	| V	|
17+ 0	0.9729	0.15	Q	|	|	| V	|
17+ 5	0.9742	0.19	Q	|	|	| V	|
17+10	0.9759	0.24	Q	|	|	| V	|
17+15	0.9776	0.25	|Q	|	|	| V	|
17+20	0.9794	0.26	|Q	|	|	| V	|
17+25	0.9812	0.26	|Q	|	|	| V	|
17+30	0.9829	0.26	|Q	|	|	| V	|
17+35	0.9847	0.26	|Q	|	|	| V	|
17+40	0.9865	0.26	|Q	|	|	| V	|
17+45	0.9882	0.26	|Q	|	|	| V	|
17+50	0.9899	0.24	Q	|	|	| V	|
17+55	0.9914	0.21	Q	|	|	| V	|
18+ 0	0.9928	0.21	Q	|	|	| V	|
18+ 5	0.9942	0.21	Q	|	|	| V	|
18+10	0.9956	0.21	Q	|	|	| V	|
18+15	0.9970	0.21	Q	|	|	| V	|
18+20	0.9984	0.21	Q	|	|	| V	|
18+25	0.9998	0.21	Q	|	|	| V	|
18+30	1.0013	0.21	Q	|	|	| V	|
18+35	1.0026	0.19	Q	|	|	| V	|
18+40	1.0037	0.16	Q	|	|	| V	|
18+45	1.0047	0.16	Q	|	|	| V	|
18+50	1.0057	0.14	Q	|	|	| V	|
18+55	1.0064	0.11	Q	|	|	| V	|
19+ 0	1.0072	0.10	Q	|	|	| V	|
19+ 5	1.0080	0.12	Q	|	|	| V	|
19+10	1.0090	0.15	Q	|	|	| V	|
19+15	1.0100	0.15	Q	|	|	| V	|
19+20	1.0112	0.17	Q	|	|	| V	|
19+25	1.0126	0.20	Q	|	|	| V	|
19+30	1.0140	0.20	Q	|	|	| V	|
19+35	1.0153	0.19	Q	|	|	| V	|
19+40	1.0164	0.16	Q	|	|	| V	|
19+45	1.0175	0.16	Q	|	|	| V	|
19+50	1.0184	0.14	Q	|	|	| V	|
19+55	1.0192	0.11	Q	|	|	| V	|
20+ 0	1.0199	0.10	Q	|	|	| V	|
20+ 5	1.0207	0.12	Q	|	|	| V	|
20+10	1.0217	0.15	Q	|	|	| V	|
20+15	1.0228	0.15	Q	|	|	| V	|
20+20	1.0238	0.15	Q	|	|	| V	|
20+25	1.0249	0.15	Q	|	|	| V	|
20+30	1.0260	0.15	Q	|	|	| V	|
20+35	1.0270	0.15	Q	|	|	| V	|
20+40	1.0281	0.15	Q	|	|	| V	|
20+45	1.0291	0.15	Q	|	|	| V	|
20+50	1.0301	0.14	Q	|	|	| V	|
20+55	1.0308	0.11	Q	|	|	| V	|
21+ 0	1.0316	0.10	Q	|	|	| V	|
21+ 5	1.0324	0.12	Q	|	|	| V	|
21+10	1.0334	0.15	Q	|	|	| V	|
21+15	1.0344	0.15	Q	|	|	| V	|
21+20	1.0354	0.14	Q	|	|	| V	|
21+25	1.0361	0.11	Q	|	|	| V	|
21+30	1.0369	0.10	Q	|	|	| V	|
21+35	1.0377	0.12	Q	|	|	| V	|
21+40	1.0387	0.15	Q	|	|	| V	|
21+45	1.0397	0.15	Q	|	|	| V	|

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   21+50       1.0407      0.14  Q          |          |          |         v|
   21+55       1.0414      0.11  Q          |          |          |         v|
   22+ 0       1.0422      0.10  Q          |          |          |         v|
   22+ 5       1.0430      0.12  Q          |          |          |         v|
   22+10       1.0440      0.15  Q          |          |          |         v|
   22+15       1.0451      0.15  Q          |          |          |         v|
   22+20       1.0460      0.14  Q          |          |          |         v|
   22+25       1.0467      0.11  Q          |          |          |         v|
   22+30       1.0475      0.10  Q          |          |          |         v|
   22+35       1.0482      0.10  Q          |          |          |         v|
   22+40       1.0489      0.10  Q          |          |          |         v|
   22+45       1.0496      0.10  Q          |          |          |         v|
   22+50       1.0503      0.10  Q          |          |          |         v|
   22+55       1.0510      0.10  Q          |          |          |         v|
   23+ 0       1.0517      0.10  Q          |          |          |         v|
   23+ 5       1.0524      0.10  Q          |          |          |         v|
   23+10       1.0531      0.10  Q          |          |          |         v|
   23+15       1.0538      0.10  Q          |          |          |         v|
   23+20       1.0545      0.10  Q          |          |          |         v|
   23+25       1.0552      0.10  Q          |          |          |         v|
   23+30       1.0560      0.10  Q          |          |          |         v|
   23+35       1.0567      0.10  Q          |          |          |         v|
   23+40       1.0574      0.10  Q          |          |          |         v|
   23+45       1.0581      0.10  Q          |          |          |         v|
   23+50       1.0588      0.10  Q          |          |          |         v|
   23+55       1.0595      0.10  Q          |          |          |         v|
   24+ 0       1.0602      0.10  Q          |          |          |         v|
   24+ 5       1.0607      0.07  Q          |          |          |         v|
   24+10       1.0608      0.01  Q          |          |          |         v|
   24+15       1.0608      0.00  Q          |          |          |         v|
   24+20       1.0608      0.00  Q          |          |          |          v
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 11/23/21 File: PROP2YR2A242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 4010

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

BCCOV BLDG A AREA 2 DEVELOPED CONDITION
2-YEAR 24 HOUR STORM EVENT
21-0034
2021-11-23 EP

Drainage Area = 9.50(Ac.) = 0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.50(Ac.) = 0.015 Sq. Mi.
Length along longest watercourse = 2462.00(Ft.)
Length along longest watercourse measured to centroid = 2251.00(Ft.)
Length along longest watercourse = 0.466 Mi.
Length along longest watercourse measured to centroid = 0.426 Mi.
Difference in elevation = 6.50(Ft.)
Slope along watercourse = 13.9399 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.118 Hr.
Lag time = 7.09 Min.
25% of lag time = 1.77 Min.
40% of lag time = 2.83 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.50	2.40	22.80

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.50	6.20	58.90

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.200(In)

Point rain (area averaged) = 2.400(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.400(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.500	56.60	0.830

Total Area Entered = 9.50(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

56.6	36.6	0.701	0.830	0.177	1.000	0.177
					Sum (F) =	0.177

Area averaged mean soil loss (F) (In/Hr) = 0.177
Minimum soil loss rate ((In/Hr)) = 0.089
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.240

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	70.556	7.255	0.695
2	0.167	141.112	41.537	3.977
3	0.250	211.669	28.772	2.755
4	0.333	282.225	10.857	1.039
5	0.417	352.781	5.976	0.572
6	0.500	423.337	3.066	0.293
7	0.583	493.893	1.114	0.107
8	0.667	564.450	0.601	0.058
9	0.750	635.006	0.486	0.047
10	0.833	705.562	0.337	0.032
			Sum = 100.000	Sum= 9.574

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.019	(0.314)	0.005	0.015
2	0.17	0.07	0.019	(0.313)	0.005	0.015
3	0.25	0.07	0.019	(0.312)	0.005	0.015
4	0.33	0.10	0.029	(0.311)	0.007	0.022
5	0.42	0.10	0.029	(0.309)	0.007	0.022
6	0.50	0.10	0.029	(0.308)	0.007	0.022
7	0.58	0.10	0.029	(0.307)	0.007	0.022
8	0.67	0.10	0.029	(0.306)	0.007	0.022
9	0.75	0.10	0.029	(0.305)	0.007	0.022
10	0.83	0.13	0.038	(0.303)	0.009	0.029
11	0.92	0.13	0.038	(0.302)	0.009	0.029
12	1.00	0.13	0.038	(0.301)	0.009	0.029
13	1.08	0.10	0.029	(0.300)	0.007	0.022
14	1.17	0.10	0.029	(0.299)	0.007	0.022
15	1.25	0.10	0.029	(0.297)	0.007	0.022
16	1.33	0.10	0.029	(0.296)	0.007	0.022
17	1.42	0.10	0.029	(0.295)	0.007	0.022
18	1.50	0.10	0.029	(0.294)	0.007	0.022
19	1.58	0.10	0.029	(0.293)	0.007	0.022
20	1.67	0.10	0.029	(0.292)	0.007	0.022
21	1.75	0.10	0.029	(0.290)	0.007	0.022
22	1.83	0.13	0.038	(0.289)	0.009	0.029
23	1.92	0.13	0.038	(0.288)	0.009	0.029
24	2.00	0.13	0.038	(0.287)	0.009	0.029
25	2.08	0.13	0.038	(0.286)	0.009	0.029
26	2.17	0.13	0.038	(0.285)	0.009	0.029
27	2.25	0.13	0.038	(0.283)	0.009	0.029
28	2.33	0.13	0.038	(0.282)	0.009	0.029
29	2.42	0.13	0.038	(0.281)	0.009	0.029
30	2.50	0.13	0.038	(0.280)	0.009	0.029
31	2.58	0.17	0.048	(0.279)	0.012	0.036
32	2.67	0.17	0.048	(0.278)	0.012	0.036
33	2.75	0.17	0.048	(0.277)	0.012	0.036
34	2.83	0.17	0.048	(0.275)	0.012	0.036
35	2.92	0.17	0.048	(0.274)	0.012	0.036
36	3.00	0.17	0.048	(0.273)	0.012	0.036
37	3.08	0.17	0.048	(0.272)	0.012	0.036
38	3.17	0.17	0.048	(0.271)	0.012	0.036
39	3.25	0.17	0.048	(0.270)	0.012	0.036
40	3.33	0.17	0.048	(0.269)	0.012	0.036

41	3.42	0.17	0.048	(0.267)	0.012	0.036
42	3.50	0.17	0.048	(0.266)	0.012	0.036
43	3.58	0.17	0.048	(0.265)	0.012	0.036
44	3.67	0.17	0.048	(0.264)	0.012	0.036
45	3.75	0.17	0.048	(0.263)	0.012	0.036
46	3.83	0.20	0.058	(0.262)	0.014	0.044
47	3.92	0.20	0.058	(0.261)	0.014	0.044
48	4.00	0.20	0.058	(0.260)	0.014	0.044
49	4.08	0.20	0.058	(0.259)	0.014	0.044
50	4.17	0.20	0.058	(0.257)	0.014	0.044
51	4.25	0.20	0.058	(0.256)	0.014	0.044
52	4.33	0.23	0.067	(0.255)	0.016	0.051
53	4.42	0.23	0.067	(0.254)	0.016	0.051
54	4.50	0.23	0.067	(0.253)	0.016	0.051
55	4.58	0.23	0.067	(0.252)	0.016	0.051
56	4.67	0.23	0.067	(0.251)	0.016	0.051
57	4.75	0.23	0.067	(0.250)	0.016	0.051
58	4.83	0.27	0.077	(0.249)	0.018	0.058
59	4.92	0.27	0.077	(0.248)	0.018	0.058
60	5.00	0.27	0.077	(0.247)	0.018	0.058
61	5.08	0.20	0.058	(0.246)	0.014	0.044
62	5.17	0.20	0.058	(0.245)	0.014	0.044
63	5.25	0.20	0.058	(0.243)	0.014	0.044
64	5.33	0.23	0.067	(0.242)	0.016	0.051
65	5.42	0.23	0.067	(0.241)	0.016	0.051
66	5.50	0.23	0.067	(0.240)	0.016	0.051
67	5.58	0.27	0.077	(0.239)	0.018	0.058
68	5.67	0.27	0.077	(0.238)	0.018	0.058
69	5.75	0.27	0.077	(0.237)	0.018	0.058
70	5.83	0.27	0.077	(0.236)	0.018	0.058
71	5.92	0.27	0.077	(0.235)	0.018	0.058
72	6.00	0.27	0.077	(0.234)	0.018	0.058
73	6.08	0.30	0.086	(0.233)	0.021	0.066
74	6.17	0.30	0.086	(0.232)	0.021	0.066
75	6.25	0.30	0.086	(0.231)	0.021	0.066
76	6.33	0.30	0.086	(0.230)	0.021	0.066
77	6.42	0.30	0.086	(0.229)	0.021	0.066
78	6.50	0.30	0.086	(0.228)	0.021	0.066
79	6.58	0.33	0.096	(0.227)	0.023	0.073
80	6.67	0.33	0.096	(0.226)	0.023	0.073
81	6.75	0.33	0.096	(0.225)	0.023	0.073
82	6.83	0.33	0.096	(0.224)	0.023	0.073
83	6.92	0.33	0.096	(0.223)	0.023	0.073
84	7.00	0.33	0.096	(0.222)	0.023	0.073
85	7.08	0.33	0.096	(0.221)	0.023	0.073
86	7.17	0.33	0.096	(0.220)	0.023	0.073
87	7.25	0.33	0.096	(0.219)	0.023	0.073
88	7.33	0.37	0.106	(0.218)	0.025	0.080
89	7.42	0.37	0.106	(0.217)	0.025	0.080
90	7.50	0.37	0.106	(0.216)	0.025	0.080
91	7.58	0.40	0.115	(0.215)	0.028	0.088
92	7.67	0.40	0.115	(0.214)	0.028	0.088
93	7.75	0.40	0.115	(0.213)	0.028	0.088
94	7.83	0.43	0.125	(0.212)	0.030	0.095
95	7.92	0.43	0.125	(0.211)	0.030	0.095
96	8.00	0.43	0.125	(0.210)	0.030	0.095
97	8.08	0.50	0.144	(0.209)	0.035	0.109
98	8.17	0.50	0.144	(0.208)	0.035	0.109
99	8.25	0.50	0.144	(0.207)	0.035	0.109
100	8.33	0.50	0.144	(0.206)	0.035	0.109
101	8.42	0.50	0.144	(0.205)	0.035	0.109
102	8.50	0.50	0.144	(0.204)	0.035	0.109
103	8.58	0.53	0.154	(0.203)	0.037	0.117
104	8.67	0.53	0.154	(0.202)	0.037	0.117
105	8.75	0.53	0.154	(0.201)	0.037	0.117
106	8.83	0.57	0.163	(0.200)	0.039	0.124
107	8.92	0.57	0.163	(0.199)	0.039	0.124
108	9.00	0.57	0.163	(0.198)	0.039	0.124
109	9.08	0.63	0.182	(0.197)	0.044	0.139
110	9.17	0.63	0.182	(0.196)	0.044	0.139
111	9.25	0.63	0.182	(0.195)	0.044	0.139
112	9.33	0.67	0.192	(0.195)	0.046	0.146
113	9.42	0.67	0.192	(0.194)	0.046	0.146
114	9.50	0.67	0.192	(0.193)	0.046	0.146
115	9.58	0.70	0.202	(0.192)	0.048	0.153

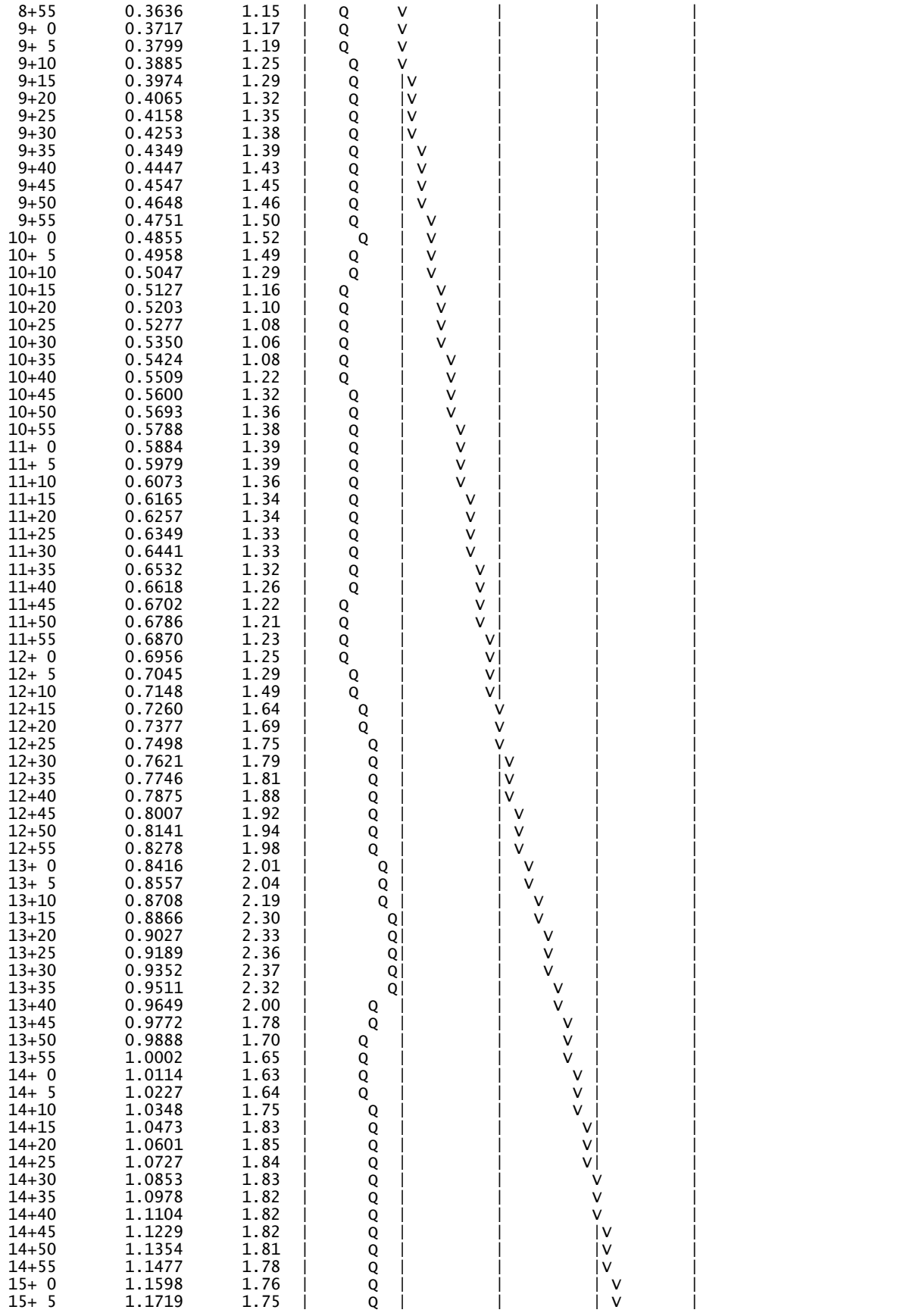
116	9.67	0.70	0.202	(0.191)	0.048	0.153
117	9.75	0.70	0.202	(0.190)	0.048	0.153
118	9.83	0.73	0.211	(0.189)	0.051	0.161
119	9.92	0.73	0.211	(0.188)	0.051	0.161
120	10.00	0.73	0.211	(0.187)	0.051	0.161
121	10.08	0.50	0.144	(0.186)	0.035	0.109
122	10.17	0.50	0.144	(0.185)	0.035	0.109
123	10.25	0.50	0.144	(0.184)	0.035	0.109
124	10.33	0.50	0.144	(0.184)	0.035	0.109
125	10.42	0.50	0.144	(0.183)	0.035	0.109
126	10.50	0.50	0.144	(0.182)	0.035	0.109
127	10.58	0.67	0.192	(0.181)	0.046	0.146
128	10.67	0.67	0.192	(0.180)	0.046	0.146
129	10.75	0.67	0.192	(0.179)	0.046	0.146
130	10.83	0.67	0.192	(0.178)	0.046	0.146
131	10.92	0.67	0.192	(0.177)	0.046	0.146
132	11.00	0.67	0.192	(0.177)	0.046	0.146
133	11.08	0.63	0.182	(0.176)	0.044	0.139
134	11.17	0.63	0.182	(0.175)	0.044	0.139
135	11.25	0.63	0.182	(0.174)	0.044	0.139
136	11.33	0.63	0.182	(0.173)	0.044	0.139
137	11.42	0.63	0.182	(0.172)	0.044	0.139
138	11.50	0.63	0.182	(0.171)	0.044	0.139
139	11.58	0.57	0.163	(0.170)	0.039	0.124
140	11.67	0.57	0.163	(0.170)	0.039	0.124
141	11.75	0.57	0.163	(0.169)	0.039	0.124
142	11.83	0.60	0.173	(0.168)	0.041	0.131
143	11.92	0.60	0.173	(0.167)	0.041	0.131
144	12.00	0.60	0.173	(0.166)	0.041	0.131
145	12.08	0.83	0.240	(0.165)	0.058	0.182
146	12.17	0.83	0.240	(0.165)	0.058	0.182
147	12.25	0.83	0.240	(0.164)	0.058	0.182
148	12.33	0.87	0.250	(0.163)	0.060	0.190
149	12.42	0.87	0.250	(0.162)	0.060	0.190
150	12.50	0.87	0.250	(0.161)	0.060	0.190
151	12.58	0.93	0.269	(0.161)	0.065	0.204
152	12.67	0.93	0.269	(0.160)	0.065	0.204
153	12.75	0.93	0.269	(0.159)	0.065	0.204
154	12.83	0.97	0.278	(0.158)	0.067	0.212
155	12.92	0.97	0.278	(0.157)	0.067	0.212
156	13.00	0.97	0.278	(0.157)	0.067	0.212
157	13.08	1.13	0.326	(0.156)	0.078	0.248
158	13.17	1.13	0.326	(0.155)	0.078	0.248
159	13.25	1.13	0.326	(0.154)	0.078	0.248
160	13.33	1.13	0.326	(0.153)	0.078	0.248
161	13.42	1.13	0.326	(0.153)	0.078	0.248
162	13.50	1.13	0.326	(0.152)	0.078	0.248
163	13.58	0.77	0.221	(0.151)	0.053	0.168
164	13.67	0.77	0.221	(0.150)	0.053	0.168
165	13.75	0.77	0.221	(0.150)	0.053	0.168
166	13.83	0.77	0.221	(0.149)	0.053	0.168
167	13.92	0.77	0.221	(0.148)	0.053	0.168
168	14.00	0.77	0.221	(0.147)	0.053	0.168
169	14.08	0.90	0.259	(0.146)	0.062	0.197
170	14.17	0.90	0.259	(0.146)	0.062	0.197
171	14.25	0.90	0.259	(0.145)	0.062	0.197
172	14.33	0.87	0.250	(0.144)	0.060	0.190
173	14.42	0.87	0.250	(0.144)	0.060	0.190
174	14.50	0.87	0.250	(0.143)	0.060	0.190
175	14.58	0.87	0.250	(0.142)	0.060	0.190
176	14.67	0.87	0.250	(0.141)	0.060	0.190
177	14.75	0.87	0.250	(0.141)	0.060	0.190
178	14.83	0.83	0.240	(0.140)	0.058	0.182
179	14.92	0.83	0.240	(0.139)	0.058	0.182
180	15.00	0.83	0.240	(0.138)	0.058	0.182
181	15.08	0.80	0.230	(0.138)	0.055	0.175
182	15.17	0.80	0.230	(0.137)	0.055	0.175
183	15.25	0.80	0.230	(0.136)	0.055	0.175
184	15.33	0.77	0.221	(0.136)	0.053	0.168
185	15.42	0.77	0.221	(0.135)	0.053	0.168
186	15.50	0.77	0.221	(0.134)	0.053	0.168
187	15.58	0.63	0.182	(0.134)	0.044	0.139
188	15.67	0.63	0.182	(0.133)	0.044	0.139
189	15.75	0.63	0.182	(0.132)	0.044	0.139
190	15.83	0.63	0.182	(0.132)	0.044	0.139

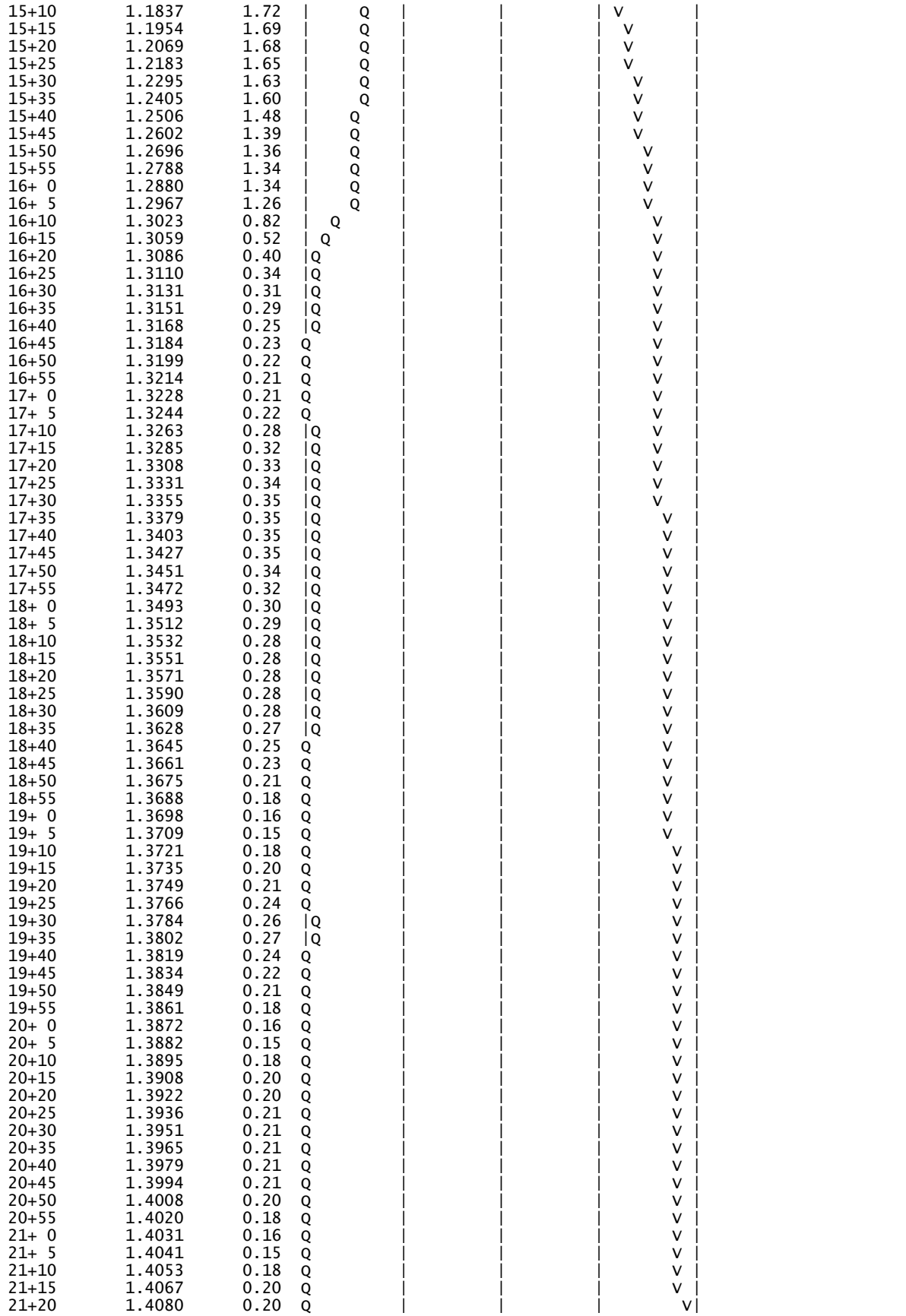
191	15.92	0.63	0.182	(0.131)	0.044	0.139
192	16.00	0.63	0.182	(0.130)	0.044	0.139
193	16.08	0.13	0.038	(0.129)	0.009	0.029
194	16.17	0.13	0.038	(0.129)	0.009	0.029
195	16.25	0.13	0.038	(0.128)	0.009	0.029
196	16.33	0.13	0.038	(0.128)	0.009	0.029
197	16.42	0.13	0.038	(0.127)	0.009	0.029
198	16.50	0.13	0.038	(0.126)	0.009	0.029
199	16.58	0.10	0.029	(0.126)	0.007	0.022
200	16.67	0.10	0.029	(0.125)	0.007	0.022
201	16.75	0.10	0.029	(0.124)	0.007	0.022
202	16.83	0.10	0.029	(0.124)	0.007	0.022
203	16.92	0.10	0.029	(0.123)	0.007	0.022
204	17.00	0.10	0.029	(0.122)	0.007	0.022
205	17.08	0.17	0.048	(0.122)	0.012	0.036
206	17.17	0.17	0.048	(0.121)	0.012	0.036
207	17.25	0.17	0.048	(0.121)	0.012	0.036
208	17.33	0.17	0.048	(0.120)	0.012	0.036
209	17.42	0.17	0.048	(0.119)	0.012	0.036
210	17.50	0.17	0.048	(0.119)	0.012	0.036
211	17.58	0.17	0.048	(0.118)	0.012	0.036
212	17.67	0.17	0.048	(0.118)	0.012	0.036
213	17.75	0.17	0.048	(0.117)	0.012	0.036
214	17.83	0.13	0.038	(0.116)	0.009	0.029
215	17.92	0.13	0.038	(0.116)	0.009	0.029
216	18.00	0.13	0.038	(0.115)	0.009	0.029
217	18.08	0.13	0.038	(0.115)	0.009	0.029
218	18.17	0.13	0.038	(0.114)	0.009	0.029
219	18.25	0.13	0.038	(0.114)	0.009	0.029
220	18.33	0.13	0.038	(0.113)	0.009	0.029
221	18.42	0.13	0.038	(0.112)	0.009	0.029
222	18.50	0.13	0.038	(0.112)	0.009	0.029
223	18.58	0.10	0.029	(0.111)	0.007	0.022
224	18.67	0.10	0.029	(0.111)	0.007	0.022
225	18.75	0.10	0.029	(0.110)	0.007	0.022
226	18.83	0.07	0.019	(0.110)	0.005	0.015
227	18.92	0.07	0.019	(0.109)	0.005	0.015
228	19.00	0.07	0.019	(0.109)	0.005	0.015
229	19.08	0.10	0.029	(0.108)	0.007	0.022
230	19.17	0.10	0.029	(0.108)	0.007	0.022
231	19.25	0.10	0.029	(0.107)	0.007	0.022
232	19.33	0.13	0.038	(0.107)	0.009	0.029
233	19.42	0.13	0.038	(0.106)	0.009	0.029
234	19.50	0.13	0.038	(0.106)	0.009	0.029
235	19.58	0.10	0.029	(0.105)	0.007	0.022
236	19.67	0.10	0.029	(0.105)	0.007	0.022
237	19.75	0.10	0.029	(0.104)	0.007	0.022
238	19.83	0.07	0.019	(0.104)	0.005	0.015
239	19.92	0.07	0.019	(0.103)	0.005	0.015
240	20.00	0.07	0.019	(0.103)	0.005	0.015
241	20.08	0.10	0.029	(0.102)	0.007	0.022
242	20.17	0.10	0.029	(0.102)	0.007	0.022
243	20.25	0.10	0.029	(0.102)	0.007	0.022
244	20.33	0.10	0.029	(0.101)	0.007	0.022
245	20.42	0.10	0.029	(0.101)	0.007	0.022
246	20.50	0.10	0.029	(0.100)	0.007	0.022
247	20.58	0.10	0.029	(0.100)	0.007	0.022
248	20.67	0.10	0.029	(0.099)	0.007	0.022
249	20.75	0.10	0.029	(0.099)	0.007	0.022
250	20.83	0.07	0.019	(0.099)	0.005	0.015
251	20.92	0.07	0.019	(0.098)	0.005	0.015
252	21.00	0.07	0.019	(0.098)	0.005	0.015
253	21.08	0.10	0.029	(0.097)	0.007	0.022
254	21.17	0.10	0.029	(0.097)	0.007	0.022
255	21.25	0.10	0.029	(0.097)	0.007	0.022
256	21.33	0.07	0.019	(0.096)	0.005	0.015
257	21.42	0.07	0.019	(0.096)	0.005	0.015
258	21.50	0.07	0.019	(0.096)	0.005	0.015
259	21.58	0.10	0.029	(0.095)	0.007	0.022
260	21.67	0.10	0.029	(0.095)	0.007	0.022
261	21.75	0.10	0.029	(0.095)	0.007	0.022
262	21.83	0.07	0.019	(0.094)	0.005	0.015
263	21.92	0.07	0.019	(0.094)	0.005	0.015
264	22.00	0.07	0.019	(0.094)	0.005	0.015
265	22.08	0.10	0.029	(0.093)	0.007	0.022

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266  22.17     0.10      0.029       (  0.093)       0.007        0.022
267  22.25     0.10      0.029       (  0.093)       0.007        0.022
268  22.33     0.07      0.019       (  0.092)       0.005        0.015
269  22.42     0.07      0.019       (  0.092)       0.005        0.015
270  22.50     0.07      0.019       (  0.092)       0.005        0.015
271  22.58     0.07      0.019       (  0.092)       0.005        0.015
272  22.67     0.07      0.019       (  0.091)       0.005        0.015
273  22.75     0.07      0.019       (  0.091)       0.005        0.015
274  22.83     0.07      0.019       (  0.091)       0.005        0.015
275  22.92     0.07      0.019       (  0.091)       0.005        0.015
276  23.00     0.07      0.019       (  0.090)       0.005        0.015
277  23.08     0.07      0.019       (  0.090)       0.005        0.015
278  23.17     0.07      0.019       (  0.090)       0.005        0.015
279  23.25     0.07      0.019       (  0.090)       0.005        0.015
280  23.33     0.07      0.019       (  0.090)       0.005        0.015
281  23.42     0.07      0.019       (  0.089)       0.005        0.015
282  23.50     0.07      0.019       (  0.089)       0.005        0.015
283  23.58     0.07      0.019       (  0.089)       0.005        0.015
284  23.67     0.07      0.019       (  0.089)       0.005        0.015
285  23.75     0.07      0.019       (  0.089)       0.005        0.015
286  23.83     0.07      0.019       (  0.089)       0.005        0.015
287  23.92     0.07      0.019       (  0.089)       0.005        0.015
288  24.00     0.07      0.019       (  0.089)       0.005        0.015
               (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    21.9
      Flood volume = Effective rainfall      1.82(In)
       times area       9.5(Ac.)/[(In)/(Ft.)] =       1.4(Ac.Ft)
      Total soil loss =      0.58(In)
      Total soil loss =     0.456(Ac.Ft)
      Total rainfall =      2.40(In)
      Flood volume =       62899.5 Cubic Feet
      Total soil loss =       19863.0 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      2.367(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0001      0.01  Q          |         |         |         |
  0+10       0.0005      0.07  Q          |         |         |         |
  0+15       0.0013      0.11  Q          |         |         |         |
  0+20       0.0022      0.13  Q          |         |         |         |
  0+25       0.0033      0.17  Q          |         |         |         |
  0+30       0.0046      0.19  Q          |         |         |         |
  0+35       0.0060      0.20  Q          |         |         |         |
  0+40       0.0074      0.20  Q          |         |         |         |
  0+45       0.0088      0.21  Q          |         |         |         |
  0+50       0.0103      0.21  Q          |         |         |         |
  0+55       0.0120      0.24  Q          |         |         |         |
  1+ 0       0.0138      0.26  VQ         |         |         |         |
  1+ 5       0.0156      0.27  VQ         |         |         |         |
  1+10       0.0173      0.24  Q          |         |         |         |
  1+15       0.0188      0.22  Q          |         |         |         |
  1+20       0.0203      0.22  Q          |         |         |         |
  1+25       0.0218      0.21  Q          |         |         |         |
  1+30       0.0233      0.21  Q          |         |         |         |
  1+35       0.0247      0.21  Q          |         |         |         |
  1+40       0.0262      0.21  Q          |         |         |         |
  1+45       0.0276      0.21  Q          |         |         |         |
  1+50       0.0291      0.21  Q          |         |         |         |
  1+55       0.0308      0.24  Q          |         |         |         |
  2+ 0       0.0326      0.26  VQ         |         |         |         |
  2+ 5       0.0344      0.27  VQ         |         |         |         |
  2+10       0.0363      0.28  |Q         |         |         |         |
  2+15       0.0383      0.28  |Q         |         |         |         |
  2+20       0.0402      0.28  |Q         |         |         |         |
  2+25       0.0421      0.28  |Q         |         |         |         |
  2+30       0.0440      0.28  |Q         |         |         |         |
  2+35       0.0460      0.28  |Q         |         |         |         |
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2+40	0.0481	0.31	Q			
2+45	0.0504	0.33	Q			
2+50	0.0528	0.34	Q			
2+55	0.0552	0.35	Q			
3+ 0	0.0576	0.35	Q			
3+ 5	0.0600	0.35	Q			
3+10	0.0624	0.35	Q			
3+15	0.0648	0.35	Q			
3+20	0.0672	0.35	Q			
3+25	0.0696	0.35	Q			
3+30	0.0720	0.35	Q			
3+35	0.0744	0.35	QV			
3+40	0.0768	0.35	QV			
3+45	0.0792	0.35	QV			
3+50	0.0817	0.35	QV			
3+55	0.0843	0.38	QV			
4+ 0	0.0871	0.40	QV			
4+ 5	0.0899	0.41	QV			
4+10	0.0928	0.42	QV			
4+15	0.0956	0.42	QV			
4+20	0.0986	0.42	QV			
4+25	0.1017	0.45	QV			
4+30	0.1049	0.47	QV			
4+35	0.1082	0.48	QV			
4+40	0.1116	0.49	Q V			
4+45	0.1149	0.49	Q V			
4+50	0.1183	0.49	Q V			
4+55	0.1219	0.52	QV			
5+ 0	0.1257	0.54	QV			
5+ 5	0.1294	0.54	QV			
5+10	0.1328	0.49	Q V			
5+15	0.1359	0.45	Q V			
5+20	0.1389	0.44	Q V			
5+25	0.1421	0.46	Q V			
5+30	0.1453	0.48	Q V			
5+35	0.1487	0.49	Q V			
5+40	0.1523	0.52	Q V			
5+45	0.1560	0.54	Q V			
5+50	0.1598	0.55	Q V			
5+55	0.1636	0.55	Q V			
6+ 0	0.1675	0.56	Q V			
6+ 5	0.1713	0.56	Q V			
6+10	0.1754	0.59	Q V			
6+15	0.1796	0.61	Q V			
6+20	0.1839	0.62	Q V			
6+25	0.1882	0.63	Q V			
6+30	0.1926	0.63	Q V			
6+35	0.1969	0.63	Q V			
6+40	0.2015	0.66	Q V			
6+45	0.2062	0.68	Q V			
6+50	0.2109	0.69	Q V			
6+55	0.2157	0.69	Q V			
7+ 0	0.2205	0.70	Q V			
7+ 5	0.2253	0.70	Q V			
7+10	0.2301	0.70	Q V			
7+15	0.2349	0.70	Q V			
7+20	0.2398	0.70	Q V			
7+25	0.2448	0.73	Q V			
7+30	0.2500	0.75	Q V			
7+35	0.2553	0.77	Q V			
7+40	0.2608	0.80	Q V			
7+45	0.2665	0.82	Q V			
7+50	0.2722	0.83	Q V			
7+55	0.2782	0.87	Q V			
8+ 0	0.2843	0.89	Q V			
8+ 5	0.2906	0.91	Q V			
8+10	0.2973	0.97	Q V			
8+15	0.3043	1.01	Q V			
8+20	0.3114	1.03	Q V			
8+25	0.3185	1.04	Q V			
8+30	0.3257	1.04	Q V			
8+35	0.3330	1.05	Q V			
8+40	0.3404	1.08	Q V			
8+45	0.3480	1.10	Q V			
8+50	0.3557	1.12	Q V			


8+55 0.3636 1.15
9+ 0 0.3717 1.17
9+ 5 0.3799 1.19
9+10 0.3885 1.25
9+15 0.3974 1.29
9+20 0.4065 1.32
9+25 0.4158 1.35
9+30 0.4253 1.38
9+35 0.4349 1.39
9+40 0.4447 1.43
9+45 0.4547 1.45
9+50 0.4648 1.46
9+55 0.4751 1.50
10+ 0 0.4855 1.52
10+ 5 0.4958 1.49
10+10 0.5047 1.29
10+15 0.5127 1.16
10+20 0.5203 1.10
10+25 0.5277 1.08
10+30 0.5350 1.06
10+35 0.5424 1.08
10+40 0.5509 1.22
10+45 0.5600 1.32
10+50 0.5693 1.36
10+55 0.5788 1.38
11+ 0 0.5884 1.39
11+ 5 0.5979 1.39
11+10 0.6073 1.36
11+15 0.6165 1.34
11+20 0.6257 1.34
11+25 0.6349 1.33
11+30 0.6441 1.33
11+35 0.6532 1.32
11+40 0.6618 1.26
11+45 0.6702 1.22
11+50 0.6786 1.21
11+55 0.6870 1.23
12+ 0 0.6956 1.25
12+ 5 0.7045 1.29
12+10 0.7148 1.49
12+15 0.7260 1.64
12+20 0.7377 1.69
12+25 0.7498 1.75
12+30 0.7621 1.79
12+35 0.7746 1.81
12+40 0.7875 1.88
12+45 0.8007 1.92
12+50 0.8141 1.94
12+55 0.8278 1.98
13+ 0 0.8416 2.01
13+ 5 0.8557 2.04
13+10 0.8708 2.19
13+15 0.8866 2.30
13+20 0.9027 2.33
13+25 0.9189 2.36
13+30 0.9352 2.37
13+35 0.9511 2.32
13+40 0.9649 2.00
13+45 0.9772 1.78
13+50 0.9888 1.70
13+55 1.0002 1.65
14+ 0 1.0114 1.63
14+ 5 1.0227 1.64
14+10 1.0348 1.75
14+15 1.0473 1.83
14+20 1.0601 1.85
14+25 1.0727 1.84
14+30 1.0853 1.83
14+35 1.0978 1.82
14+40 1.1104 1.82
14+45 1.1229 1.82
14+50 1.1354 1.81
14+55 1.1477 1.78
15+ 0 1.1598 1.76
15+ 5 1.1719 1.75



21+25	1.4092	0.17	Q	|	|	|	v|
21+30	1.4103	0.15	Q	|	|	|	v|
21+35	1.4113	0.15	Q	|	|	|	v|
21+40	1.4126	0.18	Q	|	|	|	v|
21+45	1.4139	0.20	Q	|	|	|	v|
21+50	1.4153	0.20	Q	|	|	|	v|
21+55	1.4165	0.17	Q	|	|	|	v|
22+ 0	1.4175	0.15	Q	|	|	|	v|
22+ 5	1.4186	0.15	Q	|	|	|	v|
22+10	1.4198	0.18	Q	|	|	|	v|
22+15	1.4211	0.20	Q	|	|	|	v|
22+20	1.4225	0.20	Q	|	|	|	v|
22+25	1.4237	0.17	Q	|	|	|	v|
22+30	1.4247	0.15	Q	|	|	|	v|
22+35	1.4257	0.15	Q	|	|	|	v|
22+40	1.4267	0.14	Q	|	|	|	v|
22+45	1.4277	0.14	Q	|	|	|	v|
22+50	1.4287	0.14	Q	|	|	|	v|
22+55	1.4296	0.14	Q	|	|	|	v|
23+ 0	1.4306	0.14	Q	|	|	|	v|
23+ 5	1.4316	0.14	Q	|	|	|	v|
23+10	1.4325	0.14	Q	|	|	|	v|
23+15	1.4335	0.14	Q	|	|	|	v|
23+20	1.4345	0.14	Q	|	|	|	v|
23+25	1.4354	0.14	Q	|	|	|	v|
23+30	1.4364	0.14	Q	|	|	|	v|
23+35	1.4373	0.14	Q	|	|	|	v|
23+40	1.4383	0.14	Q	|	|	|	v|
23+45	1.4393	0.14	Q	|	|	|	v|
23+50	1.4402	0.14	Q	|	|	|	v|
23+55	1.4412	0.14	Q	|	|	|	v|
24+ 0	1.4422	0.14	Q	|	|	|	v|
24+ 5	1.4430	0.13	Q	|	|	|	v|
24+10	1.4435	0.07	Q	|	|	|	v|
24+15	1.4438	0.03	Q	|	|	|	v|
24+20	1.4439	0.02	Q	|	|	|	v|
24+25	1.4439	0.01	Q	|	|	|	v|
24+30	1.4439	0.00	Q	|	|	|	v|
24+35	1.4440	0.00	Q	|	|	|	v|
24+40	1.4440	0.00	Q	|	|	|	v|
24+45	1.4440	0.00	Q	|	|	|	v|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 11/23/21 File: PROP2YR5A242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 4010

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

BCCOV BLDG A AREA 5 DEVELOPED CONDITION
2-YR 24 HR STORM EVENT
21-0034
2021-11-23

Drainage Area = 8.10(Ac.) = 0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.10(Ac.) = 0.013 Sq. Mi.
Length along longest watercourse = 899.00(Ft.)
Length along longest watercourse measured to centroid = 602.00(Ft.)
Length along longest watercourse = 0.170 Mi.
Length along longest watercourse measured to centroid = 0.114 Mi.
Difference in elevation = 6.50(Ft.)
Slope along watercourse = 38.1758 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.040 Hr.
Lag time = 2.42 Min.
25% of lag time = 0.60 Min.
40% of lag time = 0.97 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.10	2.40	19.44

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.10	6.20	50.22

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.200(In)

Point rain (area averaged) = 2.400(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.400(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
8.100	61.60	0.790

Total Area Entered = 8.10(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

61.6	41.6	0.654	0.790	0.189	1.000	0.189
					Sum (F) =	0.189

Area averaged mean soil loss (F) (In/Hr) = 0.189
Minimum soil loss rate ((In/Hr)) = 0.095
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.270

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	206.815	43.617	3.561
2	0.167	413.630	49.361	4.030
3	0.250	620.445	6.065	0.495
4	0.333	827.261	0.956	0.078
			Sum = 100.000 Sum=	8.163

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.019	(0.335)	0.005	0.014
2	0.17	0.07	0.019	(0.334)	0.005	0.014
3	0.25	0.07	0.019	(0.333)	0.005	0.014
4	0.33	0.10	0.029	(0.331)	0.008	0.021
5	0.42	0.10	0.029	(0.330)	0.008	0.021
6	0.50	0.10	0.029	(0.329)	0.008	0.021
7	0.58	0.10	0.029	(0.327)	0.008	0.021
8	0.67	0.10	0.029	(0.326)	0.008	0.021
9	0.75	0.10	0.029	(0.325)	0.008	0.021
10	0.83	0.13	0.038	(0.324)	0.010	0.028
11	0.92	0.13	0.038	(0.322)	0.010	0.028
12	1.00	0.13	0.038	(0.321)	0.010	0.028
13	1.08	0.10	0.029	(0.320)	0.008	0.021
14	1.17	0.10	0.029	(0.319)	0.008	0.021
15	1.25	0.10	0.029	(0.317)	0.008	0.021
16	1.33	0.10	0.029	(0.316)	0.008	0.021
17	1.42	0.10	0.029	(0.315)	0.008	0.021
18	1.50	0.10	0.029	(0.314)	0.008	0.021
19	1.58	0.10	0.029	(0.312)	0.008	0.021
20	1.67	0.10	0.029	(0.311)	0.008	0.021
21	1.75	0.10	0.029	(0.310)	0.008	0.021
22	1.83	0.13	0.038	(0.309)	0.010	0.028
23	1.92	0.13	0.038	(0.307)	0.010	0.028
24	2.00	0.13	0.038	(0.306)	0.010	0.028
25	2.08	0.13	0.038	(0.305)	0.010	0.028
26	2.17	0.13	0.038	(0.304)	0.010	0.028
27	2.25	0.13	0.038	(0.302)	0.010	0.028
28	2.33	0.13	0.038	(0.301)	0.010	0.028
29	2.42	0.13	0.038	(0.300)	0.010	0.028
30	2.50	0.13	0.038	(0.299)	0.010	0.028
31	2.58	0.17	0.048	(0.297)	0.013	0.035
32	2.67	0.17	0.048	(0.296)	0.013	0.035
33	2.75	0.17	0.048	(0.295)	0.013	0.035
34	2.83	0.17	0.048	(0.294)	0.013	0.035
35	2.92	0.17	0.048	(0.293)	0.013	0.035
36	3.00	0.17	0.048	(0.291)	0.013	0.035
37	3.08	0.17	0.048	(0.290)	0.013	0.035
38	3.17	0.17	0.048	(0.289)	0.013	0.035
39	3.25	0.17	0.048	(0.288)	0.013	0.035
40	3.33	0.17	0.048	(0.287)	0.013	0.035
41	3.42	0.17	0.048	(0.285)	0.013	0.035
42	3.50	0.17	0.048	(0.284)	0.013	0.035
43	3.58	0.17	0.048	(0.283)	0.013	0.035
44	3.67	0.17	0.048	(0.282)	0.013	0.035
45	3.75	0.17	0.048	(0.281)	0.013	0.035
46	3.83	0.20	0.058	(0.279)	0.016	0.042

47	3.92	0.20	0.058	(0.278)	0.016	0.042
48	4.00	0.20	0.058	(0.277)	0.016	0.042
49	4.08	0.20	0.058	(0.276)	0.016	0.042
50	4.17	0.20	0.058	(0.275)	0.016	0.042
51	4.25	0.20	0.058	(0.274)	0.016	0.042
52	4.33	0.23	0.067	(0.272)	0.018	0.049
53	4.42	0.23	0.067	(0.271)	0.018	0.049
54	4.50	0.23	0.067	(0.270)	0.018	0.049
55	4.58	0.23	0.067	(0.269)	0.018	0.049
56	4.67	0.23	0.067	(0.268)	0.018	0.049
57	4.75	0.23	0.067	(0.267)	0.018	0.049
58	4.83	0.27	0.077	(0.265)	0.021	0.056
59	4.92	0.27	0.077	(0.264)	0.021	0.056
60	5.00	0.27	0.077	(0.263)	0.021	0.056
61	5.08	0.20	0.058	(0.262)	0.016	0.042
62	5.17	0.20	0.058	(0.261)	0.016	0.042
63	5.25	0.20	0.058	(0.260)	0.016	0.042
64	5.33	0.23	0.067	(0.259)	0.018	0.049
65	5.42	0.23	0.067	(0.257)	0.018	0.049
66	5.50	0.23	0.067	(0.256)	0.018	0.049
67	5.58	0.27	0.077	(0.255)	0.021	0.056
68	5.67	0.27	0.077	(0.254)	0.021	0.056
69	5.75	0.27	0.077	(0.253)	0.021	0.056
70	5.83	0.27	0.077	(0.252)	0.021	0.056
71	5.92	0.27	0.077	(0.251)	0.021	0.056
72	6.00	0.27	0.077	(0.250)	0.021	0.056
73	6.08	0.30	0.086	(0.248)	0.023	0.063
74	6.17	0.30	0.086	(0.247)	0.023	0.063
75	6.25	0.30	0.086	(0.246)	0.023	0.063
76	6.33	0.30	0.086	(0.245)	0.023	0.063
77	6.42	0.30	0.086	(0.244)	0.023	0.063
78	6.50	0.30	0.086	(0.243)	0.023	0.063
79	6.58	0.33	0.096	(0.242)	0.026	0.070
80	6.67	0.33	0.096	(0.241)	0.026	0.070
81	6.75	0.33	0.096	(0.240)	0.026	0.070
82	6.83	0.33	0.096	(0.239)	0.026	0.070
83	6.92	0.33	0.096	(0.238)	0.026	0.070
84	7.00	0.33	0.096	(0.236)	0.026	0.070
85	7.08	0.33	0.096	(0.235)	0.026	0.070
86	7.17	0.33	0.096	(0.234)	0.026	0.070
87	7.25	0.33	0.096	(0.233)	0.026	0.070
88	7.33	0.37	0.106	(0.232)	0.029	0.077
89	7.42	0.37	0.106	(0.231)	0.029	0.077
90	7.50	0.37	0.106	(0.230)	0.029	0.077
91	7.58	0.40	0.115	(0.229)	0.031	0.084
92	7.67	0.40	0.115	(0.228)	0.031	0.084
93	7.75	0.40	0.115	(0.227)	0.031	0.084
94	7.83	0.43	0.125	(0.226)	0.034	0.091
95	7.92	0.43	0.125	(0.225)	0.034	0.091
96	8.00	0.43	0.125	(0.224)	0.034	0.091
97	8.08	0.50	0.144	(0.223)	0.039	0.105
98	8.17	0.50	0.144	(0.222)	0.039	0.105
99	8.25	0.50	0.144	(0.221)	0.039	0.105
100	8.33	0.50	0.144	(0.220)	0.039	0.105
101	8.42	0.50	0.144	(0.219)	0.039	0.105
102	8.50	0.50	0.144	(0.218)	0.039	0.105
103	8.58	0.53	0.154	(0.217)	0.041	0.112
104	8.67	0.53	0.154	(0.216)	0.041	0.112
105	8.75	0.53	0.154	(0.215)	0.041	0.112
106	8.83	0.57	0.163	(0.214)	0.044	0.119
107	8.92	0.57	0.163	(0.213)	0.044	0.119
108	9.00	0.57	0.163	(0.212)	0.044	0.119
109	9.08	0.63	0.182	(0.211)	0.049	0.133
110	9.17	0.63	0.182	(0.210)	0.049	0.133
111	9.25	0.63	0.182	(0.209)	0.049	0.133
112	9.33	0.67	0.192	(0.208)	0.052	0.140
113	9.42	0.67	0.192	(0.207)	0.052	0.140
114	9.50	0.67	0.192	(0.206)	0.052	0.140
115	9.58	0.70	0.202	(0.205)	0.054	0.147
116	9.67	0.70	0.202	(0.204)	0.054	0.147
117	9.75	0.70	0.202	(0.203)	0.054	0.147
118	9.83	0.73	0.211	(0.202)	0.057	0.154
119	9.92	0.73	0.211	(0.201)	0.057	0.154
120	10.00	0.73	0.211	(0.200)	0.057	0.154
121	10.08	0.50	0.144	(0.199)	0.039	0.105

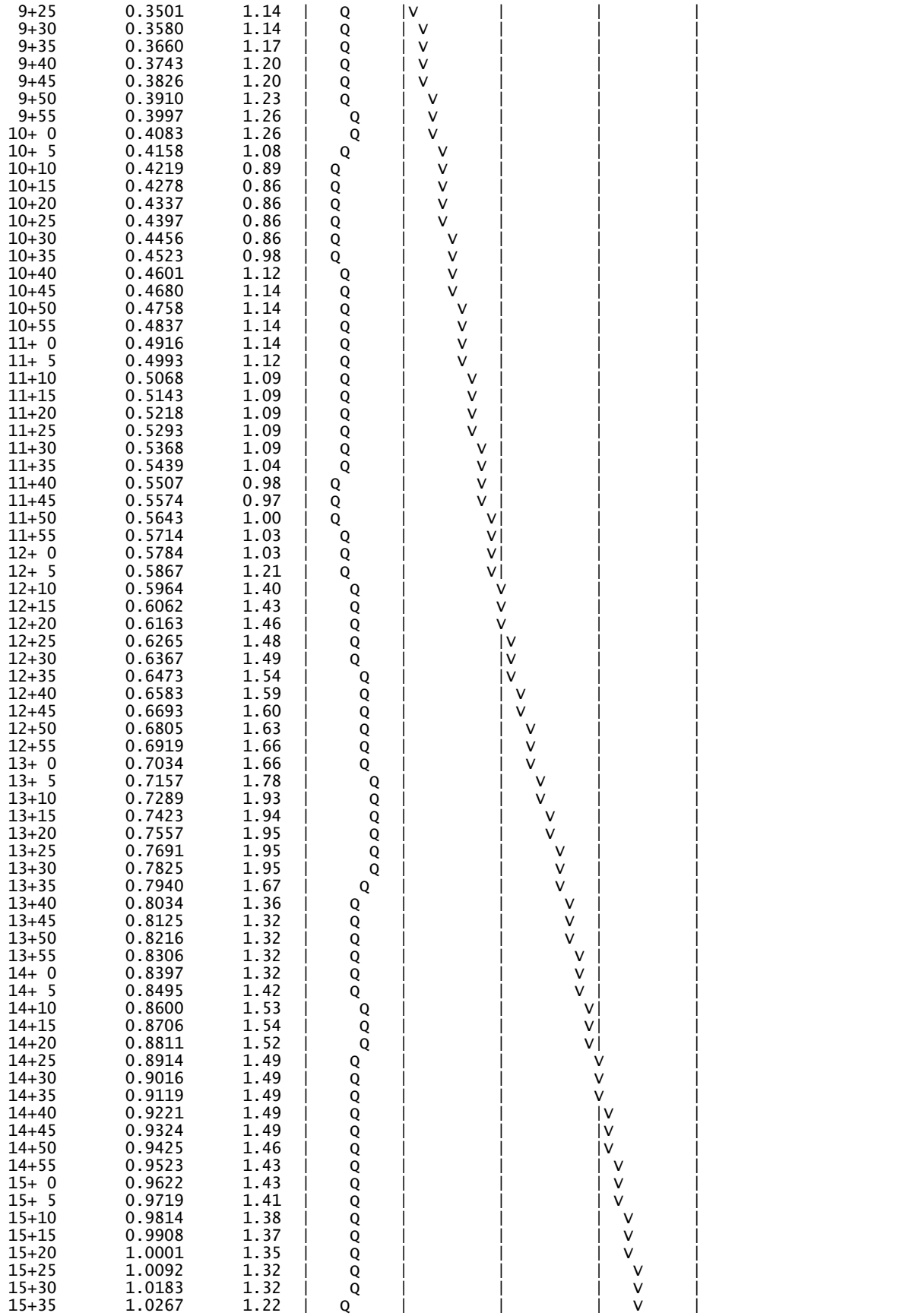
122	10.17	0.50	0.144	(0.198)	0.039	0.105
123	10.25	0.50	0.144	(0.197)	0.039	0.105
124	10.33	0.50	0.144	(0.196)	0.039	0.105
125	10.42	0.50	0.144	(0.195)	0.039	0.105
126	10.50	0.50	0.144	(0.194)	0.039	0.105
127	10.58	0.67	0.192	(0.193)	0.052	0.140
128	10.67	0.67	0.192	(0.192)	0.052	0.140
129	10.75	0.67	0.192	(0.191)	0.052	0.140
130	10.83	0.67	0.192	(0.190)	0.052	0.140
131	10.92	0.67	0.192	(0.189)	0.052	0.140
132	11.00	0.67	0.192	(0.188)	0.052	0.140
133	11.08	0.63	0.182	(0.187)	0.049	0.133
134	11.17	0.63	0.182	(0.186)	0.049	0.133
135	11.25	0.63	0.182	(0.186)	0.049	0.133
136	11.33	0.63	0.182	(0.185)	0.049	0.133
137	11.42	0.63	0.182	(0.184)	0.049	0.133
138	11.50	0.63	0.182	(0.183)	0.049	0.133
139	11.58	0.57	0.163	(0.182)	0.044	0.119
140	11.67	0.57	0.163	(0.181)	0.044	0.119
141	11.75	0.57	0.163	(0.180)	0.044	0.119
142	11.83	0.60	0.173	(0.179)	0.047	0.126
143	11.92	0.60	0.173	(0.178)	0.047	0.126
144	12.00	0.60	0.173	(0.177)	0.047	0.126
145	12.08	0.83	0.240	(0.177)	0.065	0.175
146	12.17	0.83	0.240	(0.176)	0.065	0.175
147	12.25	0.83	0.240	(0.175)	0.065	0.175
148	12.33	0.87	0.250	(0.174)	0.067	0.182
149	12.42	0.87	0.250	(0.173)	0.067	0.182
150	12.50	0.87	0.250	(0.172)	0.067	0.182
151	12.58	0.93	0.269	(0.171)	0.073	0.196
152	12.67	0.93	0.269	(0.170)	0.073	0.196
153	12.75	0.93	0.269	(0.170)	0.073	0.196
154	12.83	0.97	0.278	(0.169)	0.075	0.203
155	12.92	0.97	0.278	(0.168)	0.075	0.203
156	13.00	0.97	0.278	(0.167)	0.075	0.203
157	13.08	1.13	0.326	(0.166)	0.088	0.238
158	13.17	1.13	0.326	(0.165)	0.088	0.238
159	13.25	1.13	0.326	(0.164)	0.088	0.238
160	13.33	1.13	0.326	(0.164)	0.088	0.238
161	13.42	1.13	0.326	(0.163)	0.088	0.238
162	13.50	1.13	0.326	(0.162)	0.088	0.238
163	13.58	0.77	0.221	(0.161)	0.060	0.161
164	13.67	0.77	0.221	(0.160)	0.060	0.161
165	13.75	0.77	0.221	(0.160)	0.060	0.161
166	13.83	0.77	0.221	(0.159)	0.060	0.161
167	13.92	0.77	0.221	(0.158)	0.060	0.161
168	14.00	0.77	0.221	(0.157)	0.060	0.161
169	14.08	0.90	0.259	(0.156)	0.070	0.189
170	14.17	0.90	0.259	(0.155)	0.070	0.189
171	14.25	0.90	0.259	(0.155)	0.070	0.189
172	14.33	0.87	0.250	(0.154)	0.067	0.182
173	14.42	0.87	0.250	(0.153)	0.067	0.182
174	14.50	0.87	0.250	(0.152)	0.067	0.182
175	14.58	0.87	0.250	(0.152)	0.067	0.182
176	14.67	0.87	0.250	(0.151)	0.067	0.182
177	14.75	0.87	0.250	(0.150)	0.067	0.182
178	14.83	0.83	0.240	(0.149)	0.065	0.175
179	14.92	0.83	0.240	(0.148)	0.065	0.175
180	15.00	0.83	0.240	(0.148)	0.065	0.175
181	15.08	0.80	0.230	(0.147)	0.062	0.168
182	15.17	0.80	0.230	(0.146)	0.062	0.168
183	15.25	0.80	0.230	(0.145)	0.062	0.168
184	15.33	0.77	0.221	(0.145)	0.060	0.161
185	15.42	0.77	0.221	(0.144)	0.060	0.161
186	15.50	0.77	0.221	(0.143)	0.060	0.161
187	15.58	0.63	0.182	(0.142)	0.049	0.133
188	15.67	0.63	0.182	(0.142)	0.049	0.133
189	15.75	0.63	0.182	(0.141)	0.049	0.133
190	15.83	0.63	0.182	(0.140)	0.049	0.133
191	15.92	0.63	0.182	(0.140)	0.049	0.133
192	16.00	0.63	0.182	(0.139)	0.049	0.133
193	16.08	0.13	0.038	(0.138)	0.010	0.028
194	16.17	0.13	0.038	(0.137)	0.010	0.028
195	16.25	0.13	0.038	(0.137)	0.010	0.028
196	16.33	0.13	0.038	(0.136)	0.010	0.028

197	16.42	0.13	0.038	(0.135)	0.010	0.028
198	16.50	0.13	0.038	(0.135)	0.010	0.028
199	16.58	0.10	0.029	(0.134)	0.008	0.021
200	16.67	0.10	0.029	(0.133)	0.008	0.021
201	16.75	0.10	0.029	(0.133)	0.008	0.021
202	16.83	0.10	0.029	(0.132)	0.008	0.021
203	16.92	0.10	0.029	(0.131)	0.008	0.021
204	17.00	0.10	0.029	(0.131)	0.008	0.021
205	17.08	0.17	0.048	(0.130)	0.013	0.035
206	17.17	0.17	0.048	(0.129)	0.013	0.035
207	17.25	0.17	0.048	(0.129)	0.013	0.035
208	17.33	0.17	0.048	(0.128)	0.013	0.035
209	17.42	0.17	0.048	(0.127)	0.013	0.035
210	17.50	0.17	0.048	(0.127)	0.013	0.035
211	17.58	0.17	0.048	(0.126)	0.013	0.035
212	17.67	0.17	0.048	(0.125)	0.013	0.035
213	17.75	0.17	0.048	(0.125)	0.013	0.035
214	17.83	0.13	0.038	(0.124)	0.010	0.028
215	17.92	0.13	0.038	(0.124)	0.010	0.028
216	18.00	0.13	0.038	(0.123)	0.010	0.028
217	18.08	0.13	0.038	(0.122)	0.010	0.028
218	18.17	0.13	0.038	(0.122)	0.010	0.028
219	18.25	0.13	0.038	(0.121)	0.010	0.028
220	18.33	0.13	0.038	(0.121)	0.010	0.028
221	18.42	0.13	0.038	(0.120)	0.010	0.028
222	18.50	0.13	0.038	(0.119)	0.010	0.028
223	18.58	0.10	0.029	(0.119)	0.008	0.021
224	18.67	0.10	0.029	(0.118)	0.008	0.021
225	18.75	0.10	0.029	(0.118)	0.008	0.021
226	18.83	0.07	0.019	(0.117)	0.005	0.014
227	18.92	0.07	0.019	(0.117)	0.005	0.014
228	19.00	0.07	0.019	(0.116)	0.005	0.014
229	19.08	0.10	0.029	(0.115)	0.008	0.021
230	19.17	0.10	0.029	(0.115)	0.008	0.021
231	19.25	0.10	0.029	(0.114)	0.008	0.021
232	19.33	0.13	0.038	(0.114)	0.010	0.028
233	19.42	0.13	0.038	(0.113)	0.010	0.028
234	19.50	0.13	0.038	(0.113)	0.010	0.028
235	19.58	0.10	0.029	(0.112)	0.008	0.021
236	19.67	0.10	0.029	(0.112)	0.008	0.021
237	19.75	0.10	0.029	(0.111)	0.008	0.021
238	19.83	0.07	0.019	(0.111)	0.005	0.014
239	19.92	0.07	0.019	(0.110)	0.005	0.014
240	20.00	0.07	0.019	(0.110)	0.005	0.014
241	20.08	0.10	0.029	(0.109)	0.008	0.021
242	20.17	0.10	0.029	(0.109)	0.008	0.021
243	20.25	0.10	0.029	(0.108)	0.008	0.021
244	20.33	0.10	0.029	(0.108)	0.008	0.021
245	20.42	0.10	0.029	(0.107)	0.008	0.021
246	20.50	0.10	0.029	(0.107)	0.008	0.021
247	20.58	0.10	0.029	(0.107)	0.008	0.021
248	20.67	0.10	0.029	(0.106)	0.008	0.021
249	20.75	0.10	0.029	(0.106)	0.008	0.021
250	20.83	0.07	0.019	(0.105)	0.005	0.014
251	20.92	0.07	0.019	(0.105)	0.005	0.014
252	21.00	0.07	0.019	(0.104)	0.005	0.014
253	21.08	0.10	0.029	(0.104)	0.008	0.021
254	21.17	0.10	0.029	(0.104)	0.008	0.021
255	21.25	0.10	0.029	(0.103)	0.008	0.021
256	21.33	0.07	0.019	(0.103)	0.005	0.014
257	21.42	0.07	0.019	(0.102)	0.005	0.014
258	21.50	0.07	0.019	(0.102)	0.005	0.014
259	21.58	0.10	0.029	(0.102)	0.008	0.021
260	21.67	0.10	0.029	(0.101)	0.008	0.021
261	21.75	0.10	0.029	(0.101)	0.008	0.021
262	21.83	0.07	0.019	(0.101)	0.005	0.014
263	21.92	0.07	0.019	(0.100)	0.005	0.014
264	22.00	0.07	0.019	(0.100)	0.005	0.014
265	22.08	0.10	0.029	(0.100)	0.008	0.021
266	22.17	0.10	0.029	(0.099)	0.008	0.021
267	22.25	0.10	0.029	(0.099)	0.008	0.021
268	22.33	0.07	0.019	(0.099)	0.005	0.014
269	22.42	0.07	0.019	(0.098)	0.005	0.014
270	22.50	0.07	0.019	(0.098)	0.005	0.014
271	22.58	0.07	0.019	(0.098)	0.005	0.014

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272  22.67     0.07      0.019       (  0.097)       0.005        0.014
273  22.75     0.07      0.019       (  0.097)       0.005        0.014
274  22.83     0.07      0.019       (  0.097)       0.005        0.014
275  22.92     0.07      0.019       (  0.097)       0.005        0.014
276  23.00     0.07      0.019       (  0.096)       0.005        0.014
277  23.08     0.07      0.019       (  0.096)       0.005        0.014
278  23.17     0.07      0.019       (  0.096)       0.005        0.014
279  23.25     0.07      0.019       (  0.096)       0.005        0.014
280  23.33     0.07      0.019       (  0.096)       0.005        0.014
281  23.42     0.07      0.019       (  0.095)       0.005        0.014
282  23.50     0.07      0.019       (  0.095)       0.005        0.014
283  23.58     0.07      0.019       (  0.095)       0.005        0.014
284  23.67     0.07      0.019       (  0.095)       0.005        0.014
285  23.75     0.07      0.019       (  0.095)       0.005        0.014
286  23.83     0.07      0.019       (  0.095)       0.005        0.014
287  23.92     0.07      0.019       (  0.095)       0.005        0.014
288  24.00     0.07      0.019       (  0.095)       0.005        0.014
               (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    21.0
      Flood volume = Effective rainfall      1.75(In)
       times area       8.1(Ac.)/[(In)/(Ft.)] =       1.2(Ac.Ft)
      Total soil loss =      0.65(In)
      Total soil loss =     0.437(Ac.Ft)
      Total rainfall =      2.40(In)
      Flood volume =       51513.2 Cubic Feet
      Total soil loss =       19052.8 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      1.946(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0003      0.05  Q         |         |         |         |
   0+10       0.0011      0.11  Q         |         |         |         |
   0+15       0.0019      0.11  Q         |         |         |         |
   0+20       0.0028      0.14  Q         |         |         |         |
   0+25       0.0040      0.17  Q         |         |         |         |
   0+30       0.0052      0.17  Q         |         |         |         |
   0+35       0.0063      0.17  Q         |         |         |         |
   0+40       0.0075      0.17  Q         |         |         |         |
   0+45       0.0087      0.17  Q         |         |         |         |
   0+50       0.0101      0.20  Q         |         |         |         |
   0+55       0.0116      0.22  Q         |         |         |         |
   1+ 0       0.0132      0.23  Q         |         |         |         |
   1+ 5       0.0146      0.20  Q         |         |         |         |
   1+10       0.0158      0.18  Q         |         |         |         |
   1+15       0.0170      0.17  Q         |         |         |         |
   1+20       0.0182      0.17  Q         |         |         |         |
   1+25       0.0193      0.17  Q         |         |         |         |
   1+30       0.0205      0.17  Q         |         |         |         |
   1+35       0.0217      0.17  Q         |         |         |         |
   1+40       0.0229      0.17  Q         |         |         |         |
   1+45       0.0241      0.17  Q         |         |         |         |
   1+50       0.0254      0.20  Q         |         |         |         |
   1+55       0.0270      0.22  Q         |         |         |         |
   2+ 0       0.0285      0.23  Q         |         |         |         |
   2+ 5       0.0301      0.23  QV        |         |         |         |
   2+10       0.0317      0.23  QV        |         |         |         |
   2+15       0.0333      0.23  QV        |         |         |         |
   2+20       0.0349      0.23  QV        |         |         |         |
   2+25       0.0364      0.23  QV        |         |         |         |
   2+30       0.0380      0.23  QV        |         |         |         |
   2+35       0.0398      0.25  |Q        |         |         |         |
   2+40       0.0417      0.28  |Q        |         |         |         |
   2+45       0.0437      0.29  |Q        |         |         |         |
   2+50       0.0456      0.29  |Q        |         |         |         |
   2+55       0.0476      0.29  |Q        |         |         |         |
   3+ 0       0.0496      0.29  |Q        |         |         |         |
   3+ 5       0.0516      0.29  |Q        |         |         |         |
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3+10       0.0535      0.29  |Q         |          |          |          |
3+15       0.0555      0.29  |Q         |          |          |          |
3+20       0.0575      0.29  |Q         |          |          |          |
3+25       0.0594      0.29  |QV        |          |          |          |
3+30       0.0614      0.29  |QV        |          |          |          |
3+35       0.0634      0.29  |QV        |          |          |          |
3+40       0.0654      0.29  |QV        |          |          |          |
3+45       0.0673      0.29  |QV        |          |          |          |
3+50       0.0695      0.31  |QV        |          |          |          |
3+55       0.0718      0.34  |QV        |          |          |          |
4+ 0       0.0742      0.34  |QV        |          |          |          |
4+ 5       0.0765      0.34  |QV        |          |          |          |
4+10       0.0789      0.34  |QV        |          |          |          |
4+15       0.0813      0.34  |QV        |          |          |          |
4+20       0.0838      0.37  |QV        |          |          |          |
4+25       0.0865      0.40  |QV        |          |          |          |
4+30       0.0893      0.40  |Q V       |          |          |          |
4+35       0.0920      0.40  |Q V       |          |          |          |
4+40       0.0948      0.40  |Q V       |          |          |          |
4+45       0.0976      0.40  |Q V       |          |          |          |
4+50       0.1005      0.43  |Q V       |          |          |          |
4+55       0.1036      0.45  |Q V       |          |          |          |
5+ 0       0.1068      0.46  |Q V       |          |          |          |
5+ 5       0.1096      0.41  |Q V       |          |          |          |
5+10       0.1120      0.35  |Q V       |          |          |          |
5+15       0.1144      0.34  |Q V       |          |          |          |
5+20       0.1169      0.37  |Q V       |          |          |          |
5+25       0.1196      0.40  |Q  V      |          |          |          |
5+30       0.1224      0.40  |Q  V      |          |          |          |
5+35       0.1253      0.43  |Q  V      |          |          |          |
5+40       0.1285      0.45  |Q  V      |          |          |          |
5+45       0.1316      0.46  |Q  V      |          |          |          |
5+50       0.1348      0.46  |Q  V      |          |          |          |
5+55       0.1379      0.46  |Q  V      |          |          |          |
6+ 0       0.1411      0.46  |Q  V      |          |          |          |
6+ 5       0.1444      0.48  |Q  V      |          |          |          |
6+10       0.1479      0.51  | Q  V     |          |          |          |
6+15       0.1515      0.51  | Q  V     |          |          |          |
6+20       0.1550      0.52  | Q  V     |          |          |          |
6+25       0.1585      0.52  | Q  V     |          |          |          |
6+30       0.1621      0.52  | Q  V     |          |          |          |
6+35       0.1658      0.54  | Q  V     |          |          |          |
6+40       0.1697      0.57  | Q  V     |          |          |          |
6+45       0.1737      0.57  | Q  V     |          |          |          |
6+50       0.1776      0.57  | Q   V    |          |          |          |
6+55       0.1816      0.57  | Q   V    |          |          |          |
7+ 0       0.1855      0.57  | Q   V    |          |          |          |
7+ 5       0.1894      0.57  | Q   V    |          |          |          |
7+10       0.1934      0.57  | Q   V    |          |          |          |
7+15       0.1973      0.57  | Q   V    |          |          |          |
7+20       0.2014      0.60  | Q   V    |          |          |          |
7+25       0.2057      0.63  | Q   V    |          |          |          |
7+30       0.2101      0.63  | Q    V   |          |          |          |
7+35       0.2146      0.65  | Q    V   |          |          |          |
7+40       0.2193      0.68  | Q    V   |          |          |          |
7+45       0.2240      0.69  | Q    V   |          |          |          |
7+50       0.2289      0.71  | Q    V   |          |          |          |
7+55       0.2340      0.74  | Q    V   |          |          |          |
8+ 0       0.2391      0.74  | Q     V  |          |          |          |
8+ 5       0.2446      0.79  |  Q    V  |          |          |          |
8+10       0.2505      0.85  |  Q    V  |          |          |          |
8+15       0.2564      0.86  |  Q    V  |          |          |          |
8+20       0.2623      0.86  |  Q    V  |          |          |          |
8+25       0.2682      0.86  |  Q     V|          |          |          |
8+30       0.2741      0.86  |  Q     V|          |          |          |
8+35       0.2802      0.88  |  Q     V|          |          |          |
8+40       0.2865      0.91  |  Q     V|          |          |          |
8+45       0.2928      0.92  |  Q     V|          |          |          |
8+50       0.2992      0.94  |  Q      V          |          |          |
8+55       0.3059      0.97  |  Q      V          |          |          |
9+ 0       0.3126      0.97  |  Q      V          |          |          |
9+ 5       0.3197      1.02  |   Q     V          |          |          |
9+10       0.3271      1.08  |   Q     |V         |          |          |
9+15       0.3346      1.09  |   Q     |V         |          |          |
9+20       0.3422      1.11  |   Q     |V         |          |          |
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15+40	1.0343	1.10	| Q	|	|	| V	|
15+45	1.0418	1.09	| Q	|	|	| V	|
15+50	1.0493	1.09	| Q	|	|	| V	|
15+55	1.0567	1.09	| Q	|	|	| V	|
16+ 0	1.0642	1.09	| Q	|	|	| V	|
16+ 5	1.0691	0.71	| Q	|	|	| V	|
16+10	1.0711	0.29	|Q	|	|	| V	|
16+15	1.0728	0.24	Q	|	|	| V	|
16+20	1.0743	0.23	Q	|	|	| V	|
16+25	1.0759	0.23	Q	|	|	| V	|
16+30	1.0775	0.23	Q	|	|	| V	|
16+35	1.0789	0.20	Q	|	|	| V	|
16+40	1.0801	0.18	Q	|	|	| V	|
16+45	1.0813	0.17	Q	|	|	| V	|
16+50	1.0825	0.17	Q	|	|	| V	|
16+55	1.0837	0.17	Q	|	|	| V	|
17+ 0	1.0848	0.17	Q	|	|	| V	|
17+ 5	1.0864	0.22	Q	|	|	| V	|
17+10	1.0883	0.28	|Q	|	|	| V	|
17+15	1.0903	0.29	|Q	|	|	| V	|
17+20	1.0922	0.29	|Q	|	|	| V	|
17+25	1.0942	0.29	|Q	|	|	| V	|
17+30	1.0962	0.29	|Q	|	|	| V	|
17+35	1.0981	0.29	|Q	|	|	| V	|
17+40	1.1001	0.29	|Q	|	|	| V	|
17+45	1.1021	0.29	|Q	|	|	| V	|
17+50	1.1039	0.26	|Q	|	|	| V	|
17+55	1.1055	0.23	Q	|	|	| V	|
18+ 0	1.1071	0.23	Q	|	|	| V	|
18+ 5	1.1086	0.23	Q	|	|	| V	|
18+10	1.1102	0.23	Q	|	|	| V	|
18+15	1.1118	0.23	Q	|	|	| V	|
18+20	1.1134	0.23	Q	|	|	| V	|
18+25	1.1149	0.23	Q	|	|	| V	|
18+30	1.1165	0.23	Q	|	|	| V	|
18+35	1.1179	0.20	Q	|	|	| V	|
18+40	1.1191	0.18	Q	|	|	| V	|
18+45	1.1203	0.17	Q	|	|	| V	|
18+50	1.1213	0.15	Q	|	|	| V	|
18+55	1.1222	0.12	Q	|	|	| V	|
19+ 0	1.1229	0.12	Q	|	|	| V	|
19+ 5	1.1239	0.14	Q	|	|	| V	|
19+10	1.1251	0.17	Q	|	|	| V	|
19+15	1.1262	0.17	Q	|	|	| V	|
19+20	1.1276	0.20	Q	|	|	| V	|
19+25	1.1291	0.22	Q	|	|	| V	|
19+30	1.1307	0.23	Q	|	|	| V	|
19+35	1.1321	0.20	Q	|	|	| V	|
19+40	1.1333	0.18	Q	|	|	| V	|
19+45	1.1345	0.17	Q	|	|	| V	|
19+50	1.1355	0.15	Q	|	|	| V	|
19+55	1.1363	0.12	Q	|	|	| V	|
20+ 0	1.1371	0.12	Q	|	|	| V	|
20+ 5	1.1381	0.14	Q	|	|	| V	|
20+10	1.1393	0.17	Q	|	|	| V	|
20+15	1.1404	0.17	Q	|	|	| V	|
20+20	1.1416	0.17	Q	|	|	| V	|
20+25	1.1428	0.17	Q	|	|	| V	|
20+30	1.1440	0.17	Q	|	|	| V	|
20+35	1.1452	0.17	Q	|	|	| V	|
20+40	1.1463	0.17	Q	|	|	| V	|
20+45	1.1475	0.17	Q	|	|	| V	|
20+50	1.1485	0.15	Q	|	|	| V	|
20+55	1.1494	0.12	Q	|	|	| V	|
21+ 0	1.1501	0.12	Q	|	|	| V	|
21+ 5	1.1511	0.14	Q	|	|	| V	|
21+10	1.1523	0.17	Q	|	|	| V	|
21+15	1.1534	0.17	Q	|	|	| V	|
21+20	1.1544	0.15	Q	|	|	| V	|
21+25	1.1553	0.12	Q	|	|	| V	|
21+30	1.1561	0.12	Q	|	|	| V	|
21+35	1.1570	0.14	Q	|	|	| V	|
21+40	1.1582	0.17	Q	|	|	| V	|
21+45	1.1594	0.17	Q	|	|	| V	|
21+50	1.1604	0.15	Q	|	|	| V	|

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   21+55       1.1612      0.12  Q          |          |          |         v|
   22+ 0       1.1620      0.12  Q          |          |          |         v|
   22+ 5       1.1629      0.14  Q          |          |          |         v|
   22+10       1.1641      0.17  Q          |          |          |         v|
   22+15       1.1653      0.17  Q          |          |          |         v|
   22+20       1.1663      0.15  Q          |          |          |         v|
   22+25       1.1671      0.12  Q          |          |          |         v|
   22+30       1.1679      0.12  Q          |          |          |         v|
   22+35       1.1687      0.11  Q          |          |          |         v|
   22+40       1.1695      0.11  Q          |          |          |         v|
   22+45       1.1702      0.11  Q          |          |          |         v|
   22+50       1.1710      0.11  Q          |          |          |         v|
   22+55       1.1718      0.11  Q          |          |          |         v|
   23+ 0       1.1726      0.11  Q          |          |          |         v|
   23+ 5       1.1734      0.11  Q          |          |          |         v|
   23+10       1.1742      0.11  Q          |          |          |         v|
   23+15       1.1750      0.11  Q          |          |          |         v|
   23+20       1.1758      0.11  Q          |          |          |         v|
   23+25       1.1766      0.11  Q          |          |          |         v|
   23+30       1.1773      0.11  Q          |          |          |         v|
   23+35       1.1781      0.11  Q          |          |          |         v|
   23+40       1.1789      0.11  Q          |          |          |         v|
   23+45       1.1797      0.11  Q          |          |          |         v|
   23+50       1.1805      0.11  Q          |          |          |         v|
   23+55       1.1813      0.11  Q          |          |          |         v|
   24+ 0       1.1821      0.11  Q          |          |          |         v|
   24+ 5       1.1825      0.06  Q          |          |          |         v|
   24+10       1.1826      0.01  Q          |          |          |         v|
   24+15       1.1826      0.00  Q          |          |          |          v
---------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 11/23/21 File: PROP2YR6A242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 4010

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

BCCOV BLDG A AREA 6 DEVELOPED CONDITION
2 YR 24 HR STORM EVENT
21-0034
2021-11-23

Drainage Area = 9.00(Ac.) = 0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.00(Ac.) = 0.014 Sq. Mi.
Length along longest watercourse = 1634.00(Ft.)
Length along longest watercourse measured to centroid = 512.00(Ft.)
Length along longest watercourse = 0.309 Mi.
Length along longest watercourse measured to centroid = 0.097 Mi.
Difference in elevation = 4.00(Ft.)
Slope along watercourse = 12.9253 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.058 Hr.
Lag time = 3.50 Min.
25% of lag time = 0.88 Min.
40% of lag time = 1.40 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.00	2.40	21.60

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.00	6.20	55.80

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.200(In)

Point rain (area averaged) = 2.400(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.400(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.000	57.10	0.750

Total Area Entered = 9.00(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

57.1	37.1	0.696	0.750	0.226	1.000	0.226
					Sum (F) =	0.226

Area averaged mean soil loss (F) (In/Hr) = 0.226
Minimum soil loss rate ((In/Hr)) = 0.113
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.300

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	142.670	28.477	2.583
2	0.167	285.341	54.861	4.976
3	0.250	428.011	12.749	1.156
4	0.333	570.681	2.836	0.257
5	0.417	713.352	1.077	0.098
			Sum = 100.000	Sum= 9.070

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time		Pattern	Storm Rain	Loss rate(In./Hr)		Effective
	(Hr.)	Percent	(In/Hr)	Max	Low	(In/Hr)
1	0.08	0.07	0.019	(0.401)	0.006	0.013
2	0.17	0.07	0.019	(0.399)	0.006	0.013
3	0.25	0.07	0.019	(0.398)	0.006	0.013
4	0.33	0.10	0.029	(0.396)	0.009	0.020
5	0.42	0.10	0.029	(0.395)	0.009	0.020
6	0.50	0.10	0.029	(0.393)	0.009	0.020
7	0.58	0.10	0.029	(0.392)	0.009	0.020
8	0.67	0.10	0.029	(0.390)	0.009	0.020
9	0.75	0.10	0.029	(0.389)	0.009	0.020
10	0.83	0.13	0.038	(0.387)	0.012	0.027
11	0.92	0.13	0.038	(0.386)	0.012	0.027
12	1.00	0.13	0.038	(0.384)	0.012	0.027
13	1.08	0.10	0.029	(0.383)	0.009	0.020
14	1.17	0.10	0.029	(0.381)	0.009	0.020
15	1.25	0.10	0.029	(0.380)	0.009	0.020
16	1.33	0.10	0.029	(0.378)	0.009	0.020
17	1.42	0.10	0.029	(0.377)	0.009	0.020
18	1.50	0.10	0.029	(0.375)	0.009	0.020
19	1.58	0.10	0.029	(0.374)	0.009	0.020
20	1.67	0.10	0.029	(0.372)	0.009	0.020
21	1.75	0.10	0.029	(0.371)	0.009	0.020
22	1.83	0.13	0.038	(0.369)	0.012	0.027
23	1.92	0.13	0.038	(0.368)	0.012	0.027
24	2.00	0.13	0.038	(0.366)	0.012	0.027
25	2.08	0.13	0.038	(0.365)	0.012	0.027
26	2.17	0.13	0.038	(0.363)	0.012	0.027
27	2.25	0.13	0.038	(0.362)	0.012	0.027
28	2.33	0.13	0.038	(0.360)	0.012	0.027
29	2.42	0.13	0.038	(0.359)	0.012	0.027
30	2.50	0.13	0.038	(0.357)	0.012	0.027
31	2.58	0.17	0.048	(0.356)	0.014	0.034
32	2.67	0.17	0.048	(0.354)	0.014	0.034
33	2.75	0.17	0.048	(0.353)	0.014	0.034
34	2.83	0.17	0.048	(0.351)	0.014	0.034
35	2.92	0.17	0.048	(0.350)	0.014	0.034
36	3.00	0.17	0.048	(0.349)	0.014	0.034
37	3.08	0.17	0.048	(0.347)	0.014	0.034
38	3.17	0.17	0.048	(0.346)	0.014	0.034
39	3.25	0.17	0.048	(0.344)	0.014	0.034
40	3.33	0.17	0.048	(0.343)	0.014	0.034
41	3.42	0.17	0.048	(0.341)	0.014	0.034
42	3.50	0.17	0.048	(0.340)	0.014	0.034
43	3.58	0.17	0.048	(0.339)	0.014	0.034
44	3.67	0.17	0.048	(0.337)	0.014	0.034
45	3.75	0.17	0.048	(0.336)	0.014	0.034

46	3.83	0.20	0.058	(0.334)	0.017	0.040
47	3.92	0.20	0.058	(0.333)	0.017	0.040
48	4.00	0.20	0.058	(0.331)	0.017	0.040
49	4.08	0.20	0.058	(0.330)	0.017	0.040
50	4.17	0.20	0.058	(0.329)	0.017	0.040
51	4.25	0.20	0.058	(0.327)	0.017	0.040
52	4.33	0.23	0.067	(0.326)	0.020	0.047
53	4.42	0.23	0.067	(0.324)	0.020	0.047
54	4.50	0.23	0.067	(0.323)	0.020	0.047
55	4.58	0.23	0.067	(0.322)	0.020	0.047
56	4.67	0.23	0.067	(0.320)	0.020	0.047
57	4.75	0.23	0.067	(0.319)	0.020	0.047
58	4.83	0.27	0.077	(0.318)	0.023	0.054
59	4.92	0.27	0.077	(0.316)	0.023	0.054
60	5.00	0.27	0.077	(0.315)	0.023	0.054
61	5.08	0.20	0.058	(0.313)	0.017	0.040
62	5.17	0.20	0.058	(0.312)	0.017	0.040
63	5.25	0.20	0.058	(0.311)	0.017	0.040
64	5.33	0.23	0.067	(0.309)	0.020	0.047
65	5.42	0.23	0.067	(0.308)	0.020	0.047
66	5.50	0.23	0.067	(0.307)	0.020	0.047
67	5.58	0.27	0.077	(0.305)	0.023	0.054
68	5.67	0.27	0.077	(0.304)	0.023	0.054
69	5.75	0.27	0.077	(0.303)	0.023	0.054
70	5.83	0.27	0.077	(0.301)	0.023	0.054
71	5.92	0.27	0.077	(0.300)	0.023	0.054
72	6.00	0.27	0.077	(0.299)	0.023	0.054
73	6.08	0.30	0.086	(0.297)	0.026	0.060
74	6.17	0.30	0.086	(0.296)	0.026	0.060
75	6.25	0.30	0.086	(0.295)	0.026	0.060
76	6.33	0.30	0.086	(0.293)	0.026	0.060
77	6.42	0.30	0.086	(0.292)	0.026	0.060
78	6.50	0.30	0.086	(0.291)	0.026	0.060
79	6.58	0.33	0.096	(0.289)	0.029	0.067
80	6.67	0.33	0.096	(0.288)	0.029	0.067
81	6.75	0.33	0.096	(0.287)	0.029	0.067
82	6.83	0.33	0.096	(0.286)	0.029	0.067
83	6.92	0.33	0.096	(0.284)	0.029	0.067
84	7.00	0.33	0.096	(0.283)	0.029	0.067
85	7.08	0.33	0.096	(0.282)	0.029	0.067
86	7.17	0.33	0.096	(0.280)	0.029	0.067
87	7.25	0.33	0.096	(0.279)	0.029	0.067
88	7.33	0.37	0.106	(0.278)	0.032	0.074
89	7.42	0.37	0.106	(0.277)	0.032	0.074
90	7.50	0.37	0.106	(0.275)	0.032	0.074
91	7.58	0.40	0.115	(0.274)	0.035	0.081
92	7.67	0.40	0.115	(0.273)	0.035	0.081
93	7.75	0.40	0.115	(0.271)	0.035	0.081
94	7.83	0.43	0.125	(0.270)	0.037	0.087
95	7.92	0.43	0.125	(0.269)	0.037	0.087
96	8.00	0.43	0.125	(0.268)	0.037	0.087
97	8.08	0.50	0.144	(0.266)	0.043	0.101
98	8.17	0.50	0.144	(0.265)	0.043	0.101
99	8.25	0.50	0.144	(0.264)	0.043	0.101
100	8.33	0.50	0.144	(0.263)	0.043	0.101
101	8.42	0.50	0.144	(0.262)	0.043	0.101
102	8.50	0.50	0.144	(0.260)	0.043	0.101
103	8.58	0.53	0.154	(0.259)	0.046	0.108
104	8.67	0.53	0.154	(0.258)	0.046	0.108
105	8.75	0.53	0.154	(0.257)	0.046	0.108
106	8.83	0.57	0.163	(0.255)	0.049	0.114
107	8.92	0.57	0.163	(0.254)	0.049	0.114
108	9.00	0.57	0.163	(0.253)	0.049	0.114
109	9.08	0.63	0.182	(0.252)	0.055	0.128
110	9.17	0.63	0.182	(0.251)	0.055	0.128
111	9.25	0.63	0.182	(0.249)	0.055	0.128
112	9.33	0.67	0.192	(0.248)	0.058	0.134
113	9.42	0.67	0.192	(0.247)	0.058	0.134
114	9.50	0.67	0.192	(0.246)	0.058	0.134
115	9.58	0.70	0.202	(0.245)	0.060	0.141
116	9.67	0.70	0.202	(0.244)	0.060	0.141
117	9.75	0.70	0.202	(0.242)	0.060	0.141
118	9.83	0.73	0.211	(0.241)	0.063	0.148
119	9.92	0.73	0.211	(0.240)	0.063	0.148
120	10.00	0.73	0.211	(0.239)	0.063	0.148

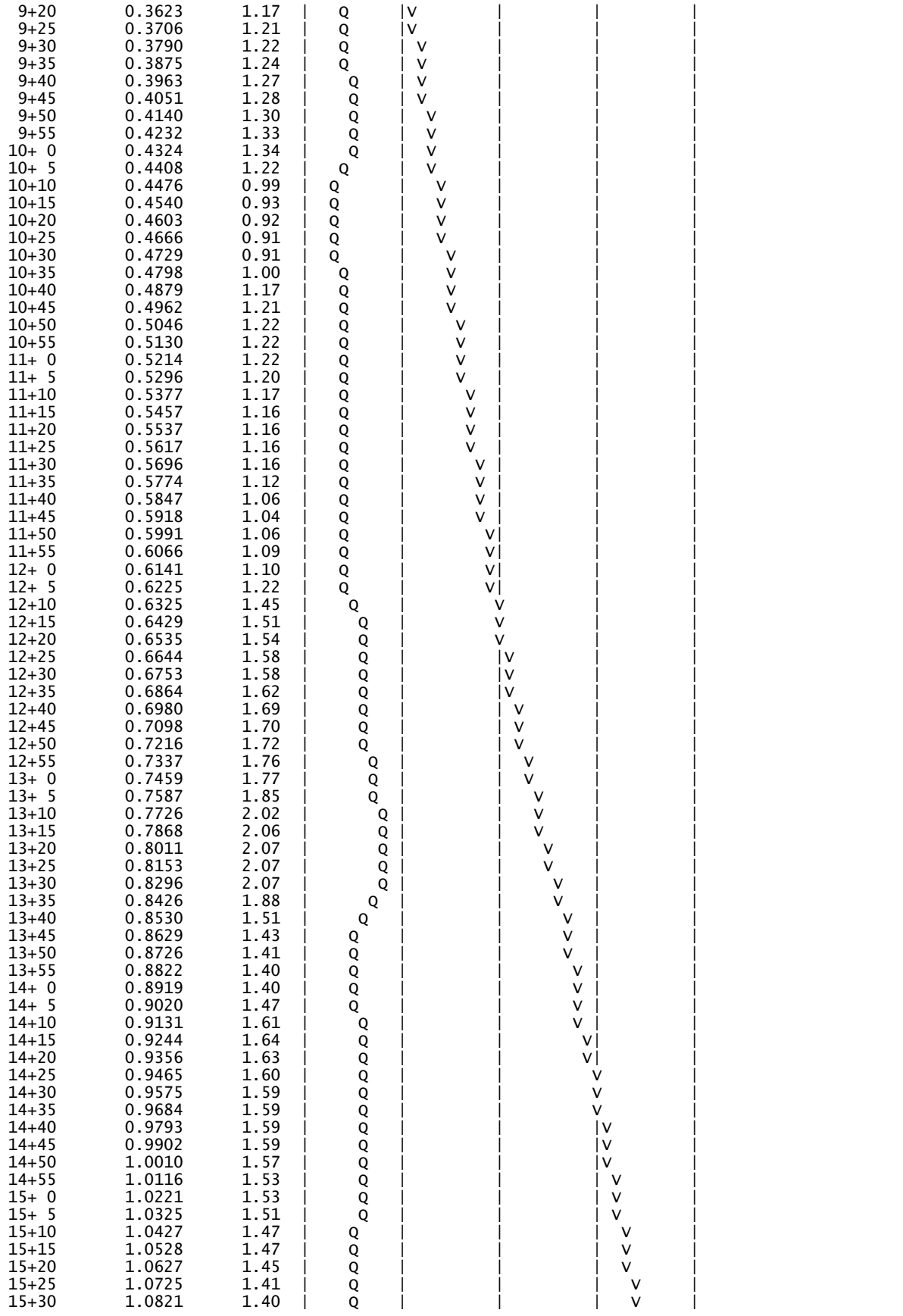
121	10.08	0.50	0.144	(0.238)	0.043	0.101
122	10.17	0.50	0.144	(0.237)	0.043	0.101
123	10.25	0.50	0.144	(0.235)	0.043	0.101
124	10.33	0.50	0.144	(0.234)	0.043	0.101
125	10.42	0.50	0.144	(0.233)	0.043	0.101
126	10.50	0.50	0.144	(0.232)	0.043	0.101
127	10.58	0.67	0.192	(0.231)	0.058	0.134
128	10.67	0.67	0.192	(0.230)	0.058	0.134
129	10.75	0.67	0.192	(0.229)	0.058	0.134
130	10.83	0.67	0.192	(0.228)	0.058	0.134
131	10.92	0.67	0.192	(0.226)	0.058	0.134
132	11.00	0.67	0.192	(0.225)	0.058	0.134
133	11.08	0.63	0.182	(0.224)	0.055	0.128
134	11.17	0.63	0.182	(0.223)	0.055	0.128
135	11.25	0.63	0.182	(0.222)	0.055	0.128
136	11.33	0.63	0.182	(0.221)	0.055	0.128
137	11.42	0.63	0.182	(0.220)	0.055	0.128
138	11.50	0.63	0.182	(0.219)	0.055	0.128
139	11.58	0.57	0.163	(0.218)	0.049	0.114
140	11.67	0.57	0.163	(0.217)	0.049	0.114
141	11.75	0.57	0.163	(0.215)	0.049	0.114
142	11.83	0.60	0.173	(0.214)	0.052	0.121
143	11.92	0.60	0.173	(0.213)	0.052	0.121
144	12.00	0.60	0.173	(0.212)	0.052	0.121
145	12.08	0.83	0.240	(0.211)	0.072	0.168
146	12.17	0.83	0.240	(0.210)	0.072	0.168
147	12.25	0.83	0.240	(0.209)	0.072	0.168
148	12.33	0.87	0.250	(0.208)	0.075	0.175
149	12.42	0.87	0.250	(0.207)	0.075	0.175
150	12.50	0.87	0.250	(0.206)	0.075	0.175
151	12.58	0.93	0.269	(0.205)	0.081	0.188
152	12.67	0.93	0.269	(0.204)	0.081	0.188
153	12.75	0.93	0.269	(0.203)	0.081	0.188
154	12.83	0.97	0.278	(0.202)	0.084	0.195
155	12.92	0.97	0.278	(0.201)	0.084	0.195
156	13.00	0.97	0.278	(0.200)	0.084	0.195
157	13.08	1.13	0.326	(0.199)	0.098	0.228
158	13.17	1.13	0.326	(0.198)	0.098	0.228
159	13.25	1.13	0.326	(0.197)	0.098	0.228
160	13.33	1.13	0.326	(0.196)	0.098	0.228
161	13.42	1.13	0.326	(0.195)	0.098	0.228
162	13.50	1.13	0.326	(0.194)	0.098	0.228
163	13.58	0.77	0.221	(0.193)	0.066	0.155
164	13.67	0.77	0.221	(0.192)	0.066	0.155
165	13.75	0.77	0.221	(0.191)	0.066	0.155
166	13.83	0.77	0.221	(0.190)	0.066	0.155
167	13.92	0.77	0.221	(0.189)	0.066	0.155
168	14.00	0.77	0.221	(0.188)	0.066	0.155
169	14.08	0.90	0.259	(0.187)	0.078	0.181
170	14.17	0.90	0.259	(0.186)	0.078	0.181
171	14.25	0.90	0.259	(0.185)	0.078	0.181
172	14.33	0.87	0.250	(0.184)	0.075	0.175
173	14.42	0.87	0.250	(0.183)	0.075	0.175
174	14.50	0.87	0.250	(0.182)	0.075	0.175
175	14.58	0.87	0.250	(0.181)	0.075	0.175
176	14.67	0.87	0.250	(0.180)	0.075	0.175
177	14.75	0.87	0.250	(0.179)	0.075	0.175
178	14.83	0.83	0.240	(0.179)	0.072	0.168
179	14.92	0.83	0.240	(0.178)	0.072	0.168
180	15.00	0.83	0.240	(0.177)	0.072	0.168
181	15.08	0.80	0.230	(0.176)	0.069	0.161
182	15.17	0.80	0.230	(0.175)	0.069	0.161
183	15.25	0.80	0.230	(0.174)	0.069	0.161
184	15.33	0.77	0.221	(0.173)	0.066	0.155
185	15.42	0.77	0.221	(0.172)	0.066	0.155
186	15.50	0.77	0.221	(0.171)	0.066	0.155
187	15.58	0.63	0.182	(0.170)	0.055	0.128
188	15.67	0.63	0.182	(0.170)	0.055	0.128
189	15.75	0.63	0.182	(0.169)	0.055	0.128
190	15.83	0.63	0.182	(0.168)	0.055	0.128
191	15.92	0.63	0.182	(0.167)	0.055	0.128
192	16.00	0.63	0.182	(0.166)	0.055	0.128
193	16.08	0.13	0.038	(0.165)	0.012	0.027
194	16.17	0.13	0.038	(0.164)	0.012	0.027
195	16.25	0.13	0.038	(0.164)	0.012	0.027

196	16.33	0.13	0.038	(0.163)	0.012	0.027
197	16.42	0.13	0.038	(0.162)	0.012	0.027
198	16.50	0.13	0.038	(0.161)	0.012	0.027
199	16.58	0.10	0.029	(0.160)	0.009	0.020
200	16.67	0.10	0.029	(0.159)	0.009	0.020
201	16.75	0.10	0.029	(0.159)	0.009	0.020
202	16.83	0.10	0.029	(0.158)	0.009	0.020
203	16.92	0.10	0.029	(0.157)	0.009	0.020
204	17.00	0.10	0.029	(0.156)	0.009	0.020
205	17.08	0.17	0.048	(0.155)	0.014	0.034
206	17.17	0.17	0.048	(0.155)	0.014	0.034
207	17.25	0.17	0.048	(0.154)	0.014	0.034
208	17.33	0.17	0.048	(0.153)	0.014	0.034
209	17.42	0.17	0.048	(0.152)	0.014	0.034
210	17.50	0.17	0.048	(0.152)	0.014	0.034
211	17.58	0.17	0.048	(0.151)	0.014	0.034
212	17.67	0.17	0.048	(0.150)	0.014	0.034
213	17.75	0.17	0.048	(0.149)	0.014	0.034
214	17.83	0.13	0.038	(0.149)	0.012	0.027
215	17.92	0.13	0.038	(0.148)	0.012	0.027
216	18.00	0.13	0.038	(0.147)	0.012	0.027
217	18.08	0.13	0.038	(0.146)	0.012	0.027
218	18.17	0.13	0.038	(0.146)	0.012	0.027
219	18.25	0.13	0.038	(0.145)	0.012	0.027
220	18.33	0.13	0.038	(0.144)	0.012	0.027
221	18.42	0.13	0.038	(0.144)	0.012	0.027
222	18.50	0.13	0.038	(0.143)	0.012	0.027
223	18.58	0.10	0.029	(0.142)	0.009	0.020
224	18.67	0.10	0.029	(0.142)	0.009	0.020
225	18.75	0.10	0.029	(0.141)	0.009	0.020
226	18.83	0.07	0.019	(0.140)	0.006	0.013
227	18.92	0.07	0.019	(0.139)	0.006	0.013
228	19.00	0.07	0.019	(0.139)	0.006	0.013
229	19.08	0.10	0.029	(0.138)	0.009	0.020
230	19.17	0.10	0.029	(0.138)	0.009	0.020
231	19.25	0.10	0.029	(0.137)	0.009	0.020
232	19.33	0.13	0.038	(0.136)	0.012	0.027
233	19.42	0.13	0.038	(0.136)	0.012	0.027
234	19.50	0.13	0.038	(0.135)	0.012	0.027
235	19.58	0.10	0.029	(0.134)	0.009	0.020
236	19.67	0.10	0.029	(0.134)	0.009	0.020
237	19.75	0.10	0.029	(0.133)	0.009	0.020
238	19.83	0.07	0.019	(0.133)	0.006	0.013
239	19.92	0.07	0.019	(0.132)	0.006	0.013
240	20.00	0.07	0.019	(0.131)	0.006	0.013
241	20.08	0.10	0.029	(0.131)	0.009	0.020
242	20.17	0.10	0.029	(0.130)	0.009	0.020
243	20.25	0.10	0.029	(0.130)	0.009	0.020
244	20.33	0.10	0.029	(0.129)	0.009	0.020
245	20.42	0.10	0.029	(0.129)	0.009	0.020
246	20.50	0.10	0.029	(0.128)	0.009	0.020
247	20.58	0.10	0.029	(0.127)	0.009	0.020
248	20.67	0.10	0.029	(0.127)	0.009	0.020
249	20.75	0.10	0.029	(0.126)	0.009	0.020
250	20.83	0.07	0.019	(0.126)	0.006	0.013
251	20.92	0.07	0.019	(0.125)	0.006	0.013
252	21.00	0.07	0.019	(0.125)	0.006	0.013
253	21.08	0.10	0.029	(0.124)	0.009	0.020
254	21.17	0.10	0.029	(0.124)	0.009	0.020
255	21.25	0.10	0.029	(0.123)	0.009	0.020
256	21.33	0.07	0.019	(0.123)	0.006	0.013
257	21.42	0.07	0.019	(0.122)	0.006	0.013
258	21.50	0.07	0.019	(0.122)	0.006	0.013
259	21.58	0.10	0.029	(0.122)	0.009	0.020
260	21.67	0.10	0.029	(0.121)	0.009	0.020
261	21.75	0.10	0.029	(0.121)	0.009	0.020
262	21.83	0.07	0.019	(0.120)	0.006	0.013
263	21.92	0.07	0.019	(0.120)	0.006	0.013
264	22.00	0.07	0.019	(0.119)	0.006	0.013
265	22.08	0.10	0.029	(0.119)	0.009	0.020
266	22.17	0.10	0.029	(0.119)	0.009	0.020
267	22.25	0.10	0.029	(0.118)	0.009	0.020
268	22.33	0.07	0.019	(0.118)	0.006	0.013
269	22.42	0.07	0.019	(0.118)	0.006	0.013
270	22.50	0.07	0.019	(0.117)	0.006	0.013

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271  22.58     0.07      0.019       (  0.117)       0.006        0.013
272  22.67     0.07      0.019       (  0.117)       0.006        0.013
273  22.75     0.07      0.019       (  0.116)       0.006        0.013
274  22.83     0.07      0.019       (  0.116)       0.006        0.013
275  22.92     0.07      0.019       (  0.116)       0.006        0.013
276  23.00     0.07      0.019       (  0.115)       0.006        0.013
277  23.08     0.07      0.019       (  0.115)       0.006        0.013
278  23.17     0.07      0.019       (  0.115)       0.006        0.013
279  23.25     0.07      0.019       (  0.115)       0.006        0.013
280  23.33     0.07      0.019       (  0.114)       0.006        0.013
281  23.42     0.07      0.019       (  0.114)       0.006        0.013
282  23.50     0.07      0.019       (  0.114)       0.006        0.013
283  23.58     0.07      0.019       (  0.114)       0.006        0.013
284  23.67     0.07      0.019       (  0.114)       0.006        0.013
285  23.75     0.07      0.019       (  0.113)       0.006        0.013
286  23.83     0.07      0.019       (  0.113)       0.006        0.013
287  23.92     0.07      0.019       (  0.113)       0.006        0.013
288  24.00     0.07      0.019       (  0.113)       0.006        0.013
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    20.2
      Flood volume = Effective rainfall      1.68(In)
       times area       9.0(Ac.)/[(In)/(Ft.)] =       1.3(Ac.Ft)
      Total soil loss =      0.72(In)
      Total soil loss =     0.540(Ac.Ft)
      Total rainfall =      2.40(In)
      Flood volume =       54884.6 Cubic Feet
      Total soil loss =       23522.0 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      2.073(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0002      0.03  Q         |         |         |         |
   0+10       0.0009      0.10  Q         |         |         |         |
   0+15       0.0017      0.12  Q         |         |         |         |
   0+20       0.0027      0.14  Q         |         |         |         |
   0+25       0.0039      0.17  Q         |         |         |         |
   0+30       0.0051      0.18  Q         |         |         |         |
   0+35       0.0064      0.18  Q         |         |         |         |
   0+40       0.0076      0.18  Q         |         |         |         |
   0+45       0.0089      0.18  Q         |         |         |         |
   0+50       0.0103      0.20  Q         |         |         |         |
   0+55       0.0119      0.23  Q         |         |         |         |
   1+ 0       0.0136      0.24  Q         |         |         |         |
   1+ 5       0.0151      0.23  Q         |         |         |         |
   1+10       0.0164      0.19  Q         |         |         |         |
   1+15       0.0177      0.19  Q         |         |         |         |
   1+20       0.0190      0.18  Q         |         |         |         |
   1+25       0.0202      0.18  Q         |         |         |         |
   1+30       0.0215      0.18  Q         |         |         |         |
   1+35       0.0228      0.18  Q         |         |         |         |
   1+40       0.0240      0.18  Q         |         |         |         |
   1+45       0.0253      0.18  Q         |         |         |         |
   1+50       0.0267      0.20  Q         |         |         |         |
   1+55       0.0283      0.23  Q         |         |         |         |
   2+ 0       0.0299      0.24  Q         |         |         |         |
   2+ 5       0.0316      0.24  QV        |         |         |         |
   2+10       0.0333      0.24  QV        |         |         |         |
   2+15       0.0350      0.24  QV        |         |         |         |
   2+20       0.0367      0.24  QV        |         |         |         |
   2+25       0.0383      0.24  QV        |         |         |         |
   2+30       0.0400      0.24  QV        |         |         |         |
   2+35       0.0418      0.26  |Q        |         |         |         |
   2+40       0.0438      0.29  |Q        |         |         |         |
   2+45       0.0459      0.30  |Q        |         |         |         |
   2+50       0.0480      0.30  |Q        |         |         |         |
   2+55       0.0501      0.30  |Q        |         |         |         |
   3+ 0       0.0522      0.30  |Q        |         |         |         |
```

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3+ 5       0.0543      0.30  |Q         |          |          |          |
3+10       0.0564      0.30  |Q         |          |          |          |
3+15       0.0585      0.30  |Q         |          |          |          |
3+20       0.0606      0.30  |Q         |          |          |          |
3+25       0.0627      0.30  |Q         |          |          |          |
3+30       0.0648      0.30  |QV        |          |          |          |
3+35       0.0669      0.30  |QV        |          |          |          |
3+40       0.0690      0.30  |QV        |          |          |          |
3+45       0.0711      0.30  |QV        |          |          |          |
3+50       0.0733      0.32  |QV        |          |          |          |
3+55       0.0758      0.36  |QV        |          |          |          |
4+ 0       0.0783      0.36  |QV        |          |          |          |
4+ 5       0.0808      0.37  |QV        |          |          |          |
4+10       0.0833      0.37  |QV        |          |          |          |
4+15       0.0859      0.37  |QV        |          |          |          |
4+20       0.0885      0.38  |QV        |          |          |          |
4+25       0.0914      0.42  |QV        |          |          |          |
4+30       0.0943      0.42  |QV        |          |          |          |
4+35       0.0972      0.43  |Q V       |          |          |          |
4+40       0.1002      0.43  |Q V       |          |          |          |
4+45       0.1031      0.43  |Q V       |          |          |          |
4+50       0.1062      0.44  |Q V       |          |          |          |
4+55       0.1094      0.48  |Q V       |          |          |          |
5+ 0       0.1128      0.49  |Q V       |          |          |          |
5+ 5       0.1159      0.45  |Q V       |          |          |          |
5+10       0.1186      0.39  |Q V       |          |          |          |
5+15       0.1211      0.37  |Q V       |          |          |          |
5+20       0.1238      0.38  |Q V       |          |          |          |
5+25       0.1266      0.42  |Q  V      |          |          |          |
5+30       0.1296      0.42  |Q  V      |          |          |          |
5+35       0.1326      0.44  |Q  V      |          |          |          |
5+40       0.1359      0.48  |Q  V      |          |          |          |
5+45       0.1393      0.49  |Q  V      |          |          |          |
5+50       0.1426      0.49  |Q  V      |          |          |          |
5+55       0.1460      0.49  |Q  V      |          |          |          |
6+ 0       0.1493      0.49  |Q  V      |          |          |          |
6+ 5       0.1528      0.51  | Q V      |          |          |          |
6+10       0.1565      0.54  | Q V      |          |          |          |
6+15       0.1603      0.55  | Q  V     |          |          |          |
6+20       0.1641      0.55  | Q  V     |          |          |          |
6+25       0.1678      0.55  | Q  V     |          |          |          |
6+30       0.1716      0.55  | Q  V     |          |          |          |
6+35       0.1755      0.57  | Q  V     |          |          |          |
6+40       0.1796      0.60  | Q  V     |          |          |          |
6+45       0.1838      0.61  | Q  V     |          |          |          |
6+50       0.1880      0.61  | Q  V     |          |          |          |
6+55       0.1922      0.61  | Q   V    |          |          |          |
7+ 0       0.1964      0.61  | Q   V    |          |          |          |
7+ 5       0.2006      0.61  | Q   V    |          |          |          |
7+10       0.2048      0.61  | Q   V    |          |          |          |
7+15       0.2090      0.61  | Q   V    |          |          |          |
7+20       0.2133      0.63  | Q   V    |          |          |          |
7+25       0.2179      0.66  | Q   V    |          |          |          |
7+30       0.2225      0.67  | Q    V   |          |          |          |
7+35       0.2272      0.69  | Q    V   |          |          |          |
7+40       0.2322      0.72  | Q    V   |          |          |          |
7+45       0.2372      0.73  | Q    V   |          |          |          |
7+50       0.2424      0.75  | Q    V   |          |          |          |
7+55       0.2478      0.78  |  Q   V   |          |          |          |
8+ 0       0.2532      0.79  |  Q    V  |          |          |          |
8+ 5       0.2589      0.83  |  Q    V  |          |          |          |
8+10       0.2651      0.89  |  Q    V  |          |          |          |
8+15       0.2713      0.91  |  Q    V  |          |          |          |
8+20       0.2776      0.91  |  Q    V  |          |          |          |
8+25       0.2839      0.91  |  Q     V |          |          |          |
8+30       0.2902      0.91  |  Q     V |          |          |          |
8+35       0.2966      0.93  |  Q     V |          |          |          |
8+40       0.3033      0.97  |  Q     V |          |          |          |
8+45       0.3100      0.97  |  Q     V |          |          |          |
8+50       0.3168      0.99  |  Q      V|          |          |          |
8+55       0.3239      1.03  |   Q     V|          |          |          |
9+ 0       0.3310      1.03  |   Q     V|          |          |          |
9+ 5       0.3384      1.07  |   Q     V|          |          |          |
9+10       0.3462      1.14  |   Q     V|          |          |          |
9+15       0.3542      1.15  |   Q     |V         |          |          |
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15+35	1.0913	1.33	| Q	|	|	| V |
15+40	1.0996	1.20	| Q	|	|	| V |
15+45	1.1076	1.17	| Q	|	|	| V |
15+50	1.1156	1.16	| Q	|	|	| V |
15+55	1.1236	1.16	| Q	|	|	| V |
16+ 0	1.1316	1.16	| Q	|	|	| V |
16+ 5	1.1378	0.90	| Q	|	|	| V |
16+10	1.1405	0.40	|Q	|	|	| V |
16+15	1.1424	0.28	|Q	|	|	| V |
16+20	1.1442	0.25	|Q	|	|	| V |
16+25	1.1459	0.24	Q	|	|	| V |
16+30	1.1475	0.24	Q	|	|	| V |
16+35	1.1491	0.23	Q	|	|	| V |
16+40	1.1504	0.19	Q	|	|	| V |
16+45	1.1517	0.19	Q	|	|	| V |
16+50	1.1530	0.18	Q	|	|	| V |
16+55	1.1542	0.18	Q	|	|	| V |
17+ 0	1.1555	0.18	Q	|	|	| V |
17+ 5	1.1570	0.22	Q	|	|	| V |
17+10	1.1589	0.28	|Q	|	|	| V |
17+15	1.1610	0.30	|Q	|	|	| V |
17+20	1.1631	0.30	|Q	|	|	| V |
17+25	1.1652	0.30	|Q	|	|	| V |
17+30	1.1673	0.30	|Q	|	|	| V |
17+35	1.1694	0.30	|Q	|	|	| V |
17+40	1.1715	0.30	|Q	|	|	| V |
17+45	1.1736	0.30	|Q	|	|	| V |
17+50	1.1756	0.29	|Q	|	|	| V |
17+55	1.1773	0.25	|Q	|	|	| V |
18+ 0	1.1790	0.25	Q	|	|	| V |
18+ 5	1.1807	0.24	Q	|	|	| V |
18+10	1.1824	0.24	Q	|	|	| V |
18+15	1.1841	0.24	Q	|	|	| V |
18+20	1.1858	0.24	Q	|	|	| V |
18+25	1.1874	0.24	Q	|	|	| V |
18+30	1.1891	0.24	Q	|	|	| V |
18+35	1.1907	0.23	Q	|	|	| V |
18+40	1.1920	0.19	Q	|	|	| V |
18+45	1.1933	0.19	Q	|	|	| V |
18+50	1.1944	0.17	Q	|	|	| V |
18+55	1.1953	0.13	Q	|	|	| V |
19+ 0	1.1962	0.12	Q	|	|	| V |
19+ 5	1.1972	0.14	Q	|	|	| V |
19+10	1.1983	0.17	Q	|	|	| V |
19+15	1.1996	0.18	Q	|	|	| V |
19+20	1.2010	0.20	Q	|	|	| V |
19+25	1.2026	0.23	Q	|	|	| V |
19+30	1.2042	0.24	Q	|	|	| V |
19+35	1.2058	0.23	Q	|	|	| V |
19+40	1.2071	0.19	Q	|	|	| V |
19+45	1.2084	0.19	Q	|	|	| V |
19+50	1.2095	0.17	Q	|	|	| V |
19+55	1.2105	0.13	Q	|	|	| V |
20+ 0	1.2113	0.12	Q	|	|	| V |
20+ 5	1.2123	0.14	Q	|	|	| V |
20+10	1.2135	0.17	Q	|	|	| V |
20+15	1.2147	0.18	Q	|	|	| V |
20+20	1.2160	0.18	Q	|	|	| V |
20+25	1.2172	0.18	Q	|	|	| V |
20+30	1.2185	0.18	Q	|	|	| V |
20+35	1.2197	0.18	Q	|	|	| V |
20+40	1.2210	0.18	Q	|	|	| V |
20+45	1.2223	0.18	Q	|	|	| V |
20+50	1.2234	0.17	Q	|	|	| V |
20+55	1.2243	0.13	Q	|	|	| V |
21+ 0	1.2252	0.12	Q	|	|	| V |
21+ 5	1.2261	0.14	Q	|	|	| V |
21+10	1.2273	0.17	Q	|	|	| V |
21+15	1.2286	0.18	Q	|	|	| V|
21+20	1.2297	0.16	Q	|	|	| V|
21+25	1.2306	0.13	Q	|	|	| V|
21+30	1.2315	0.12	Q	|	|	| V|
21+35	1.2324	0.14	Q	|	|	| V|
21+40	1.2336	0.17	Q	|	|	| V|
21+45	1.2349	0.18	Q	|	|	| V|

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  21+50       1.2360      0.16  Q          |          |          |         v|
  21+55       1.2369      0.13  Q          |          |          |         v|
  22+ 0       1.2378      0.12  Q          |          |          |         v|
  22+ 5       1.2387      0.14  Q          |          |          |         v|
  22+10       1.2399      0.17  Q          |          |          |         v|
  22+15       1.2412      0.18  Q          |          |          |         v|
  22+20       1.2423      0.16  Q          |          |          |         v|
  22+25       1.2432      0.13  Q          |          |          |         v|
  22+30       1.2441      0.12  Q          |          |          |         v|
  22+35       1.2449      0.12  Q          |          |          |         v|
  22+40       1.2458      0.12  Q          |          |          |         v|
  22+45       1.2466      0.12  Q          |          |          |         v|
  22+50       1.2474      0.12  Q          |          |          |         v|
  22+55       1.2483      0.12  Q          |          |          |         v|
  23+ 0       1.2491      0.12  Q          |          |          |         v|
  23+ 5       1.2500      0.12  Q          |          |          |         v|
  23+10       1.2508      0.12  Q          |          |          |         v|
  23+15       1.2516      0.12  Q          |          |          |         v|
  23+20       1.2525      0.12  Q          |          |          |         v|
  23+25       1.2533      0.12  Q          |          |          |         v|
  23+30       1.2542      0.12  Q          |          |          |         v|
  23+35       1.2550      0.12  Q          |          |          |         v|
  23+40       1.2558      0.12  Q          |          |          |         v|
  23+45       1.2567      0.12  Q          |          |          |         v|
  23+50       1.2575      0.12  Q          |          |          |         v|
  23+55       1.2584      0.12  Q          |          |          |         v|
  24+ 0       1.2592      0.12  Q          |          |          |         v|
  24+ 5       1.2598      0.09  Q          |          |          |         v|
  24+10       1.2599      0.02  Q          |          |          |         v|
  24+15       1.2600      0.00  Q          |          |          |         v|
  24+20       1.2600      0.00  Q          |          |          |          v
-------------------------------------------------------------------------
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STAGE-STORAGE/OUTFLOW TABLES

BLDG A CMP CHAMBERS A1- Stage/Storage/Outflow Table

W.O.# 21-0034

Basin Information: CMP DETENTION CHAMBERS

$Q_{ORIFICE}$= Cd*Area*(2*G*H)$^{0.5}$

Q_{WEIR}= C*L*H$^{3/2}$

2-Year	ORIFICE
Q EXISTING	0.23
Opening (in)	1.5
# of Orifices	1
Area (sf)	0.0123
Opening (ft)	0.1250
Total Area (sf)	0.0123
G (ft/s^2)	32.2
Cd	0.66
Invert H (ft)	2.125

2-Year

#	Elevation (ft)	Depth (ft)	Storage (cf)	Storage (ac-ft)	H (ft)	Q (cfs)	Total Q (cfs)	Comments
1	2208	0	0.00	0.000			0.00	Bottom of Basin/Invert of 2-Yr Orifice
2	2208.063	**0.0625**	**143.23**	**0.003**	0			Middle of 2-Yr Orifice
3	**2208.5**	**0.5**	**1145.85**	**0.026**	**0.4375**	0.04	0.04	
4	2209	1	**3176.81**	**0.073**	**0.9375**	0.06	0.06	
5	**2209.5**	1.5	**5715.36**	**0.131**	**1.4375**	0.08	0.08	
6	2210	2	**8608.41**	**0.198**	**1.9375**	0.09	0.09	
7	**2210.5**	2.5	**11756.13**	**0.270**	**2.4375**	0.10	0.10	
8	2211	3	**15081.98**	**0.346**	**2.9375**	0.11	0.11	
9	**2211.5**	**3.5**	**18521.43**	**0.425**	**3.4375**	**0.12**	0.12	
10	2212	4	**22016.28**	**0.505**	**3.9375**	0.13	0.13	
11	**2212.5**	4.5	**25511.13**	**0.586**	**4.4375**	0.14	0.14	
12	2213	5	**28950.58**	**0.665**	**4.9375**	0.14	0.14	
13	**2213.5**	5.5	**32276.43**	**0.741**	**5.4375**	0.15	0.15	
14	2214	6	**35424.15**	**0.813**	**5.9375**	0.16	0.16	
15	**2214.5**	6.5	**38317.20**	**0.880**	**6.4375**	0.16	0.16	
16	2215	7	**40855.75**	**0.938**	**6.9375**	0.17	0.17	
17	**2215.5**	7.50	**42886.71**	**0.985**	**7.4375**	0.18	0.18	
19	2216	8	**44032.56**	**1.011**	**7.9375**	0.18	0.18	Top of chambers

BLDG A CMP CHAMBERS A2 - Stage/Storage/Outflow Table

W.O.# 21-0034

Basin Information: CMP CHAMBERS

	2-Year	ORIFICE
	Q EXISTING	0.32
	Opening (in)	**1.5**
	# of Orifices	**2**
	Area (sf)	**0.0123**
	Opening (ft)	**0.1250**
	Total Area (sf)	**0.0245**
	G (ft/s^2)	**32.2**
	Cd	**0.66**
	Invert H (ft)	2.125

$Q_{ORIFICE}$= **$Cd*Area*(2*G*H)^{0.5}$**

Q_{WEIR}= **$C*L*H^{3/2}$**

#	Elevation (ft)	Depth (ft)	Storage (cf)	Storage (ac-ft)	H (ft)	Q (cfs)	2-Year Total Q (cfs)	Comments
1	2208	0	0.00	0.000			0.00	Bottom of Basin/Invert of 2-Yr Orifice
2	2208.063	**0.0625**	**180.02**	**0.004**	0			Middle of 2-Yr Orifice
3	**2208.5**	**0.5**	**1440.16**	**0.033**	**0.4375**	0.09	0.09	
4	2209	1	**3992.77**	**0.092**	**0.9375**	0.13	0.13	
5	**2209.5**	1.5	**7183.35**	**0.165**	**1.4375**	0.16	0.16	
6	2210	2	**10819.48**	**0.248**	**1.9375**	0.18	0.18	
7	**2210.5**	2.5	**14775.69**	**0.339**	**2.4375**	0.20	0.20	
8	2211	3	**18955.78**	**0.435**	**2.9375**	0.22	0.22	
9	**2211.5**	**3.5**	**23278.64**	**0.534**	**3.4375**	**0.24**	0.24	
10	2212	4	**27671.15**	**0.635**	**3.9375**	0.26	0.26	
11	**2212.5**	4.5	**32063.65**	**0.736**	**4.4375**	0.27	0.27	
12	2213	5	**36386.52**	**0.835**	**4.9375**	0.29	0.29	
13	**2213.5**	5.5	**40566.61**	**0.931**	**5.4375**	0.30	0.30	
14	2214	6	**44522.82**	**1.022**	**5.9375**	0.32	0.32	
15	**2214.5**	6.5	**48158.94**	**1.106**	**6.4375**	0.33	0.33	
16	2215	7	**51349.53**	**1.179**	**6.9375**	0.34	0.34	
17	**2215.5**	7.50	**53902.14**	**1.237**	**7.4375**	0.35	0.35	
18	2216	8	**55342.30**	**1.270**	**7.9375**	0.37	0.37	Top of chambers

BLDG A CMP CHAMBERS A3 - Stage/Storage/Outflow Table

W.O.# 21-0034

Basin Information: CMP CHAMBERS

2-Year	ORIFICE
Q EXISTING	0.48
Opening (in)	1.5
# of Orifices	3
Area (sf)	0.0123
Opening (ft)	0.1250
Total Area (sf)	0.0368
G (ft/s^2)	32.2
Cd	0.66
Invert H (ft)	2.125

$Q_{ORIFICE}$= Cd*Area*$(2*G*H)^{0.5}$

Q_{WEIR}= C*L*$H^{3/2}$

2-Year

#	Elevation (ft)	Depth (ft)	Storage (cf)	Storage (ac-ft)	H (ft)	Q (cfs)	Total Q (cfs)	Comments
1	2208	0	0.00	0.000			0.00	Bottom of Basin/Invert of 2-Yr Orifice
2	2208.063	**0.0625**	**156.80**	**0.004**	0			Middle of 2-Yr Orifice
3	**2208.5**	**0.5**	**1254.42**	**0.029**	**0.4375**	0.13	0.13	
4	2209	1	**3477.81**	**0.080**	**0.9375**	0.19	0.19	
5	**2209.5**	1.5	**6256.89**	**0.144**	**1.4375**	0.23	0.23	
6	2210	2	**9424.05**	**0.216**	**1.9375**	0.27	0.27	
7	**2210.5**	2.5	**12870.01**	**0.295**	**2.4375**	0.30	0.30	
8	2211	3	**16510.98**	**0.379**	**2.9375**	0.33	0.33	
9	**2211.5**	**3.5**	**20276.31**	**0.465**	**3.4375**	**0.36**	0.36	
10	2212	4	**24102.30**	**0.553**	**3.9375**	0.39	0.39	
11	**2212.5**	4.5	**27928.29**	**0.641**	**4.4375**	0.41	0.41	
12	2213	5	**31693.62**	**0.728**	**4.9375**	0.43	0.43	
13	**2213.5**	5.5	**35334.58**	**0.811**	**5.4375**	0.45	0.45	
14	2214	6	**38780.55**	**0.890**	**5.9375**	0.48	0.48	
15	**2214.5**	6.5	**41947.71**	**0.963**	**6.4375**	0.49	0.49	
16	2215	7	**44726.79**	**1.027**	**6.9375**	0.51	0.51	
17	**2215.5**	7.50	**46950.18**	**1.078**	**7.4375**	0.53	0.53	
18	2216	8	**48204.60**	**1.107**	**7.9375**	0.55	0.55	Top of chambers

BLDG A CMP CHAMBERS A4 - Stage/Storage/Outflow Table

W.O.# 21-0034

Basin Information: CMP CHAMBERS

$Q_{ORIFICE}$= Cd*Area*(2*G*H)$^{0.5}$

Q_{WEIR}= C*L*H$^{3/2}$

2-Year	ORIFICE
Q EXISTING	0.5
Opening (in)	2
# of Orifices	2
Area (sf)	0.0218
Opening (ft)	0.1667
Total Area (sf)	0.0436
G (ft/s^2)	32.2
Cd	0.66
Invert H (ft)	2.125

2-Year

#	Elevation (ft)	Depth (ft)	Storage (cf)	Storage (ac-ft)	H (ft)	Q (cfs)	Total Q (cfs)	Comments
1	2208	0	0.00	0.000			0.00	Bottom of Basin/Invert of 2-Yr Orifice
2	2208.083	**0.08333**	**217.14**	**0.005**	0			Middle of 2-Yr Orifice
3	**2208.5**	**0.5**	**1302.82**	**0.030**	**0.416666667**	0.15	0.15	
4	2209	1	**3611.99**	**0.083**	**0.916666667**	0.22	0.22	
5	**2209.5**	1.5	**6498.29**	**0.149**	**1.416666667**	0.28	0.28	
6	2210	2	**9787.65**	**0.225**	**1.916666667**	0.32	0.32	
7	**2210.5**	2.5	**13366.56**	**0.307**	**2.416666667**	0.36	0.36	
8	2211	3	**17148.01**	**0.394**	**2.916666667**	0.39	0.39	
9	**2211.5**	**3.5**	**21058.61**	**0.483**	**3.416666667**	**0.43**	0.43	
10	2212	4	**25032.21**	**0.575**	**3.916666667**	0.46	0.46	
11	**2212.5**	4.5	**29005.81**	**0.666**	**4.416666667**	0.49	0.49	
12	2213	5	**32916.41**	**0.756**	**4.916666667**	0.51	0.51	
13	**2213.5**	5.5	**36697.86**	**0.842**	**5.416666667**	0.54	0.54	
14	2214	6	**40276.77**	**0.925**	**5.916666667**	0.56	0.56	
15	**2214.5**	6.5	**43566.13**	**1.000**	**6.416666667**	0.59	0.59	
16	2215	7	**46452.43**	**1.066**	**6.916666667**	0.61	0.61	
17	**2215.5**	7.50	**48761.61**	**1.119**	**7.416666667**	0.63	0.63	
18	2216	8	**50064.42**	**1.149**	**7.916666667**	0.65	0.65	Top of chambers

BASIN ROUTING (2-YEAR, 24-HOUR STORM EVENT)

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005
Study date: 11/24/21

BCCOV BLDG A AREA 1
2-YEAR 24-HOUR STORM EVENT
21-0034
2021-12-02 EP

Program License Serial Number 4010

********** HYDROGRAPH INFORMATION **********

From study/file name: PROP2YR1A242.rte

**********HYDROGRAPH DATA**********

Number of intervals = 292
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 1.746 (CFS)
Total volume = 1.061 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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Process from Point/Station 100.000 to Point/Station 101.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 292
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.063	0.003	0.001	0.003	0.003
0.500	0.026	0.040	0.026	0.026
1.000	0.073	0.060	0.073	0.073
1.500	0.131	0.080	0.131	0.131
2.000	0.198	0.090	0.198	0.198
2.500	0.270	0.100	0.270	0.270
3.000	0.346	0.110	0.346	0.346
3.500	0.425	0.120	0.425	0.425
4.000	0.505	0.130	0.505	0.505
4.500	0.586	0.140	0.586	0.586
5.000	0.665	0.140	0.665	0.665
5.500	0.741	0.150	0.740	0.742
6.000	0.813	0.160	0.812	0.814
6.500	0.880	0.160	0.879	0.881
7.000	0.938	0.170	0.937	0.939
7.500	0.985	0.180	0.984	0.986
8.000	1.011	0.180	1.010	1.012

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.4	0.87	1.31	1.75	Depth (Ft.)
0.083	0.03	0.00	0.000	O					0.00
0.167	0.09	0.00	0.001	OI					0.01
0.250	0.10	0.00	0.001	OI					0.02
0.333	0.12	0.00	0.002	O I					0.04
0.417	0.15	0.00	0.003	O I					0.06
0.500	0.15	0.00	0.004	O I					0.08
0.583	0.15	0.00	0.005	O I					0.10
0.667	0.15	0.01	0.006	O I					0.12
0.750	0.15	0.01	0.007	O I					0.14
0.833	0.17	0.01	0.008	O I					0.16
0.917	0.20	0.01	0.009	O I					0.18
1.000	0.20	0.01	0.011	O I					0.21
1.083	0.19	0.02	0.012	O I					0.23
1.167	0.16	0.02	0.013	O I					0.25
1.250	0.16	0.02	0.014	O I					0.27
1.333	0.15	0.02	0.015	O I					0.29
1.417	0.15	0.02	0.016	O I					0.30
1.500	0.15	0.02	0.017	O I					0.32
1.583	0.15	0.03	0.017	O I					0.34
1.667	0.15	0.03	0.018	O I					0.35
1.750	0.15	0.03	0.019	O I					0.37
1.833	0.17	0.03	0.020	O I					0.39
1.917	0.20	0.03	0.021	O I					0.41
2.000	0.20	0.03	0.022	O I					0.43
2.083	0.21	0.04	0.023	O I					0.45
2.167	0.21	0.04	0.025	O I					0.47
2.250	0.21	0.04	0.026	O I					0.50
2.333	0.21	0.04	0.027	O I					0.51
2.417	0.21	0.04	0.028	O I					0.52
2.500	0.21	0.04	0.029	O I					0.53
2.583	0.22	0.04	0.030	O I					0.55
2.667	0.25	0.04	0.032	O I					0.56
2.750	0.26	0.04	0.033	O I					0.58
2.833	0.26	0.04	0.035	O I					0.59
2.917	0.26	0.04	0.036	O I					0.61
3.000	0.26	0.04	0.038	O I					0.62
3.083	0.26	0.05	0.039	O I					0.64
3.167	0.26	0.05	0.040	O I					0.65
3.250	0.26	0.05	0.042	O I					0.67
3.333	0.26	0.05	0.043	O I					0.68
3.417	0.26	0.05	0.045	O I					0.70
3.500	0.26	0.05	0.046	O I					0.72
3.583	0.26	0.05	0.048	O I					0.73
3.667	0.26	0.05	0.049	O I					0.75
3.750	0.26	0.05	0.051	O I					0.76
3.833	0.27	0.05	0.052	O I					0.78
3.917	0.30	0.05	0.054	O I					0.79
4.000	0.31	0.05	0.055	O I					0.81
4.083	0.31	0.05	0.057	O I					0.83
4.167	0.31	0.05	0.059	O I					0.85
4.250	0.31	0.05	0.061	|O I					0.87
4.333	0.33	0.06	0.062	|O I					0.89
4.417	0.35	0.06	0.064	|O I					0.91
4.500	0.36	0.06	0.066	|O I					0.93
4.583	0.36	0.06	0.068	|O I					0.95
4.667	0.36	0.06	0.071	|O I					0.97
4.750	0.36	0.06	0.073	|O I					1.00
4.833	0.38	0.06	0.075	|O I					1.01
4.917	0.40	0.06	0.077	|O I					1.03
5.000	0.41	0.06	0.079	|O I					1.05
5.083	0.38	0.06	0.082	|O I					1.07
5.167	0.32	0.06	0.084	|O I					1.09
5.250	0.31	0.06	0.085	|O I					1.11
5.333	0.33	0.06	0.087	|O I					1.12
5.417	0.35	0.07	0.089	|O I					1.14
5.500	0.36	0.07	0.091	|O I					1.16
5.583	0.38	0.07	0.093	|O I					1.17
5.667	0.40	0.07	0.095	|O I					1.19
5.750	0.41	0.07	0.098	|O I					1.21
5.833	0.41	0.07	0.100	|O I					1.23

```
 5.917    0.41    0.07      0.102  |o     I|       |       |       |     1.25
 6.000    0.41    0.07      0.105  |o     I|       |       |       |     1.27
 6.083    0.43    0.07      0.107  |o     I|       |       |       |     1.29
 6.167    0.46    0.07      0.110  |o      I       |       |       |     1.32
 6.250    0.46    0.07      0.112  |o      I       |       |       |     1.34
 6.333    0.46    0.07      0.115  |o      I       |       |       |     1.36
 6.417    0.46    0.08      0.118  |o      I       |       |       |     1.38
 6.500    0.46    0.08      0.120  |o      I       |       |       |     1.41
 6.583    0.48    0.08      0.123  |o      I       |       |       |     1.43
 6.667    0.51    0.08      0.126  |o      |I      |       |       |     1.46
 6.750    0.51    0.08      0.129  |o      |I      |       |       |     1.48
 6.833    0.51    0.08      0.132  |o      |I      |       |       |     1.51
 6.917    0.51    0.08      0.135  |o      |I      |       |       |     1.53
 7.000    0.51    0.08      0.138  |o      |I      |       |       |     1.55
 7.083    0.51    0.08      0.141  |o      |I      |       |       |     1.57
 7.167    0.51    0.08      0.144  |o      |I      |       |       |     1.59
 7.250    0.51    0.08      0.147  |o      |I      |       |       |     1.62
 7.333    0.53    0.08      0.150  |o      |I      |       |       |     1.64
 7.417    0.56    0.08      0.153  |o      | I     |       |       |     1.66
 7.500    0.56    0.08      0.156  |o      | I     |       |       |     1.69
 7.583    0.58    0.08      0.159  |o      | I     |       |       |     1.71
 7.667    0.61    0.08      0.163  |o      |  I    |       |       |     1.74
 7.750    0.61    0.09      0.167  |o      |  I    |       |       |     1.77
 7.833    0.63    0.09      0.170  |o      |  I    |       |       |     1.79
 7.917    0.66    0.09      0.174  |o      |   I   |       |       |     1.82
 8.000    0.67    0.09      0.178  |o      |   I   |       |       |     1.85
 8.083    0.70    0.09      0.182  |o      |   I   |       |       |     1.88
 8.167    0.76    0.09      0.187  |o      |    I  |       |       |     1.92
 8.250    0.77    0.09      0.191  |o      |     I |       |       |     1.95
 8.333    0.77    0.09      0.196  |o      |     I |       |       |     1.99
 8.417    0.77    0.09      0.201  |o      |     I |       |       |     2.02
 8.500    0.77    0.09      0.205  |o      |     I |       |       |     2.05
 8.583    0.79    0.09      0.210  |o      |     I |       |       |     2.08
 8.667    0.81    0.09      0.215  |o      |     I |       |       |     2.12
 8.750    0.82    0.09      0.220  |o      |      I|       |       |     2.15
 8.833    0.84    0.09      0.225  |o      |      I|       |       |     2.19
 8.917    0.87    0.09      0.230  |o      |      I|       |       |     2.22
 9.000    0.87    0.10      0.236  |o      |      I|       |       |     2.26
 9.083    0.91    0.10      0.241  |o      |       I       |       |     2.30
 9.167    0.96    0.10      0.247  |o      |       |I      |       |     2.34
 9.250    0.97    0.10      0.253  |o      |       |I      |       |     2.38
 9.333    0.99    0.10      0.259  |o      |       | I     |       |     2.42
 9.417    1.02    0.10      0.265  |o      |       | I     |       |     2.47
 9.500    1.03    0.10      0.272  |o      |       | I     |       |     2.51
 9.583    1.04    0.10      0.278  |o      |       |  I    |       |     2.55
 9.667    1.07    0.10      0.285  |o      |       |  I    |       |     2.60
 9.750    1.08    0.10      0.291  |o      |       |  I    |       |     2.64
 9.833    1.09    0.10      0.298  |o      |       |   I   |       |     2.68
 9.917    1.12    0.10      0.305  |o      |       |   I   |       |     2.73
10.000    1.13    0.11      0.312  |o      |       |   I   |       |     2.78
10.083    1.01    0.11      0.319  |o      |       | I     |       |     2.82
10.167    0.82    0.11      0.324  |o      |     I |       |       |     2.86
10.250    0.78    0.11      0.329  |o      |     I |       |       |     2.89
10.333    0.77    0.11      0.333  |o      |     I |       |       |     2.92
10.417    0.77    0.11      0.338  |o      |     I |       |       |     2.95
10.500    0.77    0.11      0.343  | o     |     I |       |       |     2.98
10.583    0.86    0.11      0.347  | o     |      I|       |       |     3.01
10.667    0.99    0.11      0.353  | o     |       | I     |       |     3.04
10.750    1.02    0.11      0.359  | o     |       | I     |       |     3.08
10.833    1.03    0.11      0.365  | o     |       | I     |       |     3.12
10.917    1.03    0.11      0.372  | o     |       | I     |       |     3.16
11.000    1.03    0.11      0.378  | o     |       | I     |       |     3.20
11.083    1.01    0.11      0.384  | o     |       | I     |       |     3.24
11.167    0.98    0.12      0.390  | o     |       | I     |       |     3.28
11.250    0.98    0.12      0.396  | o     |       |I      |       |     3.32
11.333    0.98    0.12      0.402  | o     |       |I      |       |     3.36
11.417    0.98    0.12      0.408  | o     |       |I      |       |     3.39
11.500    0.98    0.12      0.414  | o     |       |I      |       |     3.43
11.583    0.94    0.12      0.420  | o     |       |I      |       |     3.47
11.667    0.89    0.12      0.425  | o     |       I       |       |     3.50
11.750    0.88    0.12      0.431  | o     |       I       |       |     3.53
11.833    0.89    0.12      0.436  | o     |       I       |       |     3.57
11.917    0.92    0.12      0.441  | o     |       I       |       |     3.60
12.000    0.92    0.12      0.447  | o     |       I       |       |     3.64
12.083    1.04    0.12      0.453  | o     |       |  I    |       |     3.67
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12.167	1.24	0.12	0.460	O			I		3.72
12.250	1.27	0.13	0.467	O			I		3.76
12.333	1.30	0.13	0.475	O			I		3.81
12.417	1.33	0.13	0.484	O			I		3.87
12.500	1.33	0.13	0.492	O			I		3.92
12.583	1.37	0.13	0.500	O			I		3.97
12.667	1.42	0.13	0.509	O			I		4.02
12.750	1.43	0.13	0.518	O			I		4.08
12.833	1.45	0.13	0.527	O			I		4.14
12.917	1.48	0.13	0.536	O			I		4.19
13.000	1.49	0.13	0.545	O			I		4.25
13.083	1.57	0.14	0.555	O			I		4.31
13.167	1.71	0.14	0.565	O				I	4.37
13.250	1.74	0.14	0.576	O				I	4.44
13.333	1.74	0.14	0.587	O				I	4.51
13.417	1.75	0.14	0.598	O				I	4.58
13.500	1.75	0.14	0.609	O				I	4.65
13.583	1.56	0.14	0.620	O			I		4.71
13.667	1.26	0.14	0.629	O			I		4.77
13.750	1.20	0.14	0.636	O		I			4.82
13.833	1.18	0.14	0.643	O		I			4.86
13.917	1.18	0.14	0.650	O		I			4.91
14.000	1.18	0.14	0.658	O		I			4.95
14.083	1.25	0.14	0.665	O		I			5.00
14.167	1.36	0.14	0.673	O			I		5.05
14.250	1.38	0.14	0.682	O			I		5.11
14.333	1.37	0.14	0.690	O			I		5.16
14.417	1.34	0.14	0.698	O			I		5.22
14.500	1.34	0.15	0.707	O			I		5.27
14.583	1.34	0.15	0.715	O			I		5.33
14.667	1.33	0.15	0.723	O			I		5.38
14.750	1.33	0.15	0.731	O			I		5.44
14.833	1.32	0.15	0.739	O			I		5.49
14.917	1.29	0.15	0.747	O			I		5.54
15.000	1.28	0.15	0.755	O			I		5.60
15.083	1.27	0.15	0.763	O			I		5.65
15.167	1.24	0.15	0.770	O			I		5.70
15.250	1.23	0.16	0.778	O			I		5.76
15.333	1.22	0.16	0.785	O			I		5.81
15.417	1.19	0.16	0.792	O			I		5.86
15.500	1.18	0.16	0.799	O			I		5.91
15.583	1.11	0.16	0.806	O			I		5.95
15.667	1.00	0.16	0.812	O		I			6.00
15.750	0.98	0.16	0.818	O		I			6.04
15.833	0.98	0.16	0.824	O		I			6.08
15.917	0.98	0.16	0.829	O		I			6.12
16.000	0.98	0.16	0.835	O		I			6.16
16.083	0.72	0.16	0.840	O	I				6.20
16.167	0.31	0.16	0.842	O I					6.22
16.250	0.23	0.16	0.843	O I					6.22
16.333	0.21	0.16	0.843	OI					6.23
16.417	0.21	0.16	0.844	OI					6.23
16.500	0.21	0.16	0.844	OI					6.23
16.583	0.19	0.16	0.844	OI					6.23
16.667	0.16	0.16	0.844	O					6.23
16.750	0.16	0.16	0.844	O					6.23
16.833	0.15	0.16	0.844	O					6.23
16.917	0.15	0.16	0.844	O					6.23
17.000	0.15	0.16	0.844	O					6.23
17.083	0.19	0.16	0.844	OI					6.23
17.167	0.24	0.16	0.845	O I					6.24
17.250	0.25	0.16	0.845	O I					6.24
17.333	0.26	0.16	0.846	O I					6.25
17.417	0.26	0.16	0.847	O I					6.25
17.500	0.26	0.16	0.847	O I					6.26
17.583	0.26	0.16	0.848	O I					6.26
17.667	0.26	0.16	0.849	O I					6.27
17.750	0.26	0.16	0.849	O I					6.27
17.833	0.24	0.16	0.850	O I					6.27
17.917	0.21	0.16	0.850	OI					6.28
18.000	0.21	0.16	0.851	OI					6.28
18.083	0.21	0.16	0.851	OI					6.28
18.167	0.21	0.16	0.851	OI					6.29
18.250	0.21	0.16	0.852	OI					6.29
18.333	0.21	0.16	0.852	OI					6.29

18.417	0.21	0.16	0.852	| OI	|	|	|	6.29
18.500	0.21	0.16	0.853	| OI	|	|	|	6.29
18.583	0.19	0.16	0.853	| OI	|	|	|	6.30
18.667	0.16	0.16	0.853	| O	|	|	|	6.30
18.750	0.16	0.16	0.853	| O	|	|	|	6.30
18.833	0.14	0.16	0.853	| O	|	|	|	6.30
18.917	0.11	0.16	0.853	| O	|	|	|	6.29
19.000	0.10	0.16	0.852	|IO	|	|	|	6.29
19.083	0.12	0.16	0.852	| O	|	|	|	6.29
19.167	0.15	0.16	0.852	| O	|	|	|	6.29
19.250	0.15	0.16	0.852	| O	|	|	|	6.29
19.333	0.17	0.16	0.852	| OI	|	|	|	6.29
19.417	0.20	0.16	0.852	| OI	|	|	|	6.29
19.500	0.20	0.16	0.852	| OI	|	|	|	6.29
19.583	0.19	0.16	0.852	| OI	|	|	|	6.29
19.667	0.16	0.16	0.852	| O	|	|	|	6.29
19.750	0.16	0.16	0.852	| O	|	|	|	6.29
19.833	0.14	0.16	0.852	| O	|	|	|	6.29
19.917	0.11	0.16	0.852	| O	|	|	|	6.29
20.000	0.10	0.16	0.852	|IO	|	|	|	6.29
20.083	0.12	0.16	0.851	| O	|	|	|	6.29
20.167	0.15	0.16	0.851	| O	|	|	|	6.28
20.250	0.15	0.16	0.851	| O	|	|	|	6.28
20.333	0.15	0.16	0.851	| O	|	|	|	6.28
20.417	0.15	0.16	0.851	| O	|	|	|	6.28
20.500	0.15	0.16	0.851	| O	|	|	|	6.28
20.583	0.15	0.16	0.851	| O	|	|	|	6.28
20.667	0.15	0.16	0.851	| O	|	|	|	6.28
20.750	0.15	0.16	0.851	| O	|	|	|	6.28
20.833	0.14	0.16	0.851	| O	|	|	|	6.28
20.917	0.11	0.16	0.850	| O	|	|	|	6.28
21.000	0.10	0.16	0.850	|IO	|	|	|	6.28
21.083	0.12	0.16	0.850	| O	|	|	|	6.27
21.167	0.15	0.16	0.850	| O	|	|	|	6.27
21.250	0.15	0.16	0.850	| O	|	|	|	6.27
21.333	0.14	0.16	0.849	| O	|	|	|	6.27
21.417	0.11	0.16	0.849	| O	|	|	|	6.27
21.500	0.10	0.16	0.849	|IO	|	|	|	6.27
21.583	0.12	0.16	0.848	| O	|	|	|	6.26
21.667	0.15	0.16	0.848	| O	|	|	|	6.26
21.750	0.15	0.16	0.848	| O	|	|	|	6.26
21.833	0.14	0.16	0.848	| O	|	|	|	6.26
21.917	0.11	0.16	0.848	| O	|	|	|	6.26
22.000	0.10	0.16	0.847	|IO	|	|	|	6.26
22.083	0.12	0.16	0.847	| O	|	|	|	6.25
22.167	0.15	0.16	0.847	| O	|	|	|	6.25
22.250	0.15	0.16	0.847	| O	|	|	|	6.25
22.333	0.14	0.16	0.847	| O	|	|	|	6.25
22.417	0.11	0.16	0.847	| O	|	|	|	6.25
22.500	0.10	0.16	0.846	|IO	|	|	|	6.25
22.583	0.10	0.16	0.846	|IO	|	|	|	6.24
22.667	0.10	0.16	0.845	|IO	|	|	|	6.24
22.750	0.10	0.16	0.845	|IO	|	|	|	6.24
22.833	0.10	0.16	0.845	|IO	|	|	|	6.24
22.917	0.10	0.16	0.844	|IO	|	|	|	6.23
23.000	0.10	0.16	0.844	|IO	|	|	|	6.23
23.083	0.10	0.16	0.843	|IO	|	|	|	6.23
23.167	0.10	0.16	0.843	|IO	|	|	|	6.22
23.250	0.10	0.16	0.843	|IO	|	|	|	6.22
23.333	0.10	0.16	0.842	|IO	|	|	|	6.22
23.417	0.10	0.16	0.842	|IO	|	|	|	6.22
23.500	0.10	0.16	0.841	|IO	|	|	|	6.21
23.583	0.10	0.16	0.841	|IO	|	|	|	6.21
23.667	0.10	0.16	0.841	|IO	|	|	|	6.21
23.750	0.10	0.16	0.840	|IO	|	|	|	6.20
23.833	0.10	0.16	0.840	|IO	|	|	|	6.20
23.917	0.10	0.16	0.839	|IO	|	|	|	6.20
24.000	0.10	0.16	0.839	|IO	|	|	|	6.19
24.083	0.07	0.16	0.839	|IO	|	|	|	6.19
24.167	0.01	0.16	0.838	I O	|	|	|	6.18
24.250	0.00	0.16	0.837	I O	|	|	|	6.18
24.333	0.00	0.16	0.836	I O	|	|	|	6.17
24.417	0.00	0.16	0.835	I O	|	|	|	6.16
24.500	0.00	0.16	0.833	I O	|	|	|	6.15
24.583	0.00	0.16	0.832	I O	|	|	|	6.14

24.667	0.00	0.16	0.831	I	O	|	|	|	6.14
24.750	0.00	0.16	0.830	I	O	|	|	|	6.13
24.833	0.00	0.16	0.829	I	O	|	|	|	6.12
24.917	0.00	0.16	0.828	I	O	|	|	|	6.11
25.000	0.00	0.16	0.827	I	O	|	|	|	6.10
25.083	0.00	0.16	0.826	I	O	|	|	|	6.09
25.167	0.00	0.16	0.825	I	O	|	|	|	6.09
25.250	0.00	0.16	0.823	I	O	|	|	|	6.08
25.333	0.00	0.16	0.822	I	O	|	|	|	6.07
25.417	0.00	0.16	0.821	I	O	|	|	|	6.06
25.500	0.00	0.16	0.820	I	O	|	|	|	6.05
25.583	0.00	0.16	0.819	I	O	|	|	|	6.05
25.667	0.00	0.16	0.818	I	O	|	|	|	6.04
25.750	0.00	0.16	0.817	I	O	|	|	|	6.03
25.833	0.00	0.16	0.816	I	O	|	|	|	6.02
25.917	0.00	0.16	0.815	I	O	|	|	|	6.01
26.000	0.00	0.16	0.814	I	O	|	|	|	6.00
26.083	0.00	0.16	0.812	I	O	|	|	|	6.00
26.167	0.00	0.16	0.811	I	O	|	|	|	5.99
26.250	0.00	0.16	0.810	I	O	|	|	|	5.98
26.333	0.00	0.16	0.809	I	O	|	|	|	5.97
26.417	0.00	0.16	0.808	I	O	|	|	|	5.97
26.500	0.00	0.16	0.807	I	O	|	|	|	5.96
26.583	0.00	0.16	0.806	I	O	|	|	|	5.95
26.667	0.00	0.16	0.805	I	O	|	|	|	5.94
26.750	0.00	0.16	0.804	I	O	|	|	|	5.94
26.833	0.00	0.16	0.803	I	O	|	|	|	5.93
26.917	0.00	0.16	0.802	I	O	|	|	|	5.92
27.000	0.00	0.16	0.800	I	O	|	|	|	5.91
27.083	0.00	0.16	0.799	I	O	|	|	|	5.91
27.167	0.00	0.16	0.798	I	O	|	|	|	5.90
27.250	0.00	0.16	0.797	I	O	|	|	|	5.89
27.333	0.00	0.16	0.796	I	O	|	|	|	5.88
27.417	0.00	0.16	0.795	I	O	|	|	|	5.87
27.500	0.00	0.16	0.794	I	O	|	|	|	5.87
27.583	0.00	0.16	0.793	I	O	|	|	|	5.86
27.667	0.00	0.16	0.792	I	O	|	|	|	5.85
27.750	0.00	0.16	0.791	I	O	|	|	|	5.84
27.833	0.00	0.16	0.790	I	O	|	|	|	5.84
27.917	0.00	0.16	0.788	I	O	|	|	|	5.83
28.000	0.00	0.16	0.787	I	O	|	|	|	5.82
28.083	0.00	0.16	0.786	I	O	|	|	|	5.81
28.167	0.00	0.16	0.785	I	O	|	|	|	5.81
28.250	0.00	0.16	0.784	I	O	|	|	|	5.80
28.333	0.00	0.16	0.783	I	O	|	|	|	5.79
28.417	0.00	0.16	0.782	I	O	|	|	|	5.78
28.500	0.00	0.16	0.781	I	O	|	|	|	5.78
28.583	0.00	0.16	0.780	I	O	|	|	|	5.77
28.667	0.00	0.16	0.779	I	O	|	|	|	5.76
28.750	0.00	0.16	0.778	I	O	|	|	|	5.76
28.833	0.00	0.15	0.777	I	O	|	|	|	5.75
28.917	0.00	0.15	0.776	I	O	|	|	|	5.74
29.000	0.00	0.15	0.775	I	O	|	|	|	5.73
29.083	0.00	0.15	0.773	I	O	|	|	|	5.73
29.167	0.00	0.15	0.772	I	O	|	|	|	5.72
29.250	0.00	0.15	0.771	I	O	|	|	|	5.71
29.333	0.00	0.15	0.770	I	O	|	|	|	5.70
29.417	0.00	0.15	0.769	I	O	|	|	|	5.70
29.500	0.00	0.15	0.768	I	O	|	|	|	5.69
29.583	0.00	0.15	0.767	I	O	|	|	|	5.68
29.667	0.00	0.15	0.766	I	O	|	|	|	5.67
29.750	0.00	0.15	0.765	I	O	|	|	|	5.67
29.833	0.00	0.15	0.764	I	O	|	|	|	5.66
29.917	0.00	0.15	0.763	I	O	|	|	|	5.65
30.000	0.00	0.15	0.762	I	O	|	|	|	5.64
30.083	0.00	0.15	0.761	I	O	|	|	|	5.64
30.167	0.00	0.15	0.760	I	O	|	|	|	5.63
30.250	0.00	0.15	0.759	I	O	|	|	|	5.62
30.333	0.00	0.15	0.758	I	O	|	|	|	5.62
30.417	0.00	0.15	0.757	I	O	|	|	|	5.61
30.500	0.00	0.15	0.756	I	O	|	|	|	5.60
30.583	0.00	0.15	0.755	I	O	|	|	|	5.59
30.667	0.00	0.15	0.753	I	O	|	|	|	5.59
30.750	0.00	0.15	0.752	I	O	|	|	|	5.58
30.833	0.00	0.15	0.751	I	O	|	|	|	5.57

30.917	0.00	0.15	0.750	I O				5.56
31.000	0.00	0.15	0.749	I O				5.56
31.083	0.00	0.15	0.748	I O				5.55
31.167	0.00	0.15	0.747	I O				5.54
31.250	0.00	0.15	0.746	I O				5.54
31.333	0.00	0.15	0.745	I O				5.53
31.417	0.00	0.15	0.744	I O				5.52
31.500	0.00	0.15	0.743	I O				5.51
31.583	0.00	0.15	0.742	I O				5.51
31.667	0.00	0.15	0.741	I O				5.50
31.750	0.00	0.15	0.740	I O				5.49
31.833	0.00	0.15	0.739	I O				5.49
31.917	0.00	0.15	0.738	I O				5.48
32.000	0.00	0.15	0.737	I O				5.47
32.083	0.00	0.15	0.736	I O				5.47
32.167	0.00	0.15	0.735	I O				5.46
32.250	0.00	0.15	0.734	I O				5.45
32.333	0.00	0.15	0.733	I O				5.45
32.417	0.00	0.15	0.732	I O				5.44
32.500	0.00	0.15	0.731	I O				5.43
32.583	0.00	0.15	0.730	I O				5.43
32.667	0.00	0.15	0.729	I O				5.42
32.750	0.00	0.15	0.728	I O				5.41
32.833	0.00	0.15	0.727	I O				5.41
32.917	0.00	0.15	0.726	I O				5.40
33.000	0.00	0.15	0.725	I O				5.39
33.083	0.00	0.15	0.724	I O				5.39
33.167	0.00	0.15	0.723	I O				5.38
33.250	0.00	0.15	0.722	I O				5.37
33.333	0.00	0.15	0.721	I O				5.37
33.417	0.00	0.15	0.719	I O				5.36
33.500	0.00	0.15	0.718	I O				5.35
33.583	0.00	0.15	0.717	I O				5.35
33.667	0.00	0.15	0.716	I O				5.34
33.750	0.00	0.15	0.715	I O				5.33
33.833	0.00	0.15	0.714	I O				5.33
33.917	0.00	0.15	0.713	I O				5.32
34.000	0.00	0.15	0.712	I O				5.31
34.083	0.00	0.15	0.711	I O				5.31
34.167	0.00	0.15	0.710	I O				5.30
34.250	0.00	0.15	0.709	I O				5.29
34.333	0.00	0.15	0.708	I O				5.29
34.417	0.00	0.15	0.707	I O				5.28
34.500	0.00	0.15	0.706	I O				5.27
34.583	0.00	0.15	0.705	I O				5.27
34.667	0.00	0.15	0.704	I O				5.26
34.750	0.00	0.15	0.703	I O				5.25
34.833	0.00	0.14	0.702	I O				5.25
34.917	0.00	0.14	0.701	I O				5.24
35.000	0.00	0.14	0.700	I O				5.23
35.083	0.00	0.14	0.699	I O				5.23
35.167	0.00	0.14	0.698	I O				5.22
35.250	0.00	0.14	0.697	I O				5.21
35.333	0.00	0.14	0.696	I O				5.21
35.417	0.00	0.14	0.695	I O				5.20
35.500	0.00	0.14	0.694	I O				5.19
35.583	0.00	0.14	0.693	I O				5.19
35.667	0.00	0.14	0.692	I O				5.18
35.750	0.00	0.14	0.691	I O				5.17
35.833	0.00	0.14	0.690	I O				5.17
35.917	0.00	0.14	0.690	I O				5.16
36.000	0.00	0.14	0.689	I O				5.15
36.083	0.00	0.14	0.688	I O				5.15
36.167	0.00	0.14	0.687	I O				5.14
36.250	0.00	0.14	0.686	I O				5.14
36.333	0.00	0.14	0.685	I O				5.13
36.417	0.00	0.14	0.684	I O				5.12
36.500	0.00	0.14	0.683	I O				5.12
36.583	0.00	0.14	0.682	I O				5.11
36.667	0.00	0.14	0.681	I O				5.10
36.750	0.00	0.14	0.680	I O				5.10
36.833	0.00	0.14	0.679	I O				5.09
36.917	0.00	0.14	0.678	I O				5.08
37.000	0.00	0.14	0.677	I O				5.08
37.083	0.00	0.14	0.676	I O				5.07

37.167	0.00	0.14	0.675	I O	|	|	|	5.06
37.250	0.00	0.14	0.674	I O	|	|	|	5.06
37.333	0.00	0.14	0.673	I O	|	|	|	5.05
37.417	0.00	0.14	0.672	I O	|	|	|	5.05
37.500	0.00	0.14	0.671	I O	|	|	|	5.04
37.583	0.00	0.14	0.670	I O	|	|	|	5.03
37.667	0.00	0.14	0.669	I O	|	|	|	5.03
37.750	0.00	0.14	0.668	I O	|	|	|	5.02
37.833	0.00	0.14	0.667	I O	|	|	|	5.01
37.917	0.00	0.14	0.666	I O	|	|	|	5.01
38.000	0.00	0.14	0.665	I O	|	|	|	5.00
38.083	0.00	0.14	0.664	I O	|	|	|	4.99
38.167	0.00	0.14	0.663	I O	|	|	|	4.99
38.250	0.00	0.14	0.662	I O	|	|	|	4.98
38.333	0.00	0.14	0.661	I O	|	|	|	4.98
38.417	0.00	0.14	0.660	I O	|	|	|	4.97
38.500	0.00	0.14	0.659	I O	|	|	|	4.96
38.583	0.00	0.14	0.658	I O	|	|	|	4.96
38.667	0.00	0.14	0.657	I O	|	|	|	4.95
38.750	0.00	0.14	0.656	I O	|	|	|	4.95
38.833	0.00	0.14	0.655	I O	|	|	|	4.94
38.917	0.00	0.14	0.655	I O	|	|	|	4.93
39.000	0.00	0.14	0.654	I O	|	|	|	4.93
39.083	0.00	0.14	0.653	I O	|	|	|	4.92
39.167	0.00	0.14	0.652	I O	|	|	|	4.92
39.250	0.00	0.14	0.651	I O	|	|	|	4.91
39.333	0.00	0.14	0.650	I O	|	|	|	4.90
39.417	0.00	0.14	0.649	I O	|	|	|	4.90
39.500	0.00	0.14	0.648	I O	|	|	|	4.89
39.583	0.00	0.14	0.647	I O	|	|	|	4.88
39.667	0.00	0.14	0.646	I O	|	|	|	4.88
39.750	0.00	0.14	0.645	I O	|	|	|	4.87
39.833	0.00	0.14	0.644	I O	|	|	|	4.87
39.917	0.00	0.14	0.643	I O	|	|	|	4.86
40.000	0.00	0.14	0.642	I O	|	|	|	4.85
40.083	0.00	0.14	0.641	I O	|	|	|	4.85
40.167	0.00	0.14	0.640	I O	|	|	|	4.84
40.250	0.00	0.14	0.639	I O	|	|	|	4.84
40.333	0.00	0.14	0.638	I O	|	|	|	4.83
40.417	0.00	0.14	0.637	I O	|	|	|	4.82
40.500	0.00	0.14	0.636	I O	|	|	|	4.82
40.583	0.00	0.14	0.635	I O	|	|	|	4.81
40.667	0.00	0.14	0.634	I O	|	|	|	4.81
40.750	0.00	0.14	0.633	I O	|	|	|	4.80
40.833	0.00	0.14	0.632	I O	|	|	|	4.79
40.917	0.00	0.14	0.631	I O	|	|	|	4.79
41.000	0.00	0.14	0.630	I O	|	|	|	4.78
41.083	0.00	0.14	0.629	I O	|	|	|	4.77
41.167	0.00	0.14	0.628	I O	|	|	|	4.77
41.250	0.00	0.14	0.628	I O	|	|	|	4.76
41.333	0.00	0.14	0.627	I O	|	|	|	4.76
41.417	0.00	0.14	0.626	I O	|	|	|	4.75
41.500	0.00	0.14	0.625	I O	|	|	|	4.74
41.583	0.00	0.14	0.624	I O	|	|	|	4.74
41.667	0.00	0.14	0.623	I O	|	|	|	4.73
41.750	0.00	0.14	0.622	I O	|	|	|	4.73
41.833	0.00	0.14	0.621	I O	|	|	|	4.72
41.917	0.00	0.14	0.620	I O	|	|	|	4.71
42.000	0.00	0.14	0.619	I O	|	|	|	4.71
42.083	0.00	0.14	0.618	I O	|	|	|	4.70
42.167	0.00	0.14	0.617	I O	|	|	|	4.70
42.250	0.00	0.14	0.616	I O	|	|	|	4.69
42.333	0.00	0.14	0.615	I O	|	|	|	4.68
42.417	0.00	0.14	0.614	I O	|	|	|	4.68
42.500	0.00	0.14	0.613	I O	|	|	|	4.67
42.583	0.00	0.14	0.612	I O	|	|	|	4.67
42.667	0.00	0.14	0.611	I O	|	|	|	4.66
42.750	0.00	0.14	0.610	I O	|	|	|	4.65
42.833	0.00	0.14	0.609	I O	|	|	|	4.65
42.917	0.00	0.14	0.608	I O	|	|	|	4.64
43.000	0.00	0.14	0.607	I O	|	|	|	4.63
43.083	0.00	0.14	0.606	I O	|	|	|	4.63
43.167	0.00	0.14	0.605	I O	|	|	|	4.62
43.250	0.00	0.14	0.604	I O	|	|	|	4.62
43.333	0.00	0.14	0.603	I O	|	|	|	4.61

43.417	0.00	0.14	0.602	I	O	|	|	|	|	4.60
43.500	0.00	0.14	0.601	I	O	|	|	|	|	4.60
43.583	0.00	0.14	0.601	I	O	|	|	|	|	4.59
43.667	0.00	0.14	0.600	I	O	|	|	|	|	4.59
43.750	0.00	0.14	0.599	I	O	|	|	|	|	4.58
43.833	0.00	0.14	0.598	I	O	|	|	|	|	4.57
43.917	0.00	0.14	0.597	I	O	|	|	|	|	4.57
44.000	0.00	0.14	0.596	I	O	|	|	|	|	4.56
44.083	0.00	0.14	0.595	I	O	|	|	|	|	4.56
44.167	0.00	0.14	0.594	I	O	|	|	|	|	4.55
44.250	0.00	0.14	0.593	I	O	|	|	|	|	4.54
44.333	0.00	0.14	0.592	I	O	|	|	|	|	4.54
44.417	0.00	0.14	0.591	I	O	|	|	|	|	4.53
44.500	0.00	0.14	0.590	I	O	|	|	|	|	4.52
44.583	0.00	0.14	0.589	I	O	|	|	|	|	4.52
44.667	0.00	0.14	0.588	I	O	|	|	|	|	4.51
44.750	0.00	0.14	0.587	I	O	|	|	|	|	4.51
44.833	0.00	0.14	0.586	I	O	|	|	|	|	4.50
44.917	0.00	0.14	0.585	I	O	|	|	|	|	4.49
45.000	0.00	0.14	0.584	I	O	|	|	|	|	4.49
45.083	0.00	0.14	0.583	I	O	|	|	|	|	4.48
45.167	0.00	0.14	0.582	I	O	|	|	|	|	4.48
45.250	0.00	0.14	0.581	I	O	|	|	|	|	4.47
45.333	0.00	0.14	0.580	I	O	|	|	|	|	4.46
45.417	0.00	0.14	0.579	I	O	|	|	|	|	4.46
45.500	0.00	0.14	0.578	I	O	|	|	|	|	4.45
45.583	0.00	0.14	0.577	I	O	|	|	|	|	4.45
45.667	0.00	0.14	0.576	I	O	|	|	|	|	4.44
45.750	0.00	0.14	0.575	I	O	|	|	|	|	4.44
45.833	0.00	0.14	0.575	I	O	|	|	|	|	4.43
45.917	0.00	0.14	0.574	I	O	|	|	|	|	4.42
46.000	0.00	0.14	0.573	I	O	|	|	|	|	4.42
46.083	0.00	0.14	0.572	I	O	|	|	|	|	4.41
46.167	0.00	0.14	0.571	I	O	|	|	|	|	4.41
46.250	0.00	0.14	0.570	I	O	|	|	|	|	4.40
46.333	0.00	0.14	0.569	I	O	|	|	|	|	4.39
46.417	0.00	0.14	0.568	I	O	|	|	|	|	4.39
46.500	0.00	0.14	0.567	I	O	|	|	|	|	4.38
46.583	0.00	0.14	0.566	I	O	|	|	|	|	4.38
46.667	0.00	0.14	0.565	I	O	|	|	|	|	4.37
46.750	0.00	0.14	0.564	I	O	|	|	|	|	4.36
46.833	0.00	0.14	0.563	I	O	|	|	|	|	4.36
46.917	0.00	0.14	0.562	I	O	|	|	|	|	4.35
47.000	0.00	0.14	0.561	I	O	|	|	|	|	4.35
47.083	0.00	0.14	0.560	I	O	|	|	|	|	4.34
47.167	0.00	0.14	0.559	I	O	|	|	|	|	4.34
47.250	0.00	0.14	0.558	I	O	|	|	|	|	4.33
47.333	0.00	0.14	0.557	I	O	|	|	|	|	4.32
47.417	0.00	0.14	0.557	I	O	|	|	|	|	4.32
47.500	0.00	0.14	0.556	I	O	|	|	|	|	4.31
47.583	0.00	0.14	0.555	I	O	|	|	|	|	4.31
47.667	0.00	0.14	0.554	I	O	|	|	|	|	4.30
47.750	0.00	0.14	0.553	I	O	|	|	|	|	4.30
47.833	0.00	0.14	0.552	I	O	|	|	|	|	4.29
47.917	0.00	0.14	0.551	I	O	|	|	|	|	4.28
48.000	0.00	0.14	0.550	I	O	|	|	|	|	4.28
48.083	0.00	0.14	0.549	I	O	|	|	|	|	4.27
48.167	0.00	0.14	0.548	I	O	|	|	|	|	4.27
48.250	0.00	0.14	0.547	I	O	|	|	|	|	4.26
48.333	0.00	0.14	0.546	I	O	|	|	|	|	4.25
48.417	0.00	0.13	0.545	I	O	|	|	|	|	4.25
48.500	0.00	0.13	0.544	I	O	|	|	|	|	4.24
48.583	0.00	0.13	0.543	I	O	|	|	|	|	4.24
48.667	0.00	0.13	0.543	I	O	|	|	|	|	4.23
48.750	0.00	0.13	0.542	I	O	|	|	|	|	4.23
48.833	0.00	0.13	0.541	I	O	|	|	|	|	4.22
48.917	0.00	0.13	0.540	I	O	|	|	|	|	4.21
49.000	0.00	0.13	0.539	I	O	|	|	|	|	4.21
49.083	0.00	0.13	0.538	I	O	|	|	|	|	4.20
49.167	0.00	0.13	0.537	I	O	|	|	|	|	4.20
49.250	0.00	0.13	0.536	I	O	|	|	|	|	4.19
49.333	0.00	0.13	0.535	I	O	|	|	|	|	4.19
49.417	0.00	0.13	0.534	I	O	|	|	|	|	4.18
49.500	0.00	0.13	0.533	I	O	|	|	|	|	4.17
49.583	0.00	0.13	0.532	I	O	|	|	|	|	4.17

49.667	0.00	0.13	0.531	I	O	|	|	|	|	4.16
49.750	0.00	0.13	0.531	I	O	|	|	|	|	4.16
49.833	0.00	0.13	0.530	I	O	|	|	|	|	4.15
49.917	0.00	0.13	0.529	I	O	|	|	|	|	4.15
50.000	0.00	0.13	0.528	I	O	|	|	|	|	4.14
50.083	0.00	0.13	0.527	I	O	|	|	|	|	4.14
50.167	0.00	0.13	0.526	I	O	|	|	|	|	4.13
50.250	0.00	0.13	0.525	I	O	|	|	|	|	4.12
50.333	0.00	0.13	0.524	I	O	|	|	|	|	4.12
50.417	0.00	0.13	0.523	I	O	|	|	|	|	4.11
50.500	0.00	0.13	0.522	I	O	|	|	|	|	4.11
50.583	0.00	0.13	0.521	I	O	|	|	|	|	4.10
50.667	0.00	0.13	0.521	I	O	|	|	|	|	4.10
50.750	0.00	0.13	0.520	I	O	|	|	|	|	4.09
50.833	0.00	0.13	0.519	I	O	|	|	|	|	4.08
50.917	0.00	0.13	0.518	I	O	|	|	|	|	4.08
51.000	0.00	0.13	0.517	I	O	|	|	|	|	4.07
51.083	0.00	0.13	0.516	I	O	|	|	|	|	4.07
51.167	0.00	0.13	0.515	I	O	|	|	|	|	4.06
51.250	0.00	0.13	0.514	I	O	|	|	|	|	4.06
51.333	0.00	0.13	0.513	I	O	|	|	|	|	4.05
51.417	0.00	0.13	0.512	I	O	|	|	|	|	4.05
51.500	0.00	0.13	0.511	I	O	|	|	|	|	4.04
51.583	0.00	0.13	0.511	I	O	|	|	|	|	4.03
51.667	0.00	0.13	0.510	I	O	|	|	|	|	4.03
51.750	0.00	0.13	0.509	I	O	|	|	|	|	4.02
51.833	0.00	0.13	0.508	I	O	|	|	|	|	4.02
51.917	0.00	0.13	0.507	I	O	|	|	|	|	4.01
52.000	0.00	0.13	0.506	I	O	|	|	|	|	4.01
52.083	0.00	0.13	0.505	I	O	|	|	|	|	4.00
52.167	0.00	0.13	0.504	I	O	|	|	|	|	4.00
52.250	0.00	0.13	0.503	I	O	|	|	|	|	3.99
52.333	0.00	0.13	0.503	I	O	|	|	|	|	3.98
52.417	0.00	0.13	0.502	I	O	|	|	|	|	3.98
52.500	0.00	0.13	0.501	I	O	|	|	|	|	3.97
52.583	0.00	0.13	0.500	I	O	|	|	|	|	3.97
52.667	0.00	0.13	0.499	I	O	|	|	|	|	3.96
52.750	0.00	0.13	0.498	I	O	|	|	|	|	3.96
52.833	0.00	0.13	0.497	I	O	|	|	|	|	3.95
52.917	0.00	0.13	0.496	I	O	|	|	|	|	3.95
53.000	0.00	0.13	0.495	I	O	|	|	|	|	3.94
53.083	0.00	0.13	0.495	I	O	|	|	|	|	3.93
53.167	0.00	0.13	0.494	I	O	|	|	|	|	3.93
53.250	0.00	0.13	0.493	I	O	|	|	|	|	3.92
53.333	0.00	0.13	0.492	I	O	|	|	|	|	3.92
53.417	0.00	0.13	0.491	I	O	|	|	|	|	3.91
53.500	0.00	0.13	0.490	I	O	|	|	|	|	3.91
53.583	0.00	0.13	0.489	I	O	|	|	|	|	3.90
53.667	0.00	0.13	0.488	I	O	|	|	|	|	3.90
53.750	0.00	0.13	0.487	I	O	|	|	|	|	3.89
53.833	0.00	0.13	0.487	I	O	|	|	|	|	3.88
53.917	0.00	0.13	0.486	I	O	|	|	|	|	3.88
54.000	0.00	0.13	0.485	I	O	|	|	|	|	3.87
54.083	0.00	0.13	0.484	I	O	|	|	|	|	3.87
54.167	0.00	0.13	0.483	I	O	|	|	|	|	3.86
54.250	0.00	0.13	0.482	I	O	|	|	|	|	3.86
54.333	0.00	0.13	0.481	I	O	|	|	|	|	3.85
54.417	0.00	0.13	0.480	I	O	|	|	|	|	3.85
54.500	0.00	0.13	0.480	I	O	|	|	|	|	3.84
54.583	0.00	0.13	0.479	I	O	|	|	|	|	3.84
54.667	0.00	0.13	0.478	I	O	|	|	|	|	3.83
54.750	0.00	0.13	0.477	I	O	|	|	|	|	3.82
54.833	0.00	0.13	0.476	I	O	|	|	|	|	3.82
54.917	0.00	0.13	0.475	I	O	|	|	|	|	3.81
55.000	0.00	0.13	0.474	I	O	|	|	|	|	3.81
55.083	0.00	0.13	0.473	I	O	|	|	|	|	3.80
55.167	0.00	0.13	0.473	I	O	|	|	|	|	3.80
55.250	0.00	0.13	0.472	I	O	|	|	|	|	3.79
55.333	0.00	0.13	0.471	I	O	|	|	|	|	3.79
55.417	0.00	0.13	0.470	I	O	|	|	|	|	3.78
55.500	0.00	0.13	0.469	I	O	|	|	|	|	3.78
55.583	0.00	0.13	0.468	I	O	|	|	|	|	3.77
55.667	0.00	0.13	0.467	I	O	|	|	|	|	3.76
55.750	0.00	0.13	0.467	I	O	|	|	|	|	3.76
55.833	0.00	0.13	0.466	I	O	|	|	|	|	3.75

55.917	0.00	0.12	0.465	I O	|	|	|	3.75
56.000	0.00	0.12	0.464	I O	|	|	|	3.74
56.083	0.00	0.12	0.463	I O	|	|	|	3.74
56.167	0.00	0.12	0.462	I O	|	|	|	3.73
56.250	0.00	0.12	0.461	I O	|	|	|	3.73
56.333	0.00	0.12	0.461	I O	|	|	|	3.72
56.417	0.00	0.12	0.460	I O	|	|	|	3.72
56.500	0.00	0.12	0.459	I O	|	|	|	3.71
56.583	0.00	0.12	0.458	I O	|	|	|	3.71
56.667	0.00	0.12	0.457	I O	|	|	|	3.70
56.750	0.00	0.12	0.456	I O	|	|	|	3.70
56.833	0.00	0.12	0.455	I O	|	|	|	3.69
56.917	0.00	0.12	0.455	I O	|	|	|	3.68
57.000	0.00	0.12	0.454	I O	|	|	|	3.68
57.083	0.00	0.12	0.453	I O	|	|	|	3.67
57.167	0.00	0.12	0.452	I O	|	|	|	3.67
57.250	0.00	0.12	0.451	I O	|	|	|	3.66
57.333	0.00	0.12	0.450	I O	|	|	|	3.66
57.417	0.00	0.12	0.449	I O	|	|	|	3.65
57.500	0.00	0.12	0.449	I O	|	|	|	3.65
57.583	0.00	0.12	0.448	I O	|	|	|	3.64
57.667	0.00	0.12	0.447	I O	|	|	|	3.64
57.750	0.00	0.12	0.446	I O	|	|	|	3.63
57.833	0.00	0.12	0.445	I O	|	|	|	3.63
57.917	0.00	0.12	0.444	I O	|	|	|	3.62
58.000	0.00	0.12	0.444	I O	|	|	|	3.62
58.083	0.00	0.12	0.443	I O	|	|	|	3.61
58.167	0.00	0.12	0.442	I O	|	|	|	3.61
58.250	0.00	0.12	0.441	I O	|	|	|	3.60
58.333	0.00	0.12	0.440	I O	|	|	|	3.59
58.417	0.00	0.12	0.439	I O	|	|	|	3.59
58.500	0.00	0.12	0.438	I O	|	|	|	3.58
58.583	0.00	0.12	0.438	I O	|	|	|	3.58
58.667	0.00	0.12	0.437	I O	|	|	|	3.57
58.750	0.00	0.12	0.436	I O	|	|	|	3.57
58.833	0.00	0.12	0.435	I O	|	|	|	3.56
58.917	0.00	0.12	0.434	I O	|	|	|	3.56
59.000	0.00	0.12	0.433	I O	|	|	|	3.55
59.083	0.00	0.12	0.433	I O	|	|	|	3.55
59.167	0.00	0.12	0.432	I O	|	|	|	3.54
59.250	0.00	0.12	0.431	I O	|	|	|	3.54
59.333	0.00	0.12	0.430	I O	|	|	|	3.53
59.417	0.00	0.12	0.429	I O	|	|	|	3.53
59.500	0.00	0.12	0.428	I O	|	|	|	3.52
59.583	0.00	0.12	0.428	I O	|	|	|	3.52
59.667	0.00	0.12	0.427	I O	|	|	|	3.51
59.750	0.00	0.12	0.426	I O	|	|	|	3.51
59.833	0.00	0.12	0.425	I O	|	|	|	3.50
59.917	0.00	0.12	0.424	I O	|	|	|	3.50
60.000	0.00	0.12	0.424	I O	|	|	|	3.49
60.083	0.00	0.12	0.423	I O	|	|	|	3.49
60.167	0.00	0.12	0.422	I O	|	|	|	3.48
60.250	0.00	0.12	0.421	I O	|	|	|	3.47
60.333	0.00	0.12	0.420	I O	|	|	|	3.47
60.417	0.00	0.12	0.419	I O	|	|	|	3.46
60.500	0.00	0.12	0.419	I O	|	|	|	3.46
60.583	0.00	0.12	0.418	I O	|	|	|	3.45
60.667	0.00	0.12	0.417	I O	|	|	|	3.45
60.750	0.00	0.12	0.416	I O	|	|	|	3.44
60.833	0.00	0.12	0.415	I O	|	|	|	3.44
60.917	0.00	0.12	0.414	I O	|	|	|	3.43
61.000	0.00	0.12	0.414	I O	|	|	|	3.43
61.083	0.00	0.12	0.413	I O	|	|	|	3.42
61.167	0.00	0.12	0.412	I O	|	|	|	3.42
61.250	0.00	0.12	0.411	I O	|	|	|	3.41
61.333	0.00	0.12	0.410	I O	|	|	|	3.41
61.417	0.00	0.12	0.410	I O	|	|	|	3.40
61.500	0.00	0.12	0.409	I O	|	|	|	3.40
61.583	0.00	0.12	0.408	I O	|	|	|	3.39
61.667	0.00	0.12	0.407	I O	|	|	|	3.39
61.750	0.00	0.12	0.406	I O	|	|	|	3.38
61.833	0.00	0.12	0.406	I O	|	|	|	3.38
61.917	0.00	0.12	0.405	I O	|	|	|	3.37
62.000	0.00	0.12	0.404	I O	|	|	|	3.37
62.083	0.00	0.12	0.403	I O	|	|	|	3.36

62.167	0.00	0.12	0.402	I o	|	|	|	3.36
62.250	0.00	0.12	0.401	I o	|	|	|	3.35
62.333	0.00	0.12	0.401	I o	|	|	|	3.35
62.417	0.00	0.12	0.400	I o	|	|	|	3.34
62.500	0.00	0.12	0.399	I o	|	|	|	3.34
62.583	0.00	0.12	0.398	I o	|	|	|	3.33
62.667	0.00	0.12	0.397	I o	|	|	|	3.33
62.750	0.00	0.12	0.397	I o	|	|	|	3.32
62.833	0.00	0.12	0.396	I o	|	|	|	3.32
62.917	0.00	0.12	0.395	I o	|	|	|	3.31
63.000	0.00	0.12	0.394	I o	|	|	|	3.31
63.083	0.00	0.12	0.393	I o	|	|	|	3.30
63.167	0.00	0.12	0.393	I o	|	|	|	3.30
63.250	0.00	0.12	0.392	I o	|	|	|	3.29
63.333	0.00	0.12	0.391	I o	|	|	|	3.29
63.417	0.00	0.12	0.390	I o	|	|	|	3.28
63.500	0.00	0.12	0.389	I o	|	|	|	3.28
63.583	0.00	0.12	0.389	I o	|	|	|	3.27
63.667	0.00	0.12	0.388	I o	|	|	|	3.27
63.750	0.00	0.12	0.387	I o	|	|	|	3.26
63.833	0.00	0.12	0.386	I o	|	|	|	3.26
63.917	0.00	0.12	0.386	I o	|	|	|	3.25
64.000	0.00	0.11	0.385	I o	|	|	|	3.25
64.083	0.00	0.11	0.384	I o	|	|	|	3.24
64.167	0.00	0.11	0.383	I o	|	|	|	3.24
64.250	0.00	0.11	0.382	I o	|	|	|	3.23
64.333	0.00	0.11	0.382	I o	|	|	|	3.23
64.417	0.00	0.11	0.381	I o	|	|	|	3.22
64.500	0.00	0.11	0.380	I o	|	|	|	3.22
64.583	0.00	0.11	0.379	I o	|	|	|	3.21
64.667	0.00	0.11	0.378	I o	|	|	|	3.21
64.750	0.00	0.11	0.378	I o	|	|	|	3.20
64.833	0.00	0.11	0.377	I o	|	|	|	3.20
64.917	0.00	0.11	0.376	I o	|	|	|	3.19
65.000	0.00	0.11	0.375	I o	|	|	|	3.19
65.083	0.00	0.11	0.374	I o	|	|	|	3.18
65.167	0.00	0.11	0.374	I o	|	|	|	3.18
65.250	0.00	0.11	0.373	I o	|	|	|	3.17
65.333	0.00	0.11	0.372	I o	|	|	|	3.17
65.417	0.00	0.11	0.371	I o	|	|	|	3.16
65.500	0.00	0.11	0.371	I o	|	|	|	3.16
65.583	0.00	0.11	0.370	I o	|	|	|	3.15
65.667	0.00	0.11	0.369	I o	|	|	|	3.15
65.750	0.00	0.11	0.368	I o	|	|	|	3.14
65.833	0.00	0.11	0.367	I o	|	|	|	3.14
65.917	0.00	0.11	0.367	I o	|	|	|	3.13
66.000	0.00	0.11	0.366	I o	|	|	|	3.13
66.083	0.00	0.11	0.365	I o	|	|	|	3.12
66.167	0.00	0.11	0.364	I o	|	|	|	3.12
66.250	0.00	0.11	0.364	I o	|	|	|	3.11
66.333	0.00	0.11	0.363	I o	|	|	|	3.11
66.417	0.00	0.11	0.362	I o	|	|	|	3.10
66.500	0.00	0.11	0.361	I o	|	|	|	3.10
66.583	0.00	0.11	0.361	I o	|	|	|	3.09
66.667	0.00	0.11	0.360	I o	|	|	|	3.09
66.750	0.00	0.11	0.359	I o	|	|	|	3.08
66.833	0.00	0.11	0.358	I o	|	|	|	3.08
66.917	0.00	0.11	0.357	I o	|	|	|	3.07
67.000	0.00	0.11	0.357	I o	|	|	|	3.07
67.083	0.00	0.11	0.356	I o	|	|	|	3.06
67.167	0.00	0.11	0.355	I o	|	|	|	3.06
67.250	0.00	0.11	0.354	I o	|	|	|	3.05
67.333	0.00	0.11	0.354	I o	|	|	|	3.05
67.417	0.00	0.11	0.353	I o	|	|	|	3.04
67.500	0.00	0.11	0.352	I o	|	|	|	3.04
67.583	0.00	0.11	0.351	I o	|	|	|	3.03
67.667	0.00	0.11	0.351	I o	|	|	|	3.03
67.750	0.00	0.11	0.350	I o	|	|	|	3.02
67.833	0.00	0.11	0.349	I o	|	|	|	3.02
67.917	0.00	0.11	0.348	I o	|	|	|	3.01
68.000	0.00	0.11	0.348	I o	|	|	|	3.01
68.083	0.00	0.11	0.347	I o	|	|	|	3.00
68.167	0.00	0.11	0.346	I o	|	|	|	3.00
68.250	0.00	0.11	0.345	I o	|	|	|	3.00
68.333	0.00	0.11	0.344	I o	|	|	|	2.99

68.417	0.00	0.11	0.344	I O				2.99
68.500	0.00	0.11	0.343	I O				2.98
68.583	0.00	0.11	0.342	I O				2.98
68.667	0.00	0.11	0.341	I O				2.97
68.750	0.00	0.11	0.341	I O				2.97
68.833	0.00	0.11	0.340	I O				2.96
68.917	0.00	0.11	0.339	I O				2.96
69.000	0.00	0.11	0.338	IO				2.95
69.083	0.00	0.11	0.338	IO				2.95
69.167	0.00	0.11	0.337	IO				2.94
69.250	0.00	0.11	0.336	IO				2.94
69.333	0.00	0.11	0.335	IO				2.93
69.417	0.00	0.11	0.335	IO				2.93
69.500	0.00	0.11	0.334	IO				2.92
69.583	0.00	0.11	0.333	IO				2.92
69.667	0.00	0.11	0.332	IO				2.91
69.750	0.00	0.11	0.332	IO				2.91
69.833	0.00	0.11	0.331	IO				2.90
69.917	0.00	0.11	0.330	IO				2.90
70.000	0.00	0.11	0.330	IO				2.89
70.083	0.00	0.11	0.329	IO				2.89
70.167	0.00	0.11	0.328	IO				2.88
70.250	0.00	0.11	0.327	IO				2.88
70.333	0.00	0.11	0.327	IO				2.87
70.417	0.00	0.11	0.326	IO				2.87
70.500	0.00	0.11	0.325	IO				2.86
70.583	0.00	0.11	0.324	IO				2.86
70.667	0.00	0.11	0.324	IO				2.85
70.750	0.00	0.11	0.323	IO				2.85
70.833	0.00	0.11	0.322	IO				2.84
70.917	0.00	0.11	0.321	IO				2.84
71.000	0.00	0.11	0.321	IO				2.83
71.083	0.00	0.11	0.320	IO				2.83
71.167	0.00	0.11	0.319	IO				2.82
71.250	0.00	0.11	0.318	IO				2.82
71.333	0.00	0.11	0.318	IO				2.81
71.417	0.00	0.11	0.317	IO				2.81
71.500	0.00	0.11	0.316	IO				2.80
71.583	0.00	0.11	0.316	IO				2.80
71.667	0.00	0.11	0.315	IO				2.79
71.750	0.00	0.11	0.314	IO				2.79
71.833	0.00	0.11	0.313	IO				2.79
71.917	0.00	0.11	0.313	IO				2.78
72.000	0.00	0.11	0.312	IO				2.78
72.083	0.00	0.11	0.311	IO				2.77
72.167	0.00	0.11	0.310	IO				2.77
72.250	0.00	0.11	0.310	IO				2.76
72.333	0.00	0.11	0.309	IO				2.76
72.417	0.00	0.11	0.308	IO				2.75
72.500	0.00	0.10	0.308	IO				2.75
72.583	0.00	0.10	0.307	IO				2.74
72.667	0.00	0.10	0.306	IO				2.74
72.750	0.00	0.10	0.305	IO				2.73
72.833	0.00	0.10	0.305	IO				2.73
72.917	0.00	0.10	0.304	IO				2.72
73.000	0.00	0.10	0.303	IO				2.72
73.083	0.00	0.10	0.302	IO				2.71
73.167	0.00	0.10	0.302	IO				2.71
73.250	0.00	0.10	0.301	IO				2.70
73.333	0.00	0.10	0.300	IO				2.70
73.417	0.00	0.10	0.300	IO				2.69
73.500	0.00	0.10	0.299	IO				2.69
73.583	0.00	0.10	0.298	IO				2.69
73.667	0.00	0.10	0.297	IO				2.68
73.750	0.00	0.10	0.297	IO				2.68
73.833	0.00	0.10	0.296	IO				2.67
73.917	0.00	0.10	0.295	IO				2.67
74.000	0.00	0.10	0.295	IO				2.66
74.083	0.00	0.10	0.294	IO				2.66
74.167	0.00	0.10	0.293	IO				2.65
74.250	0.00	0.10	0.292	IO				2.65
74.333	0.00	0.10	0.292	IO				2.64
74.417	0.00	0.10	0.291	IO				2.64
74.500	0.00	0.10	0.290	IO				2.63
74.583	0.00	0.10	0.290	IO				2.63

74.667	0.00	0.10	0.289	IO				2.62
74.750	0.00	0.10	0.288	IO				2.62
74.833	0.00	0.10	0.288	IO				2.62
74.917	0.00	0.10	0.287	IO				2.61
75.000	0.00	0.10	0.286	IO				2.61
75.083	0.00	0.10	0.285	IO				2.60
75.167	0.00	0.10	0.285	IO				2.60
75.250	0.00	0.10	0.284	IO				2.59
75.333	0.00	0.10	0.283	IO				2.59
75.417	0.00	0.10	0.283	IO				2.58
75.500	0.00	0.10	0.282	IO				2.58
75.583	0.00	0.10	0.281	IO				2.57
75.667	0.00	0.10	0.281	IO				2.57
75.750	0.00	0.10	0.280	IO				2.56
75.833	0.00	0.10	0.279	IO				2.56
75.917	0.00	0.10	0.278	IO				2.56
76.000	0.00	0.10	0.278	IO				2.55
76.083	0.00	0.10	0.277	IO				2.55
76.167	0.00	0.10	0.276	IO				2.54
76.250	0.00	0.10	0.276	IO				2.54
76.333	0.00	0.10	0.275	IO				2.53
76.417	0.00	0.10	0.274	IO				2.53
76.500	0.00	0.10	0.274	IO				2.52
76.583	0.00	0.10	0.273	IO				2.52
76.667	0.00	0.10	0.272	IO				2.51
76.750	0.00	0.10	0.272	IO				2.51
76.833	0.00	0.10	0.271	IO				2.51
76.917	0.00	0.10	0.270	IO				2.50
77.000	0.00	0.10	0.269	IO				2.50
77.083	0.00	0.10	0.269	IO				2.49
77.167	0.00	0.10	0.268	IO				2.49
77.250	0.00	0.10	0.267	IO				2.48
77.333	0.00	0.10	0.267	IO				2.48
77.417	0.00	0.10	0.266	IO				2.47
77.500	0.00	0.10	0.265	IO				2.47
77.583	0.00	0.10	0.265	IO				2.46
77.667	0.00	0.10	0.264	IO				2.46
77.750	0.00	0.10	0.263	IO				2.45
77.833	0.00	0.10	0.263	IO				2.45
77.917	0.00	0.10	0.262	IO				2.44
78.000	0.00	0.10	0.261	IO				2.44
78.083	0.00	0.10	0.261	IO				2.43
78.167	0.00	0.10	0.260	IO				2.43
78.250	0.00	0.10	0.259	IO				2.42
78.333	0.00	0.10	0.259	IO				2.42
78.417	0.00	0.10	0.258	IO				2.42
78.500	0.00	0.10	0.257	IO				2.41
78.583	0.00	0.10	0.256	IO				2.41
78.667	0.00	0.10	0.256	IO				2.40
78.750	0.00	0.10	0.255	IO				2.40
78.833	0.00	0.10	0.254	IO				2.39
78.917	0.00	0.10	0.254	IO				2.39
79.000	0.00	0.10	0.253	IO				2.38
79.083	0.00	0.10	0.252	IO				2.38
79.167	0.00	0.10	0.252	IO				2.37
79.250	0.00	0.10	0.251	IO				2.37
79.333	0.00	0.10	0.250	IO				2.36
79.417	0.00	0.10	0.250	IO				2.36
79.500	0.00	0.10	0.249	IO				2.35
79.583	0.00	0.10	0.248	IO				2.35
79.667	0.00	0.10	0.248	IO				2.35
79.750	0.00	0.10	0.247	IO				2.34
79.833	0.00	0.10	0.246	IO				2.34
79.917	0.00	0.10	0.246	IO				2.33
80.000	0.00	0.10	0.245	IO				2.33
80.083	0.00	0.10	0.244	IO				2.32
80.167	0.00	0.10	0.244	IO				2.32
80.250	0.00	0.10	0.243	IO				2.31
80.333	0.00	0.10	0.242	IO				2.31
80.417	0.00	0.10	0.242	IO				2.30
80.500	0.00	0.10	0.241	IO				2.30
80.583	0.00	0.10	0.240	IO				2.29
80.667	0.00	0.10	0.240	IO				2.29
80.750	0.00	0.10	0.239	IO				2.29
80.833	0.00	0.10	0.238	IO				2.28

80.917	0.00	0.10	0.238	IO				2.28
81.000	0.00	0.10	0.237	IO				2.27
81.083	0.00	0.10	0.236	IO				2.27
81.167	0.00	0.10	0.236	IO				2.26
81.250	0.00	0.10	0.235	IO				2.26
81.333	0.00	0.10	0.235	IO				2.25
81.417	0.00	0.09	0.234	IO				2.25
81.500	0.00	0.09	0.233	IO				2.24
81.583	0.00	0.09	0.233	IO				2.24
81.667	0.00	0.09	0.232	IO				2.24
81.750	0.00	0.09	0.231	IO				2.23
81.833	0.00	0.09	0.231	IO				2.23
81.917	0.00	0.09	0.230	IO				2.22
82.000	0.00	0.09	0.229	IO				2.22
82.083	0.00	0.09	0.229	IO				2.21
82.167	0.00	0.09	0.228	IO				2.21
82.250	0.00	0.09	0.227	IO				2.20
82.333	0.00	0.09	0.227	IO				2.20
82.417	0.00	0.09	0.226	IO				2.19
82.500	0.00	0.09	0.225	IO				2.19
82.583	0.00	0.09	0.225	IO				2.19
82.667	0.00	0.09	0.224	IO				2.18
82.750	0.00	0.09	0.223	IO				2.18
82.833	0.00	0.09	0.223	IO				2.17
82.917	0.00	0.09	0.222	IO				2.17
83.000	0.00	0.09	0.222	IO				2.16
83.083	0.00	0.09	0.221	IO				2.16
83.167	0.00	0.09	0.220	IO				2.15
83.250	0.00	0.09	0.220	IO				2.15
83.333	0.00	0.09	0.219	IO				2.15
83.417	0.00	0.09	0.218	IO				2.14
83.500	0.00	0.09	0.218	IO				2.14
83.583	0.00	0.09	0.217	IO				2.13
83.667	0.00	0.09	0.216	IO				2.13
83.750	0.00	0.09	0.216	IO				2.12
83.833	0.00	0.09	0.215	IO				2.12
83.917	0.00	0.09	0.215	IO				2.11
84.000	0.00	0.09	0.214	IO				2.11
84.083	0.00	0.09	0.213	IO				2.11
84.167	0.00	0.09	0.213	IO				2.10
84.250	0.00	0.09	0.212	IO				2.10
84.333	0.00	0.09	0.211	IO				2.09
84.417	0.00	0.09	0.211	IO				2.09
84.500	0.00	0.09	0.210	IO				2.08
84.583	0.00	0.09	0.209	IO				2.08
84.667	0.00	0.09	0.209	IO				2.08
84.750	0.00	0.09	0.208	IO				2.07
84.833	0.00	0.09	0.208	IO				2.07
84.917	0.00	0.09	0.207	IO				2.06
85.000	0.00	0.09	0.206	IO				2.06
85.083	0.00	0.09	0.206	IO				2.05
85.167	0.00	0.09	0.205	IO				2.05
85.250	0.00	0.09	0.204	IO				2.04
85.333	0.00	0.09	0.204	IO				2.04
85.417	0.00	0.09	0.203	IO				2.04
85.500	0.00	0.09	0.203	IO				2.03
85.583	0.00	0.09	0.202	IO				2.03
85.667	0.00	0.09	0.201	IO				2.02
85.750	0.00	0.09	0.201	IO				2.02
85.833	0.00	0.09	0.200	IO				2.01
85.917	0.00	0.09	0.199	IO				2.01
86.000	0.00	0.09	0.199	IO				2.01
86.083	0.00	0.09	0.198	IO				2.00
86.167	0.00	0.09	0.198	IO				2.00
86.250	0.00	0.09	0.197	IO				1.99
86.333	0.00	0.09	0.196	IO				1.99
86.417	0.00	0.09	0.196	IO				1.98
86.500	0.00	0.09	0.195	IO				1.98
86.583	0.00	0.09	0.194	IO				1.97
86.667	0.00	0.09	0.194	IO				1.97
86.750	0.00	0.09	0.193	IO				1.96
86.833	0.00	0.09	0.193	IO				1.96
86.917	0.00	0.09	0.192	IO				1.96
87.000	0.00	0.09	0.191	IO				1.95
87.083	0.00	0.09	0.191	IO				1.95

87.167	0.00	0.09	0.190	IO				1.94
87.250	0.00	0.09	0.190	IO				1.94
87.333	0.00	0.09	0.189	IO				1.93
87.417	0.00	0.09	0.188	IO				1.93
87.500	0.00	0.09	0.188	IO				1.92
87.583	0.00	0.09	0.187	IO				1.92
87.667	0.00	0.09	0.187	IO				1.91
87.750	0.00	0.09	0.186	IO				1.91
87.833	0.00	0.09	0.185	IO				1.91
87.917	0.00	0.09	0.185	IO				1.90
88.000	0.00	0.09	0.184	IO				1.90
88.083	0.00	0.09	0.184	IO				1.89
88.167	0.00	0.09	0.183	IO				1.89
88.250	0.00	0.09	0.182	IO				1.88
88.333	0.00	0.09	0.182	IO				1.88
88.417	0.00	0.09	0.181	IO				1.87
88.500	0.00	0.09	0.180	IO				1.87
88.583	0.00	0.09	0.180	IO				1.86
88.667	0.00	0.09	0.179	IO				1.86
88.750	0.00	0.09	0.179	IO				1.86
88.833	0.00	0.09	0.178	IO				1.85
88.917	0.00	0.09	0.177	IO				1.85
89.000	0.00	0.09	0.177	IO				1.84
89.083	0.00	0.09	0.176	IO				1.84
89.167	0.00	0.09	0.176	IO				1.83
89.250	0.00	0.09	0.175	IO				1.83
89.333	0.00	0.09	0.174	IO				1.82
89.417	0.00	0.09	0.174	IO				1.82
89.500	0.00	0.09	0.173	IO				1.82
89.583	0.00	0.09	0.173	IO				1.81
89.667	0.00	0.09	0.172	IO				1.81
89.750	0.00	0.09	0.172	IO				1.80
89.833	0.00	0.09	0.171	IO				1.80
89.917	0.00	0.09	0.170	IO				1.79
90.000	0.00	0.09	0.170	IO				1.79
90.083	0.00	0.09	0.169	IO				1.78
90.167	0.00	0.09	0.169	IO				1.78
90.250	0.00	0.09	0.168	IO				1.78
90.333	0.00	0.09	0.167	IO				1.77
90.417	0.00	0.09	0.167	IO				1.77
90.500	0.00	0.09	0.166	IO				1.76
90.583	0.00	0.09	0.166	IO				1.76
90.667	0.00	0.09	0.165	IO				1.75
90.750	0.00	0.08	0.164	IO				1.75
90.833	0.00	0.08	0.164	IO				1.75
90.917	0.00	0.08	0.163	IO				1.74
91.000	0.00	0.08	0.163	IO				1.74
91.083	0.00	0.08	0.162	IO				1.73
91.167	0.00	0.08	0.162	IO				1.73
91.250	0.00	0.08	0.161	IO				1.72
91.333	0.00	0.08	0.160	IO				1.72
91.417	0.00	0.08	0.160	IO				1.71
91.500	0.00	0.08	0.159	IO				1.71
91.583	0.00	0.08	0.159	IO				1.71
91.667	0.00	0.08	0.158	IO				1.70
91.750	0.00	0.08	0.157	IO				1.70
91.833	0.00	0.08	0.157	IO				1.69
91.917	0.00	0.08	0.156	IO				1.69
92.000	0.00	0.08	0.156	IO				1.68
92.083	0.00	0.08	0.155	IO				1.68
92.167	0.00	0.08	0.155	IO				1.68
92.250	0.00	0.08	0.154	IO				1.67
92.333	0.00	0.08	0.153	IO				1.67
92.417	0.00	0.08	0.153	IO				1.66
92.500	0.00	0.08	0.152	IO				1.66
92.583	0.00	0.08	0.152	IO				1.65
92.667	0.00	0.08	0.151	IO				1.65
92.750	0.00	0.08	0.151	IO				1.65
92.833	0.00	0.08	0.150	IO				1.64
92.917	0.00	0.08	0.149	IO				1.64
93.000	0.00	0.08	0.149	IO				1.63
93.083	0.00	0.08	0.148	IO				1.63
93.167	0.00	0.08	0.148	IO				1.62
93.250	0.00	0.08	0.147	IO				1.62
93.333	0.00	0.08	0.147	IO				1.62

93.417	0.00	0.08	0.146	IO				1.61
93.500	0.00	0.08	0.145	IO				1.61
93.583	0.00	0.08	0.145	IO				1.60
93.667	0.00	0.08	0.144	IO				1.60
93.750	0.00	0.08	0.144	IO				1.60
93.833	0.00	0.08	0.143	IO				1.59
93.917	0.00	0.08	0.143	IO				1.59
94.000	0.00	0.08	0.142	IO				1.58
94.083	0.00	0.08	0.142	IO				1.58
94.167	0.00	0.08	0.141	IO				1.57
94.250	0.00	0.08	0.140	IO				1.57
94.333	0.00	0.08	0.140	IO				1.57
94.417	0.00	0.08	0.139	IO				1.56
94.500	0.00	0.08	0.139	IO				1.56
94.583	0.00	0.08	0.138	IO				1.55
94.667	0.00	0.08	0.138	IO				1.55
94.750	0.00	0.08	0.137	IO				1.55
94.833	0.00	0.08	0.136	IO				1.54
94.917	0.00	0.08	0.136	IO				1.54
95.000	0.00	0.08	0.135	IO				1.53
95.083	0.00	0.08	0.135	IO				1.53
95.167	0.00	0.08	0.134	IO				1.52
95.250	0.00	0.08	0.134	IO				1.52
95.333	0.00	0.08	0.133	IO				1.52
95.417	0.00	0.08	0.133	IO				1.51
95.500	0.00	0.08	0.132	IO				1.51
95.583	0.00	0.08	0.132	IO				1.50
95.667	0.00	0.08	0.131	IO				1.50
95.750	0.00	0.08	0.130	IO				1.49
95.833	0.00	0.08	0.130	IO				1.49
95.917	0.00	0.08	0.129	IO				1.49
96.000	0.00	0.08	0.129	IO				1.48
96.083	0.00	0.08	0.128	IO				1.48
96.167	0.00	0.08	0.128	IO				1.47
96.250	0.00	0.08	0.127	IO				1.47
96.333	0.00	0.08	0.127	IO				1.46
96.417	0.00	0.08	0.126	IO				1.46
96.500	0.00	0.08	0.126	IO				1.45
96.583	0.00	0.08	0.125	IO				1.45
96.667	0.00	0.08	0.124	IO				1.44
96.750	0.00	0.08	0.124	IO				1.44
96.833	0.00	0.08	0.123	IO				1.43
96.917	0.00	0.08	0.123	IO				1.43
97.000	0.00	0.08	0.122	IO				1.43
97.083	0.00	0.08	0.122	IO				1.42
97.167	0.00	0.08	0.121	IO				1.42
97.250	0.00	0.08	0.121	IO				1.41
97.333	0.00	0.08	0.120	IO				1.41
97.417	0.00	0.08	0.120	IO				1.40
97.500	0.00	0.08	0.119	IO				1.40
97.583	0.00	0.08	0.119	IO				1.39
97.667	0.00	0.08	0.118	IO				1.39
97.750	0.00	0.08	0.118	IO				1.38
97.833	0.00	0.08	0.117	IO				1.38
97.917	0.00	0.08	0.117	IO				1.38
98.000	0.00	0.07	0.116	IO				1.37
98.083	0.00	0.07	0.116	IO				1.37
98.167	0.00	0.07	0.115	IO				1.36
98.250	0.00	0.07	0.114	IO				1.36
98.333	0.00	0.07	0.114	IO				1.35
98.417	0.00	0.07	0.113	IO				1.35
98.500	0.00	0.07	0.113	IO				1.34
98.583	0.00	0.07	0.112	IO				1.34
98.667	0.00	0.07	0.112	IO				1.34
98.750	0.00	0.07	0.111	IO				1.33
98.833	0.00	0.07	0.111	IO				1.33
98.917	0.00	0.07	0.110	IO				1.32
99.000	0.00	0.07	0.110	IO				1.32
99.083	0.00	0.07	0.109	IO				1.31
99.167	0.00	0.07	0.109	IO				1.31
99.250	0.00	0.07	0.108	IO				1.31
99.333	0.00	0.07	0.108	IO				1.30
99.417	0.00	0.07	0.107	IO				1.30
99.500	0.00	0.07	0.107	IO				1.29
99.583	0.00	0.07	0.106	IO				1.29

99.667	0.00	0.07	0.106	IO					1.28
99.750	0.00	0.07	0.105	IO					1.28
99.833	0.00	0.07	0.105	IO					1.28
99.917	0.00	0.07	0.104	IO					1.27
100.000	0.00	0.07	0.104	IO					1.27
100.083	0.00	0.07	0.104	IO					1.26
100.167	0.00	0.07	0.103	IO					1.26
100.250	0.00	0.07	0.103	IO					1.25
100.333	0.00	0.07	0.102	IO					1.25
100.417	0.00	0.07	0.102	IO					1.25
100.500	0.00	0.07	0.101	IO					1.24
100.583	0.00	0.07	0.101	IO					1.24
100.667	0.00	0.07	0.100	IO					1.23
100.750	0.00	0.07	0.100	IO					1.23
100.833	0.00	0.07	0.099	IO					1.23
100.917	0.00	0.07	0.099	IO					1.22
101.000	0.00	0.07	0.098	IO					1.22
101.083	0.00	0.07	0.098	IO					1.21
101.167	0.00	0.07	0.097	IO					1.21
101.250	0.00	0.07	0.097	IO					1.21
101.333	0.00	0.07	0.096	IO					1.20
101.417	0.00	0.07	0.096	IO					1.20
101.500	0.00	0.07	0.095	IO					1.19
101.583	0.00	0.07	0.095	IO					1.19
101.667	0.00	0.07	0.094	IO					1.19
101.750	0.00	0.07	0.094	IO					1.18
101.833	0.00	0.07	0.094	IO					1.18
101.917	0.00	0.07	0.093	IO					1.17
102.000	0.00	0.07	0.093	IO					1.17
102.083	0.00	0.07	0.092	IO					1.17
102.167	0.00	0.07	0.092	IO					1.16
102.250	0.00	0.07	0.091	IO					1.16
102.333	0.00	0.07	0.091	IO					1.15
102.417	0.00	0.07	0.090	IO					1.15
102.500	0.00	0.07	0.090	IO					1.15
102.583	0.00	0.07	0.089	IO					1.14
102.667	0.00	0.07	0.089	IO					1.14
102.750	0.00	0.07	0.089	IO					1.13
102.833	0.00	0.07	0.088	IO					1.13
102.917	0.00	0.07	0.088	IO					1.13
103.000	0.00	0.06	0.087	IO					1.12
103.083	0.00	0.06	0.087	IO					1.12
103.167	0.00	0.06	0.086	IO					1.11
103.250	0.00	0.06	0.086	IO					1.11
103.333	0.00	0.06	0.085	IO					1.11
103.417	0.00	0.06	0.085	IO					1.10
103.500	0.00	0.06	0.085	IO					1.10
103.583	0.00	0.06	0.084	IO					1.10
103.667	0.00	0.06	0.084	IO					1.09
103.750	0.00	0.06	0.083	IO					1.09
103.833	0.00	0.06	0.083	IO					1.08
103.917	0.00	0.06	0.082	IO					1.08
104.000	0.00	0.06	0.082	IO					1.08
104.083	0.00	0.06	0.081	IO					1.07
104.167	0.00	0.06	0.081	IO					1.07
104.250	0.00	0.06	0.081	IO					1.07
104.333	0.00	0.06	0.080	IO					1.06
104.417	0.00	0.06	0.080	IO					1.06
104.500	0.00	0.06	0.079	IO					1.05
104.583	0.00	0.06	0.079	IO					1.05
104.667	0.00	0.06	0.078	IO					1.05
104.750	0.00	0.06	0.078	IO					1.04
104.833	0.00	0.06	0.078	IO					1.04
104.917	0.00	0.06	0.077	IO					1.04
105.000	0.00	0.06	0.077	IO					1.03
105.083	0.00	0.06	0.076	IO					1.03
105.167	0.00	0.06	0.076	IO					1.03
105.250	0.00	0.06	0.076	IO					1.02
105.333	0.00	0.06	0.075	IO					1.02
105.417	0.00	0.06	0.075	IO					1.01
105.500	0.00	0.06	0.074	IO					1.01
105.583	0.00	0.06	0.074	IO					1.01
105.667	0.00	0.06	0.073	IO					1.00
105.750	0.00	0.06	0.073	IO					1.00
105.833	0.00	0.06	0.073	IO					1.00

105.917	0.00	0.06	0.072	IO					0.99
106.000	0.00	0.06	0.072	IO					0.99
106.083	0.00	0.06	0.071	IO					0.98
106.167	0.00	0.06	0.071	IO					0.98
106.250	0.00	0.06	0.071	IO					0.97
106.333	0.00	0.06	0.070	IO					0.97
106.417	0.00	0.06	0.070	IO					0.97
106.500	0.00	0.06	0.069	IO					0.96
106.583	0.00	0.06	0.069	IO					0.96
106.667	0.00	0.06	0.069	IO					0.95
106.750	0.00	0.06	0.068	IO					0.95
106.833	0.00	0.06	0.068	IO					0.94
106.917	0.00	0.06	0.067	IO					0.94
107.000	0.00	0.06	0.067	IO					0.94
107.083	0.00	0.06	0.067	IO					0.93
107.167	0.00	0.06	0.066	IO					0.93
107.250	0.00	0.06	0.066	IO					0.92
107.333	0.00	0.06	0.065	IO					0.92
107.417	0.00	0.06	0.065	IO					0.91
107.500	0.00	0.06	0.065	IO					0.91
107.583	0.00	0.06	0.064	IO					0.91
107.667	0.00	0.06	0.064	IO					0.90
107.750	0.00	0.06	0.063	IO					0.90
107.833	0.00	0.06	0.063	IO					0.89
107.917	0.00	0.06	0.063	IO					0.89
108.000	0.00	0.06	0.062	IO					0.89
108.083	0.00	0.06	0.062	IO					0.88
108.167	0.00	0.06	0.062	IO					0.88
108.250	0.00	0.05	0.061	IO					0.87
108.333	0.00	0.05	0.061	IO					0.87
108.417	0.00	0.05	0.060	IO					0.87
108.500	0.00	0.05	0.060	O					0.86
108.583	0.00	0.05	0.060	O					0.86
108.667	0.00	0.05	0.059	O					0.85
108.750	0.00	0.05	0.059	O					0.85
108.833	0.00	0.05	0.059	O					0.85
108.917	0.00	0.05	0.058	O					0.84
109.000	0.00	0.05	0.058	O					0.84
109.083	0.00	0.05	0.057	O					0.83
109.167	0.00	0.05	0.057	O					0.83
109.250	0.00	0.05	0.057	O					0.83
109.333	0.00	0.05	0.056	O					0.82
109.417	0.00	0.05	0.056	O					0.82
109.500	0.00	0.05	0.056	O					0.81
109.583	0.00	0.05	0.055	O					0.81
109.667	0.00	0.05	0.055	O					0.81
109.750	0.00	0.05	0.055	O					0.80
109.833	0.00	0.05	0.054	O					0.80
109.917	0.00	0.05	0.054	O					0.80
110.000	0.00	0.05	0.053	O					0.79
110.083	0.00	0.05	0.053	O					0.79
110.167	0.00	0.05	0.053	O					0.78
110.250	0.00	0.05	0.052	O					0.78
110.333	0.00	0.05	0.052	O					0.78
110.417	0.00	0.05	0.052	O					0.77
110.500	0.00	0.05	0.051	O					0.77
110.583	0.00	0.05	0.051	O					0.77
110.667	0.00	0.05	0.051	O					0.76
110.750	0.00	0.05	0.050	O					0.76
110.833	0.00	0.05	0.050	O					0.75
110.917	0.00	0.05	0.050	O					0.75
111.000	0.00	0.05	0.049	O					0.75
111.083	0.00	0.05	0.049	O					0.74
111.167	0.00	0.05	0.049	O					0.74
111.250	0.00	0.05	0.048	O					0.74
111.333	0.00	0.05	0.048	O					0.73
111.417	0.00	0.05	0.048	O					0.73
111.500	0.00	0.05	0.047	O					0.73
111.583	0.00	0.05	0.047	O					0.72
111.667	0.00	0.05	0.047	O					0.72
111.750	0.00	0.05	0.046	O					0.71
111.833	0.00	0.05	0.046	O					0.71
111.917	0.00	0.05	0.046	O					0.71
112.000	0.00	0.05	0.045	O					0.70
112.083	0.00	0.05	0.045	O					0.70

112.167	0.00	0.05	0.045	o					0.70
112.250	0.00	0.05	0.044	o					0.69
112.333	0.00	0.05	0.044	o					0.69
112.417	0.00	0.05	0.044	o					0.69
112.500	0.00	0.05	0.043	o					0.68
112.583	0.00	0.05	0.043	o					0.68
112.667	0.00	0.05	0.043	o					0.68
112.750	0.00	0.05	0.042	o					0.67
112.833	0.00	0.05	0.042	o					0.67
112.917	0.00	0.05	0.042	o					0.67
113.000	0.00	0.05	0.041	o					0.66
113.083	0.00	0.05	0.041	o					0.66
113.167	0.00	0.05	0.041	o					0.66
113.250	0.00	0.05	0.040	o					0.65
113.333	0.00	0.05	0.040	o					0.65
113.417	0.00	0.05	0.040	o					0.65
113.500	0.00	0.05	0.039	o					0.64
113.583	0.00	0.05	0.039	o					0.64
113.667	0.00	0.05	0.039	o					0.64
113.750	0.00	0.05	0.038	o					0.63
113.833	0.00	0.05	0.038	o					0.63
113.917	0.00	0.05	0.038	o					0.63
114.000	0.00	0.04	0.038	o					0.62
114.083	0.00	0.04	0.037	o					0.62
114.167	0.00	0.04	0.037	o					0.62
114.250	0.00	0.04	0.037	o					0.61
114.333	0.00	0.04	0.036	o					0.61
114.417	0.00	0.04	0.036	o					0.61
114.500	0.00	0.04	0.036	o					0.60
114.583	0.00	0.04	0.035	o					0.60
114.667	0.00	0.04	0.035	o					0.60
114.750	0.00	0.04	0.035	o					0.59
114.833	0.00	0.04	0.034	o					0.59
114.917	0.00	0.04	0.034	o					0.59
115.000	0.00	0.04	0.034	o					0.58
115.083	0.00	0.04	0.034	o					0.58
115.167	0.00	0.04	0.033	o					0.58
115.250	0.00	0.04	0.033	o					0.57
115.333	0.00	0.04	0.033	o					0.57
115.417	0.00	0.04	0.032	o					0.57
115.500	0.00	0.04	0.032	o					0.56
115.583	0.00	0.04	0.032	o					0.56
115.667	0.00	0.04	0.031	o					0.56
115.750	0.00	0.04	0.031	o					0.56
115.833	0.00	0.04	0.031	o					0.55
115.917	0.00	0.04	0.031	o					0.55
116.000	0.00	0.04	0.030	o					0.55
116.083	0.00	0.04	0.030	o					0.54
116.167	0.00	0.04	0.030	o					0.54
116.250	0.00	0.04	0.029	o					0.54
116.333	0.00	0.04	0.029	o					0.53
116.417	0.00	0.04	0.029	o					0.53
116.500	0.00	0.04	0.029	o					0.53
116.583	0.00	0.04	0.028	o					0.52
116.667	0.00	0.04	0.028	o					0.52
116.750	0.00	0.04	0.028	o					0.52
116.833	0.00	0.04	0.027	o					0.52
116.917	0.00	0.04	0.027	o					0.51
117.000	0.00	0.04	0.027	o					0.51
117.083	0.00	0.04	0.027	o					0.51
117.167	0.00	0.04	0.026	o					0.50
117.250	0.00	0.04	0.026	o					0.50
117.333	0.00	0.04	0.026	o					0.50
117.417	0.00	0.04	0.026	o					0.49
117.500	0.00	0.04	0.025	o					0.49
117.583	0.00	0.04	0.025	o					0.48
117.667	0.00	0.04	0.025	o					0.48
117.750	0.00	0.04	0.025	o					0.47
117.833	0.00	0.04	0.024	o					0.47
117.917	0.00	0.04	0.024	o					0.46
118.000	0.00	0.04	0.024	o					0.46
118.083	0.00	0.04	0.023	o					0.45
118.167	0.00	0.04	0.023	o					0.45
118.250	0.00	0.03	0.023	o					0.44
118.333	0.00	0.03	0.023	o					0.44

118.417	0.00	0.03	0.023	o	|	|	|	|	0.43
118.500	0.00	0.03	0.022	o	|	|	|	|	0.43
118.583	0.00	0.03	0.022	o	|	|	|	|	0.43
118.667	0.00	0.03	0.022	o	|	|	|	|	0.42
118.750	0.00	0.03	0.022	o	|	|	|	|	0.42
118.833	0.00	0.03	0.021	o	|	|	|	|	0.41
118.917	0.00	0.03	0.021	o	|	|	|	|	0.41
119.000	0.00	0.03	0.021	o	|	|	|	|	0.40
119.083	0.00	0.03	0.021	o	|	|	|	|	0.40
119.167	0.00	0.03	0.021	o	|	|	|	|	0.40
119.250	0.00	0.03	0.020	o	|	|	|	|	0.39
119.333	0.00	0.03	0.020	o	|	|	|	|	0.39
119.417	0.00	0.03	0.020	o	|	|	|	|	0.38
119.500	0.00	0.03	0.020	o	|	|	|	|	0.38
119.583	0.00	0.03	0.020	o	|	|	|	|	0.38
119.667	0.00	0.03	0.019	o	|	|	|	|	0.37
119.750	0.00	0.03	0.019	o	|	|	|	|	0.37
119.833	0.00	0.03	0.019	o	|	|	|	|	0.37
119.917	0.00	0.03	0.019	o	|	|	|	|	0.36
120.000	0.00	0.03	0.019	o	|	|	|	|	0.36
120.083	0.00	0.03	0.018	o	|	|	|	|	0.35
120.167	0.00	0.03	0.018	o	|	|	|	|	0.35
120.250	0.00	0.03	0.018	o	|	|	|	|	0.35
120.333	0.00	0.03	0.018	o	|	|	|	|	0.34
120.417	0.00	0.03	0.018	o	|	|	|	|	0.34
120.500	0.00	0.03	0.017	o	|	|	|	|	0.34
120.583	0.00	0.03	0.017	o	|	|	|	|	0.33
120.667	0.00	0.02	0.017	o	|	|	|	|	0.33
120.750	0.00	0.02	0.017	o	|	|	|	|	0.33
120.833	0.00	0.02	0.017	o	|	|	|	|	0.32
120.917	0.00	0.02	0.017	o	|	|	|	|	0.32
121.000	0.00	0.02	0.016	o	|	|	|	|	0.32
121.083	0.00	0.02	0.016	o	|	|	|	|	0.31
121.167	0.00	0.02	0.016	o	|	|	|	|	0.31
121.250	0.00	0.02	0.016	o	|	|	|	|	0.31
121.333	0.00	0.02	0.016	o	|	|	|	|	0.31
121.417	0.00	0.02	0.016	o	|	|	|	|	0.30
121.500	0.00	0.02	0.015	o	|	|	|	|	0.30
121.583	0.00	0.02	0.015	o	|	|	|	|	0.30
121.667	0.00	0.02	0.015	o	|	|	|	|	0.29
121.750	0.00	0.02	0.015	o	|	|	|	|	0.29
121.833	0.00	0.02	0.015	o	|	|	|	|	0.29
121.917	0.00	0.02	0.015	o	|	|	|	|	0.29
122.000	0.00	0.02	0.015	o	|	|	|	|	0.28
122.083	0.00	0.02	0.014	o	|	|	|	|	0.28
122.167	0.00	0.02	0.014	o	|	|	|	|	0.28
122.250	0.00	0.02	0.014	o	|	|	|	|	0.28
122.333	0.00	0.02	0.014	o	|	|	|	|	0.27
122.417	0.00	0.02	0.014	o	|	|	|	|	0.27
122.500	0.00	0.02	0.014	o	|	|	|	|	0.27
122.583	0.00	0.02	0.014	o	|	|	|	|	0.27
122.667	0.00	0.02	0.014	o	|	|	|	|	0.26
122.750	0.00	0.02	0.013	o	|	|	|	|	0.26
122.833	0.00	0.02	0.013	o	|	|	|	|	0.26
122.917	0.00	0.02	0.013	o	|	|	|	|	0.26
123.000	0.00	0.02	0.013	o	|	|	|	|	0.25
123.083	0.00	0.02	0.013	o	|	|	|	|	0.25
123.167	0.00	0.02	0.013	o	|	|	|	|	0.25
123.250	0.00	0.02	0.013	o	|	|	|	|	0.25
123.333	0.00	0.02	0.013	o	|	|	|	|	0.24
123.417	0.00	0.02	0.012	o	|	|	|	|	0.24
123.500	0.00	0.02	0.012	o	|	|	|	|	0.24
123.583	0.00	0.02	0.012	o	|	|	|	|	0.24
123.667	0.00	0.02	0.012	o	|	|	|	|	0.24
123.750	0.00	0.02	0.012	o	|	|	|	|	0.23
123.833	0.00	0.02	0.012	o	|	|	|	|	0.23
123.917	0.00	0.02	0.012	o	|	|	|	|	0.23
124.000	0.00	0.02	0.012	o	|	|	|	|	0.23
124.083	0.00	0.02	0.012	o	|	|	|	|	0.22
124.167	0.00	0.02	0.011	o	|	|	|	|	0.22
124.250	0.00	0.02	0.011	o	|	|	|	|	0.22
124.333	0.00	0.01	0.011	o	|	|	|	|	0.22
124.417	0.00	0.01	0.011	o	|	|	|	|	0.22
124.500	0.00	0.01	0.011	o	|	|	|	|	0.21
124.583	0.00	0.01	0.011	o	|	|	|	|	0.21

124.667	0.00	0.01	0.011	o	|	|	|	|	0.21
124.750	0.00	0.01	0.011	o	|	|	|	|	0.21
124.833	0.00	0.01	0.011	o	|	|	|	|	0.21
124.917	0.00	0.01	0.011	o	|	|	|	|	0.21
125.000	0.00	0.01	0.010	o	|	|	|	|	0.20
125.083	0.00	0.01	0.010	o	|	|	|	|	0.20
125.167	0.00	0.01	0.010	o	|	|	|	|	0.20
125.250	0.00	0.01	0.010	o	|	|	|	|	0.20
125.333	0.00	0.01	0.010	o	|	|	|	|	0.20
125.417	0.00	0.01	0.010	o	|	|	|	|	0.20
125.500	0.00	0.01	0.010	o	|	|	|	|	0.19
125.583	0.00	0.01	0.010	o	|	|	|	|	0.19
125.667	0.00	0.01	0.010	o	|	|	|	|	0.19
125.750	0.00	0.01	0.010	o	|	|	|	|	0.19
125.833	0.00	0.01	0.010	o	|	|	|	|	0.19
125.917	0.00	0.01	0.009	o	|	|	|	|	0.19
126.000	0.00	0.01	0.009	o	|	|	|	|	0.18
126.083	0.00	0.01	0.009	o	|	|	|	|	0.18
126.167	0.00	0.01	0.009	o	|	|	|	|	0.18
126.250	0.00	0.01	0.009	o	|	|	|	|	0.18
126.333	0.00	0.01	0.009	o	|	|	|	|	0.18
126.417	0.00	0.01	0.009	o	|	|	|	|	0.18
126.500	0.00	0.01	0.009	o	|	|	|	|	0.17
126.583	0.00	0.01	0.009	o	|	|	|	|	0.17
126.667	0.00	0.01	0.009	o	|	|	|	|	0.17
126.750	0.00	0.01	0.009	o	|	|	|	|	0.17
126.833	0.00	0.01	0.009	o	|	|	|	|	0.17
126.917	0.00	0.01	0.009	o	|	|	|	|	0.17
127.000	0.00	0.01	0.008	o	|	|	|	|	0.17
127.083	0.00	0.01	0.008	o	|	|	|	|	0.17
127.167	0.00	0.01	0.008	o	|	|	|	|	0.16
127.250	0.00	0.01	0.008	o	|	|	|	|	0.16
127.333	0.00	0.01	0.008	o	|	|	|	|	0.16
127.417	0.00	0.01	0.008	o	|	|	|	|	0.16
127.500	0.00	0.01	0.008	o	|	|	|	|	0.16
127.583	0.00	0.01	0.008	o	|	|	|	|	0.16
127.667	0.00	0.01	0.008	o	|	|	|	|	0.16
127.750	0.00	0.01	0.008	o	|	|	|	|	0.16
127.833	0.00	0.01	0.008	o	|	|	|	|	0.15
127.917	0.00	0.01	0.008	o	|	|	|	|	0.15
128.000	0.00	0.01	0.008	o	|	|	|	|	0.15
128.083	0.00	0.01	0.008	o	|	|	|	|	0.15
128.167	0.00	0.01	0.008	o	|	|	|	|	0.15
128.250	0.00	0.01	0.007	o	|	|	|	|	0.15
128.333	0.00	0.01	0.007	o	|	|	|	|	0.15
128.417	0.00	0.01	0.007	o	|	|	|	|	0.15
128.500	0.00	0.01	0.007	o	|	|	|	|	0.14
128.583	0.00	0.01	0.007	o	|	|	|	|	0.14
128.667	0.00	0.01	0.007	o	|	|	|	|	0.14
128.750	0.00	0.01	0.007	o	|	|	|	|	0.14
128.833	0.00	0.01	0.007	o	|	|	|	|	0.14
128.917	0.00	0.01	0.007	o	|	|	|	|	0.14
129.000	0.00	0.01	0.007	o	|	|	|	|	0.14
129.083	0.00	0.01	0.007	o	|	|	|	|	0.14
129.167	0.00	0.01	0.007	o	|	|	|	|	0.14
129.250	0.00	0.01	0.007	o	|	|	|	|	0.14
129.333	0.00	0.01	0.007	o	|	|	|	|	0.13
129.417	0.00	0.01	0.007	o	|	|	|	|	0.13
129.500	0.00	0.01	0.007	o	|	|	|	|	0.13
129.583	0.00	0.01	0.007	o	|	|	|	|	0.13
129.667	0.00	0.01	0.007	o	|	|	|	|	0.13
129.750	0.00	0.01	0.007	o	|	|	|	|	0.13
129.833	0.00	0.01	0.006	o	|	|	|	|	0.13
129.917	0.00	0.01	0.006	o	|	|	|	|	0.13
130.000	0.00	0.01	0.006	o	|	|	|	|	0.13
130.083	0.00	0.01	0.006	o	|	|	|	|	0.13
130.167	0.00	0.01	0.006	o	|	|	|	|	0.13
130.250	0.00	0.01	0.006	o	|	|	|	|	0.12
130.333	0.00	0.01	0.006	o	|	|	|	|	0.12
130.417	0.00	0.01	0.006	o	|	|	|	|	0.12
130.500	0.00	0.01	0.006	o	|	|	|	|	0.12
130.583	0.00	0.01	0.006	o	|	|	|	|	0.12
130.667	0.00	0.01	0.006	o	|	|	|	|	0.12
130.750	0.00	0.01	0.006	o	|	|	|	|	0.12
130.833	0.00	0.01	0.006	o	|	|	|	|	0.12

130.917	0.00	0.01	0.006	o	|	|	|	|	0.12
131.000	0.00	0.01	0.006	o	|	|	|	|	0.12
131.083	0.00	0.01	0.006	o	|	|	|	|	0.12
131.167	0.00	0.01	0.006	o	|	|	|	|	0.12
131.250	0.00	0.01	0.006	o	|	|	|	|	0.12
131.333	0.00	0.01	0.006	o	|	|	|	|	0.11
131.417	0.00	0.01	0.006	o	|	|	|	|	0.11
131.500	0.00	0.01	0.006	o	|	|	|	|	0.11
131.583	0.00	0.01	0.006	o	|	|	|	|	0.11
131.667	0.00	0.01	0.006	o	|	|	|	|	0.11
131.750	0.00	0.01	0.006	o	|	|	|	|	0.11
131.833	0.00	0.01	0.005	o	|	|	|	|	0.11
131.917	0.00	0.01	0.005	o	|	|	|	|	0.11
132.000	0.00	0.01	0.005	o	|	|	|	|	0.11
132.083	0.00	0.01	0.005	o	|	|	|	|	0.11
132.167	0.00	0.00	0.005	o	|	|	|	|	0.11
132.250	0.00	0.00	0.005	o	|	|	|	|	0.11
132.333	0.00	0.00	0.005	o	|	|	|	|	0.11
132.417	0.00	0.00	0.005	o	|	|	|	|	0.11
132.500	0.00	0.00	0.005	o	|	|	|	|	0.10
132.583	0.00	0.00	0.005	o	|	|	|	|	0.10
132.667	0.00	0.00	0.005	o	|	|	|	|	0.10
132.750	0.00	0.00	0.005	o	|	|	|	|	0.10
132.833	0.00	0.00	0.005	o	|	|	|	|	0.10
132.917	0.00	0.00	0.005	o	|	|	|	|	0.10
133.000	0.00	0.00	0.005	o	|	|	|	|	0.10
133.083	0.00	0.00	0.005	o	|	|	|	|	0.10
133.167	0.00	0.00	0.005	o	|	|	|	|	0.10
133.250	0.00	0.00	0.005	o	|	|	|	|	0.10
133.333	0.00	0.00	0.005	o	|	|	|	|	0.10
133.417	0.00	0.00	0.005	o	|	|	|	|	0.10
133.500	0.00	0.00	0.005	o	|	|	|	|	0.10
133.583	0.00	0.00	0.005	o	|	|	|	|	0.10
133.667	0.00	0.00	0.005	o	|	|	|	|	0.10
133.750	0.00	0.00	0.005	o	|	|	|	|	0.10
133.833	0.00	0.00	0.005	o	|	|	|	|	0.10
133.917	0.00	0.00	0.005	o	|	|	|	|	0.10
134.000	0.00	0.00	0.005	o	|	|	|	|	0.09
134.083	0.00	0.00	0.005	o	|	|	|	|	0.09
134.167	0.00	0.00	0.005	o	|	|	|	|	0.09
134.250	0.00	0.00	0.005	o	|	|	|	|	0.09
134.333	0.00	0.00	0.005	o	|	|	|	|	0.09
134.417	0.00	0.00	0.005	o	|	|	|	|	0.09
134.500	0.00	0.00	0.005	o	|	|	|	|	0.09
134.583	0.00	0.00	0.004	o	|	|	|	|	0.09
134.667	0.00	0.00	0.004	o	|	|	|	|	0.09
134.750	0.00	0.00	0.004	o	|	|	|	|	0.09
134.833	0.00	0.00	0.004	o	|	|	|	|	0.09
134.917	0.00	0.00	0.004	o	|	|	|	|	0.09
135.000	0.00	0.00	0.004	o	|	|	|	|	0.09
135.083	0.00	0.00	0.004	o	|	|	|	|	0.09
135.167	0.00	0.00	0.004	o	|	|	|	|	0.09
135.250	0.00	0.00	0.004	o	|	|	|	|	0.09
135.333	0.00	0.00	0.004	o	|	|	|	|	0.09
135.417	0.00	0.00	0.004	o	|	|	|	|	0.09
135.500	0.00	0.00	0.004	o	|	|	|	|	0.09
135.583	0.00	0.00	0.004	o	|	|	|	|	0.09
135.667	0.00	0.00	0.004	o	|	|	|	|	0.09
135.750	0.00	0.00	0.004	o	|	|	|	|	0.09
135.833	0.00	0.00	0.004	o	|	|	|	|	0.09
135.917	0.00	0.00	0.004	o	|	|	|	|	0.08
136.000	0.00	0.00	0.004	o	|	|	|	|	0.08
136.083	0.00	0.00	0.004	o	|	|	|	|	0.08
136.167	0.00	0.00	0.004	o	|	|	|	|	0.08
136.250	0.00	0.00	0.004	o	|	|	|	|	0.08
136.333	0.00	0.00	0.004	o	|	|	|	|	0.08
136.417	0.00	0.00	0.004	o	|	|	|	|	0.08
136.500	0.00	0.00	0.004	o	|	|	|	|	0.08
136.583	0.00	0.00	0.004	o	|	|	|	|	0.08
136.667	0.00	0.00	0.004	o	|	|	|	|	0.08
136.750	0.00	0.00	0.004	o	|	|	|	|	0.08
136.833	0.00	0.00	0.004	o	|	|	|	|	0.08
136.917	0.00	0.00	0.004	o	|	|	|	|	0.08
137.000	0.00	0.00	0.004	o	|	|	|	|	0.08
137.083	0.00	0.00	0.004	o	|	|	|	|	0.08

137.167	0.00	0.00	0.004	o	|	|	|	|	0.08
137.250	0.00	0.00	0.004	o	|	|	|	|	0.08
137.333	0.00	0.00	0.004	o	|	|	|	|	0.08
137.417	0.00	0.00	0.004	o	|	|	|	|	0.08
137.500	0.00	0.00	0.004	o	|	|	|	|	0.08
137.583	0.00	0.00	0.004	o	|	|	|	|	0.08
137.667	0.00	0.00	0.004	o	|	|	|	|	0.08
137.750	0.00	0.00	0.004	o	|	|	|	|	0.08
137.833	0.00	0.00	0.004	o	|	|	|	|	0.08
137.917	0.00	0.00	0.004	o	|	|	|	|	0.08
138.000	0.00	0.00	0.004	o	|	|	|	|	0.08
138.083	0.00	0.00	0.004	o	|	|	|	|	0.08
138.167	0.00	0.00	0.004	o	|	|	|	|	0.08
138.250	0.00	0.00	0.004	o	|	|	|	|	0.08
138.333	0.00	0.00	0.004	o	|	|	|	|	0.08
138.417	0.00	0.00	0.004	o	|	|	|	|	0.07
138.500	0.00	0.00	0.004	o	|	|	|	|	0.07
138.583	0.00	0.00	0.004	o	|	|	|	|	0.07
138.667	0.00	0.00	0.004	o	|	|	|	|	0.07
138.750	0.00	0.00	0.004	o	|	|	|	|	0.07
138.833	0.00	0.00	0.004	o	|	|	|	|	0.07
138.917	0.00	0.00	0.004	o	|	|	|	|	0.07
139.000	0.00	0.00	0.004	o	|	|	|	|	0.07
139.083	0.00	0.00	0.004	o	|	|	|	|	0.07
139.167	0.00	0.00	0.004	o	|	|	|	|	0.07
139.250	0.00	0.00	0.003	o	|	|	|	|	0.07
139.333	0.00	0.00	0.003	o	|	|	|	|	0.07
139.417	0.00	0.00	0.003	o	|	|	|	|	0.07
139.500	0.00	0.00	0.003	o	|	|	|	|	0.07
139.583	0.00	0.00	0.003	o	|	|	|	|	0.07
139.667	0.00	0.00	0.003	o	|	|	|	|	0.07
139.750	0.00	0.00	0.003	o	|	|	|	|	0.07
139.833	0.00	0.00	0.003	o	|	|	|	|	0.07
139.917	0.00	0.00	0.003	o	|	|	|	|	0.07
140.000	0.00	0.00	0.003	o	|	|	|	|	0.07
140.083	0.00	0.00	0.003	o	|	|	|	|	0.07
140.167	0.00	0.00	0.003	o	|	|	|	|	0.07
140.250	0.00	0.00	0.003	o	|	|	|	|	0.07
140.333	0.00	0.00	0.003	o	|	|	|	|	0.07
140.417	0.00	0.00	0.003	o	|	|	|	|	0.07
140.500	0.00	0.00	0.003	o	|	|	|	|	0.07
140.583	0.00	0.00	0.003	o	|	|	|	|	0.07
140.667	0.00	0.00	0.003	o	|	|	|	|	0.07
140.750	0.00	0.00	0.003	o	|	|	|	|	0.07
140.833	0.00	0.00	0.003	o	|	|	|	|	0.07
140.917	0.00	0.00	0.003	o	|	|	|	|	0.07
141.000	0.00	0.00	0.003	o	|	|	|	|	0.07
141.083	0.00	0.00	0.003	o	|	|	|	|	0.07
141.167	0.00	0.00	0.003	o	|	|	|	|	0.07
141.250	0.00	0.00	0.003	o	|	|	|	|	0.07
141.333	0.00	0.00	0.003	o	|	|	|	|	0.07
141.417	0.00	0.00	0.003	o	|	|	|	|	0.07
141.500	0.00	0.00	0.003	o	|	|	|	|	0.07
141.583	0.00	0.00	0.003	o	|	|	|	|	0.07
141.667	0.00	0.00	0.003	o	|	|	|	|	0.07
141.750	0.00	0.00	0.003	o	|	|	|	|	0.07
141.833	0.00	0.00	0.003	o	|	|	|	|	0.07
141.917	0.00	0.00	0.003	o	|	|	|	|	0.07
142.000	0.00	0.00	0.003	o	|	|	|	|	0.07
142.083	0.00	0.00	0.003	o	|	|	|	|	0.07
142.167	0.00	0.00	0.003	o	|	|	|	|	0.07
142.250	0.00	0.00	0.003	o	|	|	|	|	0.07
142.333	0.00	0.00	0.003	o	|	|	|	|	0.07
142.417	0.00	0.00	0.003	o	|	|	|	|	0.07
142.500	0.00	0.00	0.003	o	|	|	|	|	0.06
142.583	0.00	0.00	0.003	o	|	|	|	|	0.06
142.667	0.00	0.00	0.003	o	|	|	|	|	0.06
142.750	0.00	0.00	0.003	o	|	|	|	|	0.06
142.833	0.00	0.00	0.003	o	|	|	|	|	0.06
142.917	0.00	0.00	0.003	o	|	|	|	|	0.06
143.000	0.00	0.00	0.003	o	|	|	|	|	0.06
143.083	0.00	0.00	0.003	o	|	|	|	|	0.06
143.167	0.00	0.00	0.003	o	|	|	|	|	0.06
143.250	0.00	0.00	0.003	o	|	|	|	|	0.06
143.333	0.00	0.00	0.003	o	|	|	|	|	0.06

```
143.417    0.00    0.00      0.003  O       |       |       |       |     0.06
143.500    0.00    0.00      0.003  O       |       |       |       |     0.06
143.583    0.00    0.00      0.003  O       |       |       |       |     0.06
143.667    0.00    0.00      0.003  O       |       |       |       |     0.06

        Remaining water in basin =    0.00 (Ac.Ft)


        ****************************HYDROGRAPH DATA****************************
                       Number of intervals =  1724
                       Time interval =    5.0 (Min.)
                       Maximum/Peak flow rate =        0.160 (CFS)
                       Total volume =       1.058 (Ac.Ft)
                Status of hydrographs being held in storage
                           Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
                Peak (CFS)      0.000     0.000     0.000     0.000     0.000
                Vol (Ac.Ft)     0.000     0.000     0.000     0.000     0.000
        ************************************************************************

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FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005
Study date: 11/24/21

BCCOV BLDG A AREA 2
2-YEAR 24 HOUR STORM EVENT
21-0034
2021-11-24 EP

Program License Serial Number 4010

********** HYDROGRAPH INFORMATION **********

From study/file name: PROP2YR2A242.rte
**********HYDROGRAPH DATA**********
Number of intervals = 297
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2.367 (CFS)
Total volume = 1.444 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

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Process from Point/Station 100.000 to Point/Station 101.000
**** RETARDING BASIN ROUTING ****
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User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 297
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.063	0.004	0.001	0.004	0.004
0.500	0.033	0.090	0.033	0.033
1.000	0.092	0.130	0.092	0.092
1.500	0.165	0.160	0.164	0.166
2.000	0.248	0.180	0.247	0.249
2.500	0.339	0.200	0.338	0.340
3.000	0.435	0.220	0.434	0.436
3.500	0.534	0.240	0.533	0.535
4.000	0.635	0.260	0.634	0.636
4.500	0.736	0.270	0.735	0.737
5.000	0.835	0.290	0.834	0.836
5.500	0.931	0.300	0.930	0.932
6.000	1.022	0.320	1.021	1.023
6.500	1.106	0.330	1.105	1.107
7.000	1.179	0.340	1.178	1.180
7.500	1.237	0.350	1.236	1.238
8.000	1.270	0.370	1.269	1.271

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.6	1.18	1.78	2.37	Depth (Ft.)
0.083	0.01	0.00	0.000	O					0.00
0.167	0.07	0.00	0.000	O					0.00
0.250	0.11	0.00	0.001	OI					0.01
0.333	0.13	0.00	0.002	OI					0.03
0.417	0.17	0.00	0.003	O I					0.04
0.500	0.19	0.00	0.004	O I					0.06
0.583	0.20	0.00	0.005	O I					0.08
0.667	0.20	0.01	0.007	O I					0.10
0.750	0.21	0.01	0.008	O I					0.12
0.833	0.21	0.02	0.009	O I					0.14
0.917	0.24	0.02	0.011	O I					0.16
1.000	0.26	0.03	0.012	O I					0.19
1.083	0.27	0.03	0.014	O I					0.21
1.167	0.24	0.04	0.015	O I					0.24
1.250	0.22	0.04	0.017	O I					0.26
1.333	0.22	0.04	0.018	O I					0.27
1.417	0.21	0.05	0.019	O I					0.29
1.500	0.21	0.05	0.020	O I					0.31
1.583	0.21	0.05	0.021	O I					0.33
1.667	0.21	0.06	0.022	O I					0.34
1.750	0.21	0.06	0.024	O I					0.36
1.833	0.21	0.06	0.025	O I					0.37
1.917	0.24	0.07	0.026	O I					0.39
2.000	0.26	0.07	0.027	O I					0.41
2.083	0.27	0.08	0.028	O I					0.43
2.167	0.28	0.08	0.030	O I					0.45
2.250	0.28	0.08	0.031	O I					0.47
2.333	0.28	0.09	0.032	O I					0.49
2.417	0.28	0.09	0.034	O I					0.51
2.500	0.28	0.09	0.035	O I					0.52
2.583	0.28	0.09	0.036	O I					0.53
2.667	0.31	0.09	0.038	O I					0.54
2.750	0.33	0.09	0.039	O I					0.55
2.833	0.34	0.10	0.041	O I					0.57
2.917	0.35	0.10	0.043	O I					0.58
3.000	0.35	0.10	0.044	O I					0.60
3.083	0.35	0.10	0.046	O I					0.61
3.167	0.35	0.10	0.048	O I					0.62
3.250	0.35	0.10	0.049	O I					0.64
3.333	0.35	0.10	0.051	O I					0.65
3.417	0.35	0.10	0.053	O I					0.67
3.500	0.35	0.10	0.055	O I					0.68
3.583	0.35	0.11	0.056	O I					0.70
3.667	0.35	0.11	0.058	O I					0.71
3.750	0.35	0.11	0.060	O I					0.73
3.833	0.35	0.11	0.061	O I					0.74
3.917	0.38	0.11	0.063	O I					0.75
4.000	0.40	0.11	0.065	O I					0.77
4.083	0.41	0.11	0.067	O I					0.79
4.167	0.42	0.11	0.069	O I					0.81
4.250	0.42	0.12	0.071	O I					0.82
4.333	0.42	0.12	0.073	O I					0.84
4.417	0.45	0.12	0.075	O I					0.86
4.500	0.47	0.12	0.078	O I					0.88
4.583	0.48	0.12	0.080	O I					0.90
4.667	0.49	0.12	0.083	O I					0.92
4.750	0.49	0.13	0.085	O I					0.94
4.833	0.49	0.13	0.088	O I					0.96
4.917	0.52	0.13	0.090	O I					0.99
5.000	0.54	0.13	0.093	O I					1.01
5.083	0.54	0.13	0.096	O I					1.03
5.167	0.49	0.13	0.099	O I					1.05
5.250	0.45	0.13	0.101	O I					1.06
5.333	0.44	0.13	0.103	O I					1.08
5.417	0.46	0.14	0.105	O I					1.09
5.500	0.48	0.14	0.108	O I					1.11
5.583	0.49	0.14	0.110	O I					1.12
5.667	0.52	0.14	0.112	O I					1.14

5.750	0.54	0.14	0.115	o	I			1.16
5.833	0.55	0.14	0.118	o	I			1.18
5.917	0.55	0.14	0.121	o	I			1.20
6.000	0.56	0.14	0.124	o	I			1.22
6.083	0.56	0.14	0.126	o	I			1.24
6.167	0.59	0.15	0.129	o	I			1.26
6.250	0.61	0.15	0.133	o	I			1.28
6.333	0.62	0.15	0.136	o	I			1.30
6.417	0.63	0.15	0.139	o	I			1.32
6.500	0.63	0.15	0.142	o	I			1.34
6.583	0.63	0.15	0.146	o	I			1.37
6.667	0.66	0.15	0.149	o	I			1.39
6.750	0.68	0.15	0.153	o	I			1.42
6.833	0.69	0.16	0.156	o	I			1.44
6.917	0.69	0.16	0.160	o	I			1.47
7.000	0.70	0.16	0.164	o	I			1.49
7.083	0.70	0.16	0.167	o	I			1.51
7.167	0.70	0.16	0.171	o	I			1.54
7.250	0.70	0.16	0.175	o	I			1.56
7.333	0.70	0.16	0.178	o	I			1.58
7.417	0.73	0.16	0.182	o	I			1.60
7.500	0.75	0.17	0.186	o	I			1.63
7.583	0.77	0.17	0.190	o	I			1.65
7.667	0.80	0.17	0.195	o	I			1.68
7.750	0.82	0.17	0.199	o	I			1.71
7.833	0.83	0.17	0.204	o	I			1.73
7.917	0.87	0.17	0.208	o	I			1.76
8.000	0.89	0.17	0.213	o	I			1.79
8.083	0.91	0.17	0.218	o	I			1.82
8.167	0.97	0.17	0.223	o	I			1.85
8.250	1.01	0.18	0.229	o	I			1.89
8.333	1.03	0.18	0.235	o	I			1.92
8.417	1.04	0.18	0.241	o	I			1.96
8.500	1.04	0.18	0.247	o	I			1.99
8.583	1.05	0.18	0.253	o	I			2.03
8.667	1.08	0.18	0.259	o	I			2.06
8.750	1.10	0.18	0.265	o	I			2.09
8.833	1.12	0.19	0.271	o	I			2.13
8.917	1.15	0.19	0.278	o	I			2.16
9.000	1.17	0.19	0.285	o	I			2.20
9.083	1.19	0.19	0.292	o	I			2.24
9.167	1.25	0.19	0.299	o	I			2.28
9.250	1.29	0.19	0.306	o	I			2.32
9.333	1.32	0.19	0.314	o	I			2.36
9.417	1.35	0.20	0.322	o	I			2.40
9.500	1.38	0.20	0.330	o	I			2.45
9.583	1.39	0.20	0.338	o	I			2.49
9.667	1.43	0.20	0.346	o	I			2.54
9.750	1.45	0.20	0.355	o	I			2.58
9.833	1.46	0.21	0.363	o	I			2.63
9.917	1.50	0.21	0.372	o	I			2.67
10.000	1.52	0.21	0.381	o	I			2.72
10.083	1.49	0.21	0.390	o	I			2.77
10.167	1.29	0.21	0.398	o	I			2.81
10.250	1.16	0.21	0.405	o	I			2.84
10.333	1.10	0.22	0.411	o	I			2.88
10.417	1.08	0.22	0.417	o	I			2.91
10.500	1.06	0.22	0.423	o	I			2.94
10.583	1.08	0.22	0.429	o	I			2.97
10.667	1.22	0.22	0.436	o	I			3.00
10.750	1.32	0.22	0.443	o	I			3.04
10.833	1.36	0.22	0.450	o	I			3.08
10.917	1.38	0.22	0.458	o	I			3.12
11.000	1.39	0.23	0.466	o	I			3.16
11.083	1.39	0.23	0.474	o	I			3.20
11.167	1.36	0.23	0.482	o	I			3.24
11.250	1.34	0.23	0.490	o	I			3.28
11.333	1.34	0.23	0.498	o	I			3.32
11.417	1.33	0.23	0.505	o	I			3.35
11.500	1.33	0.24	0.513	o	I			3.39
11.583	1.32	0.24	0.520	o	I			3.43
11.667	1.26	0.24	0.527	o	I			3.47
11.750	1.22	0.24	0.534	o	I			3.50
11.833	1.21	0.24	0.541	o	I			3.53
11.917	1.23	0.24	0.548	o	I			3.57

12.000	1.25	0.24	0.555	O		I		3.60
12.083	1.29	0.25	0.562	O		I		3.64
12.167	1.49	0.25	0.569	O		I		3.68
12.250	1.64	0.25	0.579	O		I		3.72
12.333	1.69	0.25	0.588	O		I		3.77
12.417	1.75	0.25	0.598	O		I		3.82
12.500	1.79	0.25	0.609	O		I		3.87
12.583	1.81	0.26	0.620	O		I		3.92
12.667	1.88	0.26	0.630	O		I		3.98
12.750	1.92	0.26	0.642	O		I		4.03
12.833	1.94	0.26	0.653	O		I		4.09
12.917	1.98	0.26	0.665	O		I		4.15
13.000	2.01	0.26	0.677	O		I		4.21
13.083	2.04	0.27	0.689	O		I		4.27
13.167	2.19	0.27	0.702	O		I		4.33
13.250	2.30	0.27	0.715	O		I		4.40
13.333	2.33	0.27	0.729	O		I		4.47
13.417	2.36	0.27	0.744	O		I		4.54
13.500	2.37	0.27	0.758	O		I		4.61
13.583	2.32	0.28	0.772	O		I		4.68
13.667	2.00	0.28	0.785	O		I		4.75
13.750	1.78	0.28	0.796	O		I		4.81
13.833	1.70	0.28	0.806	O		I		4.86
13.917	1.65	0.29	0.816	O		I		4.90
14.000	1.63	0.29	0.825	O		I		4.95
14.083	1.64	0.29	0.835	O		I		5.00
14.167	1.75	0.29	0.844	O		I		5.05
14.250	1.83	0.29	0.855	O		I		5.10
14.333	1.85	0.29	0.865	O		I		5.16
14.417	1.84	0.29	0.876	O		I		5.21
14.500	1.83	0.30	0.886	O		I		5.27
14.583	1.82	0.30	0.897	O		I		5.32
14.667	1.82	0.30	0.907	O		I		5.38
14.750	1.82	0.30	0.918	O		I		5.43
14.833	1.81	0.30	0.928	O		I		5.49
14.917	1.78	0.30	0.939	O		I		5.54
15.000	1.76	0.30	0.949	O		I		5.60
15.083	1.75	0.31	0.959	O		I		5.65
15.167	1.72	0.31	0.969	O		I		5.71
15.250	1.69	0.31	0.978	O		I		5.76
15.333	1.68	0.31	0.988	O		I		5.81
15.417	1.65	0.31	0.997	O		I		5.86
15.500	1.63	0.32	1.006	O		I		5.91
15.583	1.60	0.32	1.015	O		I		5.96
15.667	1.48	0.32	1.023	O		I		6.01
15.750	1.39	0.32	1.031	O		I		6.05
15.833	1.36	0.32	1.038	O		I		6.10
15.917	1.34	0.32	1.045	O		I		6.14
16.000	1.34	0.32	1.052	O		I		6.18
16.083	1.26	0.32	1.059	O		I		6.22
16.167	0.82	0.33	1.064	O	I			6.25
16.250	0.52	0.33	1.066	O I				6.26
16.333	0.40	0.33	1.067	OI				6.27
16.417	0.34	0.33	1.068	O				6.27
16.500	0.31	0.33	1.068	O				6.27
16.583	0.29	0.33	1.067	IO				6.27
16.667	0.25	0.33	1.067	IO				6.27
16.750	0.23	0.33	1.066	IO				6.26
16.833	0.22	0.33	1.066	I O				6.26
16.917	0.21	0.33	1.065	I O				6.26
17.000	0.21	0.33	1.064	I O				6.25
17.083	0.22	0.32	1.063	I O				6.25
17.167	0.28	0.32	1.063	IO				6.24
17.250	0.32	0.32	1.063	O				6.24
17.333	0.33	0.32	1.063	O				6.24
17.417	0.34	0.32	1.063	O				6.24
17.500	0.35	0.32	1.063	O				6.24
17.583	0.35	0.32	1.063	O				6.24
17.667	0.35	0.32	1.063	O				6.25
17.750	0.35	0.32	1.063	O				6.25
17.833	0.34	0.32	1.064	O				6.25
17.917	0.32	0.32	1.064	O				6.25
18.000	0.30	0.32	1.063	IO				6.25
18.083	0.29	0.32	1.063	IO				6.25
18.167	0.28	0.32	1.063	IO				6.24

18.250	0.28	0.32	1.063	IO				6.24
18.333	0.28	0.32	1.062	IO				6.24
18.417	0.28	0.32	1.062	IO				6.24
18.500	0.28	0.32	1.062	IO				6.24
18.583	0.27	0.32	1.061	IO				6.23
18.667	0.25	0.32	1.061	IO				6.23
18.750	0.23	0.32	1.060	IO				6.23
18.833	0.21	0.32	1.060	I O				6.22
18.917	0.18	0.32	1.059	I O				6.22
19.000	0.16	0.32	1.058	I O				6.21
19.083	0.15	0.32	1.057	I O				6.21
19.167	0.18	0.32	1.055	I O				6.20
19.250	0.20	0.32	1.055	I O				6.19
19.333	0.21	0.32	1.054	I O				6.19
19.417	0.24	0.32	1.053	IO				6.18
19.500	0.26	0.32	1.052	IO				6.18
19.583	0.27	0.32	1.052	IO				6.18
19.667	0.24	0.32	1.052	IO				6.18
19.750	0.22	0.32	1.051	IO				6.17
19.833	0.21	0.32	1.050	I O				6.17
19.917	0.18	0.32	1.049	I O				6.16
20.000	0.16	0.32	1.048	I O				6.16
20.083	0.15	0.32	1.047	I O				6.15
20.167	0.18	0.32	1.046	I O				6.14
20.250	0.20	0.32	1.045	I O				6.14
20.333	0.20	0.32	1.044	I O				6.13
20.417	0.21	0.32	1.043	I O				6.13
20.500	0.21	0.32	1.043	I O				6.12
20.583	0.21	0.32	1.042	I O				6.12
20.667	0.21	0.32	1.041	I O				6.11
20.750	0.21	0.32	1.040	I O				6.11
20.833	0.20	0.32	1.040	I O				6.10
20.917	0.18	0.32	1.039	I O				6.10
21.000	0.16	0.32	1.038	I O				6.09
21.083	0.15	0.32	1.036	I O				6.09
21.167	0.18	0.32	1.035	I O				6.08
21.250	0.20	0.32	1.034	I O				6.07
21.333	0.20	0.32	1.034	I O				6.07
21.417	0.17	0.32	1.033	I O				6.06
21.500	0.15	0.32	1.031	I O				6.06
21.583	0.15	0.32	1.030	I O				6.05
21.667	0.18	0.32	1.029	I O				6.04
21.750	0.20	0.32	1.028	I O				6.04
21.833	0.20	0.32	1.027	I O				6.03
21.917	0.17	0.32	1.027	I O				6.03
22.000	0.15	0.32	1.025	I O				6.02
22.083	0.15	0.32	1.024	I O				6.01
22.167	0.18	0.32	1.023	I O				6.01
22.250	0.20	0.32	1.022	I O				6.00
22.333	0.20	0.32	1.021	I O				6.00
22.417	0.17	0.32	1.021	I O				5.99
22.500	0.15	0.32	1.019	I O				5.99
22.583	0.15	0.32	1.018	I O				5.98
22.667	0.14	0.32	1.017	I O				5.97
22.750	0.14	0.32	1.016	I O				5.97
22.833	0.14	0.32	1.015	I O				5.96
22.917	0.14	0.32	1.013	I O				5.95
23.000	0.14	0.32	1.012	I O				5.95
23.083	0.14	0.32	1.011	I O				5.94
23.167	0.14	0.32	1.010	I O				5.93
23.250	0.14	0.32	1.009	I O				5.93
23.333	0.14	0.32	1.007	I O				5.92
23.417	0.14	0.32	1.006	I O				5.91
23.500	0.14	0.32	1.005	I O				5.91
23.583	0.14	0.32	1.004	I O				5.90
23.667	0.14	0.32	1.002	I O				5.89
23.750	0.14	0.32	1.001	I O				5.89
23.833	0.14	0.32	1.000	I O				5.88
23.917	0.14	0.31	0.999	I O				5.87
24.000	0.14	0.31	0.998	I O				5.87
24.083	0.13	0.31	0.996	I O				5.86
24.167	0.07	0.31	0.995	I O				5.85
24.250	0.03	0.31	0.993	I O				5.84
24.333	0.02	0.31	0.991	I O				5.83
24.417	0.01	0.31	0.989	I O				5.82

24.500	0.00	0.31	0.987	I	o	|	|	|	|	5.81
24.583	0.00	0.31	0.985	I	o	|	|	|	|	5.80
24.667	0.00	0.31	0.983	I	o	|	|	|	|	5.78
24.750	0.00	0.31	0.981	I	o	|	|	|	|	5.77
24.833	0.00	0.31	0.978	I	o	|	|	|	|	5.76
24.917	0.00	0.31	0.976	I	o	|	|	|	|	5.75
25.000	0.00	0.31	0.974	I	o	|	|	|	|	5.74
25.083	0.00	0.31	0.972	I	o	|	|	|	|	5.73
25.167	0.00	0.31	0.970	I	o	|	|	|	|	5.71
25.250	0.00	0.31	0.968	I	o	|	|	|	|	5.70
25.333	0.00	0.31	0.966	I	o	|	|	|	|	5.69
25.417	0.00	0.31	0.963	I	o	|	|	|	|	5.68
25.500	0.00	0.31	0.961	I	o	|	|	|	|	5.67
25.583	0.00	0.31	0.959	I	o	|	|	|	|	5.66
25.667	0.00	0.31	0.957	I	o	|	|	|	|	5.64
25.750	0.00	0.31	0.955	I	o	|	|	|	|	5.63
25.833	0.00	0.30	0.953	I	o	|	|	|	|	5.62
25.917	0.00	0.30	0.951	I	o	|	|	|	|	5.61
26.000	0.00	0.30	0.949	I	o	|	|	|	|	5.60
26.083	0.00	0.30	0.947	I	o	|	|	|	|	5.59
26.167	0.00	0.30	0.945	I	o	|	|	|	|	5.57
26.250	0.00	0.30	0.943	I	o	|	|	|	|	5.56
26.333	0.00	0.30	0.940	I	o	|	|	|	|	5.55
26.417	0.00	0.30	0.938	I	o	|	|	|	|	5.54
26.500	0.00	0.30	0.936	I	o	|	|	|	|	5.53
26.583	0.00	0.30	0.934	I	o	|	|	|	|	5.52
26.667	0.00	0.30	0.932	I	o	|	|	|	|	5.51
26.750	0.00	0.30	0.930	I	o	|	|	|	|	5.50
26.833	0.00	0.30	0.928	I	o	|	|	|	|	5.48
26.917	0.00	0.30	0.926	I	o	|	|	|	|	5.47
27.000	0.00	0.30	0.924	I	o	|	|	|	|	5.46
27.083	0.00	0.30	0.922	I	o	|	|	|	|	5.45
27.167	0.00	0.30	0.920	I	o	|	|	|	|	5.44
27.250	0.00	0.30	0.918	I	o	|	|	|	|	5.43
27.333	0.00	0.30	0.916	I	o	|	|	|	|	5.42
27.417	0.00	0.30	0.914	I	o	|	|	|	|	5.41
27.500	0.00	0.30	0.912	I	o	|	|	|	|	5.40
27.583	0.00	0.30	0.909	I	o	|	|	|	|	5.39
27.667	0.00	0.30	0.907	I	o	|	|	|	|	5.38
27.750	0.00	0.30	0.905	I	o	|	|	|	|	5.37
27.833	0.00	0.30	0.903	I	o	|	|	|	|	5.36
27.917	0.00	0.30	0.901	I	o	|	|	|	|	5.35
28.000	0.00	0.30	0.899	I	o	|	|	|	|	5.33
28.083	0.00	0.30	0.897	I	o	|	|	|	|	5.32
28.167	0.00	0.30	0.895	I	o	|	|	|	|	5.31
28.250	0.00	0.30	0.893	I	o	|	|	|	|	5.30
28.333	0.00	0.30	0.891	I	o	|	|	|	|	5.29
28.417	0.00	0.30	0.889	I	o	|	|	|	|	5.28
28.500	0.00	0.30	0.887	I	o	|	|	|	|	5.27
28.583	0.00	0.30	0.885	I	o	|	|	|	|	5.26
28.667	0.00	0.29	0.883	I	o	|	|	|	|	5.25
28.750	0.00	0.29	0.881	I	o	|	|	|	|	5.24
28.833	0.00	0.29	0.879	I	o	|	|	|	|	5.23
28.917	0.00	0.29	0.877	I	o	|	|	|	|	5.22
29.000	0.00	0.29	0.875	I	o	|	|	|	|	5.21
29.083	0.00	0.29	0.873	I	o	|	|	|	|	5.20
29.167	0.00	0.29	0.871	I	o	|	|	|	|	5.19
29.250	0.00	0.29	0.869	I	o	|	|	|	|	5.18
29.333	0.00	0.29	0.867	I	o	|	|	|	|	5.17
29.417	0.00	0.29	0.865	I	o	|	|	|	|	5.15
29.500	0.00	0.29	0.863	I	o	|	|	|	|	5.14
29.583	0.00	0.29	0.861	I	o	|	|	|	|	5.13
29.667	0.00	0.29	0.859	I	o	|	|	|	|	5.12
29.750	0.00	0.29	0.857	I	o	|	|	|	|	5.11
29.833	0.00	0.29	0.855	I	o	|	|	|	|	5.10
29.917	0.00	0.29	0.853	I	o	|	|	|	|	5.09
30.000	0.00	0.29	0.851	I	o	|	|	|	|	5.08
30.083	0.00	0.29	0.849	I	o	|	|	|	|	5.07
30.167	0.00	0.29	0.847	I	o	|	|	|	|	5.06
30.250	0.00	0.29	0.845	I	o	|	|	|	|	5.05
30.333	0.00	0.29	0.843	I	o	|	|	|	|	5.04
30.417	0.00	0.29	0.841	I	o	|	|	|	|	5.03
30.500	0.00	0.29	0.839	I	o	|	|	|	|	5.02
30.583	0.00	0.29	0.837	I	o	|	|	|	|	5.01
30.667	0.00	0.29	0.835	I	o	|	|	|	|	5.00

30.750	0.00	0.29	0.833	I	O	|	|	|	4.99
30.833	0.00	0.29	0.831	I	O	|	|	|	4.98
30.917	0.00	0.29	0.829	I	O	|	|	|	4.97
31.000	0.00	0.29	0.827	I	O	|	|	|	4.96
31.083	0.00	0.29	0.825	I	O	|	|	|	4.95
31.167	0.00	0.29	0.823	I	O	|	|	|	4.94
31.250	0.00	0.29	0.821	I	O	|	|	|	4.93
31.333	0.00	0.29	0.819	I	O	|	|	|	4.92
31.417	0.00	0.29	0.817	I	O	|	|	|	4.91
31.500	0.00	0.29	0.815	I	O	|	|	|	4.90
31.583	0.00	0.29	0.813	I	O	|	|	|	4.89
31.667	0.00	0.29	0.811	I	O	|	|	|	4.88
31.750	0.00	0.28	0.809	I	O	|	|	|	4.87
31.833	0.00	0.28	0.807	I	O	|	|	|	4.86
31.917	0.00	0.28	0.805	I	O	|	|	|	4.85
32.000	0.00	0.28	0.803	I	O	|	|	|	4.84
32.083	0.00	0.28	0.801	I	O	|	|	|	4.83
32.167	0.00	0.28	0.799	I	O	|	|	|	4.82
32.250	0.00	0.28	0.797	I	O	|	|	|	4.81
32.333	0.00	0.28	0.795	I	O	|	|	|	4.80
32.417	0.00	0.28	0.793	I	O	|	|	|	4.79
32.500	0.00	0.28	0.791	I	O	|	|	|	4.78
32.583	0.00	0.28	0.789	I	O	|	|	|	4.77
32.667	0.00	0.28	0.787	I	O	|	|	|	4.76
32.750	0.00	0.28	0.786	I	O	|	|	|	4.75
32.833	0.00	0.28	0.784	I	O	|	|	|	4.74
32.917	0.00	0.28	0.782	I	O	|	|	|	4.73
33.000	0.00	0.28	0.780	I	O	|	|	|	4.72
33.083	0.00	0.28	0.778	I	O	|	|	|	4.71
33.167	0.00	0.28	0.776	I	O	|	|	|	4.70
33.250	0.00	0.28	0.774	I	O	|	|	|	4.69
33.333	0.00	0.28	0.772	I	O	|	|	|	4.68
33.417	0.00	0.28	0.770	I	O	|	|	|	4.67
33.500	0.00	0.28	0.768	I	O	|	|	|	4.66
33.583	0.00	0.28	0.766	I	O	|	|	|	4.65
33.667	0.00	0.28	0.764	I	O	|	|	|	4.64
33.750	0.00	0.28	0.763	I	O	|	|	|	4.63
33.833	0.00	0.27	0.761	I	O	|	|	|	4.62
33.917	0.00	0.27	0.759	I	O	|	|	|	4.62
34.000	0.00	0.27	0.757	I	O	|	|	|	4.61
34.083	0.00	0.27	0.755	I	O	|	|	|	4.60
34.167	0.00	0.27	0.753	I	O	|	|	|	4.59
34.250	0.00	0.27	0.751	I	O	|	|	|	4.58
34.333	0.00	0.27	0.749	I	O	|	|	|	4.57
34.417	0.00	0.27	0.748	I	O	|	|	|	4.56
34.500	0.00	0.27	0.746	I	O	|	|	|	4.55
34.583	0.00	0.27	0.744	I	O	|	|	|	4.54
34.667	0.00	0.27	0.742	I	O	|	|	|	4.53
34.750	0.00	0.27	0.740	I	O	|	|	|	4.52
34.833	0.00	0.27	0.738	I	O	|	|	|	4.51
34.917	0.00	0.27	0.736	I	O	|	|	|	4.50
35.000	0.00	0.27	0.734	I	O	|	|	|	4.49
35.083	0.00	0.27	0.733	I	O	|	|	|	4.48
35.167	0.00	0.27	0.731	I	O	|	|	|	4.47
35.250	0.00	0.27	0.729	I	O	|	|	|	4.46
35.333	0.00	0.27	0.727	I	O	|	|	|	4.46
35.417	0.00	0.27	0.725	I	O	|	|	|	4.45
35.500	0.00	0.27	0.723	I	O	|	|	|	4.44
35.583	0.00	0.27	0.721	I	O	|	|	|	4.43
35.667	0.00	0.27	0.720	I	O	|	|	|	4.42
35.750	0.00	0.27	0.718	I	O	|	|	|	4.41
35.833	0.00	0.27	0.716	I	O	|	|	|	4.40
35.917	0.00	0.27	0.714	I	O	|	|	|	4.39
36.000	0.00	0.27	0.712	I	O	|	|	|	4.38
36.083	0.00	0.27	0.710	I	O	|	|	|	4.37
36.167	0.00	0.27	0.709	I	O	|	|	|	4.36
36.250	0.00	0.27	0.707	I	O	|	|	|	4.35
36.333	0.00	0.27	0.705	I	O	|	|	|	4.35
36.417	0.00	0.27	0.703	I	O	|	|	|	4.34
36.500	0.00	0.27	0.701	I	O	|	|	|	4.33
36.583	0.00	0.27	0.699	I	O	|	|	|	4.32
36.667	0.00	0.27	0.698	I	O	|	|	|	4.31
36.750	0.00	0.27	0.696	I	O	|	|	|	4.30
36.833	0.00	0.27	0.694	I	O	|	|	|	4.29
36.917	0.00	0.27	0.692	I	O	|	|	|	4.28

37.000	0.00	0.27	0.690	I	O	|	|	|	4.27
37.083	0.00	0.27	0.688	I	O	|	|	|	4.26
37.167	0.00	0.27	0.687	I	O	|	|	|	4.26
37.250	0.00	0.26	0.685	I	O	|	|	|	4.25
37.333	0.00	0.26	0.683	I	O	|	|	|	4.24
37.417	0.00	0.26	0.681	I	O	|	|	|	4.23
37.500	0.00	0.26	0.679	I	O	|	|	|	4.22
37.583	0.00	0.26	0.677	I	O	|	|	|	4.21
37.667	0.00	0.26	0.676	I	O	|	|	|	4.20
37.750	0.00	0.26	0.674	I	O	|	|	|	4.19
37.833	0.00	0.26	0.672	I	O	|	|	|	4.18
37.917	0.00	0.26	0.670	I	O	|	|	|	4.17
38.000	0.00	0.26	0.668	I	O	|	|	|	4.17
38.083	0.00	0.26	0.667	I	O	|	|	|	4.16
38.167	0.00	0.26	0.665	I	O	|	|	|	4.15
38.250	0.00	0.26	0.663	I	O	|	|	|	4.14
38.333	0.00	0.26	0.661	I	O	|	|	|	4.13
38.417	0.00	0.26	0.659	I	O	|	|	|	4.12
38.500	0.00	0.26	0.657	I	O	|	|	|	4.11
38.583	0.00	0.26	0.656	I	O	|	|	|	4.10
38.667	0.00	0.26	0.654	I	O	|	|	|	4.09
38.750	0.00	0.26	0.652	I	O	|	|	|	4.08
38.833	0.00	0.26	0.650	I	O	|	|	|	4.08
38.917	0.00	0.26	0.648	I	O	|	|	|	4.07
39.000	0.00	0.26	0.647	I	O	|	|	|	4.06
39.083	0.00	0.26	0.645	I	O	|	|	|	4.05
39.167	0.00	0.26	0.643	I	O	|	|	|	4.04
39.250	0.00	0.26	0.641	I	O	|	|	|	4.03
39.333	0.00	0.26	0.639	I	O	|	|	|	4.02
39.417	0.00	0.26	0.638	I	O	|	|	|	4.01
39.500	0.00	0.26	0.636	I	O	|	|	|	4.00
39.583	0.00	0.26	0.634	I	O	|	|	|	4.00
39.667	0.00	0.26	0.632	I	O	|	|	|	3.99
39.750	0.00	0.26	0.631	I	O	|	|	|	3.98
39.833	0.00	0.26	0.629	I	O	|	|	|	3.97
39.917	0.00	0.26	0.627	I	O	|	|	|	3.96
40.000	0.00	0.26	0.625	I	O	|	|	|	3.95
40.083	0.00	0.26	0.623	I	O	|	|	|	3.94
40.167	0.00	0.26	0.622	I	O	|	|	|	3.93
40.250	0.00	0.26	0.620	I	O	|	|	|	3.93
40.333	0.00	0.26	0.618	I	O	|	|	|	3.92
40.417	0.00	0.26	0.616	I	O	|	|	|	3.91
40.500	0.00	0.26	0.615	I	O	|	|	|	3.90
40.583	0.00	0.26	0.613	I	O	|	|	|	3.89
40.667	0.00	0.26	0.611	I	O	|	|	|	3.88
40.750	0.00	0.25	0.609	I	O	|	|	|	3.87
40.833	0.00	0.25	0.608	I	O	|	|	|	3.86
40.917	0.00	0.25	0.606	I	O	|	|	|	3.86
41.000	0.00	0.25	0.604	I	O	|	|	|	3.85
41.083	0.00	0.25	0.602	I	O	|	|	|	3.84
41.167	0.00	0.25	0.601	I	O	|	|	|	3.83
41.250	0.00	0.25	0.599	I	O	|	|	|	3.82
41.333	0.00	0.25	0.597	I	O	|	|	|	3.81
41.417	0.00	0.25	0.595	I	O	|	|	|	3.80
41.500	0.00	0.25	0.594	I	O	|	|	|	3.80
41.583	0.00	0.25	0.592	I	O	|	|	|	3.79
41.667	0.00	0.25	0.590	I	O	|	|	|	3.78
41.750	0.00	0.25	0.588	I	O	|	|	|	3.77
41.833	0.00	0.25	0.587	I	O	|	|	|	3.76
41.917	0.00	0.25	0.585	I	O	|	|	|	3.75
42.000	0.00	0.25	0.583	I	O	|	|	|	3.74
42.083	0.00	0.25	0.582	I	O	|	|	|	3.74
42.167	0.00	0.25	0.580	I	O	|	|	|	3.73
42.250	0.00	0.25	0.578	I	O	|	|	|	3.72
42.333	0.00	0.25	0.576	I	O	|	|	|	3.71
42.417	0.00	0.25	0.575	I	O	|	|	|	3.70
42.500	0.00	0.25	0.573	I	O	|	|	|	3.69
42.583	0.00	0.25	0.571	I	O	|	|	|	3.68
42.667	0.00	0.25	0.570	I	O	|	|	|	3.68
42.750	0.00	0.25	0.568	I	O	|	|	|	3.67
42.833	0.00	0.25	0.566	I	O	|	|	|	3.66
42.917	0.00	0.25	0.564	I	O	|	|	|	3.65
43.000	0.00	0.25	0.563	I	O	|	|	|	3.64
43.083	0.00	0.25	0.561	I	O	|	|	|	3.63
43.167	0.00	0.25	0.559	I	O	|	|	|	3.63

43.250	0.00	0.24	0.558	I o	|	|	|	3.62
43.333	0.00	0.24	0.556	I o	|	|	|	3.61
43.417	0.00	0.24	0.554	I o	|	|	|	3.60
43.500	0.00	0.24	0.553	I o	|	|	|	3.59
43.583	0.00	0.24	0.551	I o	|	|	|	3.58
43.667	0.00	0.24	0.549	I o	|	|	|	3.58
43.750	0.00	0.24	0.548	I o	|	|	|	3.57
43.833	0.00	0.24	0.546	I o	|	|	|	3.56
43.917	0.00	0.24	0.544	I o	|	|	|	3.55
44.000	0.00	0.24	0.543	I o	|	|	|	3.54
44.083	0.00	0.24	0.541	I o	|	|	|	3.53
44.167	0.00	0.24	0.539	I o	|	|	|	3.53
44.250	0.00	0.24	0.538	I o	|	|	|	3.52
44.333	0.00	0.24	0.536	I o	|	|	|	3.51
44.417	0.00	0.24	0.534	I o	|	|	|	3.50
44.500	0.00	0.24	0.533	I o	|	|	|	3.49
44.583	0.00	0.24	0.531	I o	|	|	|	3.49
44.667	0.00	0.24	0.529	I o	|	|	|	3.48
44.750	0.00	0.24	0.528	I o	|	|	|	3.47
44.833	0.00	0.24	0.526	I o	|	|	|	3.46
44.917	0.00	0.24	0.524	I o	|	|	|	3.45
45.000	0.00	0.24	0.523	I o	|	|	|	3.44
45.083	0.00	0.24	0.521	I o	|	|	|	3.44
45.167	0.00	0.24	0.520	I o	|	|	|	3.43
45.250	0.00	0.24	0.518	I o	|	|	|	3.42
45.333	0.00	0.24	0.516	I o	|	|	|	3.41
45.417	0.00	0.24	0.515	I o	|	|	|	3.40
45.500	0.00	0.24	0.513	I o	|	|	|	3.39
45.583	0.00	0.24	0.511	I o	|	|	|	3.39
45.667	0.00	0.24	0.510	I o	|	|	|	3.38
45.750	0.00	0.23	0.508	I o	|	|	|	3.37
45.833	0.00	0.23	0.507	I o	|	|	|	3.36
45.917	0.00	0.23	0.505	I o	|	|	|	3.35
46.000	0.00	0.23	0.503	I o	|	|	|	3.35
46.083	0.00	0.23	0.502	I o	|	|	|	3.34
46.167	0.00	0.23	0.500	I o	|	|	|	3.33
46.250	0.00	0.23	0.499	I o	|	|	|	3.32
46.333	0.00	0.23	0.497	I o	|	|	|	3.31
46.417	0.00	0.23	0.495	I o	|	|	|	3.30
46.500	0.00	0.23	0.494	I o	|	|	|	3.30
46.583	0.00	0.23	0.492	I o	|	|	|	3.29
46.667	0.00	0.23	0.491	I o	|	|	|	3.28
46.750	0.00	0.23	0.489	I o	|	|	|	3.27
46.833	0.00	0.23	0.487	I o	|	|	|	3.26
46.917	0.00	0.23	0.486	I o	|	|	|	3.26
47.000	0.00	0.23	0.484	I o	|	|	|	3.25
47.083	0.00	0.23	0.483	I o	|	|	|	3.24
47.167	0.00	0.23	0.481	I o	|	|	|	3.23
47.250	0.00	0.23	0.479	I o	|	|	|	3.22
47.333	0.00	0.23	0.478	I o	|	|	|	3.22
47.417	0.00	0.23	0.476	I o	|	|	|	3.21
47.500	0.00	0.23	0.475	I o	|	|	|	3.20
47.583	0.00	0.23	0.473	I o	|	|	|	3.19
47.667	0.00	0.23	0.472	I o	|	|	|	3.18
47.750	0.00	0.23	0.470	I o	|	|	|	3.18
47.833	0.00	0.23	0.468	I o	|	|	|	3.17
47.917	0.00	0.23	0.467	I o	|	|	|	3.16
48.000	0.00	0.23	0.465	I o	|	|	|	3.15
48.083	0.00	0.23	0.464	I o	|	|	|	3.15
48.167	0.00	0.23	0.462	I o	|	|	|	3.14
48.250	0.00	0.23	0.461	I o	|	|	|	3.13
48.333	0.00	0.22	0.459	I o	|	|	|	3.12
48.417	0.00	0.22	0.458	I o	|	|	|	3.11
48.500	0.00	0.22	0.456	I o	|	|	|	3.11
48.583	0.00	0.22	0.454	I o	|	|	|	3.10
48.667	0.00	0.22	0.453	I o	|	|	|	3.09
48.750	0.00	0.22	0.451	I o	|	|	|	3.08
48.833	0.00	0.22	0.450	I o	|	|	|	3.08
48.917	0.00	0.22	0.448	I o	|	|	|	3.07
49.000	0.00	0.22	0.447	I o	|	|	|	3.06
49.083	0.00	0.22	0.445	I o	|	|	|	3.05
49.167	0.00	0.22	0.444	I o	|	|	|	3.04
49.250	0.00	0.22	0.442	I o	|	|	|	3.04
49.333	0.00	0.22	0.441	I o	|	|	|	3.03
49.417	0.00	0.22	0.439	I o	|	|	|	3.02

49.500	0.00	0.22	0.438	I o	|	|	|	3.01
49.583	0.00	0.22	0.436	I o	|	|	|	3.01
49.667	0.00	0.22	0.435	I o	|	|	|	3.00
49.750	0.00	0.22	0.433	I o	|	|	|	2.99
49.833	0.00	0.22	0.432	I o	|	|	|	2.98
49.917	0.00	0.22	0.430	I o	|	|	|	2.97
50.000	0.00	0.22	0.429	I o	|	|	|	2.97
50.083	0.00	0.22	0.427	I o	|	|	|	2.96
50.167	0.00	0.22	0.426	I o	|	|	|	2.95
50.250	0.00	0.22	0.424	I o	|	|	|	2.94
50.333	0.00	0.22	0.423	I o	|	|	|	2.94
50.417	0.00	0.22	0.421	I o	|	|	|	2.93
50.500	0.00	0.22	0.420	I o	|	|	|	2.92
50.583	0.00	0.22	0.418	I o	|	|	|	2.91
50.667	0.00	0.22	0.417	I o	|	|	|	2.90
50.750	0.00	0.22	0.415	I o	|	|	|	2.90
50.833	0.00	0.22	0.414	I o	|	|	|	2.89
50.917	0.00	0.22	0.412	I o	|	|	|	2.88
51.000	0.00	0.21	0.411	I o	|	|	|	2.87
51.083	0.00	0.21	0.409	I o	|	|	|	2.87
51.167	0.00	0.21	0.408	I o	|	|	|	2.86
51.250	0.00	0.21	0.406	I o	|	|	|	2.85
51.333	0.00	0.21	0.405	I o	|	|	|	2.84
51.417	0.00	0.21	0.403	I o	|	|	|	2.83
51.500	0.00	0.21	0.402	I o	|	|	|	2.83
51.583	0.00	0.21	0.400	I o	|	|	|	2.82
51.667	0.00	0.21	0.399	I o	|	|	|	2.81
51.750	0.00	0.21	0.397	I o	|	|	|	2.80
51.833	0.00	0.21	0.396	I o	|	|	|	2.80
51.917	0.00	0.21	0.394	I o	|	|	|	2.79
52.000	0.00	0.21	0.393	I o	|	|	|	2.78
52.083	0.00	0.21	0.392	I o	|	|	|	2.77
52.167	0.00	0.21	0.390	I o	|	|	|	2.77
52.250	0.00	0.21	0.389	I o	|	|	|	2.76
52.333	0.00	0.21	0.387	I o	|	|	|	2.75
52.417	0.00	0.21	0.386	I o	|	|	|	2.74
52.500	0.00	0.21	0.384	I o	|	|	|	2.74
52.583	0.00	0.21	0.383	I o	|	|	|	2.73
52.667	0.00	0.21	0.381	I o	|	|	|	2.72
52.750	0.00	0.21	0.380	I o	|	|	|	2.71
52.833	0.00	0.21	0.379	I o	|	|	|	2.71
52.917	0.00	0.21	0.377	I o	|	|	|	2.70
53.000	0.00	0.21	0.376	I o	|	|	|	2.69
53.083	0.00	0.21	0.374	I o	|	|	|	2.68
53.167	0.00	0.21	0.373	I o	|	|	|	2.68
53.250	0.00	0.21	0.371	I o	|	|	|	2.67
53.333	0.00	0.21	0.370	I o	|	|	|	2.66
53.417	0.00	0.21	0.369	I o	|	|	|	2.65
53.500	0.00	0.21	0.367	I o	|	|	|	2.65
53.583	0.00	0.21	0.366	I o	|	|	|	2.64
53.667	0.00	0.21	0.364	I o	|	|	|	2.63
53.750	0.00	0.20	0.363	I o	|	|	|	2.62
53.833	0.00	0.20	0.362	I o	|	|	|	2.62
53.917	0.00	0.20	0.360	I o	|	|	|	2.61
54.000	0.00	0.20	0.359	I o	|	|	|	2.60
54.083	0.00	0.20	0.357	I o	|	|	|	2.60
54.167	0.00	0.20	0.356	I o	|	|	|	2.59
54.250	0.00	0.20	0.355	I o	|	|	|	2.58
54.333	0.00	0.20	0.353	I o	|	|	|	2.57
54.417	0.00	0.20	0.352	I o	|	|	|	2.57
54.500	0.00	0.20	0.350	I o	|	|	|	2.56
54.583	0.00	0.20	0.349	I o	|	|	|	2.55
54.667	0.00	0.20	0.348	I o	|	|	|	2.54
54.750	0.00	0.20	0.346	I o	|	|	|	2.54
54.833	0.00	0.20	0.345	I o	|	|	|	2.53
54.917	0.00	0.20	0.343	I o	|	|	|	2.52
55.000	0.00	0.20	0.342	I o	|	|	|	2.52
55.083	0.00	0.20	0.341	I o	|	|	|	2.51
55.167	0.00	0.20	0.339	I o	|	|	|	2.50
55.250	0.00	0.20	0.338	I o	|	|	|	2.49
55.333	0.00	0.20	0.336	I o	|	|	|	2.49
55.417	0.00	0.20	0.335	I o	|	|	|	2.48
55.500	0.00	0.20	0.334	I o	|	|	|	2.47
55.583	0.00	0.20	0.332	I o	|	|	|	2.46
55.667	0.00	0.20	0.331	I o	|	|	|	2.46

55.750	0.00	0.20	0.330	I O	|	|	|	2.45
55.833	0.00	0.20	0.328	I O	|	|	|	2.44
55.917	0.00	0.20	0.327	I O	|	|	|	2.43
56.000	0.00	0.20	0.326	I O	|	|	|	2.43
56.083	0.00	0.20	0.324	I O	|	|	|	2.42
56.167	0.00	0.20	0.323	I O	|	|	|	2.41
56.250	0.00	0.20	0.321	I O	|	|	|	2.40
56.333	0.00	0.20	0.320	I O	|	|	|	2.40
56.417	0.00	0.20	0.319	I O	|	|	|	2.39
56.500	0.00	0.20	0.317	I O	|	|	|	2.38
56.583	0.00	0.19	0.316	I O	|	|	|	2.37
56.667	0.00	0.19	0.315	I O	|	|	|	2.37
56.750	0.00	0.19	0.313	I O	|	|	|	2.36
56.833	0.00	0.19	0.312	I O	|	|	|	2.35
56.917	0.00	0.19	0.311	I O	|	|	|	2.34
57.000	0.00	0.19	0.309	I O	|	|	|	2.34
57.083	0.00	0.19	0.308	I O	|	|	|	2.33
57.167	0.00	0.19	0.307	I O	|	|	|	2.32
57.250	0.00	0.19	0.305	I O	|	|	|	2.32
57.333	0.00	0.19	0.304	I O	|	|	|	2.31
57.417	0.00	0.19	0.303	I O	|	|	|	2.30
57.500	0.00	0.19	0.301	I O	|	|	|	2.29
57.583	0.00	0.19	0.300	I O	|	|	|	2.29
57.667	0.00	0.19	0.299	I O	|	|	|	2.28
57.750	0.00	0.19	0.298	I O	|	|	|	2.27
57.833	0.00	0.19	0.296	I O	|	|	|	2.26
57.917	0.00	0.19	0.295	I O	|	|	|	2.26
58.000	0.00	0.19	0.294	I O	|	|	|	2.25
58.083	0.00	0.19	0.292	I O	|	|	|	2.24
58.167	0.00	0.19	0.291	I O	|	|	|	2.24
58.250	0.00	0.19	0.290	I O	|	|	|	2.23
58.333	0.00	0.19	0.288	I O	|	|	|	2.22
58.417	0.00	0.19	0.287	I O	|	|	|	2.21
58.500	0.00	0.19	0.286	I O	|	|	|	2.21
58.583	0.00	0.19	0.284	I O	|	|	|	2.20
58.667	0.00	0.19	0.283	I O	|	|	|	2.19
58.750	0.00	0.19	0.282	I O	|	|	|	2.19
58.833	0.00	0.19	0.281	I O	|	|	|	2.18
58.917	0.00	0.19	0.279	I O	|	|	|	2.17
59.000	0.00	0.19	0.278	I O	|	|	|	2.16
59.083	0.00	0.19	0.277	I O	|	|	|	2.16
59.167	0.00	0.19	0.275	I O	|	|	|	2.15
59.250	0.00	0.19	0.274	I O	|	|	|	2.14
59.333	0.00	0.19	0.273	I O	|	|	|	2.14
59.417	0.00	0.19	0.272	I O	|	|	|	2.13
59.500	0.00	0.18	0.270	I O	|	|	|	2.12
59.583	0.00	0.18	0.269	I O	|	|	|	2.12
59.667	0.00	0.18	0.268	I O	|	|	|	2.11
59.750	0.00	0.18	0.267	I O	|	|	|	2.10
59.833	0.00	0.18	0.265	I O	|	|	|	2.09
59.917	0.00	0.18	0.264	I O	|	|	|	2.09
60.000	0.00	0.18	0.263	I O	|	|	|	2.08
60.083	0.00	0.18	0.261	I O	|	|	|	2.07
60.167	0.00	0.18	0.260	I O	|	|	|	2.07
60.250	0.00	0.18	0.259	I O	|	|	|	2.06
60.333	0.00	0.18	0.258	I O	|	|	|	2.05
60.417	0.00	0.18	0.256	I O	|	|	|	2.05
60.500	0.00	0.18	0.255	I O	|	|	|	2.04
60.583	0.00	0.18	0.254	I O	|	|	|	2.03
60.667	0.00	0.18	0.253	I O	|	|	|	2.03
60.750	0.00	0.18	0.251	I O	|	|	|	2.02
60.833	0.00	0.18	0.250	I O	|	|	|	2.01
60.917	0.00	0.18	0.249	I O	|	|	|	2.01
61.000	0.00	0.18	0.248	I O	|	|	|	2.00
61.083	0.00	0.18	0.246	I O	|	|	|	1.99
61.167	0.00	0.18	0.245	I O	|	|	|	1.98
61.250	0.00	0.18	0.244	I O	|	|	|	1.98
61.333	0.00	0.18	0.243	I O	|	|	|	1.97
61.417	0.00	0.18	0.242	I O	|	|	|	1.96
61.500	0.00	0.18	0.240	I O	|	|	|	1.95
61.583	0.00	0.18	0.239	I O	|	|	|	1.95
61.667	0.00	0.18	0.238	I O	|	|	|	1.94
61.750	0.00	0.18	0.237	I O	|	|	|	1.93
61.833	0.00	0.18	0.235	I O	|	|	|	1.92
61.917	0.00	0.18	0.234	I O	|	|	|	1.92

62.000	0.00	0.18	0.233	I O	|	|	|	1.91
62.083	0.00	0.18	0.232	I O	|	|	|	1.90
62.167	0.00	0.18	0.231	I O	|	|	|	1.90
62.250	0.00	0.18	0.229	I O	|	|	|	1.89
62.333	0.00	0.18	0.228	I O	|	|	|	1.88
62.417	0.00	0.17	0.227	I O	|	|	|	1.87
62.500	0.00	0.17	0.226	I O	|	|	|	1.87
62.583	0.00	0.17	0.225	I O	|	|	|	1.86
62.667	0.00	0.17	0.223	I O	|	|	|	1.85
62.750	0.00	0.17	0.222	I O	|	|	|	1.84
62.833	0.00	0.17	0.221	I O	|	|	|	1.84
62.917	0.00	0.17	0.220	I O	|	|	|	1.83
63.000	0.00	0.17	0.219	I O	|	|	|	1.82
63.083	0.00	0.17	0.217	I O	|	|	|	1.82
63.167	0.00	0.17	0.216	I O	|	|	|	1.81
63.250	0.00	0.17	0.215	I O	|	|	|	1.80
63.333	0.00	0.17	0.214	I O	|	|	|	1.79
63.417	0.00	0.17	0.213	I O	|	|	|	1.79
63.500	0.00	0.17	0.211	I O	|	|	|	1.78
63.583	0.00	0.17	0.210	I O	|	|	|	1.77
63.667	0.00	0.17	0.209	I O	|	|	|	1.77
63.750	0.00	0.17	0.208	I O	|	|	|	1.76
63.833	0.00	0.17	0.207	I O	|	|	|	1.75
63.917	0.00	0.17	0.206	I O	|	|	|	1.74
64.000	0.00	0.17	0.204	I O	|	|	|	1.74
64.083	0.00	0.17	0.203	I O	|	|	|	1.73
64.167	0.00	0.17	0.202	I O	|	|	|	1.72
64.250	0.00	0.17	0.201	I O	|	|	|	1.72
64.333	0.00	0.17	0.200	I O	|	|	|	1.71
64.417	0.00	0.17	0.199	I O	|	|	|	1.70
64.500	0.00	0.17	0.197	I O	|	|	|	1.70
64.583	0.00	0.17	0.196	I O	|	|	|	1.69
64.667	0.00	0.17	0.195	I O	|	|	|	1.68
64.750	0.00	0.17	0.194	I O	|	|	|	1.67
64.833	0.00	0.17	0.193	I O	|	|	|	1.67
64.917	0.00	0.17	0.192	I O	|	|	|	1.66
65.000	0.00	0.17	0.191	I O	|	|	|	1.65
65.083	0.00	0.17	0.189	I O	|	|	|	1.65
65.167	0.00	0.17	0.188	I O	|	|	|	1.64
65.250	0.00	0.17	0.187	I O	|	|	|	1.63
65.333	0.00	0.17	0.186	I O	|	|	|	1.63
65.417	0.00	0.16	0.185	I O	|	|	|	1.62
65.500	0.00	0.16	0.184	I O	|	|	|	1.61
65.583	0.00	0.16	0.183	I O	|	|	|	1.61
65.667	0.00	0.16	0.181	I O	|	|	|	1.60
65.750	0.00	0.16	0.180	I O	|	|	|	1.59
65.833	0.00	0.16	0.179	I O	|	|	|	1.59
65.917	0.00	0.16	0.178	I O	|	|	|	1.58
66.000	0.00	0.16	0.177	I O	|	|	|	1.57
66.083	0.00	0.16	0.176	I O	|	|	|	1.57
66.167	0.00	0.16	0.175	I O	|	|	|	1.56
66.250	0.00	0.16	0.174	I O	|	|	|	1.55
66.333	0.00	0.16	0.172	I O	|	|	|	1.55
66.417	0.00	0.16	0.171	I O	|	|	|	1.54
66.500	0.00	0.16	0.170	I O	|	|	|	1.53
66.583	0.00	0.16	0.169	I O	|	|	|	1.52
66.667	0.00	0.16	0.168	I O	|	|	|	1.52
66.750	0.00	0.16	0.167	I O	|	|	|	1.51
66.833	0.00	0.16	0.166	I O	|	|	|	1.50
66.917	0.00	0.16	0.165	I O	|	|	|	1.50
67.000	0.00	0.16	0.164	I O	|	|	|	1.49
67.083	0.00	0.16	0.163	I O	|	|	|	1.48
67.167	0.00	0.16	0.161	I O	|	|	|	1.48
67.250	0.00	0.16	0.160	I O	|	|	|	1.47
67.333	0.00	0.16	0.159	I O	|	|	|	1.46
67.417	0.00	0.16	0.158	I O	|	|	|	1.45
67.500	0.00	0.16	0.157	I O	|	|	|	1.45
67.583	0.00	0.16	0.156	I O	|	|	|	1.44
67.667	0.00	0.16	0.155	I O	|	|	|	1.43
67.750	0.00	0.16	0.154	I O	|	|	|	1.42
67.833	0.00	0.15	0.153	I O	|	|	|	1.42
67.917	0.00	0.15	0.152	I O	|	|	|	1.41
68.000	0.00	0.15	0.151	I O	|	|	|	1.40
68.083	0.00	0.15	0.150	I O	|	|	|	1.39
68.167	0.00	0.15	0.149	I O	|	|	|	1.39

68.250	0.00	0.15	0.147	I O				1.38
68.333	0.00	0.15	0.146	I O				1.37
68.417	0.00	0.15	0.145	I O				1.37
68.500	0.00	0.15	0.144	I O				1.36
68.583	0.00	0.15	0.143	I O				1.35
68.667	0.00	0.15	0.142	I O				1.34
68.750	0.00	0.15	0.141	I O				1.34
68.833	0.00	0.15	0.140	I O				1.33
68.917	0.00	0.15	0.139	I O				1.32
69.000	0.00	0.15	0.138	I O				1.32
69.083	0.00	0.15	0.137	I O				1.31
69.167	0.00	0.15	0.136	I O				1.30
69.250	0.00	0.15	0.135	IO				1.30
69.333	0.00	0.15	0.134	IO				1.29
69.417	0.00	0.15	0.133	IO				1.28
69.500	0.00	0.15	0.132	IO				1.27
69.583	0.00	0.15	0.131	IO				1.27
69.667	0.00	0.15	0.130	IO				1.26
69.750	0.00	0.15	0.129	IO				1.25
69.833	0.00	0.14	0.128	IO				1.25
69.917	0.00	0.14	0.127	IO				1.24
70.000	0.00	0.14	0.126	IO				1.23
70.083	0.00	0.14	0.125	IO				1.23
70.167	0.00	0.14	0.124	IO				1.22
70.250	0.00	0.14	0.123	IO				1.21
70.333	0.00	0.14	0.122	IO				1.21
70.417	0.00	0.14	0.121	IO				1.20
70.500	0.00	0.14	0.120	IO				1.19
70.583	0.00	0.14	0.119	IO				1.19
70.667	0.00	0.14	0.118	IO				1.18
70.750	0.00	0.14	0.117	IO				1.17
70.833	0.00	0.14	0.116	IO				1.17
70.917	0.00	0.14	0.115	IO				1.16
71.000	0.00	0.14	0.114	IO				1.15
71.083	0.00	0.14	0.113	IO				1.15
71.167	0.00	0.14	0.112	IO				1.14
71.250	0.00	0.14	0.111	IO				1.13
71.333	0.00	0.14	0.111	IO				1.13
71.417	0.00	0.14	0.110	IO				1.12
71.500	0.00	0.14	0.109	IO				1.11
71.583	0.00	0.14	0.108	IO				1.11
71.667	0.00	0.14	0.107	IO				1.10
71.750	0.00	0.14	0.106	IO				1.09
71.833	0.00	0.14	0.105	IO				1.09
71.917	0.00	0.13	0.104	IO				1.08
72.000	0.00	0.13	0.103	IO				1.08
72.083	0.00	0.13	0.102	IO				1.07
72.167	0.00	0.13	0.101	IO				1.06
72.250	0.00	0.13	0.100	IO				1.06
72.333	0.00	0.13	0.099	IO				1.05
72.417	0.00	0.13	0.098	IO				1.04
72.500	0.00	0.13	0.098	IO				1.04
72.583	0.00	0.13	0.097	IO				1.03
72.667	0.00	0.13	0.096	IO				1.03
72.750	0.00	0.13	0.095	IO				1.02
72.833	0.00	0.13	0.094	IO				1.01
72.917	0.00	0.13	0.093	IO				1.01
73.000	0.00	0.13	0.092	IO				1.00
73.083	0.00	0.13	0.091	IO				0.99
73.167	0.00	0.13	0.090	IO				0.99
73.250	0.00	0.13	0.089	IO				0.98
73.333	0.00	0.13	0.089	IO				0.97
73.417	0.00	0.13	0.088	IO				0.96
73.500	0.00	0.13	0.087	IO				0.96
73.583	0.00	0.13	0.086	IO				0.95
73.667	0.00	0.13	0.085	IO				0.94
73.750	0.00	0.12	0.084	IO				0.93
73.833	0.00	0.12	0.083	IO				0.93
73.917	0.00	0.12	0.082	IO				0.92
74.000	0.00	0.12	0.082	IO				0.91
74.083	0.00	0.12	0.081	IO				0.91
74.167	0.00	0.12	0.080	IO				0.90
74.250	0.00	0.12	0.079	IO				0.89
74.333	0.00	0.12	0.078	IO				0.88
74.417	0.00	0.12	0.077	IO				0.88

74.500	0.00	0.12	0.077	IO				0.87
74.583	0.00	0.12	0.076	IO				0.86
74.667	0.00	0.12	0.075	IO				0.86
74.750	0.00	0.12	0.074	IO				0.85
74.833	0.00	0.12	0.073	IO				0.84
74.917	0.00	0.12	0.073	IO				0.84
75.000	0.00	0.12	0.072	IO				0.83
75.083	0.00	0.12	0.071	IO				0.82
75.167	0.00	0.12	0.070	IO				0.81
75.250	0.00	0.11	0.069	IO				0.81
75.333	0.00	0.11	0.069	IO				0.80
75.417	0.00	0.11	0.068	IO				0.79
75.500	0.00	0.11	0.067	IO				0.79
75.583	0.00	0.11	0.066	IO				0.78
75.667	0.00	0.11	0.065	IO				0.78
75.750	0.00	0.11	0.065	IO				0.77
75.833	0.00	0.11	0.064	IO				0.76
75.917	0.00	0.11	0.063	IO				0.76
76.000	0.00	0.11	0.062	IO				0.75
76.083	0.00	0.11	0.062	IO				0.74
76.167	0.00	0.11	0.061	IO				0.74
76.250	0.00	0.11	0.060	IO				0.73
76.333	0.00	0.11	0.059	IO				0.72
76.417	0.00	0.11	0.059	IO				0.72
76.500	0.00	0.11	0.058	IO				0.71
76.583	0.00	0.11	0.057	IO				0.71
76.667	0.00	0.11	0.056	IO				0.70
76.750	0.00	0.11	0.056	IO				0.69
76.833	0.00	0.10	0.055	IO				0.69
76.917	0.00	0.10	0.054	IO				0.68
77.000	0.00	0.10	0.054	IO				0.67
77.083	0.00	0.10	0.053	IO				0.67
77.167	0.00	0.10	0.052	IO				0.66
77.250	0.00	0.10	0.051	IO				0.66
77.333	0.00	0.10	0.051	IO				0.65
77.417	0.00	0.10	0.050	IO				0.64
77.500	0.00	0.10	0.049	IO				0.64
77.583	0.00	0.10	0.049	IO				0.63
77.667	0.00	0.10	0.048	IO				0.63
77.750	0.00	0.10	0.047	IO				0.62
77.833	0.00	0.10	0.047	IO				0.62
77.917	0.00	0.10	0.046	IO				0.61
78.000	0.00	0.10	0.045	IO				0.60
78.083	0.00	0.10	0.045	IO				0.60
78.167	0.00	0.10	0.044	IO				0.59
78.250	0.00	0.10	0.043	IO				0.59
78.333	0.00	0.10	0.043	IO				0.58
78.417	0.00	0.10	0.042	IO				0.58
78.500	0.00	0.10	0.041	IO				0.57
78.583	0.00	0.10	0.041	IO				0.56
78.667	0.00	0.09	0.040	IO				0.56
78.750	0.00	0.09	0.039	IO				0.55
78.833	0.00	0.09	0.039	IO				0.55
78.917	0.00	0.09	0.038	IO				0.54
79.000	0.00	0.09	0.037	IO				0.54
79.083	0.00	0.09	0.037	IO				0.53
79.167	0.00	0.09	0.036	IO				0.53
79.250	0.00	0.09	0.035	IO				0.52
79.333	0.00	0.09	0.035	IO				0.52
79.417	0.00	0.09	0.034	IO				0.51
79.500	0.00	0.09	0.034	IO				0.50
79.583	0.00	0.09	0.033	IO				0.50
79.667	0.00	0.09	0.032	IO				0.49
79.750	0.00	0.09	0.032	IO				0.48
79.833	0.00	0.08	0.031	IO				0.47
79.917	0.00	0.08	0.031	IO				0.46
80.000	0.00	0.08	0.030	IO				0.45
80.083	0.00	0.08	0.029	IO				0.45
80.167	0.00	0.08	0.029	IO				0.44
80.250	0.00	0.08	0.028	IO				0.43
80.333	0.00	0.07	0.028	IO				0.42
80.417	0.00	0.07	0.027	O				0.41
80.500	0.00	0.07	0.027	O				0.41
80.583	0.00	0.07	0.026	O				0.40
80.667	0.00	0.07	0.026	O				0.39

80.750	0.00	0.07	0.025	o	|	|	|	|	0.39
80.833	0.00	0.07	0.025	o	|	|	|	|	0.38
80.917	0.00	0.06	0.025	o	|	|	|	|	0.37
81.000	0.00	0.06	0.024	o	|	|	|	|	0.37
81.083	0.00	0.06	0.024	o	|	|	|	|	0.36
81.167	0.00	0.06	0.023	o	|	|	|	|	0.35
81.250	0.00	0.06	0.023	o	|	|	|	|	0.35
81.333	0.00	0.06	0.022	o	|	|	|	|	0.34
81.417	0.00	0.06	0.022	o	|	|	|	|	0.33
81.500	0.00	0.06	0.022	o	|	|	|	|	0.33
81.583	0.00	0.05	0.021	o	|	|	|	|	0.32
81.667	0.00	0.05	0.021	o	|	|	|	|	0.32
81.750	0.00	0.05	0.021	o	|	|	|	|	0.31
81.833	0.00	0.05	0.020	o	|	|	|	|	0.31
81.917	0.00	0.05	0.020	o	|	|	|	|	0.30
82.000	0.00	0.05	0.020	o	|	|	|	|	0.30
82.083	0.00	0.05	0.019	o	|	|	|	|	0.29
82.167	0.00	0.05	0.019	o	|	|	|	|	0.29
82.250	0.00	0.05	0.019	o	|	|	|	|	0.28
82.333	0.00	0.04	0.018	o	|	|	|	|	0.28
82.417	0.00	0.04	0.018	o	|	|	|	|	0.27
82.500	0.00	0.04	0.018	o	|	|	|	|	0.27
82.583	0.00	0.04	0.017	o	|	|	|	|	0.26
82.667	0.00	0.04	0.017	o	|	|	|	|	0.26
82.750	0.00	0.04	0.017	o	|	|	|	|	0.26
82.833	0.00	0.04	0.016	o	|	|	|	|	0.25
82.917	0.00	0.04	0.016	o	|	|	|	|	0.25
83.000	0.00	0.04	0.016	o	|	|	|	|	0.24
83.083	0.00	0.04	0.016	o	|	|	|	|	0.24
83.167	0.00	0.04	0.015	o	|	|	|	|	0.24
83.250	0.00	0.04	0.015	o	|	|	|	|	0.23
83.333	0.00	0.03	0.015	o	|	|	|	|	0.23
83.417	0.00	0.03	0.015	o	|	|	|	|	0.22
83.500	0.00	0.03	0.015	o	|	|	|	|	0.22
83.583	0.00	0.03	0.014	o	|	|	|	|	0.22
83.667	0.00	0.03	0.014	o	|	|	|	|	0.21
83.750	0.00	0.03	0.014	o	|	|	|	|	0.21
83.833	0.00	0.03	0.014	o	|	|	|	|	0.21
83.917	0.00	0.03	0.013	o	|	|	|	|	0.20
84.000	0.00	0.03	0.013	o	|	|	|	|	0.20
84.083	0.00	0.03	0.013	o	|	|	|	|	0.20
84.167	0.00	0.03	0.013	o	|	|	|	|	0.20
84.250	0.00	0.03	0.013	o	|	|	|	|	0.19
84.333	0.00	0.03	0.012	o	|	|	|	|	0.19
84.417	0.00	0.03	0.012	o	|	|	|	|	0.19
84.500	0.00	0.03	0.012	o	|	|	|	|	0.18
84.583	0.00	0.03	0.012	o	|	|	|	|	0.18
84.667	0.00	0.02	0.012	o	|	|	|	|	0.18
84.750	0.00	0.02	0.012	o	|	|	|	|	0.18
84.833	0.00	0.02	0.011	o	|	|	|	|	0.17
84.917	0.00	0.02	0.011	o	|	|	|	|	0.17
85.000	0.00	0.02	0.011	o	|	|	|	|	0.17
85.083	0.00	0.02	0.011	o	|	|	|	|	0.17
85.167	0.00	0.02	0.011	o	|	|	|	|	0.17
85.250	0.00	0.02	0.011	o	|	|	|	|	0.16
85.333	0.00	0.02	0.010	o	|	|	|	|	0.16
85.417	0.00	0.02	0.010	o	|	|	|	|	0.16
85.500	0.00	0.02	0.010	o	|	|	|	|	0.16
85.583	0.00	0.02	0.010	o	|	|	|	|	0.15
85.667	0.00	0.02	0.010	o	|	|	|	|	0.15
85.750	0.00	0.02	0.010	o	|	|	|	|	0.15
85.833	0.00	0.02	0.010	o	|	|	|	|	0.15
85.917	0.00	0.02	0.010	o	|	|	|	|	0.15
86.000	0.00	0.02	0.009	o	|	|	|	|	0.14
86.083	0.00	0.02	0.009	o	|	|	|	|	0.14
86.167	0.00	0.02	0.009	o	|	|	|	|	0.14
86.250	0.00	0.02	0.009	o	|	|	|	|	0.14
86.333	0.00	0.02	0.009	o	|	|	|	|	0.14
86.417	0.00	0.02	0.009	o	|	|	|	|	0.14
86.500	0.00	0.02	0.009	o	|	|	|	|	0.13
86.583	0.00	0.02	0.009	o	|	|	|	|	0.13
86.667	0.00	0.01	0.009	o	|	|	|	|	0.13
86.750	0.00	0.01	0.008	o	|	|	|	|	0.13
86.833	0.00	0.01	0.008	o	|	|	|	|	0.13
86.917	0.00	0.01	0.008	o	|	|	|	|	0.13

87.000	0.00	0.01	0.008	o					0.13
87.083	0.00	0.01	0.008	o					0.12
87.167	0.00	0.01	0.008	o					0.12
87.250	0.00	0.01	0.008	o					0.12
87.333	0.00	0.01	0.008	o					0.12
87.417	0.00	0.01	0.008	o					0.12
87.500	0.00	0.01	0.008	o					0.12
87.583	0.00	0.01	0.008	o					0.12
87.667	0.00	0.01	0.007	o					0.11
87.750	0.00	0.01	0.007	o					0.11
87.833	0.00	0.01	0.007	o					0.11
87.917	0.00	0.01	0.007	o					0.11
88.000	0.00	0.01	0.007	o					0.11
88.083	0.00	0.01	0.007	o					0.11
88.167	0.00	0.01	0.007	o					0.11
88.250	0.00	0.01	0.007	o					0.11
88.333	0.00	0.01	0.007	o					0.11
88.417	0.00	0.01	0.007	o					0.10
88.500	0.00	0.01	0.007	o					0.10
88.583	0.00	0.01	0.007	o					0.10
88.667	0.00	0.01	0.007	o					0.10
88.750	0.00	0.01	0.007	o					0.10
88.833	0.00	0.01	0.006	o					0.10
88.917	0.00	0.01	0.006	o					0.10
89.000	0.00	0.01	0.006	o					0.10
89.083	0.00	0.01	0.006	o					0.10
89.167	0.00	0.01	0.006	o					0.10
89.250	0.00	0.01	0.006	o					0.10
89.333	0.00	0.01	0.006	o					0.10
89.417	0.00	0.01	0.006	o					0.09
89.500	0.00	0.01	0.006	o					0.09
89.583	0.00	0.01	0.006	o					0.09
89.667	0.00	0.01	0.006	o					0.09
89.750	0.00	0.01	0.006	o					0.09
89.833	0.00	0.01	0.006	o					0.09
89.917	0.00	0.01	0.006	o					0.09
90.000	0.00	0.01	0.006	o					0.09
90.083	0.00	0.01	0.006	o					0.09
90.167	0.00	0.01	0.006	o					0.09
90.250	0.00	0.01	0.006	o					0.09
90.333	0.00	0.01	0.006	o					0.09
90.417	0.00	0.01	0.006	o					0.09
90.500	0.00	0.01	0.006	o					0.09
90.583	0.00	0.01	0.005	o					0.09
90.667	0.00	0.01	0.005	o					0.08
90.750	0.00	0.01	0.005	o					0.08
90.833	0.00	0.01	0.005	o					0.08
90.917	0.00	0.01	0.005	o					0.08
91.000	0.00	0.00	0.005	o					0.08
91.083	0.00	0.00	0.005	o					0.08
91.167	0.00	0.00	0.005	o					0.08
91.250	0.00	0.00	0.005	o					0.08
91.333	0.00	0.00	0.005	o					0.08
91.417	0.00	0.00	0.005	o					0.08
91.500	0.00	0.00	0.005	o					0.08
91.583	0.00	0.00	0.005	o					0.08
91.667	0.00	0.00	0.005	o					0.08
91.750	0.00	0.00	0.005	o					0.08
91.833	0.00	0.00	0.005	o					0.08
91.917	0.00	0.00	0.005	o					0.08
92.000	0.00	0.00	0.005	o					0.08
92.083	0.00	0.00	0.005	o					0.08
92.167	0.00	0.00	0.005	o					0.08
92.250	0.00	0.00	0.005	o					0.08
92.333	0.00	0.00	0.005	o					0.08
92.417	0.00	0.00	0.005	o					0.08
92.500	0.00	0.00	0.005	o					0.07
92.583	0.00	0.00	0.005	o					0.07
92.667	0.00	0.00	0.005	o					0.07
92.750	0.00	0.00	0.005	o					0.07
92.833	0.00	0.00	0.005	o					0.07
92.917	0.00	0.00	0.005	o					0.07
93.000	0.00	0.00	0.005	o					0.07
93.083	0.00	0.00	0.005	o					0.07
93.167	0.00	0.00	0.005	o					0.07

93.250	0.00	0.00	0.005	o	|	|	|	0.07
93.333	0.00	0.00	0.005	o	|	|	|	0.07
93.417	0.00	0.00	0.005	o	|	|	|	0.07
93.500	0.00	0.00	0.005	o	|	|	|	0.07
93.583	0.00	0.00	0.005	o	|	|	|	0.07
93.667	0.00	0.00	0.004	o	|	|	|	0.07
93.750	0.00	0.00	0.004	o	|	|	|	0.07
93.833	0.00	0.00	0.004	o	|	|	|	0.07
93.917	0.00	0.00	0.004	o	|	|	|	0.07
94.000	0.00	0.00	0.004	o	|	|	|	0.07
94.083	0.00	0.00	0.004	o	|	|	|	0.07
94.167	0.00	0.00	0.004	o	|	|	|	0.07
94.250	0.00	0.00	0.004	o	|	|	|	0.07
94.333	0.00	0.00	0.004	o	|	|	|	0.07
94.417	0.00	0.00	0.004	o	|	|	|	0.07
94.500	0.00	0.00	0.004	o	|	|	|	0.07
94.583	0.00	0.00	0.004	o	|	|	|	0.07
94.667	0.00	0.00	0.004	o	|	|	|	0.07
94.750	0.00	0.00	0.004	o	|	|	|	0.07
94.833	0.00	0.00	0.004	o	|	|	|	0.07
94.917	0.00	0.00	0.004	o	|	|	|	0.07
95.000	0.00	0.00	0.004	o	|	|	|	0.07
95.083	0.00	0.00	0.004	o	|	|	|	0.07
95.167	0.00	0.00	0.004	o	|	|	|	0.07
95.250	0.00	0.00	0.004	o	|	|	|	0.07
95.333	0.00	0.00	0.004	o	|	|	|	0.07
95.417	0.00	0.00	0.004	o	|	|	|	0.07
95.500	0.00	0.00	0.004	o	|	|	|	0.07
95.583	0.00	0.00	0.004	o	|	|	|	0.07
95.667	0.00	0.00	0.004	o	|	|	|	0.07
95.750	0.00	0.00	0.004	o	|	|	|	0.07
95.833	0.00	0.00	0.004	o	|	|	|	0.07
95.917	0.00	0.00	0.004	o	|	|	|	0.07
96.000	0.00	0.00	0.004	o	|	|	|	0.06
96.083	0.00	0.00	0.004	o	|	|	|	0.06
96.167	0.00	0.00	0.004	o	|	|	|	0.06
96.250	0.00	0.00	0.004	o	|	|	|	0.06
96.333	0.00	0.00	0.004	o	|	|	|	0.06
96.417	0.00	0.00	0.004	o	|	|	|	0.06
96.500	0.00	0.00	0.004	o	|	|	|	0.06
96.583	0.00	0.00	0.004	o	|	|	|	0.06
96.667	0.00	0.00	0.004	o	|	|	|	0.06
96.750	0.00	0.00	0.004	o	|	|	|	0.06
96.833	0.00	0.00	0.004	o	|	|	|	0.06
96.917	0.00	0.00	0.004	o	|	|	|	0.06
97.000	0.00	0.00	0.004	o	|	|	|	0.06
97.083	0.00	0.00	0.004	o	|	|	|	0.06
97.167	0.00	0.00	0.004	o	|	|	|	0.06
97.250	0.00	0.00	0.004	o	|	|	|	0.06
97.333	0.00	0.00	0.004	o	|	|	|	0.06

Remaining water in basin = 0.00 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 1168
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.325 (CFS)
Total volume = 1.440 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005
Study date: 11/24/21

BCCOV BLDG A AREA 5
2-YR 24 HR STORM EVENT
21-0034
2021-11-24 EP

Program License Serial Number 4010

********** HYDROGRAPH INFORMATION **********

From study/file name: PROP2YR5A242.rte
**********HYDROGRAPH DATA**********
Number of intervals = 291
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 1.946 (CFS)
Total volume = 1.183 (Ac.Ft)
Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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Process from Point/Station 100.000 to Point/Station 101.000
**** RETARDING BASIN ROUTING ****
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User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 291
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.063	0.004	0.001	0.004	0.004
0.500	0.029	0.130	0.029	0.029
1.000	0.080	0.190	0.079	0.081
1.500	0.144	0.230	0.143	0.145
2.000	0.216	0.270	0.215	0.217
2.500	0.295	0.300	0.294	0.296
3.000	0.379	0.330	0.378	0.380
3.500	0.465	0.360	0.464	0.466
4.000	0.553	0.390	0.552	0.554
4.500	0.641	0.410	0.640	0.642
5.000	0.728	0.430	0.727	0.729
5.500	0.811	0.450	0.809	0.813
6.000	0.890	0.480	0.888	0.892
6.500	0.963	0.490	0.961	0.965
7.000	1.027	0.510	1.025	1.029
7.500	1.078	0.530	1.076	1.080
8.000	1.107	0.550	1.105	1.109

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.5	0.97	1.46	1.95	Depth (Ft.)
0.083	0.05	0.00	0.000	O					0.00
0.167	0.11	0.00	0.001	OI					0.01
0.250	0.11	0.00	0.001	OI					0.02
0.333	0.14	0.00	0.002	O I					0.04
0.417	0.17	0.00	0.003	O I					0.05
0.500	0.17	0.00	0.005	O I					0.07
0.583	0.17	0.01	0.006	O I					0.09
0.667	0.17	0.02	0.007	O I					0.11
0.750	0.17	0.02	0.008	O I					0.13
0.833	0.20	0.03	0.009	O I					0.15
0.917	0.22	0.03	0.010	O I					0.17
1.000	0.23	0.04	0.011	O I					0.19
1.083	0.20	0.05	0.013	O I					0.21
1.167	0.18	0.05	0.014	O I					0.23
1.250	0.17	0.06	0.014	O I					0.25
1.333	0.17	0.06	0.015	O I					0.26
1.417	0.17	0.06	0.016	OI					0.27
1.500	0.17	0.07	0.017	OI					0.29
1.583	0.17	0.07	0.017	OI					0.30
1.667	0.17	0.07	0.018	OI					0.31
1.750	0.17	0.08	0.019	OI					0.32
1.833	0.20	0.08	0.020	O I					0.33
1.917	0.22	0.09	0.020	O I					0.35
2.000	0.23	0.09	0.021	O I					0.37
2.083	0.23	0.10	0.022	O I					0.38
2.167	0.23	0.10	0.023	O I					0.40
2.250	0.23	0.10	0.024	O I					0.41
2.333	0.23	0.11	0.025	O I					0.43
2.417	0.23	0.11	0.026	O I					0.44
2.500	0.23	0.12	0.027	O I					0.46
2.583	0.25	0.12	0.027	O I					0.47
2.667	0.28	0.13	0.028	O I					0.49
2.750	0.29	0.13	0.029	O I					0.50
2.833	0.29	0.13	0.030	O I					0.51
2.917	0.29	0.13	0.032	O I					0.53
3.000	0.29	0.13	0.033	O I					0.54
3.083	0.29	0.14	0.034	O I					0.55
3.167	0.29	0.14	0.035	O I					0.56
3.250	0.29	0.14	0.036	O I					0.57
3.333	0.29	0.14	0.037	O I					0.58
3.417	0.29	0.14	0.038	O I					0.59
3.500	0.29	0.14	0.039	O I					0.60
3.583	0.29	0.14	0.040	O I					0.61
3.667	0.29	0.14	0.041	O I					0.61
3.750	0.29	0.14	0.042	O I					0.62
3.833	0.31	0.15	0.043	O I					0.63
3.917	0.34	0.15	0.044	O I					0.65
4.000	0.34	0.15	0.045	O I					0.66
4.083	0.34	0.15	0.047	O I					0.67
4.167	0.34	0.15	0.048	O I					0.69
4.250	0.34	0.15	0.049	O I					0.70
4.333	0.37	0.16	0.051	O I					0.71
4.417	0.40	0.16	0.052	O I					0.73
4.500	0.40	0.16	0.054	O I					0.74
4.583	0.40	0.16	0.056	O I					0.76
4.667	0.40	0.16	0.057	O I					0.78
4.750	0.40	0.17	0.059	O I					0.79
4.833	0.43	0.17	0.060	O I					0.81
4.917	0.45	0.17	0.062	O I					0.83
5.000	0.46	0.17	0.064	O I					0.85
5.083	0.41	0.17	0.066	O I					0.86
5.167	0.35	0.18	0.068	O I					0.88
5.250	0.34	0.18	0.069	O I					0.89
5.333	0.37	0.18	0.070	O I					0.90
5.417	0.40	0.18	0.071	O I					0.92
5.500	0.40	0.18	0.073	O I					0.93
5.583	0.43	0.18	0.074	O I					0.95
5.667	0.45	0.19	0.076	O I					0.96

5.750	0.46	0.19	0.078	o I				0.98
5.833	0.46	0.19	0.080	o I				1.00
5.917	0.46	0.19	0.082	o I				1.01
6.000	0.46	0.19	0.084	o I				1.03
6.083	0.48	0.19	0.085	o I				1.04
6.167	0.51	0.19	0.088	o I				1.06
6.250	0.51	0.20	0.090	o I				1.08
6.333	0.52	0.20	0.092	o I				1.09
6.417	0.52	0.20	0.094	o I				1.11
6.500	0.52	0.20	0.096	o I				1.13
6.583	0.54	0.20	0.099	o I				1.14
6.667	0.57	0.20	0.101	o I				1.16
6.750	0.57	0.20	0.103	o I				1.18
6.833	0.57	0.21	0.106	o I				1.20
6.917	0.57	0.21	0.109	o I				1.22
7.000	0.57	0.21	0.111	o I				1.24
7.083	0.57	0.21	0.114	o I				1.26
7.167	0.57	0.21	0.116	o I				1.28
7.250	0.57	0.21	0.118	o I				1.30
7.333	0.60	0.22	0.121	o I				1.32
7.417	0.63	0.22	0.124	o I				1.34
7.500	0.63	0.22	0.127	o I				1.36
7.583	0.65	0.22	0.129	o I				1.39
7.667	0.68	0.22	0.133	o I				1.41
7.750	0.69	0.22	0.136	o I				1.44
7.833	0.71	0.23	0.139	o I				1.46
7.917	0.74	0.23	0.142	o I				1.49
8.000	0.74	0.23	0.146	o I				1.51
8.083	0.79	0.23	0.150	o I				1.54
8.167	0.85	0.24	0.154	o I				1.57
8.250	0.86	0.24	0.158	o I				1.60
8.333	0.86	0.24	0.162	o I				1.63
8.417	0.86	0.24	0.166	o I				1.66
8.500	0.86	0.24	0.171	o I				1.69
8.583	0.88	0.25	0.175	o I				1.72
8.667	0.91	0.25	0.179	o I				1.75
8.750	0.92	0.25	0.184	o I				1.78
8.833	0.94	0.25	0.189	o I				1.81
8.917	0.97	0.26	0.193	o I				1.84
9.000	0.97	0.26	0.198	o I				1.88
9.083	1.02	0.26	0.203	o I				1.91
9.167	1.08	0.27	0.209	o I				1.95
9.250	1.09	0.27	0.214	o I				1.99
9.333	1.11	0.27	0.220	o I				2.03
9.417	1.14	0.27	0.226	o I				2.06
9.500	1.14	0.28	0.232	o I				2.10
9.583	1.17	0.28	0.238	o I				2.14
9.667	1.20	0.28	0.244	o I				2.18
9.750	1.20	0.28	0.251	o I				2.22
9.833	1.23	0.29	0.257	o I				2.26
9.917	1.26	0.29	0.264	o I				2.30
10.000	1.26	0.29	0.270	o I				2.34
10.083	1.08	0.29	0.276	o I				2.38
10.167	0.89	0.29	0.281	o I				2.41
10.250	0.86	0.30	0.285	o I				2.44
10.333	0.86	0.30	0.289	o I				2.46
10.417	0.86	0.30	0.293	o I				2.49
10.500	0.86	0.30	0.297	o I				2.51
10.583	0.98	0.30	0.301	o I				2.54
10.667	1.12	0.30	0.306	o I				2.57
10.750	1.14	0.31	0.312	o I				2.60
10.833	1.14	0.31	0.318	o I				2.63
10.917	1.14	0.31	0.323	o I				2.67
11.000	1.14	0.31	0.329	o I				2.70
11.083	1.12	0.31	0.335	o I				2.74
11.167	1.09	0.32	0.340	o I				2.77
11.250	1.09	0.32	0.346	o I				2.80
11.333	1.09	0.32	0.351	o I				2.83
11.417	1.09	0.32	0.356	o I				2.86
11.500	1.09	0.32	0.361	o I				2.89
11.583	1.04	0.33	0.366	o I				2.93
11.667	0.98	0.33	0.371	o I				2.95
11.750	0.97	0.33	0.376	o I				2.98
11.833	1.00	0.33	0.380	o I				3.01
11.917	1.03	0.33	0.385	o I				3.03

12.000	1.03	0.33	0.390	o	I			3.06
12.083	1.21	0.34	0.395	o	I			3.09
12.167	1.40	0.34	0.402	o	I			3.13
12.250	1.43	0.34	0.409	o	I			3.17
12.333	1.46	0.34	0.417	o	I			3.22
12.417	1.48	0.35	0.424	o	I			3.26
12.500	1.49	0.35	0.432	o	I			3.31
12.583	1.54	0.35	0.440	o	I			3.36
12.667	1.59	0.35	0.449	o	I			3.40
12.750	1.60	0.36	0.457	o	I			3.45
12.833	1.63	0.36	0.466	o	I			3.50
12.917	1.66	0.36	0.475	o	I			3.55
13.000	1.66	0.37	0.484	o	I			3.61
13.083	1.78	0.37	0.493	o	I			3.66
13.167	1.93	0.37	0.503	o	I			3.72
13.250	1.94	0.38	0.514	o	I			3.78
13.333	1.95	0.38	0.525	o	I			3.84
13.417	1.95	0.38	0.535	o	I			3.90
13.500	1.95	0.39	0.546	o	I			3.96
13.583	1.67	0.39	0.556	o	I			4.02
13.667	1.36	0.39	0.564	o	I			4.06
13.750	1.32	0.39	0.570	o	I			4.10
13.833	1.32	0.40	0.577	o	I			4.13
13.917	1.32	0.40	0.583	o	I			4.17
14.000	1.32	0.40	0.589	o	I			4.21
14.083	1.42	0.40	0.596	o	I			4.24
14.167	1.53	0.40	0.603	o	I			4.29
14.250	1.54	0.40	0.611	o	I			4.33
14.333	1.52	0.40	0.619	o	I			4.37
14.417	1.49	0.41	0.626	o	I			4.42
14.500	1.49	0.41	0.634	o	I			4.46
14.583	1.49	0.41	0.641	o	I			4.50
14.667	1.49	0.41	0.649	o	I			4.54
14.750	1.49	0.41	0.656	o	I			4.59
14.833	1.46	0.42	0.663	o	I			4.63
14.917	1.43	0.42	0.671	o	I			4.67
15.000	1.43	0.42	0.678	o	I			4.71
15.083	1.41	0.42	0.684	o	I			4.75
15.167	1.38	0.42	0.691	o	I			4.79
15.250	1.37	0.42	0.698	o	I			4.83
15.333	1.35	0.42	0.704	o	I			4.86
15.417	1.32	0.43	0.710	o	I			4.90
15.500	1.32	0.43	0.717	o	I			4.93
15.583	1.22	0.43	0.722	o	I			4.97
15.667	1.10	0.43	0.727	o	I			5.00
15.750	1.09	0.43	0.732	o	I			5.02
15.833	1.09	0.43	0.736	o	I			5.05
15.917	1.09	0.43	0.741	o	I			5.08
16.000	1.09	0.43	0.745	o	I			5.11
16.083	0.71	0.43	0.749	o	I			5.12
16.167	0.29	0.44	0.749	I o				5.13
16.250	0.24	0.43	0.748	I o				5.12
16.333	0.23	0.43	0.747	I o				5.11
16.417	0.23	0.43	0.745	I o				5.10
16.500	0.23	0.43	0.744	I o				5.09
16.583	0.20	0.43	0.742	I o				5.09
16.667	0.18	0.43	0.741	I o				5.08
16.750	0.17	0.43	0.739	I o				5.07
16.833	0.17	0.43	0.737	I o				5.05
16.917	0.17	0.43	0.735	I o				5.04
17.000	0.17	0.43	0.733	I o				5.03
17.083	0.22	0.43	0.732	I o				5.02
17.167	0.28	0.43	0.731	I o				5.02
17.250	0.29	0.43	0.730	I o				5.01
17.333	0.29	0.43	0.729	I o				5.00
17.417	0.29	0.43	0.728	I o				5.00
17.500	0.29	0.43	0.727	I o				4.99
17.583	0.29	0.43	0.726	I o				4.99
17.667	0.29	0.43	0.725	I o				4.98
17.750	0.29	0.43	0.724	I o				4.97
17.833	0.26	0.43	0.723	I o				4.97
17.917	0.23	0.43	0.721	I o				4.96
18.000	0.23	0.43	0.720	I o				4.95
18.083	0.23	0.43	0.719	I o				4.95
18.167	0.23	0.43	0.717	I o				4.94

18.250	0.23	0.43	0.716	| I o|	|	|	|	4.93
18.333	0.23	0.43	0.714	| I o|	|	|	|	4.92
18.417	0.23	0.43	0.713	| I o|	|	|	|	4.91
18.500	0.23	0.43	0.712	| I o|	|	|	|	4.91
18.583	0.20	0.43	0.710	| I o|	|	|	|	4.90
18.667	0.18	0.43	0.709	| I o |	|	|	|	4.89
18.750	0.17	0.43	0.707	| I o |	|	|	|	4.88
18.833	0.15	0.42	0.705	| I o |	|	|	|	4.87
18.917	0.12	0.42	0.703	|I o |	|	|	|	4.86
19.000	0.12	0.42	0.701	|I o |	|	|	|	4.84
19.083	0.14	0.42	0.699	| I o |	|	|	|	4.83
19.167	0.17	0.42	0.697	| I o |	|	|	|	4.82
19.250	0.17	0.42	0.695	| I o |	|	|	|	4.81
19.333	0.20	0.42	0.694	| I o |	|	|	|	4.80
19.417	0.22	0.42	0.692	| I o |	|	|	|	4.79
19.500	0.23	0.42	0.691	| I o |	|	|	|	4.79
19.583	0.20	0.42	0.689	| I o |	|	|	|	4.78
19.667	0.18	0.42	0.688	| I o |	|	|	|	4.77
19.750	0.17	0.42	0.686	| I o |	|	|	|	4.76
19.833	0.15	0.42	0.684	| I o |	|	|	|	4.75
19.917	0.12	0.42	0.682	|I o |	|	|	|	4.74
20.000	0.12	0.42	0.680	|I o |	|	|	|	4.73
20.083	0.14	0.42	0.678	| I o |	|	|	|	4.71
20.167	0.17	0.42	0.677	| I o |	|	|	|	4.70
20.250	0.17	0.42	0.675	| I o |	|	|	|	4.69
20.333	0.17	0.42	0.673	| I o |	|	|	|	4.68
20.417	0.17	0.42	0.671	| I o |	|	|	|	4.67
20.500	0.17	0.42	0.670	| I o |	|	|	|	4.67
20.583	0.17	0.42	0.668	| I o |	|	|	|	4.66
20.667	0.17	0.42	0.666	| I o |	|	|	|	4.65
20.750	0.17	0.42	0.665	| I o |	|	|	|	4.64
20.833	0.15	0.42	0.663	| I o |	|	|	|	4.63
20.917	0.12	0.41	0.661	|I o |	|	|	|	4.61
21.000	0.12	0.41	0.659	|I o |	|	|	|	4.60
21.083	0.14	0.41	0.657	| I o |	|	|	|	4.59
21.167	0.17	0.41	0.655	| I o |	|	|	|	4.58
21.250	0.17	0.41	0.653	| I o |	|	|	|	4.57
21.333	0.15	0.41	0.652	| I o |	|	|	|	4.56
21.417	0.12	0.41	0.650	|I o |	|	|	|	4.55
21.500	0.12	0.41	0.648	|I o |	|	|	|	4.54
21.583	0.14	0.41	0.646	| I o |	|	|	|	4.53
21.667	0.17	0.41	0.644	| I o |	|	|	|	4.52
21.750	0.17	0.41	0.642	| I o |	|	|	|	4.51
21.833	0.15	0.41	0.641	| I o |	|	|	|	4.50
21.917	0.12	0.41	0.639	|I o |	|	|	|	4.49
22.000	0.12	0.41	0.637	|I o |	|	|	|	4.48
22.083	0.14	0.41	0.635	| I o |	|	|	|	4.46
22.167	0.17	0.41	0.633	| I o |	|	|	|	4.45
22.250	0.17	0.41	0.631	| I o |	|	|	|	4.45
22.333	0.15	0.41	0.630	| I o |	|	|	|	4.44
22.417	0.12	0.41	0.628	|I o |	|	|	|	4.42
22.500	0.12	0.41	0.626	|I o |	|	|	|	4.41
22.583	0.11	0.41	0.624	|I o |	|	|	|	4.40
22.667	0.11	0.41	0.622	|I o |	|	|	|	4.39
22.750	0.11	0.41	0.620	|I o |	|	|	|	4.38
22.833	0.11	0.40	0.618	|I o |	|	|	|	4.37
22.917	0.11	0.40	0.616	|I o |	|	|	|	4.36
23.000	0.11	0.40	0.614	|I o |	|	|	|	4.35
23.083	0.11	0.40	0.612	|I o |	|	|	|	4.33
23.167	0.11	0.40	0.610	|I o |	|	|	|	4.32
23.250	0.11	0.40	0.608	|I o |	|	|	|	4.31
23.333	0.11	0.40	0.606	|I o |	|	|	|	4.30
23.417	0.11	0.40	0.604	|I o |	|	|	|	4.29
23.500	0.11	0.40	0.602	|I o |	|	|	|	4.28
23.583	0.11	0.40	0.600	|I o |	|	|	|	4.27
23.667	0.11	0.40	0.598	|I o |	|	|	|	4.26
23.750	0.11	0.40	0.596	|I o |	|	|	|	4.24
23.833	0.11	0.40	0.594	|I o |	|	|	|	4.23
23.917	0.11	0.40	0.592	|I o |	|	|	|	4.22
24.000	0.11	0.40	0.590	|I o |	|	|	|	4.21
24.083	0.06	0.40	0.588	|I o |	|	|	|	4.20
24.167	0.01	0.40	0.585	I o |	|	|	|	4.18
24.250	0.00	0.40	0.583	I o |	|	|	|	4.17
24.333	0.00	0.40	0.580	I o |	|	|	|	4.15
24.417	0.00	0.40	0.577	I o |	|	|	|	4.14

24.500	0.00	0.39	0.575	I	o	|	|	|	4.12
24.583	0.00	0.39	0.572	I	o	|	|	|	4.11
24.667	0.00	0.39	0.569	I	o	|	|	|	4.09
24.750	0.00	0.39	0.566	I	o	|	|	|	4.08
24.833	0.00	0.39	0.564	I	o	|	|	|	4.06
24.917	0.00	0.39	0.561	I	o	|	|	|	4.05
25.000	0.00	0.39	0.558	I	o	|	|	|	4.03
25.083	0.00	0.39	0.556	I	o	|	|	|	4.02
25.167	0.00	0.39	0.553	I	o	|	|	|	4.00
25.250	0.00	0.39	0.550	I	o	|	|	|	3.98
25.333	0.00	0.39	0.548	I	o	|	|	|	3.97
25.417	0.00	0.39	0.545	I	o	|	|	|	3.95
25.500	0.00	0.39	0.542	I	o	|	|	|	3.94
25.583	0.00	0.39	0.540	I	o	|	|	|	3.92
25.667	0.00	0.38	0.537	I	o	|	|	|	3.91
25.750	0.00	0.38	0.534	I	o	|	|	|	3.89
25.833	0.00	0.38	0.532	I	o	|	|	|	3.88
25.917	0.00	0.38	0.529	I	o	|	|	|	3.86
26.000	0.00	0.38	0.526	I	o	|	|	|	3.85
26.083	0.00	0.38	0.524	I	o	|	|	|	3.83
26.167	0.00	0.38	0.521	I	o	|	|	|	3.82
26.250	0.00	0.38	0.519	I	o	|	|	|	3.80
26.333	0.00	0.38	0.516	I	o	|	|	|	3.79
26.417	0.00	0.38	0.513	I	o	|	|	|	3.77
26.500	0.00	0.38	0.511	I	o	|	|	|	3.76
26.583	0.00	0.37	0.508	I	o	|	|	|	3.75
26.667	0.00	0.37	0.506	I	o	|	|	|	3.73
26.750	0.00	0.37	0.503	I	o	|	|	|	3.72
26.833	0.00	0.37	0.501	I	o	|	|	|	3.70
26.917	0.00	0.37	0.498	I	o	|	|	|	3.69
27.000	0.00	0.37	0.495	I	o	|	|	|	3.67
27.083	0.00	0.37	0.493	I	o	|	|	|	3.66
27.167	0.00	0.37	0.490	I	o	|	|	|	3.64
27.250	0.00	0.37	0.488	I	o	|	|	|	3.63
27.333	0.00	0.37	0.485	I	o	|	|	|	3.61
27.417	0.00	0.37	0.483	I	o	|	|	|	3.60
27.500	0.00	0.37	0.480	I	o	|	|	|	3.59
27.583	0.00	0.36	0.478	I	o	|	|	|	3.57
27.667	0.00	0.36	0.475	I	o	|	|	|	3.56
27.750	0.00	0.36	0.473	I	o	|	|	|	3.54
27.833	0.00	0.36	0.470	I	o	|	|	|	3.53
27.917	0.00	0.36	0.468	I	o	|	|	|	3.52
28.000	0.00	0.36	0.465	I	o	|	|	|	3.50
28.083	0.00	0.36	0.463	I	o	|	|	|	3.49
28.167	0.00	0.36	0.460	I	o	|	|	|	3.47
28.250	0.00	0.36	0.458	I	o	|	|	|	3.46
28.333	0.00	0.36	0.455	I	o	|	|	|	3.44
28.417	0.00	0.36	0.453	I	o	|	|	|	3.43
28.500	0.00	0.35	0.450	I	o	|	|	|	3.42
28.583	0.00	0.35	0.448	I	o	|	|	|	3.40
28.667	0.00	0.35	0.446	I	o	|	|	|	3.39
28.750	0.00	0.35	0.443	I	o	|	|	|	3.37
28.833	0.00	0.35	0.441	I	o	|	|	|	3.36
28.917	0.00	0.35	0.438	I	o	|	|	|	3.34
29.000	0.00	0.35	0.436	I	o	|	|	|	3.33
29.083	0.00	0.35	0.433	I	o	|	|	|	3.32
29.167	0.00	0.35	0.431	I	o	|	|	|	3.30
29.250	0.00	0.35	0.429	I	o	|	|	|	3.29
29.333	0.00	0.35	0.426	I	o	|	|	|	3.27
29.417	0.00	0.35	0.424	I	o	|	|	|	3.26
29.500	0.00	0.34	0.422	I	o	|	|	|	3.25
29.583	0.00	0.34	0.419	I	o	|	|	|	3.23
29.667	0.00	0.34	0.417	I	o	|	|	|	3.22
29.750	0.00	0.34	0.414	I	o	|	|	|	3.21
29.833	0.00	0.34	0.412	I	o	|	|	|	3.19
29.917	0.00	0.34	0.410	I	o	|	|	|	3.18
30.000	0.00	0.34	0.407	I	o	|	|	|	3.16
30.083	0.00	0.34	0.405	I	o	|	|	|	3.15
30.167	0.00	0.34	0.403	I	o	|	|	|	3.14
30.250	0.00	0.34	0.400	I	o	|	|	|	3.12
30.333	0.00	0.34	0.398	I	o	|	|	|	3.11
30.417	0.00	0.34	0.396	I	o	|	|	|	3.10
30.500	0.00	0.34	0.393	I	o	|	|	|	3.08
30.583	0.00	0.33	0.391	I	o	|	|	|	3.07
30.667	0.00	0.33	0.389	I	o	|	|	|	3.06

30.750	0.00	0.33	0.387	I	o	|	|	|	3.04
30.833	0.00	0.33	0.384	I	o	|	|	|	3.03
30.917	0.00	0.33	0.382	I	o	|	|	|	3.02
31.000	0.00	0.33	0.380	I	o	|	|	|	3.00
31.083	0.00	0.33	0.377	I	o	|	|	|	2.99
31.167	0.00	0.33	0.375	I	o	|	|	|	2.98
31.250	0.00	0.33	0.373	I	o	|	|	|	2.96
31.333	0.00	0.33	0.371	I	o	|	|	|	2.95
31.417	0.00	0.33	0.368	I	o	|	|	|	2.94
31.500	0.00	0.33	0.366	I	o	|	|	|	2.92
31.583	0.00	0.32	0.364	I	o	|	|	|	2.91
31.667	0.00	0.32	0.362	I	o	|	|	|	2.90
31.750	0.00	0.32	0.359	I	o	|	|	|	2.88
31.833	0.00	0.32	0.357	I	o	|	|	|	2.87
31.917	0.00	0.32	0.355	I	o	|	|	|	2.86
32.000	0.00	0.32	0.353	I	o	|	|	|	2.84
32.083	0.00	0.32	0.351	I	o	|	|	|	2.83
32.167	0.00	0.32	0.348	I	o	|	|	|	2.82
32.250	0.00	0.32	0.346	I	o	|	|	|	2.80
32.333	0.00	0.32	0.344	I	o	|	|	|	2.79
32.417	0.00	0.32	0.342	I	o	|	|	|	2.78
32.500	0.00	0.32	0.340	I	o	|	|	|	2.77
32.583	0.00	0.32	0.337	I	o	|	|	|	2.75
32.667	0.00	0.31	0.335	I	o	|	|	|	2.74
32.750	0.00	0.31	0.333	I	o	|	|	|	2.73
32.833	0.00	0.31	0.331	I	o	|	|	|	2.71
32.917	0.00	0.31	0.329	I	o	|	|	|	2.70
33.000	0.00	0.31	0.327	I	o	|	|	|	2.69
33.083	0.00	0.31	0.325	I	o	|	|	|	2.68
33.167	0.00	0.31	0.322	I	o	|	|	|	2.66
33.250	0.00	0.31	0.320	I	o	|	|	|	2.65
33.333	0.00	0.31	0.318	I	o	|	|	|	2.64
33.417	0.00	0.31	0.316	I	o	|	|	|	2.63
33.500	0.00	0.31	0.314	I	o	|	|	|	2.61
33.583	0.00	0.31	0.312	I	o	|	|	|	2.60
33.667	0.00	0.31	0.310	I	o	|	|	|	2.59
33.750	0.00	0.30	0.308	I	o	|	|	|	2.57
33.833	0.00	0.30	0.306	I	o	|	|	|	2.56
33.917	0.00	0.30	0.303	I	o	|	|	|	2.55
34.000	0.00	0.30	0.301	I	o	|	|	|	2.54
34.083	0.00	0.30	0.299	I	o	|	|	|	2.53
34.167	0.00	0.30	0.297	I	o	|	|	|	2.51
34.250	0.00	0.30	0.295	I	o	|	|	|	2.50
34.333	0.00	0.30	0.293	I	o	|	|	|	2.49
34.417	0.00	0.30	0.291	I	o	|	|	|	2.47
34.500	0.00	0.30	0.289	I	o	|	|	|	2.46
34.583	0.00	0.30	0.287	I	o	|	|	|	2.45
34.667	0.00	0.30	0.285	I	o	|	|	|	2.44
34.750	0.00	0.30	0.283	I	o	|	|	|	2.42
34.833	0.00	0.29	0.281	I	o	|	|	|	2.41
34.917	0.00	0.29	0.279	I	o	|	|	|	2.40
35.000	0.00	0.29	0.277	I	o	|	|	|	2.38
35.083	0.00	0.29	0.275	I	o	|	|	|	2.37
35.167	0.00	0.29	0.273	I	o	|	|	|	2.36
35.250	0.00	0.29	0.271	I	o	|	|	|	2.35
35.333	0.00	0.29	0.269	I	o	|	|	|	2.33
35.417	0.00	0.29	0.267	I	o	|	|	|	2.32
35.500	0.00	0.29	0.265	I	o	|	|	|	2.31
35.583	0.00	0.29	0.263	I	o	|	|	|	2.30
35.667	0.00	0.29	0.261	I	o	|	|	|	2.28
35.750	0.00	0.29	0.259	I	o	|	|	|	2.27
35.833	0.00	0.29	0.257	I	o	|	|	|	2.26
35.917	0.00	0.28	0.255	I	o	|	|	|	2.25
36.000	0.00	0.28	0.253	I	o	|	|	|	2.23
36.083	0.00	0.28	0.251	I	o	|	|	|	2.22
36.167	0.00	0.28	0.249	I	o	|	|	|	2.21
36.250	0.00	0.28	0.247	I	o	|	|	|	2.20
36.333	0.00	0.28	0.245	I	o	|	|	|	2.18
36.417	0.00	0.28	0.243	I	o	|	|	|	2.17
36.500	0.00	0.28	0.241	I	o	|	|	|	2.16
36.583	0.00	0.28	0.239	I	o	|	|	|	2.15
36.667	0.00	0.28	0.237	I	o	|	|	|	2.14
36.750	0.00	0.28	0.235	I	o	|	|	|	2.12
36.833	0.00	0.28	0.234	I	o	|	|	|	2.11
36.917	0.00	0.28	0.232	I	o	|	|	|	2.10

37.000	0.00	0.28	0.230	I	o	|	|	|	|	2.09
37.083	0.00	0.27	0.228	I	o	|	|	|	|	2.08
37.167	0.00	0.27	0.226	I	o	|	|	|	|	2.06
37.250	0.00	0.27	0.224	I	o	|	|	|	|	2.05
37.333	0.00	0.27	0.222	I	o	|	|	|	|	2.04
37.417	0.00	0.27	0.220	I	o	|	|	|	|	2.03
37.500	0.00	0.27	0.218	I	o	|	|	|	|	2.02
37.583	0.00	0.27	0.217	I	o	|	|	|	|	2.00
37.667	0.00	0.27	0.215	I	o	|	|	|	|	1.99
37.750	0.00	0.27	0.213	I	o	|	|	|	|	1.98
37.833	0.00	0.27	0.211	I	o	|	|	|	|	1.97
37.917	0.00	0.27	0.209	I	o	|	|	|	|	1.95
38.000	0.00	0.27	0.207	I	o	|	|	|	|	1.94
38.083	0.00	0.26	0.206	I	o	|	|	|	|	1.93
38.167	0.00	0.26	0.204	I	o	|	|	|	|	1.92
38.250	0.00	0.26	0.202	I	o	|	|	|	|	1.90
38.333	0.00	0.26	0.200	I	o	|	|	|	|	1.89
38.417	0.00	0.26	0.198	I	o	|	|	|	|	1.88
38.500	0.00	0.26	0.197	I	o	|	|	|	|	1.87
38.583	0.00	0.26	0.195	I	o	|	|	|	|	1.85
38.667	0.00	0.26	0.193	I	o	|	|	|	|	1.84
38.750	0.00	0.26	0.191	I	o	|	|	|	|	1.83
38.833	0.00	0.26	0.189	I	o	|	|	|	|	1.82
38.917	0.00	0.25	0.188	I	o	|	|	|	|	1.80
39.000	0.00	0.25	0.186	I	o	|	|	|	|	1.79
39.083	0.00	0.25	0.184	I	o	|	|	|	|	1.78
39.167	0.00	0.25	0.183	I	o	|	|	|	|	1.77
39.250	0.00	0.25	0.181	I	o	|	|	|	|	1.76
39.333	0.00	0.25	0.179	I	o	|	|	|	|	1.74
39.417	0.00	0.25	0.177	I	o	|	|	|	|	1.73
39.500	0.00	0.25	0.176	I	o	|	|	|	|	1.72
39.583	0.00	0.25	0.174	I	o	|	|	|	|	1.71
39.667	0.00	0.25	0.172	I	o	|	|	|	|	1.70
39.750	0.00	0.24	0.171	I	o	|	|	|	|	1.68
39.833	0.00	0.24	0.169	I	o	|	|	|	|	1.67
39.917	0.00	0.24	0.167	I	o	|	|	|	|	1.66
40.000	0.00	0.24	0.166	I	o	|	|	|	|	1.65
40.083	0.00	0.24	0.164	I	o	|	|	|	|	1.64
40.167	0.00	0.24	0.162	I	o	|	|	|	|	1.63
40.250	0.00	0.24	0.161	I	o	|	|	|	|	1.61
40.333	0.00	0.24	0.159	I	o	|	|	|	|	1.60
40.417	0.00	0.24	0.157	I	o	|	|	|	|	1.59
40.500	0.00	0.24	0.156	I	o	|	|	|	|	1.58
40.583	0.00	0.24	0.154	I	o	|	|	|	|	1.57
40.667	0.00	0.23	0.152	I	o	|	|	|	|	1.56
40.750	0.00	0.23	0.151	I	o	|	|	|	|	1.55
40.833	0.00	0.23	0.149	I	o	|	|	|	|	1.54
40.917	0.00	0.23	0.148	I	o	|	|	|	|	1.52
41.000	0.00	0.23	0.146	I	o	|	|	|	|	1.51
41.083	0.00	0.23	0.144	I	o	|	|	|	|	1.50
41.167	0.00	0.23	0.143	I	o	|	|	|	|	1.49
41.250	0.00	0.23	0.141	I	o	|	|	|	|	1.48
41.333	0.00	0.23	0.140	I	o	|	|	|	|	1.47
41.417	0.00	0.23	0.138	I	o	|	|	|	|	1.45
41.500	0.00	0.23	0.137	I	o	|	|	|	|	1.44
41.583	0.00	0.22	0.135	I	o	|	|	|	|	1.43
41.667	0.00	0.22	0.133	I	o	|	|	|	|	1.42
41.750	0.00	0.22	0.132	I	o	|	|	|	|	1.41
41.833	0.00	0.22	0.130	I	o	|	|	|	|	1.39
41.917	0.00	0.22	0.129	I	o	|	|	|	|	1.38
42.000	0.00	0.22	0.127	I	o	|	|	|	|	1.37
42.083	0.00	0.22	0.126	I	o	|	|	|	|	1.36
42.167	0.00	0.22	0.124	I	o	|	|	|	|	1.35
42.250	0.00	0.22	0.123	I	o	|	|	|	|	1.33
42.333	0.00	0.22	0.121	I	o	|	|	|	|	1.32
42.417	0.00	0.21	0.120	I	o	|	|	|	|	1.31
42.500	0.00	0.21	0.118	I	o	|	|	|	|	1.30
42.583	0.00	0.21	0.117	I	o	|	|	|	|	1.29
42.667	0.00	0.21	0.115	I	o	|	|	|	|	1.28
42.750	0.00	0.21	0.114	I	o	|	|	|	|	1.27
42.833	0.00	0.21	0.113	I	o	|	|	|	|	1.25
42.917	0.00	0.21	0.111	I	o	|	|	|	|	1.24
43.000	0.00	0.21	0.110	I	o	|	|	|	|	1.23
43.083	0.00	0.21	0.108	I	o	|	|	|	|	1.22
43.167	0.00	0.21	0.107	I	o	|	|	|	|	1.21

43.250	0.00	0.21	0.105	I o	|	|	|	1.20
43.333	0.00	0.20	0.104	I o	|	|	|	1.19
43.417	0.00	0.20	0.103	I o	|	|	|	1.18
43.500	0.00	0.20	0.101	I o	|	|	|	1.17
43.583	0.00	0.20	0.100	I o	|	|	|	1.15
43.667	0.00	0.20	0.098	I o	|	|	|	1.14
43.750	0.00	0.20	0.097	I o	|	|	|	1.13
43.833	0.00	0.20	0.096	I o	|	|	|	1.12
43.917	0.00	0.20	0.094	I o	|	|	|	1.11
44.000	0.00	0.20	0.093	I o	|	|	|	1.10
44.083	0.00	0.20	0.092	I o	|	|	|	1.09
44.167	0.00	0.20	0.090	I o	|	|	|	1.08
44.250	0.00	0.20	0.089	I o	|	|	|	1.07
44.333	0.00	0.19	0.087	I o	|	|	|	1.06
44.417	0.00	0.19	0.086	I o	|	|	|	1.05
44.500	0.00	0.19	0.085	I o	|	|	|	1.04
44.583	0.00	0.19	0.083	I o	|	|	|	1.03
44.667	0.00	0.19	0.082	I o	|	|	|	1.02
44.750	0.00	0.19	0.081	I o	|	|	|	1.01
44.833	0.00	0.19	0.080	I o	|	|	|	1.00
44.917	0.00	0.19	0.078	I o	|	|	|	0.98
45.000	0.00	0.19	0.077	I o	|	|	|	0.97
45.083	0.00	0.18	0.076	I o	|	|	|	0.96
45.167	0.00	0.18	0.074	I o	|	|	|	0.94
45.250	0.00	0.18	0.073	I o	|	|	|	0.93
45.333	0.00	0.18	0.072	I o	|	|	|	0.92
45.417	0.00	0.18	0.071	I o	|	|	|	0.91
45.500	0.00	0.18	0.069	I o	|	|	|	0.90
45.583	0.00	0.18	0.068	I o	|	|	|	0.88
45.667	0.00	0.17	0.067	I o	|	|	|	0.87
45.750	0.00	0.17	0.066	I o	|	|	|	0.86
45.833	0.00	0.17	0.065	I o	|	|	|	0.85
45.917	0.00	0.17	0.063	I o	|	|	|	0.84
46.000	0.00	0.17	0.062	I o	|	|	|	0.83
46.083	0.00	0.17	0.061	I o	|	|	|	0.81
46.167	0.00	0.17	0.060	I o	|	|	|	0.80
46.250	0.00	0.17	0.059	I o	|	|	|	0.79
46.333	0.00	0.16	0.058	I o	|	|	|	0.78
46.417	0.00	0.16	0.057	I o	|	|	|	0.77
46.500	0.00	0.16	0.055	I o	|	|	|	0.76
46.583	0.00	0.16	0.054	I o	|	|	|	0.75
46.667	0.00	0.16	0.053	I o	|	|	|	0.74
46.750	0.00	0.16	0.052	I o	|	|	|	0.73
46.833	0.00	0.16	0.051	I o	|	|	|	0.72
46.917	0.00	0.15	0.050	I o	|	|	|	0.71
47.000	0.00	0.15	0.049	I o	|	|	|	0.70
47.083	0.00	0.15	0.048	I o	|	|	|	0.69
47.167	0.00	0.15	0.047	I o	|	|	|	0.67
47.250	0.00	0.15	0.046	I o	|	|	|	0.66
47.333	0.00	0.15	0.045	I o	|	|	|	0.65
47.417	0.00	0.15	0.044	I o	|	|	|	0.64
47.500	0.00	0.15	0.043	I o	|	|	|	0.63
47.583	0.00	0.14	0.042	I o	|	|	|	0.62
47.667	0.00	0.14	0.041	I o	|	|	|	0.62
47.750	0.00	0.14	0.040	I o	|	|	|	0.61
47.833	0.00	0.14	0.039	I o	|	|	|	0.60
47.917	0.00	0.14	0.038	I o	|	|	|	0.59
48.000	0.00	0.14	0.037	I o	|	|	|	0.58
48.083	0.00	0.14	0.036	I o	|	|	|	0.57
48.167	0.00	0.14	0.035	I o	|	|	|	0.56
48.250	0.00	0.14	0.034	I o	|	|	|	0.55
48.333	0.00	0.13	0.033	I o	|	|	|	0.54
48.417	0.00	0.13	0.032	I o	|	|	|	0.53
48.500	0.00	0.13	0.031	I o	|	|	|	0.52
48.583	0.00	0.13	0.030	I o	|	|	|	0.51
48.667	0.00	0.13	0.029	I o	|	|	|	0.50
48.750	0.00	0.13	0.029	I o	|	|	|	0.49
48.833	0.00	0.12	0.028	I o	|	|	|	0.48
48.917	0.00	0.12	0.027	IO	|	|	|	0.46
49.000	0.00	0.11	0.026	IO	|	|	|	0.45
49.083	0.00	0.11	0.025	IO	|	|	|	0.43
49.167	0.00	0.11	0.025	IO	|	|	|	0.42
49.250	0.00	0.10	0.024	IO	|	|	|	0.41
49.333	0.00	0.10	0.023	IO	|	|	|	0.40
49.417	0.00	0.10	0.022	IO	|	|	|	0.38

49.500	0.00	0.09	0.022	IO	|	|	|	|	0.37
49.583	0.00	0.09	0.021	IO	|	|	|	|	0.36
49.667	0.00	0.09	0.021	IO	|	|	|	|	0.35
49.750	0.00	0.08	0.020	IO	|	|	|	|	0.34
49.833	0.00	0.08	0.019	IO	|	|	|	|	0.33
49.917	0.00	0.08	0.019	IO	|	|	|	|	0.32
50.000	0.00	0.07	0.018	IO	|	|	|	|	0.31
50.083	0.00	0.07	0.018	IO	|	|	|	|	0.30
50.167	0.00	0.07	0.017	IO	|	|	|	|	0.30
50.250	0.00	0.07	0.017	IO	|	|	|	|	0.29
50.333	0.00	0.06	0.016	IO	|	|	|	|	0.28
50.417	0.00	0.06	0.016	IO	|	|	|	|	0.27
50.500	0.00	0.06	0.016	O	|	|	|	|	0.26
50.583	0.00	0.06	0.015	O	|	|	|	|	0.26
50.667	0.00	0.06	0.015	O	|	|	|	|	0.25
50.750	0.00	0.05	0.014	O	|	|	|	|	0.24
50.833	0.00	0.05	0.014	O	|	|	|	|	0.24
50.917	0.00	0.05	0.014	O	|	|	|	|	0.23
51.000	0.00	0.05	0.013	O	|	|	|	|	0.23
51.083	0.00	0.05	0.013	O	|	|	|	|	0.22
51.167	0.00	0.05	0.013	O	|	|	|	|	0.21
51.250	0.00	0.04	0.012	O	|	|	|	|	0.21
51.333	0.00	0.04	0.012	O	|	|	|	|	0.20
51.417	0.00	0.04	0.012	O	|	|	|	|	0.20
51.500	0.00	0.04	0.011	O	|	|	|	|	0.19
51.583	0.00	0.04	0.011	O	|	|	|	|	0.19
51.667	0.00	0.04	0.011	O	|	|	|	|	0.18
51.750	0.00	0.04	0.011	O	|	|	|	|	0.18
51.833	0.00	0.03	0.010	O	|	|	|	|	0.18
51.917	0.00	0.03	0.010	O	|	|	|	|	0.17
52.000	0.00	0.03	0.010	O	|	|	|	|	0.17
52.083	0.00	0.03	0.010	O	|	|	|	|	0.16
52.167	0.00	0.03	0.010	O	|	|	|	|	0.16
52.250	0.00	0.03	0.009	O	|	|	|	|	0.16
52.333	0.00	0.03	0.009	O	|	|	|	|	0.15
52.417	0.00	0.03	0.009	O	|	|	|	|	0.15
52.500	0.00	0.03	0.009	O	|	|	|	|	0.15
52.583	0.00	0.02	0.009	O	|	|	|	|	0.14
52.667	0.00	0.02	0.008	O	|	|	|	|	0.14
52.750	0.00	0.02	0.008	O	|	|	|	|	0.14
52.833	0.00	0.02	0.008	O	|	|	|	|	0.14
52.917	0.00	0.02	0.008	O	|	|	|	|	0.13
53.000	0.00	0.02	0.008	O	|	|	|	|	0.13
53.083	0.00	0.02	0.008	O	|	|	|	|	0.13
53.167	0.00	0.02	0.008	O	|	|	|	|	0.13
53.250	0.00	0.02	0.007	O	|	|	|	|	0.12
53.333	0.00	0.02	0.007	O	|	|	|	|	0.12
53.417	0.00	0.02	0.007	O	|	|	|	|	0.12
53.500	0.00	0.02	0.007	O	|	|	|	|	0.12
53.583	0.00	0.02	0.007	O	|	|	|	|	0.11
53.667	0.00	0.02	0.007	O	|	|	|	|	0.11
53.750	0.00	0.02	0.007	O	|	|	|	|	0.11
53.833	0.00	0.01	0.007	O	|	|	|	|	0.11
53.917	0.00	0.01	0.007	O	|	|	|	|	0.11
54.000	0.00	0.01	0.006	O	|	|	|	|	0.11
54.083	0.00	0.01	0.006	O	|	|	|	|	0.10
54.167	0.00	0.01	0.006	O	|	|	|	|	0.10
54.250	0.00	0.01	0.006	O	|	|	|	|	0.10
54.333	0.00	0.01	0.006	O	|	|	|	|	0.10
54.417	0.00	0.01	0.006	O	|	|	|	|	0.10
54.500	0.00	0.01	0.006	O	|	|	|	|	0.10
54.583	0.00	0.01	0.006	O	|	|	|	|	0.10
54.667	0.00	0.01	0.006	O	|	|	|	|	0.09
54.750	0.00	0.01	0.006	O	|	|	|	|	0.09
54.833	0.00	0.01	0.006	O	|	|	|	|	0.09
54.917	0.00	0.01	0.006	O	|	|	|	|	0.09
55.000	0.00	0.01	0.006	O	|	|	|	|	0.09
55.083	0.00	0.01	0.005	O	|	|	|	|	0.09
55.167	0.00	0.01	0.005	O	|	|	|	|	0.09
55.250	0.00	0.01	0.005	O	|	|	|	|	0.09
55.333	0.00	0.01	0.005	O	|	|	|	|	0.09
55.417	0.00	0.01	0.005	O	|	|	|	|	0.08
55.500	0.00	0.01	0.005	O	|	|	|	|	0.08
55.583	0.00	0.01	0.005	O	|	|	|	|	0.08
55.667	0.00	0.01	0.005	O	|	|	|	|	0.08

55.750	0.00	0.01	0.005	o	|	|	|	|	0.08
55.833	0.00	0.01	0.005	o	|	|	|	|	0.08
55.917	0.00	0.01	0.005	o	|	|	|	|	0.08
56.000	0.00	0.01	0.005	o	|	|	|	|	0.08
56.083	0.00	0.01	0.005	o	|	|	|	|	0.08
56.167	0.00	0.01	0.005	o	|	|	|	|	0.08
56.250	0.00	0.01	0.005	o	|	|	|	|	0.08
56.333	0.00	0.01	0.005	o	|	|	|	|	0.08
56.417	0.00	0.00	0.005	o	|	|	|	|	0.08
56.500	0.00	0.00	0.005	o	|	|	|	|	0.08
56.583	0.00	0.00	0.005	o	|	|	|	|	0.07
56.667	0.00	0.00	0.005	o	|	|	|	|	0.07
56.750	0.00	0.00	0.005	o	|	|	|	|	0.07
56.833	0.00	0.00	0.005	o	|	|	|	|	0.07
56.917	0.00	0.00	0.005	o	|	|	|	|	0.07
57.000	0.00	0.00	0.005	o	|	|	|	|	0.07
57.083	0.00	0.00	0.005	o	|	|	|	|	0.07
57.167	0.00	0.00	0.004	o	|	|	|	|	0.07
57.250	0.00	0.00	0.004	o	|	|	|	|	0.07
57.333	0.00	0.00	0.004	o	|	|	|	|	0.07
57.417	0.00	0.00	0.004	o	|	|	|	|	0.07
57.500	0.00	0.00	0.004	o	|	|	|	|	0.07
57.583	0.00	0.00	0.004	o	|	|	|	|	0.07
57.667	0.00	0.00	0.004	o	|	|	|	|	0.07
57.750	0.00	0.00	0.004	o	|	|	|	|	0.07
57.833	0.00	0.00	0.004	o	|	|	|	|	0.07
57.917	0.00	0.00	0.004	o	|	|	|	|	0.07
58.000	0.00	0.00	0.004	o	|	|	|	|	0.07
58.083	0.00	0.00	0.004	o	|	|	|	|	0.07
58.167	0.00	0.00	0.004	o	|	|	|	|	0.07
58.250	0.00	0.00	0.004	o	|	|	|	|	0.07
58.333	0.00	0.00	0.004	o	|	|	|	|	0.07
58.417	0.00	0.00	0.004	o	|	|	|	|	0.07
58.500	0.00	0.00	0.004	o	|	|	|	|	0.07
58.583	0.00	0.00	0.004	o	|	|	|	|	0.07
58.667	0.00	0.00	0.004	o	|	|	|	|	0.07
58.750	0.00	0.00	0.004	o	|	|	|	|	0.07
58.833	0.00	0.00	0.004	o	|	|	|	|	0.07
58.917	0.00	0.00	0.004	o	|	|	|	|	0.07
59.000	0.00	0.00	0.004	o	|	|	|	|	0.07
59.083	0.00	0.00	0.004	o	|	|	|	|	0.06
59.167	0.00	0.00	0.004	o	|	|	|	|	0.06
59.250	0.00	0.00	0.004	o	|	|	|	|	0.06
59.333	0.00	0.00	0.004	o	|	|	|	|	0.06
59.417	0.00	0.00	0.004	o	|	|	|	|	0.06
59.500	0.00	0.00	0.004	o	|	|	|	|	0.06
59.583	0.00	0.00	0.004	o	|	|	|	|	0.06
59.667	0.00	0.00	0.004	o	|	|	|	|	0.06
59.750	0.00	0.00	0.004	o	|	|	|	|	0.06
59.833	0.00	0.00	0.004	o	|	|	|	|	0.06
59.917	0.00	0.00	0.004	o	|	|	|	|	0.06
60.000	0.00	0.00	0.004	o	|	|	|	|	0.06
60.083	0.00	0.00	0.004	o	|	|	|	|	0.06
60.167	0.00	0.00	0.004	o	|	|	|	|	0.06

Remaining water in basin = 0.00 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 722
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.435 (CFS)
Total volume = 1.179 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005
Study date: 11/24/21

BCCOV BLDG A AREA 6
2-YR 24-HR STORM EVENT
21-0034
2021-11-24 EP

Program License Serial Number 4010

********** HYDROGRAPH INFORMATION **********

From study/file name: PROP2YR6A242.rte
**********HYDROGRAPH DATA**********
Number of intervals = 292
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2.073 (CFS)
Total volume = 1.260 (Ac.Ft)
Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

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Process from Point/Station 100.000 to Point/Station 101.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 292
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)

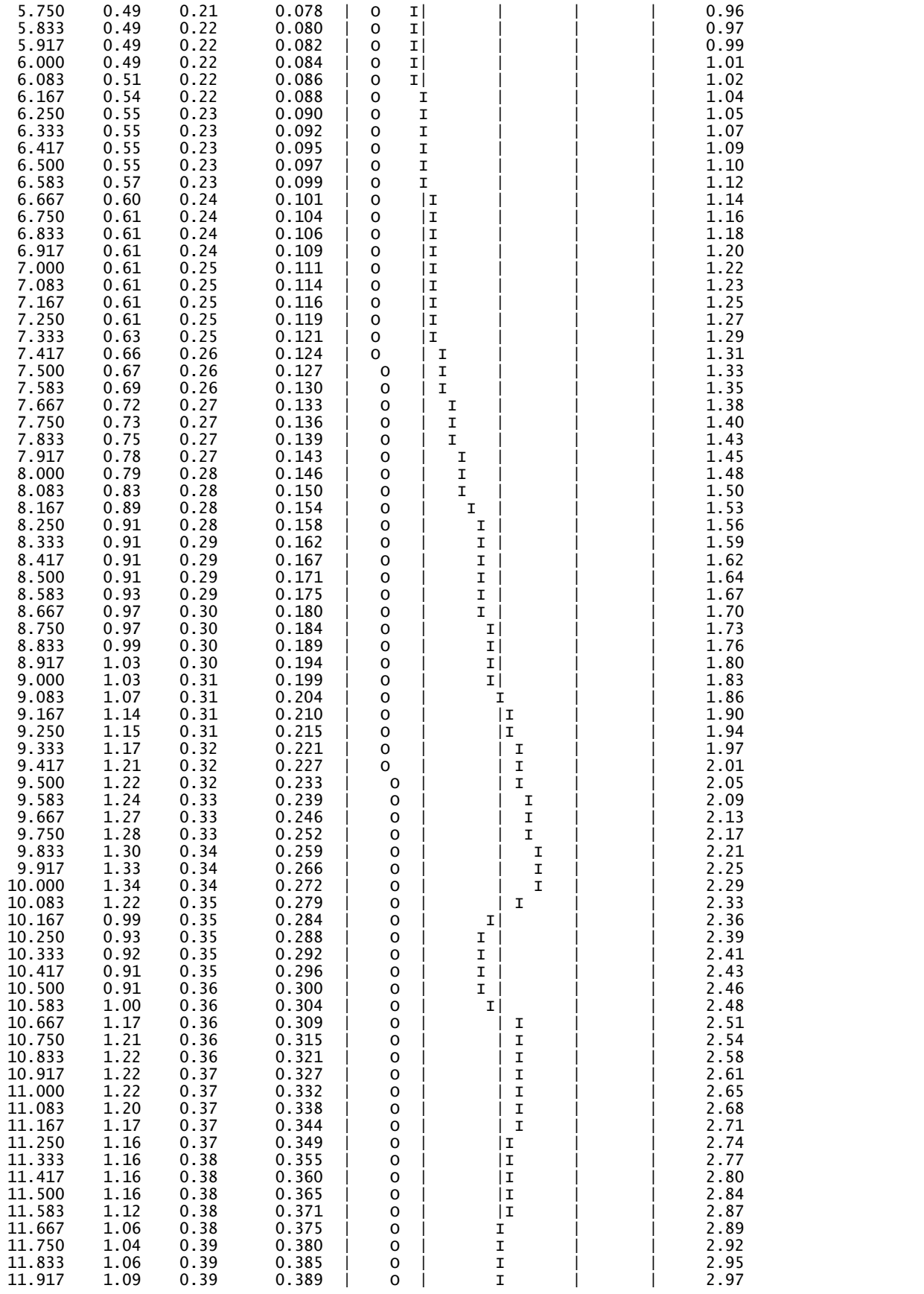
Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.083	0.005	0.001	0.005	0.005
0.500	0.030	0.150	0.029	0.031
1.000	0.083	0.220	0.082	0.084
1.500	0.149	0.280	0.148	0.150
2.000	0.225	0.320	0.224	0.226
2.500	0.307	0.360	0.306	0.308
3.000	0.394	0.390	0.393	0.395
3.500	0.483	0.430	0.482	0.484
4.000	0.575	0.460	0.573	0.577
4.500	0.666	0.490	0.664	0.668
5.000	0.756	0.510	0.754	0.758
5.500	0.842	0.540	0.840	0.844
6.000	0.925	0.560	0.923	0.927
6.500	1.000	0.590	0.998	1.002
7.000	1.066	0.610	1.064	1.068
7.500	1.119	0.630	1.117	1.121
8.000	1.149	0.650	1.147	1.151

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.5	1.04	1.56	2.07	Depth (Ft.)
0.083	0.03	0.00	0.000	O	|	|	|	|	0.00
0.167	0.10	0.00	0.001	OI	|	|	|	|	0.01
0.250	0.12	0.00	0.001	OI	|	|	|	|	0.02
0.333	0.14	0.00	0.002	O I	|	|	|	|	0.04
0.417	0.17	0.00	0.003	O I	|	|	|	|	0.05
0.500	0.18	0.00	0.004	O I	|	|	|	|	0.07
0.583	0.18	0.01	0.006	O I	|	|	|	|	0.10
0.667	0.18	0.01	0.007	O I	|	|	|	|	0.12
0.750	0.18	0.02	0.008	O I	|	|	|	|	0.13
0.833	0.20	0.03	0.009	O I	|	|	|	|	0.15
0.917	0.23	0.03	0.011	O I	|	|	|	|	0.18
1.000	0.24	0.04	0.012	O I	|	|	|	|	0.20
1.083	0.23	0.05	0.013	O I	|	|	|	|	0.22
1.167	0.19	0.06	0.014	O I	|	|	|	|	0.24
1.250	0.19	0.06	0.015	O I	|	|	|	|	0.25
1.333	0.18	0.07	0.016	|OI	|	|	|	|	0.27
1.417	0.18	0.07	0.017	|OI	|	|	|	|	0.28
1.500	0.18	0.08	0.018	|OI	|	|	|	|	0.29
1.583	0.18	0.08	0.018	|OI	|	|	|	|	0.30
1.667	0.18	0.08	0.019	|OI	|	|	|	|	0.32
1.750	0.18	0.09	0.020	|OI	|	|	|	|	0.33
1.833	0.20	0.09	0.020	|O I	|	|	|	|	0.34
1.917	0.23	0.10	0.021	|O I	|	|	|	|	0.35
2.000	0.24	0.10	0.022	|O I	|	|	|	|	0.37
2.083	0.24	0.11	0.023	|O I	|	|	|	|	0.38
2.167	0.24	0.11	0.024	|O I	|	|	|	|	0.40
2.250	0.24	0.12	0.025	|O I	|	|	|	|	0.41
2.333	0.24	0.12	0.026	|O I	|	|	|	|	0.43
2.417	0.24	0.13	0.026	|O I	|	|	|	|	0.44
2.500	0.24	0.13	0.027	| OI	|	|	|	|	0.45
2.583	0.26	0.14	0.028	| O I	|	|	|	|	0.47
2.667	0.29	0.14	0.029	| O I	|	|	|	|	0.48
2.750	0.30	0.15	0.030	| O I	|	|	|	|	0.50
2.833	0.30	0.15	0.031	| O I	|	|	|	|	0.51
2.917	0.30	0.15	0.032	| O I	|	|	|	|	0.52
3.000	0.30	0.15	0.033	| O I	|	|	|	|	0.53
3.083	0.30	0.16	0.034	| O I	|	|	|	|	0.54
3.167	0.30	0.16	0.035	| O I	|	|	|	|	0.55
3.250	0.30	0.16	0.036	| O I	|	|	|	|	0.56
3.333	0.30	0.16	0.037	| O I	|	|	|	|	0.57
3.417	0.30	0.16	0.038	| O I	|	|	|	|	0.58
3.500	0.30	0.16	0.039	| O I	|	|	|	|	0.59
3.583	0.30	0.16	0.040	| O I	|	|	|	|	0.60
3.667	0.30	0.16	0.041	| O I	|	|	|	|	0.61
3.750	0.30	0.17	0.042	| O I	|	|	|	|	0.61
3.833	0.32	0.17	0.043	| O I	|	|	|	|	0.62
3.917	0.36	0.17	0.044	| O I	|	|	|	|	0.64
4.000	0.36	0.17	0.046	| O I	|	|	|	|	0.65
4.083	0.37	0.17	0.047	| O I	|	|	|	|	0.66
4.167	0.37	0.17	0.048	| O I	|	|	|	|	0.67
4.250	0.37	0.18	0.050	| O I	|	|	|	|	0.69
4.333	0.38	0.18	0.051	| O I	|	|	|	|	0.70
4.417	0.42	0.18	0.053	| O I	|	|	|	|	0.71
4.500	0.42	0.18	0.054	| O I	|	|	|	|	0.73
4.583	0.43	0.18	0.056	| O I	|	|	|	|	0.74
4.667	0.43	0.19	0.057	| O I	|	|	|	|	0.76
4.750	0.43	0.19	0.059	| O I	|	|	|	|	0.77
4.833	0.44	0.19	0.061	| O I	|	|	|	|	0.79
4.917	0.48	0.19	0.063	| O I	|	|	|	|	0.81
5.000	0.49	0.20	0.065	| O I	|	|	|	|	0.83
5.083	0.45	0.20	0.067	| O I	|	|	|	|	0.84
5.167	0.39	0.20	0.068	| O I	|	|	|	|	0.86
5.250	0.37	0.20	0.069	| O I	|	|	|	|	0.87
5.333	0.38	0.20	0.070	| O I	|	|	|	|	0.88
5.417	0.42	0.21	0.072	| O I	|	|	|	|	0.89
5.500	0.42	0.21	0.073	| O I	|	|	|	|	0.91
5.583	0.44	0.21	0.075	| O I	|	|	|	|	0.92
5.667	0.48	0.21	0.077	| O I	|	|	|	|	0.94



12.000	1.10	0.39	0.394	o	I			3.00
12.083	1.22	0.39	0.399	o	I			3.03
12.167	1.45	0.40	0.406	o	I			3.07
12.250	1.51	0.40	0.413	o	I			3.11
12.333	1.54	0.40	0.421	o	I			3.15
12.417	1.58	0.41	0.429	o	I			3.20
12.500	1.58	0.41	0.437	o	I			3.24
12.583	1.62	0.41	0.445	o	I			3.29
12.667	1.69	0.42	0.454	o	I			3.34
12.750	1.70	0.42	0.463	o	I			3.39
12.833	1.72	0.42	0.472	o	I			3.44
12.917	1.76	0.43	0.481	o	I			3.49
13.000	1.77	0.43	0.490	o	I			3.54
13.083	1.85	0.44	0.499	o	I			3.59
13.167	2.02	0.44	0.510	o	I			3.64
13.250	2.06	0.44	0.521	o	I			3.70
13.333	2.07	0.45	0.532	o	I			3.77
13.417	2.07	0.45	0.543	o	I			3.83
13.500	2.07	0.45	0.554	o	I			3.89
13.583	1.88	0.46	0.565	o	I			3.94
13.667	1.51	0.46	0.573	o	I			3.99
13.750	1.43	0.46	0.580	o	I			4.03
13.833	1.41	0.46	0.587	o	I			4.06
13.917	1.40	0.47	0.593	o	I			4.10
14.000	1.40	0.47	0.600	o	I			4.14
14.083	1.47	0.47	0.606	o	I			4.17
14.167	1.61	0.47	0.614	o	I			4.21
14.250	1.64	0.48	0.622	o	I			4.26
14.333	1.63	0.48	0.630	o	I			4.30
14.417	1.60	0.48	0.637	o	I			4.34
14.500	1.59	0.48	0.645	o	I			4.38
14.583	1.59	0.49	0.653	o	I			4.43
14.667	1.59	0.49	0.660	o	I			4.47
14.750	1.59	0.49	0.668	o	I			4.51
14.833	1.57	0.49	0.675	o	I			4.55
14.917	1.53	0.49	0.682	o	I			4.59
15.000	1.53	0.50	0.690	o	I			4.63
15.083	1.51	0.50	0.697	o	I			4.67
15.167	1.47	0.50	0.703	o	I			4.71
15.250	1.47	0.50	0.710	o	I			4.75
15.333	1.45	0.50	0.717	o	I			4.78
15.417	1.41	0.50	0.723	o	I			4.82
15.500	1.40	0.50	0.729	o	I			4.85
15.583	1.33	0.51	0.735	o	I			4.89
15.667	1.20	0.51	0.741	o	I			4.91
15.750	1.17	0.51	0.745	o	I			4.94
15.833	1.16	0.51	0.750	o	I			4.97
15.917	1.16	0.51	0.754	o	I			4.99
16.000	1.16	0.51	0.759	o	I			5.02
16.083	0.90	0.51	0.762	o	I			5.04
16.167	0.40	0.51	0.763	o	I			5.04
16.250	0.28	0.51	0.762	o	I			5.03
16.333	0.25	0.51	0.760	o	I			5.02
16.417	0.24	0.51	0.758	o	I			5.01
16.500	0.24	0.51	0.757	o	I			5.00
16.583	0.23	0.51	0.755	o	I			4.99
16.667	0.19	0.51	0.753	o	I			4.98
16.750	0.19	0.51	0.750	o	I			4.97
16.833	0.18	0.51	0.748	o	I			4.96
16.917	0.18	0.51	0.746	o	I			4.94
17.000	0.18	0.51	0.744	o	I			4.93
17.083	0.22	0.51	0.742	o	I			4.92
17.167	0.28	0.51	0.740	o	I			4.91
17.250	0.30	0.51	0.738	o	I			4.90
17.333	0.30	0.51	0.737	o	I			4.89
17.417	0.30	0.51	0.736	o	I			4.89
17.500	0.30	0.51	0.734	o	I			4.88
17.583	0.30	0.50	0.733	o	I			4.87
17.667	0.30	0.50	0.732	o	I			4.86
17.750	0.30	0.50	0.730	o	I			4.86
17.833	0.29	0.50	0.729	o	I			4.85
17.917	0.25	0.50	0.727	o	I			4.84
18.000	0.25	0.50	0.725	o	I			4.83
18.083	0.24	0.50	0.724	o	I			4.82
18.167	0.24	0.50	0.722	o	I			4.81

18.250	0.24	0.50	0.720	| I o|	|	|	|	4.80
18.333	0.24	0.50	0.718	| I o|	|	|	|	4.79
18.417	0.24	0.50	0.716	| I o|	|	|	|	4.78
18.500	0.24	0.50	0.715	| I o|	|	|	|	4.77
18.583	0.23	0.50	0.713	| I o|	|	|	|	4.76
18.667	0.19	0.50	0.711	| I o|	|	|	|	4.75
18.750	0.19	0.50	0.709	| I o|	|	|	|	4.74
18.833	0.17	0.50	0.707	| I o|	|	|	|	4.73
18.917	0.13	0.50	0.704	| I o|	|	|	|	4.71
19.000	0.12	0.50	0.702	|I o|	|	|	|	4.70
19.083	0.14	0.50	0.699	| I o|	|	|	|	4.68
19.167	0.17	0.50	0.697	| I o|	|	|	|	4.67
19.250	0.18	0.50	0.694	| I o|	|	|	|	4.66
19.333	0.20	0.50	0.692	| I o|	|	|	|	4.65
19.417	0.23	0.50	0.690	| I o|	|	|	|	4.64
19.500	0.24	0.50	0.689	| I o|	|	|	|	4.63
19.583	0.23	0.49	0.687	| I o|	|	|	|	4.62
19.667	0.19	0.49	0.685	| I o|	|	|	|	4.61
19.750	0.19	0.49	0.683	| I o|	|	|	|	4.59
19.833	0.17	0.49	0.681	| I o|	|	|	|	4.58
19.917	0.13	0.49	0.678	| I o|	|	|	|	4.57
20.000	0.12	0.49	0.676	|I o|	|	|	|	4.55
20.083	0.14	0.49	0.673	| I o|	|	|	|	4.54
20.167	0.17	0.49	0.671	| I o|	|	|	|	4.53
20.250	0.18	0.49	0.669	| I o|	|	|	|	4.52
20.333	0.18	0.49	0.667	| I o|	|	|	|	4.50
20.417	0.18	0.49	0.665	| I o|	|	|	|	4.49
20.500	0.18	0.49	0.662	| I o|	|	|	|	4.48
20.583	0.18	0.49	0.660	| I o|	|	|	|	4.47
20.667	0.18	0.49	0.658	| I o|	|	|	|	4.46
20.750	0.18	0.49	0.656	| I o|	|	|	|	4.45
20.833	0.17	0.49	0.654	| I o|	|	|	|	4.43
20.917	0.13	0.49	0.652	| I o|	|	|	|	4.42
21.000	0.12	0.48	0.649	|I o|	|	|	|	4.41
21.083	0.14	0.48	0.647	| I o|	|	|	|	4.39
21.167	0.17	0.48	0.645	| I o|	|	|	|	4.38
21.250	0.18	0.48	0.642	| I o|	|	|	|	4.37
21.333	0.16	0.48	0.640	| I o|	|	|	|	4.36
21.417	0.13	0.48	0.638	| I o|	|	|	|	4.35
21.500	0.12	0.48	0.636	|I o|	|	|	|	4.33
21.583	0.14	0.48	0.633	| I o|	|	|	|	4.32
21.667	0.17	0.48	0.631	| I o|	|	|	|	4.31
21.750	0.18	0.48	0.629	| I o|	|	|	|	4.30
21.833	0.16	0.48	0.627	| I o|	|	|	|	4.28
21.917	0.13	0.48	0.625	| I o|	|	|	|	4.27
22.000	0.12	0.48	0.622	|I o|	|	|	|	4.26
22.083	0.14	0.47	0.620	| I o|	|	|	|	4.25
22.167	0.17	0.47	0.618	| I o|	|	|	|	4.23
22.250	0.18	0.47	0.616	| I o|	|	|	|	4.22
22.333	0.16	0.47	0.614	| I o|	|	|	|	4.21
22.417	0.13	0.47	0.611	| I o|	|	|	|	4.20
22.500	0.12	0.47	0.609	|I o|	|	|	|	4.19
22.583	0.12	0.47	0.607	|I o|	|	|	|	4.17
22.667	0.12	0.47	0.604	|I o|	|	|	|	4.16
22.750	0.12	0.47	0.602	|I o|	|	|	|	4.15
22.833	0.12	0.47	0.599	|I o|	|	|	|	4.13
22.917	0.12	0.47	0.597	|I o|	|	|	|	4.12
23.000	0.12	0.47	0.595	|I o|	|	|	|	4.11
23.083	0.12	0.47	0.592	|I o|	|	|	|	4.09
23.167	0.12	0.46	0.590	|I o|	|	|	|	4.08
23.250	0.12	0.46	0.587	|I o|	|	|	|	4.07
23.333	0.12	0.46	0.585	|I o|	|	|	|	4.06
23.417	0.12	0.46	0.583	|I o|	|	|	|	4.04
23.500	0.12	0.46	0.580	|I o|	|	|	|	4.03
23.583	0.12	0.46	0.578	|I o|	|	|	|	4.02
23.667	0.12	0.46	0.576	|I o|	|	|	|	4.00
23.750	0.12	0.46	0.573	|I o|	|	|	|	3.99
23.833	0.12	0.46	0.571	|I o|	|	|	|	3.98
23.917	0.12	0.46	0.569	|I o|	|	|	|	3.97
24.000	0.12	0.46	0.567	|I o|	|	|	|	3.95
24.083	0.09	0.46	0.564	|I o|	|	|	|	3.94
24.167	0.02	0.46	0.561	I o|	|	|	|	3.93
24.250	0.00	0.45	0.558	I o|	|	|	|	3.91
24.333	0.00	0.45	0.555	I o |	|	|	|	3.89
24.417	0.00	0.45	0.552	I o |	|	|	|	3.88

24.500	0.00	0.45	0.549	I	o	|	|	|	3.86
24.583	0.00	0.45	0.546	I	o	|	|	|	3.84
24.667	0.00	0.45	0.543	I	o	|	|	|	3.82
24.750	0.00	0.45	0.540	I	o	|	|	|	3.81
24.833	0.00	0.45	0.537	I	o	|	|	|	3.79
24.917	0.00	0.45	0.533	I	o	|	|	|	3.77
25.000	0.00	0.45	0.530	I	o	|	|	|	3.76
25.083	0.00	0.44	0.527	I	o	|	|	|	3.74
25.167	0.00	0.44	0.524	I	o	|	|	|	3.72
25.250	0.00	0.44	0.521	I	o	|	|	|	3.71
25.333	0.00	0.44	0.518	I	o	|	|	|	3.69
25.417	0.00	0.44	0.515	I	o	|	|	|	3.67
25.500	0.00	0.44	0.512	I	o	|	|	|	3.66
25.583	0.00	0.44	0.509	I	o	|	|	|	3.64
25.667	0.00	0.44	0.506	I	o	|	|	|	3.63
25.750	0.00	0.44	0.503	I	o	|	|	|	3.61
25.833	0.00	0.44	0.500	I	o	|	|	|	3.59
25.917	0.00	0.43	0.497	I	o	|	|	|	3.58
26.000	0.00	0.43	0.494	I	o	|	|	|	3.56
26.083	0.00	0.43	0.491	I	o	|	|	|	3.54
26.167	0.00	0.43	0.488	I	o	|	|	|	3.53
26.250	0.00	0.43	0.485	I	o	|	|	|	3.51
26.333	0.00	0.43	0.482	I	o	|	|	|	3.50
26.417	0.00	0.43	0.479	I	o	|	|	|	3.48
26.500	0.00	0.43	0.476	I	o	|	|	|	3.46
26.583	0.00	0.43	0.473	I	o	|	|	|	3.45
26.667	0.00	0.42	0.470	I	o	|	|	|	3.43
26.750	0.00	0.42	0.467	I	o	|	|	|	3.41
26.833	0.00	0.42	0.465	I	o	|	|	|	3.40
26.917	0.00	0.42	0.462	I	o	|	|	|	3.38
27.000	0.00	0.42	0.459	I	o	|	|	|	3.36
27.083	0.00	0.42	0.456	I	o	|	|	|	3.35
27.167	0.00	0.42	0.453	I	o	|	|	|	3.33
27.250	0.00	0.42	0.450	I	o	|	|	|	3.32
27.333	0.00	0.41	0.447	I	o	|	|	|	3.30
27.417	0.00	0.41	0.444	I	o	|	|	|	3.28
27.500	0.00	0.41	0.442	I	o	|	|	|	3.27
27.583	0.00	0.41	0.439	I	o	|	|	|	3.25
27.667	0.00	0.41	0.436	I	o	|	|	|	3.24
27.750	0.00	0.41	0.433	I	o	|	|	|	3.22
27.833	0.00	0.41	0.430	I	o	|	|	|	3.20
27.917	0.00	0.41	0.428	I	o	|	|	|	3.19
28.000	0.00	0.40	0.425	I	o	|	|	|	3.17
28.083	0.00	0.40	0.422	I	o	|	|	|	3.16
28.167	0.00	0.40	0.419	I	o	|	|	|	3.14
28.250	0.00	0.40	0.416	I	o	|	|	|	3.13
28.333	0.00	0.40	0.414	I	o	|	|	|	3.11
28.417	0.00	0.40	0.411	I	o	|	|	|	3.10
28.500	0.00	0.40	0.408	I	o	|	|	|	3.08
28.583	0.00	0.40	0.406	I	o	|	|	|	3.06
28.667	0.00	0.39	0.403	I	o	|	|	|	3.05
28.750	0.00	0.39	0.400	I	o	|	|	|	3.03
28.833	0.00	0.39	0.397	I	o	|	|	|	3.02
28.917	0.00	0.39	0.395	I	o	|	|	|	3.00
29.000	0.00	0.39	0.392	I	o	|	|	|	2.99
29.083	0.00	0.39	0.389	I	o	|	|	|	2.97
29.167	0.00	0.39	0.387	I	o	|	|	|	2.96
29.250	0.00	0.39	0.384	I	o	|	|	|	2.94
29.333	0.00	0.39	0.381	I	o	|	|	|	2.93
29.417	0.00	0.38	0.379	I	o	|	|	|	2.91
29.500	0.00	0.38	0.376	I	o	|	|	|	2.90
29.583	0.00	0.38	0.373	I	o	|	|	|	2.88
29.667	0.00	0.38	0.371	I	o	|	|	|	2.87
29.750	0.00	0.38	0.368	I	o	|	|	|	2.85
29.833	0.00	0.38	0.366	I	o	|	|	|	2.84
29.917	0.00	0.38	0.363	I	o	|	|	|	2.82
30.000	0.00	0.38	0.360	I	o	|	|	|	2.81
30.083	0.00	0.38	0.358	I	o	|	|	|	2.79
30.167	0.00	0.38	0.355	I	o	|	|	|	2.78
30.250	0.00	0.38	0.353	I	o	|	|	|	2.76
30.333	0.00	0.37	0.350	I	o	|	|	|	2.75
30.417	0.00	0.37	0.347	I	o	|	|	|	2.73
30.500	0.00	0.37	0.345	I	o	|	|	|	2.72
30.583	0.00	0.37	0.342	I	o	|	|	|	2.70
30.667	0.00	0.37	0.340	I	o	|	|	|	2.69

30.750	0.00	0.37	0.337	I	o	|	|	|	2.67
30.833	0.00	0.37	0.335	I	o	|	|	|	2.66
30.917	0.00	0.37	0.332	I	o	|	|	|	2.64
31.000	0.00	0.37	0.329	I	o	|	|	|	2.63
31.083	0.00	0.37	0.327	I	o	|	|	|	2.61
31.167	0.00	0.37	0.324	I	o	|	|	|	2.60
31.250	0.00	0.37	0.322	I	o	|	|	|	2.59
31.333	0.00	0.36	0.319	I	o	|	|	|	2.57
31.417	0.00	0.36	0.317	I	o	|	|	|	2.56
31.500	0.00	0.36	0.314	I	o	|	|	|	2.54
31.583	0.00	0.36	0.312	I	o	|	|	|	2.53
31.667	0.00	0.36	0.309	I	o	|	|	|	2.51
31.750	0.00	0.36	0.307	I	o	|	|	|	2.50
31.833	0.00	0.36	0.304	I	o	|	|	|	2.48
31.917	0.00	0.36	0.302	I	o	|	|	|	2.47
32.000	0.00	0.36	0.300	I	o	|	|	|	2.45
32.083	0.00	0.36	0.297	I	o	|	|	|	2.44
32.167	0.00	0.35	0.295	I	o	|	|	|	2.42
32.250	0.00	0.35	0.292	I	o	|	|	|	2.41
32.333	0.00	0.35	0.290	I	o	|	|	|	2.39
32.417	0.00	0.35	0.287	I	o	|	|	|	2.38
32.500	0.00	0.35	0.285	I	o	|	|	|	2.37
32.583	0.00	0.35	0.283	I	o	|	|	|	2.35
32.667	0.00	0.35	0.280	I	o	|	|	|	2.34
32.750	0.00	0.35	0.278	I	o	|	|	|	2.32
32.833	0.00	0.34	0.275	I	o	|	|	|	2.31
32.917	0.00	0.34	0.273	I	o	|	|	|	2.29
33.000	0.00	0.34	0.271	I	o	|	|	|	2.28
33.083	0.00	0.34	0.268	I	o	|	|	|	2.26
33.167	0.00	0.34	0.266	I	o	|	|	|	2.25
33.250	0.00	0.34	0.264	I	o	|	|	|	2.24
33.333	0.00	0.34	0.261	I	o	|	|	|	2.22
33.417	0.00	0.34	0.259	I	o	|	|	|	2.21
33.500	0.00	0.34	0.257	I	o	|	|	|	2.19
33.583	0.00	0.33	0.254	I	o	|	|	|	2.18
33.667	0.00	0.33	0.252	I	o	|	|	|	2.16
33.750	0.00	0.33	0.250	I	o	|	|	|	2.15
33.833	0.00	0.33	0.247	I	o	|	|	|	2.14
33.917	0.00	0.33	0.245	I	o	|	|	|	2.12
34.000	0.00	0.33	0.243	I	o	|	|	|	2.11
34.083	0.00	0.33	0.241	I	o	|	|	|	2.10
34.167	0.00	0.33	0.238	I	o	|	|	|	2.08
34.250	0.00	0.33	0.236	I	o	|	|	|	2.07
34.333	0.00	0.32	0.234	I	o	|	|	|	2.05
34.417	0.00	0.32	0.232	I	o	|	|	|	2.04
34.500	0.00	0.32	0.229	I	o	|	|	|	2.03
34.583	0.00	0.32	0.227	I	o	|	|	|	2.01
34.667	0.00	0.32	0.225	I	o	|	|	|	2.00
34.750	0.00	0.32	0.223	I	o	|	|	|	1.99
34.833	0.00	0.32	0.221	I	o	|	|	|	1.97
34.917	0.00	0.32	0.218	I	o	|	|	|	1.96
35.000	0.00	0.32	0.216	I	o	|	|	|	1.94
35.083	0.00	0.31	0.214	I	o	|	|	|	1.93
35.167	0.00	0.31	0.212	I	o	|	|	|	1.91
35.250	0.00	0.31	0.210	I	o	|	|	|	1.90
35.333	0.00	0.31	0.208	I	o	|	|	|	1.89
35.417	0.00	0.31	0.206	I	o	|	|	|	1.87
35.500	0.00	0.31	0.203	I	o	|	|	|	1.86
35.583	0.00	0.31	0.201	I	o	|	|	|	1.84
35.667	0.00	0.31	0.199	I	o	|	|	|	1.83
35.750	0.00	0.31	0.197	I	o	|	|	|	1.82
35.833	0.00	0.30	0.195	I	o	|	|	|	1.80
35.917	0.00	0.30	0.193	I	o	|	|	|	1.79
36.000	0.00	0.30	0.191	I	o	|	|	|	1.78
36.083	0.00	0.30	0.189	I	o	|	|	|	1.76
36.167	0.00	0.30	0.187	I	o	|	|	|	1.75
36.250	0.00	0.30	0.185	I	o	|	|	|	1.73
36.333	0.00	0.30	0.183	I	o	|	|	|	1.72
36.417	0.00	0.30	0.180	I	o	|	|	|	1.71
36.500	0.00	0.30	0.178	I	o	|	|	|	1.69
36.583	0.00	0.29	0.176	I	o	|	|	|	1.68
36.667	0.00	0.29	0.174	I	o	|	|	|	1.67
36.750	0.00	0.29	0.172	I	o	|	|	|	1.65
36.833	0.00	0.29	0.170	I	o	|	|	|	1.64
36.917	0.00	0.29	0.168	I	o	|	|	|	1.63

37.000	0.00	0.29	0.166	I	o	|	|	|	1.61
37.083	0.00	0.29	0.164	I	o	|	|	|	1.60
37.167	0.00	0.29	0.162	I	o	|	|	|	1.59
37.250	0.00	0.29	0.160	I	o	|	|	|	1.58
37.333	0.00	0.28	0.158	I	o	|	|	|	1.56
37.417	0.00	0.28	0.157	I	o	|	|	|	1.55
37.500	0.00	0.28	0.155	I	o	|	|	|	1.54
37.583	0.00	0.28	0.153	I	o	|	|	|	1.52
37.667	0.00	0.28	0.151	I	o	|	|	|	1.51
37.750	0.00	0.28	0.149	I	o	|	|	|	1.50
37.833	0.00	0.28	0.147	I	o	|	|	|	1.48
37.917	0.00	0.28	0.145	I	o	|	|	|	1.47
38.000	0.00	0.27	0.143	I	o	|	|	|	1.45
38.083	0.00	0.27	0.141	I	o	|	|	|	1.44
38.167	0.00	0.27	0.139	I	o	|	|	|	1.43
38.250	0.00	0.27	0.137	I	o	|	|	|	1.41
38.333	0.00	0.27	0.136	I	o	|	|	|	1.40
38.417	0.00	0.27	0.134	I	o	|	|	|	1.38
38.500	0.00	0.26	0.132	I	o	|	|	|	1.37
38.583	0.00	0.26	0.130	I	o	|	|	|	1.36
38.667	0.00	0.26	0.128	I	o	|	|	|	1.34
38.750	0.00	0.26	0.126	I	o	|	|	|	1.33
38.833	0.00	0.26	0.125	I	o	|	|	|	1.32
38.917	0.00	0.26	0.123	I	o	|	|	|	1.30
39.000	0.00	0.25	0.121	I	o	|	|	|	1.29
39.083	0.00	0.25	0.119	I	o	|	|	|	1.28
39.167	0.00	0.25	0.118	I	o	|	|	|	1.26
39.250	0.00	0.25	0.116	I	o	|	|	|	1.25
39.333	0.00	0.25	0.114	I	o	|	|	|	1.24
39.417	0.00	0.25	0.113	I	o	|	|	|	1.22
39.500	0.00	0.25	0.111	I	o	|	|	|	1.21
39.583	0.00	0.24	0.109	I	o	|	|	|	1.20
39.667	0.00	0.24	0.107	I	o	|	|	|	1.19
39.750	0.00	0.24	0.106	I	o	|	|	|	1.17
39.833	0.00	0.24	0.104	I	o	|	|	|	1.16
39.917	0.00	0.24	0.103	I	o	|	|	|	1.15
40.000	0.00	0.24	0.101	I	o	|	|	|	1.14
40.083	0.00	0.23	0.099	I	o	|	|	|	1.12
40.167	0.00	0.23	0.098	I	o	|	|	|	1.11
40.250	0.00	0.23	0.096	I	o	|	|	|	1.10
40.333	0.00	0.23	0.094	I	o	|	|	|	1.09
40.417	0.00	0.23	0.093	I	o	|	|	|	1.07
40.500	0.00	0.23	0.091	I	o	|	|	|	1.06
40.583	0.00	0.23	0.090	I	o	|	|	|	1.05
40.667	0.00	0.22	0.088	I	o	|	|	|	1.04
40.750	0.00	0.22	0.087	I	o	|	|	|	1.03
40.833	0.00	0.22	0.085	I	o	|	|	|	1.02
40.917	0.00	0.22	0.084	I	o	|	|	|	1.00
41.000	0.00	0.22	0.082	I	o	|	|	|	0.99
41.083	0.00	0.22	0.081	I	o	|	|	|	0.98
41.167	0.00	0.21	0.079	I	o	|	|	|	0.96
41.250	0.00	0.21	0.078	I	o	|	|	|	0.95
41.333	0.00	0.21	0.076	I	o	|	|	|	0.94
41.417	0.00	0.21	0.075	I	o	|	|	|	0.92
41.500	0.00	0.21	0.073	I	o	|	|	|	0.91
41.583	0.00	0.21	0.072	I	o	|	|	|	0.89
41.667	0.00	0.20	0.070	I	o	|	|	|	0.88
41.750	0.00	0.20	0.069	I	o	|	|	|	0.87
41.833	0.00	0.20	0.068	I	o	|	|	|	0.86
41.917	0.00	0.20	0.066	I	o	|	|	|	0.84
42.000	0.00	0.20	0.065	I	o	|	|	|	0.83
42.083	0.00	0.19	0.064	I	o	|	|	|	0.82
42.167	0.00	0.19	0.062	I	o	|	|	|	0.80
42.250	0.00	0.19	0.061	I	o	|	|	|	0.79
42.333	0.00	0.19	0.060	I	o	|	|	|	0.78
42.417	0.00	0.19	0.058	I	o	|	|	|	0.77
42.500	0.00	0.19	0.057	I	o	|	|	|	0.76
42.583	0.00	0.18	0.056	I	o	|	|	|	0.74
42.667	0.00	0.18	0.055	I	o	|	|	|	0.73
42.750	0.00	0.18	0.053	I	o	|	|	|	0.72
42.833	0.00	0.18	0.052	I	o	|	|	|	0.71
42.917	0.00	0.18	0.051	I	o	|	|	|	0.70
43.000	0.00	0.18	0.050	I	o	|	|	|	0.68
43.083	0.00	0.17	0.048	I	o	|	|	|	0.67
43.167	0.00	0.17	0.047	I	o	|	|	|	0.66

43.250	0.00	0.17	0.046	I O	|	|	|	0.65
43.333	0.00	0.17	0.045	I O	|	|	|	0.64
43.417	0.00	0.17	0.044	I O	|	|	|	0.63
43.500	0.00	0.17	0.043	I O	|	|	|	0.62
43.583	0.00	0.17	0.041	I O	|	|	|	0.61
43.667	0.00	0.16	0.040	I O	|	|	|	0.60
43.750	0.00	0.16	0.039	I O	|	|	|	0.59
43.833	0.00	0.16	0.038	I O	|	|	|	0.58
43.917	0.00	0.16	0.037	I O	|	|	|	0.57
44.000	0.00	0.16	0.036	I O	|	|	|	0.55
44.083	0.00	0.16	0.035	I O	|	|	|	0.54
44.167	0.00	0.15	0.034	I O	|	|	|	0.53
44.250	0.00	0.15	0.033	I O	|	|	|	0.52
44.333	0.00	0.15	0.032	I O	|	|	|	0.51
44.417	0.00	0.15	0.031	I O	|	|	|	0.50
44.500	0.00	0.15	0.029	I O	|	|	|	0.49
44.583	0.00	0.14	0.028	I O	|	|	|	0.47
44.667	0.00	0.14	0.028	I O	|	|	|	0.46
44.750	0.00	0.13	0.027	I O	|	|	|	0.44
44.833	0.00	0.12	0.026	IO	|	|	|	0.43
44.917	0.00	0.12	0.025	IO	|	|	|	0.42
45.000	0.00	0.11	0.024	IO	|	|	|	0.40
45.083	0.00	0.11	0.023	IO	|	|	|	0.39
45.167	0.00	0.11	0.023	IO	|	|	|	0.38
45.250	0.00	0.10	0.022	IO	|	|	|	0.36
45.333	0.00	0.10	0.021	IO	|	|	|	0.35
45.417	0.00	0.09	0.021	IO	|	|	|	0.34
45.500	0.00	0.09	0.020	IO	|	|	|	0.33
45.583	0.00	0.09	0.019	IO	|	|	|	0.32
45.667	0.00	0.08	0.019	IO	|	|	|	0.31
45.750	0.00	0.08	0.018	IO	|	|	|	0.30
45.833	0.00	0.08	0.018	IO	|	|	|	0.29
45.917	0.00	0.07	0.017	IO	|	|	|	0.28
46.000	0.00	0.07	0.017	IO	|	|	|	0.28
46.083	0.00	0.07	0.016	IO	|	|	|	0.27
46.167	0.00	0.06	0.016	O	|	|	|	0.26
46.250	0.00	0.06	0.015	O	|	|	|	0.25
46.333	0.00	0.06	0.015	O	|	|	|	0.25
46.417	0.00	0.06	0.014	O	|	|	|	0.24
46.500	0.00	0.05	0.014	O	|	|	|	0.23
46.583	0.00	0.05	0.014	O	|	|	|	0.23
46.667	0.00	0.05	0.013	O	|	|	|	0.22
46.750	0.00	0.05	0.013	O	|	|	|	0.22
46.833	0.00	0.05	0.013	O	|	|	|	0.21
46.917	0.00	0.04	0.012	O	|	|	|	0.21
47.000	0.00	0.04	0.012	O	|	|	|	0.20
47.083	0.00	0.04	0.012	O	|	|	|	0.20
47.167	0.00	0.04	0.011	O	|	|	|	0.19
47.250	0.00	0.04	0.011	O	|	|	|	0.19
47.333	0.00	0.04	0.011	O	|	|	|	0.18
47.417	0.00	0.03	0.011	O	|	|	|	0.18
47.500	0.00	0.03	0.010	O	|	|	|	0.17
47.583	0.00	0.03	0.010	O	|	|	|	0.17
47.667	0.00	0.03	0.010	O	|	|	|	0.17
47.750	0.00	0.03	0.010	O	|	|	|	0.16
47.833	0.00	0.03	0.010	O	|	|	|	0.16
47.917	0.00	0.03	0.009	O	|	|	|	0.16
48.000	0.00	0.03	0.009	O	|	|	|	0.15
48.083	0.00	0.03	0.009	O	|	|	|	0.15
48.167	0.00	0.02	0.009	O	|	|	|	0.15
48.250	0.00	0.02	0.009	O	|	|	|	0.15
48.333	0.00	0.02	0.009	O	|	|	|	0.14
48.417	0.00	0.02	0.008	O	|	|	|	0.14
48.500	0.00	0.02	0.008	O	|	|	|	0.14
48.583	0.00	0.02	0.008	O	|	|	|	0.14
48.667	0.00	0.02	0.008	O	|	|	|	0.13
48.750	0.00	0.02	0.008	O	|	|	|	0.13
48.833	0.00	0.02	0.008	O	|	|	|	0.13
48.917	0.00	0.02	0.008	O	|	|	|	0.13
49.000	0.00	0.02	0.008	O	|	|	|	0.13
49.083	0.00	0.02	0.007	O	|	|	|	0.12
49.167	0.00	0.01	0.007	O	|	|	|	0.12
49.250	0.00	0.01	0.007	O	|	|	|	0.12
49.333	0.00	0.01	0.007	O	|	|	|	0.12
49.417	0.00	0.01	0.007	O	|	|	|	0.12

49.500	0.00	0.01	0.007	o	|	|	|	|	0.12
49.583	0.00	0.01	0.007	o	|	|	|	|	0.11
49.667	0.00	0.01	0.007	o	|	|	|	|	0.11
49.750	0.00	0.01	0.007	o	|	|	|	|	0.11
49.833	0.00	0.01	0.007	o	|	|	|	|	0.11
49.917	0.00	0.01	0.007	o	|	|	|	|	0.11
50.000	0.00	0.01	0.006	o	|	|	|	|	0.11
50.083	0.00	0.01	0.006	o	|	|	|	|	0.11
50.167	0.00	0.01	0.006	o	|	|	|	|	0.11
50.250	0.00	0.01	0.006	o	|	|	|	|	0.10
50.333	0.00	0.01	0.006	o	|	|	|	|	0.10
50.417	0.00	0.01	0.006	o	|	|	|	|	0.10
50.500	0.00	0.01	0.006	o	|	|	|	|	0.10
50.583	0.00	0.01	0.006	o	|	|	|	|	0.10
50.667	0.00	0.01	0.006	o	|	|	|	|	0.10
50.750	0.00	0.01	0.006	o	|	|	|	|	0.10
50.833	0.00	0.01	0.006	o	|	|	|	|	0.10
50.917	0.00	0.01	0.006	o	|	|	|	|	0.10
51.000	0.00	0.01	0.006	o	|	|	|	|	0.10
51.083	0.00	0.01	0.006	o	|	|	|	|	0.10
51.167	0.00	0.01	0.006	o	|	|	|	|	0.10
51.250	0.00	0.01	0.006	o	|	|	|	|	0.09
51.333	0.00	0.01	0.006	o	|	|	|	|	0.09
51.417	0.00	0.00	0.006	o	|	|	|	|	0.09
51.500	0.00	0.00	0.006	o	|	|	|	|	0.09
51.583	0.00	0.00	0.006	o	|	|	|	|	0.09
51.667	0.00	0.00	0.006	o	|	|	|	|	0.09
51.750	0.00	0.00	0.006	o	|	|	|	|	0.09
51.833	0.00	0.00	0.005	o	|	|	|	|	0.09
51.917	0.00	0.00	0.005	o	|	|	|	|	0.09
52.000	0.00	0.00	0.005	o	|	|	|	|	0.09
52.083	0.00	0.00	0.005	o	|	|	|	|	0.09
52.167	0.00	0.00	0.005	o	|	|	|	|	0.09
52.250	0.00	0.00	0.005	o	|	|	|	|	0.09
52.333	0.00	0.00	0.005	o	|	|	|	|	0.09
52.417	0.00	0.00	0.005	o	|	|	|	|	0.09
52.500	0.00	0.00	0.005	o	|	|	|	|	0.09
52.583	0.00	0.00	0.005	o	|	|	|	|	0.09
52.667	0.00	0.00	0.005	o	|	|	|	|	0.09
52.750	0.00	0.00	0.005	o	|	|	|	|	0.09
52.833	0.00	0.00	0.005	o	|	|	|	|	0.09
52.917	0.00	0.00	0.005	o	|	|	|	|	0.09
53.000	0.00	0.00	0.005	o	|	|	|	|	0.09
53.083	0.00	0.00	0.005	o	|	|	|	|	0.09
53.167	0.00	0.00	0.005	o	|	|	|	|	0.09
53.250	0.00	0.00	0.005	o	|	|	|	|	0.09
53.333	0.00	0.00	0.005	o	|	|	|	|	0.09
53.417	0.00	0.00	0.005	o	|	|	|	|	0.09
53.500	0.00	0.00	0.005	o	|	|	|	|	0.09
53.583	0.00	0.00	0.005	o	|	|	|	|	0.08
53.667	0.00	0.00	0.005	o	|	|	|	|	0.08
53.750	0.00	0.00	0.005	o	|	|	|	|	0.08
53.833	0.00	0.00	0.005	o	|	|	|	|	0.08
53.917	0.00	0.00	0.005	o	|	|	|	|	0.08
54.000	0.00	0.00	0.005	o	|	|	|	|	0.08
54.083	0.00	0.00	0.005	o	|	|	|	|	0.08
54.167	0.00	0.00	0.005	o	|	|	|	|	0.08
54.250	0.00	0.00	0.005	o	|	|	|	|	0.08
54.333	0.00	0.00	0.005	o	|	|	|	|	0.08
54.417	0.00	0.00	0.005	o	|	|	|	|	0.08
54.500	0.00	0.00	0.005	o	|	|	|	|	0.08
54.583	0.00	0.00	0.005	o	|	|	|	|	0.08
54.667	0.00	0.00	0.005	o	|	|	|	|	0.08

Remaining water in basin = 0.00 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 656
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.513 (CFS)
Total volume = 1.255 (Ac.Ft)

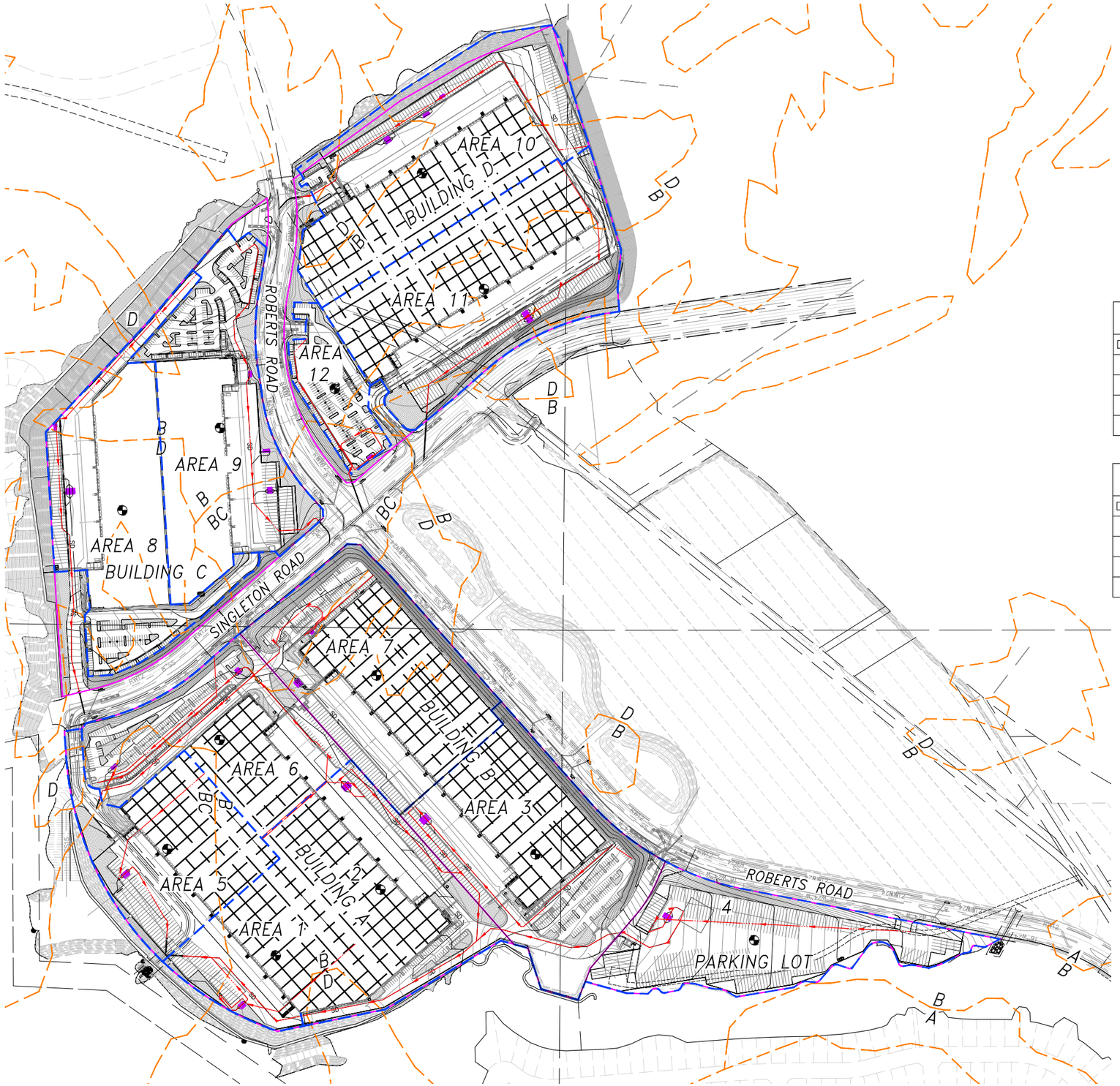
Status of hydrographs being held in storage

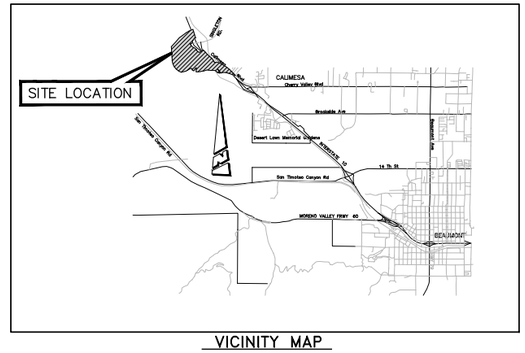
Stream 1	Stream 2	Stream 3	Stream 4	Stream 5

Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

UNIT HYDROGRAPH HYDROLOGY MAP





VICINITY MAP
N.T.S.
T2S, R2W, SECTION 23,24,25,26

PROPOSED AREAS						
DRAINAGE AREA	1	2	3	4	5	6
TOTAL AREA	6.8 AC	9.5 AC	12.3 AC	9.2 AC	8.1 AC	9.0 AC
L_T	1116 Ft	2462 Ft	2287 Ft	3348 Ft	899 Ft	1634 Ft
L_{CA}	860 Ft	2251 Ft	2251 Ft	2754 Ft	602 Ft	512 Ft
ΔH	6.5 Ft	6.50 Ft	9.30 Ft	37.50 Ft	6.50	3.70 Ft

PROPOSED AREAS						
DRAINAGE AREA	7	8	9	10	11	12
TOTAL AREA	12.5 AC	11.2 AC	12.1 AC	14.1 AC	14.1 AC	2.9 AC
L_T	1378 Ft	1821 Ft	1395 Ft	1473 Ft	1370 Ft	621 Ft
L_{CA}	1136 Ft	683 Ft	552 Ft	540 Ft	486 Ft	341 Ft
ΔH	3.3 Ft	29.30 Ft	18 Ft	7 Ft	2.80 Ft	9 Ft

LEGEND

NODE / ELEV – NODE NUMBER – ELEVATION (FT)

AC / FT – AREA (AC) – LENGTH (FT)

– DRAINAGE AREA BOUNDARY (PROPOSED)

– FLOWLINE (PROPOSED)

– PROJECT BOUNDARY

– NRCS SOIL BOUNDARY

GENERAL NOTES:

1. OVERALL BLCOV PROJECT AREA WILL BE MASS GRADED AND BACKBONE IMPROVEMENTS WILL BE CONSTRUCTED PRIOR TO ANY CONSTRUCTION COMMENCING FOR THE BUILDING A, BUILDING B, BUILDING C, BUILDING D, OR PARKING LOT PROJECTS.
2. EXISTING CONTOURS SHOWN IN EXHIBITS ARE TAKEN FROM THE MASS GRADING PLAN FOR PARCEL MAP 37862.

N W WEBB E S

1" = 200'

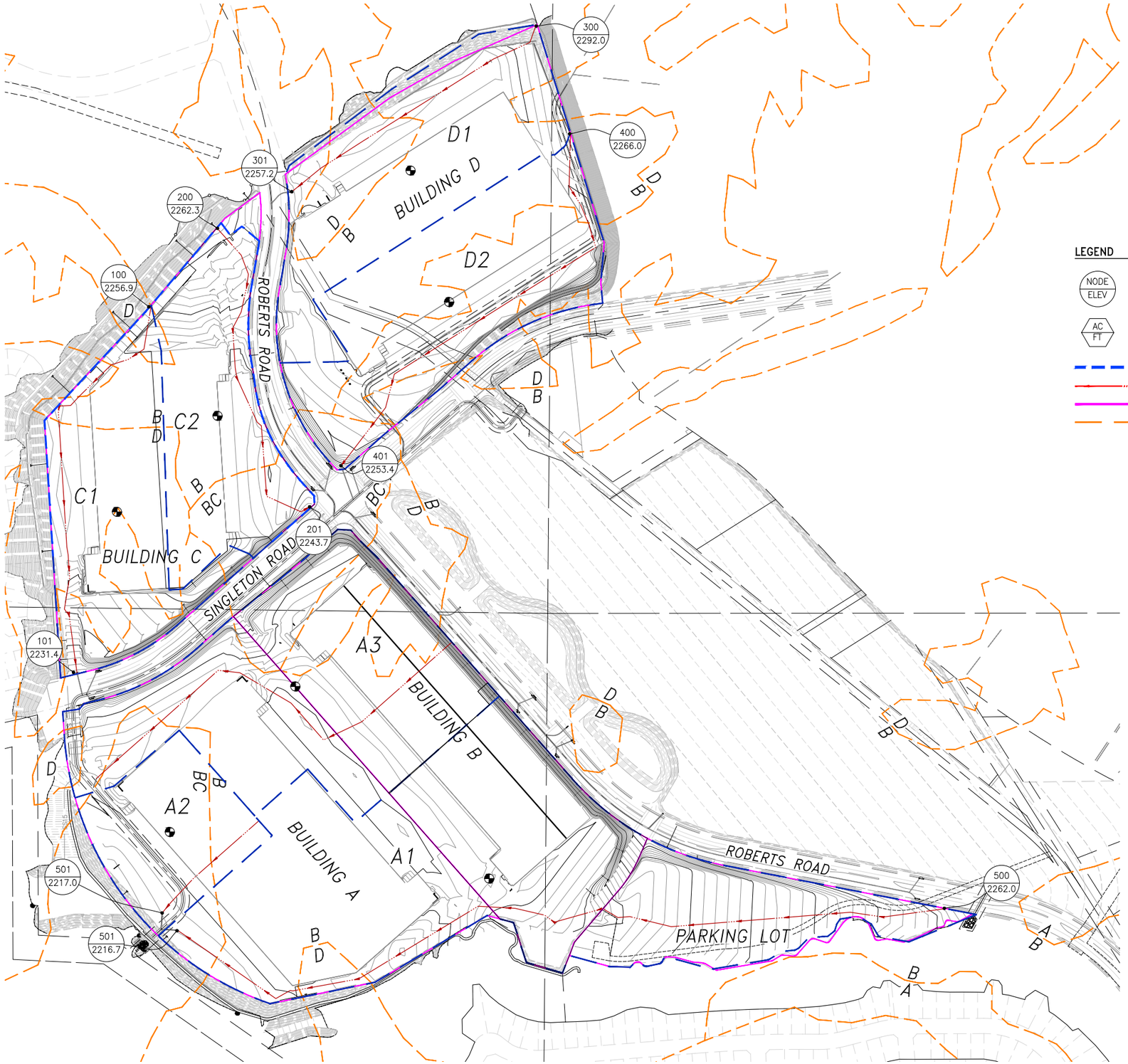
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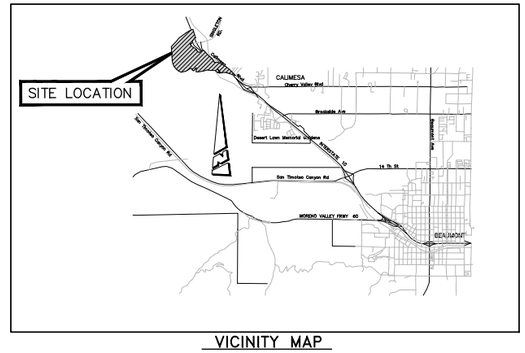
CITY OF CALIMESA, COUNTY OF RIVERSIDE
BIRTCHER COMMERCE CENTER OAK VALLEY

INDUSTRIAL DEVELOPMENT
DEVELOPED CONDITION
PRELIMINARY PROPOSED UNIT HYDROGRAPH EXHIBIT

SCALE:	1" = 200'	ALBERT A. WEBB ASSOCIATES	W.O. 21-0034
DATE:	12/14/2020	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	SHEET 1
DESIGNED:	EP		OF 1 SHEETS
CHECKED:	BJV		DWG. NO.
PLN CK REF:			
F.B.			

H:\2021\21-0034\DRAINAGE\PHYD\DWG FOLDER\21-0034 PRELIM UH MAP 2021-11-23.DWG 12/8/2021 9:34:58 AM





VICINITY MAP
N.T.S.
T2S, R2W, SECTION 23,24,25,26

LEGEND

NODE / ELEV	– NODE NUMBER – ELEVATION (FT)
AC / FT	– AREA (AC) – LENGTH (FT)
	– DRAINAGE AREA BOUNDARY
	– FLOWLINE (PROPOSED)
	– PROJECT BOUNDARY
	– NRCS SOIL BOUNDARY

EXISTING AREAS			
DRAINAGE AREA	A1	A2	A3
TOTAL AREA	37.7 AC	7.5 AC	21.7 AC
L_T	3231 Ft	526 Ft	1790 Ft
L_{CA}	1394 Ft	234 Ft	939 Ft
ΔH	45.0 Ft	7 Ft	23 Ft

EXISTING AREAS		
DRAINAGE AREA	C1	C2
TOTAL AREA	13.2 AC	11.8 AC
L_T	1645 Ft	1321 Ft
L_{CA}	629 Ft	574 Ft
ΔH	25.0 Ft	19 Ft

EXISTING AREAS		
DRAINAGE AREA	D1	D2
TOTAL AREA	15.8 AC	16.9 AC
L_T	1174 Ft	1828 Ft
L_{CA}	440 Ft	756 Ft
ΔH	35.0 Ft	13 Ft

GENERAL NOTES:

1. OVERALL BLCOV PROJECT AREA WILL BE MASS GRADED AND BACKBONE IMPROVEMENTS WILL BE CONSTRUCTED PRIOR TO ANY CONSTRUCTION COMMENCING FOR THE BUILDING A, BUILDING B, BUILDING C, BUILDING D, OR PARKING LOT PROJECTS.
2. EXISTING CONTOURS SHOWN IN EXHIBITS ARE TAKEN FROM THE MASS GRADING PLAN FOR PARCEL MAP 37862.

N
W WEBB E
S

1" = 200'
200 0 200 400 600

CITY OF CALIMESA, COUNTY OF RIVERSIDE
BIRTCHER COMMERCE CENTER OAK VALLEY

INDUSTRIAL DEVELOPMENT
DEVELOPED CONDITION
EXISTING UNIT HYDROGRAPH EXHIBIT

SCALE:	1" = 200'	ALBERT A. WEBB ASSOCIATES	W.O. 21-0034
DATE:	12/14/2020	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE, CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	SHEET 1
DESIGNED:	EP		OF 1 SHEETS
CHECKED:	BJV		DWG. NO.
PLN CK REF:			
F.B.			

H:\2021\21-0034\DRAINAGE\PHYD\DWG FOLDER\21-0034 PRELIM UH MAP 2021-11-23.DWG 12/6/2021 4:30:41 PM

APPENDIX D- REFERENCES

RELEVANT EXCERPTS AND MAPS FROM

"HYDROLOGY AND HYDRAULICS STUDY: OAK VALLEY TOWN CENTER PARCEL MAP NO. 37862 MASS GRADING PLAN"

OAK VALLEY TOWN CENTER
HYDROLOGY AND HYDRAULICS STUDY

PARCEL MAP NO. 37862

CITY OF CALIMESA, CALIFORNIA

PREPARED FOR:

OAK VALLEY DEVELOPMENT PARTNERS
10140 ROBERTS ROAD
CALIMESA, CA 92320

PREPARED BY:

PROACTIVE ENGINEERING WEST

25109 JEFFERSON AVENUE, SUITE 200
MURRIETA, CA 92562
PHONE: 951-200-6840 ● FAX: 866-454-4478

DATE PREPARED:

July 2021

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APPENDIX E-13: CP-09
APPENDIX E-14: CP-10
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APPENDIX E-21: CP-17
APPENDIX E-22: CP-18
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APPENDIX E-27: CP-23
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APPENDIX F: Velocity Calculations
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EXHIBIT A: Undeveloped Condition Hydrology Index Map

EXHIBIT B: Developed Condition Hydrology Index Map

EXHIBIT C: Drainage Facilities Map

I. INTRODUCTION

Oak Valley Town Center (OVTC), Parcel Map No. 37862, is a proposed development in the City of Calimesa, lying southwesterly of the Interstate 10 Freeway (I-10) off the Singleton Road exit. The project is roughly 230 acres and will develop business park and commercial land use areas, as well as the infrastructure Singleton and Roberts Road. Oak Valley Town Center is a part of the Summerwind Ranch at Oak Valley Specific Plan that proposes the development of residential, business park, commercial and open space land use areas across roughly 2,600 acres of land.

The purpose of this study is to determine the existing and proposed hydrologic conditions to properly size the necessary drainage improvements to support the construction of Oak Valley Town Center. The scope of this report will include:

- Determine peak 100-year flow rates for the construction of the project's ultimate developed condition using the Rational Method outlined in the Riverside County Flood Control and Water Conservation District
- Based on the ultimate developed condition, determine the necessary drainage improvements that will properly convey the calculated 100-year flow rates
- Summarize analyses and proposed infrastructure storm drain improvements

II. PROJECT SITE

Oak Valley Town Center is part of the Summerwind Ranch at Oak Valley Specific plan that lies within the San Timoteo sub-basin of the Santa Ana River Watershed. The project site lies within an open grassland valley that is bounded by the I-10 freeway to the east and rolling hills and ridgelines to the west and south. Most of the project is undeveloped. There are a handful of existing properties that are fairly spread apart from each other along the I-10, as well as a couple of properties within the central portion of the valley.

Large off-site tributary areas on the east side of the I-10 contribute significant drainage to the project site through multiple pipe and box culverts. Drainage from these tributary areas begin in the San Bernardino Mountain ranges and flow in a southwesterly manner, ultimately, flowing through the proposed project site until it reaches the San Timoteo Creek. The proposed storm drain system will maintain the existing drainage course and outlet on-site, as well, as intercepted off-site drainage, into the natural streambed areas leading to the San Timoteo Creek; ultimately joining the Santa Ana River. See Figures 1 and 2 for the project Vicinity Map and Site Plan, respectively.

III. HYDROLOGY

The rational design parameters and methodologies outlined in the Riverside County Flood Control and Water Conservation District's (RCFCWCD) *Hydrology Manual*[1] were used to determine the 100-year design flow rates for the project. Calculations for the rational methodology were performed using the CivilDesign computer software.

Two hydrology analyses will be performed for this project site:

- On-site hydrology
  - The rational method was used to calculate the 100-year flow rates for the on-site tributary areas. We assume the ultimate developed condition to determine the peak flow rates tributary to the proposed OVTC storm drain infrastructure. This includes the OVTC project site, as well as future Summerwind developments located north of OVTC.
- Off-site hydrology
  - The unit hydrograph method will be used to calculate the 100-year flow rates for the off-site tributary areas. Off-site refers to the large tributary areas east of the I-10, where their respective flow rates are collected via pipe and box culverts that cross the I-10 and outlet onto the OVTC project site.

On-site Hydrology

The 100-year flow rates for Areas A and B, as shown on Exhibit B, will be analyzed using the rational method.

As directed by the *Hydrology Manual*[1], Antecedent Moisture Condition II (AMC II) was used for all rational method analyses.

Soil classification for the project site is based on the Hydrologic Soils Group Map for El Casco (Plate C-1.18) of the *Hydrology Manual*[1], as shown on Appendix A-4 of this report. Hydrologic soils group (HSG) "B" and "D" are what primarily occupies the project site. There are small patches of areas within the rolling hills and ridgelines where HSG "A" and "C" are present. Soil "B" is described as soils with a moderate rate of water transmission and soil "D" is described as soils with high runoff potential.

The rainfall values and slope of intensity duration curve were obtained from the isohyetal maps in the *Hydrology Manual*[1], as shown on Appendices A-1 to A-3. Below is a summary of the design parameters used for calculation.

2-Year-1-Hour Precipitation per Plate D-4.3 (Appendix A-1)	0.54”
100-Year-1-Hour Precipitation per Plate D-4.4 (Appendix A-2)	1.33”
Slope of Intensity Duration Curve per Plate D-4.6 (Appendix A-3)	0.55

For rational method purposes, the project site was analyzed as an undeveloped area – poor cover for the undeveloped condition. Since the hydrology study is split up into two parts (On-site and Off-site) for the undeveloped condition, the flow rates calculated in each report were simply added together to compute a total Q for each drainage area. Refer to Exhibit A for the total Q and on-site drainage area delineation.

The areas tributary to storm drain Line A are designated as Drainage Area A and Areas C, D and E, as shown on Exhibit B. Areas C, D and E are off-site tributary areas, while Drainage Area A is on-site. As mentioned before, off-site tributary areas are analyzed by the unit hydrograph method, per a separate study. The off-site areas were included in the rational method calculations as a user defined entry to account for the drainage coming from existing culverts crossing the I-10. The portion of Drainage Area A, where the OVTC project site is located, consists of industrial parcels, a commercial parcel and the infrastructure Singleton and Roberts Road streets for the ultimate developed condition. See Figure 2 for the Project Site plan. For hydrology purposes, the industrial parcels were analyzed as commercial land use. Since the ultimate developed condition is assumed to determine the peak 100-year flow rates tributary to the OVTC infrastructure storm drain system, Drainage Area A includes future Summerwind developments. Per Tentative Tract Map No. 33536, planning areas E-1, E-2 and D-1, which are delineated as Garden Courts, Townhomes and Community Recreation land use, respectively, are tributary to the OVTC storm drain infrastructure and are included in the rational method analysis calculations. For hydrology purposes, the Garden Courts and Townhomes were analyzed as commercial land use and the Community Recreation as condominium land use. See Exhibit B for the on-site hydrology map.

The areas tributary to storm drain line B are designated as Drainage Area B and Areas A and B, as shown on Exhibit B. Areas A and B are off-site tributary areas, while Drainage Area B is on-site. As mentioned before, off-site tributary areas are analyzed by the unit hydrograph method, per a separate study. Like Line A, the off-site drainage was used as a user defined entry to account for the drainage coming from the existing culverts crossing the I-10. Drainage Area B only consists of a commercial parcel for the developed condition. See Exhibit B for the Drainage Area B on-site hydrology map.

Calculations for the undeveloped and developed rational method analyses can be found in Appendix B and C, respectively, of this report.

Off-site Hydrology

The 100-year flow rates for Areas A, B, C, D and E, as shown on Exhibit B, were analyzed using the unit hydrograph method. These areas are tributary to existing pipe and box culverts that cross the I-10 and outlet onto the OVTC project site. As mentioned before, the off-site hydrology analysis is presented in a separate study, *Hydraulic Analyses for Culverts Crossing I-10 TTM 37862*[2].

IV. STORM DRAIN HYDRAULICS

Storm Drain

Three mainline storm drain systems (Lines A, B and C) are proposed to support the construction of OVTC.

Line A is a proposed reinforced box culvert (RCB) that runs through the infrastructure Singleton Road. It is the main storm drain system that is responsible for most of the on-site drainage but also takes on significant off-site drainage, as shown as Drainage Area A and Areas C, D and E per Exhibit B. The existing 72" CMP culvert that currently runs under the existing Roberts Road intercepts off-site drainage coming from the 6'x8' RCB crossing the I-10. The project will remove and replace the existing 72" CMP with an 8'x8' (WxH) RCB, where Line A begins. The upstream 72" CMP survey flowline elevation of 2249.61 was maintained to begin the Line A design. As you move downstream in Line A, two sub-mainline storm drain systems, Lines A1 and A2, confluence with Line A at the major intersection of Singleton and Roberts Road. As mentioned before, most of the on-site drainage are collected and conveyed in these storm drain systems (A, A1 and A2). Storm drain lateral stub outs are provided for the commercial and business park parcels. The locations of these lateral stub outs are based on the low points of the rough grading, where it is assumed the private storm drain systems within the parcels will join the infrastructure storm drain system. CP-09 is the only storm drain lateral that collects off-site drainage. It connects to the existing 48" RCP that crosses the I-10 near the eastbound Singleton off-ramp, where it intercepts off-site drainage from Area D. Line A

discharges in the southwest corner of the project site, where it joins the existing watercourse that leads to the San Timoteo Creek.

Line B is a proposed double 6'x4' (WxH) box culvert that crosses the proposed Roberts Road. It collects off-site drainage from Areas B and E that are tributary to four existing culverts that cross the I-10, as well as on-site drainage from a portion of a commercial parcel. Drainage from the four culverts confluence at the current OVTC project boundary where the existing Roberts Road and Cooper Drive intersect. For the rough grade condition, a trapezoidal channel conveys the off-site drainage from this confluence point to the starting point of Line B. The developer of the commercial parcel will be responsible to construct storm drain that collects off-site drainage from the confluence point to the double box culvert once the site plan is finalized. The double box culvert alignment roughly starts from the northerly Roberts Road right-of-way (ROW) line and ends roughly at the southerly ROW line where the collected drainage outlets into the existing watercourse that runs along the southside of the OVTC project site.

Line C is a proposed arch culvert. Like Line B, this culvert crosses Roberts Road and outlets into the existing watercourse that runs along the southside of the OVTC project site. It serves as a by-pass line for the off-site drainage tributary to the existing double 7'x10' box culvert (Culvert A) crossing the I-10 onto the project site.

The Water Surface Profile Gradient Program (WSPG) software was used to analyze the proposed storm drain lines and laterals. The hydraulics is based on the storm drain profile design and the 100-year flow rate calculations per the studies performed for this project site. The WSPG calculations can be found in Appendix E of this report.

Velocity calculations for Drainage Areas A and B for the undeveloped condition and the point of discharge for Lines A and B were calculated using the CivilDesign computer software.The increase in velocity at the point of discharge for Lines A and B will be mitigated by properly sized riprap aprons that contain 2-ton riprap. A manning's number of 0.04 was used for the riprap apron for the developed condition and 0.025 for the undeveloped condition. Calculations for the exit velocities can be found in Appendix F.

The proposed storm drain alignments, pipe sizing and calculated flow rates can be found on the drainage facilities map, as shown on Exhibit C.

Catch Basins

Twelve catch basins are proposed to support the construction of OVTC. Of the twelve proposed catch basins, four are sump and eight are on-grade. The AutoCAD Civil3D Hydraflow Express extension was used to properly size catch basins and determine their efficiency. The curb opening design parameters used in calculation are consistent with the Riverside County Transportation Department catch basin standard details. The flow rates captured by the catch basin are used for the WSPG calculations for their respective storm drain laterals.

A summary table for the proposed catch basins is provided on the next page and the catch basin calculations can be found in Appendix D of this report.

CB #	HYDRO MAP NODE	CATCH BASIN TYPE	SIZE (FEET)	Q_{100} (CFS)	UPSTREAM Q_{BYPASS}	$Q_{TRIBUTARY}$ (CFS)	$Q_{CAPTURED}$ (CFS)	Q_{BYPASS} (CFS)	Q_{BYPASS} TO CB #
1	10.2	On-Grade	21	12.1	0	12.1	12.1	0	N/A
2	10.4	On-Grade	14	6.3	0.71	7.01	7.01	0	N/A
3	4.3	On-Grade	14	7	0	7	5.97	1.03	12
4	6.24	Sag	14	7.6	0	7.6	7.6	0	N/A
5	6.17	Sag	14	6.7	1.3	8	8	0	N/A
6	6.17	Sag	4	3.5	0.53	4.03	4.03	0	N/A
7	6.11	On-Grade	10	7.1	1.36	8.46	7.16	1.3	5
8	6.11	On-Grade	10	5.2	1.31	6.51	5.98	0.53	6
9	6.3	On-Grade	10	5.7	0	5.7	4.39	1.31	8
10	6.3	On-Grade	10	5.8	0	5.8	4.44	1.36	7
11	7.1	On-Grade	10	5.9	0	5.9	5.19	0.71	2
12	7.13	Sag	7	4.4	1.03	5.43	5.43	0	N/A

V. WATER QUALITY

The developers of the proposed industrial and commercial parcels for OVTC will be responsible for treating their runoff before joining the infrastructure storm drain systems delineated in this drainage study. Catch basin inserts will be installed in all catch basin locations for treating street runoff. Refer to the OVTC Water Quality Management Plan report for more details.

VI. SUMMARY

The developed and undeveloped hydrology conditions were analyzed in this study. All proposed storm drain systems (Line A, B & C) intercept off-site drainage crossing the I-

10 freeway onto the project site. Lines A and B also convey on-site drainage from the proposed developments. On-site drainage from the proposed developments and streets will be treated by approved BMPs prior to discharging into the storm drain systems. The increased velocities at the point of discharge for both Lines A and B will be mitigated by properly sized riprap aprons.

Below are summary tables comparing the flow rates and exit velocities at the point of discharge for Lines A and B.

Flow Rate

Storm Drain Line	A	B
Undeveloped Flow Rate (CFS)	1,593	768
Developed Flow Rate (CFS)	1,775	829
Difference (CFS)	+182	+61

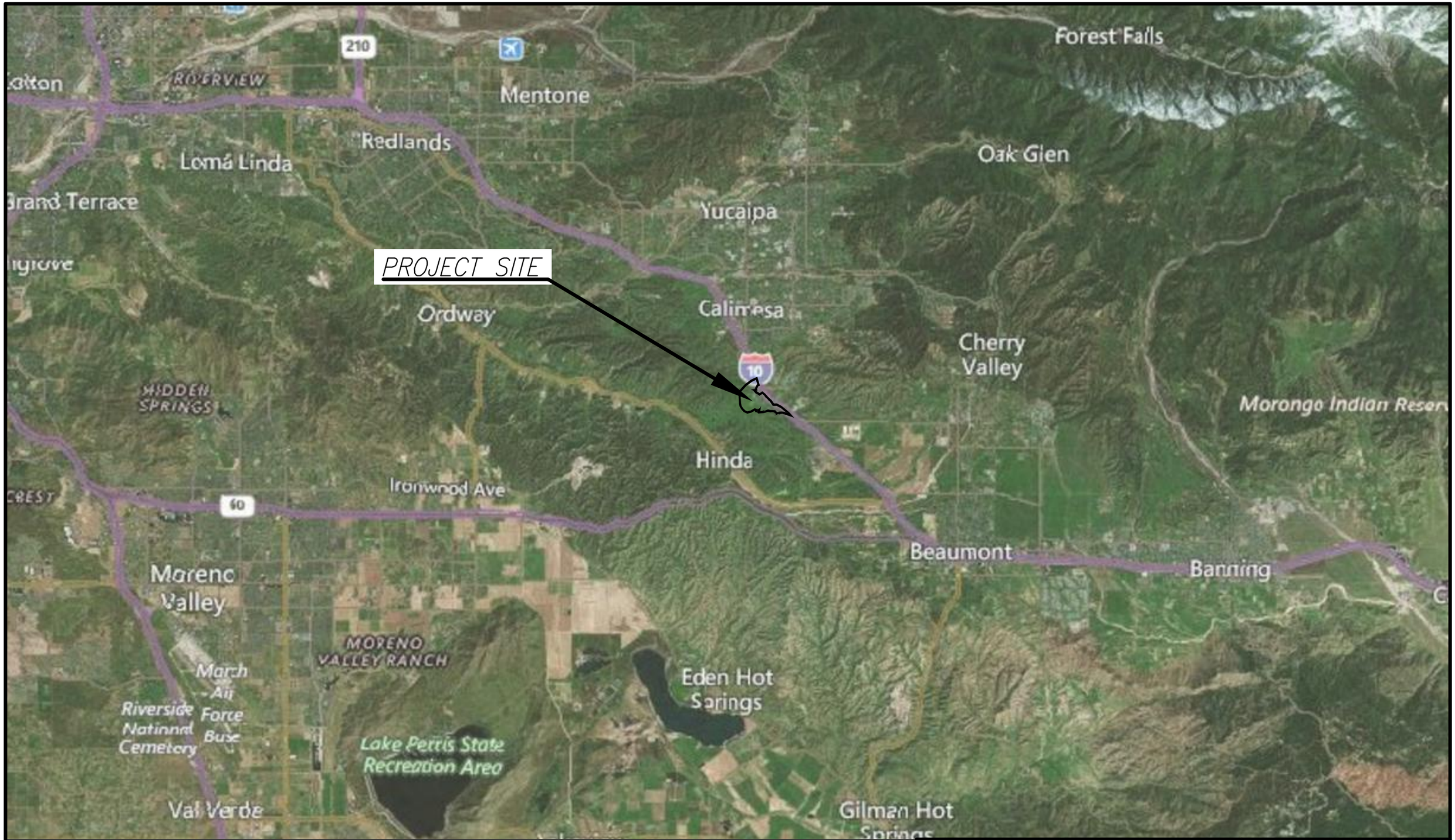
Velocity

Storm Drain Line	A	B
Undeveloped Exist Velocity (Feet per Second)	16.2	14.2
Developed Exist Velocity (Feet per Second)	8.5	6.6
Difference (Feet per Second)	-7.7	-7.6

VII. REFERENCES

1. Riverside County Flood Control and Water Conservation District Hydrology Manual, April 1978
2. JLC Engineering & Consulting, Inc. Hydraulic Analyses for Culverts Crossing I-10 TTM 37862, November 2020.

FIGURE 1: Vicinity Map



SCALE: 1"=10,000'

PROACTIVE ENGINEERING CONSULTANTS WEST
25109 JEFFERSON AVE. SUITE 200
MURRIETA, CA 92562
951-200-6840

FIGURE 1

OAK VALLEY TOWN CENTER
VICINITY MAP

Plotted: Apr 08, 2020 - 8:32am By: PEC West-DMC: C:\Users\PEC West-User\Desktop\WFH\1-Working Folder\01.168.000 Oak Valley Town Center\Hydro\Drainage\Drawings\Vicinity Map.dwg

FIGURE 2: Site Plan

FUTURE SUMMERWIND DEVELOPMENT

INTERSTATE 10 HIGHWAY

PROPOSED BUILDING PAD=262.6

SINGLETON ROAD

PROPOSED BUILDING PAD=251.9

FUTURE SUMMERWIND DEVELOPMENT

SINGLETON ROAD

OAK VALLEY TOWN CENTER

PROPOSED BUILDING PAD=226.4

COOPER DRIVE

EXISTING ROBERTS ROAD

PROPOSED BUILDING PAD=223.9

ROBERTS ROAD

INTERSTATE 10 HIGHWAY

TO SAN TIMOTEO CREEK

SUMMERWIND PHASE 1

LEGEND:

- OVTC PROJECT BOUNDARY
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- LAND USE BOUNDARY
- INDUSTRIAL PARCEL
- COMMERCIAL PARCEL

SCALE: 1"=600'

PROACTIVE ENGINEERING CONSULTANTS WEST
25109 JEFFERSON AVE. SUITE 200
MURRIETA, CA 92562
951-200-6840

PROACTIVE ENGINEERING WEST

FIGURE 2
OAK VALLEY TOWN CENTER
SITE PLAN

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EXHIBIT A: Undeveloped Condition Hydrology Map

AREA "D"
(PER CULVERT ANALYSIS)

AREA "C"
(PER CULVERT ANALYSIS)

AREA "B"
(PER CULVERT ANALYSIS)

AREA "A"
(PER CULVERT ANALYSIS)

AREA "E"
(PER CULVERT ANALYSIS)

INTERSTATE 10 HIGHWAY

INTERSTATE 10 HIGHWAY

CULVERT D1
EX. 30" CMP
Q_{MAX}=43 CFS

CULVERT D2
EX. 36" RCP
Q_{MAX}=104 CFS

CULVERT C
EX. 6'Wx8'H RCB
Q_{MAX}=910 CFS

CULVERT E
EX. 30" RCP
Q_{MAX}=42 CFS

CULVERT B1 & B2
Q_{MAX}=586.14 CFS

CULVERT B1
EX. DBL 48" CMP

CULVERT B2
EX. 48" CMP

CULVERT B3
EX. DBL 48" RCP
Q_{MAX}=140 CFS

CULVERT A
EX. DBL 10'Wx7'H
Q_{MAX}=1905 CFS

SINGLETON ROAD

ROBERTS ROAD

ROBERTS ROAD

A

B

0.7 AC

1 / 374

2 / 372

2 / 230.1 AC

101 / 156.7 AC

100 / 0.4 AC

101 / 378

102 / 376

Q_{100}=786 CFS TOTAL; V_{AVG}=14.2 FT/S
(CULVERTS B-3, E)

SUMMERWIND PHASE 1

SUMMERWIND PHASE 1

Q_{100}=1,593 CFS TOTAL; V_{AVG}=16.2 FT/S
Q_{100}=535.6 CFS (ONSITE AREA A)
Q_{100}=1,057 CFS (CULVERTS C, D1, D2)

1 / 178

102 / 171

Q_{100}=3,016 CFS TOTAL; V_{AVG}=18.1 FT/S
Q_{100}=343 CFS (ONSITE AREA B)
Q_{100}=2,673 CFS (CULVERTS A, B-3, E)

TO SAN TIMOTEO CREEK

LEGEND:

- A — DRAINAGE AREA
- OVTC PROJECT BOUNDARY
- WATERSHED BOUNDARY
- SUBAREA BOUNDARY
- FLOW PATH
- EXISTING STORM DRAIN
- X-X / XX AC — SUBAREA NAME / ACREAGE
- XX / XXX.X / *XXX.X — NODE: FLOWLINE ELEVATION / * INVERT ELEVATION (IF SHOWN)

NOTE: CULVERT DATA PER SEPARATE STUDY. SEE TTM 37862 HYDRAULIC ANALYSES FOR CULVERTS CROSSING 1-10

250' 0 250' 500' 750'

SCALE: 1"=250'

EXHIBIT A

PROACTIVE ENGINEERING CONSULTANTS WEST
25109 Jefferson Ave, Suite 200
Murrieta, CA 92562
951-200-6840

PROACTIVE
ENGINEERING WEST

CITY OF CALIMESA

OAK VALLEY TOWN CENTER

UNDEVELOPED CONDITION
ONSITE HYDROLOGY MAP

EXHIBIT B: Developed Condition Hydrology Index Map

AREA "D"
(PER CULVERT ANALYSIS)

AREA "C"
(PER CULVERT ANALYSIS)

AREA "E"
(PER CULVERT ANALYSIS)

AREA "B"
(PER CULVERT ANALYSIS)

CULVERT D1
EX. 30" CMP
Q_{MAX}=43 CFS

CULVERT D2
EX. 36" RCP
Q_{MAX}=104 CFS

CULVERT C
EX. 6'Wx8'H RCB
Q_{MAX}=910 CFS

CULVERT E
EX. 30" RCP
Q_{MAX}=42 CFS

CULVERT B1 & B2
Q_{MAX}=586.14 CFS

CULVERT B1
EX. DBL 48" CMP

CULVERT B2
EX. 48" CMP

CULVERT B3
EX. DBL 48" RCP
Q_{MAX}=140 CFS

CULVERT A
EX. DBL 10'Wx7'H
Q_{MAX}=1905 CFS

INTERSTATE 10 HIGHWAY

SINGLETON ROAD

ROBERTS RD

FUTURE SUMMERWIND DEVELOPMENT
PLANNING AREA E-1 GARDEN COURTS PER SPECIFIC PLAN

FUTURE SUMMERWIND DEVELOPMENT
PLANNING AREA E-2 TOWNHOMES PER SPECIFIC PLAN

FUTURE SUMMERWIND DEVELOPMENT
STREET - ROBERTS ROAD

FUTURE SUMMERWIND DEVELOPMENT

FUTURE SUMMERWIND DEVELOPMENT
PLANNING AREA B-1 COMMUNITY RECREATION PER SPECIFIC PLAN

FUTURE SUMMERWIND DEVELOPMENT

EXISTING SUMMERWIND PHASE 1

LEGEND:

- A — DRAINAGE AREA
- OVTC PROJECT BOUNDARY
- WATERSHED BOUNDARY
- SUBAREA BOUNDARY
- FLOW PATH
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- X-X / XX AC — SUBAREA NAME / ACREAGE
- XX / XXX.X / *XXX.X — NODE / FLOWLINE ELEVATION / * INVERT ELEVATION (IF SHOWN)
- FUTURE SUMMERWIND DEVELOPMENT TRIBUTARY TO THE OVTC STORM DRAIN INFRASTRUCTURE

NOTE: CULVERT DATA PER SEPARATE STUDY. SEE TTM 37862 HYDRAULIC ANALYSES FOR CULVERTS CROSSING 1-10

200' 0 200' 400' 600'
SCALE: 1"=200'

EXHIBIT B

CITY OF CALIMESA

PROACTIVE ENGINEERING CONSULTANTS WEST
25109 JEFFERSON AVE. SUITE 200
MURRIETA, CA 92562
951-200-6840

PROACTIVE ENGINEERING WEST

OAK VALLEY TOWN CENTER

DEVELOPED CONDITION
ONSITE HYDROLOGY MAP

EXHIBIT C: Drainage Facilities Map

CULVERT D1
EX. 30" CMP
Q_{MAX}=43 CFS

CULVERT D2
EX. 36" RCP
Q_{MAX}=104 CFS

CULVERT C
EX. 6'Wx8'H RCB
Q_{MAX}=910 CFS

CULVERT E
EX. 30" RCP
Q_{MAX}=42 CFS

CULVERT B1 & B2
Q_{MAX}=586.14 CFS

CULVERT B1
EX. DBL 48" CMP

CULVERT B2
EX. 48" CMP

CULVERT B3
EX. DBL 48" RCP
Q_{MAX}=140 CFS

CULVERT A
EX. DBL 10'Wx7'H
Q_{MAX}=1905 CFS

INTERSTATE 10 HIGHWAY

INTERSTATE 10 HIGHWAY

SINGLETON ROAD

ROBERTS ROAD

FUTURE SUMMERWIND DEVELOPMENT

FUTURE SUMMERWIND DEVELOPMENT

FUTURE SUMMERWIND DEVELOPMENT

SUMMERWIND PHASE 1

A

A

A

A

B

CP-09 (R7)
48" RCP
Q_{100}=147 CFS

CP-09 (R1-6)
60" RCP
Q_{100}=147 CFS

30' PUBLIC SD ESMT

30' PUBLIC SD ESMT

40' PUBLIC SD ESMT

40' PUBLIC SD ESMT

50' PUBLIC SD ESMT

EXISTING CULVERT
Q_{MAX}=910 CFS

CP-22
30" RCP
Q_{100}=10.4 CFS

LINE A2
66" RCP
Q_{100}=203.2 CFS

CP-08
18" RCP
Q_{100}=10 CFS

LINE A (R17)
10x8 RCB
Q_{100}=1,053 CFS

CATCH BASIN 3
W=14'
Q_{100}=7.0 CFS

CP-07
18" RCP

CP-06
30" RCP
Q_{100}=70 CFS

LINE A2
66" RCP
Q_{100}=213.6 CFS

CATCH BASIN 12
W=14' (SAG)
Q_{100}=4.4 CFS

CP-21
18" RCP

CATCH BASIN 11
W=10'
Q_{100}=5.9 CFS

CP-20
18" RCP

LINE A2 (R1)
66" RCP
Q_{100}=222.8 CFS

CP-05
18" RCP
Q_{100}=27.9 CFS

LINE A
12x10 RCB
Q_{100}=1,474 CFS

CP-10
18" RCP
Q_{100}=6.7 CFS

LINE A
12x10 RCB
Q_{100}=1,481 CFS

CATCH BASIN 2
W=14'
Q_{100}=6.3 CFS

CP-04
18" RCP

CP-02
30" RCP
Q_{100}=27.7 CFS

LINE A
12x10 RCB
Q_{100}=1,520 CFS

CP-23
42" RCP
Q_{100}=57.1 CFS

LINE A
12x10 RCB
Q_{100}=1,497 CFS

CATCH BASIN 1
W=14'
Q_{100}=12.1 CFS

CP-03
18" RCP

LINE A
12x10 RCB
Q_{100}=1,567 CFS

CP-24
24" RCP
Q_{100}=23.9 CFS

CP-01
42" RCP
Q_{100}=101.4 CFS

LINE A
12'x10' (WxH) RCB
Q_{100}=1,675 CFS

LINE A
10x8 RCB
Q_{100}=1,045 CFS

LINE A
8x10 RCB
Q_{100}=1,058 CFS

LINE A
10x8 RCB
Q_{100}=1,128 CFS

LINE A
12x10 RCB
Q_{100}=1,128 CFS

CATCH BASIN 4
W=14' (SAG)
Q_{100}=7.6 CFS

LATERAL CP-11
18" RCP

LINE A1
66" RCP
Q_{100}=145.6 CFS

LINE A
12x10 RCB
Q_{100}=1,253 CFS

LINE A
12x10 RCB
Q_{100}=1,446 CFS

LINE A1
66" RCP
Q_{100}=140.4 CFS

CATCH BASIN 6
W=4' (SAG)
Q_{100}=3.5 CFS

CP-14
18" RCP

LINE A1
66" RCP
Q_{100}=119.2 CFS

CP-12
24" RCP
Q_{100}=21.2 CFS

LINE A1
66" RCP
Q_{100}=110.3 CFS

CATCH BASIN 5
W=14' (SAG)
Q_{100}=6.7 CFS

CP-13
18" RCP

CP-15
30" RCP
Q_{100}=31 CFS

CATCH BASIN 7
W=10'
Q_{100}=7.1 CFS

CP-16
18" RCP

CP-18
36" RCP
Q_{100}=56.1 CFS

LINE A1
48" RCP
Q_{100}=67.3 CFS

CATCH BASIN 8
W=10'
Q_{100}=5.2 CFS

CP-17
18" RCP

LINE A1
48" RCP
Q_{100}=79.4 CFS

CATCH BASIN 10
W=10'
Q_{100}=5.8 CFS

CP-19
18" RCP

LINE A1
18" RCP
Q_{100}=11.2 CFS

LINE B
DOUBLE 6x4 CULVERT
Q_{100}=828.8 CFS

CATCH BASIN 9
W=10'
Q_{100}=5.7 CFS

LINE A1
18" RCP

LINE C
ARCH CULVERTT
Q_{100}=1,905 CFS

WOB

WOB

WOB

LEGEND:

A — DRAINAGE AREA

OVTC PROJECT BOUNDARY

WATERSHED BOUNDARY

PROPOSED STORM DRAIN

EXISTING STORM DRAIN

NOTE: CULVERT DATA PER SEPARATE STUDY. SEE TTM 37862
HYDRAULIC ANALYSES FOR CULVERTS CROSSING 1-10

200' 0 200' 400' 600'

SCALE: 1"=200'

EXHIBIT C

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PROACTIVE ENGINEERING WEST

CITY OF CALIMESA

OAK VALLEY TOWN CENTER

PRELIMINARY DRAINAGE FACILITIES MAP

FOR REVIEW ONLY

Birtcher Commerce Center Oak Valley - Building B
DPR 21-04
Calimesa, County of Riverside, California

Preliminary Drainage Study

Prepared for:
Birtcher Development
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Original Date Prepared: May 2021
Revision Date(s):

[Stamp]

Engineer
Title

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SECTION 1 - SUMMARY

PURPOSE

The purpose of this report is to document the hydrologic and hydraulic analyses performed in support of the Birtcher Commerce Center Oak Valley (BCCOV) - Building B project located in the city of Calimesa in the County of Riverside, California. The overall BCCOV project site (PM 37862) consists of approximately 220 acres of currently vacant land and is bounded by the Interstate-10 (I-10) highway along its northeast, the single-family residential tract TR 32702 (currently under construction) along its southeastern boundary, vacant land along its southern boundary, and a future residential development to its northwest. The San Timoteo Creek runs from north to south along the eastern boundary of the BCCOV site and continues south of the site.

The BCCOV - Building B project is bounded by Singleton Road to its northwest, Roberts Road to its northeast, the future BCCOV – Parking Lot project to its east, and the future BCCOV – Building A project to its southwest. The project proposes to build an industrial development on approximately 24.4 acres. This report will summarize the hydrologic and hydraulic analyses that were conducted in order to determine the necessary drainage improvements required to provide flood protection for the proposed building and safely convey the runoff through the site.

The scope of this report will include the following:

- Determine the peak 100-year and 10-year flow rates for the developed condition using the Riverside County Flood Control and Water Conservation District (RCFC&WCD) Rational Method.
- Determine the required storm drain facilities, alignment, and sizes required to flood protect the project site.
- Determine the necessary flow rate required for water quality treatment.
- Determine the necessary detention volume required to mitigate for increases in runoff for the 24-hour duration storm event for the 2-year return frequency
- Preparation of a preliminary report summarizing the hydrology and hydraulic results.

DESCRIPTION OF WATERSHED

As previously described, the project is proposing an industrial development on approximately 24.4 acres of vacant land within the boundaries of the overall BCCOV project boundary. The overall BCCOV project, and all areas within its boundary including the BCCOV - Building B project, is located within the Summerwind Ranch at Oak Valley Specific Plan which comprises approximately 2,600 acres of land within the city of Calimesa.

The currently vacant overall BCCOV project site generally drains towards the center of the site where a natural streambed area conveys flows from north to south. The project site is currently impacted by considerable offsite flow that enters the site via multiple existing culverts running underneath the I-10 Highway. The existing culverts convey approximately 3730 cfs of flows generated mainly by the San Bernardino Mountains located northeast of the overall BCCOV project site. The offsite flows combine with the existing onsite flows and are conveyed south through the site via the existing streambed areas before ultimately discharging into the San Timoteo Creek.

Prior to any construction commencing for the BCCOV - Building B project, the overall BCCOV project site will be mass graded. The mass grading phase also includes the construction of retaining walls along the boundaries of the overall BCCOV project, graded pads, the construction of backbone street improvements for Singleton Road and Roberts Road, the installation of backbone storm drain facilities, and the installation of storm drain stub-outs for the individual BCCOV industrial developments to discharge into. The overall drainage pattern of the mass grade phase will perpetuate the drainage pattern of the existing,

vacant project site. However, runoff in the mass graded phase will be captured in temporary inlets and conveyed towards the backbone storm drain facilities. The backbone storm drain facilities have been designed to convey the fully developed flows from the overall BCCOV project as well as the existing offsite flows generated north of the I-10 highway southerly towards the San Timoteo Creek. A separate drainage study titled "Hydrology and Hydraulics Study: Oak Valley Town Center Parcel Map No. 37862 Mass Grading Plan" was conducted for the mass grade phase of the project and encompasses the design and layout of the backbone storm drain facilities.

The completion of the mass grade phase (along with backbone improvements for Roberts Road and Singleton Road) for the overall BCCOV project site will be considered the existing condition for the purpose of this preliminary drainage study for the BCCOV - Building B project. Temporary inlets and any existing CMP constructed in the mass grade phase will be removed in the ultimate condition. Storm drain stub-outs constructed in the mass grade phase will remain in place and be used as connection points for the proposed onsite developments of the BCCOV - Building B project.

Existing elevations across the site vary from approximately 2245 to 2210 feet (NAVD88 datum). Runoff in this existing condition generally surface flows towards the existing streambed area near the northwest portion of the site. From there, flows are conveyed southwest and exit the site. Runoff exiting the site is conveyed further south until ultimately discharging into the San Timoteo Creek.

PROPOSED CONDITIONS

In the proposed condition of the BCCOV - Building B project, onsite runoff will be conveyed throughout the site via proposed ribbon gutters and curb & gutters. Onsite runoff will then be captured by a network of catch basins and drainage inlets provided at low points. Proposed private underground storm drain conveys captured flows towards proposed biotreatment devices for water quality treatment. Modular Wetland System (MWS) vaults are being proposed to provide water quality treatment (additional information regarding the MWS vaults can be found in the separate Preliminary WQMP Report). CMP chamber detention systems with orifice outlets are proposed to mitigate onsite flows for the 2-year 24-hour storm event to meet HCOC requirements.

All flows captured onsite are then conveyed towards existing storm drain stub-outs that will be constructed in the mass grading phase of the overall BCCOV project once treated for water quality and mitigated to be within 10% of the pre-development flows for the 2-year storm event with a duration of 24 hours. These stub-outs have been sized to convey the fully developed flows generated by the BCCOV - Building B project per a separate drainage study ("Hydrology and Hydraulics Study: Oak Valley Town Center Parcel Map No. 37862 Mass Grading Plan") and conveys flows towards the backbone storm drain lines which will be constructed in the mass grade phase of the overall BCCOV project. The backbone storm drain line conveys flows towards the southern boundary of the overall BCCOV project boundary and ultimately discharges all captured flows offsite and into the San Timoteo Creek.

METHODOLOGY

HYDROLOGY

Hydrologic calculations were performed in accordance with the RCFC&WCD Hydrology Manual, dated April 1978. The Rational Method was utilized in determining peak flow rates.

The hydrological parameters, including rainfall values and soil types were derived from the RCFC&WCD Hydrology Manual. The isohyetal maps and soil map have been included in Section 2.

Rational Method calculations were performed using a computer program developed by CivilDesign Corporation and Joseph E. Bonadiman and Associates Inc. The computer program is commonly referred to as CivilD which incorporates the hydrological parameters outlined in the RCFC&WCD Hydrology Manual.

The Rational Method was used to determine the peak flow rates to size and design the drainage facilities need to convey onsite flows through the site to the existing stub-outs. The flow rates were computed by generating a hydrologic "link-node" model in which the overall area is divided into separate drainage sub-areas, each tributary to a concentration point (node) determined by the proposed layout and grading.

The Unit Hydrograph Method was used to determine the peak flow rates and volumes associated with the 2-year event for the site. Calculations were performed for both the existing condition and developed condition to be used in the analysis of the proposed detention systems. See Section 4 for additional information and results regarding the hydrologic analyses performed for this project.

HYDRAULICS

Water quality calculations were performed using spreadsheets that were created by RCFC&WCD. Final calculations and additional details can be found in the Preliminary-WQMP.

Basin routing calculations were performed using the CivilD computer program. The CivilD program utilizes the Modified-Puls methodology to routes unit hydrographs through a basin using the stage-storage and stage-discharge curves determined from the proposed basin design. See Section 4 for additional discussion and results.

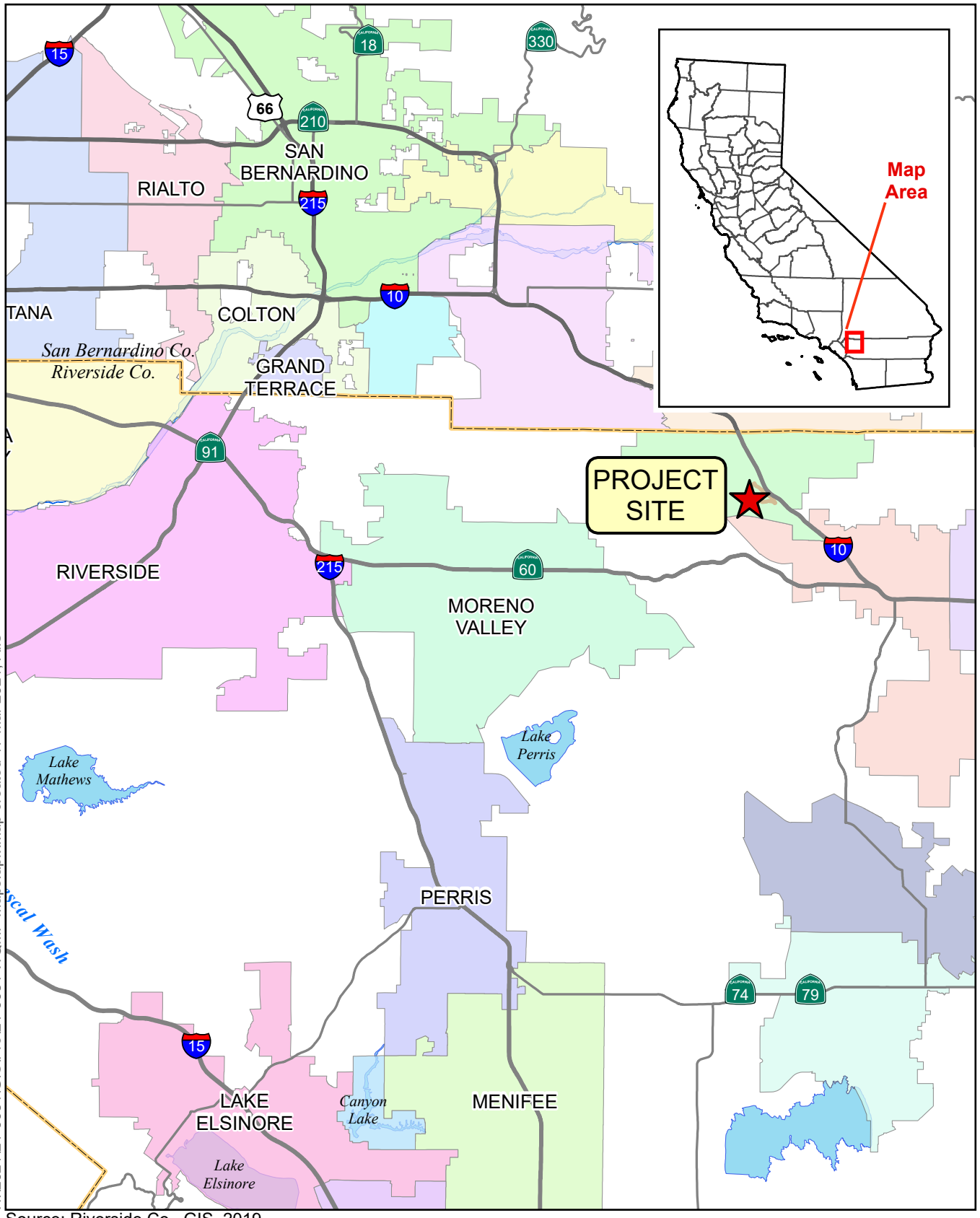
Hydraulic calculations to determine the required pipe sizes of proposed storm drain facilities will be provided in the Final Drainage Study.

FIG. 1 VICINITY MAP

FIG. 2 USGS TOPOGRAPHY MAP

FIG. 3 AERIAL PHOTOGRAPH

FIG. 4 RECEIVING WATERBODIES



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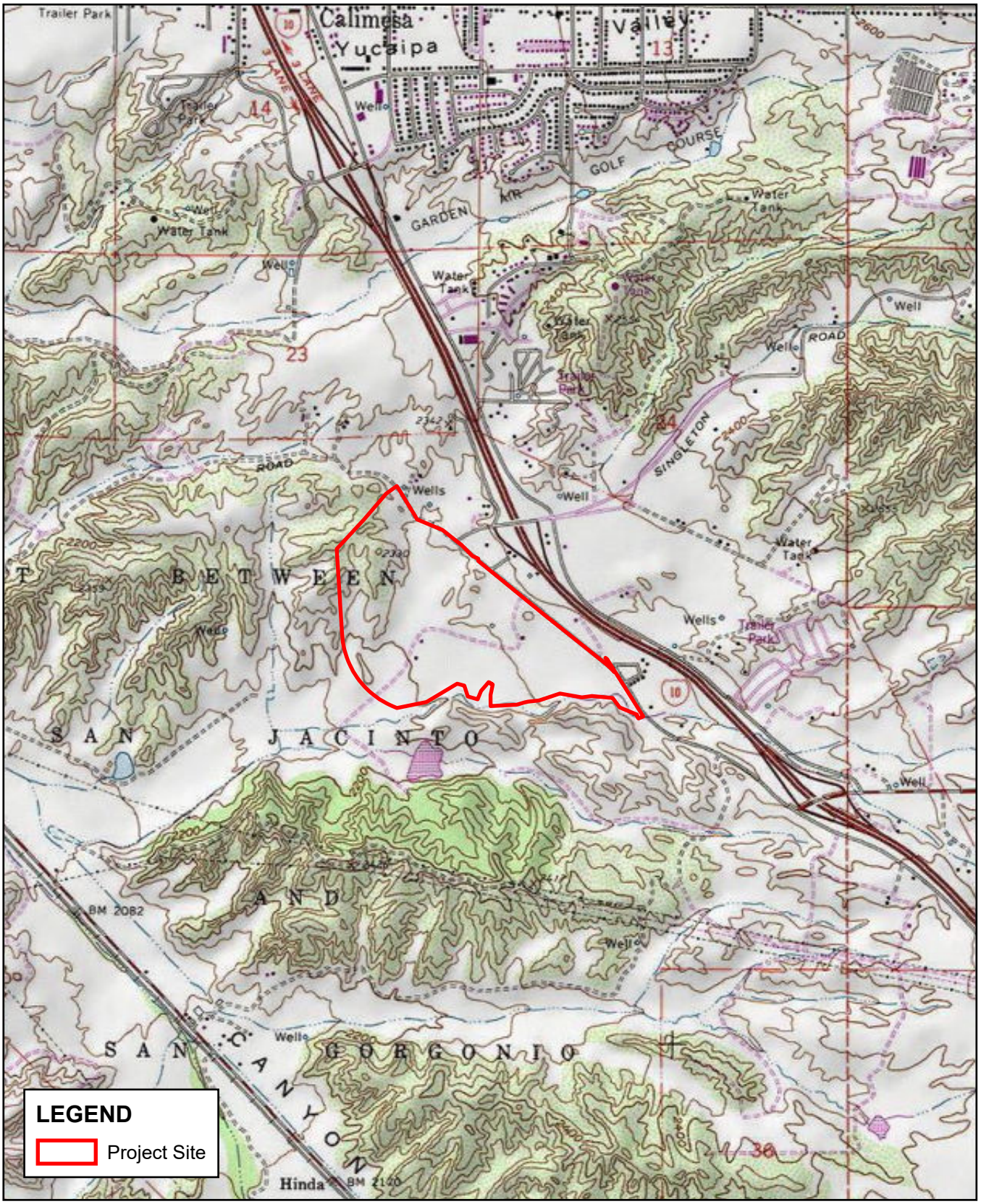
Source: Riverside Co. GIS, 2019

0 2 4 6 Miles

Figure 1 – Vicinity Map

21-0034 OVTC INDUSTRIAL

ALBERT A. WEBB ASSOCIATES



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Sources: ESRI / USGS 7.5min Quad
DRGs: EL CASCO

0 1,000 2,000 3,000 Feet

Figure 2 - USGS Map
21-0034 OVTC INDUSTRIAL

ALBERT A. WEBB ASSOCIATES



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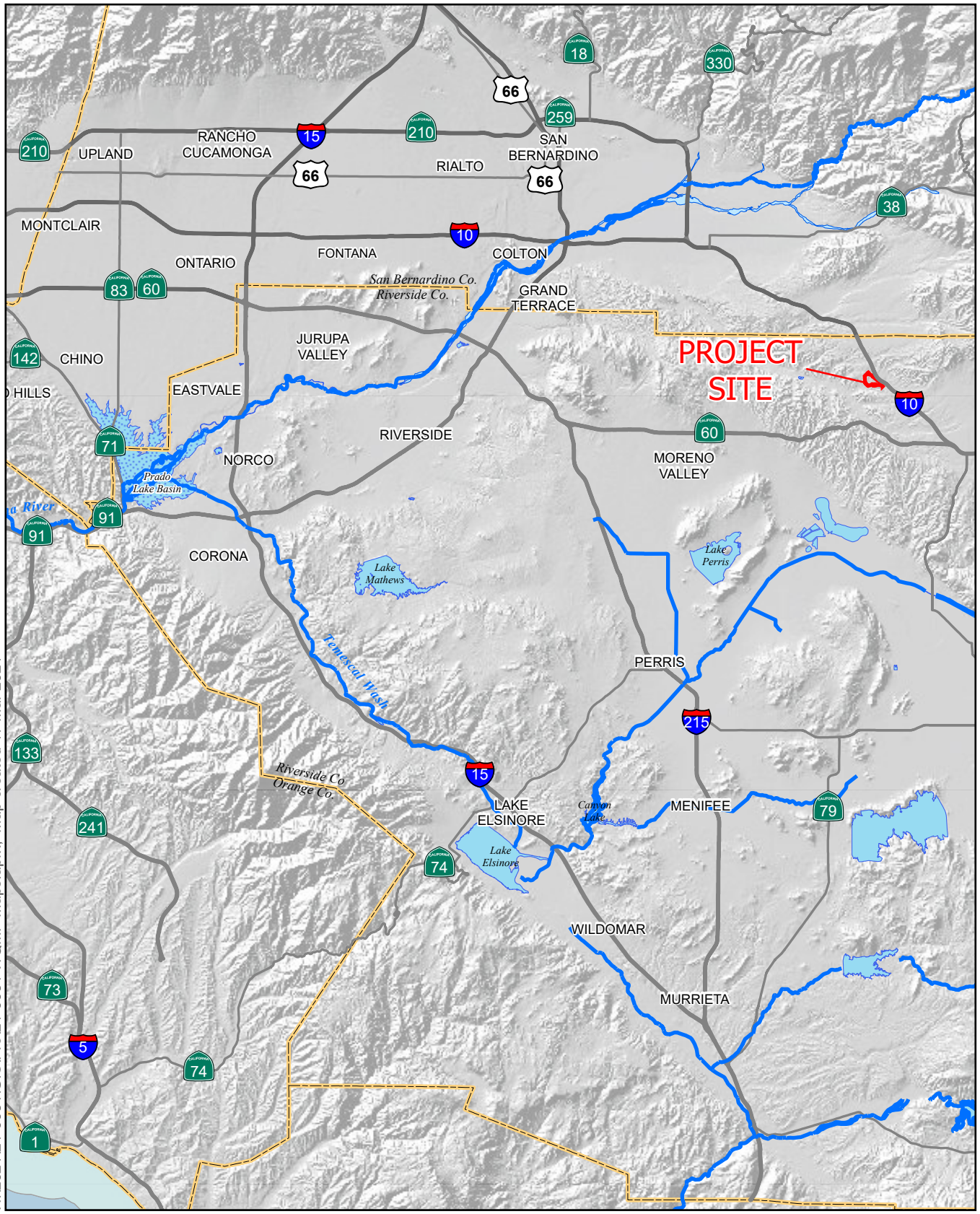
Source: Riverside Co. GIS, Jan. 2020.

0 600 1,200 1,800 Feet

Figure 3 - Aerial Map

21-0034 OVTC INDUSTRIAL

ALBERT A. WEBB ASSOCIATES



H:\2021\21-0034\GIS\Pro\21-0034 WQMP Maps.aprx; Map created 17 Mar 2021

Sources: USGS DLG; USGS 30m DEM

0 2 4 6 8 Miles

Figure 4 – Receiving Waterbodies

21-0034 OVTC INDUSTRIAL

ALBERT A. WEBB ASSOCIATES

SECTION 2 - HYDROLOGY ANALYSIS

HYDROLOGY PARAMETERS

The RCFC&WCD Hydrology Manual was used to determine several of the hydrological parameters. The following rainfall depths were utilized in the hydrology analyses, which were obtained from the isohyetal maps provided in the RCFC&WCD Hydrology Manual:

Table 1 – Precipitation Values

	Duration
Storm Event	1-Hour (inches)
10-Year	0.91
100-Year	1.35

The value for slope of intensity was determined to be 0.550. The standard intensity-duration curve data (Plate D-4.1) has been included in Appendix A.

Based on the Plate C-1.18 [El Casco] in the RCFC&WCD Hydrology Manual, the project site is classified as soil types B and D but is predominately soil type B. The soils map is included in Appendix A.

ON-SITE RATIONAL METHOD HYDROLOGY

The rational method was used to determine peak flow rates in order to adequately size the proposed subsurface storm drains and associated inlets used to convey on-site flows. Calculations were performed for approximately 24.4 acres of total area that is tributary to the proposed storm drain facilities within the BCCOV - Building B project boundary.

Runoff captured within the BCCOV – Building B project boundary will be conveyed southwest through underground storm drain pipes. These flows will enter the storm drain facilities proposed with the BCCOV – Building A project located directly southwest of the project site. Underground storm drain will direct the flows south through the BCCOV – Building A project site towards two (2) stub-out connections located near the southwestern and southeastern boundary of the site. A hydrologic analysis for the BCCOV – Building A and BCCOV – Parking Lot projects can be found in separate drainage studies specific to those projects.

Subareas within the rational method calculations for the BCCOV – Building B project have been broken up based on the area tributary to the existing stub-outs constructed in the mass grade phase of the overall BCCOV project. The 300-Series consists of approximately 12 acres making up the western half of the project site. The 350-Series consists of approximately 12 acres making up the eastern half of the project site.

Areas were further broken up based on the location of localized low points throughout the site. In final engineering, areas will be further broken up to determine the 100-year flow rates entering any proposed inlets located onsite. The majority of flows are directed towards the proposed inlets via ribbon gutters and/or curb & gutters. Most subareas consist of a combination of the proposed building, parking stalls, drive aisles, concrete walkways, and/or landscaped areas. All onsite areas within the calculations were considered as commercial subarea types.

The following table summarizes the rational method results at key points:

Table 3 – Rational Method Results

Point of Interest	10-Year Peak Flow Rate (cfs)	100-Year Peak Flow Rate (cfs)
Node 305 - Flows from western half of project site	24.6	37.0
Node 352 – Flows from eastern half of project site	15.3	39.0

The rational method output files and hydrology map have been included in Appendix A.

OFF-SITE RATIONAL METHOD HYDROLOGY

The BCCOV – Building B project is not impacted by offsite flows. As described in Section 1, the overall BCCOV project site is impacted by considerable offsite flows generated by the San Bernardino Mountains located northeast of the I-10 Highway. These flows will enter the backbone storm drain facilities and will not impact the BCCOV - Building B project. Details regarding these offsite flows and the backbone storm drain facilities can be found in the separate drainage study titled "Hydrology and Hydraulics Study: Oak Valley Town Center Parcel Map No. 37862 Mass Grading Plan" (excerpts from the report can be found in Appendix C).

SECTION 3 - HYDRAULIC ANALYSIS

ON-SITE STORM DRAIN FACILITIES

Onsite Storm Drain

Existing stub-outs (within the BCCOV – Building A project boundary) have been sized to accept the flows generated by the fully developed of the BCCOV - Building B project and will be constructed in the mass grade phase (per the separate study titled "Hydrology and Hydraulics Study: Oak Valley Town Center Parcel Map No. 37862 Mass Grading Plan").

Hydraulic calculations will be performed for all proposed, onsite storms drain facilities 12 inches in diameter or greater in the Final Drainage Study.

CMP Chambers B1

To mitigate for HCOC requirements, a CMP detention system is proposed to hold 65,000 cubic ft of runoff. This would require the system to consist of 9 barrels, which are 123 ft long each. Solid chambers are proposed as infiltration is not feasible. An outlet structure is proposed to consist of an orifice with the invert at the bottom of the chambers to mitigate the peak flow rate of the 2-year storm event. The details of the CMP chamber and orifice sizing have been included in Appendix B.

CMP Chambers B2

To mitigate for HCOC requirements, a CMP detention system is proposed to hold a total of 65,000 cubic ft of runoff. Four underground chamber systems are proposed to be connected by equalizer pipes. Each chamber system is to consist of 5 barrels, which are 44 ft long each. Solid chambers are proposed as infiltration is not feasible. An outlet structure is proposed to consist of an orifice with the invert at the bottom of the chambers to mitigate the peak flow rate of the 2-year storm event. The details of the CMP chamber and orifice sizing have been included in Appendix B.

Inlet Capacities

Grate inlets are proposed at the low points within ribbon gutters in order to capture onsite flows. For larger flows, a series of 3'x 3' or 2'x 3' grates are proposed in ribbon gutters to prevent excessive ponding from occurring.

SECTION 4 - DETENTION SYSTEM ANALYSIS

ON-SITE UNIT HYDROGRAPH METHOD HYDROLOGY

The unit hydrograph method was used to determine the peak flow rates and volumes in order to adequately size the proposed chamber detention systems to address HCOC mitigation. Unit hydrographs were performed for the 2-year storm with a duration of 24-hours in the existing condition and developed condition. The existing condition is used to establish a baseline for comparative purposes. The developed condition is used for design purposes, it was utilized in the routing analysis in order to size and analyze the proposed basin and chamber detention systems.

In the existing condition analysis, the Building B project site was broken up and included in the analysis of two main areas which include portions of the Buildings A and B sites as well as the Parking Lot. Approximately 37.7 acres are labelled as Area A1 and are tributary to the existing eastern stub out within the Building A project site. Approximately 21.7 acres are labelled as Area A3 and are tributary to the existing western stub out within the Building A project site. In the proposed condition, Building B is divided into Areas 3 and 7. Area 3 consists of approximately 12.3 acres of the existing condition Area A1. Area 7 consists of approximately 12.5 acres of existing condition area A3.

The following table summarizes the results of the unit hydrograph analysis:

Table 4 – Unit Hydrograph Results

EXISTING CONDITION 2-YEAR, 24-HOUR STORM		
AREA	A1	A3
VOL (AC-FT)	0.76	0.45
PEAK (CFS)	1.26	1.21

PROPOSED CONDITION 2-YEAR, 24-HOUR STORM		
AREA	3	7
VOL (AC-FT)	1.67	1.70
PEAK (CFS)	2.75	2.80

BASIN ROUTING ANALYSIS

A routing analysis was completed to demonstrate that the basin and CMP chamber systems contain substantial volume needed to mitigate flows down to existing condition peak flow rates.

Basin routing calculations were conducted for each building area (Areas 3 and 7). A stage-storage-discharge table was determined for each area. The stage-storage-discharge tables provide input data at select elevations in the basin and/or chambers which will determine the storage and discharge at each point based on the mitigation configuration of the outlet structures.

For Area 3, the proposed outlet structure consists of three 1.5-inch orifices with an invert set at the bottom of the chambers to mitigate the 2-year storm event with a duration of 24 hours. The orifice creates a maximum ponding depth of 5.57 ft above the chamber bottom, which is below the 8 ft depth of the top of the chambers.

For Area 7, the proposed outlet structure consists of a 3.5-inch orifice with an invert set at the bottom of the chambers to mitigate the 2-year storm event with a duration of 24 hours. The orifice creates a maximum ponding depth of 4.96 ft above the chamber bottom, which is below the 8 ft depth of the top of the chambers.

The following tables present the result of routing analysis for the 24-hour 2-year storm event to demonstrate that the CMP chamber systems provide the necessary storage volume needed to restrict the outflow to existing condition flow rates.

Table 5 – Basin Routing Results

EXISTING CONDITION 2-YEAR, 24-HOUR STORM			
	VOL (AC-FT)	PEAK FLOW (CFS)	
AREA A1	0.76	1.26	
18.1% A1 (PROP. AREA 1)	-	0.23	
25% A1 (PROP. AREA 2)	-	0.31	
32.4% A1 (PROP AREA 3)	-	0.41	
24.5%A1 (PROP AREA 4)	-	0.31	
AREA A3	0.45	1.21	
41.6% A3 (PROP AREA 6)	-	0.50	
58.4% A3 (PROP AREA 7)	-	0.71	
PROPOSED CONDITION 2-YEAR, 24-HOUR STORM			
	VOL (AC-FT)	PEAK FLOW (CFS)	ROUTING PEAK FLOW (CFS)
AREA 1	1.06	1.75	0.16
AREA 2	1.40	2.37	0.33
AREA 3	1.67	2.75	0.47
AREA 4	1.20	1.96	0.32
A1 COMBINED	5.33	8.83	1.28
AREA 6	1.26	2.07	0.51
AREA 7	1.70	2.80	0.78
A3 COMBINED	2.96	487	1.29

The basin routing calculations and other hydraulic calculations have been provided in Appendix C. Based on the table above, the proposed detention chambers for have the capacity to mitigate for the required HCOC. All discharge flow rates in the developed condition are lower than or within ten percent of the flow rate exiting the site in the existing condition.

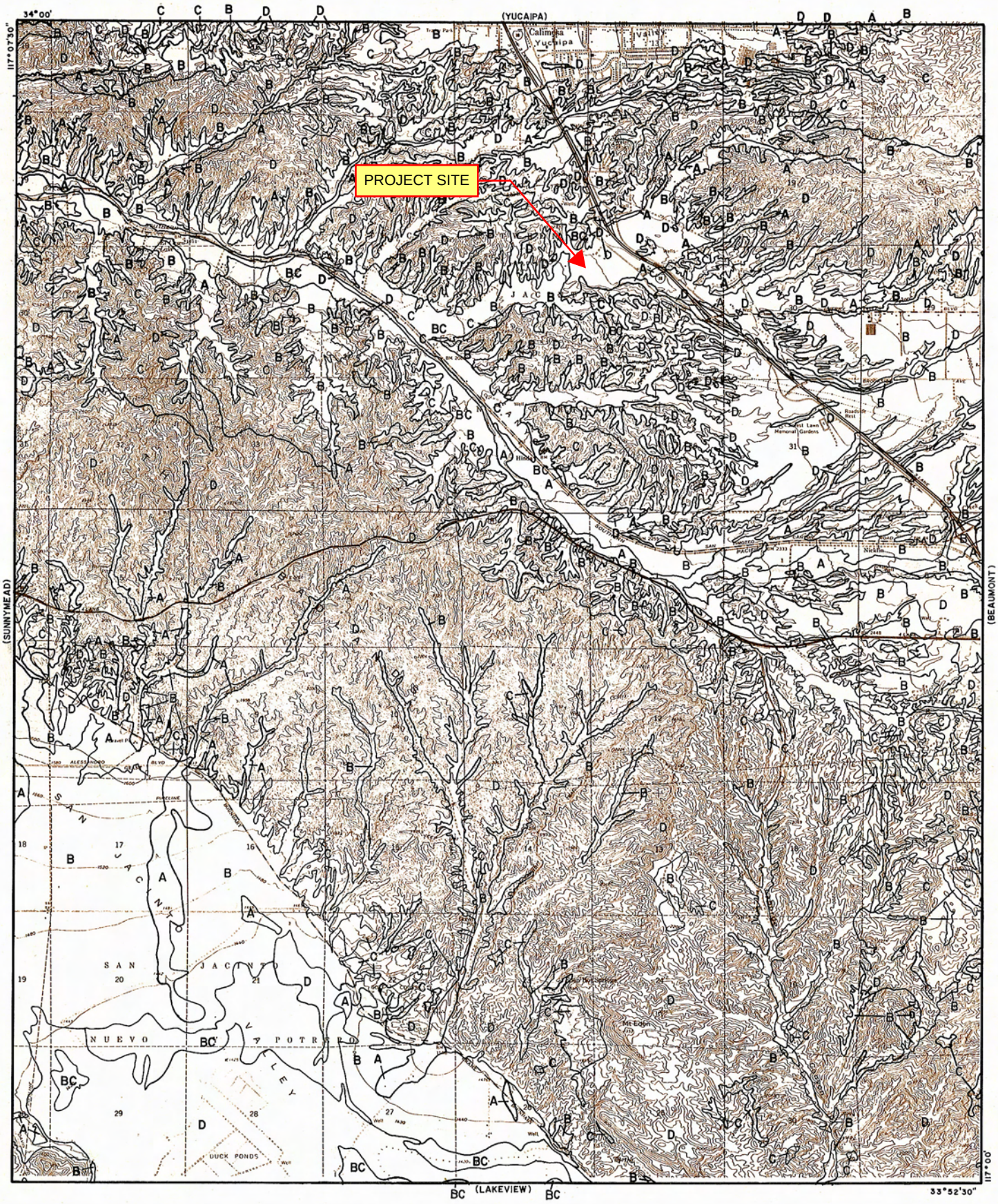
SECTION 5 - CONCLUSION

Based on the analyses and results of this report, the following conclusions were derived from the hydrology and hydraulic results:

- The proposed drainage improvements will adequately convey flows towards the existing backbone storm drain facilities and provide flood protection for the 100-year storm event.
- The proposed MWS biotreatment devices will provide adequate water quality treatment.
- The proposed CMP detention chambers and orifice system will adequately mitigate for increases in runoff for the 24-hour duration storm event for the 2-year return frequency.
- The proposed project will not impact flooding condition to upstream or downstream properties.

APPENDIX A – HYDROLOGY ANALYSIS

HYDROLOGIC SOILS GROUP MAP (PLATE C-1.18)



LEGEND

—— SOILS GROUP BOUNDARY

A SOILS GROUP DESIGNATION

RCFC&WCD

HYDROLOGY MANUAL

0 FEET 5000

HYDROLOGIC SOILS GROUP MAP FOR EL CASCO

PLATE C-1.18

RAINFALL INTENSITY

RCFC & WCD

HYDROLOGY MANUAL

RAINFALL INTENSITY–INCHES PER HOUR

ANZA			BANNING			BEAUMONT			CALIMESA			CANYON LAKE		
DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR	DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR	DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR	DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR	DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR
5	4.23	6.85	5	3.32	4.93	5	3.32	4.93	5	3.57	5.30	5	3.07	4.61
6	3.80	6.16	6	3.02	4.47	6	3.02	4.47	6	3.23	4.79	6	2.81	4.23
7	3.48	5.63	7	2.78	4.12	7	2.78	4.12	7	2.97	4.40	7	2.61	3.93
8	3.22	5.21	8	2.59	3.84	8	2.59	3.84	8	2.76	4.09	8	2.45	3.68
9	3.01	4.87	9	2.43	3.61	9	2.43	3.61	9	2.58	3.83	9	2.31	3.48
10	2.83	4.58	10	2.30	3.41	10	2.30	3.41	10	2.44	3.62	10	2.20	3.31
11	2.67	4.33	11	2.19	3.24	11	2.19	3.24	11	2.31	3.43	11	2.10	3.16
12	2.54	4.12	12	2.09	3.10	12	2.09	3.10	12	2.21	3.27	12	2.01	3.03
13	2.43	3.93	13	2.00	2.97	13	2.00	2.97	13	2.11	3.13	13	1.94	2.92
14	2.33	3.77	14	1.92	2.85	14	1.92	2.85	14	2.03	3.01	14	1.87	2.82
15	2.23	3.62	15	1.86	2.75	15	1.86	2.75	15	1.95	2.89	15	1.81	2.72
16	2.15	3.49	16	1.79	2.66	16	1.79	2.66	16	1.88	2.79	16	1.75	2.64
17	2.08	3.37	17	1.74	2.58	17	1.74	2.58	17	1.82	2.70	17	1.70	2.56
18	2.01	3.26	18	1.68	2.50	18	1.68	2.50	18	1.76	2.62	18	1.66	2.50
19	1.95	3.16	19	1.64	2.43	19	1.64	2.43	19	1.71	2.54	19	1.62	2.43
20	1.89	3.06	20	1.59	2.36	20	1.59	2.36	20	1.67	2.47	20	1.58	2.37
22	1.79	2.90	22	1.51	2.25	22	1.51	2.25	22	1.58	2.34	22	1.51	2.27
24	1.70	2.76	24	1.45	2.15	24	1.45	2.15	24	1.51	2.23	24	1.44	2.17
26	1.62	2.63	26	1.39	2.06	26	1.39	2.06	26	1.44	2.14	26	1.39	2.09
28	1.56	2.52	28	1.33	1.98	28	1.33	1.98	28	1.38	2.05	28	1.34	2.02
30	1.49	2.42	30	1.29	1.91	30	1.29	1.91	30	1.33	1.98	30	1.30	1.95
32	1.44	2.33	32	1.24	1.84	32	1.24	1.84	32	1.29	1.91	32	1.26	1.89
34	1.39	2.25	34	1.20	1.78	34	1.20	1.78	34	1.24	1.85	34	1.22	1.84
36	1.34	2.18	36	1.17	1.73	36	1.17	1.73	36	1.21	1.79	36	1.19	1.79
38	1.30	2.11	38	1.13	1.68	38	1.13	1.68	38	1.17	1.74	38	1.16	1.74
40	1.27	2.05	40	1.10	1.64	40	1.10	1.64	40	1.14	1.69	40	1.13	1.70
45	1.18	1.91	45	1.04	1.54	45	1.04	1.54	45	1.07	1.58	45	1.07	1.61
50	1.11	1.80	50	.98	1.45	50	.98	1.45	50	1.01	1.49	50	1.02	1.53
55	1.05	1.70	55	.93	1.38	55	.93	1.38	55	.95	1.42	55	.97	1.46
60	1.00	1.62	60	.89	1.32	60	.89	1.32	60	.91	1.35	60	.93	1.40
65	.95	1.55	65	.85	1.27	65	.85	1.27	65	.87	1.29	65	.89	1.35
70	.91	1.48	70	.82	1.22	70	.82	1.22	70	.84	1.24	70	.86	1.30
75	.88	1.42	75	.79	1.17	75	.79	1.17	75	.80	1.19	75	.84	1.26
80	.85	1.37	80	.76	1.13	80	.76	1.13	80	.78	1.15	80	.81	1.22
85	.82	1.32	85	.74	1.10	85	.74	1.10	85	.75	1.11	85	.79	1.18
SLOPE = .580			SLOPE = .530			SLOPE = .530			SLOPE = .550			SLOPE = .480		

STANDARD INTENSITY–DURATION CURVES DATA

PLATE D-4.1 (1 of 6)

10-YEAR ONSITE HYDROLOGY (RATIONAL METHOD)

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 12/01/21 File:300.out

BCCOV BLDG B
10-YEAR STORM EVENT 300 SERIES
21-0034 DEVELOPED CONDITION
2021-12-01 EP

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 4010

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Calimesa] area used.
10 year storm 10 minute intensity = 2.440(In/Hr)
10 year storm 60 minute intensity = 0.910(In/Hr)
100 year storm 10 minute intensity = 3.620(In/Hr)
100 year storm 60 minute intensity = 1.350(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.910(In/Hr)
Slope of intensity duration curve = 0.5500

++

Process from Point/Station 300.000 to Point/Station 301.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 656.000(Ft.)
Top (of initial area) elevation = 2227.100(Ft.)
Bottom (of initial area) elevation = 2220.100(Ft.)
Difference in elevation = 7.000(Ft.)
Slope = 0.01067 s(percent)= 1.07
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 9.960 min.
Rainfall intensity = 2.443(In/Hr) for a 10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.873
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 56.00
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 7.252(CFS)
Total initial stream area = 3.400(Ac.)
Pervious area fraction = 0.100

++

Process from Point/Station 301.000 to Point/Station 302.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2216.500(Ft.)
Downstream point/station elevation = 2215.600(Ft.)
Pipe length = 295.00(Ft.) Manning's N = 0.013

```
No. of pipes = 1  Required pipe flow  =     7.252(CFS)
Nearest computed pipe diameter  =     21.00(In.)
Calculated individual pipe flow  =     7.252(CFS)
Normal flow depth in pipe =   14.58(In.)
Flow top width inside pipe =   19.35(In.)
Critical Depth =   11.96(In.)
Pipe flow velocity =      4.07(Ft/s)
Travel time through pipe =    1.21 min.
Time of concentration (TC) =    11.17 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      302.000 to Point/Station      302.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      3.400(Ac.)
Runoff from this stream =      7.252(CFS)
Time of concentration =   11.17 min.
Rainfall intensity =     2.294(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      303.000 to Point/Station      304.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   565.000(Ft.)
Top (of initial area) elevation =  2227.100(Ft.)
Bottom (of initial area) elevation =  2220.100(Ft.)
Difference in elevation =     7.000(Ft.)
Slope =    0.01239  s(percent)=       1.24
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.106 min.
Rainfall intensity =      2.567(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.879
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.600
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.400
RI index for soil(AMC 2)  =  63.60
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     11.286(CFS)
Total initial stream area =        5.000(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      304.000 to Point/Station      302.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2216.000(Ft.)
Downstream point/station elevation =  2215.600(Ft.)
Pipe length  =    14.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    11.286(CFS)
Nearest computed pipe diameter  =     18.00(In.)
Calculated individual pipe flow  =    11.286(CFS)
Normal flow depth in pipe =   10.42(In.)
Flow top width inside pipe =   17.78(In.)
Critical Depth =   15.40(In.)
Pipe flow velocity =     10.64(Ft/s)
Travel time through pipe =    0.02 min.
Time of concentration (TC) =     9.13 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      302.000 to Point/Station      302.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      5.000(Ac.)
Runoff from this stream =     11.286(CFS)
Time of concentration =    9.13 min.
Rainfall intensity =     2.563(In/Hr)
Summary of stream data:
```

```
Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        7.252     11.17                2.294
2       11.286      9.13                2.563
Largest stream flow has longer or shorter time of concentration
Qp =     11.286 + sum of
          Qa          Tb/Ta
           7.252 *    0.817 =      5.927
Qp =     17.213

Total of 2 streams to confluence:
Flow rates before confluence point:
       7.252      11.286
Area of streams before confluence:
        3.400        5.000
Results of confluence:
Total flow rate =     17.213(CFS)
Time of concentration =     9.128 min.
Effective stream area after confluence =      8.400(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      302.000 to Point/Station      305.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2215.600(Ft.)
Downstream point/station elevation =  2214.000(Ft.)
Pipe length  =   530.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    17.213(CFS)
Nearest computed pipe diameter  =     27.00(In.)
Calculated individual pipe flow  =    17.213(CFS)
Normal flow depth in pipe =   22.41(In.)
Flow top width inside pipe =   20.29(In.)
Critical Depth =   17.40(In.)
Pipe flow velocity =      4.88(Ft/s)
Travel time through pipe =    1.81 min.
Time of concentration (TC) =    10.94 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      305.000 to Point/Station      305.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      8.400(Ac.)
Runoff from this stream =     17.213(CFS)
Time of concentration =   10.94 min.
Rainfall intensity =     2.320(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      306.000 to Point/Station      307.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   440.000(Ft.)
Top (of initial area) elevation =  2226.900(Ft.)
Bottom (of initial area) elevation =  2222.500(Ft.)
Difference in elevation =     4.400(Ft.)
Slope =    0.01000  s(percent)=       1.00
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    8.600 min.
Rainfall intensity =      2.649(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.881
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.450
Decimal fraction soil group C = 0.300
Decimal fraction soil group D = 0.250
RI index for soil(AMC 2)  =  64.65
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      8.397(CFS)
Total initial stream area =        3.600(Ac.)
```

```
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      307.000 to Point/Station      305.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  2218.500(Ft.)
Downstream point/station elevation =  2214.000(Ft.)
Pipe length  =    80.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     8.397(CFS)
Nearest computed pipe diameter  =     12.00(In.)
Calculated individual pipe flow  =     8.397(CFS)
Normal flow depth in pipe =    9.77(In.)
Flow top width inside pipe =    9.33(In.)
Critical depth could not be calculated.
Pipe flow velocity =     12.27(Ft/s)
Travel time through pipe =    0.11 min.
Time of concentration (TC) =     8.71 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      305.000 to Point/Station      305.000
**** CONFLUENCE OF MINOR STREAMS ****
------------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      3.600(Ac.)
Runoff from this stream =      8.397(CFS)
Time of concentration =    8.71 min.
Rainfall intensity =     2.631(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1       17.213     10.94                 2.320
2        8.397      8.71                 2.631
Largest stream flow has longer time of concentration
Qp =     17.213 + sum of
          Qb         Ia/Ib
           8.397 *    0.882 =      7.407
Qp =     24.620

Total of 2 streams to confluence:
Flow rates before confluence point:
      17.213       8.397
Area of streams before confluence:
        8.400        3.600
Results of confluence:
Total flow rate =     24.620(CFS)
Time of concentration =    10.939 min.
Effective stream area after confluence =     12.000(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      305.000 to Point/Station      205.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  2214.000(Ft.)
Downstream point/station elevation =  2207.300(Ft.)
Pipe length  =  1168.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    24.620(CFS)
Nearest computed pipe diameter  =     27.00(In.)
Calculated individual pipe flow  =    24.620(CFS)
Normal flow depth in pipe =   23.58(In.)
Flow top width inside pipe =   17.96(In.)
Critical Depth =   20.82(In.)
Pipe flow velocity =      6.68(Ft/s)
Travel time through pipe =    2.91 min.
Time of concentration (TC) =    13.85 min.
End of computations, total study area =           12.00 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
```

```
Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  61.8
```

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 12/01/21 File:350.out

BCCOV BLDG B
10-YEAR STORM EVENT 350 SERIES
21-0034 DEVELOPED CONDITION
2021-12-01 EP

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 4010

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Calimesa] area used.
10 year storm 10 minute intensity = 2.440(In/Hr)
10 year storm 60 minute intensity = 0.910(In/Hr)
100 year storm 10 minute intensity = 3.620(In/Hr)
100 year storm 60 minute intensity = 1.350(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.910(In/Hr)
Slope of intensity duration curve = 0.5500

++

Process from Point/Station 350.000 to Point/Station 351.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 450.000(Ft.)
Top (of initial area) elevation = 2227.900(Ft.)
Bottom (of initial area) elevation = 2223.400(Ft.)
Difference in elevation = 4.500(Ft.)
Slope = 0.01000 s(percent)= 1.00
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 8.678 min.
Rainfall intensity = 2.636(In/Hr) for a 10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.874
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 56.00
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 11.293(CFS)
Total initial stream area = 4.900(Ac.)
Pervious area fraction = 0.100

++

Process from Point/Station 351.000 to Point/Station 352.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2220.400(Ft.)
Downstream point/station elevation = 2213.900(Ft.)
Pipe length = 635.00(Ft.) Manning's N = 0.013

```
No. of pipes = 1  Required pipe flow  =    11.293(CFS)
Nearest computed pipe diameter  =     21.00(In.)
Calculated individual pipe flow  =    11.293(CFS)
Normal flow depth in pipe =   13.01(In.)
Flow top width inside pipe =   20.39(In.)
Critical Depth =   15.03(In.)
Pipe flow velocity =      7.22(Ft/s)
Travel time through pipe =    1.47 min.
Time of concentration (TC) =    10.14 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      352.000 to Point/Station      352.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      4.900(Ac.)
Runoff from this stream =     11.293(CFS)
Time of concentration =   10.14 min.
Rainfall intensity =     2.419(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      353.000 to Point/Station      354.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   755.000(Ft.)
Top (of initial area) elevation =  2227.100(Ft.)
Bottom (of initial area) elevation =  2220.000(Ft.)
Difference in elevation =     7.100(Ft.)
Slope =    0.00940  s(percent)=       0.94
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   10.805 min.
Rainfall intensity =      2.336(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.872
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     15.282(CFS)
Total initial stream area =        7.500(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      354.000 to Point/Station      352.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2216.000(Ft.)
Downstream point/station elevation =  2213.900(Ft.)
Pipe length  =    21.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    15.282(CFS)
Nearest computed pipe diameter  =     15.00(In.)
Calculated individual pipe flow  =    15.282(CFS)
Normal flow depth in pipe =    9.68(In.)
Flow top width inside pipe =   14.35(In.)
Critical depth could not be calculated.
Pipe flow velocity =     18.26(Ft/s)
Travel time through pipe =    0.02 min.
Time of concentration (TC) =    10.82 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      352.000 to Point/Station      352.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      7.500(Ac.)
Runoff from this stream =     15.282(CFS)
Time of concentration =   10.82 min.
Rainfall intensity =     2.334(In/Hr)
Summary of stream data:
```

```
Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                (In/Hr)


1       11.293     10.14                2.419
2       15.282     10.82                2.334
Largest stream flow has longer time of concentration
Qp =     15.282 + sum of
          Qb         Ia/Ib
          11.293 *    0.965 =     10.896
Qp =     26.178

Total of 2 streams to confluence:
Flow rates before confluence point:
      11.293      15.282
Area of streams before confluence:
        4.900        7.500
Results of confluence:
Total flow rate =     26.178(CFS)
Time of concentration =    10.824 min.
Effective stream area after confluence =     12.400(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      352.000 to Point/Station      355.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =  2213.900(Ft.)
Downstream point/station elevation =  2207.400(Ft.)
Pipe length  =   636.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    26.178(CFS)
Nearest computed pipe diameter  =     27.00(In.)
Calculated individual pipe flow  =    26.178(CFS)
Normal flow depth in pipe =   18.89(In.)
Flow top width inside pipe =   24.75(In.)
Critical Depth =   21.43(In.)
Pipe flow velocity =      8.82(Ft/s)
Travel time through pipe =    1.20 min.
Time of concentration (TC) =    12.03 min.
End of computations, total study area =           12.40 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  56.0
```

100-YEAR ONSITE HYDROLOGY (RATIONAL METHOD)

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 12/01/21 File:300.out

BCCOV BLDG B
100-YEAR STORM EVENT 300 SERIES
21-0034 DEVELOPED CONDITION
2021-12-01 EP

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 4010

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Calimesa] area used.
10 year storm 10 minute intensity = 2.440(In/Hr)
10 year storm 60 minute intensity = 0.910(In/Hr)
100 year storm 10 minute intensity = 3.620(In/Hr)
100 year storm 60 minute intensity = 1.350(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.350(In/Hr)
Slope of intensity duration curve = 0.5500

++

Process from Point/Station 300.000 to Point/Station 301.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 656.000(Ft.)
Top (of initial area) elevation = 2227.100(Ft.)
Bottom (of initial area) elevation = 2220.100(Ft.)
Difference in elevation = 7.000(Ft.)
Slope = 0.01067 s(percent)= 1.07
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 9.960 min.
Rainfall intensity = 3.625(In/Hr) for a 100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.880
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 56.00
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 10.843(CFS)
Total initial stream area = 3.400(Ac.)
Pervious area fraction = 0.100

++

Process from Point/Station 301.000 to Point/Station 302.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2216.500(Ft.)
Downstream point/station elevation = 2215.600(Ft.)
Pipe length = 295.00(Ft.) Manning's N = 0.013

```
No. of pipes = 1  Required pipe flow  =    10.843(CFS)
Nearest computed pipe diameter  =     24.00(In.)
Calculated individual pipe flow  =    10.843(CFS)
Normal flow depth in pipe =   17.27(In.)
Flow top width inside pipe =   21.56(In.)
Critical Depth =   14.16(In.)
Pipe flow velocity =      4.48(Ft/s)
Travel time through pipe =    1.10 min.
Time of concentration (TC) =    11.06 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      302.000 to Point/Station      302.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      3.400(Ac.)
Runoff from this stream =     10.843(CFS)
Time of concentration =   11.06 min.
Rainfall intensity =     3.422(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      303.000 to Point/Station      304.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   565.000(Ft.)
Top (of initial area) elevation =  2227.100(Ft.)
Bottom (of initial area) elevation =  2220.100(Ft.)
Difference in elevation =     7.000(Ft.)
Slope =    0.01239  s(percent)=       1.24
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.106 min.
Rainfall intensity =      3.808(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.885
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.600
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.400
RI index for soil(AMC 2)  =  63.60
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     16.849(CFS)
Total initial stream area =        5.000(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      304.000 to Point/Station      302.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2216.000(Ft.)
Downstream point/station elevation =  2215.600(Ft.)
Pipe length  =    14.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    16.849(CFS)
Nearest computed pipe diameter  =     18.00(In.)
Calculated individual pipe flow  =    16.849(CFS)
Normal flow depth in pipe =   13.99(In.)
Flow top width inside pipe =   14.98(In.)
Critical depth could not be calculated.
Pipe flow velocity =     11.43(Ft/s)
Travel time through pipe =    0.02 min.
Time of concentration (TC) =     9.13 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      302.000 to Point/Station      302.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      5.000(Ac.)
Runoff from this stream =     16.849(CFS)
Time of concentration =    9.13 min.
Rainfall intensity =     3.803(In/Hr)
Summary of stream data:
```

```
Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1       10.843     11.06                3.422
2       16.849      9.13                3.803
Largest stream flow has longer or shorter time of concentration
Qp =     16.849 + sum of
          Qa          Tb/Ta
          10.843 *    0.825 =      8.950
Qp =     25.799

Total of 2 streams to confluence:
Flow rates before confluence point:
      10.843      16.849
Area of streams before confluence:
        3.400        5.000
Results of confluence:
Total flow rate =     25.799(CFS)
Time of concentration =     9.126 min.
Effective stream area after confluence =      8.400(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      302.000 to Point/Station      305.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2215.600(Ft.)
Downstream point/station elevation =  2214.000(Ft.)
Pipe length  =   530.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    25.799(CFS)
Nearest computed pipe diameter  =     33.00(In.)
Calculated individual pipe flow  =    25.799(CFS)
Normal flow depth in pipe =   24.19(In.)
Flow top width inside pipe =   29.20(In.)
Critical Depth =   20.19(In.)
Pipe flow velocity =      5.53(Ft/s)
Travel time through pipe =    1.60 min.
Time of concentration (TC) =    10.72 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      305.000 to Point/Station      305.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      8.400(Ac.)
Runoff from this stream =     25.799(CFS)
Time of concentration =   10.72 min.
Rainfall intensity =     3.480(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      306.000 to Point/Station      307.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   440.000(Ft.)
Top (of initial area) elevation =  2226.900(Ft.)
Bottom (of initial area) elevation =  2222.500(Ft.)
Difference in elevation =     4.400(Ft.)
Slope =    0.01000  s(percent)=       1.00
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    8.600 min.
Rainfall intensity =      3.930(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.886
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.450
Decimal fraction soil group C = 0.300
Decimal fraction soil group D = 0.250
RI index for soil(AMC 2)  =  64.65
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     12.532(CFS)
Total initial stream area =        3.600(Ac.)
```

```
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      307.000 to Point/Station      305.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  2218.500(Ft.)
Downstream point/station elevation =  2214.000(Ft.)
Pipe length  =    80.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    12.532(CFS)
Nearest computed pipe diameter  =     15.00(In.)
Calculated individual pipe flow  =    12.532(CFS)
Normal flow depth in pipe =   10.31(In.)
Flow top width inside pipe =   13.91(In.)
Critical depth could not be calculated.
Pipe flow velocity =     13.92(Ft/s)
Travel time through pipe =    0.10 min.
Time of concentration (TC) =     8.70 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      305.000 to Point/Station      305.000
**** CONFLUENCE OF MINOR STREAMS ****
------------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      3.600(Ac.)
Runoff from this stream =     12.532(CFS)
Time of concentration =    8.70 min.
Rainfall intensity =     3.906(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1       25.799     10.72                 3.480
2       12.532      8.70                 3.906
Largest stream flow has longer time of concentration
Qp =     25.799 + sum of
          Qb         Ia/Ib
          12.532 *    0.891 =     11.167
Qp =     36.966

Total of 2 streams to confluence:
Flow rates before confluence point:
      25.799      12.532
Area of streams before confluence:
        8.400        3.600
Results of confluence:
Total flow rate =     36.966(CFS)
Time of concentration =    10.725 min.
Effective stream area after confluence =     12.000(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      305.000 to Point/Station      205.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  2214.000(Ft.)
Downstream point/station elevation =  2207.300(Ft.)
Pipe length  =  1168.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    36.966(CFS)
Nearest computed pipe diameter  =     33.00(In.)
Calculated individual pipe flow  =    36.966(CFS)
Normal flow depth in pipe =   25.03(In.)
Flow top width inside pipe =   28.25(In.)
Critical Depth =   24.29(In.)
Pipe flow velocity =      7.65(Ft/s)
Travel time through pipe =    2.54 min.
Time of concentration (TC) =    13.27 min.
End of computations, total study area =           12.00 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
```

```
Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  61.8
```

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 12/01/21 File:350.out

BCCOV BLDG B
100-YEAR STORM EVENT 350 SERIES
21-0034 DEVELOPED CONDITION
2021-12-01 EP

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 4010

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Calimesa] area used.
10 year storm 10 minute intensity = 2.440(In/Hr)
10 year storm 60 minute intensity = 0.910(In/Hr)
100 year storm 10 minute intensity = 3.620(In/Hr)
100 year storm 60 minute intensity = 1.350(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.350(In/Hr)
Slope of intensity duration curve = 0.5500

++

Process from Point/Station 350.000 to Point/Station 351.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 450.000(Ft.)
Top (of initial area) elevation = 2227.900(Ft.)
Bottom (of initial area) elevation = 2223.400(Ft.)
Difference in elevation = 4.500(Ft.)
Slope = 0.01000 s(percent)= 1.00
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 8.678 min.
Rainfall intensity = 3.910(In/Hr) for a 100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.881
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 56.00
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 16.879(CFS)
Total initial stream area = 4.900(Ac.)
Pervious area fraction = 0.100

++

Process from Point/Station 351.000 to Point/Station 352.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2220.400(Ft.)
Downstream point/station elevation = 2213.900(Ft.)
Pipe length = 635.00(Ft.) Manning's N = 0.013

```
No. of pipes = 1  Required pipe flow  =    16.879(CFS)
Nearest computed pipe diameter  =     24.00(In.)
Calculated individual pipe flow  =    16.879(CFS)
Normal flow depth in pipe =   15.33(In.)
Flow top width inside pipe =   23.06(In.)
Critical Depth =   17.78(In.)
Pipe flow velocity =      7.97(Ft/s)
Travel time through pipe =    1.33 min.
Time of concentration (TC) =    10.01 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      352.000 to Point/Station      352.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      4.900(Ac.)
Runoff from this stream =     16.879(CFS)
Time of concentration =   10.01 min.
Rainfall intensity =     3.616(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      353.000 to Point/Station      354.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   755.000(Ft.)
Top (of initial area) elevation =  2227.100(Ft.)
Bottom (of initial area) elevation =  2220.000(Ft.)
Difference in elevation =     7.100(Ft.)
Slope =    0.00940  s(percent)=       0.94
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   10.805 min.
Rainfall intensity =      3.466(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.879
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     22.852(CFS)
Total initial stream area =        7.500(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      354.000 to Point/Station      352.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2216.000(Ft.)
Downstream point/station elevation =  2213.900(Ft.)
Pipe length  =    21.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    22.852(CFS)
Nearest computed pipe diameter  =     18.00(In.)
Calculated individual pipe flow  =    22.852(CFS)
Normal flow depth in pipe =   10.97(In.)
Flow top width inside pipe =   17.56(In.)
Critical depth could not be calculated.
Pipe flow velocity =     20.26(Ft/s)
Travel time through pipe =    0.02 min.
Time of concentration (TC) =    10.82 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      352.000 to Point/Station      352.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      7.500(Ac.)
Runoff from this stream =     22.852(CFS)
Time of concentration =   10.82 min.
Rainfall intensity =     3.463(In/Hr)
Summary of stream data:
```

```
Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)

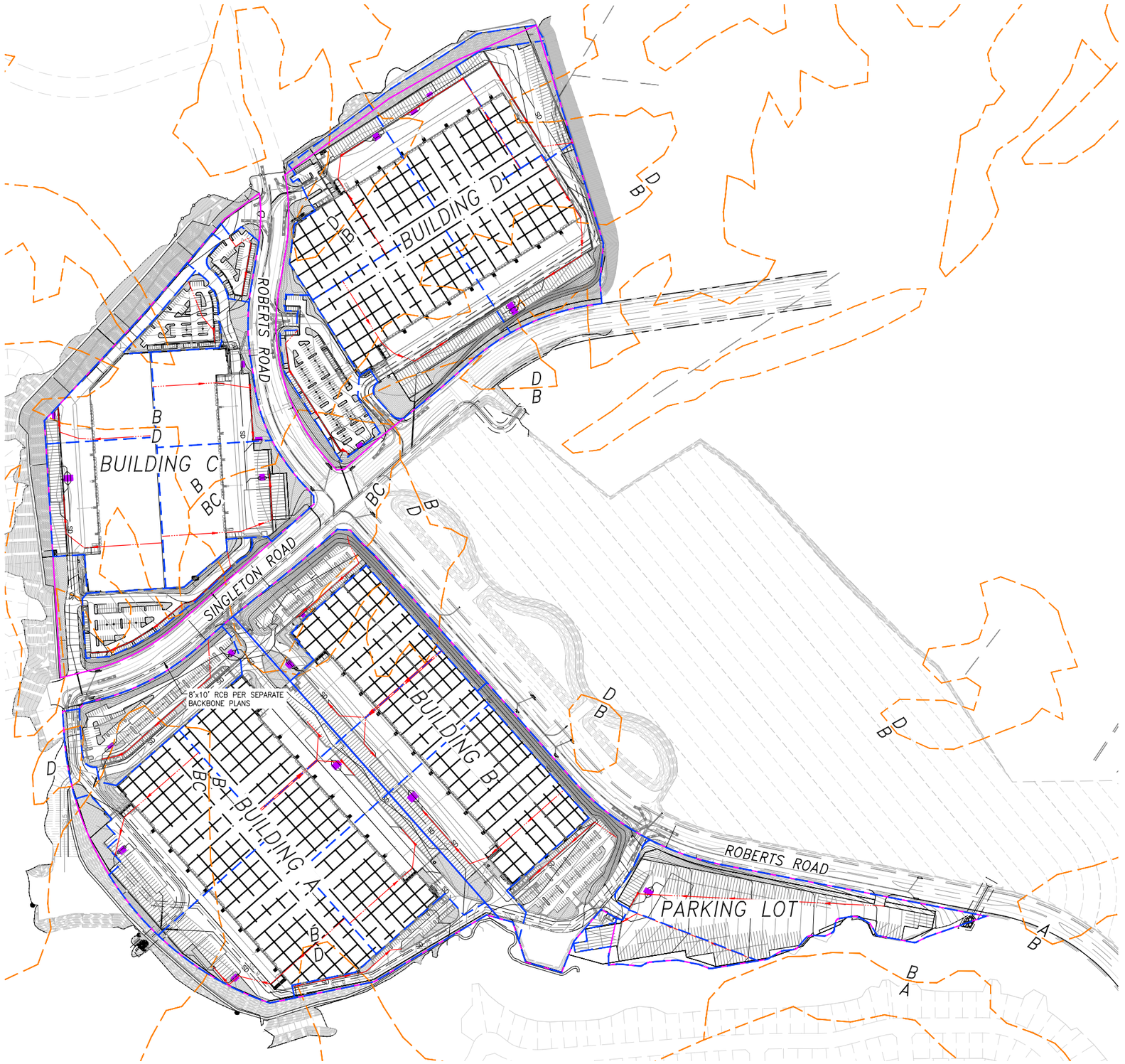

1       16.879     10.01                3.616
2       22.852     10.82                3.463
Largest stream flow has longer time of concentration
Qp =     22.852 + sum of
          Qb         Ia/Ib
          16.879 *    0.958 =     16.166
Qp =     39.018

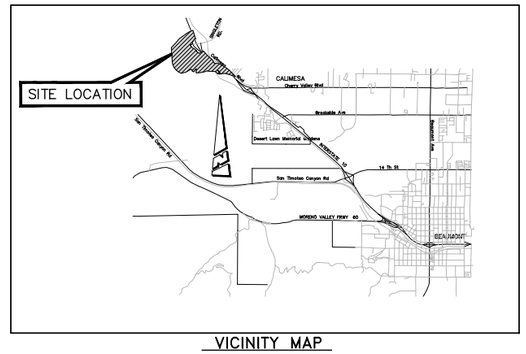
Total of 2 streams to confluence:
Flow rates before confluence point:
      16.879      22.852
Area of streams before confluence:
        4.900        7.500
Results of confluence:
Total flow rate =     39.018(CFS)
Time of concentration =    10.823 min.
Effective stream area after confluence =     12.400(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      352.000 to Point/Station      355.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =  2213.900(Ft.)
Downstream point/station elevation =  2207.400(Ft.)
Pipe length  =   636.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    39.018(CFS)
Nearest computed pipe diameter  =     30.00(In.)
Calculated individual pipe flow  =    39.018(CFS)
Normal flow depth in pipe =   23.16(In.)
Flow top width inside pipe =   25.18(In.)
Critical Depth =   25.29(In.)
Pipe flow velocity =      9.61(Ft/s)
Travel time through pipe =    1.10 min.
Time of concentration (TC) =    11.93 min.
End of computations, total study area =           12.40 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  56.0
```

RATIONAL METHOD HYDROLOGY MAPS





VICINITY MAP

N.T.S.

T2S, R2W, SECTION 23,24,25,26

GENERAL NOTES:

1. OVERALL BLCOV PROJECT AREA WILL BE MASS GRADED AND BACKBONE IMPROVEMENTS WILL BE CONSTRUCTED PRIOR TO ANY CONSTRUCTION COMMENCING FOR THE BUILDING A, BUILDING B, BUILDING C, BUILDING D, OR PARKING LOT PROJECTS.
2. EXISTING CONTOURS SHOWN IN EXHIBITS ARE TAKEN FROM THE MASS GRADING PLAN FOR PARCEL MAP 37862.

LEGEND

- NODE / ELEV – NODE NUMBER / ELEVATION (FT)
- AC / FT – AREA (AC) / LENGTH (FT)
- DRAINAGE AREA BOUNDARY (PROPOSED)
- FLOWLINE (PROPOSED)
- PROJECT BOUNDARY
- NRCS SOIL BOUNDARY
- MWS TREATMENT VAULT (SEE PWQMP)

N
W WEBB E
S

1" = 200'

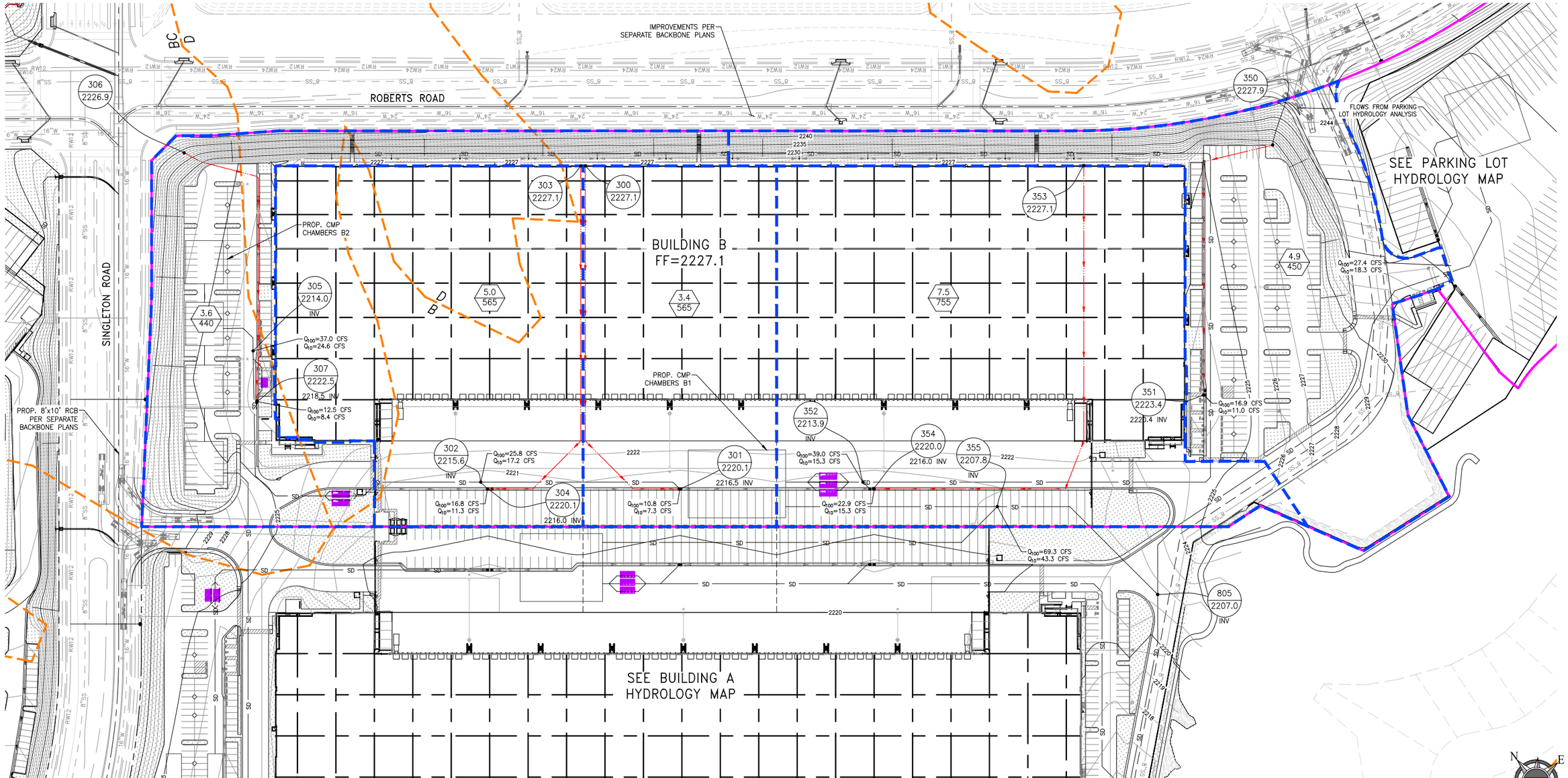
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CITY OF CALIMESA, COUNTY OF RIVERSIDE
BIRTCHER COMMERCE CENTER OAK VALLEY

OVERALL BCCOV SITE PLAN
INDUSTRIAL DEVELOPMENT
DEVELOPED CONDITION
PRELIMINARY RATIONAL METHOD EXHIBIT

SCALE: 1" = 200'	ALBERT A. WEBB ASSOCIATES	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	W.O. 21-0034
DATE: 12/14/2020			SHEET 1
DESIGNED: EP			OF 2 SHEETS
CHECKED: BJV			DWG. NO.
PLN CK REF:			
F.B.			

H:\2021\21-0034\DRAINAGE\PHYD\DWG FOLDER\21-0034 PRELIM RATIONAL METHOD.DWG 12/6/2021 4:31:16 PM



LEGEND

- NODE / ELEV – NODE NUMBER / ELEVATION (FT)
- AC / FT – AREA (AC) / LENGTH (FT)
- DRAINAGE AREA BOUNDARY (PROPOSED)
- FLOWLINE (PROPOSED)
- PROJECT BOUNDARY
- NRCS SOIL BOUNDARY
- MWS TREATMENT VAULT (SEE PWQMP)

1" = 70'

70 0 70 140 210

CITY OF CALIMESA, COUNTY OF RIVERSIDE
BIRTCHER COMMERCE CENTER OAK VALLEY

BCCOV – BUILDING B
INDUSTRIAL DEVELOPMENT
DEVELOPED CONDITION
PRELIMINARY RATIONAL METHOD EXHIBIT

SCALE:	1"=70'
DATE:	5/3/2021
DESIGNED:	EP
CHECKED:	BJV
PLN CK REF:	
F.B.	

ALBERT A. WEBB ASSOCIATES
ENGINEERING CONSULTANTS
3788 McCRAY STREET
RIVERSIDE, CA. 92506
PH. (951) 686-1070
FAX (951) 788-1256

W.O.	21-0034
SHEET	2
OF	2 SHEETS
DWG. NO.	

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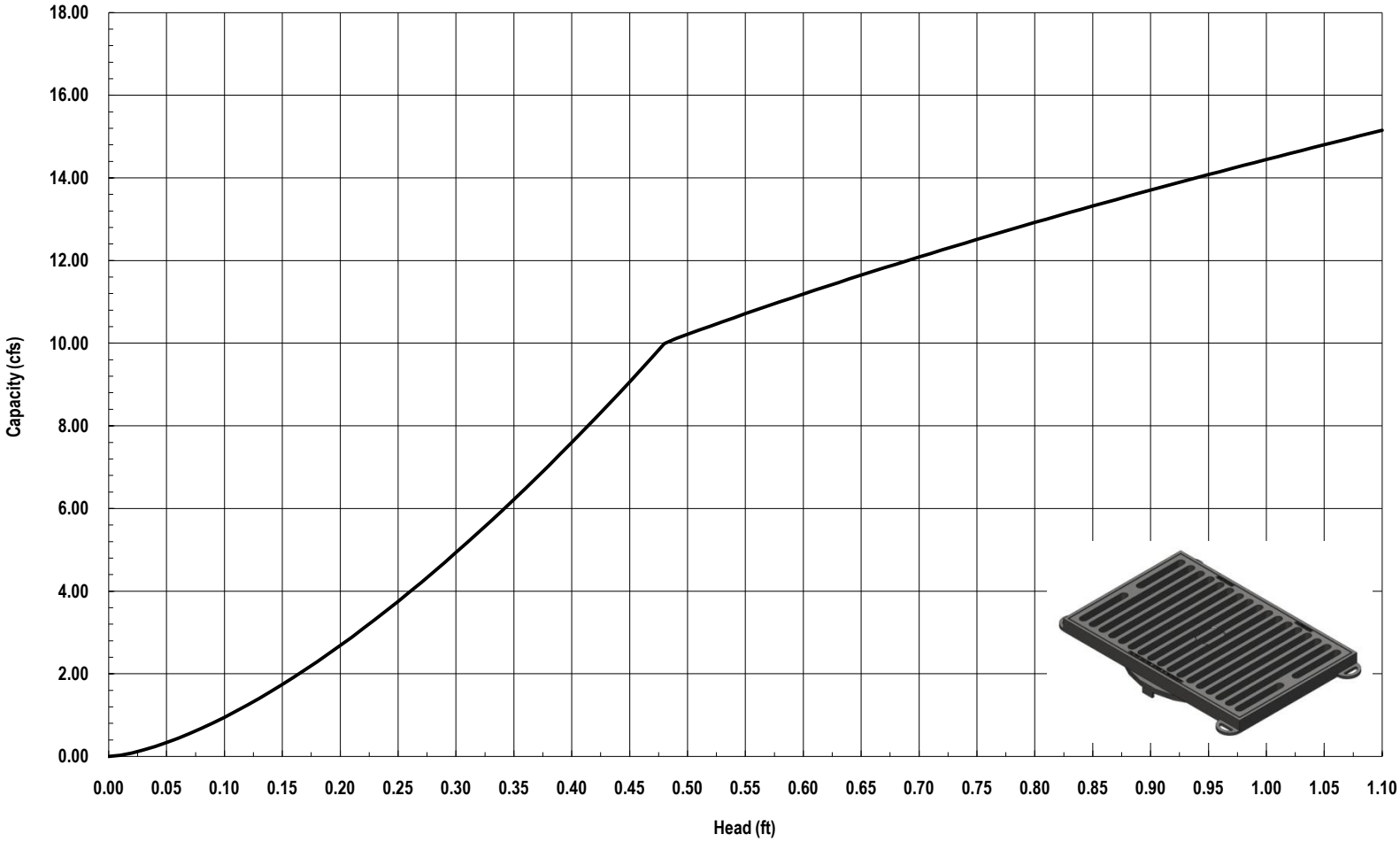
APPENDIX B – HYDRAULIC ANALYSIS

Hydraulic calculations to be provided in Final Engineering.

PRELIMINARY INLET CHARTS

IN FINAL ENGINEERING, EACH INLET WILL BE EVALUATED

Nyloplast 2' x 3' Road & Highway Grate Inlet Capacity Chart



PRELIMINARY Qs

Q= CFS

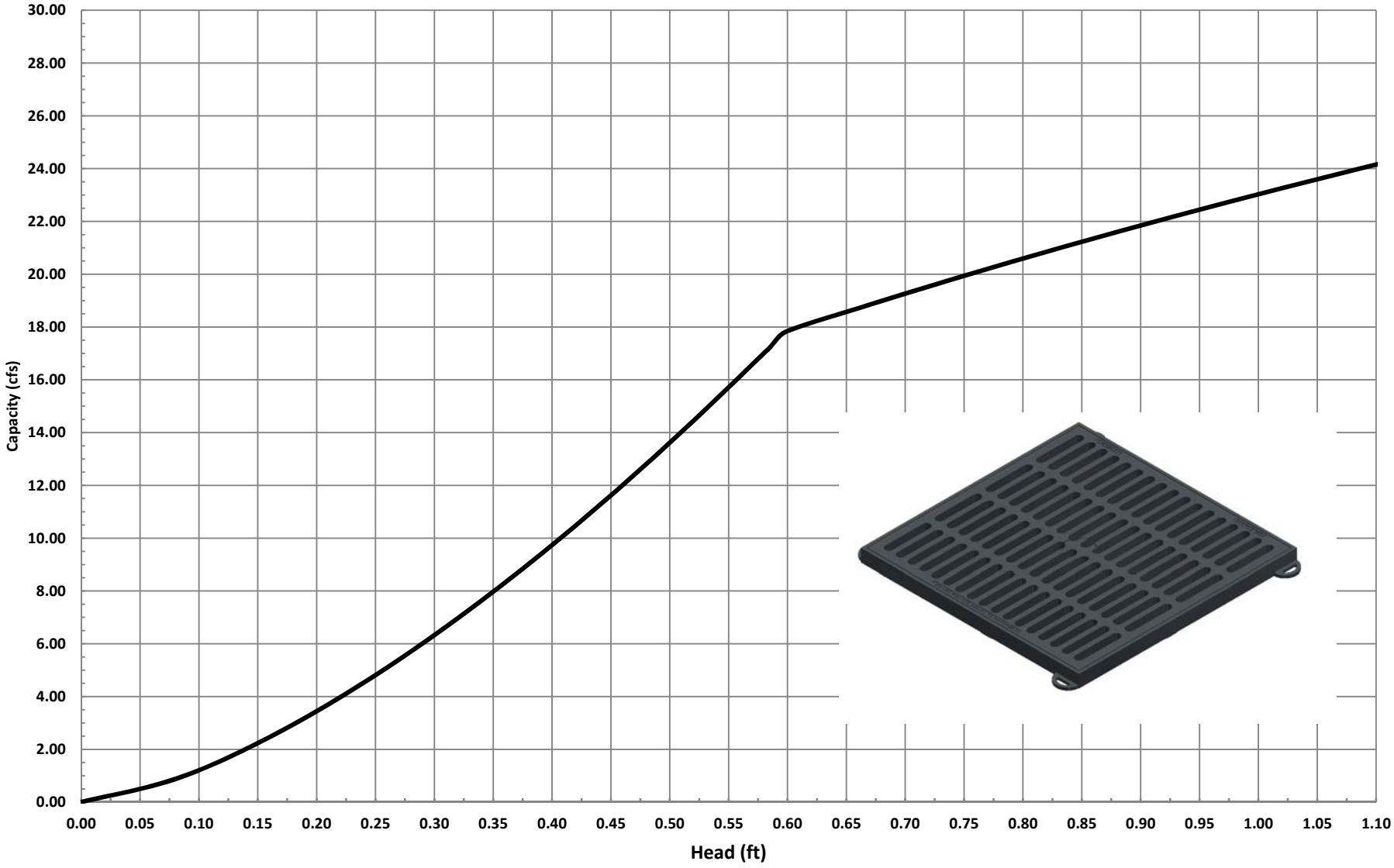
$Q_{2\text{-GRATES}}$= Q/2 = CFS

$Q_{1.5\text{-CLOGGING FACTOR}}$= Q*1.5 =

Nyloplast®
3130 Verona Avenue • Buford, GA 30518
(866) 888-8479 / (770) 932-2443 • Fax: (770) 932-2490
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IN FINAL ENGINEERING, EACH INLET WILL BE EVALUATED

Nyloplast 3' x 3' Road & Highway Inlet Capacity Chart



PRELIMINARY Qs
Q= CFS
$Q_{2\text{-GRATES}}$= Q/2 = CFS
$Q_{1.5\text{-CLOGGING FACTOR}}$= Q*1.5 =

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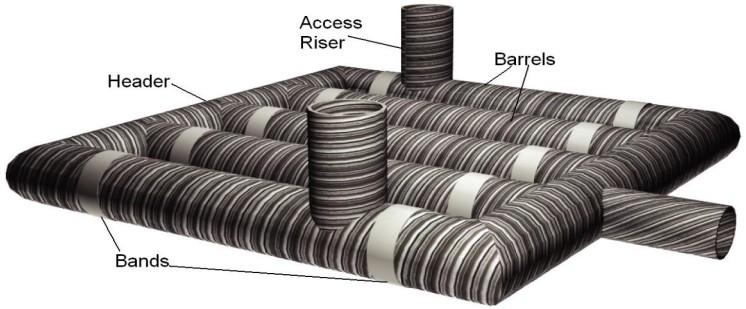
CMP CHAMBER SIZING

DYODS™
Design Your Own Detention System

CONTECH CMP DETENTION SYSTEMS

CONTECH CONSTRUCTION PRODUCTS INC.

For design assistance, drawings,
and pricing send completed worksheet to:
dyods@contech-cpi.com



Project Summary

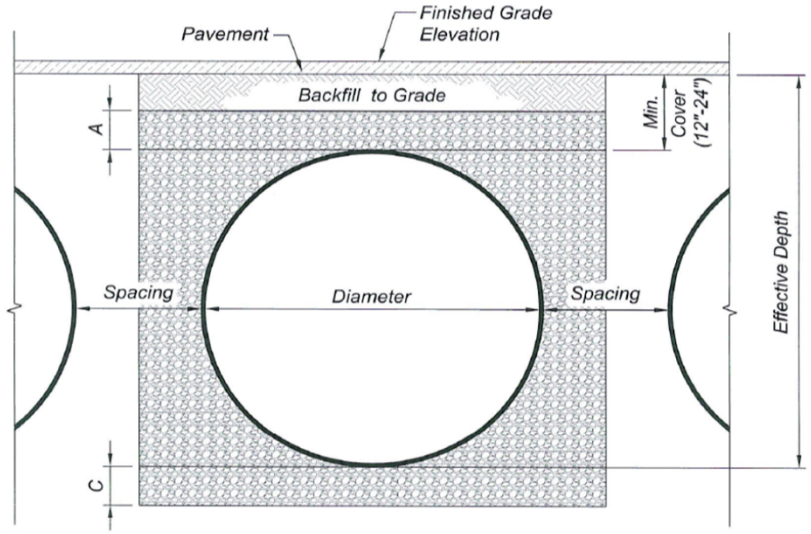
Date:	12/1/2021
Project Name:	BCCOV BLDG B AREA 3
City / County:	Calimesa
State:	CA
Designed By:	EP
Company:	Albert A. Webb Associates
Telephone:	

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	65,000
Limiting Width (ft):	100.00
Invert Depth Below Asphalt (ft):	10.00
Solid or Perforated Pipe:	Solid
Shape Or Diameter (in):	96
Number Of Headers:	2
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	0
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	65,295	cf	
Porous Stone Storage:	0	cf	
Total Storage Provided:	65,295	cf	100.5% Of Required Storage
Number of Barrels:	9	barrels	
Length per Barrel:	123.0	ft	
Length Per Header:	96.0	ft	
Rectangular Footprint (W x L):	99. ft x 142. ft		

CONTECH Materials

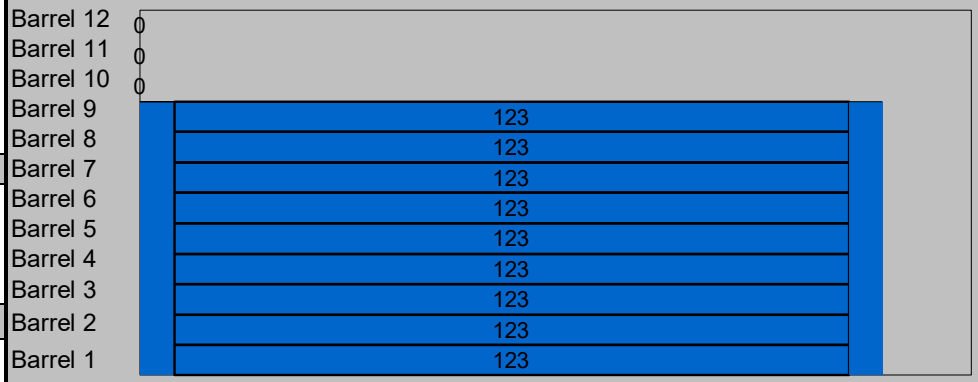
Total CMP Footage:	1,299	ft
Approximate Total Pieces:	62	pcs
Approximate Coupling Bands:	69	bands
Approximate Truckloads:	31	trucks

Construction Quantities**

Total Excavation:	5207	cy
Porous Stone Backfill For Storage:	0	cy stone
Backfill to Grade Excluding Stone:	2789	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



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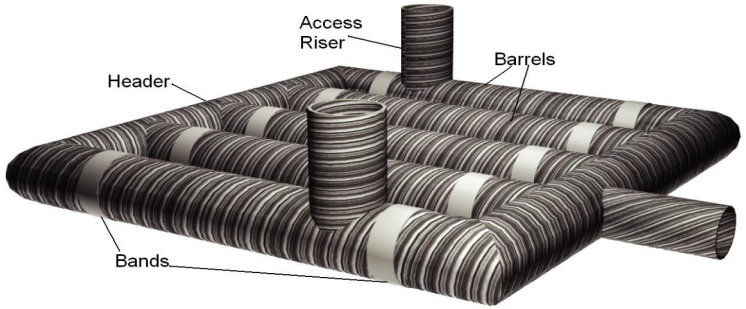
CMP CHAMBERS B2

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Project Summary

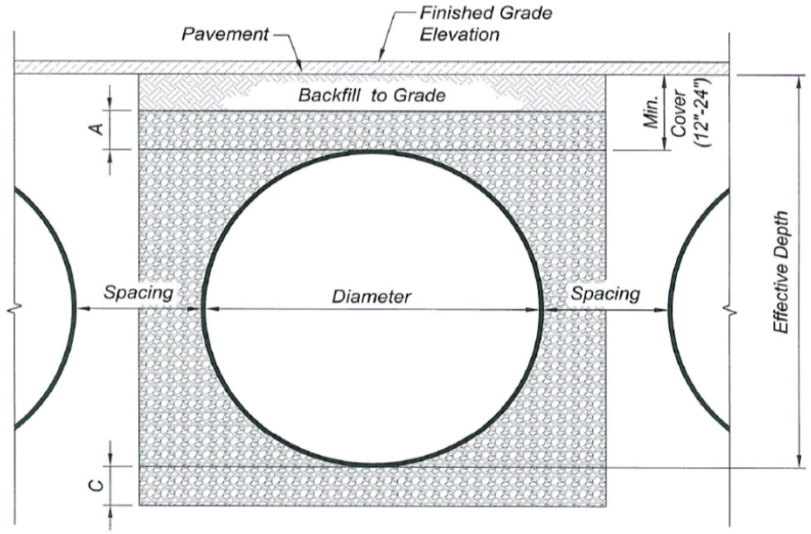
Date:	12/6/2021
Project Name:	BCCOV BLDG B AREA 7
City / County:	Calimesa
State:	CA
Designed By:	EP
Company:	Albert A. Webb Associates
Telephone:	

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	16,250
Limiting Width (ft):	60.00
Invert Depth Below Asphalt (ft):	10.00
Solid or Perforated Pipe:	Solid
Shape Or Diameter (in):	96
Number Of Headers:	2
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	0
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	16,286	cf	
Porous Stone Storage:	0	cf	
Total Storage Provided:	16,286	cf	100.2% Of Required Storage
Number of Barrels:	5	barrels	
Length per Barrel:	44.0	ft	
Length Per Header:	52.0	ft	
Rectangular Footprint (W x L):	55. ft x 63. ft		

CONTECH Materials

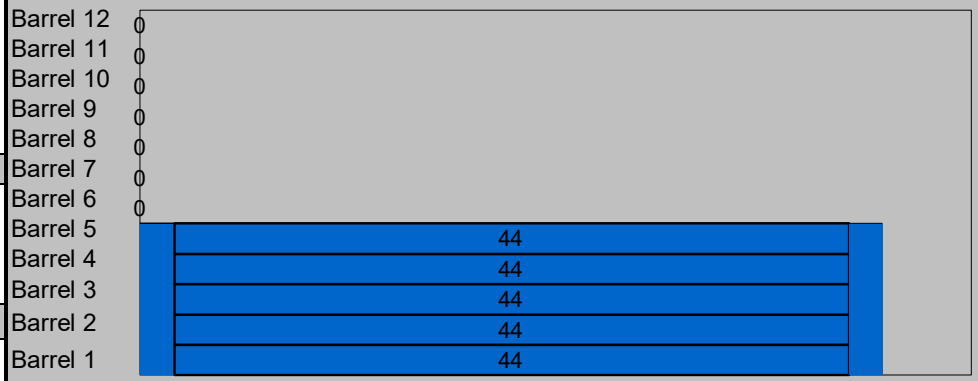
Total CMP Footage:	324	ft
Approximate Total Pieces:	16	pcs
Approximate Coupling Bands:	19	bands
Approximate Truckloads:	8	trucks

Construction Quantities**

Total Excavation:	1284	cy
Porous Stone Backfill For Storage:	0	cy stone
Backfill to Grade Excluding Stone:	681	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



FOUR CHAMBER SYSTEMS CONNECTED BY AN EQUALIZER PIPE ARE PROPOSED TO DETAIN A TOTAL 65,000 CF

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APPENDIX C –UNIT HYDROGRAPH AND ROUTING

EXISTING CONDITION UNIT HYDROGRAPHS (2-YEAR, 24-HOUR STORM)

U n i t H y d r o g r a p h A n a l y s i s

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Study date 11/24/21 File: EX2YRA1242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 4010

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

BCCOV AREA A1 EXISTING CONDITION
2-YEAR 24 HOUR STORM EVENT
21-0034
2021-11-22 EP

Drainage Area = 37.70(Ac.) = 0.059 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 37.70(Ac.) = 0.059 Sq. Mi.
Length along longest watercourse = 3231.00(Ft.)
Length along longest watercourse measured to centroid = 1394.00(Ft.)
Length along longest watercourse = 0.612 Mi.
Length along longest watercourse measured to centroid = 0.264 Mi.
Difference in elevation = 45.30(Ft.)
Slope along watercourse = 74.0279 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.159 Hr.
Lag time = 9.54 Min.
25% of lag time = 2.38 Min.
40% of lag time = 3.82 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
37.70	2.40	90.48

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
37.70	6.20	233.74

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.200(In)

Point rain (area averaged) = 2.400(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.400(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
37.700	86.20	0.000

Total Area Entered = 37.70(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

86.2	71.9	0.339	0.000	0.339	1.000	0.339
					Sum (F) =	0.339

Area averaged mean soil loss (F) (In/Hr) = 0.339
Minimum soil loss rate ((In/Hr)) = 0.170
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	52.421	4.579	1.740
2	0.167	104.842	23.119	8.784
3	0.250	157.263	37.515	14.254
4	0.333	209.684	13.955	5.302
5	0.417	262.105	8.053	3.060
6	0.500	314.526	5.188	1.971
7	0.583	366.947	3.309	1.257
8	0.667	419.368	1.927	0.732
9	0.750	471.789	0.794	0.302
10	0.833	524.210	0.520	0.197
11	0.917	576.631	0.358	0.136
12	1.000	629.052	0.374	0.142
13	1.083	681.473	0.212	0.080
14	1.167	733.894	0.098	0.037
			Sum = 100.000	Sum= 37.995

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.019	(0.602)	0.017	0.002
2	0.17	0.07	0.019	(0.599)	0.017	0.002
3	0.25	0.07	0.019	(0.597)	0.017	0.002
4	0.33	0.10	0.029	(0.595)	0.026	0.003
5	0.42	0.10	0.029	(0.592)	0.026	0.003
6	0.50	0.10	0.029	(0.590)	0.026	0.003
7	0.58	0.10	0.029	(0.588)	0.026	0.003
8	0.67	0.10	0.029	(0.585)	0.026	0.003
9	0.75	0.10	0.029	(0.583)	0.026	0.003
10	0.83	0.13	0.038	(0.581)	0.035	0.004
11	0.92	0.13	0.038	(0.579)	0.035	0.004
12	1.00	0.13	0.038	(0.576)	0.035	0.004
13	1.08	0.10	0.029	(0.574)	0.026	0.003
14	1.17	0.10	0.029	(0.572)	0.026	0.003
15	1.25	0.10	0.029	(0.569)	0.026	0.003
16	1.33	0.10	0.029	(0.567)	0.026	0.003
17	1.42	0.10	0.029	(0.565)	0.026	0.003
18	1.50	0.10	0.029	(0.563)	0.026	0.003
19	1.58	0.10	0.029	(0.560)	0.026	0.003
20	1.67	0.10	0.029	(0.558)	0.026	0.003
21	1.75	0.10	0.029	(0.556)	0.026	0.003
22	1.83	0.13	0.038	(0.554)	0.035	0.004
23	1.92	0.13	0.038	(0.551)	0.035	0.004
24	2.00	0.13	0.038	(0.549)	0.035	0.004
25	2.08	0.13	0.038	(0.547)	0.035	0.004
26	2.17	0.13	0.038	(0.545)	0.035	0.004
27	2.25	0.13	0.038	(0.543)	0.035	0.004
28	2.33	0.13	0.038	(0.540)	0.035	0.004
29	2.42	0.13	0.038	(0.538)	0.035	0.004
30	2.50	0.13	0.038	(0.536)	0.035	0.004
31	2.58	0.17	0.048	(0.534)	0.043	0.005
32	2.67	0.17	0.048	(0.532)	0.043	0.005
33	2.75	0.17	0.048	(0.529)	0.043	0.005
34	2.83	0.17	0.048	(0.527)	0.043	0.005
35	2.92	0.17	0.048	(0.525)	0.043	0.005
36	3.00	0.17	0.048	(0.523)	0.043	0.005

37	3.08	0.17	0.048	(0.521)	0.043	0.005
38	3.17	0.17	0.048	(0.519)	0.043	0.005
39	3.25	0.17	0.048	(0.516)	0.043	0.005
40	3.33	0.17	0.048	(0.514)	0.043	0.005
41	3.42	0.17	0.048	(0.512)	0.043	0.005
42	3.50	0.17	0.048	(0.510)	0.043	0.005
43	3.58	0.17	0.048	(0.508)	0.043	0.005
44	3.67	0.17	0.048	(0.506)	0.043	0.005
45	3.75	0.17	0.048	(0.504)	0.043	0.005
46	3.83	0.20	0.058	(0.501)	0.052	0.006
47	3.92	0.20	0.058	(0.499)	0.052	0.006
48	4.00	0.20	0.058	(0.497)	0.052	0.006
49	4.08	0.20	0.058	(0.495)	0.052	0.006
50	4.17	0.20	0.058	(0.493)	0.052	0.006
51	4.25	0.20	0.058	(0.491)	0.052	0.006
52	4.33	0.23	0.067	(0.489)	0.060	0.007
53	4.42	0.23	0.067	(0.487)	0.060	0.007
54	4.50	0.23	0.067	(0.485)	0.060	0.007
55	4.58	0.23	0.067	(0.483)	0.060	0.007
56	4.67	0.23	0.067	(0.480)	0.060	0.007
57	4.75	0.23	0.067	(0.478)	0.060	0.007
58	4.83	0.27	0.077	(0.476)	0.069	0.008
59	4.92	0.27	0.077	(0.474)	0.069	0.008
60	5.00	0.27	0.077	(0.472)	0.069	0.008
61	5.08	0.20	0.058	(0.470)	0.052	0.006
62	5.17	0.20	0.058	(0.468)	0.052	0.006
63	5.25	0.20	0.058	(0.466)	0.052	0.006
64	5.33	0.23	0.067	(0.464)	0.060	0.007
65	5.42	0.23	0.067	(0.462)	0.060	0.007
66	5.50	0.23	0.067	(0.460)	0.060	0.007
67	5.58	0.27	0.077	(0.458)	0.069	0.008
68	5.67	0.27	0.077	(0.456)	0.069	0.008
69	5.75	0.27	0.077	(0.454)	0.069	0.008
70	5.83	0.27	0.077	(0.452)	0.069	0.008
71	5.92	0.27	0.077	(0.450)	0.069	0.008
72	6.00	0.27	0.077	(0.448)	0.069	0.008
73	6.08	0.30	0.086	(0.446)	0.078	0.009
74	6.17	0.30	0.086	(0.444)	0.078	0.009
75	6.25	0.30	0.086	(0.442)	0.078	0.009
76	6.33	0.30	0.086	(0.440)	0.078	0.009
77	6.42	0.30	0.086	(0.438)	0.078	0.009
78	6.50	0.30	0.086	(0.436)	0.078	0.009
79	6.58	0.33	0.096	(0.434)	0.086	0.010
80	6.67	0.33	0.096	(0.432)	0.086	0.010
81	6.75	0.33	0.096	(0.430)	0.086	0.010
82	6.83	0.33	0.096	(0.428)	0.086	0.010
83	6.92	0.33	0.096	(0.426)	0.086	0.010
84	7.00	0.33	0.096	(0.424)	0.086	0.010
85	7.08	0.33	0.096	(0.422)	0.086	0.010
86	7.17	0.33	0.096	(0.421)	0.086	0.010
87	7.25	0.33	0.096	(0.419)	0.086	0.010
88	7.33	0.37	0.106	(0.417)	0.095	0.011
89	7.42	0.37	0.106	(0.415)	0.095	0.011
90	7.50	0.37	0.106	(0.413)	0.095	0.011
91	7.58	0.40	0.115	(0.411)	0.104	0.012
92	7.67	0.40	0.115	(0.409)	0.104	0.012
93	7.75	0.40	0.115	(0.407)	0.104	0.012
94	7.83	0.43	0.125	(0.405)	0.112	0.012
95	7.92	0.43	0.125	(0.403)	0.112	0.012
96	8.00	0.43	0.125	(0.402)	0.112	0.012
97	8.08	0.50	0.144	(0.400)	0.130	0.014
98	8.17	0.50	0.144	(0.398)	0.130	0.014
99	8.25	0.50	0.144	(0.396)	0.130	0.014
100	8.33	0.50	0.144	(0.394)	0.130	0.014
101	8.42	0.50	0.144	(0.392)	0.130	0.014
102	8.50	0.50	0.144	(0.390)	0.130	0.014
103	8.58	0.53	0.154	(0.389)	0.138	0.015
104	8.67	0.53	0.154	(0.387)	0.138	0.015
105	8.75	0.53	0.154	(0.385)	0.138	0.015
106	8.83	0.57	0.163	(0.383)	0.147	0.016
107	8.92	0.57	0.163	(0.381)	0.147	0.016
108	9.00	0.57	0.163	(0.380)	0.147	0.016
109	9.08	0.63	0.182	(0.378)	0.164	0.018
110	9.17	0.63	0.182	(0.376)	0.164	0.018
111	9.25	0.63	0.182	(0.374)	0.164	0.018

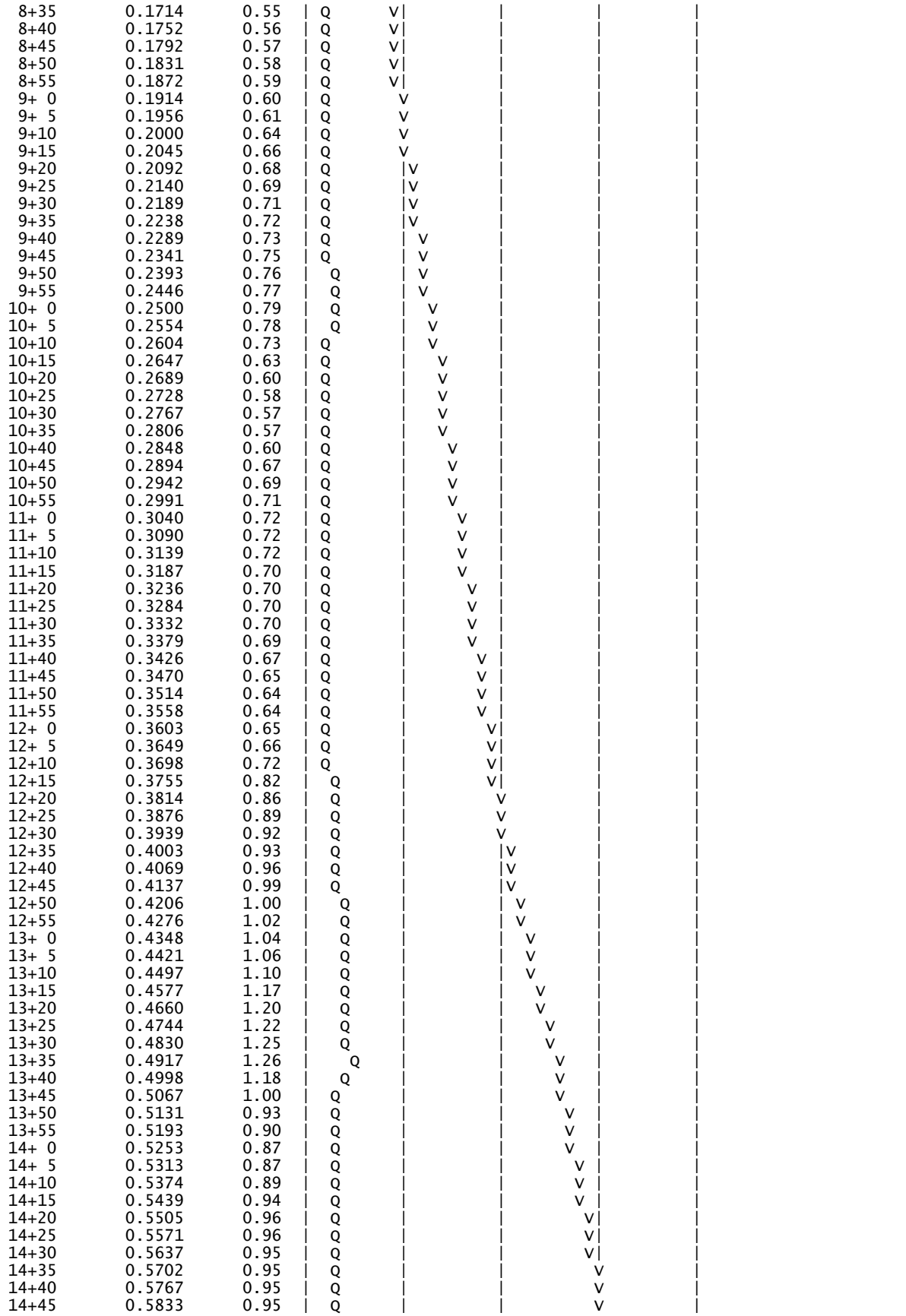
112	9.33	0.67	0.192	(0.372)	0.173	0.019
113	9.42	0.67	0.192	(0.371)	0.173	0.019
114	9.50	0.67	0.192	(0.369)	0.173	0.019
115	9.58	0.70	0.202	(0.367)	0.181	0.020
116	9.67	0.70	0.202	(0.365)	0.181	0.020
117	9.75	0.70	0.202	(0.364)	0.181	0.020
118	9.83	0.73	0.211	(0.362)	0.190	0.021
119	9.92	0.73	0.211	(0.360)	0.190	0.021
120	10.00	0.73	0.211	(0.358)	0.190	0.021
121	10.08	0.50	0.144	(0.357)	0.130	0.014
122	10.17	0.50	0.144	(0.355)	0.130	0.014
123	10.25	0.50	0.144	(0.353)	0.130	0.014
124	10.33	0.50	0.144	(0.351)	0.130	0.014
125	10.42	0.50	0.144	(0.350)	0.130	0.014
126	10.50	0.50	0.144	(0.348)	0.130	0.014
127	10.58	0.67	0.192	(0.346)	0.173	0.019
128	10.67	0.67	0.192	(0.345)	0.173	0.019
129	10.75	0.67	0.192	(0.343)	0.173	0.019
130	10.83	0.67	0.192	(0.341)	0.173	0.019
131	10.92	0.67	0.192	(0.340)	0.173	0.019
132	11.00	0.67	0.192	(0.338)	0.173	0.019
133	11.08	0.63	0.182	(0.336)	0.164	0.018
134	11.17	0.63	0.182	(0.335)	0.164	0.018
135	11.25	0.63	0.182	(0.333)	0.164	0.018
136	11.33	0.63	0.182	(0.331)	0.164	0.018
137	11.42	0.63	0.182	(0.330)	0.164	0.018
138	11.50	0.63	0.182	(0.328)	0.164	0.018
139	11.58	0.57	0.163	(0.326)	0.147	0.016
140	11.67	0.57	0.163	(0.325)	0.147	0.016
141	11.75	0.57	0.163	(0.323)	0.147	0.016
142	11.83	0.60	0.173	(0.322)	0.156	0.017
143	11.92	0.60	0.173	(0.320)	0.156	0.017
144	12.00	0.60	0.173	(0.318)	0.156	0.017
145	12.08	0.83	0.240	(0.317)	0.216	0.024
146	12.17	0.83	0.240	(0.315)	0.216	0.024
147	12.25	0.83	0.240	(0.314)	0.216	0.024
148	12.33	0.87	0.250	(0.312)	0.225	0.025
149	12.42	0.87	0.250	(0.310)	0.225	0.025
150	12.50	0.87	0.250	(0.309)	0.225	0.025
151	12.58	0.93	0.269	(0.307)	0.242	0.027
152	12.67	0.93	0.269	(0.306)	0.242	0.027
153	12.75	0.93	0.269	(0.304)	0.242	0.027
154	12.83	0.97	0.278	(0.303)	0.251	0.028
155	12.92	0.97	0.278	(0.301)	0.251	0.028
156	13.00	0.97	0.278	(0.300)	0.251	0.028
157	13.08	1.13	0.326	(0.298)	0.294	0.033
158	13.17	1.13	0.326	(0.297)	0.294	0.033
159	13.25	1.13	0.326	(0.295)	0.294	0.033
160	13.33	1.13	0.326	0.294	(0.294)	0.033
161	13.42	1.13	0.326	0.292	(0.294)	0.034
162	13.50	1.13	0.326	0.291	(0.294)	0.036
163	13.58	0.77	0.221	(0.289)	0.199	0.022
164	13.67	0.77	0.221	(0.288)	0.199	0.022
165	13.75	0.77	0.221	(0.286)	0.199	0.022
166	13.83	0.77	0.221	(0.285)	0.199	0.022
167	13.92	0.77	0.221	(0.283)	0.199	0.022
168	14.00	0.77	0.221	(0.282)	0.199	0.022
169	14.08	0.90	0.259	(0.280)	0.233	0.026
170	14.17	0.90	0.259	(0.279)	0.233	0.026
171	14.25	0.90	0.259	(0.278)	0.233	0.026
172	14.33	0.87	0.250	(0.276)	0.225	0.025
173	14.42	0.87	0.250	(0.275)	0.225	0.025
174	14.50	0.87	0.250	(0.273)	0.225	0.025
175	14.58	0.87	0.250	(0.272)	0.225	0.025
176	14.67	0.87	0.250	(0.271)	0.225	0.025
177	14.75	0.87	0.250	(0.269)	0.225	0.025
178	14.83	0.83	0.240	(0.268)	0.216	0.024
179	14.92	0.83	0.240	(0.266)	0.216	0.024
180	15.00	0.83	0.240	(0.265)	0.216	0.024
181	15.08	0.80	0.230	(0.264)	0.207	0.023
182	15.17	0.80	0.230	(0.262)	0.207	0.023
183	15.25	0.80	0.230	(0.261)	0.207	0.023
184	15.33	0.77	0.221	(0.260)	0.199	0.022
185	15.42	0.77	0.221	(0.258)	0.199	0.022
186	15.50	0.77	0.221	(0.257)	0.199	0.022

187	15.58	0.63	0.182	(0.256)	0.164	0.018
188	15.67	0.63	0.182	(0.254)	0.164	0.018
189	15.75	0.63	0.182	(0.253)	0.164	0.018
190	15.83	0.63	0.182	(0.252)	0.164	0.018
191	15.92	0.63	0.182	(0.250)	0.164	0.018
192	16.00	0.63	0.182	(0.249)	0.164	0.018
193	16.08	0.13	0.038	(0.248)	0.035	0.004
194	16.17	0.13	0.038	(0.247)	0.035	0.004
195	16.25	0.13	0.038	(0.245)	0.035	0.004
196	16.33	0.13	0.038	(0.244)	0.035	0.004
197	16.42	0.13	0.038	(0.243)	0.035	0.004
198	16.50	0.13	0.038	(0.242)	0.035	0.004
199	16.58	0.10	0.029	(0.240)	0.026	0.003
200	16.67	0.10	0.029	(0.239)	0.026	0.003
201	16.75	0.10	0.029	(0.238)	0.026	0.003
202	16.83	0.10	0.029	(0.237)	0.026	0.003
203	16.92	0.10	0.029	(0.236)	0.026	0.003
204	17.00	0.10	0.029	(0.234)	0.026	0.003
205	17.08	0.17	0.048	(0.233)	0.043	0.005
206	17.17	0.17	0.048	(0.232)	0.043	0.005
207	17.25	0.17	0.048	(0.231)	0.043	0.005
208	17.33	0.17	0.048	(0.230)	0.043	0.005
209	17.42	0.17	0.048	(0.229)	0.043	0.005
210	17.50	0.17	0.048	(0.227)	0.043	0.005
211	17.58	0.17	0.048	(0.226)	0.043	0.005
212	17.67	0.17	0.048	(0.225)	0.043	0.005
213	17.75	0.17	0.048	(0.224)	0.043	0.005
214	17.83	0.13	0.038	(0.223)	0.035	0.004
215	17.92	0.13	0.038	(0.222)	0.035	0.004
216	18.00	0.13	0.038	(0.221)	0.035	0.004
217	18.08	0.13	0.038	(0.220)	0.035	0.004
218	18.17	0.13	0.038	(0.219)	0.035	0.004
219	18.25	0.13	0.038	(0.217)	0.035	0.004
220	18.33	0.13	0.038	(0.216)	0.035	0.004
221	18.42	0.13	0.038	(0.215)	0.035	0.004
222	18.50	0.13	0.038	(0.214)	0.035	0.004
223	18.58	0.10	0.029	(0.213)	0.026	0.003
224	18.67	0.10	0.029	(0.212)	0.026	0.003
225	18.75	0.10	0.029	(0.211)	0.026	0.003
226	18.83	0.07	0.019	(0.210)	0.017	0.002
227	18.92	0.07	0.019	(0.209)	0.017	0.002
228	19.00	0.07	0.019	(0.208)	0.017	0.002
229	19.08	0.10	0.029	(0.207)	0.026	0.003
230	19.17	0.10	0.029	(0.206)	0.026	0.003
231	19.25	0.10	0.029	(0.205)	0.026	0.003
232	19.33	0.13	0.038	(0.204)	0.035	0.004
233	19.42	0.13	0.038	(0.203)	0.035	0.004
234	19.50	0.13	0.038	(0.202)	0.035	0.004
235	19.58	0.10	0.029	(0.202)	0.026	0.003
236	19.67	0.10	0.029	(0.201)	0.026	0.003
237	19.75	0.10	0.029	(0.200)	0.026	0.003
238	19.83	0.07	0.019	(0.199)	0.017	0.002
239	19.92	0.07	0.019	(0.198)	0.017	0.002
240	20.00	0.07	0.019	(0.197)	0.017	0.002
241	20.08	0.10	0.029	(0.196)	0.026	0.003
242	20.17	0.10	0.029	(0.195)	0.026	0.003
243	20.25	0.10	0.029	(0.194)	0.026	0.003
244	20.33	0.10	0.029	(0.194)	0.026	0.003
245	20.42	0.10	0.029	(0.193)	0.026	0.003
246	20.50	0.10	0.029	(0.192)	0.026	0.003
247	20.58	0.10	0.029	(0.191)	0.026	0.003
248	20.67	0.10	0.029	(0.190)	0.026	0.003
249	20.75	0.10	0.029	(0.190)	0.026	0.003
250	20.83	0.07	0.019	(0.189)	0.017	0.002
251	20.92	0.07	0.019	(0.188)	0.017	0.002
252	21.00	0.07	0.019	(0.187)	0.017	0.002
253	21.08	0.10	0.029	(0.187)	0.026	0.003
254	21.17	0.10	0.029	(0.186)	0.026	0.003
255	21.25	0.10	0.029	(0.185)	0.026	0.003
256	21.33	0.07	0.019	(0.184)	0.017	0.002
257	21.42	0.07	0.019	(0.184)	0.017	0.002
258	21.50	0.07	0.019	(0.183)	0.017	0.002
259	21.58	0.10	0.029	(0.182)	0.026	0.003
260	21.67	0.10	0.029	(0.182)	0.026	0.003
261	21.75	0.10	0.029	(0.181)	0.026	0.003

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262  21.83     0.07      0.019       (  0.180)       0.017        0.002
263  21.92     0.07      0.019       (  0.180)       0.017        0.002
264  22.00     0.07      0.019       (  0.179)       0.017        0.002
265  22.08     0.10      0.029       (  0.179)       0.026        0.003
266  22.17     0.10      0.029       (  0.178)       0.026        0.003
267  22.25     0.10      0.029       (  0.177)       0.026        0.003
268  22.33     0.07      0.019       (  0.177)       0.017        0.002
269  22.42     0.07      0.019       (  0.176)       0.017        0.002
270  22.50     0.07      0.019       (  0.176)       0.017        0.002
271  22.58     0.07      0.019       (  0.175)       0.017        0.002
272  22.67     0.07      0.019       (  0.175)       0.017        0.002
273  22.75     0.07      0.019       (  0.174)       0.017        0.002
274  22.83     0.07      0.019       (  0.174)       0.017        0.002
275  22.92     0.07      0.019       (  0.173)       0.017        0.002
276  23.00     0.07      0.019       (  0.173)       0.017        0.002
277  23.08     0.07      0.019       (  0.173)       0.017        0.002
278  23.17     0.07      0.019       (  0.172)       0.017        0.002
279  23.25     0.07      0.019       (  0.172)       0.017        0.002
280  23.33     0.07      0.019       (  0.172)       0.017        0.002
281  23.42     0.07      0.019       (  0.171)       0.017        0.002
282  23.50     0.07      0.019       (  0.171)       0.017        0.002
283  23.58     0.07      0.019       (  0.171)       0.017        0.002
284  23.67     0.07      0.019       (  0.170)       0.017        0.002
285  23.75     0.07      0.019       (  0.170)       0.017        0.002
286  23.83     0.07      0.019       (  0.170)       0.017        0.002
287  23.92     0.07      0.019       (  0.170)       0.017        0.002
288  24.00     0.07      0.019       (  0.170)       0.017        0.002
                (Loss Rate Not Used)
    Sum =     100.0                                  Sum =     2.9
      Flood volume = Effective rainfall      0.24(In)
       times area      37.7(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
      Total soil loss =      2.16(In)
      Total soil loss =     6.784(Ac.Ft)
      Total rainfall =      2.40(In)
      Flood volume =       32896.4 Cubic Feet
      Total soil loss =      295521.8 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      1.264(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0000      0.00  Q         |         |         |         |
   0+10       0.0002      0.02  Q         |         |         |         |
   0+15       0.0005      0.05  Q         |         |         |         |
   0+20       0.0009      0.06  Q         |         |         |         |
   0+25       0.0014      0.07  Q         |         |         |         |
   0+30       0.0020      0.09  Q         |         |         |         |
   0+35       0.0027      0.10  Q         |         |         |         |
   0+40       0.0034      0.10  Q         |         |         |         |
   0+45       0.0042      0.11  Q         |         |         |         |
   0+50       0.0049      0.11  Q         |         |         |         |
   0+55       0.0057      0.12  Q         |         |         |         |
   1+ 0       0.0066      0.13  Q         |         |         |         |
   1+ 5       0.0076      0.14  Q         |         |         |         |
   1+10       0.0085      0.13  Q         |         |         |         |
   1+15       0.0093      0.12  Q         |         |         |         |
   1+20       0.0101      0.12  Q         |         |         |         |
   1+25       0.0109      0.11  Q         |         |         |         |
   1+30       0.0116      0.11  Q         |         |         |         |
   1+35       0.0124      0.11  Q         |         |         |         |
   1+40       0.0132      0.11  Q         |         |         |         |
   1+45       0.0139      0.11  Q         |         |         |         |
   1+50       0.0147      0.11  Q         |         |         |         |
   1+55       0.0155      0.12  Q         |         |         |         |
   2+ 0       0.0164      0.13  Q         |         |         |         |
   2+ 5       0.0174      0.14  Q         |         |         |         |
   2+10       0.0184      0.14  Q         |         |         |         |
   2+15       0.0193      0.14  QV        |         |         |         |
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2+20       0.0203      0.14  QV        |         |         |         |
2+25       0.0213      0.15  QV        |         |         |         |
2+30       0.0223      0.15  QV        |         |         |         |
2+35       0.0233      0.15  QV        |         |         |         |
2+40       0.0244      0.16  QV        |         |         |         |
2+45       0.0256      0.17  QV        |         |         |         |
2+50       0.0268      0.17  QV        |         |         |         |
2+55       0.0280      0.18  QV        |         |         |         |
3+ 0       0.0293      0.18  QV        |         |         |         |
3+ 5       0.0305      0.18  QV        |         |         |         |
3+10       0.0317      0.18  QV        |         |         |         |
3+15       0.0330      0.18  QV        |         |         |         |
3+20       0.0343      0.18  QV        |         |         |         |
3+25       0.0355      0.18  QV        |         |         |         |
3+30       0.0368      0.18  QV        |         |         |         |
3+35       0.0380      0.18  Q V       |         |         |         |
3+40       0.0393      0.18  Q V       |         |         |         |
3+45       0.0405      0.18  Q V       |         |         |         |
3+50       0.0418      0.18  Q V       |         |         |         |
3+55       0.0431      0.19  Q V       |         |         |         |
4+ 0       0.0446      0.21  Q V       |         |         |         |
4+ 5       0.0460      0.21  Q V       |         |         |         |
4+10       0.0475      0.21  Q V       |         |         |         |
4+15       0.0490      0.22  Q V       |         |         |         |
4+20       0.0505      0.22  Q V       |         |         |         |
4+25       0.0521      0.23  Q V       |         |         |         |
4+30       0.0537      0.24  Q V       |         |         |         |
4+35       0.0554      0.25  Q V       |         |         |         |
4+40       0.0571      0.25  |Q V       |         |         |         |
4+45       0.0589      0.25  |Q V       |         |         |         |
4+50       0.0606      0.26  |Q V       |         |         |         |
4+55       0.0625      0.26  |Q V       |         |         |         |
5+ 0       0.0644      0.28  |Q V       |         |         |         |
5+ 5       0.0663      0.28  |Q V       |         |         |         |
5+10       0.0682      0.27  |Q V       |         |         |         |
5+15       0.0698      0.24  Q  V       |         |         |         |
5+20       0.0714      0.23  Q  V       |         |         |         |
5+25       0.0731      0.24  Q  V       |         |         |         |
5+30       0.0748      0.25  Q  V       |         |         |         |
5+35       0.0765      0.25  |Q  V       |         |         |         |
5+40       0.0783      0.26  |Q  V       |         |         |         |
5+45       0.0802      0.28  |Q  V       |         |         |         |
5+50       0.0822      0.28  |Q  V       |         |         |         |
5+55       0.0842      0.29  |Q  V       |         |         |         |
6+ 0       0.0862      0.29  |Q  V       |         |         |         |
6+ 5       0.0882      0.29  |Q  V       |         |         |         |
6+10       0.0902      0.30  |Q  V       |         |         |         |
6+15       0.0924      0.32  |Q  V       |         |         |         |
6+20       0.0946      0.32  |Q   V      |         |         |         |
6+25       0.0968      0.32  |Q   V      |         |         |         |
6+30       0.0991      0.33  |Q   V      |         |         |         |
6+35       0.1013      0.33  |Q   V      |         |         |         |
6+40       0.1037      0.34  |Q   V      |         |         |         |
6+45       0.1061      0.35  |Q   V      |         |         |         |
6+50       0.1085      0.36  |Q   V      |         |         |         |
6+55       0.1110      0.36  |Q   V      |         |         |         |
7+ 0       0.1135      0.36  |Q    V     |         |         |         |
7+ 5       0.1160      0.36  |Q    V     |         |         |         |
7+10       0.1185      0.36  |Q    V     |         |         |         |
7+15       0.1210      0.36  |Q    V     |         |         |         |
7+20       0.1236      0.37  |Q    V     |         |         |         |
7+25       0.1261      0.37  |Q    V     |         |         |         |
7+30       0.1288      0.39  |Q    V     |         |         |         |
7+35       0.1315      0.40  |Q    V     |         |         |         |
7+40       0.1343      0.41  |Q     V    |         |         |         |
7+45       0.1373      0.42  |Q     V    |         |         |         |
7+50       0.1402      0.43  |Q     V    |         |         |         |
7+55       0.1433      0.44  |Q     V    |         |         |         |
8+ 0       0.1464      0.46  |Q     V    |         |         |         |
8+ 5       0.1496      0.47  |Q     V    |         |         |         |
8+10       0.1530      0.49  |Q      V   |         |         |         |
8+15       0.1566      0.52  | Q     V   |         |         |         |
8+20       0.1602      0.53  | Q     V   |         |         |         |
8+25       0.1639      0.54  | Q     V   |         |         |         |
8+30       0.1677      0.54  | Q     V   |         |         |         |
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8+35 0.1714 0.55
8+40 0.1752 0.56
8+45 0.1792 0.57
8+50 0.1831 0.58
8+55 0.1872 0.59
9+ 0 0.1914 0.60
9+ 5 0.1956 0.61
9+10 0.2000 0.64
9+15 0.2045 0.66
9+20 0.2092 0.68
9+25 0.2140 0.69
9+30 0.2189 0.71
9+35 0.2238 0.72
9+40 0.2289 0.73
9+45 0.2341 0.75
9+50 0.2393 0.76
9+55 0.2446 0.77
10+ 0 0.2500 0.79
10+ 5 0.2554 0.78
10+10 0.2604 0.73
10+15 0.2647 0.63
10+20 0.2689 0.60
10+25 0.2728 0.58
10+30 0.2767 0.57
10+35 0.2806 0.57
10+40 0.2848 0.60
10+45 0.2894 0.67
10+50 0.2942 0.69
10+55 0.2991 0.71
11+ 0 0.3040 0.72
11+ 5 0.3090 0.72
11+10 0.3139 0.72
11+15 0.3187 0.70
11+20 0.3236 0.70
11+25 0.3284 0.70
11+30 0.3332 0.70
11+35 0.3379 0.69
11+40 0.3426 0.67
11+45 0.3470 0.65
11+50 0.3514 0.64
11+55 0.3558 0.64
12+ 0 0.3603 0.65
12+ 5 0.3649 0.66
12+10 0.3698 0.72
12+15 0.3755 0.82
12+20 0.3814 0.86
12+25 0.3876 0.89
12+30 0.3939 0.92
12+35 0.4003 0.93
12+40 0.4069 0.96
12+45 0.4137 0.99
12+50 0.4206 1.00
12+55 0.4276 1.02
13+ 0 0.4348 1.04
13+ 5 0.4421 1.06
13+10 0.4497 1.10
13+15 0.4577 1.17
13+20 0.4660 1.20
13+25 0.4744 1.22
13+30 0.4830 1.25
13+35 0.4917 1.26
13+40 0.4998 1.18
13+45 0.5067 1.00
13+50 0.5131 0.93
13+55 0.5193 0.90
14+ 0 0.5253 0.87
14+ 5 0.5313 0.87
14+10 0.5374 0.89
14+15 0.5439 0.94
14+20 0.5505 0.96
14+25 0.5571 0.96
14+30 0.5637 0.95
14+35 0.5702 0.95
14+40 0.5767 0.95
14+45 0.5833 0.95

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14+50       0.5898      0.95  |  Q       |          |          |V         |
14+55       0.5963      0.94  |  Q       |          |          |V         |
15+ 0       0.6026      0.93  |  Q       |          |          |V         |
15+ 5       0.6090      0.92  |  Q       |          |          | V        |
15+10       0.6152      0.91  |  Q       |          |          | V        |
15+15       0.6213      0.89  |  Q       |          |          | V        |
15+20       0.6274      0.88  |  Q       |          |          |  V       |
15+25       0.6334      0.87  |  Q       |          |          |  V       |
15+30       0.6393      0.86  |  Q       |          |          |  V       |
15+35       0.6451      0.84  |  Q       |          |          |   V      |
15+40       0.6507      0.80  |  Q       |          |          |   V      |
15+45       0.6558      0.75  | Q        |          |          |   V      |
15+50       0.6608      0.73  | Q        |          |          |    V     |
15+55       0.6657      0.71  | Q        |          |          |    V     |
16+ 0       0.6706      0.71  | Q        |          |          |    V     |
16+ 5       0.6752      0.67  | Q        |          |          |    V     |
16+10       0.6790      0.55  | Q        |          |          |    V     |
16+15       0.6813      0.34  |Q         |          |          |     V    |
16+20       0.6831      0.26  |Q         |          |          |     V    |
16+25       0.6846      0.22  Q          |          |          |     V    |
16+30       0.6859      0.19  Q          |          |          |     V    |
16+35       0.6871      0.17  Q          |          |          |     V    |
16+40       0.6881      0.15  Q          |          |          |     V    |
16+45       0.6890      0.13  Q          |          |          |     V    |
16+50       0.6898      0.12  Q          |          |          |     V    |
16+55       0.6906      0.12  Q          |          |          |     V    |
17+ 0       0.6914      0.11  Q          |          |          |     V    |
17+ 5       0.6922      0.11  Q          |          |          |     V    |
17+10       0.6931      0.13  Q          |          |          |     V    |
17+15       0.6942      0.16  Q          |          |          |     V    |
17+20       0.6954      0.17  Q          |          |          |     V    |
17+25       0.6966      0.17  Q          |          |          |     V    |
17+30       0.6978      0.18  Q          |          |          |     V    |
17+35       0.6990      0.18  Q          |          |          |      V   |
17+40       0.7003      0.18  Q          |          |          |      V   |
17+45       0.7015      0.18  Q          |          |          |      V   |
17+50       0.7027      0.18  Q          |          |          |      V   |
17+55       0.7039      0.17  Q          |          |          |      V   |
18+ 0       0.7050      0.16  Q          |          |          |      V   |
18+ 5       0.7061      0.15  Q          |          |          |      V   |
18+10       0.7071      0.15  Q          |          |          |      V   |
18+15       0.7081      0.15  Q          |          |          |      V   |
18+20       0.7092      0.15  Q          |          |          |      V   |
18+25       0.7102      0.15  Q          |          |          |      V   |
18+30       0.7112      0.15  Q          |          |          |      V   |
18+35       0.7122      0.14  Q          |          |          |      V   |
18+40       0.7131      0.14  Q          |          |          |      V   |
18+45       0.7139      0.12  Q          |          |          |      V   |
18+50       0.7147      0.12  Q          |          |          |      V   |
18+55       0.7155      0.10  Q          |          |          |      V   |
19+ 0       0.7161      0.09  Q          |          |          |      V   |
19+ 5       0.7166      0.08  Q          |          |          |      V   |
19+10       0.7173      0.09  Q          |          |          |      V   |
19+15       0.7179      0.10  Q          |          |          |       V  |
19+20       0.7187      0.11  Q          |          |          |       V  |
19+25       0.7195      0.12  Q          |          |          |       V  |
19+30       0.7204      0.13  Q          |          |          |       V  |
19+35       0.7213      0.14  Q          |          |          |       V  |
19+40       0.7222      0.13  Q          |          |          |       V  |
19+45       0.7230      0.12  Q          |          |          |       V  |
19+50       0.7238      0.11  Q          |          |          |       V  |
19+55       0.7245      0.10  Q          |          |          |       V  |
20+ 0       0.7251      0.09  Q          |          |          |       V  |
20+ 5       0.7257      0.08  Q          |          |          |       V  |
20+10       0.7263      0.09  Q          |          |          |       V  |
20+15       0.7270      0.10  Q          |          |          |       V  |
20+20       0.7277      0.10  Q          |          |          |       V  |
20+25       0.7284      0.11  Q          |          |          |       V  |
20+30       0.7292      0.11  Q          |          |          |       V  |
20+35       0.7299      0.11  Q          |          |          |       V  |
20+40       0.7307      0.11  Q          |          |          |       V  |
20+45       0.7314      0.11  Q          |          |          |       V  |
20+50       0.7322      0.11  Q          |          |          |       V  |
20+55       0.7328      0.10  Q          |          |          |       V  |
21+ 0       0.7334      0.09  Q          |          |          |       V  |
```

21+ 5	0.7340	0.08	Q	|	|	|	V |
21+10	0.7346	0.09	Q	|	|	|	V |
21+15	0.7353	0.10	Q	|	|	|	V |
21+20	0.7360	0.10	Q	|	|	|	V |
21+25	0.7366	0.10	Q	|	|	|	V|
21+30	0.7372	0.08	Q	|	|	|	V|
21+35	0.7378	0.08	Q	|	|	|	V|
21+40	0.7384	0.09	Q	|	|	|	V|
21+45	0.7391	0.10	Q	|	|	|	V|
21+50	0.7398	0.10	Q	|	|	|	V|
21+55	0.7404	0.10	Q	|	|	|	V|
22+ 0	0.7410	0.08	Q	|	|	|	V|
22+ 5	0.7416	0.08	Q	|	|	|	V|
22+10	0.7422	0.09	Q	|	|	|	V|
22+15	0.7428	0.10	Q	|	|	|	V|
22+20	0.7435	0.10	Q	|	|	|	V|
22+25	0.7442	0.10	Q	|	|	|	V|
22+30	0.7448	0.08	Q	|	|	|	V|
22+35	0.7453	0.08	Q	|	|	|	V|
22+40	0.7458	0.08	Q	|	|	|	V|
22+45	0.7464	0.08	Q	|	|	|	V|
22+50	0.7469	0.07	Q	|	|	|	V|
22+55	0.7474	0.07	Q	|	|	|	V|
23+ 0	0.7479	0.07	Q	|	|	|	V|
23+ 5	0.7484	0.07	Q	|	|	|	V|
23+10	0.7489	0.07	Q	|	|	|	V|
23+15	0.7494	0.07	Q	|	|	|	V|
23+20	0.7499	0.07	Q	|	|	|	V|
23+25	0.7504	0.07	Q	|	|	|	V|
23+30	0.7509	0.07	Q	|	|	|	V|
23+35	0.7514	0.07	Q	|	|	|	V|
23+40	0.7519	0.07	Q	|	|	|	V|
23+45	0.7524	0.07	Q	|	|	|	V|
23+50	0.7529	0.07	Q	|	|	|	V|
23+55	0.7534	0.07	Q	|	|	|	V|
24+ 0	0.7539	0.07	Q	|	|	|	V|
24+ 5	0.7544	0.07	Q	|	|	|	V|
24+10	0.7548	0.05	Q	|	|	|	V|
24+15	0.7549	0.03	Q	|	|	|	V|
24+20	0.7550	0.02	Q	|	|	|	V|
24+25	0.7551	0.01	Q	|	|	|	V|
24+30	0.7551	0.01	Q	|	|	|	V|
24+35	0.7552	0.00	Q	|	|	|	V|
24+40	0.7552	0.00	Q	|	|	|	V|
24+45	0.7552	0.00	Q	|	|	|	V|
24+50	0.7552	0.00	Q	|	|	|	V|
24+55	0.7552	0.00	Q	|	|	|	V|
25+ 0	0.7552	0.00	Q	|	|	|	V|
25+ 5	0.7552	0.00	Q	|	|	|	V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 11/24/21 File: EX2YRA3242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 4010

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

BCCOV AREA A3 EXISTING CONDITION
2-YEAR STORM EVENT
21-0034
2021-11-08 EP

Drainage Area = 21.70(Ac.) = 0.034 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.70(Ac.) = 0.034 Sq. Mi.
Length along longest watercourse = 1790.00(Ft.)
Length along longest watercourse measured to centroid = 939.00(Ft.)
Length along longest watercourse = 0.339 Mi.
Length along longest watercourse measured to centroid = 0.178 Mi.
Difference in elevation = 21.70(Ft.)
Slope along watercourse = 64.0089 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.112 Hr.
Lag time = 6.74 Min.
25% of lag time = 1.69 Min.
40% of lag time = 2.70 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.70	2.40	52.08

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.70	6.20	134.54

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.200(In)

Point rain (area averaged) = 2.400(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.400(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.700	87.60	0.000

Total Area Entered = 21.70(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

87.6	74.2	0.313	0.000	0.313	1.000	0.313
					Sum (F) =	0.313

Area averaged mean soil loss (F) (In/Hr) = 0.313
Minimum soil loss rate ((In/Hr)) = 0.156
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	74.161	7.891	1.726
2	0.167	148.322	44.381	9.706
3	0.250	222.484	27.055	5.917
4	0.333	296.645	10.417	2.278
5	0.417	370.806	5.563	1.217
6	0.500	444.967	2.594	0.567
7	0.583	519.128	0.909	0.199
8	0.667	593.290	0.552	0.121
9	0.750	667.451	0.454	0.099
10	0.833	741.612	0.184	0.040
			Sum = 100.000 Sum=	21.870

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.019	(0.555)	0.017	0.002
2	0.17	0.07	0.019	(0.553)	0.017	0.002
3	0.25	0.07	0.019	(0.550)	0.017	0.002
4	0.33	0.10	0.029	(0.548)	0.026	0.003
5	0.42	0.10	0.029	(0.546)	0.026	0.003
6	0.50	0.10	0.029	(0.544)	0.026	0.003
7	0.58	0.10	0.029	(0.542)	0.026	0.003
8	0.67	0.10	0.029	(0.540)	0.026	0.003
9	0.75	0.10	0.029	(0.538)	0.026	0.003
10	0.83	0.13	0.038	(0.536)	0.035	0.004
11	0.92	0.13	0.038	(0.533)	0.035	0.004
12	1.00	0.13	0.038	(0.531)	0.035	0.004
13	1.08	0.10	0.029	(0.529)	0.026	0.003
14	1.17	0.10	0.029	(0.527)	0.026	0.003
15	1.25	0.10	0.029	(0.525)	0.026	0.003
16	1.33	0.10	0.029	(0.523)	0.026	0.003
17	1.42	0.10	0.029	(0.521)	0.026	0.003
18	1.50	0.10	0.029	(0.519)	0.026	0.003
19	1.58	0.10	0.029	(0.517)	0.026	0.003
20	1.67	0.10	0.029	(0.515)	0.026	0.003
21	1.75	0.10	0.029	(0.513)	0.026	0.003
22	1.83	0.13	0.038	(0.511)	0.035	0.004
23	1.92	0.13	0.038	(0.508)	0.035	0.004
24	2.00	0.13	0.038	(0.506)	0.035	0.004
25	2.08	0.13	0.038	(0.504)	0.035	0.004
26	2.17	0.13	0.038	(0.502)	0.035	0.004
27	2.25	0.13	0.038	(0.500)	0.035	0.004
28	2.33	0.13	0.038	(0.498)	0.035	0.004
29	2.42	0.13	0.038	(0.496)	0.035	0.004
30	2.50	0.13	0.038	(0.494)	0.035	0.004
31	2.58	0.17	0.048	(0.492)	0.043	0.005
32	2.67	0.17	0.048	(0.490)	0.043	0.005
33	2.75	0.17	0.048	(0.488)	0.043	0.005
34	2.83	0.17	0.048	(0.486)	0.043	0.005
35	2.92	0.17	0.048	(0.484)	0.043	0.005
36	3.00	0.17	0.048	(0.482)	0.043	0.005
37	3.08	0.17	0.048	(0.480)	0.043	0.005
38	3.17	0.17	0.048	(0.478)	0.043	0.005
39	3.25	0.17	0.048	(0.476)	0.043	0.005
40	3.33	0.17	0.048	(0.474)	0.043	0.005

41	3.42	0.17	0.048	(0.472)	0.043	0.005
42	3.50	0.17	0.048	(0.470)	0.043	0.005
43	3.58	0.17	0.048	(0.468)	0.043	0.005
44	3.67	0.17	0.048	(0.466)	0.043	0.005
45	3.75	0.17	0.048	(0.464)	0.043	0.005
46	3.83	0.20	0.058	(0.462)	0.052	0.006
47	3.92	0.20	0.058	(0.460)	0.052	0.006
48	4.00	0.20	0.058	(0.458)	0.052	0.006
49	4.08	0.20	0.058	(0.457)	0.052	0.006
50	4.17	0.20	0.058	(0.455)	0.052	0.006
51	4.25	0.20	0.058	(0.453)	0.052	0.006
52	4.33	0.23	0.067	(0.451)	0.060	0.007
53	4.42	0.23	0.067	(0.449)	0.060	0.007
54	4.50	0.23	0.067	(0.447)	0.060	0.007
55	4.58	0.23	0.067	(0.445)	0.060	0.007
56	4.67	0.23	0.067	(0.443)	0.060	0.007
57	4.75	0.23	0.067	(0.441)	0.060	0.007
58	4.83	0.27	0.077	(0.439)	0.069	0.008
59	4.92	0.27	0.077	(0.437)	0.069	0.008
60	5.00	0.27	0.077	(0.435)	0.069	0.008
61	5.08	0.20	0.058	(0.434)	0.052	0.006
62	5.17	0.20	0.058	(0.432)	0.052	0.006
63	5.25	0.20	0.058	(0.430)	0.052	0.006
64	5.33	0.23	0.067	(0.428)	0.060	0.007
65	5.42	0.23	0.067	(0.426)	0.060	0.007
66	5.50	0.23	0.067	(0.424)	0.060	0.007
67	5.58	0.27	0.077	(0.422)	0.069	0.008
68	5.67	0.27	0.077	(0.420)	0.069	0.008
69	5.75	0.27	0.077	(0.419)	0.069	0.008
70	5.83	0.27	0.077	(0.417)	0.069	0.008
71	5.92	0.27	0.077	(0.415)	0.069	0.008
72	6.00	0.27	0.077	(0.413)	0.069	0.008
73	6.08	0.30	0.086	(0.411)	0.078	0.009
74	6.17	0.30	0.086	(0.409)	0.078	0.009
75	6.25	0.30	0.086	(0.408)	0.078	0.009
76	6.33	0.30	0.086	(0.406)	0.078	0.009
77	6.42	0.30	0.086	(0.404)	0.078	0.009
78	6.50	0.30	0.086	(0.402)	0.078	0.009
79	6.58	0.33	0.096	(0.400)	0.086	0.010
80	6.67	0.33	0.096	(0.398)	0.086	0.010
81	6.75	0.33	0.096	(0.397)	0.086	0.010
82	6.83	0.33	0.096	(0.395)	0.086	0.010
83	6.92	0.33	0.096	(0.393)	0.086	0.010
84	7.00	0.33	0.096	(0.391)	0.086	0.010
85	7.08	0.33	0.096	(0.390)	0.086	0.010
86	7.17	0.33	0.096	(0.388)	0.086	0.010
87	7.25	0.33	0.096	(0.386)	0.086	0.010
88	7.33	0.37	0.106	(0.384)	0.095	0.011
89	7.42	0.37	0.106	(0.382)	0.095	0.011
90	7.50	0.37	0.106	(0.381)	0.095	0.011
91	7.58	0.40	0.115	(0.379)	0.104	0.012
92	7.67	0.40	0.115	(0.377)	0.104	0.012
93	7.75	0.40	0.115	(0.376)	0.104	0.012
94	7.83	0.43	0.125	(0.374)	0.112	0.012
95	7.92	0.43	0.125	(0.372)	0.112	0.012
96	8.00	0.43	0.125	(0.370)	0.112	0.012
97	8.08	0.50	0.144	(0.369)	0.130	0.014
98	8.17	0.50	0.144	(0.367)	0.130	0.014
99	8.25	0.50	0.144	(0.365)	0.130	0.014
100	8.33	0.50	0.144	(0.363)	0.130	0.014
101	8.42	0.50	0.144	(0.362)	0.130	0.014
102	8.50	0.50	0.144	(0.360)	0.130	0.014
103	8.58	0.53	0.154	(0.358)	0.138	0.015
104	8.67	0.53	0.154	(0.357)	0.138	0.015
105	8.75	0.53	0.154	(0.355)	0.138	0.015
106	8.83	0.57	0.163	(0.353)	0.147	0.016
107	8.92	0.57	0.163	(0.352)	0.147	0.016
108	9.00	0.57	0.163	(0.350)	0.147	0.016
109	9.08	0.63	0.182	(0.348)	0.164	0.018
110	9.17	0.63	0.182	(0.347)	0.164	0.018
111	9.25	0.63	0.182	(0.345)	0.164	0.018
112	9.33	0.67	0.192	(0.343)	0.173	0.019
113	9.42	0.67	0.192	(0.342)	0.173	0.019
114	9.50	0.67	0.192	(0.340)	0.173	0.019
115	9.58	0.70	0.202	(0.339)	0.181	0.020

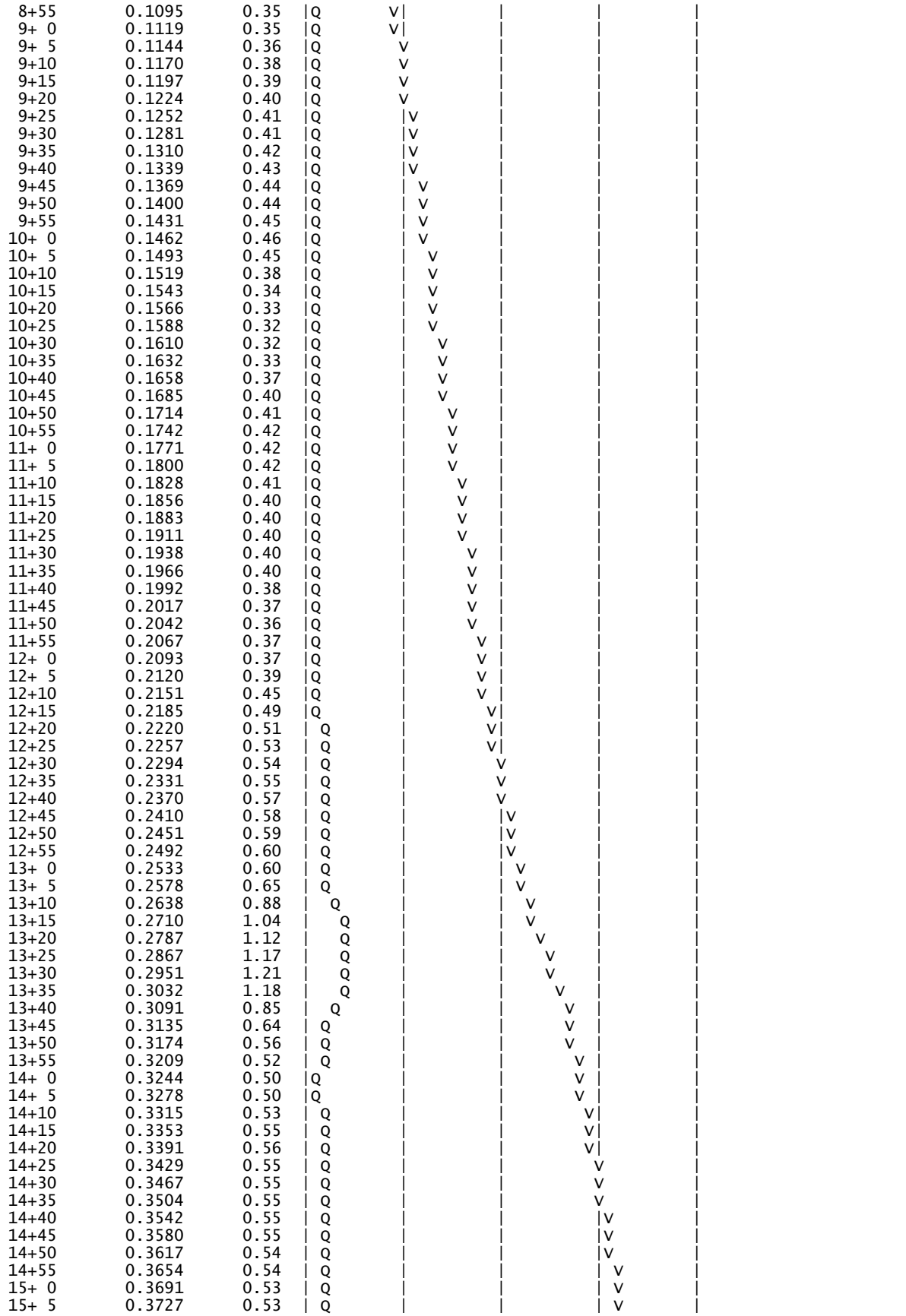
116	9.67	0.70	0.202	(	0.337)	0.181	0.020
117	9.75	0.70	0.202	(	0.335)	0.181	0.020
118	9.83	0.73	0.211	(	0.334)	0.190	0.021
119	9.92	0.73	0.211	(	0.332)	0.190	0.021
120	10.00	0.73	0.211	(	0.330)	0.190	0.021
121	10.08	0.50	0.144	(	0.329)	0.130	0.014
122	10.17	0.50	0.144	(	0.327)	0.130	0.014
123	10.25	0.50	0.144	(	0.326)	0.130	0.014
124	10.33	0.50	0.144	(	0.324)	0.130	0.014
125	10.42	0.50	0.144	(	0.322)	0.130	0.014
126	10.50	0.50	0.144	(	0.321)	0.130	0.014
127	10.58	0.67	0.192	(	0.319)	0.173	0.019
128	10.67	0.67	0.192	(	0.318)	0.173	0.019
129	10.75	0.67	0.192	(	0.316)	0.173	0.019
130	10.83	0.67	0.192	(	0.315)	0.173	0.019
131	10.92	0.67	0.192	(	0.313)	0.173	0.019
132	11.00	0.67	0.192	(	0.312)	0.173	0.019
133	11.08	0.63	0.182	(	0.310)	0.164	0.018
134	11.17	0.63	0.182	(	0.309)	0.164	0.018
135	11.25	0.63	0.182	(	0.307)	0.164	0.018
136	11.33	0.63	0.182	(	0.306)	0.164	0.018
137	11.42	0.63	0.182	(	0.304)	0.164	0.018
138	11.50	0.63	0.182	(	0.302)	0.164	0.018
139	11.58	0.57	0.163	(	0.301)	0.147	0.016
140	11.67	0.57	0.163	(	0.299)	0.147	0.016
141	11.75	0.57	0.163	(	0.298)	0.147	0.016
142	11.83	0.60	0.173	(	0.297)	0.156	0.017
143	11.92	0.60	0.173	(	0.295)	0.156	0.017
144	12.00	0.60	0.173	(	0.294)	0.156	0.017
145	12.08	0.83	0.240	(	0.292)	0.216	0.024
146	12.17	0.83	0.240	(	0.291)	0.216	0.024
147	12.25	0.83	0.240	(	0.289)	0.216	0.024
148	12.33	0.87	0.250	(	0.288)	0.225	0.025
149	12.42	0.87	0.250	(	0.286)	0.225	0.025
150	12.50	0.87	0.250	(	0.285)	0.225	0.025
151	12.58	0.93	0.269	(	0.283)	0.242	0.027
152	12.67	0.93	0.269	(	0.282)	0.242	0.027
153	12.75	0.93	0.269	(	0.281)	0.242	0.027
154	12.83	0.97	0.278	(	0.279)	0.251	0.028
155	12.92	0.97	0.278	(	0.278)	0.251	0.028
156	13.00	0.97	0.278	(	0.276)	0.251	0.028
157	13.08	1.13	0.326		0.275	(0.294)	0.051
158	13.17	1.13	0.326		0.274	(0.294)	0.053
159	13.25	1.13	0.326		0.272	(0.294)	0.054
160	13.33	1.13	0.326		0.271	(0.294)	0.056
161	13.42	1.13	0.326		0.269	(0.294)	0.057
162	13.50	1.13	0.326		0.268	(0.294)	0.058
163	13.58	0.77	0.221	(	0.267)	0.199	0.022
164	13.67	0.77	0.221	(	0.265)	0.199	0.022
165	13.75	0.77	0.221	(	0.264)	0.199	0.022
166	13.83	0.77	0.221	(	0.263)	0.199	0.022
167	13.92	0.77	0.221	(	0.261)	0.199	0.022
168	14.00	0.77	0.221	(	0.260)	0.199	0.022
169	14.08	0.90	0.259	(	0.259)	0.233	0.026
170	14.17	0.90	0.259	(	0.257)	0.233	0.026
171	14.25	0.90	0.259	(	0.256)	0.233	0.026
172	14.33	0.87	0.250	(	0.255)	0.225	0.025
173	14.42	0.87	0.250	(	0.253)	0.225	0.025
174	14.50	0.87	0.250	(	0.252)	0.225	0.025
175	14.58	0.87	0.250	(	0.251)	0.225	0.025
176	14.67	0.87	0.250	(	0.249)	0.225	0.025
177	14.75	0.87	0.250	(	0.248)	0.225	0.025
178	14.83	0.83	0.240	(	0.247)	0.216	0.024
179	14.92	0.83	0.240	(	0.246)	0.216	0.024
180	15.00	0.83	0.240	(	0.244)	0.216	0.024
181	15.08	0.80	0.230	(	0.243)	0.207	0.023
182	15.17	0.80	0.230	(	0.242)	0.207	0.023
183	15.25	0.80	0.230	(	0.241)	0.207	0.023
184	15.33	0.77	0.221	(	0.239)	0.199	0.022
185	15.42	0.77	0.221	(	0.238)	0.199	0.022
186	15.50	0.77	0.221	(	0.237)	0.199	0.022
187	15.58	0.63	0.182	(	0.236)	0.164	0.018
188	15.67	0.63	0.182	(	0.235)	0.164	0.018
189	15.75	0.63	0.182	(	0.233)	0.164	0.018
190	15.83	0.63	0.182	(	0.232)	0.164	0.018

191	15.92	0.63	0.182	(0.231)	0.164	0.018
192	16.00	0.63	0.182	(0.230)	0.164	0.018
193	16.08	0.13	0.038	(0.229)	0.035	0.004
194	16.17	0.13	0.038	(0.227)	0.035	0.004
195	16.25	0.13	0.038	(0.226)	0.035	0.004
196	16.33	0.13	0.038	(0.225)	0.035	0.004
197	16.42	0.13	0.038	(0.224)	0.035	0.004
198	16.50	0.13	0.038	(0.223)	0.035	0.004
199	16.58	0.10	0.029	(0.222)	0.026	0.003
200	16.67	0.10	0.029	(0.221)	0.026	0.003
201	16.75	0.10	0.029	(0.219)	0.026	0.003
202	16.83	0.10	0.029	(0.218)	0.026	0.003
203	16.92	0.10	0.029	(0.217)	0.026	0.003
204	17.00	0.10	0.029	(0.216)	0.026	0.003
205	17.08	0.17	0.048	(0.215)	0.043	0.005
206	17.17	0.17	0.048	(0.214)	0.043	0.005
207	17.25	0.17	0.048	(0.213)	0.043	0.005
208	17.33	0.17	0.048	(0.212)	0.043	0.005
209	17.42	0.17	0.048	(0.211)	0.043	0.005
210	17.50	0.17	0.048	(0.210)	0.043	0.005
211	17.58	0.17	0.048	(0.209)	0.043	0.005
212	17.67	0.17	0.048	(0.208)	0.043	0.005
213	17.75	0.17	0.048	(0.207)	0.043	0.005
214	17.83	0.13	0.038	(0.206)	0.035	0.004
215	17.92	0.13	0.038	(0.205)	0.035	0.004
216	18.00	0.13	0.038	(0.204)	0.035	0.004
217	18.08	0.13	0.038	(0.203)	0.035	0.004
218	18.17	0.13	0.038	(0.202)	0.035	0.004
219	18.25	0.13	0.038	(0.201)	0.035	0.004
220	18.33	0.13	0.038	(0.200)	0.035	0.004
221	18.42	0.13	0.038	(0.199)	0.035	0.004
222	18.50	0.13	0.038	(0.198)	0.035	0.004
223	18.58	0.10	0.029	(0.197)	0.026	0.003
224	18.67	0.10	0.029	(0.196)	0.026	0.003
225	18.75	0.10	0.029	(0.195)	0.026	0.003
226	18.83	0.07	0.019	(0.194)	0.017	0.002
227	18.92	0.07	0.019	(0.193)	0.017	0.002
228	19.00	0.07	0.019	(0.192)	0.017	0.002
229	19.08	0.10	0.029	(0.191)	0.026	0.003
230	19.17	0.10	0.029	(0.190)	0.026	0.003
231	19.25	0.10	0.029	(0.189)	0.026	0.003
232	19.33	0.13	0.038	(0.188)	0.035	0.004
233	19.42	0.13	0.038	(0.188)	0.035	0.004
234	19.50	0.13	0.038	(0.187)	0.035	0.004
235	19.58	0.10	0.029	(0.186)	0.026	0.003
236	19.67	0.10	0.029	(0.185)	0.026	0.003
237	19.75	0.10	0.029	(0.184)	0.026	0.003
238	19.83	0.07	0.019	(0.183)	0.017	0.002
239	19.92	0.07	0.019	(0.183)	0.017	0.002
240	20.00	0.07	0.019	(0.182)	0.017	0.002
241	20.08	0.10	0.029	(0.181)	0.026	0.003
242	20.17	0.10	0.029	(0.180)	0.026	0.003
243	20.25	0.10	0.029	(0.179)	0.026	0.003
244	20.33	0.10	0.029	(0.179)	0.026	0.003
245	20.42	0.10	0.029	(0.178)	0.026	0.003
246	20.50	0.10	0.029	(0.177)	0.026	0.003
247	20.58	0.10	0.029	(0.176)	0.026	0.003
248	20.67	0.10	0.029	(0.176)	0.026	0.003
249	20.75	0.10	0.029	(0.175)	0.026	0.003
250	20.83	0.07	0.019	(0.174)	0.017	0.002
251	20.92	0.07	0.019	(0.173)	0.017	0.002
252	21.00	0.07	0.019	(0.173)	0.017	0.002
253	21.08	0.10	0.029	(0.172)	0.026	0.003
254	21.17	0.10	0.029	(0.171)	0.026	0.003
255	21.25	0.10	0.029	(0.171)	0.026	0.003
256	21.33	0.07	0.019	(0.170)	0.017	0.002
257	21.42	0.07	0.019	(0.169)	0.017	0.002
258	21.50	0.07	0.019	(0.169)	0.017	0.002
259	21.58	0.10	0.029	(0.168)	0.026	0.003
260	21.67	0.10	0.029	(0.168)	0.026	0.003
261	21.75	0.10	0.029	(0.167)	0.026	0.003
262	21.83	0.07	0.019	(0.166)	0.017	0.002
263	21.92	0.07	0.019	(0.166)	0.017	0.002
264	22.00	0.07	0.019	(0.165)	0.017	0.002
265	22.08	0.10	0.029	(0.165)	0.026	0.003

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266  22.17     0.10      0.029       (  0.164)       0.026        0.003
267  22.25     0.10      0.029       (  0.164)       0.026        0.003
268  22.33     0.07      0.019       (  0.163)       0.017        0.002
269  22.42     0.07      0.019       (  0.163)       0.017        0.002
270  22.50     0.07      0.019       (  0.162)       0.017        0.002
271  22.58     0.07      0.019       (  0.162)       0.017        0.002
272  22.67     0.07      0.019       (  0.161)       0.017        0.002
273  22.75     0.07      0.019       (  0.161)       0.017        0.002
274  22.83     0.07      0.019       (  0.160)       0.017        0.002
275  22.92     0.07      0.019       (  0.160)       0.017        0.002
276  23.00     0.07      0.019       (  0.160)       0.017        0.002
277  23.08     0.07      0.019       (  0.159)       0.017        0.002
278  23.17     0.07      0.019       (  0.159)       0.017        0.002
279  23.25     0.07      0.019       (  0.158)       0.017        0.002
280  23.33     0.07      0.019       (  0.158)       0.017        0.002
281  23.42     0.07      0.019       (  0.158)       0.017        0.002
282  23.50     0.07      0.019       (  0.158)       0.017        0.002
283  23.58     0.07      0.019       (  0.157)       0.017        0.002
284  23.67     0.07      0.019       (  0.157)       0.017        0.002
285  23.75     0.07      0.019       (  0.157)       0.017        0.002
286  23.83     0.07      0.019       (  0.157)       0.017        0.002
287  23.92     0.07      0.019       (  0.157)       0.017        0.002
288  24.00     0.07      0.019       (  0.156)       0.017        0.002
               (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     3.0
      Flood volume = Effective rainfall      0.25(In)
       times area      21.7(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
      Total soil loss =      2.15(In)
      Total soil loss =     3.886(Ac.Ft)
      Total rainfall =      2.40(In)
      Flood volume =       19782.0 Cubic Feet
      Total soil loss =      169260.4 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      1.214(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0000      0.00  Q          |         |         |         |
  0+10       0.0002      0.02  Q          |         |         |         |
  0+15       0.0004      0.03  Q          |         |         |         |
  0+20       0.0007      0.04  Q          |         |         |         |
  0+25       0.0010      0.05  Q          |         |         |         |
  0+30       0.0014      0.06  Q          |         |         |         |
  0+35       0.0018      0.06  Q          |         |         |         |
  0+40       0.0023      0.06  Q          |         |         |         |
  0+45       0.0027      0.06  Q          |         |         |         |
  0+50       0.0031      0.06  Q          |         |         |         |
  0+55       0.0036      0.07  Q          |         |         |         |
  1+ 0       0.0042      0.08  Q          |         |         |         |
  1+ 5       0.0047      0.08  Q          |         |         |         |
  1+10       0.0052      0.07  Q          |         |         |         |
  1+15       0.0057      0.07  Q          |         |         |         |
  1+20       0.0062      0.06  Q          |         |         |         |
  1+25       0.0066      0.06  Q          |         |         |         |
  1+30       0.0070      0.06  Q          |         |         |         |
  1+35       0.0075      0.06  Q          |         |         |         |
  1+40       0.0079      0.06  Q          |         |         |         |
  1+45       0.0083      0.06  Q          |         |         |         |
  1+50       0.0088      0.06  Q          |         |         |         |
  1+55       0.0093      0.07  Q          |         |         |         |
  2+ 0       0.0098      0.08  Q          |         |         |         |
  2+ 5       0.0104      0.08  Q          |         |         |         |
  2+10       0.0110      0.08  Q          |         |         |         |
  2+15       0.0115      0.08  QV         |         |         |         |
  2+20       0.0121      0.08  QV         |         |         |         |
  2+25       0.0127      0.08  QV         |         |         |         |
  2+30       0.0133      0.08  QV         |         |         |         |
  2+35       0.0139      0.09  QV         |         |         |         |
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2+40       0.0145      0.09  QV         |          |          |          |
2+45       0.0152      0.10  QV         |          |          |          |
2+50       0.0159      0.10  QV         |          |          |          |
2+55       0.0166      0.10  QV         |          |          |          |
3+ 0       0.0174      0.10  QV         |          |          |          |
3+ 5       0.0181      0.10  QV         |          |          |          |
3+10       0.0188      0.10  QV         |          |          |          |
3+15       0.0195      0.10  QV         |          |          |          |
3+20       0.0203      0.11  QV         |          |          |          |
3+25       0.0210      0.11  QV         |          |          |          |
3+30       0.0217      0.11  QV         |          |          |          |
3+35       0.0224      0.11  QV         |          |          |          |
3+40       0.0231      0.11  Q V        |          |          |          |
3+45       0.0239      0.11  Q V        |          |          |          |
3+50       0.0246      0.11  Q V        |          |          |          |
3+55       0.0254      0.12  Q V        |          |          |          |
4+ 0       0.0262      0.12  Q V        |          |          |          |
4+ 5       0.0271      0.12  Q V        |          |          |          |
4+10       0.0280      0.13  Q V        |          |          |          |
4+15       0.0288      0.13  Q V        |          |          |          |
4+20       0.0297      0.13  Q V        |          |          |          |
4+25       0.0306      0.14  Q V        |          |          |          |
4+30       0.0316      0.14  Q V        |          |          |          |
4+35       0.0326      0.14  Q V        |          |          |          |
4+40       0.0336      0.15  Q V        |          |          |          |
4+45       0.0346      0.15  Q  V       |          |          |          |
4+50       0.0357      0.15  Q  V       |          |          |          |
4+55       0.0367      0.16  Q  V       |          |          |          |
5+ 0       0.0379      0.16  Q  V       |          |          |          |
5+ 5       0.0390      0.16  Q  V       |          |          |          |
5+10       0.0400      0.15  Q  V       |          |          |          |
5+15       0.0409      0.13  Q  V       |          |          |          |
5+20       0.0418      0.13  Q  V       |          |          |          |
5+25       0.0428      0.14  Q  V       |          |          |          |
5+30       0.0438      0.14  Q  V       |          |          |          |
5+35       0.0448      0.15  Q  V       |          |          |          |
5+40       0.0459      0.16  Q   V      |          |          |          |
5+45       0.0470      0.16  Q   V      |          |          |          |
5+50       0.0481      0.17  Q   V      |          |          |          |
5+55       0.0493      0.17  Q   V      |          |          |          |
6+ 0       0.0504      0.17  Q   V      |          |          |          |
6+ 5       0.0516      0.17  Q   V      |          |          |          |
6+10       0.0528      0.18  Q   V      |          |          |          |
6+15       0.0541      0.18  Q   V      |          |          |          |
6+20       0.0554      0.19  Q   V      |          |          |          |
6+25       0.0567      0.19  Q   V      |          |          |          |
6+30       0.0580      0.19  Q    V     |          |          |          |
6+35       0.0593      0.19  Q    V     |          |          |          |
6+40       0.0607      0.20  Q    V     |          |          |          |
6+45       0.0621      0.21  Q    V     |          |          |          |
6+50       0.0635      0.21  Q    V     |          |          |          |
6+55       0.0650      0.21  Q    V     |          |          |          |
7+ 0       0.0664      0.21  Q    V     |          |          |          |
7+ 5       0.0679      0.21  Q    V     |          |          |          |
7+10       0.0693      0.21  Q     V    |          |          |          |
7+15       0.0707      0.21  Q     V    |          |          |          |
7+20       0.0722      0.21  Q     V    |          |          |          |
7+25       0.0737      0.22  Q     V    |          |          |          |
7+30       0.0753      0.23  Q     V    |          |          |          |
7+35       0.0769      0.23  Q     V    |          |          |          |
7+40       0.0785      0.24  Q     V    |          |          |          |
7+45       0.0802      0.25  Q      V   |          |          |          |
7+50       0.0820      0.25  |Q     V   |          |          |          |
7+55       0.0838      0.26  |Q     V   |          |          |          |
8+ 0       0.0856      0.27  |Q     V   |          |          |          |
8+ 5       0.0875      0.27  |Q     V   |          |          |          |
8+10       0.0895      0.29  |Q     V   |          |          |          |
8+15       0.0916      0.31  |Q      V  |          |          |          |
8+20       0.0938      0.31  |Q      V  |          |          |          |
8+25       0.0959      0.31  |Q      V  |          |          |          |
8+30       0.0981      0.31  |Q      V  |          |          |          |
8+35       0.1003      0.32  |Q      V  |          |          |          |
8+40       0.1025      0.33  |Q       V |          |          |          |
8+45       0.1048      0.33  |Q       V |          |          |          |
8+50       0.1071      0.34  |Q       V |          |          |          |
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15+10       0.3762      0.52  | Q       |         |         |  V      |
15+15       0.3797      0.51  | Q       |         |         |  V      |
15+20       0.3832      0.50  | Q       |         |         |  V      |
15+25       0.3866      0.49  |Q        |         |         |   V     |
15+30       0.3900      0.49  |Q        |         |         |   V     |
15+35       0.3933      0.48  |Q        |         |         |   V     |
15+40       0.3963      0.44  |Q        |         |         |   V     |
15+45       0.3992      0.42  |Q        |         |         |    V    |
15+50       0.4020      0.41  |Q        |         |         |    V    |
15+55       0.4048      0.40  |Q        |         |         |    V    |
16+ 0       0.4075      0.40  |Q        |         |         |    V    |
16+ 5       0.4101      0.38  |Q        |         |         |     V   |
16+10       0.4117      0.23  Q         |         |         |     V   |
16+15       0.4128      0.15  Q         |         |         |     V   |
16+20       0.4136      0.12  Q         |         |         |     V   |
16+25       0.4142      0.10  Q         |         |         |     V   |
16+30       0.4149      0.09  Q         |         |         |     V   |
16+35       0.4155      0.09  Q         |         |         |     V   |
16+40       0.4160      0.08  Q         |         |         |     V   |
16+45       0.4164      0.07  Q         |         |         |     V   |
16+50       0.4169      0.07  Q         |         |         |     V   |
16+55       0.4173      0.06  Q         |         |         |     V   |
17+ 0       0.4178      0.06  Q         |         |         |     V   |
17+ 5       0.4182      0.07  Q         |         |         |     V   |
17+10       0.4188      0.09  Q         |         |         |     V   |
17+15       0.4195      0.10  Q         |         |         |     V   |
17+20       0.4202      0.10  Q         |         |         |      V  |
17+25       0.4209      0.10  Q         |         |         |      V  |
17+30       0.4216      0.10  Q         |         |         |      V  |
17+35       0.4223      0.10  Q         |         |         |      V  |
17+40       0.4230      0.10  Q         |         |         |      V  |
17+45       0.4238      0.10  Q         |         |         |      V  |
17+50       0.4245      0.10  Q         |         |         |      V  |
17+55       0.4251      0.09  Q         |         |         |      V  |
18+ 0       0.4257      0.09  Q         |         |         |      V  |
18+ 5       0.4263      0.09  Q         |         |         |      V  |
18+10       0.4269      0.09  Q         |         |         |      V  |
18+15       0.4275      0.08  Q         |         |         |      V  |
18+20       0.4281      0.08  Q         |         |         |      V  |
18+25       0.4286      0.08  Q         |         |         |      V  |
18+30       0.4292      0.08  Q         |         |         |      V  |
18+35       0.4298      0.08  Q         |         |         |      V  |
18+40       0.4303      0.07  Q         |         |         |      V  |
18+45       0.4308      0.07  Q         |         |         |      V  |
18+50       0.4312      0.06  Q         |         |         |      V  |
18+55       0.4316      0.05  Q         |         |         |       V |
19+ 0       0.4319      0.05  Q         |         |         |       V |
19+ 5       0.4322      0.05  Q         |         |         |       V |
19+10       0.4326      0.05  Q         |         |         |       V |
19+15       0.4330      0.06  Q         |         |         |       V |
19+20       0.4334      0.06  Q         |         |         |       V |
19+25       0.4339      0.07  Q         |         |         |       V |
19+30       0.4345      0.08  Q         |         |         |       V |
19+35       0.4350      0.08  Q         |         |         |       V |
19+40       0.4355      0.07  Q         |         |         |       V |
19+45       0.4360      0.07  Q         |         |         |       V |
19+50       0.4364      0.06  Q         |         |         |       V |
19+55       0.4368      0.05  Q         |         |         |       V |
20+ 0       0.4371      0.05  Q         |         |         |       V |
20+ 5       0.4374      0.05  Q         |         |         |       V |
20+10       0.4378      0.05  Q         |         |         |       V |
20+15       0.4382      0.06  Q         |         |         |       V |
20+20       0.4386      0.06  Q         |         |         |       V |
20+25       0.4390      0.06  Q         |         |         |       V |
20+30       0.4395      0.06  Q         |         |         |       V |
20+35       0.4399      0.06  Q         |         |         |       V |
20+40       0.4403      0.06  Q         |         |         |       V |
20+45       0.4408      0.06  Q         |         |         |       V |
20+50       0.4412      0.06  Q         |         |         |       V |
20+55       0.4415      0.05  Q         |         |         |       V |
21+ 0       0.4419      0.05  Q         |         |         |       V |
21+ 5       0.4422      0.05  Q         |         |         |       V |
21+10       0.4426      0.05  Q         |         |         |       V |
21+15       0.4430      0.06  Q         |         |         |        V|
21+20       0.4434      0.06  Q         |         |         |        V|
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  21+25       0.4437      0.05  Q          |          |          |         v|
  21+30       0.4440      0.05  Q          |          |          |         v|
  21+35       0.4444      0.05  Q          |          |          |         v|
  21+40       0.4447      0.05  Q          |          |          |         v|
  21+45       0.4451      0.06  Q          |          |          |         v|
  21+50       0.4455      0.06  Q          |          |          |         v|
  21+55       0.4459      0.05  Q          |          |          |         v|
  22+ 0       0.4462      0.05  Q          |          |          |         v|
  22+ 5       0.4465      0.05  Q          |          |          |         v|
  22+10       0.4469      0.05  Q          |          |          |         v|
  22+15       0.4473      0.06  Q          |          |          |         v|
  22+20       0.4477      0.06  Q          |          |          |         v|
  22+25       0.4481      0.05  Q          |          |          |         v|
  22+30       0.4484      0.05  Q          |          |          |         v|
  22+35       0.4487      0.04  Q          |          |          |         v|
  22+40       0.4490      0.04  Q          |          |          |         v|
  22+45       0.4493      0.04  Q          |          |          |         v|
  22+50       0.4496      0.04  Q          |          |          |         v|
  22+55       0.4499      0.04  Q          |          |          |         v|
  23+ 0       0.4501      0.04  Q          |          |          |         v|
  23+ 5       0.4504      0.04  Q          |          |          |         v|
  23+10       0.4507      0.04  Q          |          |          |         v|
  23+15       0.4510      0.04  Q          |          |          |         v|
  23+20       0.4513      0.04  Q          |          |          |         v|
  23+25       0.4516      0.04  Q          |          |          |         v|
  23+30       0.4519      0.04  Q          |          |          |         v|
  23+35       0.4522      0.04  Q          |          |          |         v|
  23+40       0.4525      0.04  Q          |          |          |         v|
  23+45       0.4527      0.04  Q          |          |          |         v|
  23+50       0.4530      0.04  Q          |          |          |         v|
  23+55       0.4533      0.04  Q          |          |          |         v|
  24+ 0       0.4536      0.04  Q          |          |          |         v|
  24+ 5       0.4539      0.04  Q          |          |          |         v|
  24+10       0.4540      0.02  Q          |          |          |         v|
  24+15       0.4541      0.01  Q          |          |          |         v|
  24+20       0.4541      0.00  Q          |          |          |         v|
  24+25       0.4541      0.00  Q          |          |          |         v|
  24+30       0.4541      0.00  Q          |          |          |         v|
  24+35       0.4541      0.00  Q          |          |          |         v|
  24+40       0.4541      0.00  Q          |          |          |         v|
  24+45       0.4541      0.00  Q          |          |          |         v|
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PROPOSED CONDITION UNIT HYDROGRAPHS (2-YEAR, 24-HOUR STORM)

U n i t H y d r o g r a p h A n a l y s i s

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Study date 11/23/21 File: PROP2YR3B242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 4010

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

BCCOV BLDG B AREA 3 DEVELOPED CONDITION
2 YR 24 HR STORM EVENT
21-0034
2021-11-23 EP

Drainage Area = 12.30(Ac.) = 0.019 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 12.30(Ac.) = 0.019 Sq. Mi.
Length along longest watercourse = 2287.00(Ft.)
Length along longest watercourse measured to centroid = 2251.00(Ft.)
Length along longest watercourse = 0.433 Mi.
Length along longest watercourse measured to centroid = 0.426 Mi.
Difference in elevation = 9.00(Ft.)
Slope along watercourse = 20.7783 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.106 Hr.
Lag time = 6.39 Min.
25% of lag time = 1.60 Min.
40% of lag time = 2.55 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
12.30	2.40	29.52

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
12.30	6.20	76.26

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.200(In)

Point rain (area averaged) = 2.400(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.400(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
12.300	56.00	0.730

Total Area Entered = 12.30(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

56.0	36.0	0.706	0.730	0.242	1.000	0.242
					Sum (F) =	0.242

Area averaged mean soil loss (F) (In/Hr) = 0.242
Minimum soil loss rate ((In/Hr)) = 0.121
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.320

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	78.278	8.665	1.074
2	0.167	156.556	47.291	5.862
3	0.250	234.834	25.214	3.126
4	0.333	313.112	9.930	1.231
5	0.417	391.390	5.085	0.630
6	0.500	469.668	2.068	0.256
7	0.583	547.947	0.776	0.096
8	0.667	626.225	0.550	0.068
9	0.750	704.503	0.421	0.052
			Sum = 100.000	Sum= 12.396

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.019	(0.429)	0.006	0.013
2	0.17	0.07	0.019	(0.428)	0.006	0.013
3	0.25	0.07	0.019	(0.426)	0.006	0.013
4	0.33	0.10	0.029	(0.424)	0.009	0.020
5	0.42	0.10	0.029	(0.423)	0.009	0.020
6	0.50	0.10	0.029	(0.421)	0.009	0.020
7	0.58	0.10	0.029	(0.419)	0.009	0.020
8	0.67	0.10	0.029	(0.418)	0.009	0.020
9	0.75	0.10	0.029	(0.416)	0.009	0.020
10	0.83	0.13	0.038	(0.414)	0.012	0.026
11	0.92	0.13	0.038	(0.413)	0.012	0.026
12	1.00	0.13	0.038	(0.411)	0.012	0.026
13	1.08	0.10	0.029	(0.410)	0.009	0.020
14	1.17	0.10	0.029	(0.408)	0.009	0.020
15	1.25	0.10	0.029	(0.406)	0.009	0.020
16	1.33	0.10	0.029	(0.405)	0.009	0.020
17	1.42	0.10	0.029	(0.403)	0.009	0.020
18	1.50	0.10	0.029	(0.401)	0.009	0.020
19	1.58	0.10	0.029	(0.400)	0.009	0.020
20	1.67	0.10	0.029	(0.398)	0.009	0.020
21	1.75	0.10	0.029	(0.397)	0.009	0.020
22	1.83	0.13	0.038	(0.395)	0.012	0.026
23	1.92	0.13	0.038	(0.394)	0.012	0.026
24	2.00	0.13	0.038	(0.392)	0.012	0.026
25	2.08	0.13	0.038	(0.390)	0.012	0.026
26	2.17	0.13	0.038	(0.389)	0.012	0.026
27	2.25	0.13	0.038	(0.387)	0.012	0.026
28	2.33	0.13	0.038	(0.386)	0.012	0.026
29	2.42	0.13	0.038	(0.384)	0.012	0.026
30	2.50	0.13	0.038	(0.382)	0.012	0.026
31	2.58	0.17	0.048	(0.381)	0.015	0.033
32	2.67	0.17	0.048	(0.379)	0.015	0.033
33	2.75	0.17	0.048	(0.378)	0.015	0.033
34	2.83	0.17	0.048	(0.376)	0.015	0.033
35	2.92	0.17	0.048	(0.375)	0.015	0.033
36	3.00	0.17	0.048	(0.373)	0.015	0.033
37	3.08	0.17	0.048	(0.372)	0.015	0.033
38	3.17	0.17	0.048	(0.370)	0.015	0.033
39	3.25	0.17	0.048	(0.368)	0.015	0.033
40	3.33	0.17	0.048	(0.367)	0.015	0.033
41	3.42	0.17	0.048	(0.365)	0.015	0.033

42	3.50	0.17	0.048	(0.364)	0.015	0.033
43	3.58	0.17	0.048	(0.362)	0.015	0.033
44	3.67	0.17	0.048	(0.361)	0.015	0.033
45	3.75	0.17	0.048	(0.359)	0.015	0.033
46	3.83	0.20	0.058	(0.358)	0.018	0.039
47	3.92	0.20	0.058	(0.356)	0.018	0.039
48	4.00	0.20	0.058	(0.355)	0.018	0.039
49	4.08	0.20	0.058	(0.353)	0.018	0.039
50	4.17	0.20	0.058	(0.352)	0.018	0.039
51	4.25	0.20	0.058	(0.350)	0.018	0.039
52	4.33	0.23	0.067	(0.349)	0.022	0.046
53	4.42	0.23	0.067	(0.347)	0.022	0.046
54	4.50	0.23	0.067	(0.346)	0.022	0.046
55	4.58	0.23	0.067	(0.344)	0.022	0.046
56	4.67	0.23	0.067	(0.343)	0.022	0.046
57	4.75	0.23	0.067	(0.341)	0.022	0.046
58	4.83	0.27	0.077	(0.340)	0.025	0.052
59	4.92	0.27	0.077	(0.338)	0.025	0.052
60	5.00	0.27	0.077	(0.337)	0.025	0.052
61	5.08	0.20	0.058	(0.335)	0.018	0.039
62	5.17	0.20	0.058	(0.334)	0.018	0.039
63	5.25	0.20	0.058	(0.333)	0.018	0.039
64	5.33	0.23	0.067	(0.331)	0.022	0.046
65	5.42	0.23	0.067	(0.330)	0.022	0.046
66	5.50	0.23	0.067	(0.328)	0.022	0.046
67	5.58	0.27	0.077	(0.327)	0.025	0.052
68	5.67	0.27	0.077	(0.325)	0.025	0.052
69	5.75	0.27	0.077	(0.324)	0.025	0.052
70	5.83	0.27	0.077	(0.322)	0.025	0.052
71	5.92	0.27	0.077	(0.321)	0.025	0.052
72	6.00	0.27	0.077	(0.320)	0.025	0.052
73	6.08	0.30	0.086	(0.318)	0.028	0.059
74	6.17	0.30	0.086	(0.317)	0.028	0.059
75	6.25	0.30	0.086	(0.315)	0.028	0.059
76	6.33	0.30	0.086	(0.314)	0.028	0.059
77	6.42	0.30	0.086	(0.313)	0.028	0.059
78	6.50	0.30	0.086	(0.311)	0.028	0.059
79	6.58	0.33	0.096	(0.310)	0.031	0.065
80	6.67	0.33	0.096	(0.308)	0.031	0.065
81	6.75	0.33	0.096	(0.307)	0.031	0.065
82	6.83	0.33	0.096	(0.306)	0.031	0.065
83	6.92	0.33	0.096	(0.304)	0.031	0.065
84	7.00	0.33	0.096	(0.303)	0.031	0.065
85	7.08	0.33	0.096	(0.301)	0.031	0.065
86	7.17	0.33	0.096	(0.300)	0.031	0.065
87	7.25	0.33	0.096	(0.299)	0.031	0.065
88	7.33	0.37	0.106	(0.297)	0.034	0.072
89	7.42	0.37	0.106	(0.296)	0.034	0.072
90	7.50	0.37	0.106	(0.295)	0.034	0.072
91	7.58	0.40	0.115	(0.293)	0.037	0.078
92	7.67	0.40	0.115	(0.292)	0.037	0.078
93	7.75	0.40	0.115	(0.291)	0.037	0.078
94	7.83	0.43	0.125	(0.289)	0.040	0.085
95	7.92	0.43	0.125	(0.288)	0.040	0.085
96	8.00	0.43	0.125	(0.287)	0.040	0.085
97	8.08	0.50	0.144	(0.285)	0.046	0.098
98	8.17	0.50	0.144	(0.284)	0.046	0.098
99	8.25	0.50	0.144	(0.283)	0.046	0.098
100	8.33	0.50	0.144	(0.281)	0.046	0.098
101	8.42	0.50	0.144	(0.280)	0.046	0.098
102	8.50	0.50	0.144	(0.279)	0.046	0.098
103	8.58	0.53	0.154	(0.277)	0.049	0.104
104	8.67	0.53	0.154	(0.276)	0.049	0.104
105	8.75	0.53	0.154	(0.275)	0.049	0.104
106	8.83	0.57	0.163	(0.273)	0.052	0.111
107	8.92	0.57	0.163	(0.272)	0.052	0.111
108	9.00	0.57	0.163	(0.271)	0.052	0.111
109	9.08	0.63	0.182	(0.270)	0.058	0.124
110	9.17	0.63	0.182	(0.268)	0.058	0.124
111	9.25	0.63	0.182	(0.267)	0.058	0.124
112	9.33	0.67	0.192	(0.266)	0.061	0.131
113	9.42	0.67	0.192	(0.264)	0.061	0.131
114	9.50	0.67	0.192	(0.263)	0.061	0.131
115	9.58	0.70	0.202	(0.262)	0.065	0.137
116	9.67	0.70	0.202	(0.261)	0.065	0.137

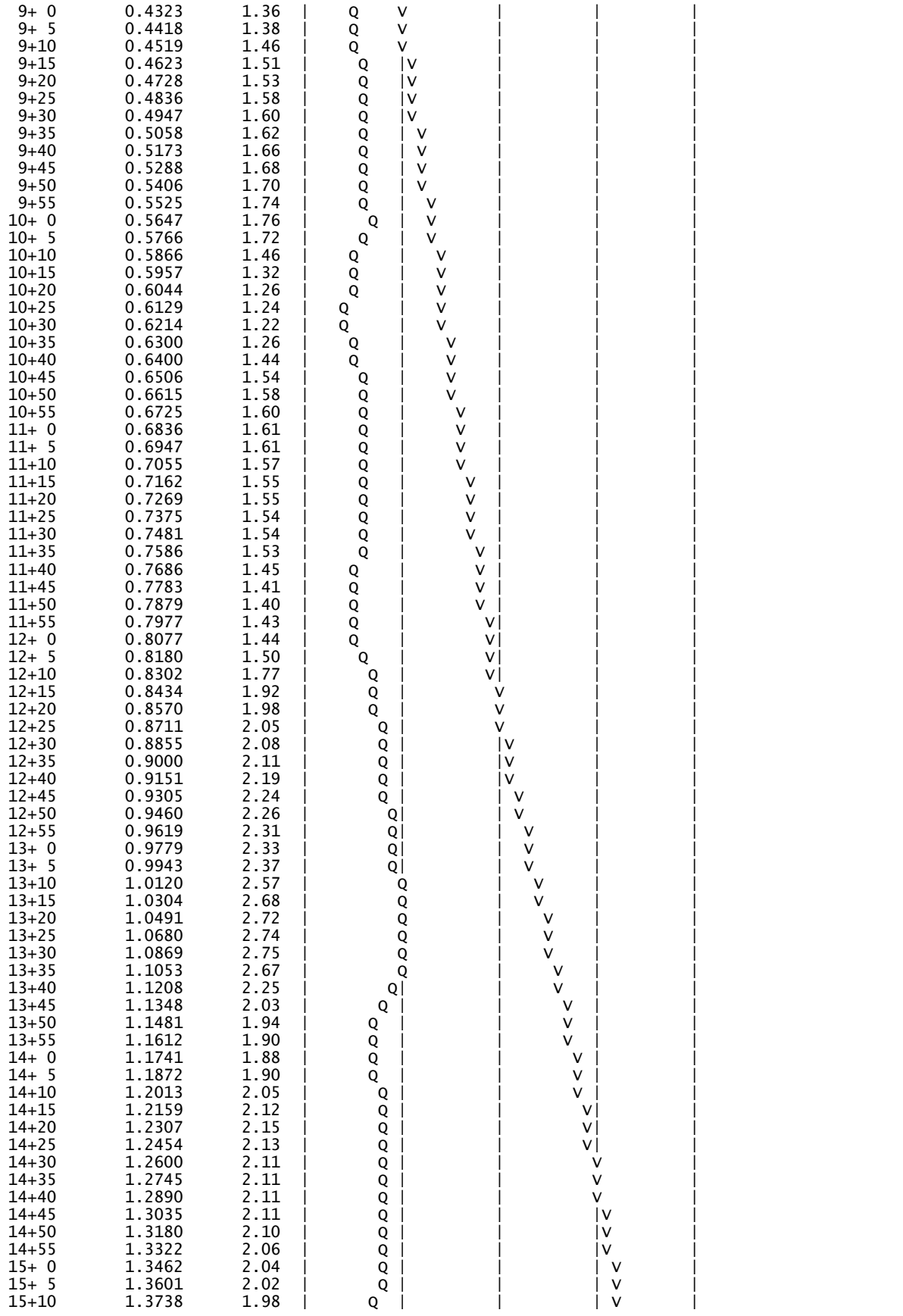
117	9.75	0.70	0.202	(0.259)	0.065	0.137
118	9.83	0.73	0.211	(0.258)	0.068	0.144
119	9.92	0.73	0.211	(0.257)	0.068	0.144
120	10.00	0.73	0.211	(0.256)	0.068	0.144
121	10.08	0.50	0.144	(0.254)	0.046	0.098
122	10.17	0.50	0.144	(0.253)	0.046	0.098
123	10.25	0.50	0.144	(0.252)	0.046	0.098
124	10.33	0.50	0.144	(0.251)	0.046	0.098
125	10.42	0.50	0.144	(0.250)	0.046	0.098
126	10.50	0.50	0.144	(0.248)	0.046	0.098
127	10.58	0.67	0.192	(0.247)	0.061	0.131
128	10.67	0.67	0.192	(0.246)	0.061	0.131
129	10.75	0.67	0.192	(0.245)	0.061	0.131
130	10.83	0.67	0.192	(0.244)	0.061	0.131
131	10.92	0.67	0.192	(0.242)	0.061	0.131
132	11.00	0.67	0.192	(0.241)	0.061	0.131
133	11.08	0.63	0.182	(0.240)	0.058	0.124
134	11.17	0.63	0.182	(0.239)	0.058	0.124
135	11.25	0.63	0.182	(0.238)	0.058	0.124
136	11.33	0.63	0.182	(0.236)	0.058	0.124
137	11.42	0.63	0.182	(0.235)	0.058	0.124
138	11.50	0.63	0.182	(0.234)	0.058	0.124
139	11.58	0.57	0.163	(0.233)	0.052	0.111
140	11.67	0.57	0.163	(0.232)	0.052	0.111
141	11.75	0.57	0.163	(0.231)	0.052	0.111
142	11.83	0.60	0.173	(0.229)	0.055	0.118
143	11.92	0.60	0.173	(0.228)	0.055	0.118
144	12.00	0.60	0.173	(0.227)	0.055	0.118
145	12.08	0.83	0.240	(0.226)	0.077	0.163
146	12.17	0.83	0.240	(0.225)	0.077	0.163
147	12.25	0.83	0.240	(0.224)	0.077	0.163
148	12.33	0.87	0.250	(0.223)	0.080	0.170
149	12.42	0.87	0.250	(0.222)	0.080	0.170
150	12.50	0.87	0.250	(0.220)	0.080	0.170
151	12.58	0.93	0.269	(0.219)	0.086	0.183
152	12.67	0.93	0.269	(0.218)	0.086	0.183
153	12.75	0.93	0.269	(0.217)	0.086	0.183
154	12.83	0.97	0.278	(0.216)	0.089	0.189
155	12.92	0.97	0.278	(0.215)	0.089	0.189
156	13.00	0.97	0.278	(0.214)	0.089	0.189
157	13.08	1.13	0.326	(0.213)	0.104	0.222
158	13.17	1.13	0.326	(0.212)	0.104	0.222
159	13.25	1.13	0.326	(0.211)	0.104	0.222
160	13.33	1.13	0.326	(0.210)	0.104	0.222
161	13.42	1.13	0.326	(0.208)	0.104	0.222
162	13.50	1.13	0.326	(0.207)	0.104	0.222
163	13.58	0.77	0.221	(0.206)	0.071	0.150
164	13.67	0.77	0.221	(0.205)	0.071	0.150
165	13.75	0.77	0.221	(0.204)	0.071	0.150
166	13.83	0.77	0.221	(0.203)	0.071	0.150
167	13.92	0.77	0.221	(0.202)	0.071	0.150
168	14.00	0.77	0.221	(0.201)	0.071	0.150
169	14.08	0.90	0.259	(0.200)	0.083	0.176
170	14.17	0.90	0.259	(0.199)	0.083	0.176
171	14.25	0.90	0.259	(0.198)	0.083	0.176
172	14.33	0.87	0.250	(0.197)	0.080	0.170
173	14.42	0.87	0.250	(0.196)	0.080	0.170
174	14.50	0.87	0.250	(0.195)	0.080	0.170
175	14.58	0.87	0.250	(0.194)	0.080	0.170
176	14.67	0.87	0.250	(0.193)	0.080	0.170
177	14.75	0.87	0.250	(0.192)	0.080	0.170
178	14.83	0.83	0.240	(0.191)	0.077	0.163
179	14.92	0.83	0.240	(0.190)	0.077	0.163
180	15.00	0.83	0.240	(0.189)	0.077	0.163
181	15.08	0.80	0.230	(0.188)	0.074	0.157
182	15.17	0.80	0.230	(0.187)	0.074	0.157
183	15.25	0.80	0.230	(0.186)	0.074	0.157
184	15.33	0.77	0.221	(0.185)	0.071	0.150
185	15.42	0.77	0.221	(0.184)	0.071	0.150
186	15.50	0.77	0.221	(0.183)	0.071	0.150
187	15.58	0.63	0.182	(0.182)	0.058	0.124
188	15.67	0.63	0.182	(0.182)	0.058	0.124
189	15.75	0.63	0.182	(0.181)	0.058	0.124
190	15.83	0.63	0.182	(0.180)	0.058	0.124
191	15.92	0.63	0.182	(0.179)	0.058	0.124

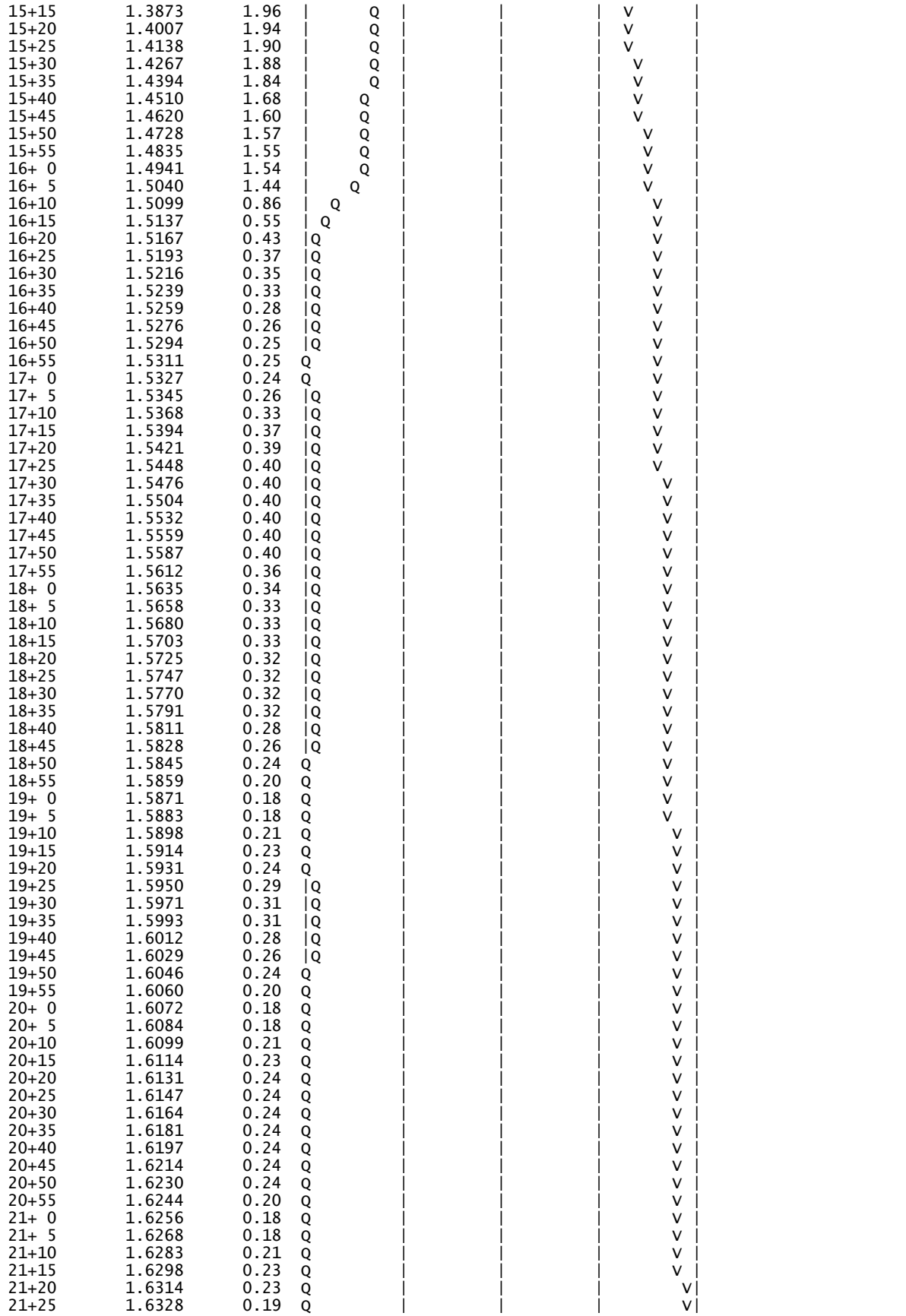
192	16.00	0.63	0.182	(0.178)	0.058	0.124
193	16.08	0.13	0.038	(0.177)	0.012	0.026
194	16.17	0.13	0.038	(0.176)	0.012	0.026
195	16.25	0.13	0.038	(0.175)	0.012	0.026
196	16.33	0.13	0.038	(0.174)	0.012	0.026
197	16.42	0.13	0.038	(0.173)	0.012	0.026
198	16.50	0.13	0.038	(0.172)	0.012	0.026
199	16.58	0.10	0.029	(0.172)	0.009	0.020
200	16.67	0.10	0.029	(0.171)	0.009	0.020
201	16.75	0.10	0.029	(0.170)	0.009	0.020
202	16.83	0.10	0.029	(0.169)	0.009	0.020
203	16.92	0.10	0.029	(0.168)	0.009	0.020
204	17.00	0.10	0.029	(0.167)	0.009	0.020
205	17.08	0.17	0.048	(0.166)	0.015	0.033
206	17.17	0.17	0.048	(0.166)	0.015	0.033
207	17.25	0.17	0.048	(0.165)	0.015	0.033
208	17.33	0.17	0.048	(0.164)	0.015	0.033
209	17.42	0.17	0.048	(0.163)	0.015	0.033
210	17.50	0.17	0.048	(0.162)	0.015	0.033
211	17.58	0.17	0.048	(0.161)	0.015	0.033
212	17.67	0.17	0.048	(0.161)	0.015	0.033
213	17.75	0.17	0.048	(0.160)	0.015	0.033
214	17.83	0.13	0.038	(0.159)	0.012	0.026
215	17.92	0.13	0.038	(0.158)	0.012	0.026
216	18.00	0.13	0.038	(0.158)	0.012	0.026
217	18.08	0.13	0.038	(0.157)	0.012	0.026
218	18.17	0.13	0.038	(0.156)	0.012	0.026
219	18.25	0.13	0.038	(0.155)	0.012	0.026
220	18.33	0.13	0.038	(0.154)	0.012	0.026
221	18.42	0.13	0.038	(0.154)	0.012	0.026
222	18.50	0.13	0.038	(0.153)	0.012	0.026
223	18.58	0.10	0.029	(0.152)	0.009	0.020
224	18.67	0.10	0.029	(0.151)	0.009	0.020
225	18.75	0.10	0.029	(0.151)	0.009	0.020
226	18.83	0.07	0.019	(0.150)	0.006	0.013
227	18.92	0.07	0.019	(0.149)	0.006	0.013
228	19.00	0.07	0.019	(0.149)	0.006	0.013
229	19.08	0.10	0.029	(0.148)	0.009	0.020
230	19.17	0.10	0.029	(0.147)	0.009	0.020
231	19.25	0.10	0.029	(0.147)	0.009	0.020
232	19.33	0.13	0.038	(0.146)	0.012	0.026
233	19.42	0.13	0.038	(0.145)	0.012	0.026
234	19.50	0.13	0.038	(0.144)	0.012	0.026
235	19.58	0.10	0.029	(0.144)	0.009	0.020
236	19.67	0.10	0.029	(0.143)	0.009	0.020
237	19.75	0.10	0.029	(0.143)	0.009	0.020
238	19.83	0.07	0.019	(0.142)	0.006	0.013
239	19.92	0.07	0.019	(0.141)	0.006	0.013
240	20.00	0.07	0.019	(0.141)	0.006	0.013
241	20.08	0.10	0.029	(0.140)	0.009	0.020
242	20.17	0.10	0.029	(0.139)	0.009	0.020
243	20.25	0.10	0.029	(0.139)	0.009	0.020
244	20.33	0.10	0.029	(0.138)	0.009	0.020
245	20.42	0.10	0.029	(0.138)	0.009	0.020
246	20.50	0.10	0.029	(0.137)	0.009	0.020
247	20.58	0.10	0.029	(0.136)	0.009	0.020
248	20.67	0.10	0.029	(0.136)	0.009	0.020
249	20.75	0.10	0.029	(0.135)	0.009	0.020
250	20.83	0.07	0.019	(0.135)	0.006	0.013
251	20.92	0.07	0.019	(0.134)	0.006	0.013
252	21.00	0.07	0.019	(0.134)	0.006	0.013
253	21.08	0.10	0.029	(0.133)	0.009	0.020
254	21.17	0.10	0.029	(0.133)	0.009	0.020
255	21.25	0.10	0.029	(0.132)	0.009	0.020
256	21.33	0.07	0.019	(0.132)	0.006	0.013
257	21.42	0.07	0.019	(0.131)	0.006	0.013
258	21.50	0.07	0.019	(0.131)	0.006	0.013
259	21.58	0.10	0.029	(0.130)	0.009	0.020
260	21.67	0.10	0.029	(0.130)	0.009	0.020
261	21.75	0.10	0.029	(0.129)	0.009	0.020
262	21.83	0.07	0.019	(0.129)	0.006	0.013
263	21.92	0.07	0.019	(0.128)	0.006	0.013
264	22.00	0.07	0.019	(0.128)	0.006	0.013
265	22.08	0.10	0.029	(0.127)	0.009	0.020
266	22.17	0.10	0.029	(0.127)	0.009	0.020

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267  22.25     0.10      0.029       (  0.127)       0.009        0.020
268  22.33     0.07      0.019       (  0.126)       0.006        0.013
269  22.42     0.07      0.019       (  0.126)       0.006        0.013
270  22.50     0.07      0.019       (  0.125)       0.006        0.013
271  22.58     0.07      0.019       (  0.125)       0.006        0.013
272  22.67     0.07      0.019       (  0.125)       0.006        0.013
273  22.75     0.07      0.019       (  0.124)       0.006        0.013
274  22.83     0.07      0.019       (  0.124)       0.006        0.013
275  22.92     0.07      0.019       (  0.124)       0.006        0.013
276  23.00     0.07      0.019       (  0.123)       0.006        0.013
277  23.08     0.07      0.019       (  0.123)       0.006        0.013
278  23.17     0.07      0.019       (  0.123)       0.006        0.013
279  23.25     0.07      0.019       (  0.123)       0.006        0.013
280  23.33     0.07      0.019       (  0.122)       0.006        0.013
281  23.42     0.07      0.019       (  0.122)       0.006        0.013
282  23.50     0.07      0.019       (  0.122)       0.006        0.013
283  23.58     0.07      0.019       (  0.122)       0.006        0.013
284  23.67     0.07      0.019       (  0.122)       0.006        0.013
285  23.75     0.07      0.019       (  0.121)       0.006        0.013
286  23.83     0.07      0.019       (  0.121)       0.006        0.013
287  23.92     0.07      0.019       (  0.121)       0.006        0.013
288  24.00     0.07      0.019       (  0.121)       0.006        0.013
               (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    19.6
      Flood volume = Effective rainfall      1.63(In)
       times area      12.3(Ac.)/[(In)/(Ft.)] =       1.7(Ac.Ft)
      Total soil loss =      0.77(In)
      Total soil loss =     0.787(Ac.Ft)
      Total rainfall =      2.40(In)
      Flood volume =       72865.4 Cubic Feet
      Total soil loss =       34289.6 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      2.746(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        24 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                 Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ----------------------------------------------------------------------------
   0+ 5       0.0001      0.01  Q         |         |         |         |
   0+10       0.0007      0.09  Q         |         |         |         |
   0+15       0.0016      0.13  Q         |         |         |         |
   0+20       0.0027      0.15  Q         |         |         |         |
   0+25       0.0041      0.20  Q         |         |         |         |
   0+30       0.0056      0.22  Q         |         |         |         |
   0+35       0.0072      0.23  Q         |         |         |         |
   0+40       0.0089      0.24  Q         |         |         |         |
   0+45       0.0105      0.24  Q         |         |         |         |
   0+50       0.0123      0.25  Q         |         |         |         |
   0+55       0.0142      0.29  VQ        |         |         |         |
   1+ 0       0.0164      0.31  VQ        |         |         |         |
   1+ 5       0.0185      0.31  VQ        |         |         |         |
   1+10       0.0204      0.28  VQ        |         |         |         |
   1+15       0.0222      0.26  VQ        |         |         |         |
   1+20       0.0239      0.25  Q         |         |         |         |
   1+25       0.0256      0.25  Q         |         |         |         |
   1+30       0.0273      0.24  Q         |         |         |         |
   1+35       0.0289      0.24  Q         |         |         |         |
   1+40       0.0306      0.24  Q         |         |         |         |
   1+45       0.0323      0.24  Q         |         |         |         |
   1+50       0.0340      0.25  Q         |         |         |         |
   1+55       0.0360      0.29  VQ        |         |         |         |
   2+ 0       0.0381      0.31  VQ        |         |         |         |
   2+ 5       0.0403      0.32  VQ        |         |         |         |
   2+10       0.0425      0.32  |Q        |         |         |         |
   2+15       0.0447      0.32  |Q        |         |         |         |
   2+20       0.0469      0.32  |Q        |         |         |         |
   2+25       0.0492      0.32  |Q        |         |         |         |
   2+30       0.0514      0.32  |Q        |         |         |         |
   2+35       0.0537      0.33  |Q        |         |         |         |
   2+40       0.0562      0.37  |Q        |         |         |         |
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2+45       0.0589      0.39  |Q         |          |          |          |
2+50       0.0617      0.40  |Q         |          |          |          |
2+55       0.0644      0.40  |Q         |          |          |          |
3+ 0       0.0672      0.40  |Q         |          |          |          |
3+ 5       0.0700      0.40  |Q         |          |          |          |
3+10       0.0728      0.40  |Q         |          |          |          |
3+15       0.0756      0.40  |Q         |          |          |          |
3+20       0.0783      0.40  |Q         |          |          |          |
3+25       0.0811      0.40  |Q         |          |          |          |
3+30       0.0839      0.40  |QV        |          |          |          |
3+35       0.0867      0.40  |QV        |          |          |          |
3+40       0.0895      0.40  |QV        |          |          |          |
3+45       0.0923      0.40  |QV        |          |          |          |
3+50       0.0951      0.41  |QV        |          |          |          |
3+55       0.0982      0.45  |QV        |          |          |          |
4+ 0       0.1015      0.47  |QV        |          |          |          |
4+ 5       0.1048      0.48  |QV        |          |          |          |
4+10       0.1081      0.48  |QV        |          |          |          |
4+15       0.1114      0.48  |QV        |          |          |          |
4+20       0.1148      0.49  |QV        |          |          |          |
4+25       0.1185      0.53  | Q        |          |          |          |
4+30       0.1223      0.55  | Q        |          |          |          |
4+35       0.1261      0.56  | QV       |          |          |          |
4+40       0.1300      0.56  | QV       |          |          |          |
4+45       0.1339      0.57  | QV       |          |          |          |
4+50       0.1378      0.57  | QV       |          |          |          |
4+55       0.1420      0.61  | QV       |          |          |          |
5+ 0       0.1464      0.63  | QV       |          |          |          |
5+ 5       0.1507      0.63  | QV       |          |          |          |
5+10       0.1545      0.55  | QV       |          |          |          |
5+15       0.1581      0.51  | QV       |          |          |          |
5+20       0.1616      0.51  | QV       |          |          |          |
5+25       0.1653      0.54  | QV       |          |          |          |
5+30       0.1691      0.55  | Q V      |          |          |          |
5+35       0.1730      0.57  | Q V      |          |          |          |
5+40       0.1772      0.61  | Q V      |          |          |          |
5+45       0.1815      0.63  | Q V      |          |          |          |
5+50       0.1859      0.64  | Q V      |          |          |          |
5+55       0.1904      0.64  | Q V      |          |          |          |
6+ 0       0.1948      0.65  | Q V      |          |          |          |
6+ 5       0.1993      0.65  | Q V      |          |          |          |
6+10       0.2041      0.69  | Q V      |          |          |          |
6+15       0.2090      0.71  | Q V      |          |          |          |
6+20       0.2140      0.72  | Q  V     |          |          |          |
6+25       0.2190      0.73  | Q  V     |          |          |          |
6+30       0.2240      0.73  | Q  V     |          |          |          |
6+35       0.2290      0.73  | Q  V     |          |          |          |
6+40       0.2344      0.77  |  Q V     |          |          |          |
6+45       0.2398      0.79  |  Q V     |          |          |          |
6+50       0.2454      0.80  |  Q V     |          |          |          |
6+55       0.2509      0.81  |  Q  V    |          |          |          |
7+ 0       0.2565      0.81  |  Q  V    |          |          |          |
7+ 5       0.2621      0.81  |  Q  V    |          |          |          |
7+10       0.2676      0.81  |  Q  V    |          |          |          |
7+15       0.2732      0.81  |  Q  V    |          |          |          |
7+20       0.2788      0.82  |  Q  V    |          |          |          |
7+25       0.2847      0.85  |  Q  V    |          |          |          |
7+30       0.2908      0.88  |  Q  V    |          |          |          |
7+35       0.2969      0.89  |  Q   V   |          |          |          |
7+40       0.3033      0.93  |  Q   V   |          |          |          |
7+45       0.3099      0.95  |  Q   V   |          |          |          |
7+50       0.3166      0.97  |  Q   V   |          |          |          |
7+55       0.3236      1.01  |   Q  V   |          |          |          |
8+ 0       0.3307      1.04  |   Q  V   |          |          |          |
8+ 5       0.3380      1.06  |   Q   V  |          |          |          |
8+10       0.3458      1.14  |   Q   V  |          |          |          |
8+15       0.3540      1.18  |   Q   V  |          |          |          |
8+20       0.3622      1.20  |   Q   V  |          |          |          |
8+25       0.3705      1.21  |   Q   V  |          |          |          |
8+30       0.3789      1.21  |   Q    V |          |          |          |
8+35       0.3873      1.22  |   Q    V |          |          |          |
8+40       0.3960      1.26  |    Q   V |          |          |          |
8+45       0.4048      1.28  |    Q   V |          |          |          |
8+50       0.4137      1.30  |    Q   V |          |          |          |
8+55       0.4229      1.34  |    Q    V|          |          |          |
```





21+30	1.6340	0.18	Q	|	|	|	V|
21+35	1.6352	0.18	Q	|	|	|	V|
21+40	1.6366	0.21	Q	|	|	|	V|
21+45	1.6382	0.23	Q	|	|	|	V|
21+50	1.6398	0.23	Q	|	|	|	V|
21+55	1.6411	0.19	Q	|	|	|	V|
22+ 0	1.6423	0.18	Q	|	|	|	V|
22+ 5	1.6436	0.18	Q	|	|	|	V|
22+10	1.6450	0.21	Q	|	|	|	V|
22+15	1.6466	0.23	Q	|	|	|	V|
22+20	1.6482	0.23	Q	|	|	|	V|
22+25	1.6495	0.19	Q	|	|	|	V|
22+30	1.6507	0.18	Q	|	|	|	V|
22+35	1.6519	0.17	Q	|	|	|	V|
22+40	1.6530	0.16	Q	|	|	|	V|
22+45	1.6541	0.16	Q	|	|	|	V|
22+50	1.6552	0.16	Q	|	|	|	V|
22+55	1.6564	0.16	Q	|	|	|	V|
23+ 0	1.6575	0.16	Q	|	|	|	V|
23+ 5	1.6586	0.16	Q	|	|	|	V|
23+10	1.6597	0.16	Q	|	|	|	V|
23+15	1.6608	0.16	Q	|	|	|	V|
23+20	1.6619	0.16	Q	|	|	|	V|
23+25	1.6631	0.16	Q	|	|	|	V|
23+30	1.6642	0.16	Q	|	|	|	V|
23+35	1.6653	0.16	Q	|	|	|	V|
23+40	1.6664	0.16	Q	|	|	|	V|
23+45	1.6675	0.16	Q	|	|	|	V|
23+50	1.6686	0.16	Q	|	|	|	V|
23+55	1.6697	0.16	Q	|	|	|	V|
24+ 0	1.6709	0.16	Q	|	|	|	V|
24+ 5	1.6719	0.15	Q	|	|	|	V|
24+10	1.6724	0.07	Q	|	|	|	V|
24+15	1.6726	0.03	Q	|	|	|	V|
24+20	1.6727	0.01	Q	|	|	|	V|
24+25	1.6727	0.01	Q	|	|	|	V|
24+30	1.6727	0.00	Q	|	|	|	V|
24+35	1.6728	0.00	Q	|	|	|	V|
24+40	1.6728	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 11/23/21 File: PROP2YR7B242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 4010

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

BCCOV BLDG B AREA 7 DEVELOPED CONDITION
2 YR 24 HR STORM EVENT
21-0034
2021-11-23 EP

Drainage Area = 12.50(Ac.) = 0.020 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 12.50(Ac.) = 0.020 Sq. Mi.
Length along longest watercourse = 1378.00(Ft.)
Length along longest watercourse measured to centroid = 1136.00(Ft.)
Length along longest watercourse = 0.261 Mi.
Length along longest watercourse measured to centroid = 0.215 Mi.
Difference in elevation = 3.50(Ft.)
Slope along watercourse = 13.4107 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.074 Hr.
Lag time = 4.42 Min.
25% of lag time = 1.10 Min.
40% of lag time = 1.77 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
12.50	2.40	30.00

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
12.50	6.20	77.50

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.200(In)

Point rain (area averaged) = 2.400(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.400(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
12.500	62.70	0.730

Total Area Entered = 12.50(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

62.7 42.7 0.644 0.730 0.221 1.000 0.221
Sum (F) = 0.221

Area averaged mean soil loss (F) (In/Hr) = 0.221
Minimum soil loss rate ((In/Hr)) = 0.110
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.320

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	113.234	19.099	2.406
2	0.167	226.467	56.183	7.078
3	0.250	339.701	16.413	2.068
4	0.333	452.935	5.834	0.735
5	0.417	566.168	1.491	0.188
6	0.500	679.402	0.743	0.094
7	0.583	792.636	0.237	0.030
			Sum = 100.000	Sum= 12.598

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.019	(0.391)	0.006	0.013
2	0.17	0.07	0.019	(0.390)	0.006	0.013
3	0.25	0.07	0.019	(0.388)	0.006	0.013
4	0.33	0.10	0.029	(0.387)	0.009	0.020
5	0.42	0.10	0.029	(0.385)	0.009	0.020
6	0.50	0.10	0.029	(0.384)	0.009	0.020
7	0.58	0.10	0.029	(0.382)	0.009	0.020
8	0.67	0.10	0.029	(0.381)	0.009	0.020
9	0.75	0.10	0.029	(0.379)	0.009	0.020
10	0.83	0.13	0.038	(0.378)	0.012	0.026
11	0.92	0.13	0.038	(0.376)	0.012	0.026
12	1.00	0.13	0.038	(0.375)	0.012	0.026
13	1.08	0.10	0.029	(0.373)	0.009	0.020
14	1.17	0.10	0.029	(0.372)	0.009	0.020
15	1.25	0.10	0.029	(0.370)	0.009	0.020
16	1.33	0.10	0.029	(0.369)	0.009	0.020
17	1.42	0.10	0.029	(0.367)	0.009	0.020
18	1.50	0.10	0.029	(0.366)	0.009	0.020
19	1.58	0.10	0.029	(0.365)	0.009	0.020
20	1.67	0.10	0.029	(0.363)	0.009	0.020
21	1.75	0.10	0.029	(0.362)	0.009	0.020
22	1.83	0.13	0.038	(0.360)	0.012	0.026
23	1.92	0.13	0.038	(0.359)	0.012	0.026
24	2.00	0.13	0.038	(0.357)	0.012	0.026
25	2.08	0.13	0.038	(0.356)	0.012	0.026
26	2.17	0.13	0.038	(0.354)	0.012	0.026
27	2.25	0.13	0.038	(0.353)	0.012	0.026
28	2.33	0.13	0.038	(0.351)	0.012	0.026
29	2.42	0.13	0.038	(0.350)	0.012	0.026
30	2.50	0.13	0.038	(0.349)	0.012	0.026
31	2.58	0.17	0.048	(0.347)	0.015	0.033
32	2.67	0.17	0.048	(0.346)	0.015	0.033
33	2.75	0.17	0.048	(0.344)	0.015	0.033
34	2.83	0.17	0.048	(0.343)	0.015	0.033
35	2.92	0.17	0.048	(0.342)	0.015	0.033
36	3.00	0.17	0.048	(0.340)	0.015	0.033
37	3.08	0.17	0.048	(0.339)	0.015	0.033
38	3.17	0.17	0.048	(0.337)	0.015	0.033
39	3.25	0.17	0.048	(0.336)	0.015	0.033
40	3.33	0.17	0.048	(0.334)	0.015	0.033
41	3.42	0.17	0.048	(0.333)	0.015	0.033
42	3.50	0.17	0.048	(0.332)	0.015	0.033
43	3.58	0.17	0.048	(0.330)	0.015	0.033

44	3.67	0.17	0.048	(0.329)	0.015	0.033
45	3.75	0.17	0.048	(0.328)	0.015	0.033
46	3.83	0.20	0.058	(0.326)	0.018	0.039
47	3.92	0.20	0.058	(0.325)	0.018	0.039
48	4.00	0.20	0.058	(0.323)	0.018	0.039
49	4.08	0.20	0.058	(0.322)	0.018	0.039
50	4.17	0.20	0.058	(0.321)	0.018	0.039
51	4.25	0.20	0.058	(0.319)	0.018	0.039
52	4.33	0.23	0.067	(0.318)	0.022	0.046
53	4.42	0.23	0.067	(0.317)	0.022	0.046
54	4.50	0.23	0.067	(0.315)	0.022	0.046
55	4.58	0.23	0.067	(0.314)	0.022	0.046
56	4.67	0.23	0.067	(0.313)	0.022	0.046
57	4.75	0.23	0.067	(0.311)	0.022	0.046
58	4.83	0.27	0.077	(0.310)	0.025	0.052
59	4.92	0.27	0.077	(0.308)	0.025	0.052
60	5.00	0.27	0.077	(0.307)	0.025	0.052
61	5.08	0.20	0.058	(0.306)	0.018	0.039
62	5.17	0.20	0.058	(0.304)	0.018	0.039
63	5.25	0.20	0.058	(0.303)	0.018	0.039
64	5.33	0.23	0.067	(0.302)	0.022	0.046
65	5.42	0.23	0.067	(0.301)	0.022	0.046
66	5.50	0.23	0.067	(0.299)	0.022	0.046
67	5.58	0.27	0.077	(0.298)	0.025	0.052
68	5.67	0.27	0.077	(0.297)	0.025	0.052
69	5.75	0.27	0.077	(0.295)	0.025	0.052
70	5.83	0.27	0.077	(0.294)	0.025	0.052
71	5.92	0.27	0.077	(0.293)	0.025	0.052
72	6.00	0.27	0.077	(0.291)	0.025	0.052
73	6.08	0.30	0.086	(0.290)	0.028	0.059
74	6.17	0.30	0.086	(0.289)	0.028	0.059
75	6.25	0.30	0.086	(0.287)	0.028	0.059
76	6.33	0.30	0.086	(0.286)	0.028	0.059
77	6.42	0.30	0.086	(0.285)	0.028	0.059
78	6.50	0.30	0.086	(0.284)	0.028	0.059
79	6.58	0.33	0.096	(0.282)	0.031	0.065
80	6.67	0.33	0.096	(0.281)	0.031	0.065
81	6.75	0.33	0.096	(0.280)	0.031	0.065
82	6.83	0.33	0.096	(0.279)	0.031	0.065
83	6.92	0.33	0.096	(0.277)	0.031	0.065
84	7.00	0.33	0.096	(0.276)	0.031	0.065
85	7.08	0.33	0.096	(0.275)	0.031	0.065
86	7.17	0.33	0.096	(0.274)	0.031	0.065
87	7.25	0.33	0.096	(0.272)	0.031	0.065
88	7.33	0.37	0.106	(0.271)	0.034	0.072
89	7.42	0.37	0.106	(0.270)	0.034	0.072
90	7.50	0.37	0.106	(0.269)	0.034	0.072
91	7.58	0.40	0.115	(0.267)	0.037	0.078
92	7.67	0.40	0.115	(0.266)	0.037	0.078
93	7.75	0.40	0.115	(0.265)	0.037	0.078
94	7.83	0.43	0.125	(0.264)	0.040	0.085
95	7.92	0.43	0.125	(0.262)	0.040	0.085
96	8.00	0.43	0.125	(0.261)	0.040	0.085
97	8.08	0.50	0.144	(0.260)	0.046	0.098
98	8.17	0.50	0.144	(0.259)	0.046	0.098
99	8.25	0.50	0.144	(0.258)	0.046	0.098
100	8.33	0.50	0.144	(0.256)	0.046	0.098
101	8.42	0.50	0.144	(0.255)	0.046	0.098
102	8.50	0.50	0.144	(0.254)	0.046	0.098
103	8.58	0.53	0.154	(0.253)	0.049	0.104
104	8.67	0.53	0.154	(0.252)	0.049	0.104
105	8.75	0.53	0.154	(0.250)	0.049	0.104
106	8.83	0.57	0.163	(0.249)	0.052	0.111
107	8.92	0.57	0.163	(0.248)	0.052	0.111
108	9.00	0.57	0.163	(0.247)	0.052	0.111
109	9.08	0.63	0.182	(0.246)	0.058	0.124
110	9.17	0.63	0.182	(0.245)	0.058	0.124
111	9.25	0.63	0.182	(0.243)	0.058	0.124
112	9.33	0.67	0.192	(0.242)	0.061	0.131
113	9.42	0.67	0.192	(0.241)	0.061	0.131
114	9.50	0.67	0.192	(0.240)	0.061	0.131
115	9.58	0.70	0.202	(0.239)	0.065	0.137
116	9.67	0.70	0.202	(0.238)	0.065	0.137
117	9.75	0.70	0.202	(0.236)	0.065	0.137
118	9.83	0.73	0.211	(0.235)	0.068	0.144

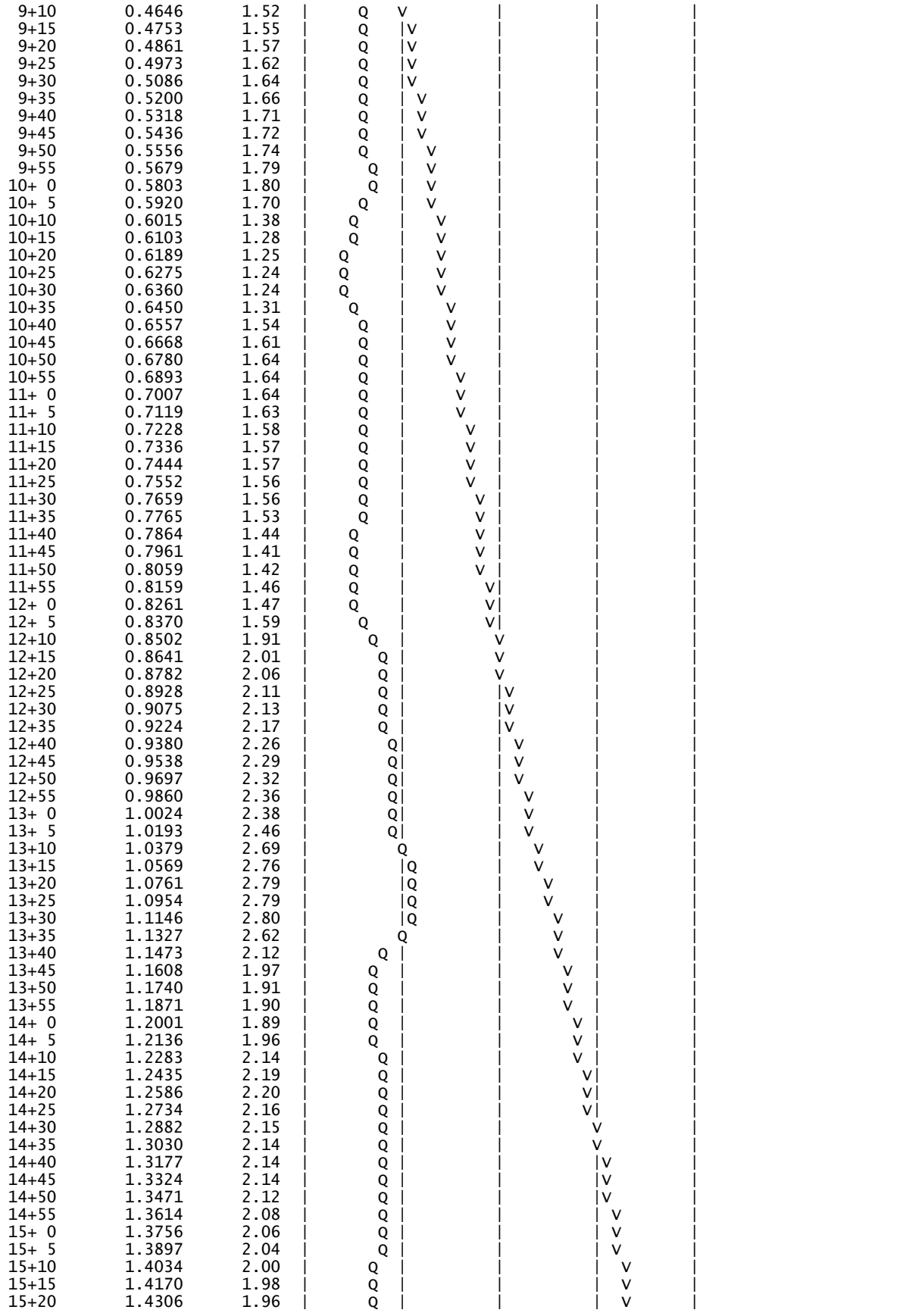
119	9.92	0.73	0.211	(0.234)	0.068	0.144
120	10.00	0.73	0.211	(0.233)	0.068	0.144
121	10.08	0.50	0.144	(0.232)	0.046	0.098
122	10.17	0.50	0.144	(0.231)	0.046	0.098
123	10.25	0.50	0.144	(0.230)	0.046	0.098
124	10.33	0.50	0.144	(0.229)	0.046	0.098
125	10.42	0.50	0.144	(0.227)	0.046	0.098
126	10.50	0.50	0.144	(0.226)	0.046	0.098
127	10.58	0.67	0.192	(0.225)	0.061	0.131
128	10.67	0.67	0.192	(0.224)	0.061	0.131
129	10.75	0.67	0.192	(0.223)	0.061	0.131
130	10.83	0.67	0.192	(0.222)	0.061	0.131
131	10.92	0.67	0.192	(0.221)	0.061	0.131
132	11.00	0.67	0.192	(0.220)	0.061	0.131
133	11.08	0.63	0.182	(0.219)	0.058	0.124
134	11.17	0.63	0.182	(0.218)	0.058	0.124
135	11.25	0.63	0.182	(0.217)	0.058	0.124
136	11.33	0.63	0.182	(0.216)	0.058	0.124
137	11.42	0.63	0.182	(0.214)	0.058	0.124
138	11.50	0.63	0.182	(0.213)	0.058	0.124
139	11.58	0.57	0.163	(0.212)	0.052	0.111
140	11.67	0.57	0.163	(0.211)	0.052	0.111
141	11.75	0.57	0.163	(0.210)	0.052	0.111
142	11.83	0.60	0.173	(0.209)	0.055	0.118
143	11.92	0.60	0.173	(0.208)	0.055	0.118
144	12.00	0.60	0.173	(0.207)	0.055	0.118
145	12.08	0.83	0.240	(0.206)	0.077	0.163
146	12.17	0.83	0.240	(0.205)	0.077	0.163
147	12.25	0.83	0.240	(0.204)	0.077	0.163
148	12.33	0.87	0.250	(0.203)	0.080	0.170
149	12.42	0.87	0.250	(0.202)	0.080	0.170
150	12.50	0.87	0.250	(0.201)	0.080	0.170
151	12.58	0.93	0.269	(0.200)	0.086	0.183
152	12.67	0.93	0.269	(0.199)	0.086	0.183
153	12.75	0.93	0.269	(0.198)	0.086	0.183
154	12.83	0.97	0.278	(0.197)	0.089	0.189
155	12.92	0.97	0.278	(0.196)	0.089	0.189
156	13.00	0.97	0.278	(0.195)	0.089	0.189
157	13.08	1.13	0.326	(0.194)	0.104	0.222
158	13.17	1.13	0.326	(0.193)	0.104	0.222
159	13.25	1.13	0.326	(0.192)	0.104	0.222
160	13.33	1.13	0.326	(0.191)	0.104	0.222
161	13.42	1.13	0.326	(0.190)	0.104	0.222
162	13.50	1.13	0.326	(0.189)	0.104	0.222
163	13.58	0.77	0.221	(0.188)	0.071	0.150
164	13.67	0.77	0.221	(0.187)	0.071	0.150
165	13.75	0.77	0.221	(0.186)	0.071	0.150
166	13.83	0.77	0.221	(0.185)	0.071	0.150
167	13.92	0.77	0.221	(0.184)	0.071	0.150
168	14.00	0.77	0.221	(0.183)	0.071	0.150
169	14.08	0.90	0.259	(0.182)	0.083	0.176
170	14.17	0.90	0.259	(0.181)	0.083	0.176
171	14.25	0.90	0.259	(0.181)	0.083	0.176
172	14.33	0.87	0.250	(0.180)	0.080	0.170
173	14.42	0.87	0.250	(0.179)	0.080	0.170
174	14.50	0.87	0.250	(0.178)	0.080	0.170
175	14.58	0.87	0.250	(0.177)	0.080	0.170
176	14.67	0.87	0.250	(0.176)	0.080	0.170
177	14.75	0.87	0.250	(0.175)	0.080	0.170
178	14.83	0.83	0.240	(0.174)	0.077	0.163
179	14.92	0.83	0.240	(0.173)	0.077	0.163
180	15.00	0.83	0.240	(0.172)	0.077	0.163
181	15.08	0.80	0.230	(0.172)	0.074	0.157
182	15.17	0.80	0.230	(0.171)	0.074	0.157
183	15.25	0.80	0.230	(0.170)	0.074	0.157
184	15.33	0.77	0.221	(0.169)	0.071	0.150
185	15.42	0.77	0.221	(0.168)	0.071	0.150
186	15.50	0.77	0.221	(0.167)	0.071	0.150
187	15.58	0.63	0.182	(0.166)	0.058	0.124
188	15.67	0.63	0.182	(0.165)	0.058	0.124
189	15.75	0.63	0.182	(0.165)	0.058	0.124
190	15.83	0.63	0.182	(0.164)	0.058	0.124
191	15.92	0.63	0.182	(0.163)	0.058	0.124
192	16.00	0.63	0.182	(0.162)	0.058	0.124
193	16.08	0.13	0.038	(0.161)	0.012	0.026

194	16.17	0.13	0.038	(0.160)	0.012	0.026
195	16.25	0.13	0.038	(0.160)	0.012	0.026
196	16.33	0.13	0.038	(0.159)	0.012	0.026
197	16.42	0.13	0.038	(0.158)	0.012	0.026
198	16.50	0.13	0.038	(0.157)	0.012	0.026
199	16.58	0.10	0.029	(0.156)	0.009	0.020
200	16.67	0.10	0.029	(0.156)	0.009	0.020
201	16.75	0.10	0.029	(0.155)	0.009	0.020
202	16.83	0.10	0.029	(0.154)	0.009	0.020
203	16.92	0.10	0.029	(0.153)	0.009	0.020
204	17.00	0.10	0.029	(0.152)	0.009	0.020
205	17.08	0.17	0.048	(0.152)	0.015	0.033
206	17.17	0.17	0.048	(0.151)	0.015	0.033
207	17.25	0.17	0.048	(0.150)	0.015	0.033
208	17.33	0.17	0.048	(0.149)	0.015	0.033
209	17.42	0.17	0.048	(0.149)	0.015	0.033
210	17.50	0.17	0.048	(0.148)	0.015	0.033
211	17.58	0.17	0.048	(0.147)	0.015	0.033
212	17.67	0.17	0.048	(0.146)	0.015	0.033
213	17.75	0.17	0.048	(0.146)	0.015	0.033
214	17.83	0.13	0.038	(0.145)	0.012	0.026
215	17.92	0.13	0.038	(0.144)	0.012	0.026
216	18.00	0.13	0.038	(0.144)	0.012	0.026
217	18.08	0.13	0.038	(0.143)	0.012	0.026
218	18.17	0.13	0.038	(0.142)	0.012	0.026
219	18.25	0.13	0.038	(0.141)	0.012	0.026
220	18.33	0.13	0.038	(0.141)	0.012	0.026
221	18.42	0.13	0.038	(0.140)	0.012	0.026
222	18.50	0.13	0.038	(0.139)	0.012	0.026
223	18.58	0.10	0.029	(0.139)	0.009	0.020
224	18.67	0.10	0.029	(0.138)	0.009	0.020
225	18.75	0.10	0.029	(0.137)	0.009	0.020
226	18.83	0.07	0.019	(0.137)	0.006	0.013
227	18.92	0.07	0.019	(0.136)	0.006	0.013
228	19.00	0.07	0.019	(0.135)	0.006	0.013
229	19.08	0.10	0.029	(0.135)	0.009	0.020
230	19.17	0.10	0.029	(0.134)	0.009	0.020
231	19.25	0.10	0.029	(0.134)	0.009	0.020
232	19.33	0.13	0.038	(0.133)	0.012	0.026
233	19.42	0.13	0.038	(0.132)	0.012	0.026
234	19.50	0.13	0.038	(0.132)	0.012	0.026
235	19.58	0.10	0.029	(0.131)	0.009	0.020
236	19.67	0.10	0.029	(0.131)	0.009	0.020
237	19.75	0.10	0.029	(0.130)	0.009	0.020
238	19.83	0.07	0.019	(0.129)	0.006	0.013
239	19.92	0.07	0.019	(0.129)	0.006	0.013
240	20.00	0.07	0.019	(0.128)	0.006	0.013
241	20.08	0.10	0.029	(0.128)	0.009	0.020
242	20.17	0.10	0.029	(0.127)	0.009	0.020
243	20.25	0.10	0.029	(0.126)	0.009	0.020
244	20.33	0.10	0.029	(0.126)	0.009	0.020
245	20.42	0.10	0.029	(0.125)	0.009	0.020
246	20.50	0.10	0.029	(0.125)	0.009	0.020
247	20.58	0.10	0.029	(0.124)	0.009	0.020
248	20.67	0.10	0.029	(0.124)	0.009	0.020
249	20.75	0.10	0.029	(0.123)	0.009	0.020
250	20.83	0.07	0.019	(0.123)	0.006	0.013
251	20.92	0.07	0.019	(0.122)	0.006	0.013
252	21.00	0.07	0.019	(0.122)	0.006	0.013
253	21.08	0.10	0.029	(0.121)	0.009	0.020
254	21.17	0.10	0.029	(0.121)	0.009	0.020
255	21.25	0.10	0.029	(0.120)	0.009	0.020
256	21.33	0.07	0.019	(0.120)	0.006	0.013
257	21.42	0.07	0.019	(0.119)	0.006	0.013
258	21.50	0.07	0.019	(0.119)	0.006	0.013
259	21.58	0.10	0.029	(0.119)	0.009	0.020
260	21.67	0.10	0.029	(0.118)	0.009	0.020
261	21.75	0.10	0.029	(0.118)	0.009	0.020
262	21.83	0.07	0.019	(0.117)	0.006	0.013
263	21.92	0.07	0.019	(0.117)	0.006	0.013
264	22.00	0.07	0.019	(0.117)	0.006	0.013
265	22.08	0.10	0.029	(0.116)	0.009	0.020
266	22.17	0.10	0.029	(0.116)	0.009	0.020
267	22.25	0.10	0.029	(0.115)	0.009	0.020
268	22.33	0.07	0.019	(0.115)	0.006	0.013

```
269  22.42     0.07      0.019       (  0.115)       0.006        0.013
270  22.50     0.07      0.019       (  0.114)       0.006        0.013
271  22.58     0.07      0.019       (  0.114)       0.006        0.013
272  22.67     0.07      0.019       (  0.114)       0.006        0.013
273  22.75     0.07      0.019       (  0.113)       0.006        0.013
274  22.83     0.07      0.019       (  0.113)       0.006        0.013
275  22.92     0.07      0.019       (  0.113)       0.006        0.013
276  23.00     0.07      0.019       (  0.113)       0.006        0.013
277  23.08     0.07      0.019       (  0.112)       0.006        0.013
278  23.17     0.07      0.019       (  0.112)       0.006        0.013
279  23.25     0.07      0.019       (  0.112)       0.006        0.013
280  23.33     0.07      0.019       (  0.112)       0.006        0.013
281  23.42     0.07      0.019       (  0.111)       0.006        0.013
282  23.50     0.07      0.019       (  0.111)       0.006        0.013
283  23.58     0.07      0.019       (  0.111)       0.006        0.013
284  23.67     0.07      0.019       (  0.111)       0.006        0.013
285  23.75     0.07      0.019       (  0.111)       0.006        0.013
286  23.83     0.07      0.019       (  0.111)       0.006        0.013
287  23.92     0.07      0.019       (  0.110)       0.006        0.013
288  24.00     0.07      0.019       (  0.110)       0.006        0.013
               (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    19.6
      Flood volume = Effective rainfall      1.63(In)
       times area      12.5(Ac.)/[(In)/(Ft.)] =       1.7(Ac.Ft)
      Total soil loss =      0.77(In)
      Total soil loss =     0.800(Ac.Ft)
      Total rainfall =      2.40(In)
      Flood volume =       74050.2 Cubic Feet
      Total soil loss =       34847.1 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      2.796(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                 Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0002      0.03  Q         |         |         |         |
   0+10       0.0011      0.12  Q         |         |         |         |
   0+15       0.0021      0.15  Q         |         |         |         |
   0+20       0.0033      0.18  Q         |         |         |         |
   0+25       0.0049      0.22  Q         |         |         |         |
   0+30       0.0065      0.24  Q         |         |         |         |
   0+35       0.0082      0.24  Q         |         |         |         |
   0+40       0.0099      0.25  Q         |         |         |         |
   0+45       0.0116      0.25  Q         |         |         |         |
   0+50       0.0134      0.26  VQ        |         |         |         |
   0+55       0.0155      0.31  VQ        |         |         |         |
   1+ 0       0.0178      0.32  VQ        |         |         |         |
   1+ 5       0.0199      0.31  VQ        |         |         |         |
   1+10       0.0217      0.27  VQ        |         |         |         |
   1+15       0.0235      0.25  VQ        |         |         |         |
   1+20       0.0252      0.25  Q         |         |         |         |
   1+25       0.0269      0.25  Q         |         |         |         |
   1+30       0.0286      0.25  Q         |         |         |         |
   1+35       0.0303      0.25  Q         |         |         |         |
   1+40       0.0320      0.25  Q         |         |         |         |
   1+45       0.0337      0.25  Q         |         |         |         |
   1+50       0.0355      0.26  VQ        |         |         |         |
   1+55       0.0376      0.31  VQ        |         |         |         |
   2+ 0       0.0399      0.32  VQ        |         |         |         |
   2+ 5       0.0421      0.33  VQ        |         |         |         |
   2+10       0.0444      0.33  |Q        |         |         |         |
   2+15       0.0466      0.33  |Q        |         |         |         |
   2+20       0.0489      0.33  |Q        |         |         |         |
   2+25       0.0512      0.33  |Q        |         |         |         |
   2+30       0.0534      0.33  |Q        |         |         |         |
   2+35       0.0558      0.34  |Q        |         |         |         |
   2+40       0.0585      0.39  |Q        |         |         |         |
   2+45       0.0613      0.40  |Q        |         |         |         |
   2+50       0.0641      0.41  |Q        |         |         |         |
```

2+55	0.0669	0.41	Q			
3+ 0	0.0698	0.41	Q			
3+ 5	0.0726	0.41	Q			
3+10	0.0754	0.41	Q			
3+15	0.0783	0.41	Q			
3+20	0.0811	0.41	Q			
3+25	0.0839	0.41	Q			
3+30	0.0868	0.41	QV			
3+35	0.0896	0.41	QV			
3+40	0.0924	0.41	QV			
3+45	0.0953	0.41	QV			
3+50	0.0982	0.43	QV			
3+55	0.1015	0.47	QV			
4+ 0	0.1048	0.49	QV			
4+ 5	0.1082	0.49	QV			
4+10	0.1116	0.49	QV			
4+15	0.1150	0.49	QV			
4+20	0.1185	0.51	Q			
4+25	0.1223	0.56	Q			
4+30	0.1263	0.57	Q			
4+35	0.1302	0.57	QV			
4+40	0.1342	0.58	QV			
4+45	0.1381	0.58	QV			
4+50	0.1422	0.59	QV			
4+55	0.1466	0.64	QV			
5+ 0	0.1511	0.65	QV			
5+ 5	0.1554	0.62	QV			
5+10	0.1591	0.53	QV			
5+15	0.1626	0.51	QV			
5+20	0.1661	0.51	QV			
5+25	0.1699	0.56	QV			
5+30	0.1739	0.57	Q V			
5+35	0.1779	0.59	Q V			
5+40	0.1823	0.64	Q V			
5+45	0.1868	0.65	Q V			
5+50	0.1913	0.66	Q V			
5+55	0.1958	0.66	Q V			
6+ 0	0.2004	0.66	Q V			
6+ 5	0.2050	0.67	Q V			
6+10	0.2100	0.72	Q V			
6+15	0.2150	0.73	Q V			
6+20	0.2201	0.74	Q V			
6+25	0.2252	0.74	Q V			
6+30	0.2303	0.74	Q V			
6+35	0.2355	0.76	Q V			
6+40	0.2410	0.80	Q V			
6+45	0.2467	0.82	Q V			
6+50	0.2523	0.82	Q V			
6+55	0.2580	0.82	Q V			
7+ 0	0.2636	0.82	Q V			
7+ 5	0.2693	0.82	Q V			
7+10	0.2750	0.82	Q V			
7+15	0.2806	0.82	Q V			
7+20	0.2864	0.84	Q V			
7+25	0.2925	0.88	Q V			
7+30	0.2987	0.90	Q V			
7+35	0.3050	0.92	Q V			
7+40	0.3117	0.97	Q V			
7+45	0.3184	0.98	Q V			
7+50	0.3253	1.00	Q V			
7+55	0.3325	1.05	Q V			
8+ 0	0.3398	1.06	Q V			
8+ 5	0.3474	1.10	Q V			
8+10	0.3556	1.19	Q V			
8+15	0.3640	1.22	Q V			
8+20	0.3725	1.23	Q V			
8+25	0.3810	1.23	Q V			
8+30	0.3895	1.23	Q V			
8+35	0.3981	1.25	Q V			
8+40	0.4070	1.30	Q V			
8+45	0.4160	1.31	Q V			
8+50	0.4252	1.33	Q V			
8+55	0.4347	1.38	Q V			
9+ 0	0.4443	1.39	Q V			
9+ 5	0.4541	1.43	Q V			



15+25	1.4437	1.91	| Q |	|	|	| V |
15+30	1.4568	1.90	| Q |	|	|	| V |
15+35	1.4694	1.83	| Q |	|	|	| V |
15+40	1.4808	1.65	| Q |	|	|	| V |
15+45	1.4917	1.59	| Q |	|	|	| V |
15+50	1.5025	1.57	| Q |	|	|	| V |
15+55	1.5133	1.57	| Q |	|	|	| V |
16+ 0	1.5241	1.56	| Q |	|	|	| V |
16+ 5	1.5332	1.33	| Q |	|	|	| V |
16+10	1.5376	0.63	| Q |	|	|	| V |
16+15	1.5406	0.43	|Q |	|	|	| V |
16+20	1.5431	0.36	|Q |	|	|	| V |
16+25	1.5454	0.34	|Q |	|	|	| V |
16+30	1.5477	0.33	|Q |	|	|	| V |
16+35	1.5499	0.31	|Q |	|	|	| V |
16+40	1.5517	0.27	|Q |	|	|	| V |
16+45	1.5534	0.25	|Q |	|	|	| V |
16+50	1.5552	0.25	Q |	|	|	| V |
16+55	1.5569	0.25	Q |	|	|	| V |
17+ 0	1.5586	0.25	Q |	|	|	| V |
17+ 5	1.5605	0.28	|Q |	|	|	| V |
17+10	1.5630	0.37	|Q |	|	|	| V |
17+15	1.5658	0.40	|Q |	|	|	| V |
17+20	1.5686	0.41	|Q |	|	|	| V |
17+25	1.5714	0.41	|Q |	|	|	| V |
17+30	1.5742	0.41	|Q |	|	|	| V |
17+35	1.5771	0.41	|Q |	|	|	| V |
17+40	1.5799	0.41	|Q |	|	|	| V |
17+45	1.5827	0.41	|Q |	|	|	| V |
17+50	1.5855	0.40	|Q |	|	|	| V |
17+55	1.5879	0.35	|Q |	|	|	| V |
18+ 0	1.5902	0.34	|Q |	|	|	| V |
18+ 5	1.5925	0.33	|Q |	|	|	| V |
18+10	1.5947	0.33	|Q |	|	|	| V |
18+15	1.5970	0.33	|Q |	|	|	| V |
18+20	1.5993	0.33	|Q |	|	|	| V |
18+25	1.6015	0.33	|Q |	|	|	| V |
18+30	1.6038	0.33	|Q |	|	|	| V |
18+35	1.6060	0.31	|Q |	|	|	| V |
18+40	1.6078	0.27	|Q |	|	|	| V |
18+45	1.6095	0.25	|Q |	|	|	| V |
18+50	1.6111	0.23	Q |	|	|	| V |
18+55	1.6124	0.19	Q |	|	|	| V |
19+ 0	1.6136	0.17	Q |	|	|	| V |
19+ 5	1.6149	0.18	Q |	|	|	| V |
19+10	1.6164	0.23	Q |	|	|	| V |
19+15	1.6181	0.24	Q |	|	|	| V |
19+20	1.6199	0.26	|Q |	|	|	| V |
19+25	1.6220	0.31	|Q |	|	|	| V |
19+30	1.6242	0.32	|Q |	|	|	| V |
19+35	1.6264	0.31	|Q |	|	|	| V |
19+40	1.6282	0.27	|Q |	|	|	| V |
19+45	1.6299	0.25	|Q |	|	|	| V |
19+50	1.6315	0.23	Q |	|	|	| V |
19+55	1.6328	0.19	Q |	|	|	| V |
20+ 0	1.6340	0.17	Q |	|	|	| V |
20+ 5	1.6353	0.18	Q |	|	|	| V |
20+10	1.6368	0.23	Q |	|	|	| V |
20+15	1.6385	0.24	Q |	|	|	| V |
20+20	1.6402	0.24	Q |	|	|	| V |
20+25	1.6419	0.25	Q |	|	|	| V |
20+30	1.6436	0.25	Q |	|	|	| V |
20+35	1.6453	0.25	Q |	|	|	| V |
20+40	1.6470	0.25	Q |	|	|	| V |
20+45	1.6487	0.25	Q |	|	|	| V |
20+50	1.6503	0.23	Q |	|	|	| V |
20+55	1.6515	0.18	Q |	|	|	| V |
21+ 0	1.6527	0.17	Q |	|	|	| V |
21+ 5	1.6540	0.18	Q |	|	|	| V |
21+10	1.6555	0.23	Q |	|	|	| V |
21+15	1.6572	0.24	Q |	|	|	| V |
21+20	1.6588	0.23	Q |	|	|	| V|
21+25	1.6600	0.18	Q |	|	|	| V|
21+30	1.6612	0.17	Q |	|	|	| V|
21+35	1.6625	0.18	Q |	|	|	| V|

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  21+40       1.6640      0.23  Q         |         |         |         v|
  21+45       1.6657      0.24  Q         |         |         |         v|
  21+50       1.6673      0.23  Q         |         |         |         v|
  21+55       1.6685      0.18  Q         |         |         |         v|
  22+ 0       1.6697      0.17  Q         |         |         |         v|
  22+ 5       1.6710      0.18  Q         |         |         |         v|
  22+10       1.6725      0.23  Q         |         |         |         v|
  22+15       1.6742      0.24  Q         |         |         |         v|
  22+20       1.6758      0.23  Q         |         |         |         v|
  22+25       1.6770      0.18  Q         |         |         |         v|
  22+30       1.6782      0.17  Q         |         |         |         v|
  22+35       1.6794      0.17  Q         |         |         |         v|
  22+40       1.6805      0.17  Q         |         |         |         v|
  22+45       1.6816      0.16  Q         |         |         |         v|
  22+50       1.6828      0.16  Q         |         |         |         v|
  22+55       1.6839      0.16  Q         |         |         |         v|
  23+ 0       1.6850      0.16  Q         |         |         |         v|
  23+ 5       1.6862      0.16  Q         |         |         |         v|
  23+10       1.6873      0.16  Q         |         |         |         v|
  23+15       1.6884      0.16  Q         |         |         |         v|
  23+20       1.6896      0.16  Q         |         |         |         v|
  23+25       1.6907      0.16  Q         |         |         |         v|
  23+30       1.6918      0.16  Q         |         |         |         v|
  23+35       1.6930      0.16  Q         |         |         |         v|
  23+40       1.6941      0.16  Q         |         |         |         v|
  23+45       1.6952      0.16  Q         |         |         |         v|
  23+50       1.6964      0.16  Q         |         |         |         v|
  23+55       1.6975      0.16  Q         |         |         |         v|
  24+ 0       1.6986      0.16  Q         |         |         |         v|
  24+ 5       1.6995      0.13  Q         |         |         |         v|
  24+10       1.6998      0.04  Q         |         |         |         v|
  24+15       1.6999      0.01  Q         |         |         |         v|
  24+20       1.6999      0.00  Q         |         |         |         v|
  24+25       1.7000      0.00  Q         |         |         |         v|
  24+30       1.7000      0.00  Q         |         |         |          v
-------------------------------------------------------------------------
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STAGE-STORAGE/OUTFLOW TABLES

BLDG B CMP CHAMBERS B1- Stage/Storage/Outflow Table

W.O.# 21-0034

Basin Information: CMP CHAMBERS

$Q_{ORIFICE}$= Cd*Area*(2*G*H)$^{0.5}$

Q_{WEIR}= C*L*H$^{3/2}$

2-Year	ORIFICE
Q EXISTING	0.41
Opening (in)	2
# of Orifices	2
Area (sf)	0.0218
Opening (ft)	0.1667
Total Area (sf)	0.0436
G (ft/s^2)	32.2
Cd	0.66
Invert H (ft)	2.125

2-Year

#	Elevation (ft)	Depth (ft)	Storage (cf)	Storage (ac-ft)	H (ft)	Q (cfs)	Total Q (cfs)	Comments
1	2208	0	0.00	0.000			0.00	Bottom of Basin/Invert of 2-Yr Orifice
2	2208.083	**0.08333**	**283.19**	**0.007**	0			Middle of 2-Yr Orifice
3	**2208.5**	**0.5**	**1699.15**	**0.039**	**0.416666667**	0.15	0.15	
4	2209	1	**4710.82**	**0.108**	**0.916666667**	0.22	0.22	
5	**2209.5**	1.5	**8475.18**	**0.195**	**1.416666667**	0.28	0.28	
6	2210	2	**12765.22**	**0.293**	**1.916666667**	0.32	0.32	
7	**2210.5**	2.5	**17432.90**	**0.400**	**2.416666667**	0.36	0.36	
8	2211	3	**22364.72**	**0.513**	**2.916666667**	0.39	0.39	
9	**2211.5**	**3.5**	**27464.99**	**0.631**	**3.416666667**	**0.43**	0.43	
10	2212	4	**32647.43**	**0.749**	**3.916666667**	0.46	0.46	
11	**2212.5**	4.5	**37829.87**	**0.868**	**4.416666667**	0.49	0.49	
12	2213	5	**42930.14**	**0.986**	**4.916666667**	0.51	0.51	
13	**2213.5**	5.5	**47861.96**	**1.099**	**5.416666667**	0.54	0.54	
14	2214	6	**52529.64**	**1.206**	**5.916666667**	0.56	0.56	
15	**2214.5**	6.5	**56819.68**	**1.304**	**6.416666667**	0.59	0.59	
16	2215	7	**60584.05**	**1.391**	**6.916666667**	0.61	0.61	
17	**2215.5**	7.50	**63595.71**	**1.460**	**7.416666667**	0.63	0.63	
18	2216	8	**65294.86**	**1.499**	**7.916666667**	0.65	0.65	Top of chambers

BLDG B CMP CHAMBERS B2 - Stage/Storage/Outflow Table

W.O.# 21-0034

Basin Information: CMP CHAMBERS

$Q_{ORIFICE}$= Cd*Area*(2*G*H)$^{0.5}$

Q_{WEIR}= C*L*H$^{3/2}$

2-Year	ORIFICE
Q EXISTING	0.71
Opening (in)	3.5
# of Orifices	1
Area (sf)	0.0668
Opening (ft)	0.2917
Total Area (sf)	0.0668
G (ft/s^2)	32.2
Cd	0.66
Invert H (ft)	2.125

2-Year

#	Elevation (ft)	Depth (ft)	Storage (cf)	Storage (ac-ft)	H (ft)	Q (cfs)	Total Q (cfs)	Comments
1	2208	0	0.00	0.000			0.00	Bottom of Basin/Invert of 2-Yr Orifice
2	2208.146	**0.14583**	**496.73**	**0.011**	0			Middle of 2-Yr Orifice
3	**2208.5**	**0.5**	**1703.08**	**0.039**	**0.354166667**	0.21	0.21	
4	2209	1	**4721.70**	**0.108**	**0.854166667**	0.33	0.33	
5	**2209.5**	1.5	**8494.75**	**0.195**	**1.354166667**	0.41	0.41	
6	2210	2	**12794.70**	**0.294**	**1.854166667**	0.48	0.48	
7	**2210.5**	2.5	**17473.16**	**0.401**	**2.354166667**	0.54	0.54	
8	2211	3	**22416.37**	**0.515**	**2.854166667**	0.60	0.60	
9	**2211.5**	**3.5**	**27528.42**	**0.632**	**3.354166667**	**0.65**	0.65	
10	2212	4	**32722.83**	**0.751**	**3.854166667**	0.69	0.69	
11	**2212.5**	4.5	**37917.23**	**0.870**	**4.354166667**	0.74	0.74	
12	2213	5	**43029.29**	**0.988**	**4.854166667**	0.78	0.78	
13	**2213.5**	5.5	**47972.50**	**1.101**	**5.354166667**	0.82	0.82	
14	2214	6	**52650.96**	**1.209**	**5.854166667**	0.86	0.86	
15	**2214.5**	6.5	**56950.90**	**1.307**	**6.354166667**	0.89	0.89	
16	2215	7	**60723.96**	**1.394**	**6.854166667**	0.93	0.93	
17	**2215.5**	7.50	**63742.58**	**1.463**	**7.354166667**	0.96	0.96	
18	2216	8	**65445.66**	**1.502**	**7.854166667**	0.99	0.99	Top of chambers

BASIN ROUTING (2-YEAR, 24-HOUR STORM EVENT)

FLOOD HYDROGRAPH ROUTING PROGRAM
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Study date: 11/24/21

BCCOV BLDG B AREA 3
2-YR, 24-HR STORM EVENT
21-0034
2021-12-02 EP

Program License Serial Number 4010

********** HYDROGRAPH INFORMATION **********

From study/file name: PROP2YR3B242.rte

**********HYDROGRAPH DATA**********

Number of intervals = 296
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2.746 (CFS)
Total volume = 1.673 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

++++++++++

Process from Point/Station 100.000 to Point/Station 101.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 296
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

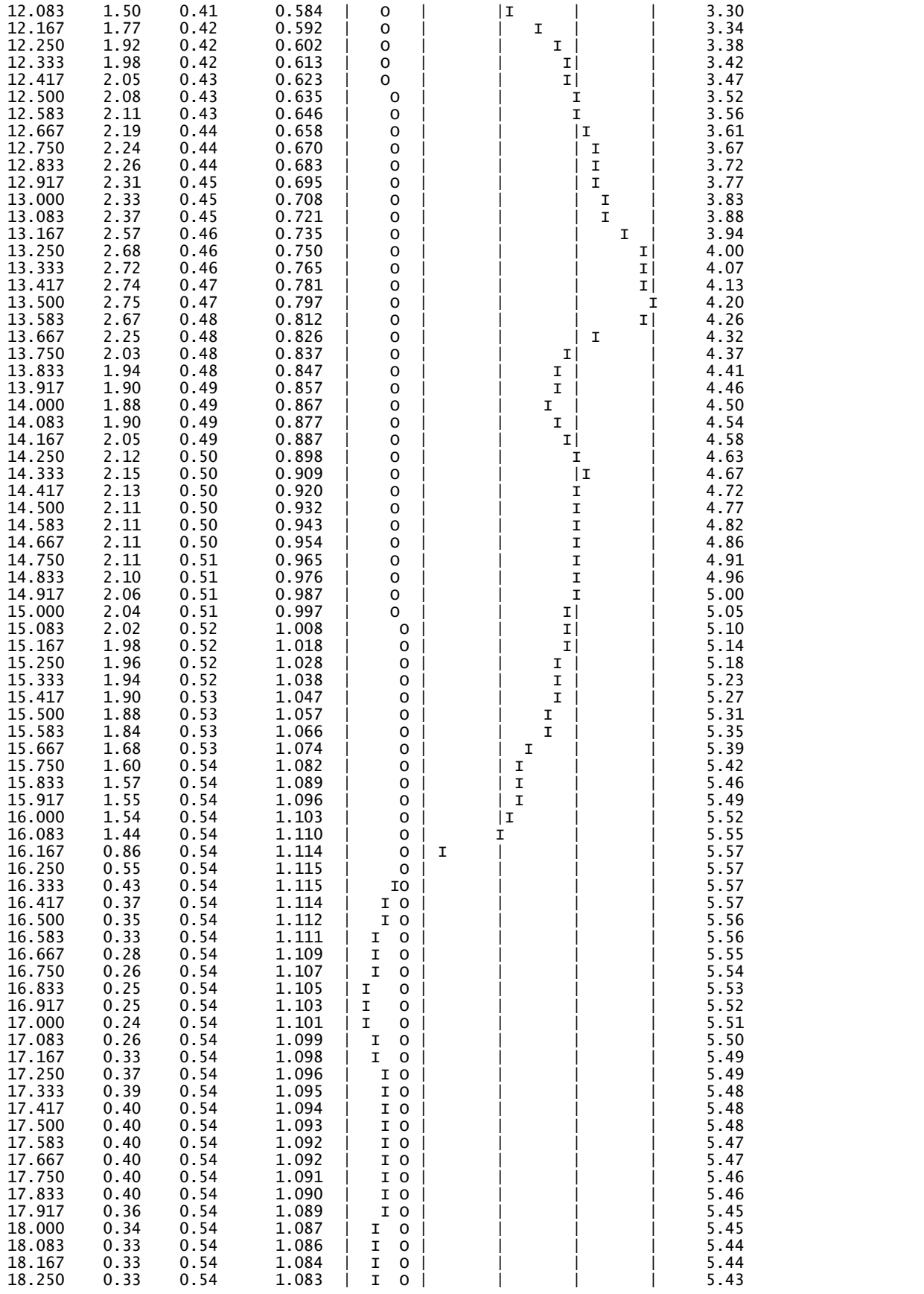
Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.083	0.007	0.001	0.007	0.007
0.500	0.039	0.150	0.038	0.040
1.000	0.108	0.220	0.107	0.109
1.500	0.195	0.280	0.194	0.196
2.000	0.293	0.320	0.292	0.294
2.500	0.400	0.360	0.399	0.401
3.000	0.513	0.390	0.512	0.514
3.500	0.631	0.430	0.630	0.632
4.000	0.749	0.460	0.747	0.751
4.500	0.868	0.490	0.866	0.870
5.000	0.986	0.510	0.984	0.988
5.500	1.099	0.540	1.097	1.101
6.000	1.206	0.560	1.204	1.208
6.500	1.304	0.590	1.302	1.306
7.000	1.391	0.610	1.389	1.393
7.500	1.460	0.630	1.458	1.462
8.000	1.499	0.650	1.497	1.501

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.7	1.37	2.06	2.75	Depth (Ft.)
0.083	0.01	0.00	0.000	O					0.00
0.167	0.09	0.00	0.000	OI					0.00
0.250	0.13	0.00	0.001	OI					0.01
0.333	0.15	0.00	0.002	OI					0.03
0.417	0.20	0.00	0.003	O I					0.04
0.500	0.22	0.00	0.005	O I					0.06
0.583	0.23	0.00	0.006	O I					0.08
0.667	0.24	0.01	0.008	O I					0.10
0.750	0.24	0.01	0.010	O I					0.12
0.833	0.25	0.02	0.011	O I					0.14
0.917	0.29	0.03	0.013	O I					0.16
1.000	0.31	0.04	0.015	O I					0.18
1.083	0.31	0.05	0.017	O I					0.21
1.167	0.28	0.05	0.018	O I					0.23
1.250	0.26	0.06	0.020	O I					0.25
1.333	0.25	0.07	0.021	O I					0.27
1.417	0.25	0.07	0.022	O I					0.28
1.500	0.24	0.08	0.023	O I					0.30
1.583	0.24	0.08	0.025	O I					0.31
1.667	0.24	0.09	0.026	OI					0.33
1.750	0.24	0.09	0.027	OI					0.34
1.833	0.25	0.10	0.028	OI					0.35
1.917	0.29	0.10	0.029	O I					0.37
2.000	0.31	0.11	0.030	O I					0.39
2.083	0.32	0.12	0.032	O I					0.40
2.167	0.32	0.12	0.033	O I					0.42
2.250	0.32	0.13	0.034	O I					0.44
2.333	0.32	0.13	0.036	O I					0.46
2.417	0.32	0.14	0.037	O I					0.47
2.500	0.32	0.15	0.038	O I					0.49
2.583	0.33	0.15	0.039	O I					0.50
2.667	0.37	0.15	0.041	O I					0.51
2.750	0.39	0.15	0.042	O I					0.52
2.833	0.40	0.16	0.044	O I					0.54
2.917	0.40	0.16	0.046	O I					0.55
3.000	0.40	0.16	0.047	O I					0.56
3.083	0.40	0.16	0.049	O I					0.57
3.167	0.40	0.16	0.051	O I					0.58
3.250	0.40	0.16	0.052	O I					0.60
3.333	0.40	0.17	0.054	O I					0.61
3.417	0.40	0.17	0.056	O I					0.62
3.500	0.40	0.17	0.057	O I					0.63
3.583	0.40	0.17	0.059	O I					0.64
3.667	0.40	0.17	0.061	O I					0.66
3.750	0.40	0.17	0.062	O I					0.67
3.833	0.41	0.18	0.064	O I					0.68
3.917	0.45	0.18	0.065	O I					0.69
4.000	0.47	0.18	0.067	O I					0.71
4.083	0.48	0.18	0.069	O I					0.72
4.167	0.48	0.18	0.072	O I					0.74
4.250	0.48	0.19	0.074	O I					0.75
4.333	0.49	0.19	0.076	O I					0.77
4.417	0.53	0.19	0.078	O I					0.78
4.500	0.55	0.19	0.080	O I					0.80
4.583	0.56	0.19	0.083	O I					0.82
4.667	0.56	0.20	0.085	O I					0.84
4.750	0.57	0.20	0.088	O I					0.85
4.833	0.57	0.20	0.090	O I					0.87
4.917	0.61	0.20	0.093	O I					0.89
5.000	0.63	0.21	0.096	O I					0.91
5.083	0.63	0.21	0.099	O I					0.93
5.167	0.55	0.21	0.101	O I					0.95
5.250	0.51	0.22	0.104	O I					0.97
5.333	0.51	0.22	0.106	O I					0.98
5.417	0.54	0.22	0.108	O I					1.00
5.500	0.55	0.22	0.110	O I					1.01
5.583	0.57	0.22	0.112	O I					1.02
5.667	0.61	0.22	0.115	O I					1.04
5.750	0.63	0.23	0.118	O I					1.05

```
 5.833    0.64    0.23      0.120   | o    I|       |       |       |     1.07
 5.917    0.64    0.23      0.123   | o    I|       |       |       |     1.09
 6.000    0.65    0.23      0.126   | o    I|       |       |       |     1.10
 6.083    0.65    0.23      0.129   | o    I|       |       |       |     1.12
 6.167    0.69    0.24      0.132   | o     I       |       |       |     1.14
 6.250    0.71    0.24      0.135   | o     I       |       |       |     1.16
 6.333    0.72    0.24      0.138   | o     I       |       |       |     1.17
 6.417    0.73    0.24      0.142   | o     I       |       |       |     1.19
 6.500    0.73    0.25      0.145   | o     I       |       |       |     1.21
 6.583    0.73    0.25      0.148   | o     I       |       |       |     1.23
 6.667    0.77    0.25      0.152   | o     |I      |       |       |     1.25
 6.750    0.79    0.25      0.156   | o     |I      |       |       |     1.27
 6.833    0.80    0.26      0.159   | o     |I      |       |       |     1.29
 6.917    0.81    0.26      0.163   |  o    |I      |       |       |     1.32
 7.000    0.81    0.26      0.167   |  o    |I      |       |       |     1.34
 7.083    0.81    0.26      0.171   |  o    |I      |       |       |     1.36
 7.167    0.81    0.27      0.174   |  o    |I      |       |       |     1.38
 7.250    0.81    0.27      0.178   |  o    |I      |       |       |     1.40
 7.333    0.82    0.27      0.182   |  o    |I      |       |       |     1.42
 7.417    0.85    0.27      0.186   |  o    |I      |       |       |     1.45
 7.500    0.88    0.28      0.190   |  o    | I     |       |       |     1.47
 7.583    0.89    0.28      0.194   |  o    | I     |       |       |     1.49
 7.667    0.93    0.28      0.198   |  o    | I     |       |       |     1.52
 7.750    0.95    0.28      0.203   |  o    |  I    |       |       |     1.54
 7.833    0.97    0.29      0.208   |  o    |  I    |       |       |     1.56
 7.917    1.01    0.29      0.212   |  o    |  I    |       |       |     1.59
 8.000    1.04    0.29      0.217   |  o    |   I   |       |       |     1.61
 8.083    1.06    0.29      0.223   |  o    |   I   |       |       |     1.64
 8.167    1.14    0.29      0.228   |  o    |    I  |       |       |     1.67
 8.250    1.18    0.30      0.234   |  o    |    I  |       |       |     1.70
 8.333    1.20    0.30      0.240   |  o    |    I  |       |       |     1.73
 8.417    1.21    0.30      0.247   |  o    |     I |       |       |     1.76
 8.500    1.21    0.30      0.253   |  o    |     I |       |       |     1.79
 8.583    1.22    0.31      0.259   |  o    |     I |       |       |     1.83
 8.667    1.26    0.31      0.265   |  o    |     I |       |       |     1.86
 8.750    1.28    0.31      0.272   |  o    |     I |       |       |     1.89
 8.833    1.30    0.31      0.279   |  o    |      I|       |       |     1.93
 8.917    1.34    0.32      0.286   |  o    |      I|       |       |     1.96
 9.000    1.36    0.32      0.293   |  o    |      I|       |       |     2.00
 9.083    1.38    0.32      0.300   |  o    |       I       |       |     2.03
 9.167    1.46    0.33      0.308   |  o    |       |I      |       |     2.07
 9.250    1.51    0.33      0.316   |  o    |       |I      |       |     2.11
 9.333    1.53    0.33      0.324   |  o    |       |I      |       |     2.14
 9.417    1.58    0.33      0.332   |  o    |       | I     |       |     2.18
 9.500    1.60    0.34      0.341   |  o    |       | I     |       |     2.22
 9.583    1.62    0.34      0.350   |  o    |       | I     |       |     2.26
 9.667    1.66    0.34      0.358   |   o   |       |  I    |       |     2.31
 9.750    1.68    0.35      0.368   |   o   |       |  I    |       |     2.35
 9.833    1.70    0.35      0.377   |   o   |       |  I    |       |     2.39
 9.917    1.74    0.35      0.386   |   o   |       |   I   |       |     2.44
10.000    1.76    0.36      0.396   |   o   |       |   I   |       |     2.48
10.083    1.72    0.36      0.405   |   o   |       |   I   |       |     2.52
10.167    1.46    0.36      0.414   |   o   |       |I      |       |     2.56
10.250    1.32    0.37      0.421   |   o   |      I|       |       |     2.59
10.333    1.26    0.37      0.427   |   o   |     I |       |       |     2.62
10.417    1.24    0.37      0.433   |   o   |     I |       |       |     2.65
10.500    1.22    0.37      0.439   |   o   |     I |       |       |     2.67
10.583    1.26    0.37      0.445   |   o   |     I |       |       |     2.70
10.667    1.44    0.37      0.452   |   o   |       I       |       |     2.73
10.750    1.54    0.38      0.460   |   o   |       |I      |       |     2.76
10.833    1.58    0.38      0.468   |   o   |       | I     |       |     2.80
10.917    1.60    0.38      0.476   |   o   |       | I     |       |     2.84
11.000    1.61    0.38      0.485   |   o   |       | I     |       |     2.87
11.083    1.61    0.38      0.493   |   o   |       | I     |       |     2.91
11.167    1.57    0.39      0.501   |   o   |       | I     |       |     2.95
11.250    1.55    0.39      0.510   |   o   |       | I     |       |     2.98
11.333    1.55    0.39      0.518   |   o   |       | I     |       |     3.02
11.417    1.54    0.39      0.525   |   o   |       |I      |       |     3.05
11.500    1.54    0.40      0.533   |   o   |       |I      |       |     3.09
11.583    1.53    0.40      0.541   |   o   |       |I      |       |     3.12
11.667    1.45    0.40      0.549   |   o   |       I       |       |     3.15
11.750    1.41    0.40      0.556   |   o   |       I       |       |     3.18
11.833    1.40    0.41      0.563   |   o   |       I       |       |     3.21
11.917    1.43    0.41      0.569   |   o   |       I       |       |     3.24
12.000    1.44    0.41      0.577   |   o   |       I       |       |     3.27
```



18.333	0.32	0.54	1.082	| I o |	|	|	|	5.42
18.417	0.32	0.53	1.080	| I o |	|	|	|	5.42
18.500	0.32	0.53	1.079	| I o |	|	|	|	5.41
18.583	0.32	0.53	1.077	| I o |	|	|	|	5.40
18.667	0.28	0.53	1.076	| I o |	|	|	|	5.40
18.750	0.26	0.53	1.074	| I o |	|	|	|	5.39
18.833	0.24	0.53	1.072	| I o |	|	|	|	5.38
18.917	0.20	0.53	1.070	| I o |	|	|	|	5.37
19.000	0.18	0.53	1.067	| I o |	|	|	|	5.36
19.083	0.18	0.53	1.065	| I o |	|	|	|	5.35
19.167	0.21	0.53	1.063	| I o |	|	|	|	5.34
19.250	0.23	0.53	1.060	| I o |	|	|	|	5.33
19.333	0.24	0.53	1.058	| I o |	|	|	|	5.32
19.417	0.29	0.53	1.057	| I o |	|	|	|	5.31
19.500	0.31	0.53	1.055	| I o |	|	|	|	5.31
19.583	0.31	0.53	1.053	| I o |	|	|	|	5.30
19.667	0.28	0.53	1.052	| I o |	|	|	|	5.29
19.750	0.26	0.53	1.050	| I o |	|	|	|	5.28
19.833	0.24	0.53	1.048	| I o |	|	|	|	5.27
19.917	0.20	0.53	1.046	| I o |	|	|	|	5.27
20.000	0.18	0.53	1.044	| I o |	|	|	|	5.26
20.083	0.18	0.52	1.041	| I o |	|	|	|	5.24
20.167	0.21	0.52	1.039	| I o |	|	|	|	5.23
20.250	0.23	0.52	1.037	| I o |	|	|	|	5.23
20.333	0.24	0.52	1.035	| I o |	|	|	|	5.22
20.417	0.24	0.52	1.033	| I o |	|	|	|	5.21
20.500	0.24	0.52	1.031	| I o |	|	|	|	5.20
20.583	0.24	0.52	1.029	| I o |	|	|	|	5.19
20.667	0.24	0.52	1.027	| I o |	|	|	|	5.18
20.750	0.24	0.52	1.025	| I o |	|	|	|	5.17
20.833	0.24	0.52	1.023	| I o |	|	|	|	5.17
20.917	0.20	0.52	1.021	| I o |	|	|	|	5.16
21.000	0.18	0.52	1.019	| I o |	|	|	|	5.15
21.083	0.18	0.52	1.017	| I o |	|	|	|	5.14
21.167	0.21	0.52	1.014	| I o |	|	|	|	5.13
21.250	0.23	0.52	1.012	| I o |	|	|	|	5.12
21.333	0.23	0.52	1.010	| I o |	|	|	|	5.11
21.417	0.19	0.52	1.008	| I o |	|	|	|	5.10
21.500	0.18	0.52	1.006	| I o |	|	|	|	5.09
21.583	0.18	0.51	1.004	| I o |	|	|	|	5.08
21.667	0.21	0.51	1.001	| I o |	|	|	|	5.07
21.750	0.23	0.51	0.999	| I o |	|	|	|	5.06
21.833	0.23	0.51	0.997	| I o |	|	|	|	5.05
21.917	0.19	0.51	0.995	| I o |	|	|	|	5.04
22.000	0.18	0.51	0.993	| I o |	|	|	|	5.03
22.083	0.18	0.51	0.991	| I o |	|	|	|	5.02
22.167	0.21	0.51	0.989	| I o |	|	|	|	5.01
22.250	0.23	0.51	0.987	| I o |	|	|	|	5.00
22.333	0.23	0.51	0.985	| I o |	|	|	|	4.99
22.417	0.19	0.51	0.983	| I o |	|	|	|	4.99
22.500	0.18	0.51	0.980	| I o |	|	|	|	4.98
22.583	0.17	0.51	0.978	| I o |	|	|	|	4.97
22.667	0.16	0.51	0.976	| I o |	|	|	|	4.96
22.750	0.16	0.51	0.973	| I o |	|	|	|	4.95
22.833	0.16	0.51	0.971	| I o |	|	|	|	4.94
22.917	0.16	0.51	0.969	| I o |	|	|	|	4.93
23.000	0.16	0.51	0.966	| I o |	|	|	|	4.92
23.083	0.16	0.51	0.964	| I o |	|	|	|	4.91
23.167	0.16	0.51	0.962	| I o |	|	|	|	4.90
23.250	0.16	0.51	0.959	| I o |	|	|	|	4.89
23.333	0.16	0.51	0.957	| I o |	|	|	|	4.88
23.417	0.16	0.50	0.954	| I o |	|	|	|	4.87
23.500	0.16	0.50	0.952	| I o |	|	|	|	4.86
23.583	0.16	0.50	0.950	| I o |	|	|	|	4.85
23.667	0.16	0.50	0.947	| I o |	|	|	|	4.84
23.750	0.16	0.50	0.945	| I o |	|	|	|	4.83
23.833	0.16	0.50	0.943	| I o |	|	|	|	4.82
23.917	0.16	0.50	0.940	| I o |	|	|	|	4.81
24.000	0.16	0.50	0.938	| I o |	|	|	|	4.80
24.083	0.15	0.50	0.936	| I o |	|	|	|	4.79
24.167	0.07	0.50	0.933	I o |	|	|	|	4.77
24.250	0.03	0.50	0.930	I o |	|	|	|	4.76
24.333	0.01	0.50	0.926	I o |	|	|	|	4.75
24.417	0.01	0.50	0.923	I o |	|	|	|	4.73
24.500	0.00	0.50	0.920	I o |	|	|	|	4.72

24.583	0.00	0.50	0.916	I	O	|	|	|	|	4.70
24.667	0.00	0.50	0.913	I	O	|	|	|	|	4.69
24.750	0.00	0.50	0.909	I	O	|	|	|	|	4.68
24.833	0.00	0.50	0.906	I	O	|	|	|	|	4.66
24.917	0.00	0.50	0.903	I	O	|	|	|	|	4.65
25.000	0.00	0.50	0.899	I	O	|	|	|	|	4.63
25.083	0.00	0.49	0.896	I	O	|	|	|	|	4.62
25.167	0.00	0.49	0.892	I	O	|	|	|	|	4.60
25.250	0.00	0.49	0.889	I	O	|	|	|	|	4.59
25.333	0.00	0.49	0.886	I	O	|	|	|	|	4.57
25.417	0.00	0.49	0.882	I	O	|	|	|	|	4.56
25.500	0.00	0.49	0.879	I	O	|	|	|	|	4.55
25.583	0.00	0.49	0.875	I	O	|	|	|	|	4.53
25.667	0.00	0.49	0.872	I	O	|	|	|	|	4.52
25.750	0.00	0.49	0.869	I	O	|	|	|	|	4.50
25.833	0.00	0.49	0.865	I	O	|	|	|	|	4.49
25.917	0.00	0.49	0.862	I	O	|	|	|	|	4.47
26.000	0.00	0.49	0.859	I	O	|	|	|	|	4.46
26.083	0.00	0.49	0.855	I	O	|	|	|	|	4.45
26.167	0.00	0.49	0.852	I	O	|	|	|	|	4.43
26.250	0.00	0.49	0.849	I	O	|	|	|	|	4.42
26.333	0.00	0.48	0.845	I	O	|	|	|	|	4.40
26.417	0.00	0.48	0.842	I	O	|	|	|	|	4.39
26.500	0.00	0.48	0.839	I	O	|	|	|	|	4.38
26.583	0.00	0.48	0.835	I	O	|	|	|	|	4.36
26.667	0.00	0.48	0.832	I	O	|	|	|	|	4.35
26.750	0.00	0.48	0.829	I	O	|	|	|	|	4.33
26.833	0.00	0.48	0.825	I	O	|	|	|	|	4.32
26.917	0.00	0.48	0.822	I	O	|	|	|	|	4.31
27.000	0.00	0.48	0.819	I	O	|	|	|	|	4.29
27.083	0.00	0.48	0.815	I	O	|	|	|	|	4.28
27.167	0.00	0.48	0.812	I	O	|	|	|	|	4.27
27.250	0.00	0.48	0.809	I	O	|	|	|	|	4.25
27.333	0.00	0.47	0.806	I	O	|	|	|	|	4.24
27.417	0.00	0.47	0.802	I	O	|	|	|	|	4.22
27.500	0.00	0.47	0.799	I	O	|	|	|	|	4.21
27.583	0.00	0.47	0.796	I	O	|	|	|	|	4.20
27.667	0.00	0.47	0.793	I	O	|	|	|	|	4.18
27.750	0.00	0.47	0.789	I	O	|	|	|	|	4.17
27.833	0.00	0.47	0.786	I	O	|	|	|	|	4.16
27.917	0.00	0.47	0.783	I	O	|	|	|	|	4.14
28.000	0.00	0.47	0.780	I	O	|	|	|	|	4.13
28.083	0.00	0.47	0.776	I	O	|	|	|	|	4.12
28.167	0.00	0.47	0.773	I	O	|	|	|	|	4.10
28.250	0.00	0.47	0.770	I	O	|	|	|	|	4.09
28.333	0.00	0.46	0.767	I	O	|	|	|	|	4.07
28.417	0.00	0.46	0.764	I	O	|	|	|	|	4.06
28.500	0.00	0.46	0.760	I	O	|	|	|	|	4.05
28.583	0.00	0.46	0.757	I	O	|	|	|	|	4.03
28.667	0.00	0.46	0.754	I	O	|	|	|	|	4.02
28.750	0.00	0.46	0.751	I	O	|	|	|	|	4.01
28.833	0.00	0.46	0.748	I	O	|	|	|	|	3.99
28.917	0.00	0.46	0.745	I	O	|	|	|	|	3.98
29.000	0.00	0.46	0.741	I	O	|	|	|	|	3.97
29.083	0.00	0.46	0.738	I	O	|	|	|	|	3.95
29.167	0.00	0.46	0.735	I	O	|	|	|	|	3.94
29.250	0.00	0.46	0.732	I	O	|	|	|	|	3.93
29.333	0.00	0.45	0.729	I	O	|	|	|	|	3.91
29.417	0.00	0.45	0.726	I	O	|	|	|	|	3.90
29.500	0.00	0.45	0.723	I	O	|	|	|	|	3.89
29.583	0.00	0.45	0.719	I	O	|	|	|	|	3.87
29.667	0.00	0.45	0.716	I	O	|	|	|	|	3.86
29.750	0.00	0.45	0.713	I	O	|	|	|	|	3.85
29.833	0.00	0.45	0.710	I	O	|	|	|	|	3.84
29.917	0.00	0.45	0.707	I	O	|	|	|	|	3.82
30.000	0.00	0.45	0.704	I	O	|	|	|	|	3.81
30.083	0.00	0.45	0.701	I	O	|	|	|	|	3.80
30.167	0.00	0.45	0.698	I	O	|	|	|	|	3.78
30.250	0.00	0.45	0.695	I	O	|	|	|	|	3.77
30.333	0.00	0.45	0.692	I	O	|	|	|	|	3.76
30.417	0.00	0.44	0.689	I	O	|	|	|	|	3.74
30.500	0.00	0.44	0.685	I	O	|	|	|	|	3.73
30.583	0.00	0.44	0.682	I	O	|	|	|	|	3.72
30.667	0.00	0.44	0.679	I	O	|	|	|	|	3.70
30.750	0.00	0.44	0.676	I	O	|	|	|	|	3.69

30.833	0.00	0.44	0.673	I	o	|	|	|	3.68
30.917	0.00	0.44	0.670	I	o	|	|	|	3.67
31.000	0.00	0.44	0.667	I	o	|	|	|	3.65
31.083	0.00	0.44	0.664	I	o	|	|	|	3.64
31.167	0.00	0.44	0.661	I	o	|	|	|	3.63
31.250	0.00	0.44	0.658	I	o	|	|	|	3.62
31.333	0.00	0.44	0.655	I	o	|	|	|	3.60
31.417	0.00	0.44	0.652	I	o	|	|	|	3.59
31.500	0.00	0.43	0.649	I	o	|	|	|	3.58
31.583	0.00	0.43	0.646	I	o	|	|	|	3.56
31.667	0.00	0.43	0.643	I	o	|	|	|	3.55
31.750	0.00	0.43	0.640	I	o	|	|	|	3.54
31.833	0.00	0.43	0.637	I	o	|	|	|	3.53
31.917	0.00	0.43	0.634	I	o	|	|	|	3.51
32.000	0.00	0.43	0.631	I	o	|	|	|	3.50
32.083	0.00	0.43	0.628	I	o	|	|	|	3.49
32.167	0.00	0.43	0.625	I	o	|	|	|	3.48
32.250	0.00	0.43	0.622	I	o	|	|	|	3.46
32.333	0.00	0.43	0.620	I	o	|	|	|	3.45
32.417	0.00	0.43	0.617	I	o	|	|	|	3.44
32.500	0.00	0.42	0.614	I	o	|	|	|	3.43
32.583	0.00	0.42	0.611	I	o	|	|	|	3.41
32.667	0.00	0.42	0.608	I	o	|	|	|	3.40
32.750	0.00	0.42	0.605	I	o	|	|	|	3.39
32.833	0.00	0.42	0.602	I	o	|	|	|	3.38
32.917	0.00	0.42	0.599	I	o	|	|	|	3.37
33.000	0.00	0.42	0.596	I	o	|	|	|	3.35
33.083	0.00	0.42	0.593	I	o	|	|	|	3.34
33.167	0.00	0.42	0.591	I	o	|	|	|	3.33
33.250	0.00	0.42	0.588	I	o	|	|	|	3.32
33.333	0.00	0.41	0.585	I	o	|	|	|	3.30
33.417	0.00	0.41	0.582	I	o	|	|	|	3.29
33.500	0.00	0.41	0.579	I	o	|	|	|	3.28
33.583	0.00	0.41	0.576	I	o	|	|	|	3.27
33.667	0.00	0.41	0.573	I	o	|	|	|	3.26
33.750	0.00	0.41	0.571	I	o	|	|	|	3.24
33.833	0.00	0.41	0.568	I	o	|	|	|	3.23
33.917	0.00	0.41	0.565	I	o	|	|	|	3.22
34.000	0.00	0.41	0.562	I	o	|	|	|	3.21
34.083	0.00	0.41	0.559	I	o	|	|	|	3.20
34.167	0.00	0.40	0.557	I	o	|	|	|	3.18
34.250	0.00	0.40	0.554	I	o	|	|	|	3.17
34.333	0.00	0.40	0.551	I	o	|	|	|	3.16
34.417	0.00	0.40	0.548	I	o	|	|	|	3.15
34.500	0.00	0.40	0.545	I	o	|	|	|	3.14
34.583	0.00	0.40	0.543	I	o	|	|	|	3.13
34.667	0.00	0.40	0.540	I	o	|	|	|	3.11
34.750	0.00	0.40	0.537	I	o	|	|	|	3.10
34.833	0.00	0.40	0.534	I	o	|	|	|	3.09
34.917	0.00	0.40	0.532	I	o	|	|	|	3.08
35.000	0.00	0.40	0.529	I	o	|	|	|	3.07
35.083	0.00	0.39	0.526	I	o	|	|	|	3.06
35.167	0.00	0.39	0.524	I	o	|	|	|	3.04
35.250	0.00	0.39	0.521	I	o	|	|	|	3.03
35.333	0.00	0.39	0.518	I	o	|	|	|	3.02
35.417	0.00	0.39	0.515	I	o	|	|	|	3.01
35.500	0.00	0.39	0.513	I	o	|	|	|	3.00
35.583	0.00	0.39	0.510	I	o	|	|	|	2.99
35.667	0.00	0.39	0.507	I	o	|	|	|	2.98
35.750	0.00	0.39	0.505	I	o	|	|	|	2.96
35.833	0.00	0.39	0.502	I	o	|	|	|	2.95
35.917	0.00	0.39	0.499	I	o	|	|	|	2.94
36.000	0.00	0.39	0.497	I	o	|	|	|	2.93
36.083	0.00	0.38	0.494	I	o	|	|	|	2.92
36.167	0.00	0.38	0.491	I	o	|	|	|	2.90
36.250	0.00	0.38	0.489	I	o	|	|	|	2.89
36.333	0.00	0.38	0.486	I	o	|	|	|	2.88
36.417	0.00	0.38	0.484	I	o	|	|	|	2.87
36.500	0.00	0.38	0.481	I	o	|	|	|	2.86
36.583	0.00	0.38	0.478	I	o	|	|	|	2.85
36.667	0.00	0.38	0.476	I	o	|	|	|	2.83
36.750	0.00	0.38	0.473	I	o	|	|	|	2.82
36.833	0.00	0.38	0.470	I	o	|	|	|	2.81
36.917	0.00	0.38	0.468	I	o	|	|	|	2.80
37.000	0.00	0.38	0.465	I	o	|	|	|	2.79

37.083	0.00	0.38	0.463	I	o	|	|	|	2.78
37.167	0.00	0.38	0.460	I	o	|	|	|	2.77
37.250	0.00	0.38	0.457	I	o	|	|	|	2.75
37.333	0.00	0.37	0.455	I	o	|	|	|	2.74
37.417	0.00	0.37	0.452	I	o	|	|	|	2.73
37.500	0.00	0.37	0.450	I	o	|	|	|	2.72
37.583	0.00	0.37	0.447	I	o	|	|	|	2.71
37.667	0.00	0.37	0.445	I	o	|	|	|	2.70
37.750	0.00	0.37	0.442	I	o	|	|	|	2.69
37.833	0.00	0.37	0.439	I	o	|	|	|	2.67
37.917	0.00	0.37	0.437	I	o	|	|	|	2.66
38.000	0.00	0.37	0.434	I	o	|	|	|	2.65
38.083	0.00	0.37	0.432	I	o	|	|	|	2.64
38.167	0.00	0.37	0.429	I	o	|	|	|	2.63
38.250	0.00	0.37	0.427	I	o	|	|	|	2.62
38.333	0.00	0.37	0.424	I	o	|	|	|	2.61
38.417	0.00	0.37	0.422	I	o	|	|	|	2.60
38.500	0.00	0.37	0.419	I	o	|	|	|	2.59
38.583	0.00	0.36	0.417	I	o	|	|	|	2.57
38.667	0.00	0.36	0.414	I	o	|	|	|	2.56
38.750	0.00	0.36	0.412	I	o	|	|	|	2.55
38.833	0.00	0.36	0.409	I	o	|	|	|	2.54
38.917	0.00	0.36	0.407	I	o	|	|	|	2.53
39.000	0.00	0.36	0.404	I	o	|	|	|	2.52
39.083	0.00	0.36	0.402	I	o	|	|	|	2.51
39.167	0.00	0.36	0.399	I	o	|	|	|	2.50
39.250	0.00	0.36	0.397	I	o	|	|	|	2.49
39.333	0.00	0.36	0.394	I	o	|	|	|	2.47
39.417	0.00	0.36	0.392	I	o	|	|	|	2.46
39.500	0.00	0.36	0.389	I	o	|	|	|	2.45
39.583	0.00	0.36	0.387	I	o	|	|	|	2.44
39.667	0.00	0.35	0.385	I	o	|	|	|	2.43
39.750	0.00	0.35	0.382	I	o	|	|	|	2.42
39.833	0.00	0.35	0.380	I	o	|	|	|	2.40
39.917	0.00	0.35	0.377	I	o	|	|	|	2.39
40.000	0.00	0.35	0.375	I	o	|	|	|	2.38
40.083	0.00	0.35	0.372	I	o	|	|	|	2.37
40.167	0.00	0.35	0.370	I	o	|	|	|	2.36
40.250	0.00	0.35	0.368	I	o	|	|	|	2.35
40.333	0.00	0.35	0.365	I	o	|	|	|	2.34
40.417	0.00	0.35	0.363	I	o	|	|	|	2.33
40.500	0.00	0.35	0.360	I	o	|	|	|	2.32
40.583	0.00	0.34	0.358	I	o	|	|	|	2.30
40.667	0.00	0.34	0.356	I	o	|	|	|	2.29
40.750	0.00	0.34	0.353	I	o	|	|	|	2.28
40.833	0.00	0.34	0.351	I	o	|	|	|	2.27
40.917	0.00	0.34	0.349	I	o	|	|	|	2.26
41.000	0.00	0.34	0.346	I	o	|	|	|	2.25
41.083	0.00	0.34	0.344	I	o	|	|	|	2.24
41.167	0.00	0.34	0.342	I	o	|	|	|	2.23
41.250	0.00	0.34	0.339	I	o	|	|	|	2.22
41.333	0.00	0.34	0.337	I	o	|	|	|	2.21
41.417	0.00	0.34	0.335	I	o	|	|	|	2.19
41.500	0.00	0.33	0.332	I	o	|	|	|	2.18
41.583	0.00	0.33	0.330	I	o	|	|	|	2.17
41.667	0.00	0.33	0.328	I	o	|	|	|	2.16
41.750	0.00	0.33	0.325	I	o	|	|	|	2.15
41.833	0.00	0.33	0.323	I	o	|	|	|	2.14
41.917	0.00	0.33	0.321	I	o	|	|	|	2.13
42.000	0.00	0.33	0.319	I	o	|	|	|	2.12
42.083	0.00	0.33	0.316	I	o	|	|	|	2.11
42.167	0.00	0.33	0.314	I	o	|	|	|	2.10
42.250	0.00	0.33	0.312	I	o	|	|	|	2.09
42.333	0.00	0.33	0.310	I	o	|	|	|	2.08
42.417	0.00	0.33	0.307	I	o	|	|	|	2.07
42.500	0.00	0.32	0.305	I	o	|	|	|	2.06
42.583	0.00	0.32	0.303	I	o	|	|	|	2.05
42.667	0.00	0.32	0.301	I	o	|	|	|	2.04
42.750	0.00	0.32	0.298	I	o	|	|	|	2.03
42.833	0.00	0.32	0.296	I	o	|	|	|	2.01
42.917	0.00	0.32	0.294	I	o	|	|	|	2.00
43.000	0.00	0.32	0.292	I	o	|	|	|	1.99
43.083	0.00	0.32	0.290	I	o	|	|	|	1.98
43.167	0.00	0.32	0.287	I	o	|	|	|	1.97
43.250	0.00	0.32	0.285	I	o	|	|	|	1.96

43.333	0.00	0.32	0.283	I o	|	|	|	1.95
43.417	0.00	0.32	0.281	I o	|	|	|	1.94
43.500	0.00	0.31	0.279	I o	|	|	|	1.93
43.583	0.00	0.31	0.277	I o	|	|	|	1.92
43.667	0.00	0.31	0.274	I o	|	|	|	1.91
43.750	0.00	0.31	0.272	I o	|	|	|	1.89
43.833	0.00	0.31	0.270	I o	|	|	|	1.88
43.917	0.00	0.31	0.268	I o	|	|	|	1.87
44.000	0.00	0.31	0.266	I o	|	|	|	1.86
44.083	0.00	0.31	0.264	I o	|	|	|	1.85
44.167	0.00	0.31	0.262	I o	|	|	|	1.84
44.250	0.00	0.31	0.259	I o	|	|	|	1.83
44.333	0.00	0.31	0.257	I o	|	|	|	1.82
44.417	0.00	0.30	0.255	I o	|	|	|	1.81
44.500	0.00	0.30	0.253	I o	|	|	|	1.80
44.583	0.00	0.30	0.251	I o	|	|	|	1.79
44.667	0.00	0.30	0.249	I o	|	|	|	1.78
44.750	0.00	0.30	0.247	I o	|	|	|	1.76
44.833	0.00	0.30	0.245	I o	|	|	|	1.75
44.917	0.00	0.30	0.243	I o	|	|	|	1.74
45.000	0.00	0.30	0.241	I o	|	|	|	1.73
45.083	0.00	0.30	0.239	I o	|	|	|	1.72
45.167	0.00	0.30	0.237	I o	|	|	|	1.71
45.250	0.00	0.30	0.235	I o	|	|	|	1.70
45.333	0.00	0.30	0.233	I o	|	|	|	1.69
45.417	0.00	0.29	0.231	I o	|	|	|	1.68
45.500	0.00	0.29	0.228	I o	|	|	|	1.67
45.583	0.00	0.29	0.226	I o	|	|	|	1.66
45.667	0.00	0.29	0.224	I o	|	|	|	1.65
45.750	0.00	0.29	0.222	I o	|	|	|	1.64
45.833	0.00	0.29	0.220	I o	|	|	|	1.63
45.917	0.00	0.29	0.218	I o	|	|	|	1.62
46.000	0.00	0.29	0.216	I o	|	|	|	1.61
46.083	0.00	0.29	0.214	I o	|	|	|	1.60
46.167	0.00	0.29	0.212	I o	|	|	|	1.59
46.250	0.00	0.29	0.211	I o	|	|	|	1.58
46.333	0.00	0.29	0.209	I o	|	|	|	1.57
46.417	0.00	0.28	0.207	I o	|	|	|	1.56
46.500	0.00	0.28	0.205	I o	|	|	|	1.55
46.583	0.00	0.28	0.203	I o	|	|	|	1.54
46.667	0.00	0.28	0.201	I o	|	|	|	1.53
46.750	0.00	0.28	0.199	I o	|	|	|	1.52
46.833	0.00	0.28	0.197	I o	|	|	|	1.51
46.917	0.00	0.28	0.195	I o	|	|	|	1.50
47.000	0.00	0.28	0.193	I o	|	|	|	1.49
47.083	0.00	0.28	0.191	I o	|	|	|	1.48
47.167	0.00	0.28	0.189	I o	|	|	|	1.47
47.250	0.00	0.27	0.187	I o	|	|	|	1.46
47.333	0.00	0.27	0.185	I o	|	|	|	1.44
47.417	0.00	0.27	0.184	I o	|	|	|	1.43
47.500	0.00	0.27	0.182	I o	|	|	|	1.42
47.583	0.00	0.27	0.180	I o	|	|	|	1.41
47.667	0.00	0.27	0.178	I o	|	|	|	1.40
47.750	0.00	0.27	0.176	I o	|	|	|	1.39
47.833	0.00	0.27	0.174	I o	|	|	|	1.38
47.917	0.00	0.26	0.172	I o	|	|	|	1.37
48.000	0.00	0.26	0.171	I o	|	|	|	1.36
48.083	0.00	0.26	0.169	I o	|	|	|	1.35
48.167	0.00	0.26	0.167	I o	|	|	|	1.34
48.250	0.00	0.26	0.165	I o	|	|	|	1.33
48.333	0.00	0.26	0.163	I o	|	|	|	1.32
48.417	0.00	0.26	0.162	I o	|	|	|	1.31
48.500	0.00	0.26	0.160	I o	|	|	|	1.30
48.583	0.00	0.25	0.158	I o	|	|	|	1.29
48.667	0.00	0.25	0.156	I o	|	|	|	1.28
48.750	0.00	0.25	0.155	I o	|	|	|	1.27
48.833	0.00	0.25	0.153	I o	|	|	|	1.26
48.917	0.00	0.25	0.151	I o	|	|	|	1.25
49.000	0.00	0.25	0.149	I o	|	|	|	1.24
49.083	0.00	0.25	0.148	I o	|	|	|	1.23
49.167	0.00	0.25	0.146	I o	|	|	|	1.22
49.250	0.00	0.25	0.144	I o	|	|	|	1.21
49.333	0.00	0.24	0.143	I o	|	|	|	1.20
49.417	0.00	0.24	0.141	I o	|	|	|	1.19
49.500	0.00	0.24	0.139	I o	|	|	|	1.18

49.583	0.00	0.24	0.138	I O				1.17
49.667	0.00	0.24	0.136	I O				1.16
49.750	0.00	0.24	0.134	I O				1.15
49.833	0.00	0.24	0.133	I O				1.14
49.917	0.00	0.24	0.131	I O				1.13
50.000	0.00	0.23	0.129	I O				1.12
50.083	0.00	0.23	0.128	I O				1.11
50.167	0.00	0.23	0.126	I O				1.11
50.250	0.00	0.23	0.125	I O				1.10
50.333	0.00	0.23	0.123	I O				1.09
50.417	0.00	0.23	0.122	I O				1.08
50.500	0.00	0.23	0.120	I O				1.07
50.583	0.00	0.23	0.118	I O				1.06
50.667	0.00	0.23	0.117	I O				1.05
50.750	0.00	0.22	0.115	I O				1.04
50.833	0.00	0.22	0.114	I O				1.03
50.917	0.00	0.22	0.112	I O				1.02
51.000	0.00	0.22	0.111	I O				1.02
51.083	0.00	0.22	0.109	I O				1.01
51.167	0.00	0.22	0.108	I O				1.00
51.250	0.00	0.22	0.106	I O				0.99
51.333	0.00	0.22	0.105	I O				0.98
51.417	0.00	0.22	0.103	I O				0.96
51.500	0.00	0.21	0.102	I O				0.95
51.583	0.00	0.21	0.100	I O				0.94
51.667	0.00	0.21	0.099	I O				0.93
51.750	0.00	0.21	0.097	I O				0.92
51.833	0.00	0.21	0.096	I O				0.91
51.917	0.00	0.21	0.094	I O				0.90
52.000	0.00	0.20	0.093	I O				0.89
52.083	0.00	0.20	0.092	I O				0.88
52.167	0.00	0.20	0.090	I O				0.87
52.250	0.00	0.20	0.089	I O				0.86
52.333	0.00	0.20	0.087	I O				0.85
52.417	0.00	0.20	0.086	I O				0.84
52.500	0.00	0.20	0.085	I O				0.83
52.583	0.00	0.19	0.083	I O				0.82
52.667	0.00	0.19	0.082	I O				0.81
52.750	0.00	0.19	0.081	I O				0.80
52.833	0.00	0.19	0.079	I O				0.79
52.917	0.00	0.19	0.078	I O				0.78
53.000	0.00	0.19	0.077	I O				0.77
53.083	0.00	0.19	0.075	I O				0.76
53.167	0.00	0.19	0.074	I O				0.75
53.250	0.00	0.18	0.073	I O				0.75
53.333	0.00	0.18	0.072	I O				0.74
53.417	0.00	0.18	0.070	I O				0.73
53.500	0.00	0.18	0.069	I O				0.72
53.583	0.00	0.18	0.068	I O				0.71
53.667	0.00	0.18	0.067	I O				0.70
53.750	0.00	0.18	0.065	I O				0.69
53.833	0.00	0.18	0.064	I O				0.68
53.917	0.00	0.17	0.063	I O				0.67
54.000	0.00	0.17	0.062	I O				0.67
54.083	0.00	0.17	0.061	I O				0.66
54.167	0.00	0.17	0.059	IO				0.65
54.250	0.00	0.17	0.058	IO				0.64
54.333	0.00	0.17	0.057	IO				0.63
54.417	0.00	0.17	0.056	IO				0.62
54.500	0.00	0.17	0.055	IO				0.61
54.583	0.00	0.16	0.054	IO				0.61
54.667	0.00	0.16	0.053	IO				0.60
54.750	0.00	0.16	0.051	IO				0.59
54.833	0.00	0.16	0.050	IO				0.58
54.917	0.00	0.16	0.049	IO				0.57
55.000	0.00	0.16	0.048	IO				0.57
55.083	0.00	0.16	0.047	IO				0.56
55.167	0.00	0.16	0.046	IO				0.55
55.250	0.00	0.16	0.045	IO				0.54
55.333	0.00	0.15	0.044	IO				0.53
55.417	0.00	0.15	0.043	IO				0.53
55.500	0.00	0.15	0.042	IO				0.52
55.583	0.00	0.15	0.041	IO				0.51
55.667	0.00	0.15	0.040	IO				0.50
55.750	0.00	0.15	0.039	IO				0.49

55.833	0.00	0.14	0.038	IO	|	|	|	|	0.48
55.917	0.00	0.14	0.037	IO	|	|	|	|	0.47
56.000	0.00	0.13	0.036	IO	|	|	|	|	0.46
56.083	0.00	0.13	0.035	IO	|	|	|	|	0.44
56.167	0.00	0.13	0.034	IO	|	|	|	|	0.43
56.250	0.00	0.12	0.033	IO	|	|	|	|	0.42
56.333	0.00	0.12	0.032	IO	|	|	|	|	0.41
56.417	0.00	0.11	0.031	IO	|	|	|	|	0.40
56.500	0.00	0.11	0.031	IO	|	|	|	|	0.39
56.583	0.00	0.11	0.030	IO	|	|	|	|	0.38
56.667	0.00	0.10	0.029	IO	|	|	|	|	0.37
56.750	0.00	0.10	0.028	IO	|	|	|	|	0.36
56.833	0.00	0.10	0.028	IO	|	|	|	|	0.35
56.917	0.00	0.09	0.027	IO	|	|	|	|	0.34
57.000	0.00	0.09	0.026	IO	|	|	|	|	0.34
57.083	0.00	0.09	0.026	IO	|	|	|	|	0.33
57.167	0.00	0.09	0.025	O	|	|	|	|	0.32
57.250	0.00	0.08	0.025	O	|	|	|	|	0.31
57.333	0.00	0.08	0.024	O	|	|	|	|	0.31
57.417	0.00	0.08	0.024	O	|	|	|	|	0.30
57.500	0.00	0.08	0.023	O	|	|	|	|	0.29
57.583	0.00	0.07	0.022	O	|	|	|	|	0.28
57.667	0.00	0.07	0.022	O	|	|	|	|	0.28
57.750	0.00	0.07	0.021	O	|	|	|	|	0.27
57.833	0.00	0.07	0.021	O	|	|	|	|	0.27
57.917	0.00	0.06	0.021	O	|	|	|	|	0.26
58.000	0.00	0.06	0.020	O	|	|	|	|	0.25
58.083	0.00	0.06	0.020	O	|	|	|	|	0.25
58.167	0.00	0.06	0.019	O	|	|	|	|	0.24
58.250	0.00	0.06	0.019	O	|	|	|	|	0.24
58.333	0.00	0.05	0.019	O	|	|	|	|	0.23
58.417	0.00	0.05	0.018	O	|	|	|	|	0.23
58.500	0.00	0.05	0.018	O	|	|	|	|	0.22
58.583	0.00	0.05	0.017	O	|	|	|	|	0.22
58.667	0.00	0.05	0.017	O	|	|	|	|	0.21
58.750	0.00	0.05	0.017	O	|	|	|	|	0.21
58.833	0.00	0.05	0.016	O	|	|	|	|	0.21
58.917	0.00	0.04	0.016	O	|	|	|	|	0.20
59.000	0.00	0.04	0.016	O	|	|	|	|	0.20
59.083	0.00	0.04	0.016	O	|	|	|	|	0.19
59.167	0.00	0.04	0.015	O	|	|	|	|	0.19
59.250	0.00	0.04	0.015	O	|	|	|	|	0.19
59.333	0.00	0.04	0.015	O	|	|	|	|	0.18
59.417	0.00	0.04	0.015	O	|	|	|	|	0.18
59.500	0.00	0.03	0.014	O	|	|	|	|	0.18
59.583	0.00	0.03	0.014	O	|	|	|	|	0.17
59.667	0.00	0.03	0.014	O	|	|	|	|	0.17
59.750	0.00	0.03	0.014	O	|	|	|	|	0.17
59.833	0.00	0.03	0.013	O	|	|	|	|	0.17
59.917	0.00	0.03	0.013	O	|	|	|	|	0.16
60.000	0.00	0.03	0.013	O	|	|	|	|	0.16
60.083	0.00	0.03	0.013	O	|	|	|	|	0.16
60.167	0.00	0.03	0.013	O	|	|	|	|	0.16
60.250	0.00	0.03	0.012	O	|	|	|	|	0.15
60.333	0.00	0.03	0.012	O	|	|	|	|	0.15
60.417	0.00	0.02	0.012	O	|	|	|	|	0.15
60.500	0.00	0.02	0.012	O	|	|	|	|	0.15
60.583	0.00	0.02	0.012	O	|	|	|	|	0.14
60.667	0.00	0.02	0.012	O	|	|	|	|	0.14
60.750	0.00	0.02	0.011	O	|	|	|	|	0.14
60.833	0.00	0.02	0.011	O	|	|	|	|	0.14
60.917	0.00	0.02	0.011	O	|	|	|	|	0.14
61.000	0.00	0.02	0.011	O	|	|	|	|	0.14
61.083	0.00	0.02	0.011	O	|	|	|	|	0.13
61.167	0.00	0.02	0.011	O	|	|	|	|	0.13
61.250	0.00	0.02	0.011	O	|	|	|	|	0.13
61.333	0.00	0.02	0.010	O	|	|	|	|	0.13
61.417	0.00	0.02	0.010	O	|	|	|	|	0.13
61.500	0.00	0.02	0.010	O	|	|	|	|	0.13
61.583	0.00	0.02	0.010	O	|	|	|	|	0.12
61.667	0.00	0.02	0.010	O	|	|	|	|	0.12
61.750	0.00	0.01	0.010	O	|	|	|	|	0.12
61.833	0.00	0.01	0.010	O	|	|	|	|	0.12
61.917	0.00	0.01	0.010	O	|	|	|	|	0.12
62.000	0.00	0.01	0.010	O	|	|	|	|	0.12

62.083	0.00	0.01	0.010	o	|	|	|	|	0.12
62.167	0.00	0.01	0.009	o	|	|	|	|	0.12
62.250	0.00	0.01	0.009	o	|	|	|	|	0.11
62.333	0.00	0.01	0.009	o	|	|	|	|	0.11
62.417	0.00	0.01	0.009	o	|	|	|	|	0.11
62.500	0.00	0.01	0.009	o	|	|	|	|	0.11
62.583	0.00	0.01	0.009	o	|	|	|	|	0.11
62.667	0.00	0.01	0.009	o	|	|	|	|	0.11
62.750	0.00	0.01	0.009	o	|	|	|	|	0.11
62.833	0.00	0.01	0.009	o	|	|	|	|	0.11
62.917	0.00	0.01	0.009	o	|	|	|	|	0.11
63.000	0.00	0.01	0.009	o	|	|	|	|	0.11
63.083	0.00	0.01	0.009	o	|	|	|	|	0.10
63.167	0.00	0.01	0.009	o	|	|	|	|	0.10
63.250	0.00	0.01	0.009	o	|	|	|	|	0.10
63.333	0.00	0.01	0.009	o	|	|	|	|	0.10
63.417	0.00	0.01	0.008	o	|	|	|	|	0.10
63.500	0.00	0.01	0.008	o	|	|	|	|	0.10
63.583	0.00	0.01	0.008	o	|	|	|	|	0.10
63.667	0.00	0.01	0.008	o	|	|	|	|	0.10
63.750	0.00	0.01	0.008	o	|	|	|	|	0.10
63.833	0.00	0.01	0.008	o	|	|	|	|	0.10
63.917	0.00	0.01	0.008	o	|	|	|	|	0.10
64.000	0.00	0.01	0.008	o	|	|	|	|	0.10
64.083	0.00	0.01	0.008	o	|	|	|	|	0.10
64.167	0.00	0.01	0.008	o	|	|	|	|	0.10
64.250	0.00	0.01	0.008	o	|	|	|	|	0.10
64.333	0.00	0.01	0.008	o	|	|	|	|	0.10
64.417	0.00	0.01	0.008	o	|	|	|	|	0.09
64.500	0.00	0.01	0.008	o	|	|	|	|	0.09
64.583	0.00	0.00	0.008	o	|	|	|	|	0.09
64.667	0.00	0.00	0.008	o	|	|	|	|	0.09
64.750	0.00	0.00	0.008	o	|	|	|	|	0.09
64.833	0.00	0.00	0.008	o	|	|	|	|	0.09
64.917	0.00	0.00	0.008	o	|	|	|	|	0.09
65.000	0.00	0.00	0.008	o	|	|	|	|	0.09
65.083	0.00	0.00	0.008	o	|	|	|	|	0.09
65.167	0.00	0.00	0.008	o	|	|	|	|	0.09
65.250	0.00	0.00	0.008	o	|	|	|	|	0.09
65.333	0.00	0.00	0.008	o	|	|	|	|	0.09
65.417	0.00	0.00	0.008	o	|	|	|	|	0.09
65.500	0.00	0.00	0.008	o	|	|	|	|	0.09
65.583	0.00	0.00	0.008	o	|	|	|	|	0.09
65.667	0.00	0.00	0.007	o	|	|	|	|	0.09
65.750	0.00	0.00	0.007	o	|	|	|	|	0.09
65.833	0.00	0.00	0.007	o	|	|	|	|	0.09
65.917	0.00	0.00	0.007	o	|	|	|	|	0.09
66.000	0.00	0.00	0.007	o	|	|	|	|	0.09
66.083	0.00	0.00	0.007	o	|	|	|	|	0.09
66.167	0.00	0.00	0.007	o	|	|	|	|	0.09
66.250	0.00	0.00	0.007	o	|	|	|	|	0.09
66.333	0.00	0.00	0.007	o	|	|	|	|	0.09
66.417	0.00	0.00	0.007	o	|	|	|	|	0.09
66.500	0.00	0.00	0.007	o	|	|	|	|	0.09
66.583	0.00	0.00	0.007	o	|	|	|	|	0.09
66.667	0.00	0.00	0.007	o	|	|	|	|	0.09
66.750	0.00	0.00	0.007	o	|	|	|	|	0.09
66.833	0.00	0.00	0.007	o	|	|	|	|	0.09
66.917	0.00	0.00	0.007	o	|	|	|	|	0.09
67.000	0.00	0.00	0.007	o	|	|	|	|	0.09
67.083	0.00	0.00	0.007	o	|	|	|	|	0.09
67.167	0.00	0.00	0.007	o	|	|	|	|	0.09
67.250	0.00	0.00	0.007	o	|	|	|	|	0.09
67.333	0.00	0.00	0.007	o	|	|	|	|	0.08
67.417	0.00	0.00	0.007	o	|	|	|	|	0.08
67.500	0.00	0.00	0.007	o	|	|	|	|	0.08
67.583	0.00	0.00	0.007	o	|	|	|	|	0.08
67.667	0.00	0.00	0.007	o	|	|	|	|	0.08
67.750	0.00	0.00	0.007	o	|	|	|	|	0.08
67.833	0.00	0.00	0.007	o	|	|	|	|	0.08
67.917	0.00	0.00	0.007	o	|	|	|	|	0.08
68.000	0.00	0.00	0.007	o	|	|	|	|	0.08
68.083	0.00	0.00	0.007	o	|	|	|	|	0.08
68.167	0.00	0.00	0.007	o	|	|	|	|	0.08
68.250	0.00	0.00	0.007	o	|	|	|	|	0.08

68.333	0.00	0.00	0.007	o					0.08
68.417	0.00	0.00	0.007	o					0.08
68.500	0.00	0.00	0.007	o					0.08
68.583	0.00	0.00	0.007	o					0.08
68.667	0.00	0.00	0.007	o					0.08
68.750	0.00	0.00	0.007	o					0.08

Remaining water in basin = 0.01 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 825
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.543 (CFS)
Total volume = 1.666 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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FLOOD HYDROGRAPH ROUTING PROGRAM
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Study date: 11/24/21

BCCOV BLDG B AREA 7
2 YR 24 HR STORM EVENT
21-0034
2021-11-24 EP

Program License Serial Number 4010

********** HYDROGRAPH INFORMATION **********

From study/file name: PROP2YR7B242.rte
**********HYDROGRAPH DATA**********
Number of intervals = 294
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2.796 (CFS)
Total volume = 1.700 (Ac.Ft)
Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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Process from Point/Station 100.000 to Point/Station 101.000
**** RETARDING BASIN ROUTING ****
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User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 294
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.146	0.011	0.001	0.011	0.011
0.500	0.039	0.210	0.038	0.040
1.000	0.108	0.330	0.107	0.109
1.500	0.195	0.410	0.194	0.196
2.000	0.294	0.480	0.292	0.296
2.500	0.401	0.540	0.399	0.403
3.000	0.515	0.600	0.513	0.517
3.500	0.632	0.650	0.630	0.634
4.000	0.751	0.690	0.749	0.753
4.500	0.870	0.740	0.867	0.873
5.000	0.988	0.780	0.985	0.991
5.500	1.101	0.820	1.098	1.104
6.000	1.209	0.860	1.206	1.212
6.500	1.307	0.890	1.304	1.310
7.000	1.394	0.930	1.391	1.397
7.500	1.463	0.960	1.460	1.466
8.000	1.502	0.990	1.499	1.505

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.7	1.40	2.10	2.80	Depth (Ft.)
0.083	0.03	0.00	0.000	O					0.00
0.167	0.12	0.00	0.001	OI					0.01
0.250	0.15	0.00	0.002	OI					0.02
0.333	0.18	0.00	0.003	O I					0.04
0.417	0.22	0.00	0.004	O I					0.05
0.500	0.24	0.00	0.006	O I					0.08
0.583	0.24	0.00	0.007	O I					0.10
0.667	0.25	0.00	0.009	O I					0.12
0.750	0.25	0.00	0.011	O I					0.14
0.833	0.26	0.01	0.012	O I					0.16
0.917	0.31	0.03	0.014	O I					0.19
1.000	0.32	0.04	0.016	O I					0.21
1.083	0.31	0.05	0.018	O I					0.24
1.167	0.27	0.07	0.020	O I					0.26
1.250	0.25	0.08	0.021	O I					0.27
1.333	0.25	0.08	0.022	O I					0.29
1.417	0.25	0.09	0.023	|OI					0.30
1.500	0.25	0.10	0.024	|OI					0.31
1.583	0.25	0.11	0.025	|OI					0.33
1.667	0.25	0.11	0.026	|OI					0.34
1.750	0.25	0.12	0.027	|OI					0.35
1.833	0.26	0.13	0.028	|O I					0.36
1.917	0.31	0.14	0.029	|O I					0.37
2.000	0.32	0.14	0.030	|O I					0.39
2.083	0.33	0.15	0.031	|O I					0.40
2.167	0.33	0.16	0.033	|O I					0.42
2.250	0.33	0.17	0.034	|O I					0.43
2.333	0.33	0.18	0.035	| OI					0.45
2.417	0.33	0.19	0.036	| OI					0.46
2.500	0.33	0.19	0.037	| OI					0.47
2.583	0.34	0.20	0.038	| OI					0.48
2.667	0.39	0.21	0.039	| O I					0.50
2.750	0.40	0.21	0.040	| O I					0.51
2.833	0.41	0.21	0.041	| O I					0.52
2.917	0.41	0.22	0.043	| O I					0.53
3.000	0.41	0.22	0.044	| O I					0.54
3.083	0.41	0.22	0.045	| O I					0.55
3.167	0.41	0.22	0.047	| O I					0.56
3.250	0.41	0.23	0.048	| O I					0.57
3.333	0.41	0.23	0.049	| O I					0.57
3.417	0.41	0.23	0.051	| O I					0.58
3.500	0.41	0.23	0.052	| O I					0.59
3.583	0.41	0.23	0.053	| O I					0.60
3.667	0.41	0.24	0.054	| O I					0.61
3.750	0.41	0.24	0.055	| O I					0.62
3.833	0.43	0.24	0.057	| O I					0.63
3.917	0.47	0.24	0.058	| O I					0.64
4.000	0.49	0.25	0.060	| O I					0.65
4.083	0.49	0.25	0.061	| O I					0.66
4.167	0.49	0.25	0.063	| O I					0.67
4.250	0.49	0.25	0.065	| O I					0.69
4.333	0.51	0.26	0.066	| O I					0.70
4.417	0.56	0.26	0.068	| O I					0.71
4.500	0.57	0.26	0.070	| O I					0.73
4.583	0.57	0.27	0.072	| O I					0.74
4.667	0.58	0.27	0.075	| O I					0.76
4.750	0.58	0.28	0.077	| O I					0.77
4.833	0.59	0.28	0.079	| O I					0.79
4.917	0.64	0.28	0.081	| O I					0.80
5.000	0.65	0.29	0.084	| O I					0.82
5.083	0.62	0.29	0.086	| O I					0.84
5.167	0.53	0.30	0.088	| O I					0.85
5.250	0.51	0.30	0.089	| O I					0.87
5.333	0.51	0.30	0.091	| O I					0.88
5.417	0.56	0.30	0.093	| O I					0.89
5.500	0.57	0.31	0.094	| O I					0.90
5.583	0.59	0.31	0.096	| O I					0.91
5.667	0.64	0.31	0.098	| O I					0.93

5.750	0.65	0.32	0.101	o I				0.95
5.833	0.66	0.32	0.103	o I				0.96
5.917	0.66	0.32	0.105	o I				0.98
6.000	0.66	0.33	0.107	o I				1.00
6.083	0.67	0.33	0.110	o I				1.01
6.167	0.72	0.33	0.112	o I				1.02
6.250	0.73	0.34	0.115	o I				1.04
6.333	0.74	0.34	0.118	o I				1.06
6.417	0.74	0.34	0.120	o I				1.07
6.500	0.74	0.34	0.123	o I				1.09
6.583	0.76	0.35	0.126	o I				1.10
6.667	0.80	0.35	0.129	o I				1.12
6.750	0.82	0.35	0.132	o I				1.14
6.833	0.82	0.36	0.135	o I				1.16
6.917	0.82	0.36	0.138	o I				1.17
7.000	0.82	0.36	0.142	o I				1.19
7.083	0.82	0.36	0.145	o I				1.21
7.167	0.82	0.37	0.148	o I				1.23
7.250	0.82	0.37	0.151	o I				1.25
7.333	0.84	0.37	0.154	o I				1.27
7.417	0.88	0.38	0.158	o I				1.29
7.500	0.90	0.38	0.161	o I				1.31
7.583	0.92	0.38	0.165	o I				1.33
7.667	0.97	0.39	0.169	o I				1.35
7.750	0.98	0.39	0.173	o I				1.37
7.833	1.00	0.39	0.177	o I				1.40
7.917	1.05	0.40	0.181	o I				1.42
8.000	1.06	0.40	0.186	o I				1.45
8.083	1.10	0.41	0.190	o I				1.47
8.167	1.19	0.41	0.195	o I				1.50
8.250	1.22	0.41	0.201	o I				1.53
8.333	1.23	0.42	0.206	o I				1.56
8.417	1.23	0.42	0.212	o I				1.59
8.500	1.23	0.43	0.218	o I				1.61
8.583	1.25	0.43	0.223	o I				1.64
8.667	1.30	0.43	0.229	o I				1.67
8.750	1.31	0.44	0.235	o I				1.70
8.833	1.33	0.44	0.241	o I				1.73
8.917	1.38	0.45	0.247	o I				1.76
9.000	1.39	0.45	0.254	o I				1.80
9.083	1.43	0.46	0.260	o I				1.83
9.167	1.52	0.46	0.267	o I				1.87
9.250	1.55	0.47	0.275	o I				1.90
9.333	1.57	0.47	0.282	o I				1.94
9.417	1.62	0.48	0.290	o I				1.98
9.500	1.64	0.48	0.298	o I				2.02
9.583	1.66	0.49	0.306	o I				2.06
9.667	1.71	0.49	0.314	o I				2.09
9.750	1.72	0.50	0.323	o I				2.13
9.833	1.74	0.50	0.331	o I				2.17
9.917	1.79	0.51	0.340	o I				2.21
10.000	1.80	0.51	0.349	o I				2.26
10.083	1.70	0.52	0.357	o I				2.29
10.167	1.38	0.52	0.364	o I				2.33
10.250	1.28	0.52	0.370	o I				2.35
10.333	1.25	0.53	0.375	o I				2.38
10.417	1.24	0.53	0.380	o I				2.40
10.500	1.24	0.53	0.385	o I				2.42
10.583	1.31	0.53	0.390	o I				2.45
10.667	1.54	0.54	0.396	o I				2.48
10.750	1.61	0.54	0.403	o I				2.51
10.833	1.64	0.54	0.410	o I				2.54
10.917	1.64	0.55	0.418	o I				2.57
11.000	1.64	0.55	0.426	o I				2.61
11.083	1.63	0.56	0.433	o I				2.64
11.167	1.58	0.56	0.440	o I				2.67
11.250	1.57	0.56	0.447	o I				2.70
11.333	1.57	0.57	0.454	o I				2.73
11.417	1.56	0.57	0.461	o I				2.76
11.500	1.56	0.58	0.468	o I				2.79
11.583	1.53	0.58	0.474	o I				2.82
11.667	1.44	0.58	0.481	o I				2.85
11.750	1.41	0.58	0.486	o I				2.87
11.833	1.42	0.59	0.492	o I				2.90
11.917	1.46	0.59	0.498	o I				2.93

12.000	1.47	0.59	0.504	o	I			2.95
12.083	1.59	0.60	0.511	o	I			2.98
12.167	1.91	0.60	0.518	o	I			3.01
12.250	2.01	0.61	0.528	o	I			3.05
12.333	2.06	0.61	0.538	o	I			3.10
12.417	2.11	0.61	0.548	o	I			3.14
12.500	2.13	0.62	0.558	o	I			3.18
12.583	2.17	0.62	0.569	o	I			3.23
12.667	2.26	0.63	0.580	o	I			3.28
12.750	2.29	0.63	0.591	o	I			3.32
12.833	2.32	0.64	0.602	o	I			3.37
12.917	2.36	0.64	0.614	o	I			3.42
13.000	2.38	0.65	0.626	o	I			3.47
13.083	2.46	0.65	0.638	o	I			3.53
13.167	2.69	0.66	0.651	o	I			3.58
13.250	2.76	0.66	0.666	o	I			3.64
13.333	2.79	0.67	0.680	o	I			3.70
13.417	2.79	0.67	0.695	o	I			3.76
13.500	2.80	0.68	0.710	o	I			3.83
13.583	2.62	0.68	0.724	o	I			3.88
13.667	2.12	0.68	0.735	o	I			3.93
13.750	1.97	0.69	0.744	o	I			3.97
13.833	1.91	0.69	0.753	o	I			4.01
13.917	1.90	0.69	0.761	o	I			4.04
14.000	1.89	0.70	0.770	o	I			4.08
14.083	1.96	0.70	0.778	o	I			4.11
14.167	2.14	0.71	0.787	o	I			4.15
14.250	2.19	0.71	0.797	o	I			4.20
14.333	2.20	0.71	0.808	o	I			4.24
14.417	2.16	0.72	0.818	o	I			4.28
14.500	2.15	0.72	0.828	o	I			4.32
14.583	2.14	0.73	0.837	o	I			4.36
14.667	2.14	0.73	0.847	o	I			4.40
14.750	2.14	0.73	0.857	o	I			4.44
14.833	2.12	0.74	0.866	o	I			4.48
14.917	2.08	0.74	0.876	o	I			4.52
15.000	2.06	0.75	0.885	o	I			4.56
15.083	2.04	0.75	0.894	o	I			4.60
15.167	2.00	0.75	0.903	o	I			4.64
15.250	1.98	0.75	0.911	o	I			4.67
15.333	1.96	0.76	0.920	o	I			4.71
15.417	1.91	0.76	0.928	o	I			4.74
15.500	1.90	0.76	0.936	o	I			4.78
15.583	1.83	0.76	0.943	o	I			4.81
15.667	1.65	0.77	0.950	o	I			4.84
15.750	1.59	0.77	0.956	o	I			4.86
15.833	1.57	0.77	0.961	o	I			4.89
15.917	1.57	0.77	0.967	o	I			4.91
16.000	1.56	0.77	0.972	o	I			4.93
16.083	1.33	0.78	0.977	o	I			4.95
16.167	0.63	0.78	0.978	o	I			4.96
16.250	0.43	0.78	0.977	o	I			4.95
16.333	0.36	0.78	0.974	o	I			4.94
16.417	0.34	0.77	0.971	o	I			4.93
16.500	0.33	0.77	0.968	o	I			4.92
16.583	0.31	0.77	0.965	o	I			4.90
16.667	0.27	0.77	0.962	o	I			4.89
16.750	0.25	0.77	0.958	o	I			4.87
16.833	0.25	0.77	0.955	o	I			4.86
16.917	0.25	0.77	0.951	o	I			4.84
17.000	0.25	0.77	0.947	o	I			4.83
17.083	0.28	0.77	0.944	o	I			4.81
17.167	0.37	0.76	0.941	o	I			4.80
17.250	0.40	0.76	0.938	o	I			4.79
17.333	0.41	0.76	0.936	o	I			4.78
17.417	0.41	0.76	0.933	o	I			4.77
17.500	0.41	0.76	0.931	o	I			4.76
17.583	0.41	0.76	0.929	o	I			4.75
17.667	0.41	0.76	0.926	o	I			4.74
17.750	0.41	0.76	0.924	o	I			4.73
17.833	0.40	0.76	0.921	o	I			4.72
17.917	0.35	0.76	0.919	o	I			4.71
18.000	0.34	0.76	0.916	o	I			4.69
18.083	0.33	0.75	0.913	o	I			4.68
18.167	0.33	0.75	0.910	o	I			4.67

18.250	0.33	0.75	0.907	| I o | | |	4.66
18.333	0.33	0.75	0.904	| I o | | |	4.64
18.417	0.33	0.75	0.901	| I o | | |	4.63
18.500	0.33	0.75	0.898	| I o | | |	4.62
18.583	0.31	0.75	0.895	| I o | | |	4.61
18.667	0.27	0.75	0.892	| I o | | |	4.59
18.750	0.25	0.75	0.889	| I o | | |	4.58
18.833	0.23	0.75	0.885	| I o | | |	4.57
18.917	0.19	0.74	0.882	| I o | | |	4.55
19.000	0.17	0.74	0.878	I o | | |	4.53
19.083	0.18	0.74	0.874	| I o | | |	4.52
19.167	0.23	0.74	0.870	| I o | | |	4.50
19.250	0.24	0.74	0.867	| I o | | |	4.49
19.333	0.26	0.74	0.863	| I o | | |	4.47
19.417	0.31	0.74	0.860	| I o | | |	4.46
19.500	0.32	0.73	0.857	| I o | | |	4.45
19.583	0.31	0.73	0.855	| I o | | |	4.44
19.667	0.27	0.73	0.852	| I o | | |	4.42
19.750	0.25	0.73	0.848	| I o | | |	4.41
19.833	0.23	0.73	0.845	| I o | | |	4.39
19.917	0.19	0.73	0.841	| I o | | |	4.38
20.000	0.17	0.73	0.838	I o | | |	4.36
20.083	0.18	0.72	0.834	| I o | | |	4.35
20.167	0.23	0.72	0.830	| I o | | |	4.33
20.250	0.24	0.72	0.827	| I o | | |	4.32
20.333	0.24	0.72	0.824	| I o | | |	4.30
20.417	0.25	0.72	0.820	| I o | | |	4.29
20.500	0.25	0.72	0.817	| I o | | |	4.28
20.583	0.25	0.72	0.814	| I o | | |	4.26
20.667	0.25	0.72	0.811	| I o | | |	4.25
20.750	0.25	0.71	0.807	| I o | | |	4.24
20.833	0.23	0.71	0.804	| I o | | |	4.22
20.917	0.18	0.71	0.801	| I o | | |	4.21
21.000	0.17	0.71	0.797	I o | | |	4.19
21.083	0.18	0.71	0.793	| I o | | |	4.18
21.167	0.23	0.71	0.790	| I o | | |	4.16
21.250	0.24	0.70	0.787	| I o | | |	4.15
21.333	0.23	0.70	0.783	| I o | | |	4.14
21.417	0.18	0.70	0.780	| I o | | |	4.12
21.500	0.17	0.70	0.776	I o | | |	4.11
21.583	0.18	0.70	0.773	| I o | | |	4.09
21.667	0.23	0.70	0.769	| I o| | |	4.08
21.750	0.24	0.70	0.766	| I o| | |	4.06
21.833	0.23	0.70	0.763	| I o| | |	4.05
21.917	0.18	0.69	0.760	| I o| | |	4.04
22.000	0.17	0.69	0.756	I o| | |	4.02
22.083	0.18	0.69	0.752	| I o| | |	4.01
22.167	0.23	0.69	0.749	| I o| | |	3.99
22.250	0.24	0.69	0.746	| I o| | |	3.98
22.333	0.23	0.69	0.743	| I o| | |	3.97
22.417	0.18	0.69	0.740	| I o| | |	3.95
22.500	0.17	0.68	0.736	I o| | |	3.94
22.583	0.17	0.68	0.733	I o| | |	3.92
22.667	0.17	0.68	0.729	I o| | |	3.91
22.750	0.16	0.68	0.725	I o| | |	3.89
22.833	0.16	0.68	0.722	I o| | |	3.88
22.917	0.16	0.68	0.718	I o| | |	3.86
23.000	0.16	0.68	0.715	I o| | |	3.85
23.083	0.16	0.68	0.711	I o| | |	3.83
23.167	0.16	0.68	0.708	I o| | |	3.82
23.250	0.16	0.67	0.704	I o| | |	3.80
23.333	0.16	0.67	0.701	I o| | |	3.79
23.417	0.16	0.67	0.697	I o| | |	3.77
23.500	0.16	0.67	0.694	I o| | |	3.76
23.583	0.16	0.67	0.690	I o| | |	3.74
23.667	0.16	0.67	0.687	I o| | |	3.73
23.750	0.16	0.67	0.683	I o| | |	3.72
23.833	0.16	0.67	0.680	I o| | |	3.70
23.917	0.16	0.66	0.676	I o| | |	3.69
24.000	0.16	0.66	0.673	I o| | |	3.67
24.083	0.13	0.66	0.669	I o| | |	3.66
24.167	0.04	0.66	0.665	I o| | |	3.64
24.250	0.01	0.66	0.661	I o| | |	3.62
24.333	0.00	0.66	0.657	I o| | |	3.60
24.417	0.00	0.66	0.652	I o| | |	3.58

24.500	0.00	0.66	0.648	I	o	|	|	|	3.57
24.583	0.00	0.65	0.643	I	o	|	|	|	3.55
24.667	0.00	0.65	0.639	I	o	|	|	|	3.53
24.750	0.00	0.65	0.634	I	o	|	|	|	3.51
24.833	0.00	0.65	0.630	I	o	|	|	|	3.49
24.917	0.00	0.65	0.625	I	o	|	|	|	3.47
25.000	0.00	0.65	0.621	I	o	|	|	|	3.45
25.083	0.00	0.64	0.616	I	o	|	|	|	3.43
25.167	0.00	0.64	0.612	I	o	|	|	|	3.41
25.250	0.00	0.64	0.607	I	o	|	|	|	3.40
25.333	0.00	0.64	0.603	I	o	|	|	|	3.38
25.417	0.00	0.64	0.599	I	o	|	|	|	3.36
25.500	0.00	0.63	0.594	I	o	|	|	|	3.34
25.583	0.00	0.63	0.590	I	o	|	|	|	3.32
25.667	0.00	0.63	0.586	I	o	|	|	|	3.30
25.750	0.00	0.63	0.581	I	o	|	|	|	3.28
25.833	0.00	0.63	0.577	I	o	|	|	|	3.26
25.917	0.00	0.62	0.573	I	o	|	|	|	3.25
26.000	0.00	0.62	0.568	I	o	|	|	|	3.23
26.083	0.00	0.62	0.564	I	o	|	|	|	3.21
26.167	0.00	0.62	0.560	I	o	|	|	|	3.19
26.250	0.00	0.62	0.556	I	o	|	|	|	3.17
26.333	0.00	0.62	0.551	I	o	|	|	|	3.15
26.417	0.00	0.61	0.547	I	o	|	|	|	3.14
26.500	0.00	0.61	0.543	I	o	|	|	|	3.12
26.583	0.00	0.61	0.539	I	o	|	|	|	3.10
26.667	0.00	0.61	0.534	I	o	|	|	|	3.08
26.750	0.00	0.61	0.530	I	o	|	|	|	3.07
26.833	0.00	0.60	0.526	I	o	|	|	|	3.05
26.917	0.00	0.60	0.522	I	o	|	|	|	3.03
27.000	0.00	0.60	0.518	I	o	|	|	|	3.01
27.083	0.00	0.60	0.514	I	o	|	|	|	2.99
27.167	0.00	0.60	0.509	I	o	|	|	|	2.98
27.250	0.00	0.59	0.505	I	o	|	|	|	2.96
27.333	0.00	0.59	0.501	I	o	|	|	|	2.94
27.417	0.00	0.59	0.497	I	o	|	|	|	2.92
27.500	0.00	0.59	0.493	I	o	|	|	|	2.90
27.583	0.00	0.59	0.489	I	o	|	|	|	2.89
27.667	0.00	0.58	0.485	I	o	|	|	|	2.87
27.750	0.00	0.58	0.481	I	o	|	|	|	2.85
27.833	0.00	0.58	0.477	I	o	|	|	|	2.83
27.917	0.00	0.58	0.473	I	o	|	|	|	2.82
28.000	0.00	0.58	0.469	I	o	|	|	|	2.80
28.083	0.00	0.57	0.465	I	o	|	|	|	2.78
28.167	0.00	0.57	0.461	I	o	|	|	|	2.76
28.250	0.00	0.57	0.457	I	o	|	|	|	2.75
28.333	0.00	0.57	0.453	I	o	|	|	|	2.73
28.417	0.00	0.57	0.449	I	o	|	|	|	2.71
28.500	0.00	0.56	0.446	I	o	|	|	|	2.70
28.583	0.00	0.56	0.442	I	o	|	|	|	2.68
28.667	0.00	0.56	0.438	I	o	|	|	|	2.66
28.750	0.00	0.56	0.434	I	o	|	|	|	2.64
28.833	0.00	0.56	0.430	I	o	|	|	|	2.63
28.917	0.00	0.55	0.426	I	o	|	|	|	2.61
29.000	0.00	0.55	0.423	I	o	|	|	|	2.59
29.083	0.00	0.55	0.419	I	o	|	|	|	2.58
29.167	0.00	0.55	0.415	I	o	|	|	|	2.56
29.250	0.00	0.55	0.411	I	o	|	|	|	2.54
29.333	0.00	0.54	0.407	I	o	|	|	|	2.53
29.417	0.00	0.54	0.404	I	o	|	|	|	2.51
29.500	0.00	0.54	0.400	I	o	|	|	|	2.50
29.583	0.00	0.54	0.396	I	o	|	|	|	2.48
29.667	0.00	0.54	0.393	I	o	|	|	|	2.46
29.750	0.00	0.53	0.389	I	o	|	|	|	2.44
29.833	0.00	0.53	0.385	I	o	|	|	|	2.43
29.917	0.00	0.53	0.382	I	o	|	|	|	2.41
30.000	0.00	0.53	0.378	I	o	|	|	|	2.39
30.083	0.00	0.53	0.374	I	o	|	|	|	2.38
30.167	0.00	0.52	0.371	I	o	|	|	|	2.36
30.250	0.00	0.52	0.367	I	o	|	|	|	2.34
30.333	0.00	0.52	0.364	I	o	|	|	|	2.33
30.417	0.00	0.52	0.360	I	o	|	|	|	2.31
30.500	0.00	0.52	0.356	I	o	|	|	|	2.29
30.583	0.00	0.51	0.353	I	o	|	|	|	2.28
30.667	0.00	0.51	0.349	I	o	|	|	|	2.26

30.750	0.00	0.51	0.346	I	o	|	|	|	2.24
30.833	0.00	0.51	0.342	I	o	|	|	|	2.23
30.917	0.00	0.51	0.339	I	o	|	|	|	2.21
31.000	0.00	0.50	0.335	I	o	|	|	|	2.19
31.083	0.00	0.50	0.332	I	o	|	|	|	2.18
31.167	0.00	0.50	0.328	I	o	|	|	|	2.16
31.250	0.00	0.50	0.325	I	o	|	|	|	2.15
31.333	0.00	0.50	0.322	I	o	|	|	|	2.13
31.417	0.00	0.49	0.318	I	o	|	|	|	2.11
31.500	0.00	0.49	0.315	I	o	|	|	|	2.10
31.583	0.00	0.49	0.311	I	o	|	|	|	2.08
31.667	0.00	0.49	0.308	I	o	|	|	|	2.07
31.750	0.00	0.49	0.305	I	o	|	|	|	2.05
31.833	0.00	0.48	0.301	I	o	|	|	|	2.03
31.917	0.00	0.48	0.298	I	o	|	|	|	2.02
32.000	0.00	0.48	0.295	I	o	|	|	|	2.00
32.083	0.00	0.48	0.291	I	o	|	|	|	1.99
32.167	0.00	0.48	0.288	I	o	|	|	|	1.97
32.250	0.00	0.47	0.285	I	o	|	|	|	1.95
32.333	0.00	0.47	0.282	I	o	|	|	|	1.94
32.417	0.00	0.47	0.278	I	o	|	|	|	1.92
32.500	0.00	0.47	0.275	I	o	|	|	|	1.90
32.583	0.00	0.46	0.272	I	o	|	|	|	1.89
32.667	0.00	0.46	0.269	I	o	|	|	|	1.87
32.750	0.00	0.46	0.266	I	o	|	|	|	1.86
32.833	0.00	0.46	0.262	I	o	|	|	|	1.84
32.917	0.00	0.46	0.259	I	o	|	|	|	1.82
33.000	0.00	0.45	0.256	I	o	|	|	|	1.81
33.083	0.00	0.45	0.253	I	o	|	|	|	1.79
33.167	0.00	0.45	0.250	I	o	|	|	|	1.78
33.250	0.00	0.45	0.247	I	o	|	|	|	1.76
33.333	0.00	0.44	0.244	I	o	|	|	|	1.75
33.417	0.00	0.44	0.241	I	o	|	|	|	1.73
33.500	0.00	0.44	0.238	I	o	|	|	|	1.72
33.583	0.00	0.44	0.235	I	o	|	|	|	1.70
33.667	0.00	0.44	0.232	I	o	|	|	|	1.69
33.750	0.00	0.43	0.229	I	o	|	|	|	1.67
33.833	0.00	0.43	0.226	I	o	|	|	|	1.66
33.917	0.00	0.43	0.223	I	o	|	|	|	1.64
34.000	0.00	0.43	0.220	I	o	|	|	|	1.63
34.083	0.00	0.43	0.217	I	o	|	|	|	1.61
34.167	0.00	0.42	0.214	I	o	|	|	|	1.60
34.250	0.00	0.42	0.211	I	o	|	|	|	1.58
34.333	0.00	0.42	0.208	I	o	|	|	|	1.57
34.417	0.00	0.42	0.205	I	o	|	|	|	1.55
34.500	0.00	0.42	0.202	I	o	|	|	|	1.54
34.583	0.00	0.41	0.200	I	o	|	|	|	1.52
34.667	0.00	0.41	0.197	I	o	|	|	|	1.51
34.750	0.00	0.41	0.194	I	o	|	|	|	1.49
34.833	0.00	0.41	0.191	I	o	|	|	|	1.48
34.917	0.00	0.40	0.188	I	o	|	|	|	1.46
35.000	0.00	0.40	0.186	I	o	|	|	|	1.45
35.083	0.00	0.40	0.183	I	o	|	|	|	1.43
35.167	0.00	0.40	0.180	I	o	|	|	|	1.41
35.250	0.00	0.39	0.177	I	o	|	|	|	1.40
35.333	0.00	0.39	0.175	I	o	|	|	|	1.38
35.417	0.00	0.39	0.172	I	o	|	|	|	1.37
35.500	0.00	0.39	0.169	I	o	|	|	|	1.35
35.583	0.00	0.38	0.167	I	o	|	|	|	1.34
35.667	0.00	0.38	0.164	I	o	|	|	|	1.32
35.750	0.00	0.38	0.161	I	o	|	|	|	1.31
35.833	0.00	0.38	0.159	I	o	|	|	|	1.29
35.917	0.00	0.37	0.156	I	o	|	|	|	1.28
36.000	0.00	0.37	0.154	I	o	|	|	|	1.26
36.083	0.00	0.37	0.151	I	o	|	|	|	1.25
36.167	0.00	0.37	0.148	I	o	|	|	|	1.23
36.250	0.00	0.36	0.146	I	o	|	|	|	1.22
36.333	0.00	0.36	0.143	I	o	|	|	|	1.20
36.417	0.00	0.36	0.141	I	o	|	|	|	1.19
36.500	0.00	0.36	0.138	I	o	|	|	|	1.18
36.583	0.00	0.36	0.136	I	o	|	|	|	1.16
36.667	0.00	0.35	0.134	I	o	|	|	|	1.15
36.750	0.00	0.35	0.131	I	o	|	|	|	1.13
36.833	0.00	0.35	0.129	I	o	|	|	|	1.12
36.917	0.00	0.35	0.126	I	o	|	|	|	1.11

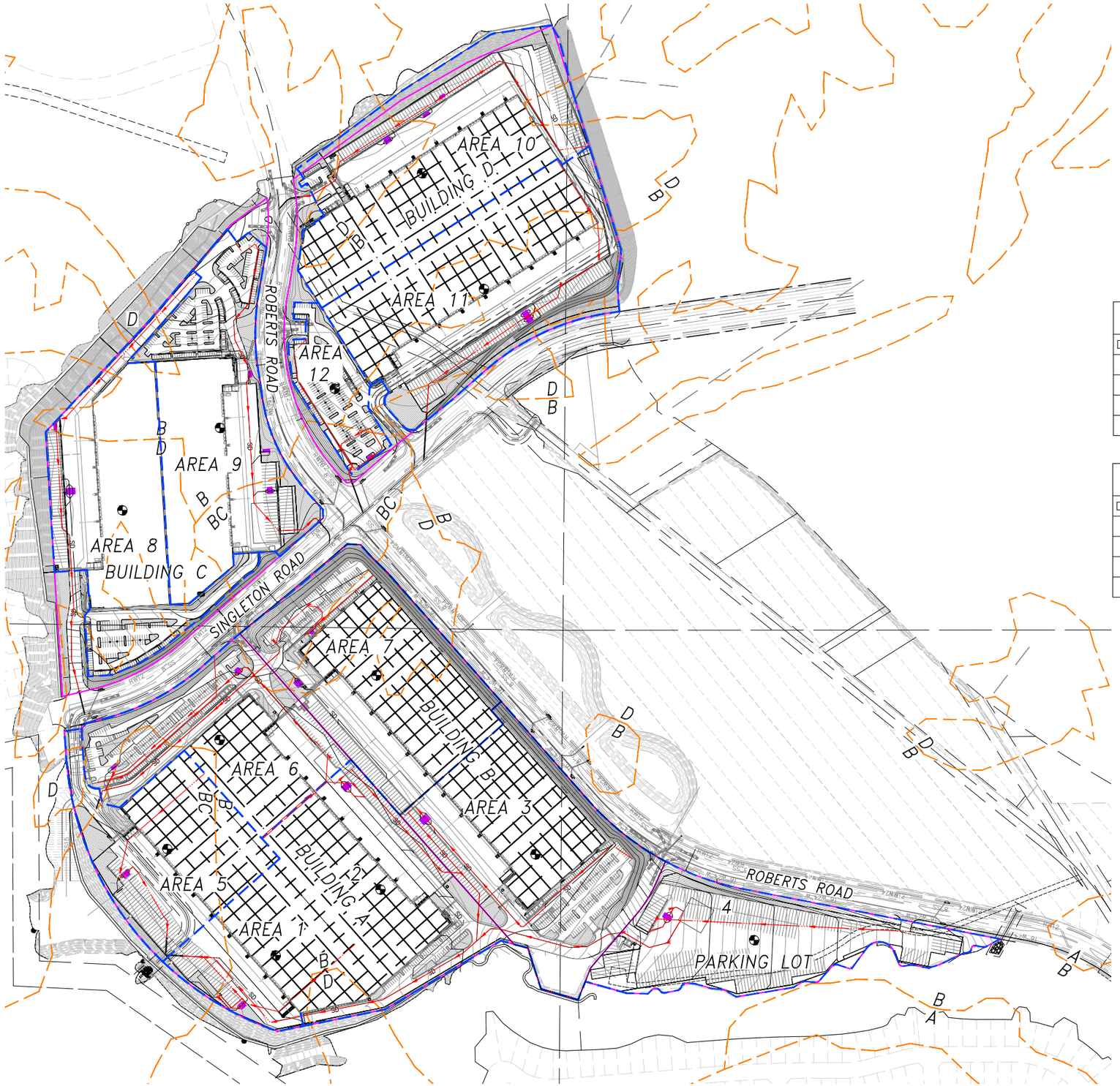
37.000	0.00	0.34	0.124	I o				1.09
37.083	0.00	0.34	0.122	I o				1.08
37.167	0.00	0.34	0.119	I o				1.06
37.250	0.00	0.34	0.117	I o				1.05
37.333	0.00	0.34	0.115	I o				1.04
37.417	0.00	0.33	0.112	I o				1.02
37.500	0.00	0.33	0.110	I o				1.01
37.583	0.00	0.33	0.108	I o				1.00
37.667	0.00	0.33	0.105	I o				0.98
37.750	0.00	0.32	0.103	I o				0.97
37.833	0.00	0.32	0.101	I o				0.95
37.917	0.00	0.31	0.099	I o				0.93
38.000	0.00	0.31	0.097	I o				0.92
38.083	0.00	0.31	0.095	I o				0.90
38.167	0.00	0.30	0.092	I o				0.89
38.250	0.00	0.30	0.090	I o				0.87
38.333	0.00	0.30	0.088	I o				0.86
38.417	0.00	0.29	0.086	I o				0.84
38.500	0.00	0.29	0.084	I o				0.83
38.583	0.00	0.29	0.082	I o				0.81
38.667	0.00	0.28	0.080	I o				0.80
38.750	0.00	0.28	0.078	I o				0.79
38.833	0.00	0.28	0.077	I o				0.77
38.917	0.00	0.27	0.075	I o				0.76
39.000	0.00	0.27	0.073	I o				0.75
39.083	0.00	0.27	0.071	I o				0.73
39.167	0.00	0.26	0.069	I o				0.72
39.250	0.00	0.26	0.067	I o				0.71
39.333	0.00	0.26	0.066	I o				0.69
39.417	0.00	0.25	0.064	I o				0.68
39.500	0.00	0.25	0.062	I o				0.67
39.583	0.00	0.25	0.060	I o				0.65
39.667	0.00	0.24	0.059	I o				0.64
39.750	0.00	0.24	0.057	I o				0.63
39.833	0.00	0.24	0.055	I o				0.62
39.917	0.00	0.24	0.054	I o				0.61
40.000	0.00	0.23	0.052	I o				0.60
40.083	0.00	0.23	0.051	I o				0.58
40.167	0.00	0.23	0.049	I o				0.57
40.250	0.00	0.22	0.047	I o				0.56
40.333	0.00	0.22	0.046	I o				0.55
40.417	0.00	0.22	0.044	I o				0.54
40.500	0.00	0.22	0.043	I o				0.53
40.583	0.00	0.21	0.041	I o				0.52
40.667	0.00	0.21	0.040	I o				0.51
40.750	0.00	0.21	0.038	I o				0.49
40.833	0.00	0.20	0.037	I o				0.48
40.917	0.00	0.19	0.036	I o				0.46
41.000	0.00	0.18	0.035	I o				0.44
41.083	0.00	0.17	0.033	Io				0.43
41.167	0.00	0.16	0.032	Io				0.41
41.250	0.00	0.15	0.031	Io				0.40
41.333	0.00	0.14	0.030	Io				0.39
41.417	0.00	0.14	0.029	Io				0.38
41.500	0.00	0.13	0.028	Io				0.36
41.583	0.00	0.12	0.027	Io				0.35
41.667	0.00	0.12	0.027	Io				0.34
41.750	0.00	0.11	0.026	Io				0.33
41.833	0.00	0.11	0.025	Io				0.32
41.917	0.00	0.10	0.024	Io				0.31
42.000	0.00	0.10	0.024	Io				0.31
42.083	0.00	0.09	0.023	Io				0.30
42.167	0.00	0.09	0.022	o				0.29
42.250	0.00	0.08	0.022	o				0.28
42.333	0.00	0.08	0.021	o				0.28
42.417	0.00	0.07	0.021	o				0.27
42.500	0.00	0.07	0.020	o				0.26
42.583	0.00	0.07	0.020	o				0.26
42.667	0.00	0.06	0.019	o				0.25
42.750	0.00	0.06	0.019	o				0.25
42.833	0.00	0.06	0.018	o				0.24
42.917	0.00	0.05	0.018	o				0.24
43.000	0.00	0.05	0.018	o				0.23
43.083	0.00	0.05	0.017	o				0.23
43.167	0.00	0.05	0.017	o				0.22

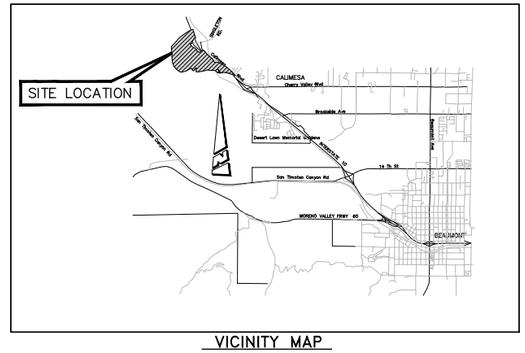
43.250	0.00	0.04	0.017	o	|	|	|	|	0.22
43.333	0.00	0.04	0.016	o	|	|	|	|	0.22
43.417	0.00	0.04	0.016	o	|	|	|	|	0.21
43.500	0.00	0.04	0.016	o	|	|	|	|	0.21
43.583	0.00	0.04	0.016	o	|	|	|	|	0.21
43.667	0.00	0.03	0.015	o	|	|	|	|	0.20
43.750	0.00	0.03	0.015	o	|	|	|	|	0.20
43.833	0.00	0.03	0.015	o	|	|	|	|	0.20
43.917	0.00	0.03	0.015	o	|	|	|	|	0.19
44.000	0.00	0.03	0.015	o	|	|	|	|	0.19
44.083	0.00	0.03	0.014	o	|	|	|	|	0.19
44.167	0.00	0.03	0.014	o	|	|	|	|	0.19
44.250	0.00	0.02	0.014	o	|	|	|	|	0.18
44.333	0.00	0.02	0.014	o	|	|	|	|	0.18
44.417	0.00	0.02	0.014	o	|	|	|	|	0.18
44.500	0.00	0.02	0.014	o	|	|	|	|	0.18
44.583	0.00	0.02	0.013	o	|	|	|	|	0.18
44.667	0.00	0.02	0.013	o	|	|	|	|	0.18
44.750	0.00	0.02	0.013	o	|	|	|	|	0.17
44.833	0.00	0.02	0.013	o	|	|	|	|	0.17
44.917	0.00	0.02	0.013	o	|	|	|	|	0.17
45.000	0.00	0.01	0.013	o	|	|	|	|	0.17
45.083	0.00	0.01	0.013	o	|	|	|	|	0.17
45.167	0.00	0.01	0.013	o	|	|	|	|	0.17
45.250	0.00	0.01	0.013	o	|	|	|	|	0.17
45.333	0.00	0.01	0.012	o	|	|	|	|	0.16
45.417	0.00	0.01	0.012	o	|	|	|	|	0.16
45.500	0.00	0.01	0.012	o	|	|	|	|	0.16
45.583	0.00	0.01	0.012	o	|	|	|	|	0.16
45.667	0.00	0.01	0.012	o	|	|	|	|	0.16
45.750	0.00	0.01	0.012	o	|	|	|	|	0.16
45.833	0.00	0.01	0.012	o	|	|	|	|	0.16
45.917	0.00	0.01	0.012	o	|	|	|	|	0.16
46.000	0.00	0.01	0.012	o	|	|	|	|	0.16
46.083	0.00	0.01	0.012	o	|	|	|	|	0.16
46.167	0.00	0.01	0.012	o	|	|	|	|	0.16
46.250	0.00	0.01	0.012	o	|	|	|	|	0.16
46.333	0.00	0.01	0.012	o	|	|	|	|	0.16
46.417	0.00	0.01	0.012	o	|	|	|	|	0.15
46.500	0.00	0.01	0.012	o	|	|	|	|	0.15
46.583	0.00	0.01	0.012	o	|	|	|	|	0.15
46.667	0.00	0.01	0.012	o	|	|	|	|	0.15
46.750	0.00	0.01	0.012	o	|	|	|	|	0.15
46.833	0.00	0.00	0.012	o	|	|	|	|	0.15
46.917	0.00	0.00	0.011	o	|	|	|	|	0.15
47.000	0.00	0.00	0.011	o	|	|	|	|	0.15
47.083	0.00	0.00	0.011	o	|	|	|	|	0.15
47.167	0.00	0.00	0.011	o	|	|	|	|	0.15
47.250	0.00	0.00	0.011	o	|	|	|	|	0.15
47.333	0.00	0.00	0.011	o	|	|	|	|	0.15
47.417	0.00	0.00	0.011	o	|	|	|	|	0.15
47.500	0.00	0.00	0.011	o	|	|	|	|	0.15
47.583	0.00	0.00	0.011	o	|	|	|	|	0.15
47.667	0.00	0.00	0.011	o	|	|	|	|	0.15
47.750	0.00	0.00	0.011	o	|	|	|	|	0.15
47.833	0.00	0.00	0.011	o	|	|	|	|	0.15
47.917	0.00	0.00	0.011	o	|	|	|	|	0.15
48.000	0.00	0.00	0.011	o	|	|	|	|	0.15
48.083	0.00	0.00	0.011	o	|	|	|	|	0.15
48.167	0.00	0.00	0.011	o	|	|	|	|	0.15
48.250	0.00	0.00	0.011	o	|	|	|	|	0.15
48.333	0.00	0.00	0.011	o	|	|	|	|	0.15
48.417	0.00	0.00	0.011	o	|	|	|	|	0.15
48.500	0.00	0.00	0.011	o	|	|	|	|	0.15
48.583	0.00	0.00	0.011	o	|	|	|	|	0.15
48.667	0.00	0.00	0.011	o	|	|	|	|	0.15
48.750	0.00	0.00	0.011	o	|	|	|	|	0.15
48.833	0.00	0.00	0.011	o	|	|	|	|	0.15
48.917	0.00	0.00	0.011	o	|	|	|	|	0.15
49.000	0.00	0.00	0.011	o	|	|	|	|	0.15
49.083	0.00	0.00	0.011	o	|	|	|	|	0.15
49.167	0.00	0.00	0.011	o	|	|	|	|	0.15
49.250	0.00	0.00	0.011	o	|	|	|	|	0.15
49.333	0.00	0.00	0.011	o	|	|	|	|	0.15
49.417	0.00	0.00	0.011	o	|	|	|	|	0.15

Remaining water in basin =   0.01 (Ac.Ft)

```
****************************HYDROGRAPH DATA****************************
               Number of intervals =   593
               Time interval =    5.0 (Min.)
               Maximum/Peak flow rate =        0.777 (CFS)
               Total volume =       1.689 (Ac.Ft)
        Status of hydrographs being held in storage
                    Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
************************************************************************
```

UNIT HYDROGRAPH HYDROLOGY MAP





VICINITY MAP
N.T.S.
T2S, R2W, SECTION 23,24,25,26

PROPOSED AREAS						
DRAINAGE AREA	1	2	3	4	5	6
TOTAL AREA	6.8 AC	9.5 AC	12.3 AC	9.2 AC	8.1 AC	9.0 AC
L_T	1116 Ft	2462 Ft	2287 Ft	3348 Ft	899 Ft	1634 Ft
L_{CA}	860 Ft	2251 Ft	2251 Ft	2754 Ft	602 Ft	512 Ft
ΔH	6.5 Ft	6.50 Ft	9.30 Ft	37.50 Ft	6.50	3.70 Ft

PROPOSED AREAS						
DRAINAGE AREA	7	8	9	10	11	12
TOTAL AREA	12.5 AC	11.2 AC	12.1 AC	14.1 AC	14.1 AC	2.9 AC
L_T	1378 Ft	1821 Ft	1395 Ft	1473 Ft	1370 Ft	621 Ft
L_{CA}	1136 Ft	683 Ft	552 Ft	540 Ft	486 Ft	341 Ft
ΔH	3.3 Ft	29.30 Ft	18 Ft	7 Ft	2.80 Ft	9 Ft

LEGEND

- NODE / ELEV – NODE NUMBER / ELEVATION (FT)
- AC / FT – AREA (AC) / LENGTH (FT)
- DRAINAGE AREA BOUNDARY (PROPOSED)
- FLOWLINE (PROPOSED)
- PROJECT BOUNDARY
- NRCS SOIL BOUNDARY

GENERAL NOTES:

1. OVERALL BLCOV PROJECT AREA WILL BE MASS GRADED AND BACKBONE IMPROVEMENTS WILL BE CONSTRUCTED PRIOR TO ANY CONSTRUCTION COMMENCING FOR THE BUILDING A, BUILDING B, BUILDING C, BUILDING D, OR PARKING LOT PROJECTS.
2. EXISTING CONTOURS SHOWN IN EXHIBITS ARE TAKEN FROM THE MASS GRADING PLAN FOR PARCEL MAP 37862.

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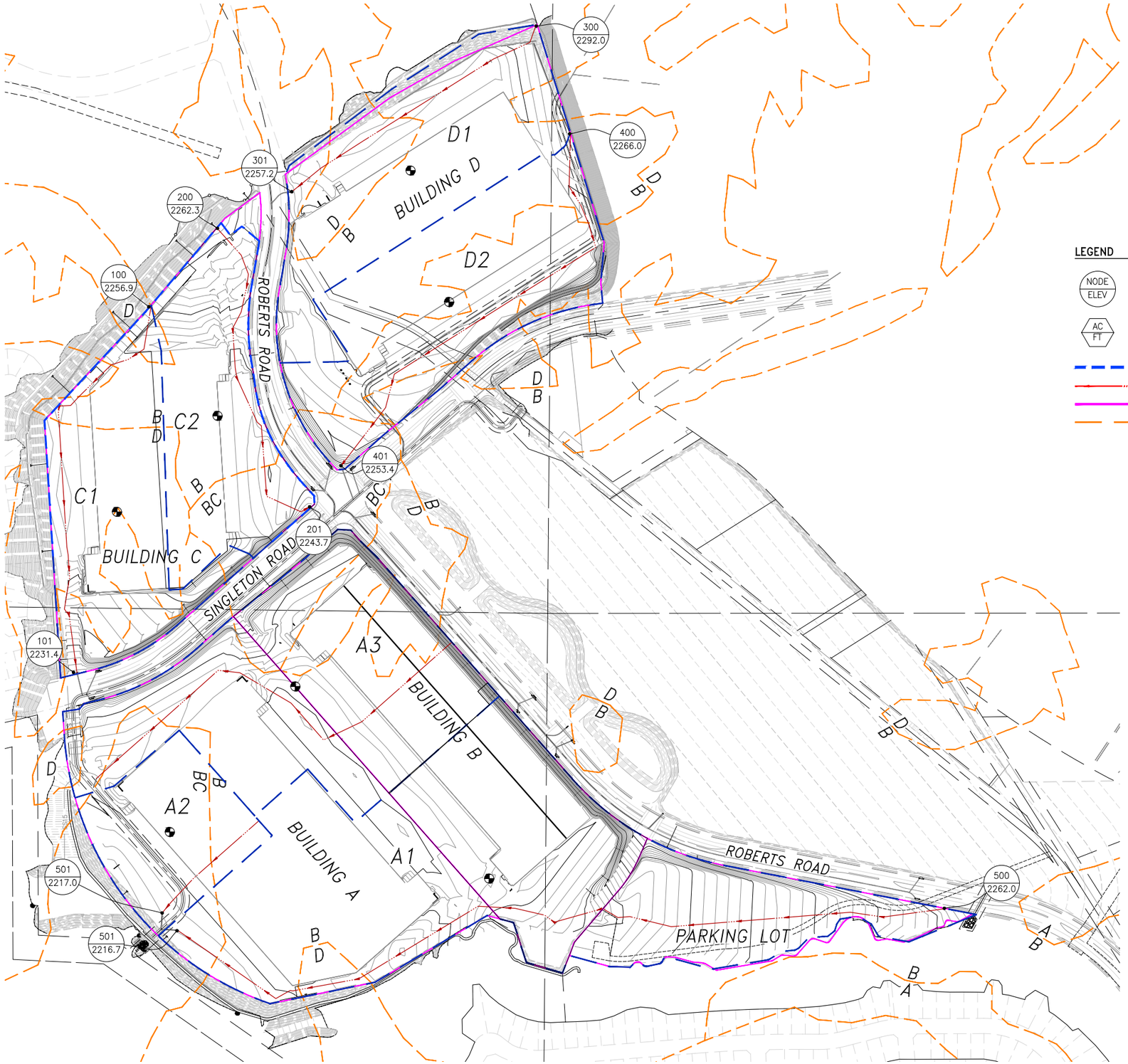
1" = 200'
200 0 200 400 600

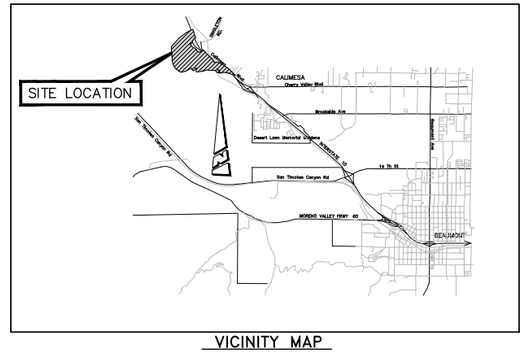
CITY OF CALIMESA, COUNTY OF RIVERSIDE
BIRTCHER COMMERCE CENTER OAK VALLEY

INDUSTRIAL DEVELOPMENT
DEVELOPED CONDITION
PRELIMINARY PROPOSED UNIT HYDROGRAPH EXHIBIT

SCALE:	1" = 200'	ALBERT A. WEBB ASSOCIATES	W.O. 21-0034
DATE:	12/14/2020	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	SHEET 1
DESIGNED:	EP		OF 1 SHEETS
CHECKED:	BJV		DWG. NO.
PLN CK REF:			
F.B.			

H:\2021\21-0034\DRAINAGE\PHYD\DWG FOLDER\21-0034 PRELIM UH MAP 2021-11-23.DWG 12/6/2021 4:30:41 PM





VICINITY MAP
N.T.S.
T2S, R2W, SECTION 23,24,25,26

LEGEND

NODE / ELEV	– NODE NUMBER – ELEVATION (FT)
AC / FT	– AREA (AC) – LENGTH (FT)
	– DRAINAGE AREA BOUNDARY
	– FLOWLINE (PROPOSED)
	– PROJECT BOUNDARY
	– NRCS SOIL BOUNDARY

EXISTING AREAS			
DRAINAGE AREA	A1	A2	A3
TOTAL AREA	37.7 AC	7.5 AC	21.7 AC
L_T	3231 Ft	526 Ft	1790 Ft
L_{CA}	1394 Ft	234 Ft	939 Ft
ΔH	45.0 Ft	7 Ft	23 Ft

EXISTING AREAS		
DRAINAGE AREA	C1	C2
TOTAL AREA	13.2 AC	11.8 AC
L_T	1645 Ft	1321 Ft
L_{CA}	629 Ft	574 Ft
ΔH	25.0 Ft	19 Ft

EXISTING AREAS		
DRAINAGE AREA	D1	D2
TOTAL AREA	15.8 AC	16.9 AC
L_T	1174 Ft	1828 Ft
L_{CA}	440 Ft	756 Ft
ΔH	35.0 Ft	13 Ft

GENERAL NOTES:

1. OVERALL BLCOV PROJECT AREA WILL BE MASS GRADED AND BACKBONE IMPROVEMENTS WILL BE CONSTRUCTED PRIOR TO ANY CONSTRUCTION COMMENCING FOR THE BUILDING A, BUILDING B, BUILDING C, BUILDING D, OR PARKING LOT PROJECTS.
2. EXISTING CONTOURS SHOWN IN EXHIBITS ARE TAKEN FROM THE MASS GRADING PLAN FOR PARCEL MAP 37862.

N
W WEBB E
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1" = 200'
200 0 200 400 600

CITY OF CALIMESA, COUNTY OF RIVERSIDE
BIRTCHER COMMERCE CENTER OAK VALLEY

INDUSTRIAL DEVELOPMENT
DEVELOPED CONDITION
EXISTING UNIT HYDROGRAPH EXHIBIT

SCALE:	1" = 200'	ALBERT A. WEBB ASSOCIATES	W.O. 21-0034
DATE:	12/14/2020	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE, CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	SHEET 1
DESIGNED:	EP		OF 1 SHEETS
CHECKED:	BJV		DWG. NO.
PLN CK REF:			
F.B.			

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APPENDIX D- REFERENCES

RELEVANT EXCERPTS AND MAPS FROM

"HYDROLOGY AND HYDRAULICS STUDY: OAK VALLEY TOWN CENTER PARCEL MAP NO. 37862 MASS GRADING PLAN"

OAK VALLEY TOWN CENTER
HYDROLOGY AND HYDRAULICS STUDY

PARCEL MAP NO. 37862

CITY OF CALIMESA, CALIFORNIA

PREPARED FOR:

OAK VALLEY DEVELOPMENT PARTNERS
10140 ROBERTS ROAD
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PREPARED BY:

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DATE PREPARED:

July 2021

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EXHIBIT A: Undeveloped Condition Hydrology Index Map

EXHIBIT B: Developed Condition Hydrology Index Map

EXHIBIT C: Drainage Facilities Map

I. INTRODUCTION

Oak Valley Town Center (OVTC), Parcel Map No. 37862, is a proposed development in the City of Calimesa, lying southwesterly of the Interstate 10 Freeway (I-10) off the Singleton Road exit. The project is roughly 230 acres and will develop business park and commercial land use areas, as well as the infrastructure Singleton and Roberts Road. Oak Valley Town Center is a part of the Summerwind Ranch at Oak Valley Specific Plan that proposes the development of residential, business park, commercial and open space land use areas across roughly 2,600 acres of land.

The purpose of this study is to determine the existing and proposed hydrologic conditions to properly size the necessary drainage improvements to support the construction of Oak Valley Town Center. The scope of this report will include:

- Determine peak 100-year flow rates for the construction of the project's ultimate developed condition using the Rational Method outlined in the Riverside County Flood Control and Water Conservation District
- Based on the ultimate developed condition, determine the necessary drainage improvements that will properly convey the calculated 100-year flow rates
- Summarize analyses and proposed infrastructure storm drain improvements

II. PROJECT SITE

Oak Valley Town Center is part of the Summerwind Ranch at Oak Valley Specific plan that lies within the San Timoteo sub-basin of the Santa Ana River Watershed. The project site lies within an open grassland valley that is bounded by the I-10 freeway to the east and rolling hills and ridgelines to the west and south. Most of the project is undeveloped. There are a handful of existing properties that are fairly spread apart from each other along the I-10, as well as a couple of properties within the central portion of the valley.

Large off-site tributary areas on the east side of the I-10 contribute significant drainage to the project site through multiple pipe and box culverts. Drainage from these tributary areas begin in the San Bernardino Mountain ranges and flow in a southwesterly manner, ultimately, flowing through the proposed project site until it reaches the San Timoteo Creek. The proposed storm drain system will maintain the existing drainage course and outlet on-site, as well, as intercepted off-site drainage, into the natural streambed areas leading to the San Timoteo Creek; ultimately joining the Santa Ana River. See Figures 1 and 2 for the project Vicinity Map and Site Plan, respectively.

III. HYDROLOGY

The rational design parameters and methodologies outlined in the Riverside County Flood Control and Water Conservation District's (RCFCWCD) *Hydrology Manual*[1] were used to determine the 100-year design flow rates for the project. Calculations for the rational methodology were performed using the CivilDesign computer software.

Two hydrology analyses will be performed for this project site:

- On-site hydrology
  - The rational method was used to calculate the 100-year flow rates for the on-site tributary areas. We assume the ultimate developed condition to determine the peak flow rates tributary to the proposed OVTC storm drain infrastructure. This includes the OVTC project site, as well as future Summerwind developments located north of OVTC.
- Off-site hydrology
  - The unit hydrograph method will be used to calculate the 100-year flow rates for the off-site tributary areas. Off-site refers to the large tributary areas east of the I-10, where their respective flow rates are collected via pipe and box culverts that cross the I-10 and outlet onto the OVTC project site.

On-site Hydrology

The 100-year flow rates for Areas A and B, as shown on Exhibit B, will be analyzed using the rational method.

As directed by the *Hydrology Manual*[1], Antecedent Moisture Condition II (AMC II) was used for all rational method analyses.

Soil classification for the project site is based on the Hydrologic Soils Group Map for El Casco (Plate C-1.18) of the *Hydrology Manual*[1], as shown on Appendix A-4 of this report. Hydrologic soils group (HSG) "B" and "D" are what primarily occupies the project site. There are small patches of areas within the rolling hills and ridgelines where HSG "A" and "C" are present. Soil "B" is described as soils with a moderate rate of water transmission and soil "D" is described as soils with high runoff potential.

The rainfall values and slope of intensity duration curve were obtained from the isohyetal maps in the *Hydrology Manual*[1], as shown on Appendices A-1 to A-3. Below is a summary of the design parameters used for calculation.

2-Year-1-Hour Precipitation per Plate D-4.3 (Appendix A-1)	0.54”
100-Year-1-Hour Precipitation per Plate D-4.4 (Appendix A-2)	1.33”
Slope of Intensity Duration Curve per Plate D-4.6 (Appendix A-3)	0.55

For rational method purposes, the project site was analyzed as an undeveloped area – poor cover for the undeveloped condition. Since the hydrology study is split up into two parts (On-site and Off-site) for the undeveloped condition, the flow rates calculated in each report were simply added together to compute a total Q for each drainage area. Refer to Exhibit A for the total Q and on-site drainage area delineation.

The areas tributary to storm drain Line A are designated as Drainage Area A and Areas C, D and E, as shown on Exhibit B. Areas C, D and E are off-site tributary areas, while Drainage Area A is on-site. As mentioned before, off-site tributary areas are analyzed by the unit hydrograph method, per a separate study. The off-site areas were included in the rational method calculations as a user defined entry to account for the drainage coming from existing culverts crossing the I-10. The portion of Drainage Area A, where the OVTC project site is located, consists of industrial parcels, a commercial parcel and the infrastructure Singleton and Roberts Road streets for the ultimate developed condition. See Figure 2 for the Project Site plan. For hydrology purposes, the industrial parcels were analyzed as commercial land use. Since the ultimate developed condition is assumed to determine the peak 100-year flow rates tributary to the OVTC infrastructure storm drain system, Drainage Area A includes future Summerwind developments. Per Tentative Tract Map No. 33536, planning areas E-1, E-2 and D-1, which are delineated as Garden Courts, Townhomes and Community Recreation land use, respectively, are tributary to the OVTC storm drain infrastructure and are included in the rational method analysis calculations. For hydrology purposes, the Garden Courts and Townhomes were analyzed as commercial land use and the Community Recreation as condominium land use. See Exhibit B for the on-site hydrology map.

The areas tributary to storm drain line B are designated as Drainage Area B and Areas A and B, as shown on Exhibit B. Areas A and B are off-site tributary areas, while Drainage Area B is on-site. As mentioned before, off-site tributary areas are analyzed by the unit hydrograph method, per a separate study. Like Line A, the off-site drainage was used as a user defined entry to account for the drainage coming from the existing culverts crossing the I-10. Drainage Area B only consists of a commercial parcel for the developed condition. See Exhibit B for the Drainage Area B on-site hydrology map.

Calculations for the undeveloped and developed rational method analyses can be found in Appendix B and C, respectively, of this report.

Off-site Hydrology

The 100-year flow rates for Areas A, B, C, D and E, as shown on Exhibit B, were analyzed using the unit hydrograph method. These areas are tributary to existing pipe and box culverts that cross the I-10 and outlet onto the OVTC project site. As mentioned before, the off-site hydrology analysis is presented in a separate study, *Hydraulic Analyses for Culverts Crossing I-10 TTM 37862*[2].

IV. STORM DRAIN HYDRAULICS

Storm Drain

Three mainline storm drain systems (Lines A, B and C) are proposed to support the construction of OVTC.

Line A is a proposed reinforced box culvert (RCB) that runs through the infrastructure Singleton Road. It is the main storm drain system that is responsible for most of the on-site drainage but also takes on significant off-site drainage, as shown as Drainage Area A and Areas C, D and E per Exhibit B. The existing 72" CMP culvert that currently runs under the existing Roberts Road intercepts off-site drainage coming from the 6'x8' RCB crossing the I-10. The project will remove and replace the existing 72" CMP with an 8'x8' (WxH) RCB, where Line A begins. The upstream 72" CMP survey flowline elevation of 2249.61 was maintained to begin the Line A design. As you move downstream in Line A, two sub-mainline storm drain systems, Lines A1 and A2, confluence with Line A at the major intersection of Singleton and Roberts Road. As mentioned before, most of the on-site drainage are collected and conveyed in these storm drain systems (A, A1 and A2). Storm drain lateral stub outs are provided for the commercial and business park parcels. The locations of these lateral stub outs are based on the low points of the rough grading, where it is assumed the private storm drain systems within the parcels will join the infrastructure storm drain system. CP-09 is the only storm drain lateral that collects off-site drainage. It connects to the existing 48" RCP that crosses the I-10 near the eastbound Singleton off-ramp, where it intercepts off-site drainage from Area D. Line A

discharges in the southwest corner of the project site, where it joins the existing watercourse that leads to the San Timoteo Creek.

Line B is a proposed double 6'x4' (WxH) box culvert that crosses the proposed Roberts Road. It collects off-site drainage from Areas B and E that are tributary to four existing culverts that cross the I-10, as well as on-site drainage from a portion of a commercial parcel. Drainage from the four culverts confluence at the current OVTC project boundary where the existing Roberts Road and Cooper Drive intersect. For the rough grade condition, a trapezoidal channel conveys the off-site drainage from this confluence point to the starting point of Line B. The developer of the commercial parcel will be responsible to construct storm drain that collects off-site drainage from the confluence point to the double box culvert once the site plan is finalized. The double box culvert alignment roughly starts from the northerly Roberts Road right-of-way (ROW) line and ends roughly at the southerly ROW line where the collected drainage outlets into the existing watercourse that runs along the southside of the OVTC project site.

Line C is a proposed arch culvert. Like Line B, this culvert crosses Roberts Road and outlets into the existing watercourse that runs along the southside of the OVTC project site. It serves as a by-pass line for the off-site drainage tributary to the existing double 7'x10' box culvert (Culvert A) crossing the I-10 onto the project site.

The Water Surface Profile Gradient Program (WSPG) software was used to analyze the proposed storm drain lines and laterals. The hydraulics is based on the storm drain profile design and the 100-year flow rate calculations per the studies performed for this project site. The WSPG calculations can be found in Appendix E of this report.

Velocity calculations for Drainage Areas A and B for the undeveloped condition and the point of discharge for Lines A and B were calculated using the CivilDesign computer software.The increase in velocity at the point of discharge for Lines A and B will be mitigated by properly sized riprap aprons that contain 2-ton riprap. A manning's number of 0.04 was used for the riprap apron for the developed condition and 0.025 for the undeveloped condition. Calculations for the exit velocities can be found in Appendix F.

The proposed storm drain alignments, pipe sizing and calculated flow rates can be found on the drainage facilities map, as shown on Exhibit C.

Catch Basins

Twelve catch basins are proposed to support the construction of OVTC. Of the twelve proposed catch basins, four are sump and eight are on-grade. The AutoCAD Civil3D Hydraflow Express extension was used to properly size catch basins and determine their efficiency. The curb opening design parameters used in calculation are consistent with the Riverside County Transportation Department catch basin standard details. The flow rates captured by the catch basin are used for the WSPG calculations for their respective storm drain laterals.

A summary table for the proposed catch basins is provided on the next page and the catch basin calculations can be found in Appendix D of this report.

CB #	HYDRO MAP NODE	CATCH BASIN TYPE	SIZE (FEET)	Q_{100} (CFS)	UPSTREAM Q_{BYPASS}	$Q_{TRIBUTARY}$ (CFS)	$Q_{CAPTURED}$ (CFS)	Q_{BYPASS} (CFS)	Q_{BYPASS} TO CB #
1	10.2	On-Grade	21	12.1	0	12.1	12.1	0	N/A
2	10.4	On-Grade	14	6.3	0.71	7.01	7.01	0	N/A
3	4.3	On-Grade	14	7	0	7	5.97	1.03	12
4	6.24	Sag	14	7.6	0	7.6	7.6	0	N/A
5	6.17	Sag	14	6.7	1.3	8	8	0	N/A
6	6.17	Sag	4	3.5	0.53	4.03	4.03	0	N/A
7	6.11	On-Grade	10	7.1	1.36	8.46	7.16	1.3	5
8	6.11	On-Grade	10	5.2	1.31	6.51	5.98	0.53	6
9	6.3	On-Grade	10	5.7	0	5.7	4.39	1.31	8
10	6.3	On-Grade	10	5.8	0	5.8	4.44	1.36	7
11	7.1	On-Grade	10	5.9	0	5.9	5.19	0.71	2
12	7.13	Sag	7	4.4	1.03	5.43	5.43	0	N/A

V. WATER QUALITY

The developers of the proposed industrial and commercial parcels for OVTC will be responsible for treating their runoff before joining the infrastructure storm drain systems delineated in this drainage study. Catch basin inserts will be installed in all catch basin locations for treating street runoff. Refer to the OVTC Water Quality Management Plan report for more details.

VI. SUMMARY

The developed and undeveloped hydrology conditions were analyzed in this study. All proposed storm drain systems (Line A, B & C) intercept off-site drainage crossing the I-

10 freeway onto the project site. Lines A and B also convey on-site drainage from the proposed developments. On-site drainage from the proposed developments and streets will be treated by approved BMPs prior to discharging into the storm drain systems. The increased velocities at the point of discharge for both Lines A and B will be mitigated by properly sized riprap aprons.

Below are summary tables comparing the flow rates and exit velocities at the point of discharge for Lines A and B.

Flow Rate

Storm Drain Line	A	B
Undeveloped Flow Rate (CFS)	1,593	768
Developed Flow Rate (CFS)	1,775	829
Difference (CFS)	+182	+61

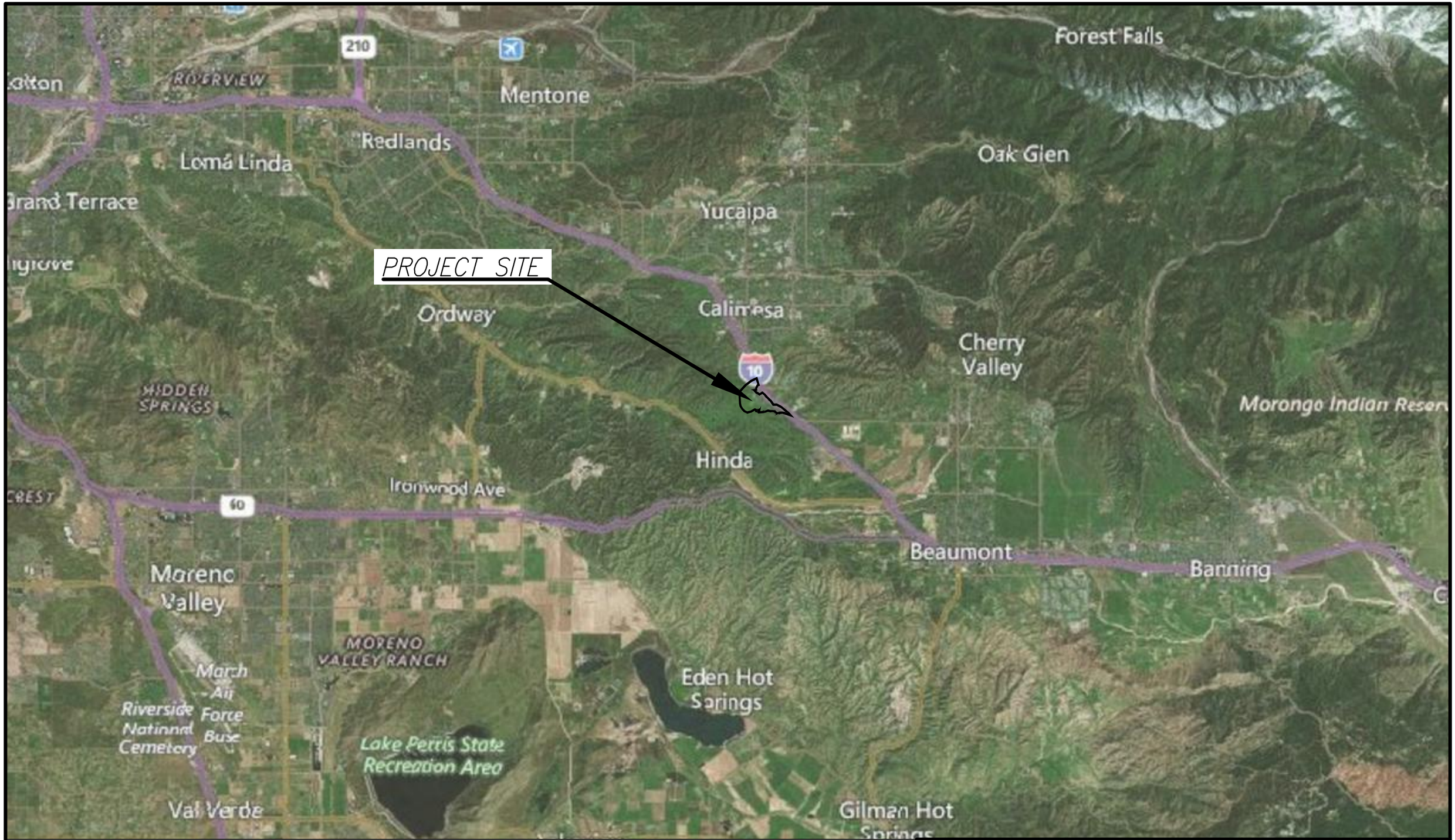
Velocity

Storm Drain Line	A	B
Undeveloped Exist Velocity (Feet per Second)	16.2	14.2
Developed Exist Velocity (Feet per Second)	8.5	6.6
Difference (Feet per Second)	-7.7	-7.6

VII. REFERENCES

1. Riverside County Flood Control and Water Conservation District Hydrology Manual, April 1978
2. JLC Engineering & Consulting, Inc. Hydraulic Analyses for Culverts Crossing I-10 TTM 37862, November 2020.

FIGURE 1: Vicinity Map



SCALE: 1"=10,000'

PROACTIVE ENGINEERING CONSULTANTS WEST
25109 JEFFERSON AVE. SUITE 200
MURRIETA, CA 92562
951-200-6840

FIGURE 1

OAK VALLEY TOWN CENTER
VICINITY MAP

Plotted: Apr 08, 2020 - 8:32am By: PEC West-DMC: C:\Users\PEC West-User\Desktop\WFH\1-Working Folder\01.168.000 Oak Valley Town Center\Hydro\Drainage\Drawings\Vicinity Map.dwg

FIGURE 2: Site Plan

FUTURE SUMMERWIND DEVELOPMENT

INTERSTATE 10 HIGHWAY

PROPOSED BUILDING PAD=262.6

SINGLETON ROAD

PROPOSED BUILDING PAD=251.9

FUTURE SUMMERWIND DEVELOPMENT

SINGLETON ROAD

OAK VALLEY TOWN CENTER

PROPOSED BUILDING PAD=226.4

COOPER DRIVE

EXISTING ROBERTS ROAD

PROPOSED BUILDING PAD=223.9

ROBERTS ROAD

INTERSTATE 10 HIGHWAY

TO SAN TIMOTEO CREEK

SUMMERWIND PHASE 1

LEGEND:

- OVTC PROJECT BOUNDARY
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- LAND USE BOUNDARY
- INDUSTRIAL PARCEL
- COMMERCIAL PARCEL

SCALE: 1"=600'

PROACTIVE ENGINEERING CONSULTANTS WEST
25109 JEFFERSON AVE. SUITE 200
MURRIETA, CA 92562
951-200-6840

PROACTIVE ENGINEERING WEST

FIGURE 2
OAK VALLEY TOWN CENTER
SITE PLAN

Plotted: Jun 14, 2021 - 8:41am By: ajboylon DWG: N:\01.169.000 Oak Valley Town Center\Hydro\Drainage - Ultimate Condition\Drawings\Site Plan.dwg

EXHIBIT A: Undeveloped Condition Hydrology Map

AREA "D"
(PER CULVERT ANALYSIS)

AREA "C"
(PER CULVERT ANALYSIS)

AREA "B"
(PER CULVERT ANALYSIS)

AREA "A"
(PER CULVERT ANALYSIS)

AREA "E"
(PER CULVERT ANALYSIS)

INTERSTATE 10 HIGHWAY

INTERSTATE 10 HIGHWAY

CULVERT D1
EX. 30" CMP
Q_{MAX}=43 CFS

CULVERT D2
EX. 36" RCP
Q_{MAX}=104 CFS

CULVERT C
EX. 6'Wx8'H RCB
Q_{MAX}=910 CFS

CULVERT E
EX. 30" RCP
Q_{MAX}=42 CFS

CULVERT B1 & B2
Q_{MAX}=586.14 CFS

CULVERT B1
EX. DBL 48" CMP

CULVERT B2
EX. 48" CMP

CULVERT B3
EX. DBL 48" RCP
Q_{MAX}=140 CFS

CULVERT A
EX. DBL 10'Wx7'H
Q_{MAX}=1905 CFS

SINGLETON ROAD

ROBERTS ROAD

ROBERTS ROAD

A

B

0.7 AC

1 / 374

2 / 372

2 / 230.1 AC

101 / 156.7 AC

100 / 0.4 AC

101 / 378

102 / 376

Q_{100}=786 CFS TOTAL; V_{AVG}=14.2 FT/S
(CULVERTS B-3, E)

SUMMERWIND PHASE 1

SUMMERWIND PHASE 1

Q_{100}=1,593 CFS TOTAL; V_{AVG}=16.2 FT/S
Q_{100}=535.6 CFS (ONSITE AREA A)
Q_{100}=1,057 CFS (CULVERTS C, D1, D2)

1 / 178

102 / 171

Q_{100}=3,016 CFS TOTAL; V_{AVG}=18.1 FT/S
Q_{100}=343 CFS (ONSITE AREA B)
Q_{100}=2,673 CFS (CULVERTS A, B-3, E)

TO SAN TIMOTEO CREEK

LEGEND:

- A — DRAINAGE AREA
- OVTC PROJECT BOUNDARY
- WATERSHED BOUNDARY
- SUBAREA BOUNDARY
- FLOW PATH
- EXISTING STORM DRAIN
- X-X / XX AC — SUBAREA NAME / ACREAGE
- XX / XXX.X / *XXX.X — NODE: FLOWLINE ELEVATION / * INVERT ELEVATION (IF SHOWN)

NOTE: CULVERT DATA PER SEPARATE STUDY. SEE TTM 37862 HYDRAULIC ANALYSES FOR CULVERTS CROSSING 1-10

250' 0 250' 500' 750'

SCALE: 1"=250'

EXHIBIT A

PROACTIVE ENGINEERING CONSULTANTS WEST
25109 Jefferson Ave, Suite 200
Murrieta, CA 92562
951-200-6840

PROACTIVE
ENGINEERING WEST

CITY OF CALIMESA

OAK VALLEY TOWN CENTER

UNDEVELOPED CONDITION
ONSITE HYDROLOGY MAP

EXHIBIT B: Developed Condition Hydrology Index Map

AREA "D"
(PER CULVERT ANALYSIS)

AREA "C"
(PER CULVERT ANALYSIS)

AREA "E"
(PER CULVERT ANALYSIS)

AREA "B"
(PER CULVERT ANALYSIS)

CULVERT D1
EX. 30" CMP
Q_{MAX}=43 CFS

CULVERT D2
EX. 36" RCP
Q_{MAX}=104 CFS

CULVERT C
EX. 6'Wx8'H RCB
Q_{MAX}=910 CFS

CULVERT E
EX. 30" RCP
Q_{MAX}=42 CFS

CULVERT B1 & B2
Q_{MAX}=586.14 CFS

CULVERT B1
EX. DBL 48" CMP

CULVERT B2
EX. 48" CMP

CULVERT B3
EX. DBL 48" RCP
Q_{MAX}=140 CFS

CULVERT A
EX. DBL 10'Wx7'H
Q_{MAX}=1905 CFS

INTERSTATE 10 HIGHWAY

SINGLETON ROAD

ROBERTS RD

FUTURE SUMMERWIND DEVELOPMENT
PLANNING AREA E-1 GARDEN COURTS PER SPECIFIC PLAN

FUTURE SUMMERWIND DEVELOPMENT
PLANNING AREA E-2 TOWNHOMES PER SPECIFIC PLAN

FUTURE SUMMERWIND DEVELOPMENT
STREET - ROBERTS ROAD

FUTURE SUMMERWIND DEVELOPMENT

FUTURE SUMMERWIND DEVELOPMENT
PLANNING AREA B-1 COMMUNITY RECREATION PER SPECIFIC PLAN

FUTURE SUMMERWIND DEVELOPMENT

EXISTING SUMMERWIND PHASE 1

LEGEND:

- A — DRAINAGE AREA
- OVTC PROJECT BOUNDARY
- WATERSHED BOUNDARY
- SUBAREA BOUNDARY
- FLOW PATH
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- X-X / XX AC — SUBAREA NAME / ACREAGE
- XX / XXX.X / *XXX.X — NODE / FLOWLINE ELEVATION / * INVERT ELEVATION (IF SHOWN)
- FUTURE SUMMERWIND DEVELOPMENT TRIBUTARY TO THE OVTC STORM DRAIN INFRASTRUCTURE

NOTE: CULVERT DATA PER SEPARATE STUDY. SEE TTM 37862 HYDRAULIC ANALYSES FOR CULVERTS CROSSING 1-10

200' 0 200' 400' 600'
SCALE: 1"=200'

EXHIBIT B

CITY OF CALIMESA

PROACTIVE ENGINEERING CONSULTANTS WEST
25109 JEFFERSON AVE. SUITE 200
MURRIETA, CA 92562
951-200-6840

PROACTIVE ENGINEERING WEST

OAK VALLEY TOWN CENTER

DEVELOPED CONDITION
ONSITE HYDROLOGY MAP

EXHIBIT C: Drainage Facilities Map

CULVERT D1
EX. 30" CMP
Q_{MAX}=43 CFS

CULVERT D2
EX. 36" RCP
Q_{MAX}=104 CFS

CULVERT C
EX. 6'Wx8'H RCB
Q_{MAX}=910 CFS

CULVERT E
EX. 30" RCP
Q_{MAX}=42 CFS

CULVERT B1 & B2
Q_{MAX}=586.14 CFS

CULVERT B1
EX. DBL 48" CMP

CULVERT B2
EX. 48" CMP

CULVERT B3
EX. DBL 48" RCP
Q_{MAX}=140 CFS

CULVERT A
EX. DBL 10'Wx7'H
Q_{MAX}=1905 CFS

INTERSTATE 10 HIGHWAY

INTERSTATE 10 HIGHWAY

SINGLETON ROAD

ROBERTS ROAD

FUTURE SUMMERWIND DEVELOPMENT

FUTURE SUMMERWIND DEVELOPMENT

FUTURE SUMMERWIND DEVELOPMENT

SUMMERWIND PHASE 1

A

A

A

A

B

CP-09 (R7)
48" RCP
Q_{100}=147 CFS

CP-09 (R1-6)
60" RCP
Q_{100}=147 CFS

30' PUBLIC SD ESMT

30' PUBLIC SD ESMT

40' PUBLIC SD ESMT

40' PUBLIC SD ESMT

50' PUBLIC SD ESMT

EXISTING CULVERT
Q_{MAX}=910 CFS

CP-22
30" RCP
Q_{100}=10.4 CFS

LINE A2
66" RCP
Q_{100}=203.2 CFS

CP-08
18" RCP
Q_{100}=10 CFS

LINE A (R17)
10x8 RCB
Q_{100}=1,053 CFS

CATCH BASIN 3
W=14'
Q_{100}=7.0 CFS

CP-07
18" RCP

CP-06
30" RCP
Q_{100}=70 CFS

LINE A2
66" RCP
Q_{100}=213.6 CFS

CATCH BASIN 12
W=14' (SAG)
Q_{100}=4.4 CFS

CP-21
18" RCP

CATCH BASIN 11
W=10'
Q_{100}=5.9 CFS

CP-20
18" RCP

LINE A2 (R1)
66" RCP
Q_{100}=222.8 CFS

CP-05
18" RCP
Q_{100}=27.9 CFS

LINE A
12x10 RCB
Q_{100}=1,474 CFS

CP-10
18" RCP
Q_{100}=6.7 CFS

LINE A
12x10 RCB
Q_{100}=1,481 CFS

CATCH BASIN 2
W=14'
Q_{100}=6.3 CFS

CP-04
18" RCP

CP-02
30" RCP
Q_{100}=27.7 CFS

LINE A
12x10 RCB
Q_{100}=1,520 CFS

CP-23
42" RCP
Q_{100}=57.1 CFS

LINE A
12x10 RCB
Q_{100}=1,497 CFS

CATCH BASIN 1
W=14'
Q_{100}=12.1 CFS

CP-03
18" RCP

LINE A
12x10 RCB
Q_{100}=1,567 CFS

CP-24
24" RCP
Q_{100}=23.9 CFS

CP-01
42" RCP
Q_{100}=101.4 CFS

LINE A
12'x10' (WxH) RCB
Q_{100}=1,675 CFS

LINE A
10x8 RCB
Q_{100}=1,045 CFS

LINE A
8x10 RCB
Q_{100}=1,058 CFS

LINE A
10x8 RCB
Q_{100}=1,128 CFS

LINE A
12x10 RCB
Q_{100}=1,128 CFS

CATCH BASIN 4
W=14' (SAG)
Q_{100}=7.6 CFS

LATERAL CP-11
18" RCP

LINE A1
66" RCP
Q_{100}=145.6 CFS

LINE A
12x10 RCB
Q_{100}=1,253 CFS

LINE A
12x10 RCB
Q_{100}=1,446 CFS

LINE A1
66" RCP
Q_{100}=140.4 CFS

CATCH BASIN 6
W=4' (SAG)
Q_{100}=3.5 CFS

CP-14
18" RCP

LINE A1
66" RCP
Q_{100}=119.2 CFS

CP-12
24" RCP
Q_{100}=21.2 CFS

LINE A1
66" RCP
Q_{100}=110.3 CFS

CATCH BASIN 5
W=14' (SAG)
Q_{100}=6.7 CFS

CP-13
18" RCP

CP-15
30" RCP
Q_{100}=31 CFS

CATCH BASIN 7
W=10'
Q_{100}=7.1 CFS

CP-16
18" RCP

CP-18
36" RCP
Q_{100}=56.1 CFS

LINE A1
48" RCP
Q_{100}=67.3 CFS

CATCH BASIN 8
W=10'
Q_{100}=5.2 CFS

CP-17
18" RCP

LINE A1
48" RCP
Q_{100}=79.4 CFS

CATCH BASIN 10
W=10'
Q_{100}=5.8 CFS

CP-19
18" RCP

LINE A1
18" RCP
Q_{100}=11.2 CFS

LINE B
DOUBLE 6x4 CULVERT
Q_{100}=828.8 CFS

CATCH BASIN 9
W=10'
Q_{100}=5.7 CFS

LINE A1
18" RCP

LINE C
ARCH CULVERTT
Q_{100}=1,905 CFS

WOB

WOB

WOB

LEGEND:

A — DRAINAGE AREA

OVTC PROJECT BOUNDARY

WATERSHED BOUNDARY

PROPOSED STORM DRAIN

EXISTING STORM DRAIN

NOTE: CULVERT DATA PER SEPARATE STUDY. SEE TTM 37862
HYDRAULIC ANALYSES FOR CULVERTS CROSSING 1-10

200' 0 200' 400' 600'

SCALE: 1"=200'

EXHIBIT C

PROACTIVE ENGINEERING CONSULTANTS WEST
25109 JEFFERSON AVE. SUITE 200
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951-200-6840

PROACTIVE ENGINEERING WEST

CITY OF CALIMESA

OAK VALLEY TOWN CENTER

PRELIMINARY DRAINAGE FACILITIES MAP

FOR REVIEW ONLY

Birtcher Commerce Center Oak Valley - Building C
DPR 21-05
Calimesa, County of Riverside, California

Preliminary Drainage Study

Prepared for:
Birtcher Development
450 Newport Center Drive, Suite 220
Newport Beach, CA 92660
(714) 728-9070

Prepared By:
ALBERT A. WEBB ASSOCIATES
3788 McCray Street
Riverside, CA 92506

Original Date Prepared: May 2021
Revision Date(s):

[Stamp]

Engineer
Title

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FIG. 3 AERIAL PHOTOGRAPH
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RELEVANT EXCERPTS AND MAPS FROM
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SECTION 1 - SUMMARY

PURPOSE

The purpose of this report is to document the hydrologic and hydraulic analyses performed in support of the Birtcher Commerce Center Oak Valley (BCCOV) - Building C project located in the city of Calimesa in the County of Riverside, California. The overall BCCOV project site (PM 37862) consists of approximately 220 acres of currently vacant land and is bounded by the Interstate-10 (I-10) highway along its northeast, the single-family residential tract TR 32702 (currently under construction) along its southeastern boundary, vacant land along its southern boundary, and a future residential development to its northwest. The San Timoteo Creek runs from north to south along the eastern boundary of the BCCOV site and continues south of the site.

The BCCOV - Building C project is bounded by Singleton Road to its south, Roberts Road to its east, and vacant land (future residential developments) to its north and west. The project proposes to build an industrial development on approximately 25.3 acres. This report will summarize the hydrologic and hydraulic analyses that were conducted in order to determine the necessary drainage improvements required to provide flood protection for the proposed building and safely convey the runoff through the site.

The scope of this report will include the following:

- Determine the peak 100-year and 10-year flow rates for the developed condition using the Riverside County Flood Control and Water Conservation District (RCFC&WCD) Rational Method.
- Determine the required storm drain facilities, alignment, and sizes required to flood protect the project site.
- Determine the necessary flow rate required for water quality treatment.
- Determine the necessary detention volume required to mitigate for increases in runoff for the 24-hour duration storm event for the 2-year return frequency
- Preparation of a preliminary report summarizing the hydrology and hydraulic results.

DESCRIPTION OF WATERSHED

As previously described, the project is proposing an industrial development on approximately 25.3 acres of vacant land within the boundaries of the overall BCCOV project boundary. The overall BCCOV project, and all areas within its boundary including the BCCOV - Building C project, is located within the Summerwind Ranch at Oak Valley Specific Plan which comprises approximately 2,600 acres of land within the city of Calimesa.

The currently vacant overall BCCOV project site generally drains towards the center of the site where a natural streambed area conveys flows from north to south. The project site is currently impacted by considerable offsite flow that enters the site via multiple existing culverts running underneath the I-10 Highway. The existing culverts convey approximately 3730 cfs of flows generated mainly by the San Bernardino Mountains located northeast of the overall BCCOV project site. The offsite flows combine with the existing onsite flows and are conveyed south through the site via the existing streambed areas before ultimately discharging into the San Timoteo Creek.

Prior to any construction commencing for the BCCOV - Building C project, the overall BCCOV project site will be mass graded. The mass grading phase also includes the construction of retaining walls along the boundaries of the overall BCCOV project, graded pads, the construction of backbone street improvements for Singleton Road and Roberts Road, the installation of backbone storm drain facilities, and the installation of storm drain stub-outs for the individual BCCOV industrial developments to discharge into. The overall drainage pattern of the mass grade phase will perpetuate the drainage pattern

of the existing, vacant project site. However, runoff in the mass graded phase will be captured in temporary inlets and conveyed towards the backbone storm drain facilities. The backbone storm drain facilities have been designed to convey the fully developed flows from the overall BCCOV project as well as the existing offsite flows generated north of the I-10 highway southerly towards the San Timoteo Creek. A separate drainage study titled "Hydrology and Hydraulics Study: Oak Valley Town Center Parcel Map No. 37862 Mass Grading Plan" was conducted for the mass grade phase of the project and encompasses the design and layout of the backbone storm drain facilities.

The completion of the mass grade phase (along with backbone improvements for Roberts Road and Singleton Road) for the overall BCCOV project site will be considered the existing condition for the purpose of this preliminary drainage study for the BCCOV - Building C project. Temporary inlets and any existing CMP constructed in the mass grade phase will be removed in the ultimate condition. Storm drain stub-outs constructed in the mass grade phase will remain in place and be used as connection points for the proposed onsite developments of the BCCOV - Building C project.

Existing elevations across the site vary from 2265 to 2230 feet. The existing site generally drains from northwest to southeast. Two existing sediment basins, one located in the southeastern corner of the site and the other located near the southwestern portion of the site, collect the majority of existing flows before discharging them into the backbone storm drain facilities located along Singleton Road. The backbone storm drain facilities convey flows southwest before ultimately discharging into the San Timoteo Creek.

PROPOSED CONDITIONS

In the proposed condition of the BCCOV - Building C project, onsite runoff will be conveyed throughout the site via proposed ribbon gutters and curb & gutters. Onsite runoff will then be captured by a network of catch basins and drainage inlets provided at low points. Proposed private underground storm drain conveys captured flows towards proposed biotreatment devices for water quality treatment. Modular Wetland System (MWS) vaults are being proposed to provide water quality treatment (additional information regarding the MWS vaults can be found in the separate Preliminary WQMP Report). CMP chamber detention systems with orifice outlets are proposed to mitigate onsite flows for the 2-year 24-hour storm event to meet HCOC requirements.

All flows captured onsite are then conveyed towards existing storm drain stub-outs that will be constructed in the mass grading phase of the overall BCCOV project once treated for water quality and mitigated to be within 10% of the pre-development flows for the 2-year storm event with a duration of 24 hours. These stub-outs have been sized to convey the fully developed flows generated by the BCCOV - Building C project per a separate drainage study ("Hydrology and Hydraulics Study: Oak Valley Town Center Parcel Map No. 37862 Mass Grading Plan") and conveys flows towards the backbone storm drain lines which will be constructed in the mass grade phase of the overall BCCOV project. The backbone storm drain line conveys flows towards the southern boundary of the overall BCCOV project boundary and ultimately discharges all captured flows offsite and into the San Timoteo Creek.

METHODOLOGY

HYDROLOGY

Hydrologic calculations were performed in accordance with the RCFC&WCD Hydrology Manual, dated April 1978. The Rational Method was utilized in determining peak flow rates.

The hydrological parameters, including rainfall values and soil types were derived from the RCFC&WCD Hydrology Manual. The isohyetal maps and soil map have been included in Section 2.

Rational Method calculations were performed using a computer program developed by CivilDesign Corporation and Joseph E. Bonadiman and Associates Inc. The computer program is commonly referred

to as CivilD which incorporates the hydrological parameters outlined in the RCFC&WCD Hydrology Manual.

The Rational Method was used to determine the peak flow rates to size and design the drainage facilities need to convey onsite flows through the site to the existing stub-outs. The flow rates were computed by generating a hydrologic "link-node" model in which the overall area is divided into separate drainage sub-areas, each tributary to a concentration point (node) determined by the proposed layout and grading.

The Unit Hydrograph Method was used to determine the peak flow rates and volumes associated with the 2-year event for the site. Calculations were performed for both the existing condition and developed condition to be used in the analysis of the proposed detention systems. See Section 4 for additional information and results regarding the hydrologic analyses performed for this project.

HYDRAULICS

Water quality calculations were performed using spreadsheets that were created by RCFC&WCD. Final calculations and additional details can be found in the Preliminary-WQMP.

Basin routing calculations were performed using the CivilD computer program. The CivilD program utilizes the Modified-Puls methodology to routes unit hydrographs through a basin using the stage-storage and stage-discharge curves determined from the proposed basin design. See Section 4 for additional discussion and results.

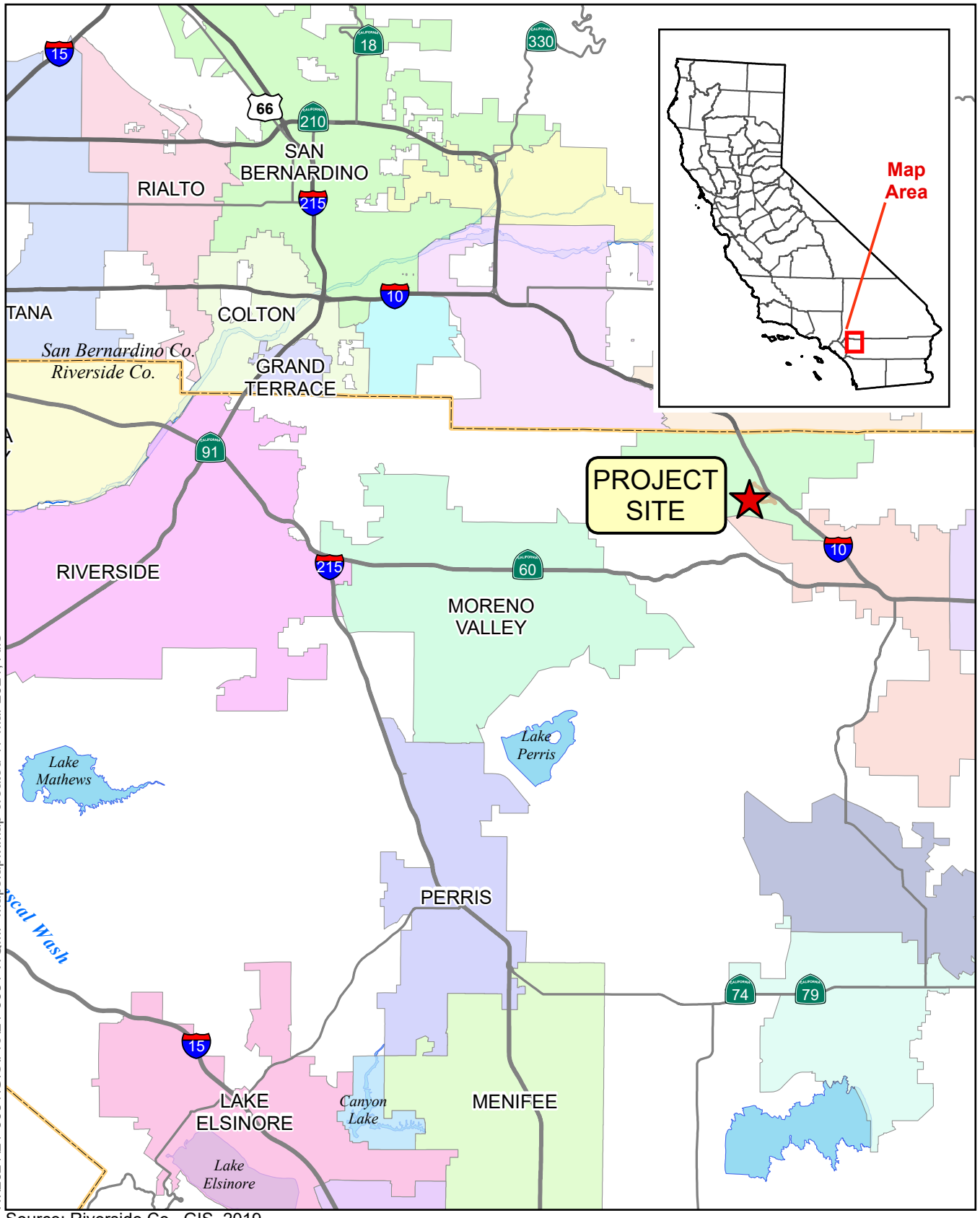
Hydraulic calculations to determine the required pipe sizes of proposed storm drain facilities will be provided in the Final Drainage Study.

FIG. 1 VICINITY MAP

FIG. 2 USGS TOPOGRAPHY MAP

FIG. 3 AERIAL PHOTOGRAPH

FIG. 4 RECEIVING WATERBODIES



H:\2021\21-0034\GIS\Pro\21-0034 WQMP Maps.aprxMap created 17 Mar 2021; AliS

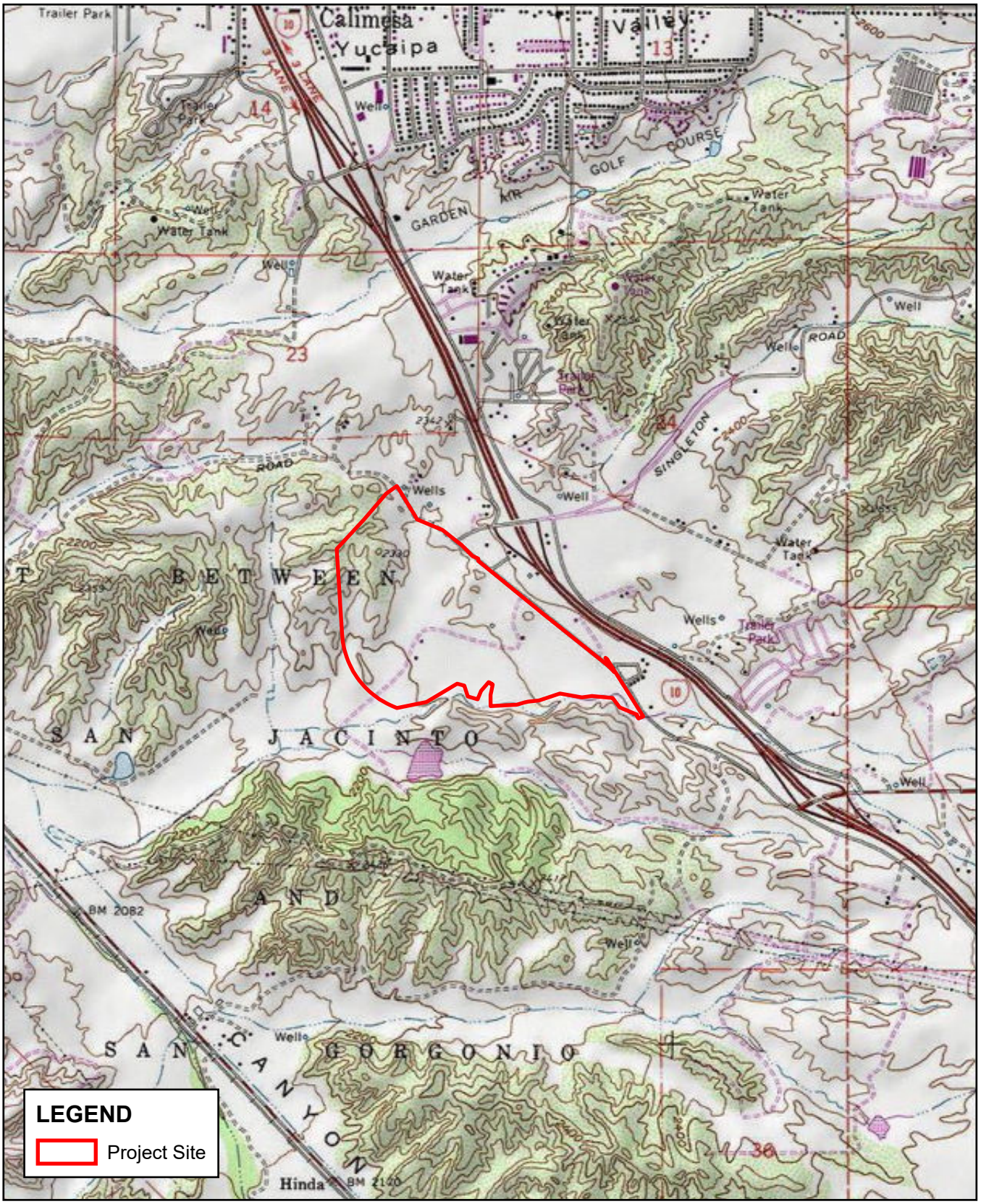
Source: Riverside Co. GIS, 2019

0 2 4 6 Miles

Figure 1 – Vicinity Map

21-0034 OVTC INDUSTRIAL

ALBERT A. WEBB ASSOCIATES



H:\2021\21-0034\GIS\Pro\21-0034 WQMP Maps.aprx; Map created 17 Mar 2021; AliS

Sources: ESRI / USGS 7.5min Quad
DRGs: EL CASCO

0 1,000 2,000 3,000 Feet

Figure 2 - USGS Map
21-0034 OVTC INDUSTRIAL

ALBERT A. WEBB ASSOCIATES



H:\2021\21-0034\GIS\Pro\21-0034 WQMP Maps.aprx; Map created 17 Mar 2021

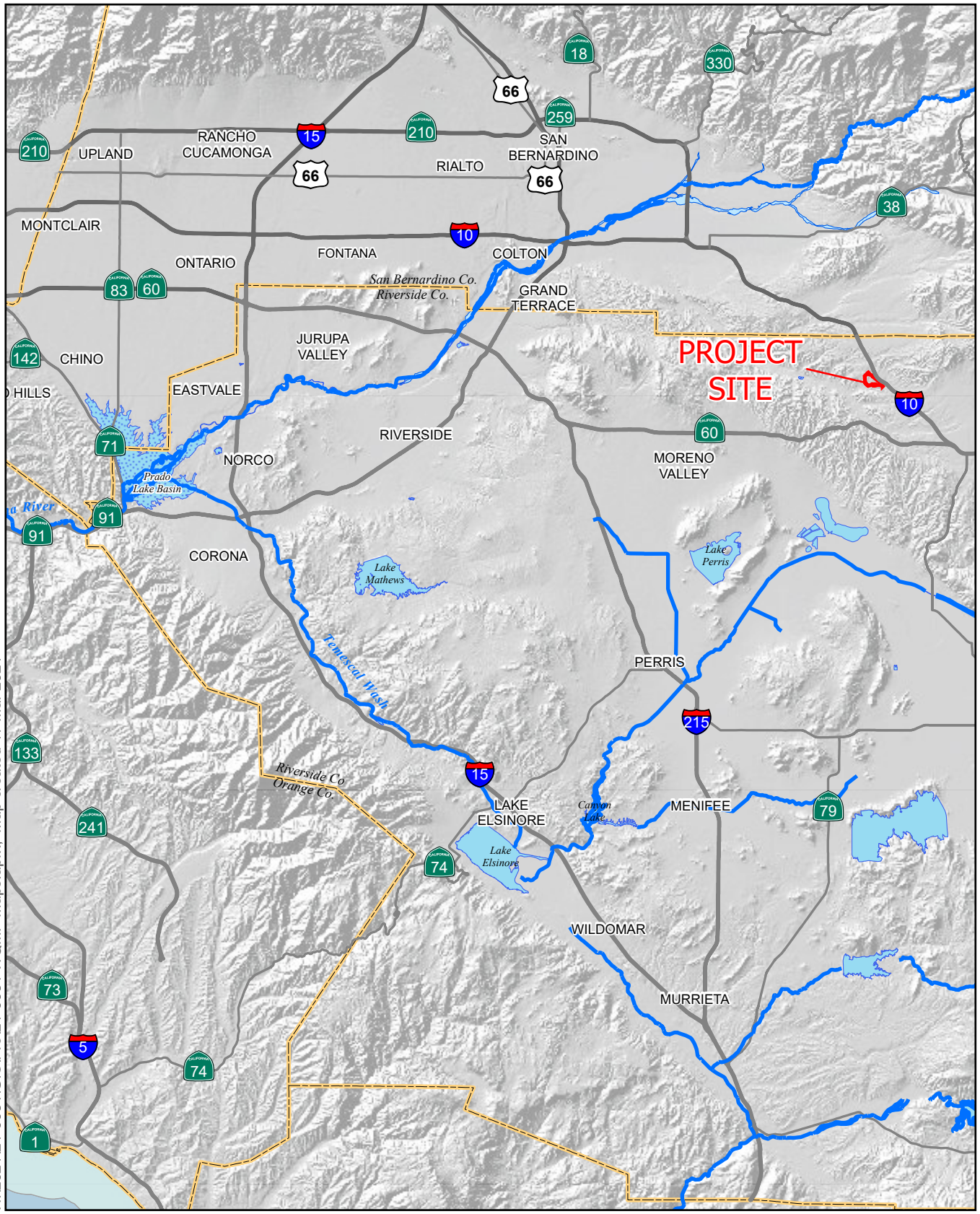
Source: Riverside Co. GIS, Jan. 2020.

0 600 1,200 1,800 Feet

Figure 3 - Aerial Map

21-0034 OVTC INDUSTRIAL

ALBERT A. WEBB ASSOCIATES



H:\2021\21-0034\GIS\Pro\21-0034 WQMP Maps.aprx; Map created 17 Mar 2021

Sources: USGS DLG; USGS 30m DEM

0 2 4 6 8 Miles

Figure 4 – Receiving Waterbodies

21-0034 OVTC INDUSTRIAL

ALBERT A. WEBB ASSOCIATES

SECTION 2 - HYDROLOGY ANALYSIS

HYDROLOGY PARAMETERS

The RCFC&WCD Hydrology Manual was used to determine several of the hydrological parameters. The following rainfall depths were utilized in the hydrology analyses, which were obtained from the isohyetal maps provided in the RCFC&WCD Hydrology Manual:

Table 1 – Precipitation Values

	Duration
Storm Event	1-Hour (inches)
10-Year	0.91
100-Year	1.35

The value for slope of intensity was determined to be 0.550. The standard intensity-duration curve data (Plate D-4.1) has been included in Appendix A.

Based on the Plate C-1.18 [El Casco] in the RCFC&WCD Hydrology Manual, the project site is classified as soil types B, C, and D but is predominately soil type B. The soils map is included in Appendix A.

ON-SITE RATIONAL METHOD HYDROLOGY

The rational method was used to determine peak flow rates in order to adequately size the proposed subsurface storm drains and associated inlets used to convey on-site flows. Calculations were performed for approximately 23.1 acres of total area that is tributary to the proposed storm drain facilities within the BCCOV - Building C project boundary. A small portion of the site, consisting mainly of the driveways and adjacent sloped areas will drain towards the backbone streets (Singleton Road and Roberts Road) and be captured in the backbone catch basins.

The BCCOV – Building C project has been provided three (3) stub-out connections located at various points near the southern boundary of the site. These stub-outs have been sized to accept the fully developed flows generated by the project area.

Subareas within the rational method calculations for the BCCOV – Building C project have been broken up based on the area tributary to the existing stub-outs constructed in the mass grade phase of the overall BCCOV project. The 400-Series consists of approximately 12.5 acres of area tributary to the existing stub-out in the southeastern corner of the site making up the northeastern portion of the site. The 450-Series consists of approximately 11.0 acres of area tributary to the existing stub-out in the southwestern corner of the site making up the southern and western portion of the site.

Areas were further broken up based on the location of localized low points throughout the site. In final engineering, areas will be further broken up to determine the 100-year flow rates entering any proposed inlets located onsite. The majority of flows are directed towards the proposed inlets via ribbon gutters and/or curb & gutters. Most subareas consist of a combination of the proposed building, parking stalls, drive aisles, concrete walkways, and/or landscaped areas. All onsite areas within the calculations were considered as commercial subarea types.

The following table summarizes the rational method results at key points:

Table 3 – Rational Method Results

Point of Interest	10-Year Peak Flow Rate (cfs)	100-Year Peak Flow Rate (cfs)
Node 411 – Flows from north /eastern portions of site	26.1	39.0
Node 508 – Flows from south /western portions of site	23.6	35.3

The rational method output files and hydrology map have been included in Appendix A.

OFF-SITE RATIONAL METHOD HYDROLOGY

Approximately 4.1 acres of offsite sloped area along the northern and western boundary of the BCCOV - Building C project drains towards the project site. These flows will be intercepted via a concrete lined ditch and captured per the overall BCCOV mass grade improvement plans. As such, these offsite flows will not impact the project site.

As described in Section 1, the overall BCCOV project site is impacted by considerable offsite flows generated by the San Bernardino Mountains located northeast of the I-10 Highway. These flows will enter the backbone storm drain facilities and will not impact the BCCOV - Building C project. Details regarding these offsite flows and the backbone storm drain facilities can be found in the separate drainage study titled "Hydrology and Hydraulics Study: Oak Valley Town Center Parcel Map No. 37862 Mass Grading Plan" (excerpts from the report can be found in Appendix C).

SECTION 3 - HYDRAULIC ANALYSIS

ON-SITE STORM DRAIN FACILITIES

Onsite Storm Drain

Existing stub-outs have been sized to accept the flows generated by the fully developed of the BCCOV - Building C project and will be constructed in the mass grade phase (per the separate study titled "Hydrology and Hydraulics Study: Oak Valley Town Center Parcel Map No. 37862 Mass Grading Plan").

Hydraulic calculations will be performed for all proposed, onsite storms drain facilities 12 inches in diameter or greater in the Final Drainage Study.

CMP Chambers C1

To mitigate for HCOC requirements, a CMP detention system is proposed to hold 65,000 cubic ft of runoff. This would require the system to consist of 4 barrels, which are 303 ft long each. Solid chambers are proposed as infiltration is not feasible. An outlet structure is proposed to consist of an orifice with the invert at the bottom of the chambers to mitigate the peak flow rate of the 2-year storm event. The details of the CMP chamber and orifice sizing have been included in Appendix B.

CMP Chambers C2

To mitigate for HCOC requirements, a CMP detention system is proposed to hold 70,000 cubic ft of runoff. This would require the system to consist of 9 barrels, which are 134 ft long each. Solid chambers are proposed as infiltration is not feasible. An outlet structure is proposed to consist of an orifice with the invert at the bottom of the chambers to mitigate the peak flow rate of the 2-year storm event. The details of the CMP chamber and orifice sizing have been included in Appendix B.

Inlet Capacities

Grate inlets are proposed at the low points within ribbon gutters in order to capture onsite flows. For larger flows, a series of 3'x 3' or 2'x 3' grates are proposed in ribbon gutters to prevent excessive ponding from occurring.

SECTION 4 - DETENTION SYSTEM ANALYSIS

ON-SITE UNIT HYDROGRAPH METHOD HYDROLOGY

The unit hydrograph method was used to determine the peak flow rates and volumes in order to adequately size the proposed chamber detention systems to address HCOC mitigation. Unit hydrographs were performed for the 2-year storm with a duration of 24-hours in the existing condition and developed condition. The existing condition is used to establish a baseline for comparative purposes. The developed condition is used for design purposes, it was utilized in the routing analysis in order to size and analyze the proposed basin and chamber detention systems.

In the existing condition analysis, the Building C project site was broken up into two main areas. Approximately 13.2 acres are labelled as Area C1 and are tributary to the existing western stub out within the Building C project site. Approximately 11.8 acres are labelled as Area C2 and are tributary to the existing eastern stub out within the Building C project site. In the proposed condition, Areas C1 and C2 are referred to as Areas 8 and 9, respectively.

The following table summarizes the results of the unit hydrograph analysis:

Table 4 – Unit Hydrograph Results

EXISTING CONDITION 2-YEAR, 24-HOUR STORM		
AREA	C1	C2
VOL (AC-FT)	0.32	0.24
PEAK (CFS)	1.29	0.60

PROPOSED CONDITION 2-YEAR, 24-HOUR STORM		
AREA	8	9
VOL (AC-FT)	1.74	1.7
PEAK (CFS)	2.88	2.87

BASIN ROUTING ANALYSIS

A routing analysis was completed to demonstrate that the basin and CMP chamber systems contain substantial volume needed to mitigate flows down to existing condition peak flow rates.

Basin routing calculations were conducted for each building area (Areas 8 and 9). A stage-storage-discharge table was determined for each area. The stage-storage-discharge tables provide input data at select elevations in the basin and/or chambers which will determine the storage and discharge at each point based on the mitigation configuration of the outlet structures.

For Area 8, the proposed outlet structure consists of a 4.5-inch orifice with an invert set at the bottom of the chambers to mitigate the 2-year storm event with a duration of 24 hours. The orifice creates a maximum ponding depth of 4.08 ft above the chamber bottom, which is below the 8 ft depth of the top of the chambers.

For Area 9, the proposed outlet structure consists of a 3-inch orifice with an invert set at the bottom of the chambers to mitigate the 2-year storm event with a duration of 24 hours. The orifice creates a maximum

ponding depth of 5.35 ft above the chamber bottom, which is below the 8 ft depth of the top of the chambers.

The following tables present the result of routing analysis for the 24-hour 2-year storm event to demonstrate that the CMP chamber systems provide the necessary storage volume needed to restrict the outflow to existing condition flow rates.

Table 5 – Basin Routing Results

EXISTING CONDITION 2-YEAR, 24-HOUR STORM			
	VOL (AC-FT)	PEAK FLOW (CFS)	
AREA C1	0.32	1.29	
AREA C2	0.24	0.60	
PROPOSED CONDITION 2-YEAR, 24-HOUR STORM			
	VOL (AC-FT)	PEAK FLOW (CFS)	ROUTING PEAK FLOW (CFS)
AREA 8	1.74	2.88	1.15
AREA 9	1.70	2.87	0.59

The basin routing calculations and other hydraulic calculations have been provided in Appendix C. Based on the table above, the proposed detention chambers for have the capacity to mitigate for the required HCOC. All discharge flow rates in the developed condition are lower than or within ten percent of the flow rate exiting the site in the existing condition.

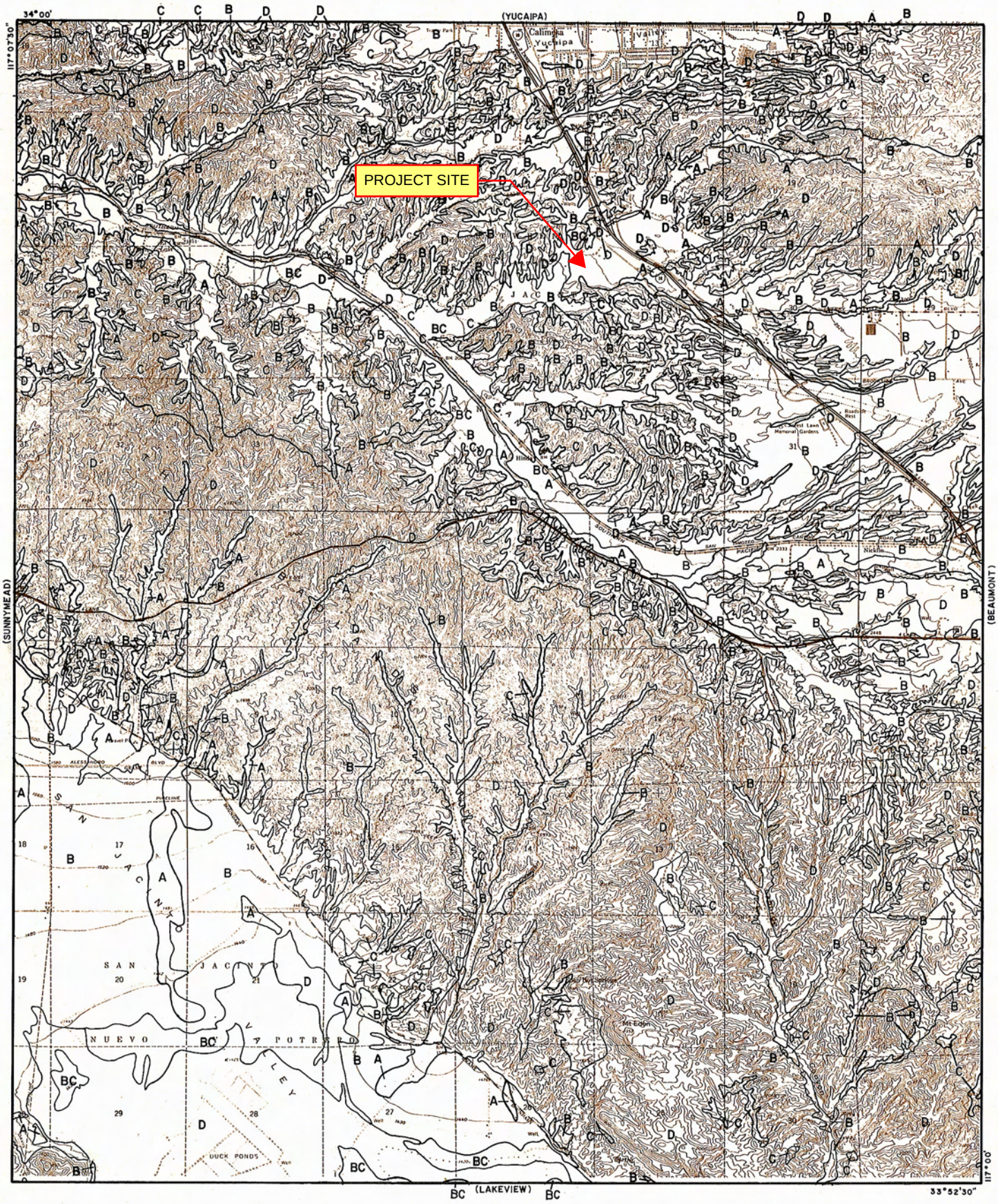
SECTION 5 - CONCLUSION

Based on the analyses and results of this report, the following conclusions were derived from the hydrology and hydraulic results:

- The proposed drainage improvements will adequately convey flows towards the existing backbone storm drain facilities and provide flood protection for the 100-year storm event.
- The proposed MWS biotreatment devices will provide adequate water quality treatment.
- The proposed CMP detention chambers and orifice system will adequately mitigate for increases in runoff for the 24-hour duration storm event for the 2-year return frequency.
- The proposed project will not impact flooding condition to upstream or downstream properties.

APPENDIX A – HYDROLOGY ANALYSIS

HYDROLOGIC SOILS GROUP MAP (PLATE C-1.18)



LEGEND

—— SOILS GROUP BOUNDARY

A SOILS GROUP DESIGNATION

RCFC&WCD

HYDROLOGY MANUAL

0 FEET 5000

HYDROLOGIC SOILS GROUP MAP FOR EL CASCO

PLATE C-1.18

RAINFALL INTENSITY

RCFC & WCD

HYDROLOGY MANUAL

RAINFALL INTENSITY–INCHES PER HOUR

ANZA			BANNING			BEAUMONT			CALIMESA			CANYON LAKE		
DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR	DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR	DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR	DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR	DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR
5	4.23	6.85	5	3.32	4.93	5	3.32	4.93	5	3.57	5.30	5	3.07	4.61
6	3.80	6.16	6	3.02	4.47	6	3.02	4.47	6	3.23	4.79	6	2.81	4.23
7	3.48	5.63	7	2.78	4.12	7	2.78	4.12	7	2.97	4.40	7	2.61	3.93
8	3.22	5.21	8	2.59	3.84	8	2.59	3.84	8	2.76	4.09	8	2.45	3.68
9	3.01	4.87	9	2.43	3.61	9	2.43	3.61	9	2.58	3.83	9	2.31	3.48
10	2.83	4.58	10	2.30	3.41	10	2.30	3.41	10	2.44	3.62	10	2.20	3.31
11	2.67	4.33	11	2.19	3.24	11	2.19	3.24	11	2.31	3.43	11	2.10	3.16
12	2.54	4.12	12	2.09	3.10	12	2.09	3.10	12	2.21	3.27	12	2.01	3.03
13	2.43	3.93	13	2.00	2.97	13	2.00	2.97	13	2.11	3.13	13	1.94	2.92
14	2.33	3.77	14	1.92	2.85	14	1.92	2.85	14	2.03	3.01	14	1.87	2.82
15	2.23	3.62	15	1.86	2.75	15	1.86	2.75	15	1.95	2.89	15	1.81	2.72
16	2.15	3.49	16	1.79	2.66	16	1.79	2.66	16	1.88	2.79	16	1.75	2.64
17	2.08	3.37	17	1.74	2.58	17	1.74	2.58	17	1.82	2.70	17	1.70	2.56
18	2.01	3.26	18	1.68	2.50	18	1.68	2.50	18	1.76	2.62	18	1.66	2.50
19	1.95	3.16	19	1.64	2.43	19	1.64	2.43	19	1.71	2.54	19	1.62	2.43
20	1.89	3.06	20	1.59	2.36	20	1.59	2.36	20	1.67	2.47	20	1.58	2.37
22	1.79	2.90	22	1.51	2.25	22	1.51	2.25	22	1.58	2.34	22	1.51	2.27
24	1.70	2.76	24	1.45	2.15	24	1.45	2.15	24	1.51	2.23	24	1.44	2.17
26	1.62	2.63	26	1.39	2.06	26	1.39	2.06	26	1.44	2.14	26	1.39	2.09
28	1.56	2.52	28	1.33	1.98	28	1.33	1.98	28	1.38	2.05	28	1.34	2.02
30	1.49	2.42	30	1.29	1.91	30	1.29	1.91	30	1.33	1.98	30	1.30	1.95
32	1.44	2.33	32	1.24	1.84	32	1.24	1.84	32	1.29	1.91	32	1.26	1.89
34	1.39	2.25	34	1.20	1.78	34	1.20	1.78	34	1.24	1.85	34	1.22	1.84
36	1.34	2.18	36	1.17	1.73	36	1.17	1.73	36	1.21	1.79	36	1.19	1.79
38	1.30	2.11	38	1.13	1.68	38	1.13	1.68	38	1.17	1.74	38	1.16	1.74
40	1.27	2.05	40	1.10	1.64	40	1.10	1.64	40	1.14	1.69	40	1.13	1.70
45	1.18	1.91	45	1.04	1.54	45	1.04	1.54	45	1.07	1.58	45	1.07	1.61
50	1.11	1.80	50	.98	1.45	50	.98	1.45	50	1.01	1.49	50	1.02	1.53
55	1.05	1.70	55	.93	1.38	55	.93	1.38	55	.95	1.42	55	.97	1.46
60	1.00	1.62	60	.89	1.32	60	.89	1.32	60	.91	1.35	60	.93	1.40
65	.95	1.55	65	.85	1.27	65	.85	1.27	65	.87	1.29	65	.89	1.35
70	.91	1.48	70	.82	1.22	70	.82	1.22	70	.84	1.24	70	.86	1.30
75	.88	1.42	75	.79	1.17	75	.79	1.17	75	.80	1.19	75	.84	1.26
80	.85	1.37	80	.76	1.13	80	.76	1.13	80	.78	1.15	80	.81	1.22
85	.82	1.32	85	.74	1.10	85	.74	1.10	85	.75	1.11	85	.79	1.18
SLOPE = .580			SLOPE = .530			SLOPE = .530			SLOPE = .550			SLOPE = .480		

STANDARD INTENSITY–DURATION CURVES DATA

PLATE D-4.1 (1 of 6)

10-YEAR ONSITE HYDROLOGY (RATIONAL METHOD)

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 12/01/21 File:400.out

BCCOV BLDG C
10-YEAR STORM EVENT 400 SERIES
21-0034 DEVELOPED CONDITION
2021-12-01 EP

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 4010

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Calimesa] area used.
10 year storm 10 minute intensity = 2.440(In/Hr)
10 year storm 60 minute intensity = 0.910(In/Hr)
100 year storm 10 minute intensity = 3.620(In/Hr)
100 year storm 60 minute intensity = 1.350(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.910(In/Hr)
Slope of intensity duration curve = 0.5500

++

Process from Point/Station 400.000 to Point/Station 401.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 330.000(Ft.)
Top (of initial area) elevation = 2260.500(Ft.)
Bottom (of initial area) elevation = 2254.900(Ft.)
Difference in elevation = 5.600(Ft.)
Slope = 0.01697 s(percent)= 1.70
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 6.896 min.
Rainfall intensity = 2.991(In/Hr) for a 10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.877
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 56.00
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 2.360(CFS)
Total initial stream area = 0.900(Ac.)
Pervious area fraction = 0.100

++

Process from Point/Station 401.000 to Point/Station 402.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2251.000(Ft.)
Downstream point/station elevation = 2246.400(Ft.)
Pipe length = 210.00(Ft.) Manning's N = 0.013

```
No. of pipes = 1  Required pipe flow  =     2.360(CFS)
Nearest computed pipe diameter  =      9.00(In.)
Calculated individual pipe flow  =     2.360(CFS)
Normal flow depth in pipe =    7.10(In.)
Flow top width inside pipe =    7.34(In.)
Critical Depth =    8.18(In.)
Pipe flow velocity =      6.31(Ft/s)
Travel time through pipe =    0.55 min.
Time of concentration (TC) =     7.45 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      402.000 to Point/Station      402.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      0.900(Ac.)
Runoff from this stream =      2.360(CFS)
Time of concentration =    7.45 min.
Rainfall intensity =     2.866(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      403.000 to Point/Station      404.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   270.000(Ft.)
Top (of initial area) elevation =  2259.700(Ft.)
Bottom (of initial area) elevation =  2251.500(Ft.)
Difference in elevation =     8.200(Ft.)
Slope =    0.03037  s(percent)=       3.04
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    5.665 min.
Rainfall intensity =      3.333(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.881
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.800
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.200
RI index for soil(AMC 2)  =  59.80
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      4.697(CFS)
Total initial stream area =        1.600(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      404.000 to Point/Station      402.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2246.600(Ft.)
Downstream point/station elevation =  2246.400(Ft.)
Pipe length  =    75.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     4.697(CFS)
Nearest computed pipe diameter  =     18.00(In.)
Calculated individual pipe flow  =     4.697(CFS)
Normal flow depth in pipe =   12.94(In.)
Flow top width inside pipe =   16.19(In.)
Critical Depth =   10.00(In.)
Pipe flow velocity =      3.46(Ft/s)
Travel time through pipe =    0.36 min.
Time of concentration (TC) =     6.03 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      402.000 to Point/Station      402.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      1.600(Ac.)
Runoff from this stream =      4.697(CFS)
Time of concentration =    6.03 min.
Rainfall intensity =     3.221(In/Hr)
Summary of stream data:
```

```
Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        2.360      7.45                2.866
2        4.697      6.03                3.221
Largest stream flow has longer or shorter time of concentration
Qp =      4.697 + sum of
          Qa          Tb/Ta
           2.360 *    0.809 =      1.909
Qp =      6.606

Total of 2 streams to confluence:
Flow rates before confluence point:
       2.360       4.697
Area of streams before confluence:
        0.900        1.600
Results of confluence:
Total flow rate =      6.606(CFS)
Time of concentration =     6.026 min.
Effective stream area after confluence =      2.500(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      402.000 to Point/Station      405.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2246.400(Ft.)
Downstream point/station elevation =  2241.700(Ft.)
Pipe length  =   442.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     6.606(CFS)
Nearest computed pipe diameter  =     15.00(In.)
Calculated individual pipe flow  =     6.606(CFS)
Normal flow depth in pipe =   12.19(In.)
Flow top width inside pipe =   11.71(In.)
Critical Depth =   12.41(In.)
Pipe flow velocity =      6.19(Ft/s)
Travel time through pipe =    1.19 min.
Time of concentration (TC) =     7.22 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      405.000 to Point/Station      405.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      2.500(Ac.)
Runoff from this stream =      6.606(CFS)
Time of concentration =    7.22 min.
Rainfall intensity =     2.917(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      406.000 to Point/Station      407.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   595.000(Ft.)
Top (of initial area) elevation =  2252.600(Ft.)
Bottom (of initial area) elevation =  2246.600(Ft.)
Difference in elevation =     6.000(Ft.)
Slope =    0.01008  s(percent)=       1.01
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.687 min.
Rainfall intensity =      2.481(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.875
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.900
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.100
RI index for soil(AMC 2)  =  57.90
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      9.331(CFS)
Total initial stream area =        4.300(Ac.)
```

```
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      407.000 to Point/Station      405.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  2242.100(Ft.)
Downstream point/station elevation =  2241.700(Ft.)
Pipe length  =   130.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     9.331(CFS)
Nearest computed pipe diameter  =     24.00(In.)
Calculated individual pipe flow  =     9.331(CFS)
Normal flow depth in pipe =   15.42(In.)
Flow top width inside pipe =   23.00(In.)
Critical Depth =   13.11(In.)
Pipe flow velocity =      4.38(Ft/s)
Travel time through pipe =    0.50 min.
Time of concentration (TC) =    10.18 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      405.000 to Point/Station      405.000
**** CONFLUENCE OF MINOR STREAMS ****
------------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      4.300(Ac.)
Runoff from this stream =      9.331(CFS)
Time of concentration =   10.18 min.
Rainfall intensity =     2.414(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        6.606      7.22                2.917
2        9.331     10.18                2.414
Largest stream flow has longer time of concentration
Qp =      9.331 + sum of
          Qb         Ia/Ib
           6.606 *    0.828 =      5.467
Qp =     14.798

Total of 2 streams to confluence:
Flow rates before confluence point:
       6.606       9.331
Area of streams before confluence:
        2.500        4.300
Results of confluence:
Total flow rate =     14.798(CFS)
Time of concentration =    10.182 min.
Effective stream area after confluence =      6.800(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      405.000 to Point/Station      408.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  2241.700(Ft.)
Downstream point/station elevation =  2240.400(Ft.)
Pipe length  =   120.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    14.798(CFS)
Nearest computed pipe diameter  =     21.00(In.)
Calculated individual pipe flow  =    14.798(CFS)
Normal flow depth in pipe =   15.54(In.)
Flow top width inside pipe =   18.42(In.)
Critical Depth =   17.11(In.)
Pipe flow velocity =      7.76(Ft/s)
Travel time through pipe =    0.26 min.
Time of concentration (TC) =    10.44 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      408.000 to Point/Station      408.000
```

**** CONFLUENCE OF MINOR STREAMS ****

Along Main Stream number: 1 in normal stream number 1
Stream flow area = 6.800(Ac.)
Runoff from this stream = 14.798(CFS)
Time of concentration = 10.44 min.
Rainfall intensity = 2.381(In/Hr)

++
Process from Point/Station 409.000 to Point/Station 410.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 620.000(Ft.)
Top (of initial area) elevation = 2252.600(Ft.)
Bottom (of initial area) elevation = 2244.800(Ft.)
Difference in elevation = 7.800(Ft.)
Slope = 0.01258 s(percent)= 1.26
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 9.422 min.
Rainfall intensity = 2.519(In/Hr) for a 10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.879
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.250
Decimal fraction soil group D = 0.250
RI index for soil(AMC 2) = 64.00
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 11.741(CFS)
Total initial stream area = 5.300(Ac.)
Pervious area fraction = 0.100

++
Process from Point/Station 410.000 to Point/Station 408.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2240.700(Ft.)
Downstream point/station elevation = 2240.400(Ft.)
Pipe length = 113.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 11.741(CFS)
Nearest computed pipe diameter = 24.00(In.)
Calculated individual pipe flow = 11.741(CFS)
Normal flow depth in pipe = 19.83(In.)
Flow top width inside pipe = 18.19(In.)
Critical Depth = 14.76(In.)
Pipe flow velocity = 4.23(Ft/s)
Travel time through pipe = 0.45 min.
Time of concentration (TC) = 9.87 min.

++
Process from Point/Station 408.000 to Point/Station 408.000
**** CONFLUENCE OF MINOR STREAMS ****

Along Main Stream number: 1 in normal stream number 2
Stream flow area = 5.300(Ac.)
Runoff from this stream = 11.741(CFS)
Time of concentration = 9.87 min.
Rainfall intensity = 2.456(In/Hr)
Summary of stream data:

Stream No.	Flow rate (CFS)	TC (min)	Rainfall Intensity (In/Hr)
1	14.798	10.44	2.381
2	11.741	9.87	2.456

Largest stream flow has longer time of concentration
Qp = 14.798 + sum of
Qb Ia/Ib
11.741 * 0.969 = 11.382
Qp = 26.180

```
Total of 2 streams to confluence:
Flow rates before confluence point:
      14.798      11.741
Area of streams before confluence:
       6.800        5.300
Results of confluence:
Total flow rate =     26.180(CFS)
Time of concentration =    10.440 min.
Effective stream area after confluence =     12.100(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      408.000 to Point/Station      411.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2240.400(Ft.)
Downstream point/station elevation =  2237.000(Ft.)
Pipe length  =   300.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    26.180(CFS)
Nearest computed pipe diameter  =     27.00(In.)
Calculated individual pipe flow  =    26.180(CFS)
Normal flow depth in pipe =   18.16(In.)
Flow top width inside pipe =   25.34(In.)
Critical Depth =   21.43(In.)
Pipe flow velocity =      9.20(Ft/s)
Travel time through pipe =    0.54 min.
Time of concentration (TC) =    10.98 min.
End of computations, total study area =           12.10 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  60.7
```

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 12/01/21 File:500.out

BCCOV BLDG C
10-YEAR STORM EVENT 500 SERIES
21-0034 DEVELOPED CONDITION
2021-12-01 EP

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 4010

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Calimesa] area used.
10 year storm 10 minute intensity = 2.440(In/Hr)
10 year storm 60 minute intensity = 0.910(In/Hr)
100 year storm 10 minute intensity = 3.620(In/Hr)
100 year storm 60 minute intensity = 1.350(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.910(In/Hr)
Slope of intensity duration curve = 0.5500

++

Process from Point/Station 500.000 to Point/Station 501.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 725.000(Ft.)
Top (of initial area) elevation = 2252.600(Ft.)
Bottom (of initial area) elevation = 2239.000(Ft.)
Difference in elevation = 13.600(Ft.)
Slope = 0.01876 s(percent)= 1.88
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 9.260 min.
Rainfall intensity = 2.543(In/Hr) for a 10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.879
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.600
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.400
RI index for soil(AMC 2) = 63.60
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 5.367(CFS)
Total initial stream area = 2.400(Ac.)
Pervious area fraction = 0.100

++

Process from Point/Station 501.000 to Point/Station 502.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2235.000(Ft.)
Downstream point/station elevation = 2231.200(Ft.)
Pipe length = 690.00(Ft.) Manning's N = 0.013

```
No. of pipes = 1  Required pipe flow  =     5.367(CFS)
Nearest computed pipe diameter  =     18.00(In.)
Calculated individual pipe flow  =     5.367(CFS)
Normal flow depth in pipe =   10.97(In.)
Flow top width inside pipe =   17.56(In.)
Critical Depth =   10.70(In.)
Pipe flow velocity =      4.76(Ft/s)
Travel time through pipe =    2.42 min.
Time of concentration (TC) =    11.68 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      502.000 to Point/Station      502.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      2.400(Ac.)
Runoff from this stream =      5.367(CFS)
Time of concentration =   11.68 min.
Rainfall intensity =     2.239(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      503.000 to Point/Station      504.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   555.000(Ft.)
Top (of initial area) elevation =  2252.600(Ft.)
Bottom (of initial area) elevation =  2246.300(Ft.)
Difference in elevation =     6.300(Ft.)
Slope =    0.01135  s(percent)=       1.14
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.201 min.
Rainfall intensity =      2.552(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.884
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.200
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.800
RI index for soil(AMC 2)  =  71.20
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     12.413(CFS)
Total initial stream area =        5.500(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      504.000 to Point/Station      502.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2242.300(Ft.)
Downstream point/station elevation =  2231.200(Ft.)
Pipe length  =    34.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    12.413(CFS)
Nearest computed pipe diameter  =     12.00(In.)
Calculated individual pipe flow  =    12.413(CFS)
Normal flow depth in pipe =    6.77(In.)
Flow top width inside pipe =   11.90(In.)
Critical depth could not be calculated.
Pipe flow velocity =     27.19(Ft/s)
Travel time through pipe =    0.02 min.
Time of concentration (TC) =     9.22 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      502.000 to Point/Station      502.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      5.500(Ac.)
Runoff from this stream =     12.413(CFS)
Time of concentration =    9.22 min.
Rainfall intensity =     2.549(In/Hr)
Summary of stream data:
```

```
Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        5.367     11.68                2.239
2       12.413      9.22                2.549
Largest stream flow has longer or shorter time of concentration
Qp =     12.413 + sum of
          Qa          Tb/Ta
           5.367 *    0.790 =      4.238
Qp =     16.651

Total of 2 streams to confluence:
Flow rates before confluence point:
       5.367      12.413
Area of streams before confluence:
        2.400        5.500
Results of confluence:
Total flow rate =     16.651(CFS)
Time of concentration =     9.222 min.
Effective stream area after confluence =      7.900(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      502.000 to Point/Station      505.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2231.200(Ft.)
Downstream point/station elevation =  2229.800(Ft.)
Pipe length  =    43.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    16.651(CFS)
Nearest computed pipe diameter  =     18.00(In.)
Calculated individual pipe flow  =    16.651(CFS)
Normal flow depth in pipe =   13.08(In.)
Flow top width inside pipe =   16.05(In.)
Critical depth could not be calculated.
Pipe flow velocity =     12.10(Ft/s)
Travel time through pipe =    0.06 min.
Time of concentration (TC) =     9.28 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      505.000 to Point/Station      505.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      7.900(Ac.)
Runoff from this stream =     16.651(CFS)
Time of concentration =    9.28 min.
Rainfall intensity =     2.540(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      506.000 to Point/Station      507.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   480.000(Ft.)
Top (of initial area) elevation =  2252.600(Ft.)
Bottom (of initial area) elevation =  2246.600(Ft.)
Difference in elevation =     6.000(Ft.)
Slope =    0.01250  s(percent)=       1.25
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    8.516 min.
Rainfall intensity =      2.663(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.880
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.600
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.400
RI index for soil(AMC 2)  =  63.60
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      7.265(CFS)
Total initial stream area =        3.100(Ac.)
```

```
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      507.000 to Point/Station      505.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  2243.600(Ft.)
Downstream point/station elevation =  2229.800(Ft.)
Pipe length  =    56.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     7.265(CFS)
Nearest computed pipe diameter  =      9.00(In.)
Calculated individual pipe flow  =     7.265(CFS)
Normal flow depth in pipe =    6.58(In.)
Flow top width inside pipe =    7.98(In.)
Critical depth could not be calculated.
Pipe flow velocity =     20.99(Ft/s)
Travel time through pipe =    0.04 min.
Time of concentration (TC) =     8.56 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      505.000 to Point/Station      505.000
**** CONFLUENCE OF MINOR STREAMS ****
------------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      3.100(Ac.)
Runoff from this stream =      7.265(CFS)
Time of concentration =    8.56 min.
Rainfall intensity =     2.656(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1       16.651      9.28                 2.540
2        7.265      8.56                 2.656
Largest stream flow has longer time of concentration
Qp =     16.651 + sum of
          Qb         Ia/Ib
           7.265 *    0.957 =      6.949
Qp =     23.600

Total of 2 streams to confluence:
Flow rates before confluence point:
      16.651       7.265
Area of streams before confluence:
        7.900        3.100
Results of confluence:
Total flow rate =     23.600(CFS)
Time of concentration =     9.281 min.
Effective stream area after confluence =     11.000(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      505.000 to Point/Station      508.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  2229.800(Ft.)
Downstream point/station elevation =  2226.000(Ft.)
Pipe length  =   686.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    23.600(CFS)
Nearest computed pipe diameter  =     27.00(In.)
Calculated individual pipe flow  =    23.600(CFS)
Normal flow depth in pipe =   22.78(In.)
Flow top width inside pipe =   19.61(In.)
Critical Depth =   20.40(In.)
Pipe flow velocity =      6.60(Ft/s)
Travel time through pipe =    1.73 min.
Time of concentration (TC) =    11.01 min.
End of computations, total study area =           11.00 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
```

```
Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  67.4
```

100-YEAR ONSITE HYDROLOGY (RATIONAL METHOD)

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 12/01/21 File:400.out

BCCOV BLDG C
100-YEAR STORM EVENT 400 SERIES
21-0034 DEVELOPED CONDITION
2021-12-01 EP

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 4010

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Calimesa] area used.
10 year storm 10 minute intensity = 2.440(In/Hr)
10 year storm 60 minute intensity = 0.910(In/Hr)
100 year storm 10 minute intensity = 3.620(In/Hr)
100 year storm 60 minute intensity = 1.350(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.350(In/Hr)
Slope of intensity duration curve = 0.5500

++

Process from Point/Station 400.000 to Point/Station 401.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 330.000(Ft.)
Top (of initial area) elevation = 2260.500(Ft.)
Bottom (of initial area) elevation = 2254.900(Ft.)
Difference in elevation = 5.600(Ft.)
Slope = 0.01697 s(percent)= 1.70
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 6.896 min.
Rainfall intensity = 4.437(In/Hr) for a 100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.883
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 56.00
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 3.525(CFS)
Total initial stream area = 0.900(Ac.)
Pervious area fraction = 0.100

++

Process from Point/Station 401.000 to Point/Station 402.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2251.000(Ft.)
Downstream point/station elevation = 2246.400(Ft.)
Pipe length = 210.00(Ft.) Manning's N = 0.013

```
No. of pipes = 1  Required pipe flow  =     3.525(CFS)
Nearest computed pipe diameter  =     12.00(In.)
Calculated individual pipe flow  =     3.525(CFS)
Normal flow depth in pipe =    7.18(In.)
Flow top width inside pipe =   11.77(In.)
Critical Depth =    9.63(In.)
Pipe flow velocity =      7.19(Ft/s)
Travel time through pipe =    0.49 min.
Time of concentration (TC) =     7.38 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      402.000 to Point/Station      402.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      0.900(Ac.)
Runoff from this stream =      3.525(CFS)
Time of concentration =    7.38 min.
Rainfall intensity =     4.274(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      403.000 to Point/Station      404.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   270.000(Ft.)
Top (of initial area) elevation =  2259.700(Ft.)
Bottom (of initial area) elevation =  2251.500(Ft.)
Difference in elevation =     8.200(Ft.)
Slope =    0.03037  s(percent)=       3.04
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    5.665 min.
Rainfall intensity =      4.944(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.886
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.800
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.200
RI index for soil(AMC 2)  =  59.80
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      7.010(CFS)
Total initial stream area =        1.600(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      404.000 to Point/Station      402.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2246.600(Ft.)
Downstream point/station elevation =  2246.400(Ft.)
Pipe length  =    75.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     7.010(CFS)
Nearest computed pipe diameter  =     21.00(In.)
Calculated individual pipe flow  =     7.010(CFS)
Normal flow depth in pipe =   14.95(In.)
Flow top width inside pipe =   19.02(In.)
Critical Depth =   11.75(In.)
Pipe flow velocity =      3.82(Ft/s)
Travel time through pipe =    0.33 min.
Time of concentration (TC) =     5.99 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      402.000 to Point/Station      402.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      1.600(Ac.)
Runoff from this stream =      7.010(CFS)
Time of concentration =    5.99 min.
Rainfall intensity =     4.794(In/Hr)
Summary of stream data:
```

```
Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        3.525      7.38                4.274
2        7.010      5.99                4.794
Largest stream flow has longer or shorter time of concentration
Qp =      7.010 + sum of
          Qa          Tb/Ta
           3.525 *    0.812 =      2.861
Qp =      9.871

Total of 2 streams to confluence:
Flow rates before confluence point:
       3.525       7.010
Area of streams before confluence:
        0.900        1.600
Results of confluence:
Total flow rate =      9.871(CFS)
Time of concentration =     5.992 min.
Effective stream area after confluence =      2.500(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      402.000 to Point/Station      405.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2246.400(Ft.)
Downstream point/station elevation =  2241.700(Ft.)
Pipe length  =   442.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     9.871(CFS)
Nearest computed pipe diameter  =     18.00(In.)
Calculated individual pipe flow  =     9.871(CFS)
Normal flow depth in pipe =   13.50(In.)
Flow top width inside pipe =   15.59(In.)
Critical Depth =   14.54(In.)
Pipe flow velocity =      6.95(Ft/s)
Travel time through pipe =    1.06 min.
Time of concentration (TC) =     7.05 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      405.000 to Point/Station      405.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      2.500(Ac.)
Runoff from this stream =      9.871(CFS)
Time of concentration =    7.05 min.
Rainfall intensity =     4.383(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      406.000 to Point/Station      407.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   595.000(Ft.)
Top (of initial area) elevation =  2252.600(Ft.)
Bottom (of initial area) elevation =  2246.600(Ft.)
Difference in elevation =     6.000(Ft.)
Slope =    0.01008  s(percent)=       1.01
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.687 min.
Rainfall intensity =      3.680(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.881
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.900
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.100
RI index for soil(AMC 2)  =  57.90
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     13.947(CFS)
Total initial stream area =        4.300(Ac.)
```

```
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      407.000 to Point/Station      405.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  2242.100(Ft.)
Downstream point/station elevation =  2241.700(Ft.)
Pipe length  =   130.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    13.947(CFS)
Nearest computed pipe diameter  =     27.00(In.)
Calculated individual pipe flow  =    13.947(CFS)
Normal flow depth in pipe =   18.47(In.)
Flow top width inside pipe =   25.10(In.)
Critical Depth =   15.59(In.)
Pipe flow velocity =      4.81(Ft/s)
Travel time through pipe =    0.45 min.
Time of concentration (TC) =    10.14 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      405.000 to Point/Station      405.000
**** CONFLUENCE OF MINOR STREAMS ****
------------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      4.300(Ac.)
Runoff from this stream =     13.947(CFS)
Time of concentration =   10.14 min.
Rainfall intensity =     3.590(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        9.871      7.05                4.383
2       13.947     10.14                3.590
Largest stream flow has longer time of concentration
Qp =     13.947 + sum of
          Qb         Ia/Ib
           9.871 *    0.819 =      8.085
Qp =     22.032

Total of 2 streams to confluence:
Flow rates before confluence point:
       9.871      13.947
Area of streams before confluence:
        2.500        4.300
Results of confluence:
Total flow rate =     22.032(CFS)
Time of concentration =    10.137 min.
Effective stream area after confluence =      6.800(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      405.000 to Point/Station      408.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  2241.700(Ft.)
Downstream point/station elevation =  2240.400(Ft.)
Pipe length  =   120.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    22.032(CFS)
Nearest computed pipe diameter  =     24.00(In.)
Calculated individual pipe flow  =    22.032(CFS)
Normal flow depth in pipe =   18.42(In.)
Flow top width inside pipe =   20.27(In.)
Critical Depth =   20.12(In.)
Pipe flow velocity =      8.52(Ft/s)
Travel time through pipe =    0.23 min.
Time of concentration (TC) =    10.37 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      408.000 to Point/Station      408.000
```

**** CONFLUENCE OF MINOR STREAMS ****

Along Main Stream number: 1 in normal stream number 1
Stream flow area = 6.800(Ac.)
Runoff from this stream = 22.032(CFS)
Time of concentration = 10.37 min.
Rainfall intensity = 3.545(In/Hr)

++
Process from Point/Station 409.000 to Point/Station 410.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 620.000(Ft.)
Top (of initial area) elevation = 2252.600(Ft.)
Bottom (of initial area) elevation = 2244.800(Ft.)
Difference in elevation = 7.800(Ft.)
Slope = 0.01258 s(percent)= 1.26
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 9.422 min.
Rainfall intensity = 3.737(In/Hr) for a 100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.885
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.250
Decimal fraction soil group D = 0.250
RI index for soil(AMC 2) = 64.00
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 17.528(CFS)
Total initial stream area = 5.300(Ac.)
Pervious area fraction = 0.100

++
Process from Point/Station 410.000 to Point/Station 408.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2240.700(Ft.)
Downstream point/station elevation = 2240.400(Ft.)
Pipe length = 113.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 17.528(CFS)
Nearest computed pipe diameter = 30.00(In.)
Calculated individual pipe flow = 17.528(CFS)
Normal flow depth in pipe = 20.86(In.)
Flow top width inside pipe = 27.62(In.)
Critical Depth = 16.99(In.)
Pipe flow velocity = 4.81(Ft/s)
Travel time through pipe = 0.39 min.
Time of concentration (TC) = 9.81 min.

++
Process from Point/Station 408.000 to Point/Station 408.000
**** CONFLUENCE OF MINOR STREAMS ****

Along Main Stream number: 1 in normal stream number 2
Stream flow area = 5.300(Ac.)
Runoff from this stream = 17.528(CFS)
Time of concentration = 9.81 min.
Rainfall intensity = 3.654(In/Hr)
Summary of stream data:

Stream No.	Flow rate (CFS)	TC (min)	Rainfall Intensity (In/Hr)
1	22.032	10.37	3.545
2	17.528	9.81	3.654

Largest stream flow has longer time of concentration
Qp = 22.032 + sum of
Qb Ia/Ib
17.528 * 0.970 = 17.002
Qp = 39.034

```
Total of 2 streams to confluence:
Flow rates before confluence point:
      22.032      17.528
Area of streams before confluence:
       6.800        5.300
Results of confluence:
Total flow rate =     39.034(CFS)
Time of concentration =    10.372 min.
Effective stream area after confluence =     12.100(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      408.000 to Point/Station      411.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2240.400(Ft.)
Downstream point/station elevation =  2237.000(Ft.)
Pipe length  =   300.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    39.034(CFS)
Nearest computed pipe diameter  =     30.00(In.)
Calculated individual pipe flow  =    39.034(CFS)
Normal flow depth in pipe =   22.13(In.)
Flow top width inside pipe =   26.40(In.)
Critical Depth =   25.29(In.)
Pipe flow velocity =     10.06(Ft/s)
Travel time through pipe =    0.50 min.
Time of concentration (TC) =    10.87 min.
End of computations, total study area =           12.10 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  60.7
```

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 12/01/21 File:500.out

BCCOV BLDG C
100-YEAR STORM EVENT 500 SERIES
21-0034 DEVELOPED CONDITION
2021-12-01 EP

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 4010

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Calimesa] area used.
10 year storm 10 minute intensity = 2.440(In/Hr)
10 year storm 60 minute intensity = 0.910(In/Hr)
100 year storm 10 minute intensity = 3.620(In/Hr)
100 year storm 60 minute intensity = 1.350(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.350(In/Hr)
Slope of intensity duration curve = 0.5500

++

Process from Point/Station 500.000 to Point/Station 501.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 725.000(Ft.)
Top (of initial area) elevation = 2252.600(Ft.)
Bottom (of initial area) elevation = 2239.000(Ft.)
Difference in elevation = 13.600(Ft.)
Slope = 0.01876 s(percent)= 1.88
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 9.260 min.
Rainfall intensity = 3.773(In/Hr) for a 100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.885
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.600
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.400
RI index for soil(AMC 2) = 63.60
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 8.012(CFS)
Total initial stream area = 2.400(Ac.)
Pervious area fraction = 0.100

++

Process from Point/Station 501.000 to Point/Station 502.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2235.000(Ft.)
Downstream point/station elevation = 2231.200(Ft.)
Pipe length = 690.00(Ft.) Manning's N = 0.013

```
No. of pipes = 1  Required pipe flow  =     8.012(CFS)
Nearest computed pipe diameter  =     21.00(In.)
Calculated individual pipe flow  =     8.012(CFS)
Normal flow depth in pipe =   12.71(In.)
Flow top width inside pipe =   20.53(In.)
Critical Depth =   12.60(In.)
Pipe flow velocity =      5.26(Ft/s)
Travel time through pipe =    2.19 min.
Time of concentration (TC) =    11.45 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      502.000 to Point/Station      502.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      2.400(Ac.)
Runoff from this stream =      8.012(CFS)
Time of concentration =   11.45 min.
Rainfall intensity =     3.358(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      503.000 to Point/Station      504.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   555.000(Ft.)
Top (of initial area) elevation =  2252.600(Ft.)
Bottom (of initial area) elevation =  2246.300(Ft.)
Difference in elevation =     6.300(Ft.)
Slope =    0.01135  s(percent)=       1.14
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.201 min.
Rainfall intensity =      3.786(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.889
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.200
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.800
RI index for soil(AMC 2)  =  71.20
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     18.508(CFS)
Total initial stream area =        5.500(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      504.000 to Point/Station      502.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2242.300(Ft.)
Downstream point/station elevation =  2231.200(Ft.)
Pipe length  =    34.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    18.508(CFS)
Nearest computed pipe diameter  =     12.00(In.)
Calculated individual pipe flow  =    18.508(CFS)
Normal flow depth in pipe =    8.98(In.)
Flow top width inside pipe =   10.42(In.)
Critical depth could not be calculated.
Pipe flow velocity =     29.37(Ft/s)
Travel time through pipe =    0.02 min.
Time of concentration (TC) =     9.22 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      502.000 to Point/Station      502.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      5.500(Ac.)
Runoff from this stream =     18.508(CFS)
Time of concentration =    9.22 min.
Rainfall intensity =     3.782(In/Hr)
Summary of stream data:
```

```
Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        8.012     11.45                 3.358
2       18.508      9.22                 3.782
Largest stream flow has longer or shorter time of concentration
Qp =     18.508 + sum of
          Qa          Tb/Ta
           8.012 *    0.805 =      6.454
Qp =     24.962

Total of 2 streams to confluence:
Flow rates before confluence point:
       8.012      18.508
Area of streams before confluence:
        2.400        5.500
Results of confluence:
Total flow rate =     24.962(CFS)
Time of concentration =     9.220 min.
Effective stream area after confluence =      7.900(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      502.000 to Point/Station      505.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2231.200(Ft.)
Downstream point/station elevation =  2229.800(Ft.)
Pipe length  =    43.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    24.962(CFS)
Nearest computed pipe diameter  =     21.00(In.)
Calculated individual pipe flow  =    24.962(CFS)
Normal flow depth in pipe =   15.19(In.)
Flow top width inside pipe =   18.79(In.)
Critical depth could not be calculated.
Pipe flow velocity =     13.40(Ft/s)
Travel time through pipe =    0.05 min.
Time of concentration (TC) =     9.27 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      505.000 to Point/Station      505.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      7.900(Ac.)
Runoff from this stream =     24.962(CFS)
Time of concentration =    9.27 min.
Rainfall intensity =     3.770(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      506.000 to Point/Station      507.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   480.000(Ft.)
Top (of initial area) elevation =  2252.600(Ft.)
Bottom (of initial area) elevation =  2246.600(Ft.)
Difference in elevation =     6.000(Ft.)
Slope =    0.01250  s(percent)=       1.25
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    8.516 min.
Rainfall intensity =      3.951(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.885
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.600
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.400
RI index for soil(AMC 2)  =  63.60
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     10.844(CFS)
Total initial stream area =        3.100(Ac.)
```

```
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      507.000 to Point/Station      505.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  2243.600(Ft.)
Downstream point/station elevation =  2229.800(Ft.)
Pipe length  =    56.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    10.844(CFS)
Nearest computed pipe diameter  =     12.00(In.)
Calculated individual pipe flow  =    10.844(CFS)
Normal flow depth in pipe =    6.79(In.)
Flow top width inside pipe =   11.90(In.)
Critical depth could not be calculated.
Pipe flow velocity =     23.66(Ft/s)
Travel time through pipe =    0.04 min.
Time of concentration (TC) =     8.56 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      505.000 to Point/Station      505.000
**** CONFLUENCE OF MINOR STREAMS ****
------------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      3.100(Ac.)
Runoff from this stream =     10.844(CFS)
Time of concentration =    8.56 min.
Rainfall intensity =     3.941(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)

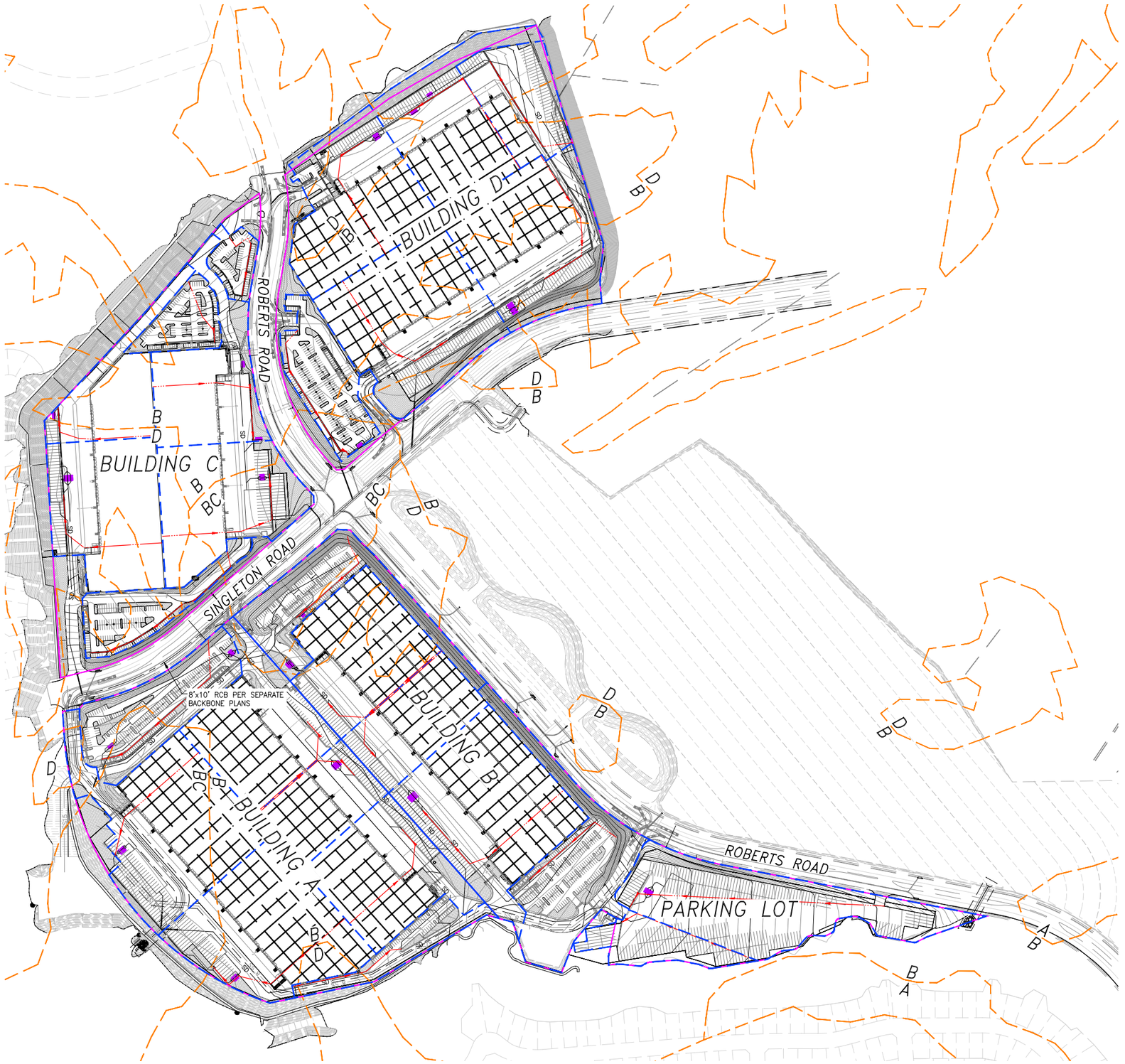

1       24.962      9.27                 3.770
2       10.844      8.56                 3.941
Largest stream flow has longer time of concentration
Qp =     24.962 + sum of
          Qb         Ia/Ib
          10.844 *    0.957 =     10.374
Qp =     35.336

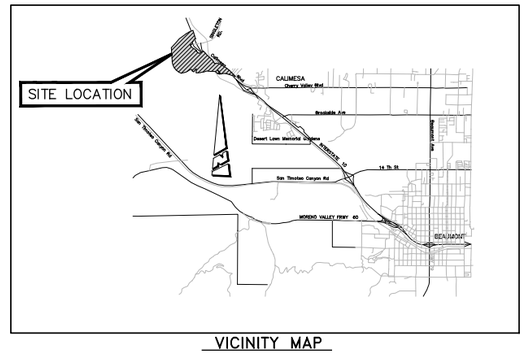
Total of 2 streams to confluence:
Flow rates before confluence point:
      24.962      10.844
Area of streams before confluence:
        7.900        3.100
Results of confluence:
Total flow rate =     35.336(CFS)
Time of concentration =     9.274 min.
Effective stream area after confluence =     11.000(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      505.000 to Point/Station      508.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  2229.800(Ft.)
Downstream point/station elevation =  2226.000(Ft.)
Pipe length  =   686.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    35.336(CFS)
Nearest computed pipe diameter  =     33.00(In.)
Calculated individual pipe flow  =    35.336(CFS)
Normal flow depth in pipe =   24.42(In.)
Flow top width inside pipe =   28.95(In.)
Critical Depth =   23.74(In.)
Pipe flow velocity =      7.50(Ft/s)
Travel time through pipe =    1.52 min.
Time of concentration (TC) =    10.80 min.
End of computations, total study area =           11.00 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
```

```
Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  67.4
```

RATIONAL METHOD HYDROLOGY MAPS





VICINITY MAP

N.T.S.

T2S, R2W, SECTION 23,24,25,26

GENERAL NOTES:

1. OVERALL BLCOV PROJECT AREA WILL BE MASS GRADED AND BACKBONE IMPROVEMENTS WILL BE CONSTRUCTED PRIOR TO ANY CONSTRUCTION COMMENCING FOR THE BUILDING A, BUILDING B, BUILDING C, BUILDING D, OR PARKING LOT PROJECTS.
2. EXISTING CONTOURS SHOWN IN EXHIBITS ARE TAKEN FROM THE MASS GRADING PLAN FOR PARCEL MAP 37862.

LEGEND

- NODE / ELEV – NODE NUMBER / ELEVATION (FT)
- AC / FT – AREA (AC) / LENGTH (FT)
- DRAINAGE AREA BOUNDARY (PROPOSED)
- FLOWLINE (PROPOSED)
- PROJECT BOUNDARY
- NRCS SOIL BOUNDARY
- MWS TREATMENT VAULT (SEE PWQMP)

N
W WEBB E
S

1" = 200'

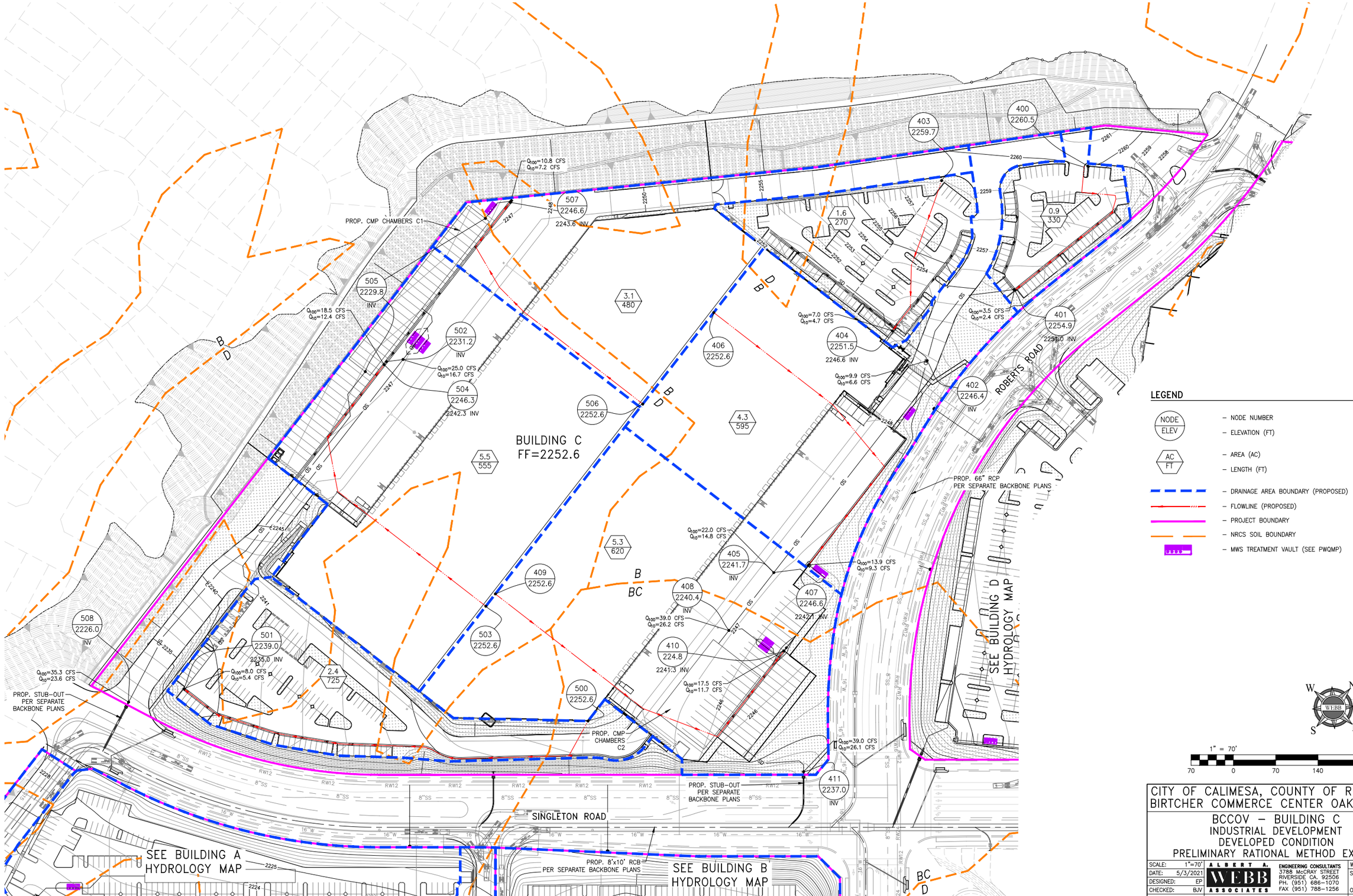
200 0 200 400 600

CITY OF CALIMESA, COUNTY OF RIVERSIDE
BIRTCHER COMMERCE CENTER OAK VALLEY

OVERALL BCCOV SITE PLAN
INDUSTRIAL DEVELOPMENT
DEVELOPED CONDITION
PRELIMINARY RATIONAL METHOD EXHIBIT

SCALE: 1" = 200'	ALBERT A. WEBB ASSOCIATES	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	W.O. 21-0034
DATE: 12/14/2020			SHEET 1
DESIGNED: EP			OF 2 SHEETS
CHECKED: BJV			DWG. NO.
PLN CK REF:			
F.B.			

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CITY OF CALIMESA, COUNTY OF RIVERSIDE
BIRTCHER COMMERCE CENTER OAK VALLEY

BCCOV – BUILDING C
INDUSTRIAL DEVELOPMENT
DEVELOPED CONDITION
PRELIMINARY RATIONAL METHOD EXHIBIT

SCALE:	1"=70'	W.O.	21-0034
DATE:	5/3/2021	SHEET	2
DESIGNED:	EP	OF	2 SHEETS
CHECKED:	BJV		
PLN CK REF:		DWG. NO.	
F.B.			

ALBERT A. WEBB ASSOCIATES
ENGINEERING CONSULTANTS
3788 McCRAY STREET
RIVERSIDE, CA. 92506
PH. (951) 686-1070
FAX (951) 788-1256

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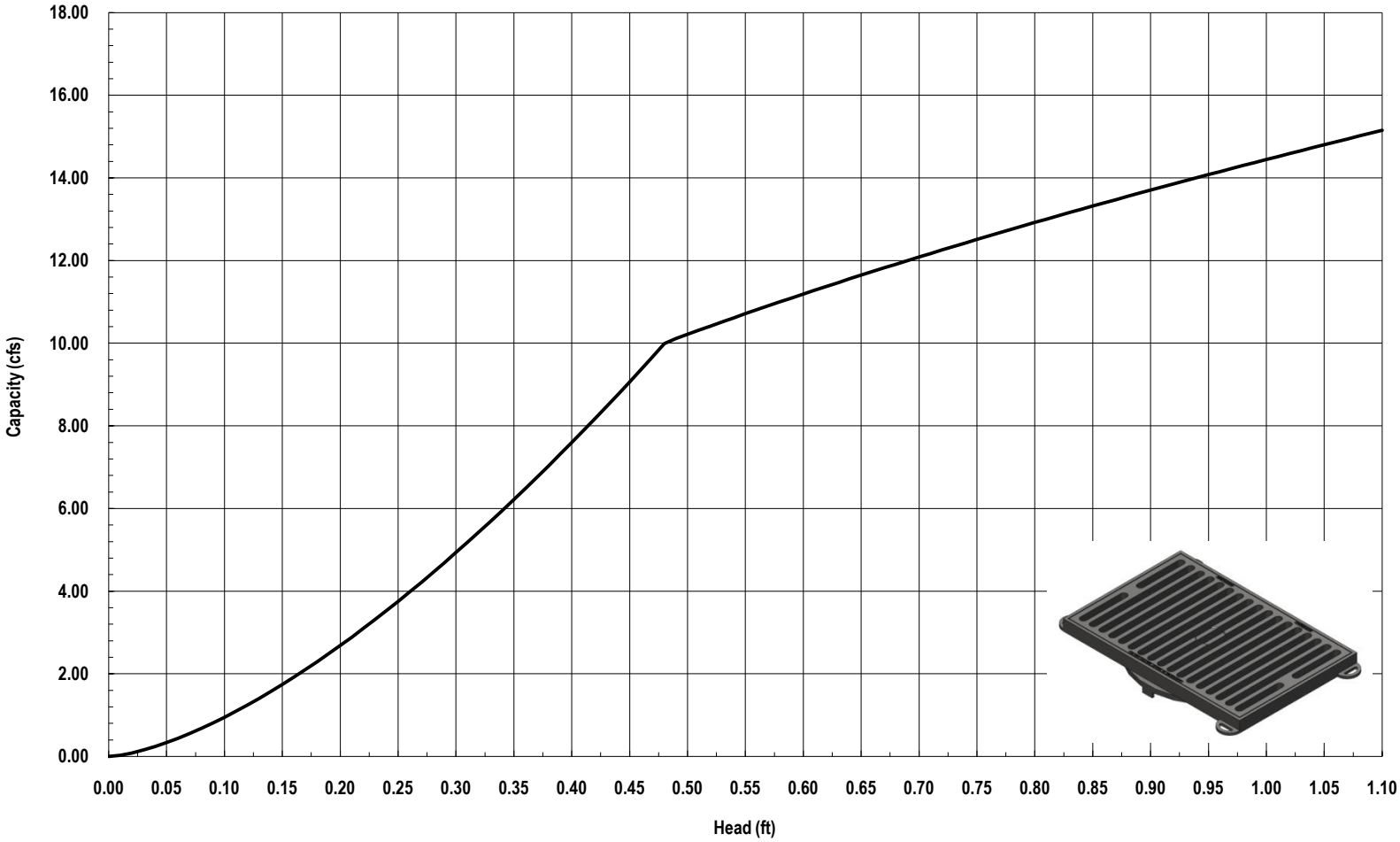
APPENDIX B – HYDRAULIC ANALYSIS

Hydraulic calculations to be provided in Final Engineering.

PRELIMINARY INLET CHARTS

IN FINAL ENGINEERING, EACH INLET WILL BE EVALUATED

Nyloplast 2' x 3' Road & Highway Grate Inlet Capacity Chart



PRELIMINARY Qs

Q= CFS

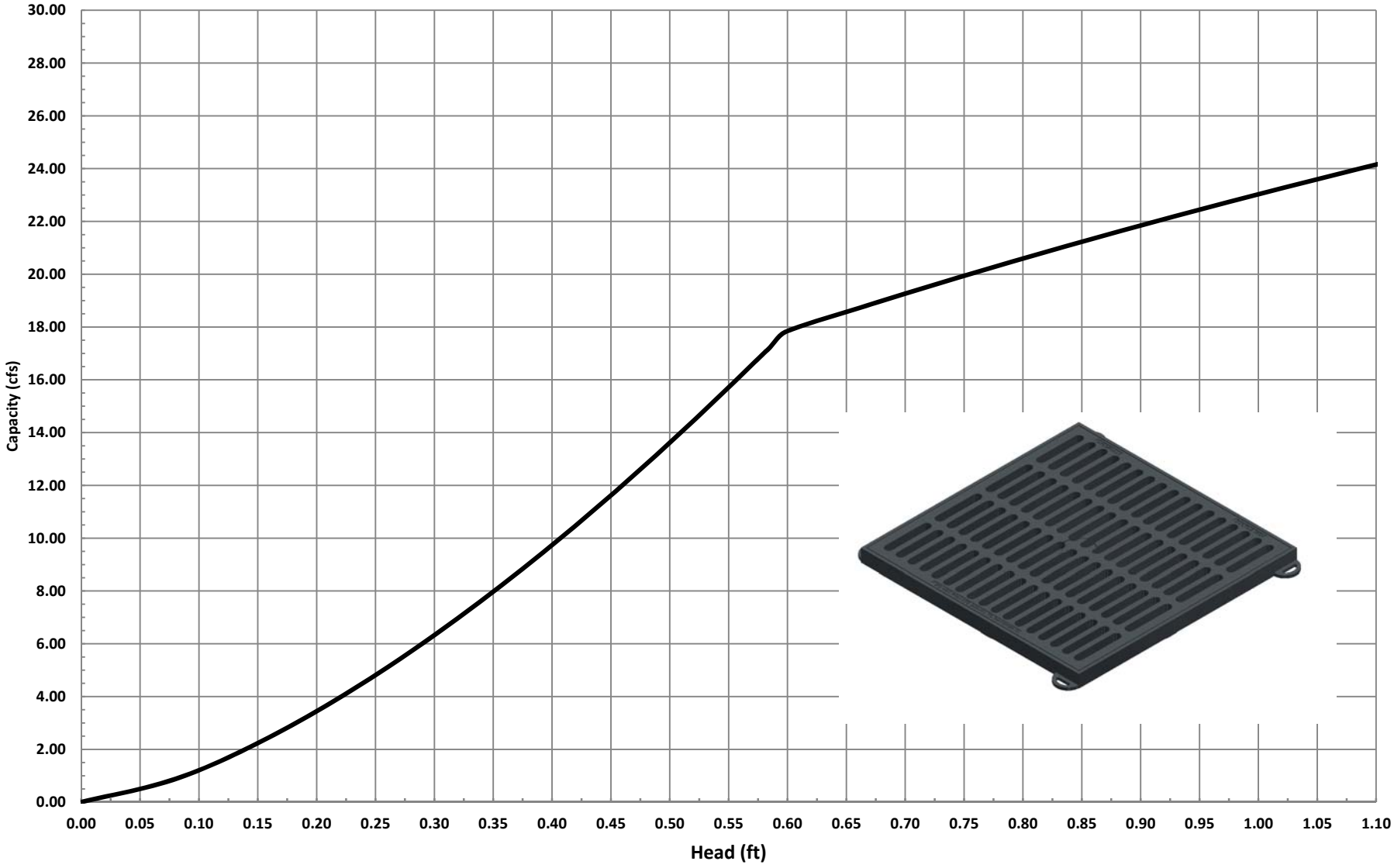
$Q_{2\text{-GRATES}}$= Q/2 = CFS

$Q_{1.5\text{-CLOGGING FACTOR}}$= Q*1.5 =

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IN FINAL ENGINEERING, EACH INLET WILL BE EVALUATED

Nyloplast 3' x 3' Road & Highway Inlet Capacity Chart



PRELIMINARY Qs
Q= CFS
$Q_{2\text{-GRATES}}$= Q/2 = CFS
$Q_{1.5\text{-CLOGGING FACTOR}}$= Q*1.5 =

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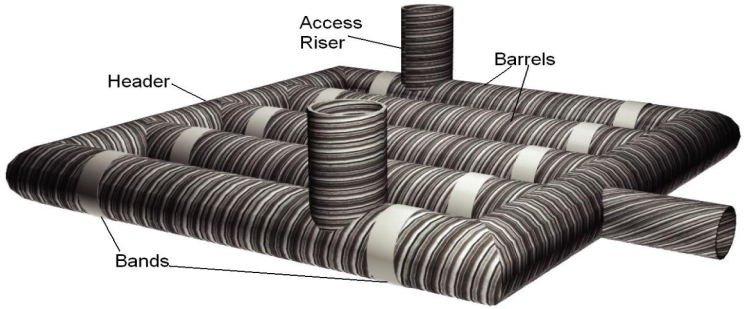
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Project Summary

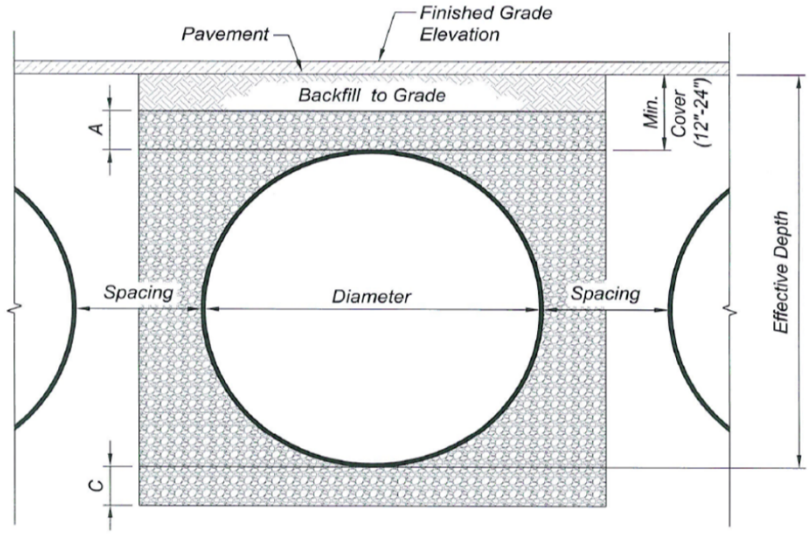
Date:	12/1/2021
Project Name:	BCCOV BLDG C AREA 8
City / County:	Calimesa
State:	CA
Designed By:	EP
Company:	Albert A. Webb Associates
Telephone:	

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	65,000
Limiting Width (ft):	50.00
Invert Depth Below Asphalt (ft):	10.00
Solid or Perforated Pipe:	Solid
Shape Or Diameter (in):	96
Number Of Headers:	2
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	0
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	65,044	cf	
Porous Stone Storage:	0	cf	
Total Storage Provided:	65,044	cf	100.1% Of Required Storage
Number of Barrels:	4	barrels	
Length per Barrel:	303.0	ft	
Length Per Header:	41.0	ft	
Rectangular Footprint (W x L):	44. ft x 322. ft		

CONTECH Materials

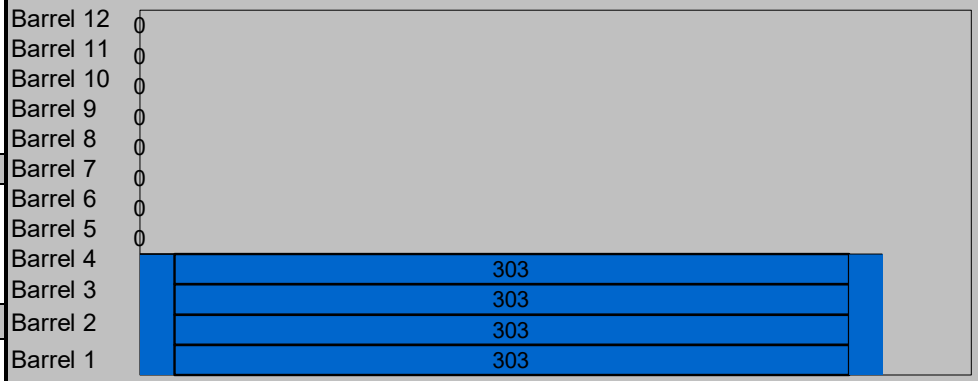
Total CMP Footage:	1,294	ft
Approximate Total Pieces:	56	pcs
Approximate Coupling Bands:	58	bands
Approximate Truckloads:	28	trucks

Construction Quantities**

Total Excavation:	5248	cy
Porous Stone Backfill For Storage:	0	cy stone
Backfill to Grade Excluding Stone:	2839	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



Barrel Footage (w/o headers)

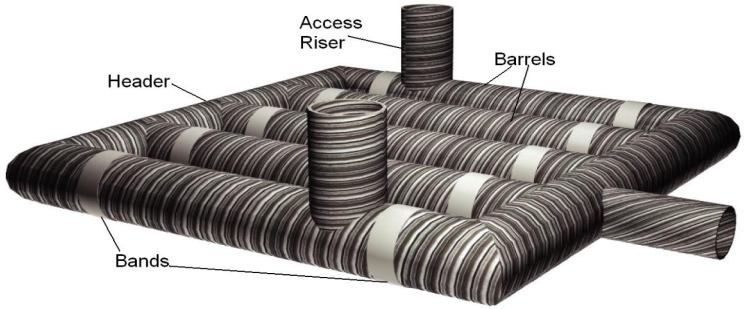
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Project Summary

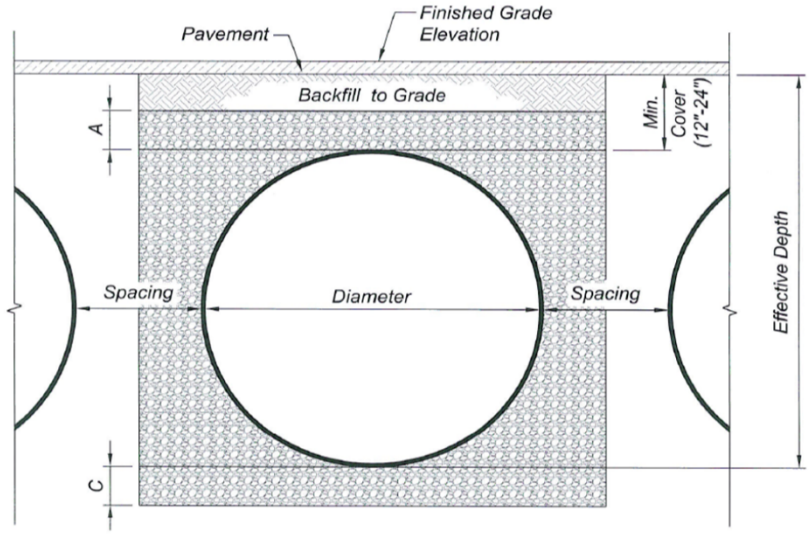
Date:	12/1/2021
Project Name:	BCCOV BLDG C AREA 9
City / County:	Calimesa
State:	CA
Designed By:	EP
Company:	Albert A. Webb Associates
Telephone:	

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	70,000
Limiting Width (ft):	100.00
Invert Depth Below Asphalt (ft):	10.00
Solid or Perforated Pipe:	Solid
Shape Or Diameter (in):	96
Number Of Headers:	2
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	0
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	70,271	cf	
Porous Stone Storage:	0	cf	
Total Storage Provided:	70,271	cf	100.4% Of Required Storage
Number of Barrels:	9	barrels	
Length per Barrel:	134.0	ft	
Length Per Header:	96.0	ft	
Rectangular Footprint (W x L):	99. ft x 153. ft		

CONTECH Materials

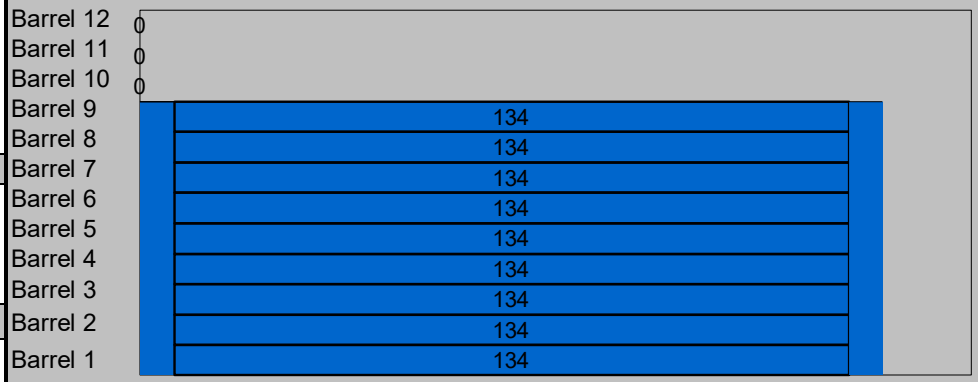
Total CMP Footage:	1,398	ft
Approximate Total Pieces:	62	pcs
Approximate Coupling Bands:	69	bands
Approximate Truckloads:	31	trucks

Construction Quantities**

Total Excavation:	5610	cy
Porous Stone Backfill For Storage:	0	cy stone
Backfill to Grade Excluding Stone:	3007	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



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APPENDIX C – UNIT HYDROGRAPH AND ROUTING

EXISTING CONDITION UNIT HYDROGRAPHS (2-YEAR, 24-HOUR STORM)

U n i t H y d r o g r a p h A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2008, Version 8.1
Study date 11/04/21 File: EX2YRB242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 4010

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

BCCOV - AREA C1 EXISTING CONDITION
2-YEAR STORM EVENT
21-0034
11-04-2021 EP

Drainage Area = 13.20(Ac.) = 0.021 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 13.20(Ac.) = 0.021 Sq. Mi.
Length along longest watercourse = 1645.00(Ft.)
Length along longest watercourse measured to centroid = 629.00(Ft.)
Length along longest watercourse = 0.312 Mi.
Length along longest watercourse measured to centroid = 0.119 Mi.
Difference in elevation = 25.50(Ft.)
Slope along watercourse = 81.8480 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.089 Hr.
Lag time = 5.35 Min.
25% of lag time = 1.34 Min.
40% of lag time = 2.14 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
13.20	2.40	31.68

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
13.20	6.20	81.84

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.200(In)

Point rain (area averaged) = 2.400(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.400(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
13.200	90.10	0.000

Total Area Entered = 13.20(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

90.1 78.2 0.265 0.000 0.265 1.000 0.265
Sum (F) = 0.265

Area averaged mean soil loss (F) (In/Hr) = 0.265
Minimum soil loss rate ((In/Hr)) = 0.133
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	93.439	12.234	1.628
2	0.167	186.878	54.625	7.267
3	0.250	280.318	19.829	2.638
4	0.333	373.757	8.182	1.088
5	0.417	467.196	3.214	0.428
6	0.500	560.635	0.978	0.130
7	0.583	654.075	0.634	0.084
8	0.667	747.514	0.304	0.040
			Sum = 100.000	Sum= 13.303

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)		Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.019	(0.471)	0.017	0.002
2	0.17	0.07	0.019	(0.469)	0.017	0.002
3	0.25	0.07	0.019	(0.467)	0.017	0.002
4	0.33	0.10	0.029	(0.465)	0.026	0.003
5	0.42	0.10	0.029	(0.463)	0.026	0.003
6	0.50	0.10	0.029	(0.462)	0.026	0.003
7	0.58	0.10	0.029	(0.460)	0.026	0.003
8	0.67	0.10	0.029	(0.458)	0.026	0.003
9	0.75	0.10	0.029	(0.456)	0.026	0.003
10	0.83	0.13	0.038	(0.454)	0.035	0.004
11	0.92	0.13	0.038	(0.453)	0.035	0.004
12	1.00	0.13	0.038	(0.451)	0.035	0.004
13	1.08	0.10	0.029	(0.449)	0.026	0.003
14	1.17	0.10	0.029	(0.447)	0.026	0.003
15	1.25	0.10	0.029	(0.445)	0.026	0.003
16	1.33	0.10	0.029	(0.444)	0.026	0.003
17	1.42	0.10	0.029	(0.442)	0.026	0.003
18	1.50	0.10	0.029	(0.440)	0.026	0.003
19	1.58	0.10	0.029	(0.438)	0.026	0.003
20	1.67	0.10	0.029	(0.437)	0.026	0.003
21	1.75	0.10	0.029	(0.435)	0.026	0.003
22	1.83	0.13	0.038	(0.433)	0.035	0.004
23	1.92	0.13	0.038	(0.431)	0.035	0.004
24	2.00	0.13	0.038	(0.430)	0.035	0.004
25	2.08	0.13	0.038	(0.428)	0.035	0.004
26	2.17	0.13	0.038	(0.426)	0.035	0.004
27	2.25	0.13	0.038	(0.424)	0.035	0.004
28	2.33	0.13	0.038	(0.423)	0.035	0.004
29	2.42	0.13	0.038	(0.421)	0.035	0.004
30	2.50	0.13	0.038	(0.419)	0.035	0.004
31	2.58	0.17	0.048	(0.418)	0.043	0.005
32	2.67	0.17	0.048	(0.416)	0.043	0.005
33	2.75	0.17	0.048	(0.414)	0.043	0.005
34	2.83	0.17	0.048	(0.412)	0.043	0.005
35	2.92	0.17	0.048	(0.411)	0.043	0.005
36	3.00	0.17	0.048	(0.409)	0.043	0.005
37	3.08	0.17	0.048	(0.407)	0.043	0.005
38	3.17	0.17	0.048	(0.406)	0.043	0.005
39	3.25	0.17	0.048	(0.404)	0.043	0.005
40	3.33	0.17	0.048	(0.402)	0.043	0.005
41	3.42	0.17	0.048	(0.401)	0.043	0.005
42	3.50	0.17	0.048	(0.399)	0.043	0.005

43	3.58	0.17	0.048	(0.397)	0.043	0.005
44	3.67	0.17	0.048	(0.396)	0.043	0.005
45	3.75	0.17	0.048	(0.394)	0.043	0.005
46	3.83	0.20	0.058	(0.392)	0.052	0.006
47	3.92	0.20	0.058	(0.391)	0.052	0.006
48	4.00	0.20	0.058	(0.389)	0.052	0.006
49	4.08	0.20	0.058	(0.387)	0.052	0.006
50	4.17	0.20	0.058	(0.386)	0.052	0.006
51	4.25	0.20	0.058	(0.384)	0.052	0.006
52	4.33	0.23	0.067	(0.382)	0.060	0.007
53	4.42	0.23	0.067	(0.381)	0.060	0.007
54	4.50	0.23	0.067	(0.379)	0.060	0.007
55	4.58	0.23	0.067	(0.377)	0.060	0.007
56	4.67	0.23	0.067	(0.376)	0.060	0.007
57	4.75	0.23	0.067	(0.374)	0.060	0.007
58	4.83	0.27	0.077	(0.373)	0.069	0.008
59	4.92	0.27	0.077	(0.371)	0.069	0.008
60	5.00	0.27	0.077	(0.369)	0.069	0.008
61	5.08	0.20	0.058	(0.368)	0.052	0.006
62	5.17	0.20	0.058	(0.366)	0.052	0.006
63	5.25	0.20	0.058	(0.365)	0.052	0.006
64	5.33	0.23	0.067	(0.363)	0.060	0.007
65	5.42	0.23	0.067	(0.361)	0.060	0.007
66	5.50	0.23	0.067	(0.360)	0.060	0.007
67	5.58	0.27	0.077	(0.358)	0.069	0.008
68	5.67	0.27	0.077	(0.357)	0.069	0.008
69	5.75	0.27	0.077	(0.355)	0.069	0.008
70	5.83	0.27	0.077	(0.354)	0.069	0.008
71	5.92	0.27	0.077	(0.352)	0.069	0.008
72	6.00	0.27	0.077	(0.350)	0.069	0.008
73	6.08	0.30	0.086	(0.349)	0.078	0.009
74	6.17	0.30	0.086	(0.347)	0.078	0.009
75	6.25	0.30	0.086	(0.346)	0.078	0.009
76	6.33	0.30	0.086	(0.344)	0.078	0.009
77	6.42	0.30	0.086	(0.343)	0.078	0.009
78	6.50	0.30	0.086	(0.341)	0.078	0.009
79	6.58	0.33	0.096	(0.340)	0.086	0.010
80	6.67	0.33	0.096	(0.338)	0.086	0.010
81	6.75	0.33	0.096	(0.337)	0.086	0.010
82	6.83	0.33	0.096	(0.335)	0.086	0.010
83	6.92	0.33	0.096	(0.334)	0.086	0.010
84	7.00	0.33	0.096	(0.332)	0.086	0.010
85	7.08	0.33	0.096	(0.331)	0.086	0.010
86	7.17	0.33	0.096	(0.329)	0.086	0.010
87	7.25	0.33	0.096	(0.327)	0.086	0.010
88	7.33	0.37	0.106	(0.326)	0.095	0.011
89	7.42	0.37	0.106	(0.325)	0.095	0.011
90	7.50	0.37	0.106	(0.323)	0.095	0.011
91	7.58	0.40	0.115	(0.322)	0.104	0.012
92	7.67	0.40	0.115	(0.320)	0.104	0.012
93	7.75	0.40	0.115	(0.319)	0.104	0.012
94	7.83	0.43	0.125	(0.317)	0.112	0.012
95	7.92	0.43	0.125	(0.316)	0.112	0.012
96	8.00	0.43	0.125	(0.314)	0.112	0.012
97	8.08	0.50	0.144	(0.313)	0.130	0.014
98	8.17	0.50	0.144	(0.311)	0.130	0.014
99	8.25	0.50	0.144	(0.310)	0.130	0.014
100	8.33	0.50	0.144	(0.308)	0.130	0.014
101	8.42	0.50	0.144	(0.307)	0.130	0.014
102	8.50	0.50	0.144	(0.305)	0.130	0.014
103	8.58	0.53	0.154	(0.304)	0.138	0.015
104	8.67	0.53	0.154	(0.303)	0.138	0.015
105	8.75	0.53	0.154	(0.301)	0.138	0.015
106	8.83	0.57	0.163	(0.300)	0.147	0.016
107	8.92	0.57	0.163	(0.298)	0.147	0.016
108	9.00	0.57	0.163	(0.297)	0.147	0.016
109	9.08	0.63	0.182	(0.296)	0.164	0.018
110	9.17	0.63	0.182	(0.294)	0.164	0.018
111	9.25	0.63	0.182	(0.293)	0.164	0.018
112	9.33	0.67	0.192	(0.291)	0.173	0.019
113	9.42	0.67	0.192	(0.290)	0.173	0.019
114	9.50	0.67	0.192	(0.289)	0.173	0.019
115	9.58	0.70	0.202	(0.287)	0.181	0.020
116	9.67	0.70	0.202	(0.286)	0.181	0.020
117	9.75	0.70	0.202	(0.284)	0.181	0.020

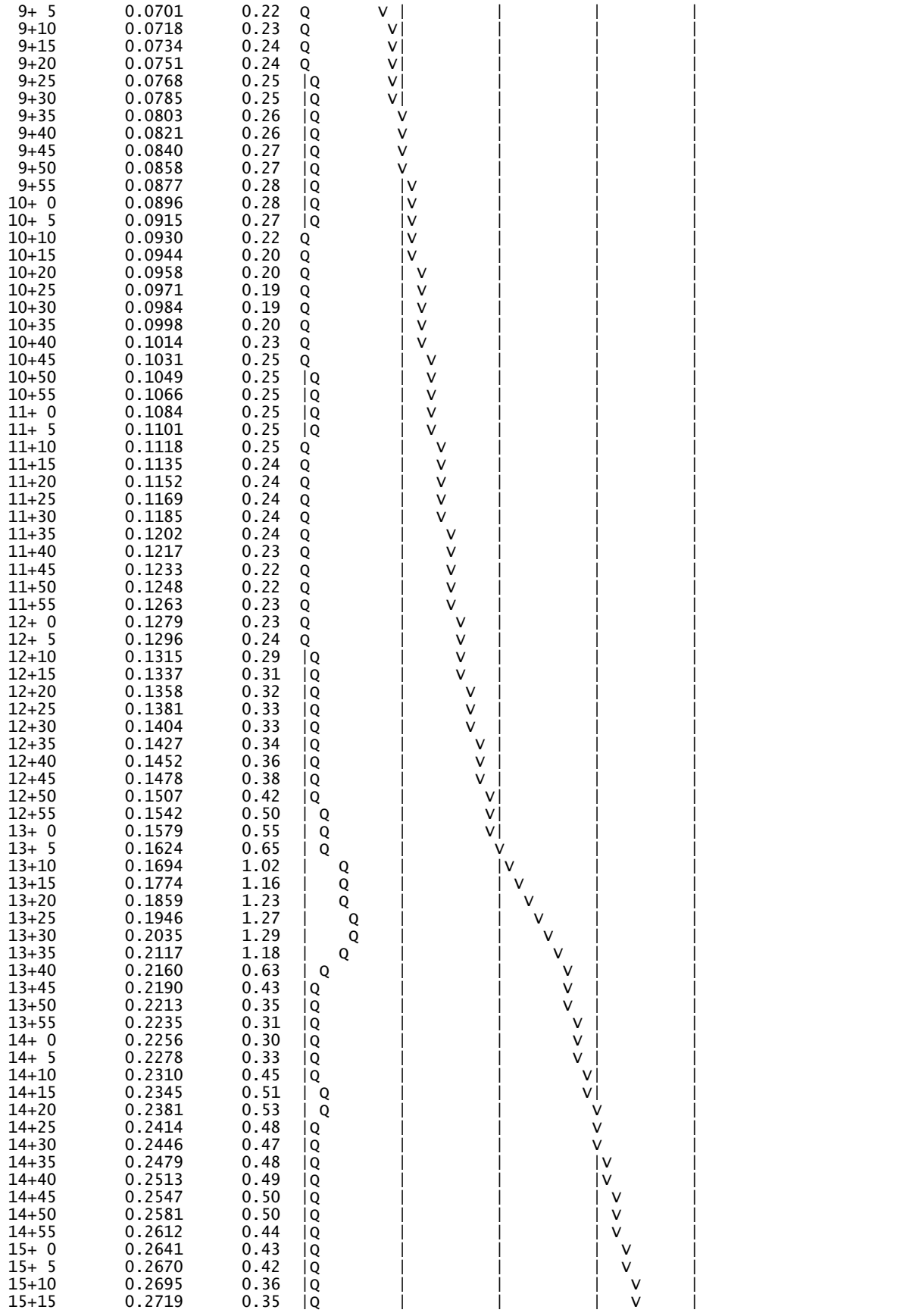
118	9.83	0.73	0.211	(	0.283)	0.190		0.021
119	9.92	0.73	0.211	(	0.282)	0.190		0.021
120	10.00	0.73	0.211	(	0.280)	0.190		0.021
121	10.08	0.50	0.144	(	0.279)	0.130		0.014
122	10.17	0.50	0.144	(	0.278)	0.130		0.014
123	10.25	0.50	0.144	(	0.276)	0.130		0.014
124	10.33	0.50	0.144	(	0.275)	0.130		0.014
125	10.42	0.50	0.144	(	0.274)	0.130		0.014
126	10.50	0.50	0.144	(	0.272)	0.130		0.014
127	10.58	0.67	0.192	(	0.271)	0.173		0.019
128	10.67	0.67	0.192	(	0.270)	0.173		0.019
129	10.75	0.67	0.192	(	0.268)	0.173		0.019
130	10.83	0.67	0.192	(	0.267)	0.173		0.019
131	10.92	0.67	0.192	(	0.266)	0.173		0.019
132	11.00	0.67	0.192	(	0.264)	0.173		0.019
133	11.08	0.63	0.182	(	0.263)	0.164		0.018
134	11.17	0.63	0.182	(	0.262)	0.164		0.018
135	11.25	0.63	0.182	(	0.260)	0.164		0.018
136	11.33	0.63	0.182	(	0.259)	0.164		0.018
137	11.42	0.63	0.182	(	0.258)	0.164		0.018
138	11.50	0.63	0.182	(	0.257)	0.164		0.018
139	11.58	0.57	0.163	(	0.255)	0.147		0.016
140	11.67	0.57	0.163	(	0.254)	0.147		0.016
141	11.75	0.57	0.163	(	0.253)	0.147		0.016
142	11.83	0.60	0.173	(	0.252)	0.156		0.017
143	11.92	0.60	0.173	(	0.250)	0.156		0.017
144	12.00	0.60	0.173	(	0.249)	0.156		0.017
145	12.08	0.83	0.240	(	0.248)	0.216		0.024
146	12.17	0.83	0.240	(	0.247)	0.216		0.024
147	12.25	0.83	0.240	(	0.245)	0.216		0.024
148	12.33	0.87	0.250	(	0.244)	0.225		0.025
149	12.42	0.87	0.250	(	0.243)	0.225		0.025
150	12.50	0.87	0.250	(	0.242)	0.225		0.025
151	12.58	0.93	0.269		0.240	(	0.242)	0.028
152	12.67	0.93	0.269		0.239	(	0.242)	0.030
153	12.75	0.93	0.269		0.238	(	0.242)	0.031
154	12.83	0.97	0.278		0.237	(	0.251)	0.042
155	12.92	0.97	0.278		0.236	(	0.251)	0.043
156	13.00	0.97	0.278		0.234	(	0.251)	0.044
157	13.08	1.13	0.326		0.233	(	0.294)	0.093
158	13.17	1.13	0.326		0.232	(	0.294)	0.094
159	13.25	1.13	0.326		0.231	(	0.294)	0.096
160	13.33	1.13	0.326		0.230	(	0.294)	0.097
161	13.42	1.13	0.326		0.229	(	0.294)	0.098
162	13.50	1.13	0.326		0.227	(	0.294)	0.099
163	13.58	0.77	0.221	(	0.226)	0.199		0.022
164	13.67	0.77	0.221	(	0.225)	0.199		0.022
165	13.75	0.77	0.221	(	0.224)	0.199		0.022
166	13.83	0.77	0.221	(	0.223)	0.199		0.022
167	13.92	0.77	0.221	(	0.222)	0.199		0.022
168	14.00	0.77	0.221	(	0.221)	0.199		0.022
169	14.08	0.90	0.259		0.219	(	0.233)	0.040
170	14.17	0.90	0.259		0.218	(	0.233)	0.041
171	14.25	0.90	0.259		0.217	(	0.233)	0.042
172	14.33	0.87	0.250		0.216	(	0.225)	0.034
173	14.42	0.87	0.250		0.215	(	0.225)	0.035
174	14.50	0.87	0.250		0.214	(	0.225)	0.036
175	14.58	0.87	0.250		0.213	(	0.225)	0.037
176	14.67	0.87	0.250		0.212	(	0.225)	0.038
177	14.75	0.87	0.250		0.211	(	0.225)	0.039
178	14.83	0.83	0.240		0.209	(	0.216)	0.031
179	14.92	0.83	0.240		0.208	(	0.216)	0.032
180	15.00	0.83	0.240		0.207	(	0.216)	0.033
181	15.08	0.80	0.230		0.206	(	0.207)	0.024
182	15.17	0.80	0.230		0.205	(	0.207)	0.025
183	15.25	0.80	0.230		0.204	(	0.207)	0.026
184	15.33	0.77	0.221	(	0.203)	0.199		0.022
185	15.42	0.77	0.221	(	0.202)	0.199		0.022
186	15.50	0.77	0.221	(	0.201)	0.199		0.022
187	15.58	0.63	0.182	(	0.200)	0.164		0.018
188	15.67	0.63	0.182	(	0.199)	0.164		0.018
189	15.75	0.63	0.182	(	0.198)	0.164		0.018
190	15.83	0.63	0.182	(	0.197)	0.164		0.018
191	15.92	0.63	0.182	(	0.196)	0.164		0.018
192	16.00	0.63	0.182	(	0.195)	0.164		0.018

193	16.08	0.13	0.038	(0.194)	0.035	0.004
194	16.17	0.13	0.038	(0.193)	0.035	0.004
195	16.25	0.13	0.038	(0.192)	0.035	0.004
196	16.33	0.13	0.038	(0.191)	0.035	0.004
197	16.42	0.13	0.038	(0.190)	0.035	0.004
198	16.50	0.13	0.038	(0.189)	0.035	0.004
199	16.58	0.10	0.029	(0.188)	0.026	0.003
200	16.67	0.10	0.029	(0.187)	0.026	0.003
201	16.75	0.10	0.029	(0.186)	0.026	0.003
202	16.83	0.10	0.029	(0.185)	0.026	0.003
203	16.92	0.10	0.029	(0.184)	0.026	0.003
204	17.00	0.10	0.029	(0.183)	0.026	0.003
205	17.08	0.17	0.048	(0.182)	0.043	0.005
206	17.17	0.17	0.048	(0.182)	0.043	0.005
207	17.25	0.17	0.048	(0.181)	0.043	0.005
208	17.33	0.17	0.048	(0.180)	0.043	0.005
209	17.42	0.17	0.048	(0.179)	0.043	0.005
210	17.50	0.17	0.048	(0.178)	0.043	0.005
211	17.58	0.17	0.048	(0.177)	0.043	0.005
212	17.67	0.17	0.048	(0.176)	0.043	0.005
213	17.75	0.17	0.048	(0.175)	0.043	0.005
214	17.83	0.13	0.038	(0.174)	0.035	0.004
215	17.92	0.13	0.038	(0.174)	0.035	0.004
216	18.00	0.13	0.038	(0.173)	0.035	0.004
217	18.08	0.13	0.038	(0.172)	0.035	0.004
218	18.17	0.13	0.038	(0.171)	0.035	0.004
219	18.25	0.13	0.038	(0.170)	0.035	0.004
220	18.33	0.13	0.038	(0.169)	0.035	0.004
221	18.42	0.13	0.038	(0.168)	0.035	0.004
222	18.50	0.13	0.038	(0.168)	0.035	0.004
223	18.58	0.10	0.029	(0.167)	0.026	0.003
224	18.67	0.10	0.029	(0.166)	0.026	0.003
225	18.75	0.10	0.029	(0.165)	0.026	0.003
226	18.83	0.07	0.019	(0.164)	0.017	0.002
227	18.92	0.07	0.019	(0.164)	0.017	0.002
228	19.00	0.07	0.019	(0.163)	0.017	0.002
229	19.08	0.10	0.029	(0.162)	0.026	0.003
230	19.17	0.10	0.029	(0.161)	0.026	0.003
231	19.25	0.10	0.029	(0.161)	0.026	0.003
232	19.33	0.13	0.038	(0.160)	0.035	0.004
233	19.42	0.13	0.038	(0.159)	0.035	0.004
234	19.50	0.13	0.038	(0.158)	0.035	0.004
235	19.58	0.10	0.029	(0.158)	0.026	0.003
236	19.67	0.10	0.029	(0.157)	0.026	0.003
237	19.75	0.10	0.029	(0.156)	0.026	0.003
238	19.83	0.07	0.019	(0.156)	0.017	0.002
239	19.92	0.07	0.019	(0.155)	0.017	0.002
240	20.00	0.07	0.019	(0.154)	0.017	0.002
241	20.08	0.10	0.029	(0.153)	0.026	0.003
242	20.17	0.10	0.029	(0.153)	0.026	0.003
243	20.25	0.10	0.029	(0.152)	0.026	0.003
244	20.33	0.10	0.029	(0.151)	0.026	0.003
245	20.42	0.10	0.029	(0.151)	0.026	0.003
246	20.50	0.10	0.029	(0.150)	0.026	0.003
247	20.58	0.10	0.029	(0.150)	0.026	0.003
248	20.67	0.10	0.029	(0.149)	0.026	0.003
249	20.75	0.10	0.029	(0.148)	0.026	0.003
250	20.83	0.07	0.019	(0.148)	0.017	0.002
251	20.92	0.07	0.019	(0.147)	0.017	0.002
252	21.00	0.07	0.019	(0.147)	0.017	0.002
253	21.08	0.10	0.029	(0.146)	0.026	0.003
254	21.17	0.10	0.029	(0.145)	0.026	0.003
255	21.25	0.10	0.029	(0.145)	0.026	0.003
256	21.33	0.07	0.019	(0.144)	0.017	0.002
257	21.42	0.07	0.019	(0.144)	0.017	0.002
258	21.50	0.07	0.019	(0.143)	0.017	0.002
259	21.58	0.10	0.029	(0.143)	0.026	0.003
260	21.67	0.10	0.029	(0.142)	0.026	0.003
261	21.75	0.10	0.029	(0.142)	0.026	0.003
262	21.83	0.07	0.019	(0.141)	0.017	0.002
263	21.92	0.07	0.019	(0.141)	0.017	0.002
264	22.00	0.07	0.019	(0.140)	0.017	0.002
265	22.08	0.10	0.029	(0.140)	0.026	0.003
266	22.17	0.10	0.029	(0.139)	0.026	0.003
267	22.25	0.10	0.029	(0.139)	0.026	0.003

```
268  22.33     0.07      0.019       (  0.138)       0.017        0.002
269  22.42     0.07      0.019       (  0.138)       0.017        0.002
270  22.50     0.07      0.019       (  0.138)       0.017        0.002
271  22.58     0.07      0.019       (  0.137)       0.017        0.002
272  22.67     0.07      0.019       (  0.137)       0.017        0.002
273  22.75     0.07      0.019       (  0.136)       0.017        0.002
274  22.83     0.07      0.019       (  0.136)       0.017        0.002
275  22.92     0.07      0.019       (  0.136)       0.017        0.002
276  23.00     0.07      0.019       (  0.135)       0.017        0.002
277  23.08     0.07      0.019       (  0.135)       0.017        0.002
278  23.17     0.07      0.019       (  0.135)       0.017        0.002
279  23.25     0.07      0.019       (  0.134)       0.017        0.002
280  23.33     0.07      0.019       (  0.134)       0.017        0.002
281  23.42     0.07      0.019       (  0.134)       0.017        0.002
282  23.50     0.07      0.019       (  0.134)       0.017        0.002
283  23.58     0.07      0.019       (  0.133)       0.017        0.002
284  23.67     0.07      0.019       (  0.133)       0.017        0.002
285  23.75     0.07      0.019       (  0.133)       0.017        0.002
286  23.83     0.07      0.019       (  0.133)       0.017        0.002
287  23.92     0.07      0.019       (  0.133)       0.017        0.002
288  24.00     0.07      0.019       (  0.133)       0.017        0.002
               (Loss Rate Not Used)
    Sum =     100.0                                  Sum =     3.5
      Flood volume = Effective rainfall      0.29(In)
       times area      13.2(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
      Total soil loss =      2.11(In)
      Total soil loss =     2.323(Ac.Ft)
      Total rainfall =      2.40(In)
      Flood volume =       13798.0 Cubic Feet
      Total soil loss =      101197.4 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      1.290(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                 Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0000      0.00  Q         |         |         |         |
   0+10       0.0001      0.02  Q         |         |         |         |
   0+15       0.0003      0.02  Q         |         |         |         |
   0+20       0.0005      0.03  Q         |         |         |         |
   0+25       0.0007      0.03  Q         |         |         |         |
   0+30       0.0010      0.04  Q         |         |         |         |
   0+35       0.0012      0.04  Q         |         |         |         |
   0+40       0.0015      0.04  Q         |         |         |         |
   0+45       0.0017      0.04  Q         |         |         |         |
   0+50       0.0020      0.04  Q         |         |         |         |
   0+55       0.0023      0.05  Q         |         |         |         |
   1+ 0       0.0027      0.05  Q         |         |         |         |
   1+ 5       0.0030      0.05  Q         |         |         |         |
   1+10       0.0033      0.04  Q         |         |         |         |
   1+15       0.0036      0.04  Q         |         |         |         |
   1+20       0.0038      0.04  Q         |         |         |         |
   1+25       0.0041      0.04  Q         |         |         |         |
   1+30       0.0044      0.04  Q         |         |         |         |
   1+35       0.0046      0.04  Q         |         |         |         |
   1+40       0.0049      0.04  Q         |         |         |         |
   1+45       0.0052      0.04  Q         |         |         |         |
   1+50       0.0054      0.04  Q         |         |         |         |
   1+55       0.0058      0.05  Q         |         |         |         |
   2+ 0       0.0061      0.05  Q         |         |         |         |
   2+ 5       0.0065      0.05  Q         |         |         |         |
   2+10       0.0068      0.05  Q         |         |         |         |
   2+15       0.0072      0.05  Q         |         |         |         |
   2+20       0.0075      0.05  Q         |         |         |         |
   2+25       0.0079      0.05  Q         |         |         |         |
   2+30       0.0082      0.05  QV        |         |         |         |
   2+35       0.0086      0.05  QV        |         |         |         |
   2+40       0.0090      0.06  QV        |         |         |         |
   2+45       0.0094      0.06  QV        |         |         |         |
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2+50	0.0098	0.06	QV	|	|	|	|
2+55	0.0103	0.06	QV	|	|	|	|
3+ 0	0.0107	0.06	QV	|	|	|	|
3+ 5	0.0112	0.06	QV	|	|	|	|
3+10	0.0116	0.06	QV	|	|	|	|
3+15	0.0120	0.06	QV	|	|	|	|
3+20	0.0125	0.06	QV	|	|	|	|
3+25	0.0129	0.06	QV	|	|	|	|
3+30	0.0134	0.06	QV	|	|	|	|
3+35	0.0138	0.06	QV	|	|	|	|
3+40	0.0142	0.06	QV	|	|	|	|
3+45	0.0147	0.06	QV	|	|	|	|
3+50	0.0151	0.07	QV	|	|	|	|
3+55	0.0156	0.07	QV	|	|	|	|
4+ 0	0.0162	0.07	Q V	|	|	|	|
4+ 5	0.0167	0.08	Q V	|	|	|	|
4+10	0.0172	0.08	Q V	|	|	|	|
4+15	0.0177	0.08	Q V	|	|	|	|
4+20	0.0183	0.08	Q V	|	|	|	|
4+25	0.0189	0.09	Q V	|	|	|	|
4+30	0.0195	0.09	Q V	|	|	|	|
4+35	0.0201	0.09	Q V	|	|	|	|
4+40	0.0207	0.09	Q V	|	|	|	|
4+45	0.0213	0.09	Q V	|	|	|	|
4+50	0.0219	0.09	Q V	|	|	|	|
4+55	0.0226	0.10	Q V	|	|	|	|
5+ 0	0.0233	0.10	Q V	|	|	|	|
5+ 5	0.0240	0.10	Q V	|	|	|	|
5+10	0.0246	0.08	Q V	|	|	|	|
5+15	0.0251	0.08	Q V	|	|	|	|
5+20	0.0257	0.08	Q V	|	|	|	|
5+25	0.0262	0.09	Q V	|	|	|	|
5+30	0.0268	0.09	Q V	|	|	|	|
5+35	0.0275	0.09	Q V	|	|	|	|
5+40	0.0281	0.10	Q V	|	|	|	|
5+45	0.0288	0.10	Q V	|	|	|	|
5+50	0.0295	0.10	Q V	|	|	|	|
5+55	0.0302	0.10	Q V	|	|	|	|
6+ 0	0.0309	0.10	Q V	|	|	|	|
6+ 5	0.0317	0.10	Q V	|	|	|	|
6+10	0.0324	0.11	Q V	|	|	|	|
6+15	0.0332	0.11	Q V	|	|	|	|
6+20	0.0340	0.11	Q V	|	|	|	|
6+25	0.0348	0.11	Q V	|	|	|	|
6+30	0.0356	0.11	Q V	|	|	|	|
6+35	0.0364	0.12	Q V	|	|	|	|
6+40	0.0372	0.12	Q V	|	|	|	|
6+45	0.0381	0.13	Q V	|	|	|	|
6+50	0.0390	0.13	Q V	|	|	|	|
6+55	0.0398	0.13	Q V	|	|	|	|
7+ 0	0.0407	0.13	Q V	|	|	|	|
7+ 5	0.0416	0.13	Q V	|	|	|	|
7+10	0.0425	0.13	Q V	|	|	|	|
7+15	0.0434	0.13	Q V	|	|	|	|
7+20	0.0443	0.13	Q V	|	|	|	|
7+25	0.0452	0.14	Q V	|	|	|	|
7+30	0.0461	0.14	Q V	|	|	|	|
7+35	0.0471	0.14	Q V	|	|	|	|
7+40	0.0481	0.15	Q V	|	|	|	|
7+45	0.0492	0.15	Q V	|	|	|	|
7+50	0.0503	0.15	Q V	|	|	|	|
7+55	0.0514	0.16	Q V	|	|	|	|
8+ 0	0.0525	0.16	Q V	|	|	|	|
8+ 5	0.0537	0.17	Q V	|	|	|	|
8+10	0.0549	0.18	Q V	|	|	|	|
8+15	0.0562	0.19	Q V	|	|	|	|
8+20	0.0575	0.19	Q V	|	|	|	|
8+25	0.0588	0.19	Q V	|	|	|	|
8+30	0.0602	0.19	Q V	|	|	|	|
8+35	0.0615	0.19	Q V	|	|	|	|
8+40	0.0629	0.20	Q V	|	|	|	|
8+45	0.0643	0.20	Q V	|	|	|	|
8+50	0.0657	0.21	Q V	|	|	|	|
8+55	0.0671	0.21	Q V	|	|	|	|
9+ 0	0.0686	0.22	Q V	|	|	|	|



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15+20       0.2742      0.34  |Q        |         |         |   V     |
15+25       0.2764      0.31  |Q        |         |         |   V     |
15+30       0.2785      0.30  |Q        |         |         |    V    |
15+35       0.2805      0.29  |Q        |         |         |    V    |
15+40       0.2823      0.26  |Q        |         |         |    V    |
15+45       0.2840      0.25  |Q        |         |         |    V    |
15+50       0.2857      0.25  Q        |         |         |     V   |
15+55       0.2874      0.24  Q        |         |         |     V   |
16+ 0       0.2890      0.24  Q        |         |         |     V   |
16+ 5       0.2905      0.22  Q        |         |         |     V   |
16+10       0.2913      0.11  Q        |         |         |     V   |
16+15       0.2919      0.08  Q        |         |         |     V   |
16+20       0.2923      0.06  Q        |         |         |     V   |
16+25       0.2927      0.05  Q        |         |         |     V   |
16+30       0.2930      0.05  Q        |         |         |      V  |
16+35       0.2934      0.05  Q        |         |         |      V  |
16+40       0.2937      0.04  Q        |         |         |      V  |
16+45       0.2939      0.04  Q        |         |         |      V  |
16+50       0.2942      0.04  Q        |         |         |      V  |
16+55       0.2945      0.04  Q        |         |         |      V  |
17+ 0       0.2947      0.04  Q        |         |         |      V  |
17+ 5       0.2950      0.04  Q        |         |         |      V  |
17+10       0.2954      0.06  Q        |         |         |      V  |
17+15       0.2958      0.06  Q        |         |         |      V  |
17+20       0.2962      0.06  Q        |         |         |      V  |
17+25       0.2967      0.06  Q        |         |         |      V  |
17+30       0.2971      0.06  Q        |         |         |      V  |
17+35       0.2976      0.06  Q        |         |         |      V  |
17+40       0.2980      0.06  Q        |         |         |      V  |
17+45       0.2984      0.06  Q        |         |         |      V  |
17+50       0.2989      0.06  Q        |         |         |      V  |
17+55       0.2993      0.06  Q        |         |         |      V  |
18+ 0       0.2996      0.05  Q        |         |         |      V  |
18+ 5       0.3000      0.05  Q        |         |         |      V  |
18+10       0.3003      0.05  Q        |         |         |      V  |
18+15       0.3007      0.05  Q        |         |         |      V  |
18+20       0.3010      0.05  Q        |         |         |       V |
18+25       0.3014      0.05  Q        |         |         |       V |
18+30       0.3017      0.05  Q        |         |         |       V |
18+35       0.3021      0.05  Q        |         |         |       V |
18+40       0.3024      0.04  Q        |         |         |       V |
18+45       0.3026      0.04  Q        |         |         |       V |
18+50       0.3029      0.04  Q        |         |         |       V |
18+55       0.3031      0.03  Q        |         |         |       V |
19+ 0       0.3033      0.03  Q        |         |         |       V |
19+ 5       0.3035      0.03  Q        |         |         |       V |
19+10       0.3037      0.03  Q        |         |         |       V |
19+15       0.3040      0.04  Q        |         |         |       V |
19+20       0.3043      0.04  Q        |         |         |       V |
19+25       0.3046      0.05  Q        |         |         |       V |
19+30       0.3049      0.05  Q        |         |         |       V |
19+35       0.3052      0.05  Q        |         |         |       V |
19+40       0.3055      0.04  Q        |         |         |       V |
19+45       0.3058      0.04  Q        |         |         |       V |
19+50       0.3061      0.04  Q        |         |         |       V |
19+55       0.3063      0.03  Q        |         |         |       V |
20+ 0       0.3065      0.03  Q        |         |         |       V |
20+ 5       0.3067      0.03  Q        |         |         |       V |
20+10       0.3069      0.03  Q        |         |         |       V |
20+15       0.3071      0.04  Q        |         |         |       V |
20+20       0.3074      0.04  Q        |         |         |       V |
20+25       0.3077      0.04  Q        |         |         |       V |
20+30       0.3079      0.04  Q        |         |         |       V |
20+35       0.3082      0.04  Q        |         |         |       V |
20+40       0.3085      0.04  Q        |         |         |       V |
20+45       0.3087      0.04  Q        |         |         |       V |
20+50       0.3090      0.04  Q        |         |         |        V|
20+55       0.3092      0.03  Q        |         |         |        V|
21+ 0       0.3094      0.03  Q        |         |         |        V|
21+ 5       0.3096      0.03  Q        |         |         |        V|
21+10       0.3098      0.03  Q        |         |         |        V|
21+15       0.3101      0.04  Q        |         |         |        V|
21+20       0.3103      0.04  Q        |         |         |        V|
21+25       0.3105      0.03  Q        |         |         |        V|
21+30       0.3107      0.03  Q        |         |         |        V|
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21+35	0.3109	0.03	Q	|	|	|	V|
21+40	0.3111	0.03	Q	|	|	|	V|
21+45	0.3114	0.04	Q	|	|	|	V|
21+50	0.3116	0.04	Q	|	|	|	V|
21+55	0.3118	0.03	Q	|	|	|	V|
22+ 0	0.3120	0.03	Q	|	|	|	V|
22+ 5	0.3122	0.03	Q	|	|	|	V|
22+10	0.3124	0.03	Q	|	|	|	V|
22+15	0.3127	0.04	Q	|	|	|	V|
22+20	0.3129	0.04	Q	|	|	|	V|
22+25	0.3131	0.03	Q	|	|	|	V|
22+30	0.3133	0.03	Q	|	|	|	V|
22+35	0.3135	0.03	Q	|	|	|	V|
22+40	0.3137	0.03	Q	|	|	|	V|
22+45	0.3139	0.03	Q	|	|	|	V|
22+50	0.3140	0.03	Q	|	|	|	V|
22+55	0.3142	0.03	Q	|	|	|	V|
23+ 0	0.3144	0.03	Q	|	|	|	V|
23+ 5	0.3146	0.03	Q	|	|	|	V|
23+10	0.3147	0.03	Q	|	|	|	V|
23+15	0.3149	0.03	Q	|	|	|	V|
23+20	0.3151	0.03	Q	|	|	|	V|
23+25	0.3153	0.03	Q	|	|	|	V|
23+30	0.3155	0.03	Q	|	|	|	V|
23+35	0.3156	0.03	Q	|	|	|	V|
23+40	0.3158	0.03	Q	|	|	|	V|
23+45	0.3160	0.03	Q	|	|	|	V|
23+50	0.3162	0.03	Q	|	|	|	V|
23+55	0.3163	0.03	Q	|	|	|	V|
24+ 0	0.3165	0.03	Q	|	|	|	V|
24+ 5	0.3167	0.02	Q	|	|	|	V|
24+10	0.3167	0.01	Q	|	|	|	V|
24+15	0.3167	0.00	Q	|	|	|	V|
24+20	0.3168	0.00	Q	|	|	|	V|
24+25	0.3168	0.00	Q	|	|	|	V|
24+30	0.3168	0.00	Q	|	|	|	V|
24+35	0.3168	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 11/04/21 File: EX2YRC2242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 4010

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

BCCOV - AREA C2 EXISTING CONDITION
2-YEAR STORM EVENT
21-0034
11-04-2021 EP

Drainage Area = 11.80(Ac.) = 0.018 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 11.80(Ac.) = 0.018 Sq. Mi.
Length along longest watercourse = 1321.00(Ft.)
Length along longest watercourse measured to centroid = 574.00(Ft.)
Length along longest watercourse = 0.250 Mi.
Length along longest watercourse measured to centroid = 0.109 Mi.
Difference in elevation = 18.60(Ft.)
Slope along watercourse = 74.3437 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.081 Hr.
Lag time = 4.84 Min.
25% of lag time = 1.21 Min.
40% of lag time = 1.94 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
11.80	2.40	28.32

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
11.80	6.20	73.16

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.200(In)

Point rain (area averaged) = 2.400(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.400(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
11.800	87.20	0.000

Total Area Entered = 11.80(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

87.2 73.5 0.320 0.000 0.320 1.000 0.320
Sum (F) = 0.320

Area averaged mean soil loss (F) (In/Hr) = 0.320
Minimum soil loss rate ((In/Hr)) = 0.160
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	103.251	15.573	1.852
2	0.167	206.502	55.967	6.656
3	0.250	309.753	17.879	2.126
4	0.333	413.005	7.058	0.839
5	0.417	516.256	2.151	0.256
6	0.500	619.507	0.819	0.097
7	0.583	722.758	0.553	0.066
			Sum = 100.000	Sum= 11.892

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.019	(0.568)	0.017	0.002
2	0.17	0.07	0.019	(0.566)	0.017	0.002
3	0.25	0.07	0.019	(0.564)	0.017	0.002
4	0.33	0.10	0.029	(0.562)	0.026	0.003
5	0.42	0.10	0.029	(0.559)	0.026	0.003
6	0.50	0.10	0.029	(0.557)	0.026	0.003
7	0.58	0.10	0.029	(0.555)	0.026	0.003
8	0.67	0.10	0.029	(0.553)	0.026	0.003
9	0.75	0.10	0.029	(0.551)	0.026	0.003
10	0.83	0.13	0.038	(0.548)	0.035	0.004
11	0.92	0.13	0.038	(0.546)	0.035	0.004
12	1.00	0.13	0.038	(0.544)	0.035	0.004
13	1.08	0.10	0.029	(0.542)	0.026	0.003
14	1.17	0.10	0.029	(0.540)	0.026	0.003
15	1.25	0.10	0.029	(0.538)	0.026	0.003
16	1.33	0.10	0.029	(0.536)	0.026	0.003
17	1.42	0.10	0.029	(0.533)	0.026	0.003
18	1.50	0.10	0.029	(0.531)	0.026	0.003
19	1.58	0.10	0.029	(0.529)	0.026	0.003
20	1.67	0.10	0.029	(0.527)	0.026	0.003
21	1.75	0.10	0.029	(0.525)	0.026	0.003
22	1.83	0.13	0.038	(0.523)	0.035	0.004
23	1.92	0.13	0.038	(0.521)	0.035	0.004
24	2.00	0.13	0.038	(0.519)	0.035	0.004
25	2.08	0.13	0.038	(0.517)	0.035	0.004
26	2.17	0.13	0.038	(0.514)	0.035	0.004
27	2.25	0.13	0.038	(0.512)	0.035	0.004
28	2.33	0.13	0.038	(0.510)	0.035	0.004
29	2.42	0.13	0.038	(0.508)	0.035	0.004
30	2.50	0.13	0.038	(0.506)	0.035	0.004
31	2.58	0.17	0.048	(0.504)	0.043	0.005
32	2.67	0.17	0.048	(0.502)	0.043	0.005
33	2.75	0.17	0.048	(0.500)	0.043	0.005
34	2.83	0.17	0.048	(0.498)	0.043	0.005
35	2.92	0.17	0.048	(0.496)	0.043	0.005
36	3.00	0.17	0.048	(0.494)	0.043	0.005
37	3.08	0.17	0.048	(0.492)	0.043	0.005
38	3.17	0.17	0.048	(0.490)	0.043	0.005
39	3.25	0.17	0.048	(0.488)	0.043	0.005
40	3.33	0.17	0.048	(0.486)	0.043	0.005
41	3.42	0.17	0.048	(0.484)	0.043	0.005
42	3.50	0.17	0.048	(0.482)	0.043	0.005
43	3.58	0.17	0.048	(0.480)	0.043	0.005

44	3.67	0.17	0.048	(0.478)	0.043	0.005
45	3.75	0.17	0.048	(0.476)	0.043	0.005
46	3.83	0.20	0.058	(0.474)	0.052	0.006
47	3.92	0.20	0.058	(0.472)	0.052	0.006
48	4.00	0.20	0.058	(0.470)	0.052	0.006
49	4.08	0.20	0.058	(0.468)	0.052	0.006
50	4.17	0.20	0.058	(0.466)	0.052	0.006
51	4.25	0.20	0.058	(0.464)	0.052	0.006
52	4.33	0.23	0.067	(0.462)	0.060	0.007
53	4.42	0.23	0.067	(0.460)	0.060	0.007
54	4.50	0.23	0.067	(0.458)	0.060	0.007
55	4.58	0.23	0.067	(0.456)	0.060	0.007
56	4.67	0.23	0.067	(0.454)	0.060	0.007
57	4.75	0.23	0.067	(0.452)	0.060	0.007
58	4.83	0.27	0.077	(0.450)	0.069	0.008
59	4.92	0.27	0.077	(0.448)	0.069	0.008
60	5.00	0.27	0.077	(0.446)	0.069	0.008
61	5.08	0.20	0.058	(0.444)	0.052	0.006
62	5.17	0.20	0.058	(0.442)	0.052	0.006
63	5.25	0.20	0.058	(0.440)	0.052	0.006
64	5.33	0.23	0.067	(0.438)	0.060	0.007
65	5.42	0.23	0.067	(0.436)	0.060	0.007
66	5.50	0.23	0.067	(0.434)	0.060	0.007
67	5.58	0.27	0.077	(0.432)	0.069	0.008
68	5.67	0.27	0.077	(0.431)	0.069	0.008
69	5.75	0.27	0.077	(0.429)	0.069	0.008
70	5.83	0.27	0.077	(0.427)	0.069	0.008
71	5.92	0.27	0.077	(0.425)	0.069	0.008
72	6.00	0.27	0.077	(0.423)	0.069	0.008
73	6.08	0.30	0.086	(0.421)	0.078	0.009
74	6.17	0.30	0.086	(0.419)	0.078	0.009
75	6.25	0.30	0.086	(0.417)	0.078	0.009
76	6.33	0.30	0.086	(0.416)	0.078	0.009
77	6.42	0.30	0.086	(0.414)	0.078	0.009
78	6.50	0.30	0.086	(0.412)	0.078	0.009
79	6.58	0.33	0.096	(0.410)	0.086	0.010
80	6.67	0.33	0.096	(0.408)	0.086	0.010
81	6.75	0.33	0.096	(0.406)	0.086	0.010
82	6.83	0.33	0.096	(0.404)	0.086	0.010
83	6.92	0.33	0.096	(0.403)	0.086	0.010
84	7.00	0.33	0.096	(0.401)	0.086	0.010
85	7.08	0.33	0.096	(0.399)	0.086	0.010
86	7.17	0.33	0.096	(0.397)	0.086	0.010
87	7.25	0.33	0.096	(0.395)	0.086	0.010
88	7.33	0.37	0.106	(0.394)	0.095	0.011
89	7.42	0.37	0.106	(0.392)	0.095	0.011
90	7.50	0.37	0.106	(0.390)	0.095	0.011
91	7.58	0.40	0.115	(0.388)	0.104	0.012
92	7.67	0.40	0.115	(0.386)	0.104	0.012
93	7.75	0.40	0.115	(0.385)	0.104	0.012
94	7.83	0.43	0.125	(0.383)	0.112	0.012
95	7.92	0.43	0.125	(0.381)	0.112	0.012
96	8.00	0.43	0.125	(0.379)	0.112	0.012
97	8.08	0.50	0.144	(0.377)	0.130	0.014
98	8.17	0.50	0.144	(0.376)	0.130	0.014
99	8.25	0.50	0.144	(0.374)	0.130	0.014
100	8.33	0.50	0.144	(0.372)	0.130	0.014
101	8.42	0.50	0.144	(0.371)	0.130	0.014
102	8.50	0.50	0.144	(0.369)	0.130	0.014
103	8.58	0.53	0.154	(0.367)	0.138	0.015
104	8.67	0.53	0.154	(0.365)	0.138	0.015
105	8.75	0.53	0.154	(0.364)	0.138	0.015
106	8.83	0.57	0.163	(0.362)	0.147	0.016
107	8.92	0.57	0.163	(0.360)	0.147	0.016
108	9.00	0.57	0.163	(0.358)	0.147	0.016
109	9.08	0.63	0.182	(0.357)	0.164	0.018
110	9.17	0.63	0.182	(0.355)	0.164	0.018
111	9.25	0.63	0.182	(0.353)	0.164	0.018
112	9.33	0.67	0.192	(0.352)	0.173	0.019
113	9.42	0.67	0.192	(0.350)	0.173	0.019
114	9.50	0.67	0.192	(0.348)	0.173	0.019
115	9.58	0.70	0.202	(0.347)	0.181	0.020
116	9.67	0.70	0.202	(0.345)	0.181	0.020
117	9.75	0.70	0.202	(0.343)	0.181	0.020
118	9.83	0.73	0.211	(0.342)	0.190	0.021

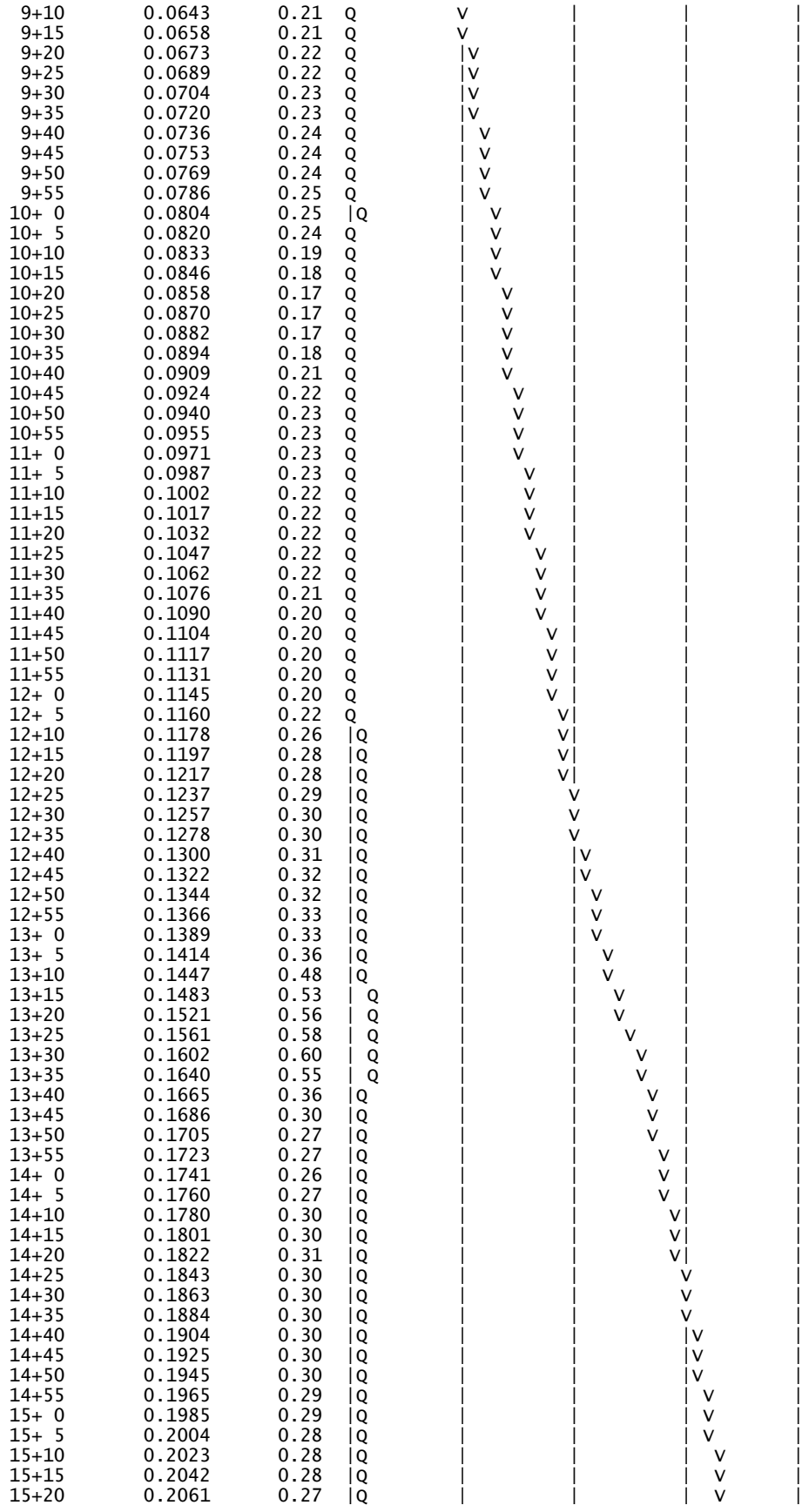
119	9.92	0.73	0.211	(0.340)	0.190		0.021
120	10.00	0.73	0.211	(0.338)	0.190		0.021
121	10.08	0.50	0.144	(0.337)	0.130		0.014
122	10.17	0.50	0.144	(0.335)	0.130		0.014
123	10.25	0.50	0.144	(0.334)	0.130		0.014
124	10.33	0.50	0.144	(0.332)	0.130		0.014
125	10.42	0.50	0.144	(0.330)	0.130		0.014
126	10.50	0.50	0.144	(0.329)	0.130		0.014
127	10.58	0.67	0.192	(0.327)	0.173		0.019
128	10.67	0.67	0.192	(0.325)	0.173		0.019
129	10.75	0.67	0.192	(0.324)	0.173		0.019
130	10.83	0.67	0.192	(0.322)	0.173		0.019
131	10.92	0.67	0.192	(0.321)	0.173		0.019
132	11.00	0.67	0.192	(0.319)	0.173		0.019
133	11.08	0.63	0.182	(0.318)	0.164		0.018
134	11.17	0.63	0.182	(0.316)	0.164		0.018
135	11.25	0.63	0.182	(0.314)	0.164		0.018
136	11.33	0.63	0.182	(0.313)	0.164		0.018
137	11.42	0.63	0.182	(0.311)	0.164		0.018
138	11.50	0.63	0.182	(0.310)	0.164		0.018
139	11.58	0.57	0.163	(0.308)	0.147		0.016
140	11.67	0.57	0.163	(0.307)	0.147		0.016
141	11.75	0.57	0.163	(0.305)	0.147		0.016
142	11.83	0.60	0.173	(0.304)	0.156		0.017
143	11.92	0.60	0.173	(0.302)	0.156		0.017
144	12.00	0.60	0.173	(0.301)	0.156		0.017
145	12.08	0.83	0.240	(0.299)	0.216		0.024
146	12.17	0.83	0.240	(0.298)	0.216		0.024
147	12.25	0.83	0.240	(0.296)	0.216		0.024
148	12.33	0.87	0.250	(0.295)	0.225		0.025
149	12.42	0.87	0.250	(0.293)	0.225		0.025
150	12.50	0.87	0.250	(0.292)	0.225		0.025
151	12.58	0.93	0.269	(0.290)	0.242		0.027
152	12.67	0.93	0.269	(0.289)	0.242		0.027
153	12.75	0.93	0.269	(0.287)	0.242		0.027
154	12.83	0.97	0.278	(0.286)	0.251		0.028
155	12.92	0.97	0.278	(0.284)	0.251		0.028
156	13.00	0.97	0.278	(0.283)	0.251		0.028
157	13.08	1.13	0.326	0.282	(0.294)		0.045
158	13.17	1.13	0.326	0.280	(0.294)		0.046
159	13.25	1.13	0.326	0.279	(0.294)		0.048
160	13.33	1.13	0.326	0.277	(0.294)		0.049
161	13.42	1.13	0.326	0.276	(0.294)		0.051
162	13.50	1.13	0.326	0.274	(0.294)		0.052
163	13.58	0.77	0.221	(0.273)	0.199		0.022
164	13.67	0.77	0.221	(0.272)	0.199		0.022
165	13.75	0.77	0.221	(0.270)	0.199		0.022
166	13.83	0.77	0.221	(0.269)	0.199		0.022
167	13.92	0.77	0.221	(0.268)	0.199		0.022
168	14.00	0.77	0.221	(0.266)	0.199		0.022
169	14.08	0.90	0.259	(0.265)	0.233		0.026
170	14.17	0.90	0.259	(0.263)	0.233		0.026
171	14.25	0.90	0.259	(0.262)	0.233		0.026
172	14.33	0.87	0.250	(0.261)	0.225		0.025
173	14.42	0.87	0.250	(0.259)	0.225		0.025
174	14.50	0.87	0.250	(0.258)	0.225		0.025
175	14.58	0.87	0.250	(0.257)	0.225		0.025
176	14.67	0.87	0.250	(0.255)	0.225		0.025
177	14.75	0.87	0.250	(0.254)	0.225		0.025
178	14.83	0.83	0.240	(0.253)	0.216		0.024
179	14.92	0.83	0.240	(0.252)	0.216		0.024
180	15.00	0.83	0.240	(0.250)	0.216		0.024
181	15.08	0.80	0.230	(0.249)	0.207		0.023
182	15.17	0.80	0.230	(0.248)	0.207		0.023
183	15.25	0.80	0.230	(0.246)	0.207		0.023
184	15.33	0.77	0.221	(0.245)	0.199		0.022
185	15.42	0.77	0.221	(0.244)	0.199		0.022
186	15.50	0.77	0.221	(0.243)	0.199		0.022
187	15.58	0.63	0.182	(0.241)	0.164		0.018
188	15.67	0.63	0.182	(0.240)	0.164		0.018
189	15.75	0.63	0.182	(0.239)	0.164		0.018
190	15.83	0.63	0.182	(0.238)	0.164		0.018
191	15.92	0.63	0.182	(0.237)	0.164		0.018
192	16.00	0.63	0.182	(0.235)	0.164		0.018
193	16.08	0.13	0.038	(0.234)	0.035		0.004

194	16.17	0.13	0.038	(0.233)	0.035	0.004
195	16.25	0.13	0.038	(0.232)	0.035	0.004
196	16.33	0.13	0.038	(0.231)	0.035	0.004
197	16.42	0.13	0.038	(0.229)	0.035	0.004
198	16.50	0.13	0.038	(0.228)	0.035	0.004
199	16.58	0.10	0.029	(0.227)	0.026	0.003
200	16.67	0.10	0.029	(0.226)	0.026	0.003
201	16.75	0.10	0.029	(0.225)	0.026	0.003
202	16.83	0.10	0.029	(0.224)	0.026	0.003
203	16.92	0.10	0.029	(0.222)	0.026	0.003
204	17.00	0.10	0.029	(0.221)	0.026	0.003
205	17.08	0.17	0.048	(0.220)	0.043	0.005
206	17.17	0.17	0.048	(0.219)	0.043	0.005
207	17.25	0.17	0.048	(0.218)	0.043	0.005
208	17.33	0.17	0.048	(0.217)	0.043	0.005
209	17.42	0.17	0.048	(0.216)	0.043	0.005
210	17.50	0.17	0.048	(0.215)	0.043	0.005
211	17.58	0.17	0.048	(0.214)	0.043	0.005
212	17.67	0.17	0.048	(0.213)	0.043	0.005
213	17.75	0.17	0.048	(0.212)	0.043	0.005
214	17.83	0.13	0.038	(0.211)	0.035	0.004
215	17.92	0.13	0.038	(0.209)	0.035	0.004
216	18.00	0.13	0.038	(0.208)	0.035	0.004
217	18.08	0.13	0.038	(0.207)	0.035	0.004
218	18.17	0.13	0.038	(0.206)	0.035	0.004
219	18.25	0.13	0.038	(0.205)	0.035	0.004
220	18.33	0.13	0.038	(0.204)	0.035	0.004
221	18.42	0.13	0.038	(0.203)	0.035	0.004
222	18.50	0.13	0.038	(0.202)	0.035	0.004
223	18.58	0.10	0.029	(0.201)	0.026	0.003
224	18.67	0.10	0.029	(0.200)	0.026	0.003
225	18.75	0.10	0.029	(0.199)	0.026	0.003
226	18.83	0.07	0.019	(0.199)	0.017	0.002
227	18.92	0.07	0.019	(0.198)	0.017	0.002
228	19.00	0.07	0.019	(0.197)	0.017	0.002
229	19.08	0.10	0.029	(0.196)	0.026	0.003
230	19.17	0.10	0.029	(0.195)	0.026	0.003
231	19.25	0.10	0.029	(0.194)	0.026	0.003
232	19.33	0.13	0.038	(0.193)	0.035	0.004
233	19.42	0.13	0.038	(0.192)	0.035	0.004
234	19.50	0.13	0.038	(0.191)	0.035	0.004
235	19.58	0.10	0.029	(0.190)	0.026	0.003
236	19.67	0.10	0.029	(0.189)	0.026	0.003
237	19.75	0.10	0.029	(0.189)	0.026	0.003
238	19.83	0.07	0.019	(0.188)	0.017	0.002
239	19.92	0.07	0.019	(0.187)	0.017	0.002
240	20.00	0.07	0.019	(0.186)	0.017	0.002
241	20.08	0.10	0.029	(0.185)	0.026	0.003
242	20.17	0.10	0.029	(0.184)	0.026	0.003
243	20.25	0.10	0.029	(0.184)	0.026	0.003
244	20.33	0.10	0.029	(0.183)	0.026	0.003
245	20.42	0.10	0.029	(0.182)	0.026	0.003
246	20.50	0.10	0.029	(0.181)	0.026	0.003
247	20.58	0.10	0.029	(0.181)	0.026	0.003
248	20.67	0.10	0.029	(0.180)	0.026	0.003
249	20.75	0.10	0.029	(0.179)	0.026	0.003
250	20.83	0.07	0.019	(0.178)	0.017	0.002
251	20.92	0.07	0.019	(0.178)	0.017	0.002
252	21.00	0.07	0.019	(0.177)	0.017	0.002
253	21.08	0.10	0.029	(0.176)	0.026	0.003
254	21.17	0.10	0.029	(0.175)	0.026	0.003
255	21.25	0.10	0.029	(0.175)	0.026	0.003
256	21.33	0.07	0.019	(0.174)	0.017	0.002
257	21.42	0.07	0.019	(0.173)	0.017	0.002
258	21.50	0.07	0.019	(0.173)	0.017	0.002
259	21.58	0.10	0.029	(0.172)	0.026	0.003
260	21.67	0.10	0.029	(0.172)	0.026	0.003
261	21.75	0.10	0.029	(0.171)	0.026	0.003
262	21.83	0.07	0.019	(0.170)	0.017	0.002
263	21.92	0.07	0.019	(0.170)	0.017	0.002
264	22.00	0.07	0.019	(0.169)	0.017	0.002
265	22.08	0.10	0.029	(0.169)	0.026	0.003
266	22.17	0.10	0.029	(0.168)	0.026	0.003
267	22.25	0.10	0.029	(0.168)	0.026	0.003
268	22.33	0.07	0.019	(0.167)	0.017	0.002

```
269  22.42     0.07      0.019       (  0.167)       0.017        0.002
270  22.50     0.07      0.019       (  0.166)       0.017        0.002
271  22.58     0.07      0.019       (  0.166)       0.017        0.002
272  22.67     0.07      0.019       (  0.165)       0.017        0.002
273  22.75     0.07      0.019       (  0.165)       0.017        0.002
274  22.83     0.07      0.019       (  0.164)       0.017        0.002
275  22.92     0.07      0.019       (  0.164)       0.017        0.002
276  23.00     0.07      0.019       (  0.163)       0.017        0.002
277  23.08     0.07      0.019       (  0.163)       0.017        0.002
278  23.17     0.07      0.019       (  0.163)       0.017        0.002
279  23.25     0.07      0.019       (  0.162)       0.017        0.002
280  23.33     0.07      0.019       (  0.162)       0.017        0.002
281  23.42     0.07      0.019       (  0.162)       0.017        0.002
282  23.50     0.07      0.019       (  0.161)       0.017        0.002
283  23.58     0.07      0.019       (  0.161)       0.017        0.002
284  23.67     0.07      0.019       (  0.161)       0.017        0.002
285  23.75     0.07      0.019       (  0.161)       0.017        0.002
286  23.83     0.07      0.019       (  0.160)       0.017        0.002
287  23.92     0.07      0.019       (  0.160)       0.017        0.002
288  24.00     0.07      0.019       (  0.160)       0.017        0.002
               (Loss Rate Not Used)
    Sum =     100.0                                  Sum =     3.0
      Flood volume = Effective rainfall      0.25(In)
       times area      11.8(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
      Total soil loss =      2.15(In)
      Total soil loss =     2.116(Ac.Ft)
      Total rainfall =      2.40(In)
      Flood volume =       10617.1 Cubic Feet
      Total soil loss =       92182.2 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      0.595(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                 Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0000      0.00  Q          |         |         |         |
   0+10       0.0001      0.02  Q          |         |         |         |
   0+15       0.0003      0.02  Q          |         |         |         |
   0+20       0.0004      0.02  Q          |         |         |         |
   0+25       0.0007      0.03  Q          |         |         |         |
   0+30       0.0009      0.03  Q          |         |         |         |
   0+35       0.0011      0.03  Q          |         |         |         |
   0+40       0.0013      0.03  Q          |         |         |         |
   0+45       0.0016      0.03  Q          |         |         |         |
   0+50       0.0018      0.04  Q          |         |         |         |
   0+55       0.0021      0.04  Q          |         |         |         |
   1+ 0       0.0024      0.04  Q          |         |         |         |
   1+ 5       0.0027      0.04  Q          |         |         |         |
   1+10       0.0030      0.04  Q          |         |         |         |
   1+15       0.0032      0.04  Q          |         |         |         |
   1+20       0.0035      0.03  Q          |         |         |         |
   1+25       0.0037      0.03  Q          |         |         |         |
   1+30       0.0039      0.03  Q          |         |         |         |
   1+35       0.0042      0.03  Q          |         |         |         |
   1+40       0.0044      0.03  Q          |         |         |         |
   1+45       0.0047      0.03  Q          |         |         |         |
   1+50       0.0049      0.04  Q          |         |         |         |
   1+55       0.0052      0.04  Q          |         |         |         |
   2+ 0       0.0055      0.04  Q          |         |         |         |
   2+ 5       0.0058      0.05  Q          |         |         |         |
   2+10       0.0061      0.05  QV         |         |         |         |
   2+15       0.0064      0.05  QV         |         |         |         |
   2+20       0.0068      0.05  QV         |         |         |         |
   2+25       0.0071      0.05  QV         |         |         |         |
   2+30       0.0074      0.05  QV         |         |         |         |
   2+35       0.0077      0.05  QV         |         |         |         |
   2+40       0.0081      0.05  QV         |         |         |         |
   2+45       0.0085      0.06  QV         |         |         |         |
   2+50       0.0089      0.06  QV         |         |         |         |
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2+55       0.0092      0.06  QV        |         |         |         |
3+ 0       0.0096      0.06  QV        |         |         |         |
3+ 5       0.0100      0.06  QV        |         |         |         |
3+10       0.0104      0.06  QV        |         |         |         |
3+15       0.0108      0.06  QV        |         |         |         |
3+20       0.0112      0.06  QV        |         |         |         |
3+25       0.0116      0.06  QV        |         |         |         |
3+30       0.0120      0.06  QV        |         |         |         |
3+35       0.0124      0.06  Q V       |         |         |         |
3+40       0.0128      0.06  Q V       |         |         |         |
3+45       0.0132      0.06  Q V       |         |         |         |
3+50       0.0136      0.06  Q V       |         |         |         |
3+55       0.0140      0.07  Q V       |         |         |         |
4+ 0       0.0145      0.07  Q V       |         |         |         |
4+ 5       0.0150      0.07  Q V       |         |         |         |
4+10       0.0154      0.07  Q V       |         |         |         |
4+15       0.0159      0.07  Q V       |         |         |         |
4+20       0.0164      0.07  Q V       |         |         |         |
4+25       0.0169      0.08  Q V       |         |         |         |
4+30       0.0175      0.08  Q V       |         |         |         |
4+35       0.0180      0.08  Q V       |         |         |         |
4+40       0.0186      0.08  Q  V      |         |         |         |
4+45       0.0191      0.08  Q  V      |         |         |         |
4+50       0.0197      0.08  Q  V      |         |         |         |
4+55       0.0203      0.09  Q  V      |         |         |         |
5+ 0       0.0209      0.09  Q  V      |         |         |         |
5+ 5       0.0215      0.09  Q  V      |         |         |         |
5+10       0.0220      0.07  Q  V      |         |         |         |
5+15       0.0225      0.07  Q  V      |         |         |         |
5+20       0.0230      0.07  Q  V      |         |         |         |
5+25       0.0235      0.08  Q  V      |         |         |         |
5+30       0.0241      0.08  Q  V      |         |         |         |
5+35       0.0246      0.08  Q   V     |         |         |         |
5+40       0.0252      0.09  Q   V     |         |         |         |
5+45       0.0259      0.09  Q   V     |         |         |         |
5+50       0.0265      0.09  Q   V     |         |         |         |
5+55       0.0271      0.09  Q   V     |         |         |         |
6+ 0       0.0277      0.09  Q   V     |         |         |         |
6+ 5       0.0284      0.09  Q   V     |         |         |         |
6+10       0.0291      0.10  Q   V     |         |         |         |
6+15       0.0298      0.10  Q   V     |         |         |         |
6+20       0.0305      0.10  Q    V    |         |         |         |
6+25       0.0312      0.10  Q    V    |         |         |         |
6+30       0.0319      0.10  Q    V    |         |         |         |
6+35       0.0326      0.10  Q    V    |         |         |         |
6+40       0.0334      0.11  Q    V    |         |         |         |
6+45       0.0342      0.11  Q    V    |         |         |         |
6+50       0.0349      0.11  Q    V    |         |         |         |
6+55       0.0357      0.11  Q    V    |         |         |         |
7+ 0       0.0365      0.11  Q    V    |         |         |         |
7+ 5       0.0373      0.11  Q     V   |         |         |         |
7+10       0.0381      0.11  Q     V   |         |         |         |
7+15       0.0389      0.11  Q     V   |         |         |         |
7+20       0.0397      0.12  Q     V   |         |         |         |
7+25       0.0405      0.12  Q     V   |         |         |         |
7+30       0.0414      0.12  Q     V   |         |         |         |
7+35       0.0422      0.13  Q     V   |         |         |         |
7+40       0.0432      0.13  Q      V  |         |         |         |
7+45       0.0441      0.14  Q      V  |         |         |         |
7+50       0.0451      0.14  Q      V  |         |         |         |
7+55       0.0461      0.15  Q      V  |         |         |         |
8+ 0       0.0471      0.15  Q      V  |         |         |         |
8+ 5       0.0481      0.15  Q      V  |         |         |         |
8+10       0.0492      0.16  Q       V |         |         |         |
8+15       0.0504      0.17  Q       V |         |         |         |
8+20       0.0516      0.17  Q       V |         |         |         |
8+25       0.0528      0.17  Q       V |         |         |         |
8+30       0.0539      0.17  Q       V |         |         |         |
8+35       0.0551      0.17  Q        V|         |         |         |
8+40       0.0564      0.18  Q        V|         |         |         |
8+45       0.0576      0.18  Q        V|         |         |         |
8+50       0.0589      0.18  Q        V|         |         |         |
8+55       0.0602      0.19  Q        V|         |         |         |
9+ 0       0.0615      0.19  Q         V        |         |         |
9+ 5       0.0629      0.20  Q         V        |         |         |
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15+25	0.2080	0.27	|Q	|	|	|	V |
15+30	0.2098	0.26	|Q	|	|	|	V |
15+35	0.2115	0.26	|Q	|	|	|	V |
15+40	0.2131	0.23	Q	|	|	|	V |
15+45	0.2147	0.22	Q	|	|	|	V |
15+50	0.2162	0.22	Q	|	|	|	V |
15+55	0.2177	0.22	Q	|	|	|	V |
16+ 0	0.2192	0.22	Q	|	|	|	V |
16+ 5	0.2205	0.19	Q	|	|	|	V |
16+10	0.2211	0.09	Q	|	|	|	V |
16+15	0.2216	0.06	Q	|	|	|	V |
16+20	0.2219	0.05	Q	|	|	|	V |
16+25	0.2222	0.05	Q	|	|	|	V |
16+30	0.2226	0.05	Q	|	|	|	V |
16+35	0.2229	0.04	Q	|	|	|	V |
16+40	0.2231	0.04	Q	|	|	|	V |
16+45	0.2234	0.04	Q	|	|	|	V |
16+50	0.2236	0.03	Q	|	|	|	V |
16+55	0.2238	0.03	Q	|	|	|	V |
17+ 0	0.2241	0.03	Q	|	|	|	V |
17+ 5	0.2243	0.04	Q	|	|	|	V |
17+10	0.2247	0.05	Q	|	|	|	V |
17+15	0.2251	0.05	Q	|	|	|	V |
17+20	0.2255	0.06	Q	|	|	|	V |
17+25	0.2258	0.06	Q	|	|	|	V |
17+30	0.2262	0.06	Q	|	|	|	V |
17+35	0.2266	0.06	Q	|	|	|	V |
17+40	0.2270	0.06	Q	|	|	|	V |
17+45	0.2274	0.06	Q	|	|	|	V |
17+50	0.2278	0.06	Q	|	|	|	V |
17+55	0.2281	0.05	Q	|	|	|	V |
18+ 0	0.2285	0.05	Q	|	|	|	V |
18+ 5	0.2288	0.05	Q	|	|	|	V |
18+10	0.2291	0.05	Q	|	|	|	V |
18+15	0.2294	0.05	Q	|	|	|	V |
18+20	0.2297	0.05	Q	|	|	|	V |
18+25	0.2300	0.05	Q	|	|	|	V |
18+30	0.2303	0.05	Q	|	|	|	V |
18+35	0.2307	0.04	Q	|	|	|	V |
18+40	0.2309	0.04	Q	|	|	|	V |
18+45	0.2312	0.04	Q	|	|	|	V |
18+50	0.2314	0.03	Q	|	|	|	V |
18+55	0.2316	0.03	Q	|	|	|	V |
19+ 0	0.2317	0.02	Q	|	|	|	V |
19+ 5	0.2319	0.03	Q	|	|	|	V |
19+10	0.2321	0.03	Q	|	|	|	V |
19+15	0.2323	0.03	Q	|	|	|	V |
19+20	0.2326	0.04	Q	|	|	|	V |
19+25	0.2329	0.04	Q	|	|	|	V |
19+30	0.2332	0.04	Q	|	|	|	V |
19+35	0.2335	0.04	Q	|	|	|	V |
19+40	0.2337	0.04	Q	|	|	|	V |
19+45	0.2340	0.04	Q	|	|	|	V |
19+50	0.2342	0.03	Q	|	|	|	V |
19+55	0.2344	0.03	Q	|	|	|	V |
20+ 0	0.2346	0.02	Q	|	|	|	V |
20+ 5	0.2347	0.03	Q	|	|	|	V |
20+10	0.2349	0.03	Q	|	|	|	V |
20+15	0.2352	0.03	Q	|	|	|	V |
20+20	0.2354	0.03	Q	|	|	|	V |
20+25	0.2356	0.03	Q	|	|	|	V |
20+30	0.2359	0.03	Q	|	|	|	V |
20+35	0.2361	0.03	Q	|	|	|	V |
20+40	0.2363	0.03	Q	|	|	|	V |
20+45	0.2366	0.03	Q	|	|	|	V |
20+50	0.2368	0.03	Q	|	|	|	V |
20+55	0.2370	0.03	Q	|	|	|	V |
21+ 0	0.2372	0.02	Q	|	|	|	V |
21+ 5	0.2373	0.03	Q	|	|	|	V |
21+10	0.2375	0.03	Q	|	|	|	V |
21+15	0.2378	0.03	Q	|	|	|	V|
21+20	0.2380	0.03	Q	|	|	|	V|
21+25	0.2382	0.03	Q	|	|	|	V|
21+30	0.2383	0.02	Q	|	|	|	V|
21+35	0.2385	0.03	Q	|	|	|	V|

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  21+40       0.2387      0.03  Q          |          |          |          v|
  21+45       0.2390      0.03  Q          |          |          |          v|
  21+50       0.2392      0.03  Q          |          |          |          v|
  21+55       0.2393      0.03  Q          |          |          |          v|
  22+ 0       0.2395      0.02  Q          |          |          |          v|
  22+ 5       0.2397      0.03  Q          |          |          |          v|
  22+10       0.2399      0.03  Q          |          |          |          v|
  22+15       0.2401      0.03  Q          |          |          |          v|
  22+20       0.2404      0.03  Q          |          |          |          v|
  22+25       0.2405      0.03  Q          |          |          |          v|
  22+30       0.2407      0.02  Q          |          |          |          v|
  22+35       0.2409      0.02  Q          |          |          |          v|
  22+40       0.2410      0.02  Q          |          |          |          v|
  22+45       0.2412      0.02  Q          |          |          |          v|
  22+50       0.2413      0.02  Q          |          |          |          v|
  22+55       0.2415      0.02  Q          |          |          |          v|
  23+ 0       0.2416      0.02  Q          |          |          |          v|
  23+ 5       0.2418      0.02  Q          |          |          |          v|
  23+10       0.2420      0.02  Q          |          |          |          v|
  23+15       0.2421      0.02  Q          |          |          |          v|
  23+20       0.2423      0.02  Q          |          |          |          v|
  23+25       0.2424      0.02  Q          |          |          |          v|
  23+30       0.2426      0.02  Q          |          |          |          v|
  23+35       0.2427      0.02  Q          |          |          |          v|
  23+40       0.2429      0.02  Q          |          |          |          v|
  23+45       0.2431      0.02  Q          |          |          |          v|
  23+50       0.2432      0.02  Q          |          |          |          v|
  23+55       0.2434      0.02  Q          |          |          |          v|
  24+ 0       0.2435      0.02  Q          |          |          |          v|
  24+ 5       0.2437      0.02  Q          |          |          |          v|
  24+10       0.2437      0.01  Q          |          |          |          v|
  24+15       0.2437      0.00  Q          |          |          |          v|
  24+20       0.2437      0.00  Q          |          |          |          v|
  24+25       0.2437      0.00  Q          |          |          |          v|
  24+30       0.2437      0.00  Q          |          |          |          v|
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PROPOSED CONDITION UNIT HYDROGRAPHS (2-YEAR, 24-HOUR STORM)

U n i t H y d r o g r a p h A n a l y s i s

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Study date 11/08/21 File: PROP2YRC1242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 4010

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

BCCOV AREA C1 PROPOSED CONDITION
2 YEAR STORM EVENT
21-0034
2021-11-08 EP

Drainage Area = 11.20(Ac.) = 0.017 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 11.20(Ac.) = 0.017 Sq. Mi.
Length along longest watercourse = 1821.00(Ft.)
Length along longest watercourse measured to centroid = 683.00(Ft.)
Length along longest watercourse = 0.345 Mi.
Length along longest watercourse measured to centroid = 0.129 Mi.
Difference in elevation = 29.30(Ft.)
Slope along watercourse = 84.9555 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.047 Hr.
Lag time = 2.85 Min.
25% of lag time = 0.71 Min.
40% of lag time = 1.14 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
11.20	2.40	26.88

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
11.20	6.20	69.44

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.200(In)

Point rain (area averaged) = 2.400(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.400(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
11.200	67.60	0.850

Total Area Entered = 11.20(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

67.6	48.1	0.590	0.850	0.139	1.000	0.139
					Sum (F) =	0.139

Area averaged mean soil loss (F) (In/Hr) = 0.139
Minimum soil loss rate ((In/Hr)) = 0.069
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.220

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	175.496	36.991	4.175
2	0.167	350.992	52.252	5.898
3	0.250	526.487	8.951	1.010
4	0.333	701.983	1.806	0.204
			Sum = 100.000 Sum=	11.288

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.019	(0.246)	0.004	0.015
2	0.17	0.07	0.019	(0.245)	0.004	0.015
3	0.25	0.07	0.019	(0.244)	0.004	0.015
4	0.33	0.10	0.029	(0.243)	0.006	0.022
5	0.42	0.10	0.029	(0.242)	0.006	0.022
6	0.50	0.10	0.029	(0.241)	0.006	0.022
7	0.58	0.10	0.029	(0.240)	0.006	0.022
8	0.67	0.10	0.029	(0.239)	0.006	0.022
9	0.75	0.10	0.029	(0.238)	0.006	0.022
10	0.83	0.13	0.038	(0.237)	0.008	0.030
11	0.92	0.13	0.038	(0.237)	0.008	0.030
12	1.00	0.13	0.038	(0.236)	0.008	0.030
13	1.08	0.10	0.029	(0.235)	0.006	0.022
14	1.17	0.10	0.029	(0.234)	0.006	0.022
15	1.25	0.10	0.029	(0.233)	0.006	0.022
16	1.33	0.10	0.029	(0.232)	0.006	0.022
17	1.42	0.10	0.029	(0.231)	0.006	0.022
18	1.50	0.10	0.029	(0.230)	0.006	0.022
19	1.58	0.10	0.029	(0.229)	0.006	0.022
20	1.67	0.10	0.029	(0.228)	0.006	0.022
21	1.75	0.10	0.029	(0.227)	0.006	0.022
22	1.83	0.13	0.038	(0.226)	0.008	0.030
23	1.92	0.13	0.038	(0.225)	0.008	0.030
24	2.00	0.13	0.038	(0.225)	0.008	0.030
25	2.08	0.13	0.038	(0.224)	0.008	0.030
26	2.17	0.13	0.038	(0.223)	0.008	0.030
27	2.25	0.13	0.038	(0.222)	0.008	0.030
28	2.33	0.13	0.038	(0.221)	0.008	0.030
29	2.42	0.13	0.038	(0.220)	0.008	0.030
30	2.50	0.13	0.038	(0.219)	0.008	0.030
31	2.58	0.17	0.048	(0.218)	0.011	0.037
32	2.67	0.17	0.048	(0.217)	0.011	0.037
33	2.75	0.17	0.048	(0.216)	0.011	0.037
34	2.83	0.17	0.048	(0.216)	0.011	0.037
35	2.92	0.17	0.048	(0.215)	0.011	0.037
36	3.00	0.17	0.048	(0.214)	0.011	0.037
37	3.08	0.17	0.048	(0.213)	0.011	0.037
38	3.17	0.17	0.048	(0.212)	0.011	0.037
39	3.25	0.17	0.048	(0.211)	0.011	0.037
40	3.33	0.17	0.048	(0.210)	0.011	0.037
41	3.42	0.17	0.048	(0.209)	0.011	0.037
42	3.50	0.17	0.048	(0.208)	0.011	0.037
43	3.58	0.17	0.048	(0.208)	0.011	0.037
44	3.67	0.17	0.048	(0.207)	0.011	0.037
45	3.75	0.17	0.048	(0.206)	0.011	0.037
46	3.83	0.20	0.058	(0.205)	0.013	0.045

47	3.92	0.20	0.058	(0.204)	0.013	0.045
48	4.00	0.20	0.058	(0.203)	0.013	0.045
49	4.08	0.20	0.058	(0.202)	0.013	0.045
50	4.17	0.20	0.058	(0.202)	0.013	0.045
51	4.25	0.20	0.058	(0.201)	0.013	0.045
52	4.33	0.23	0.067	(0.200)	0.015	0.052
53	4.42	0.23	0.067	(0.199)	0.015	0.052
54	4.50	0.23	0.067	(0.198)	0.015	0.052
55	4.58	0.23	0.067	(0.197)	0.015	0.052
56	4.67	0.23	0.067	(0.196)	0.015	0.052
57	4.75	0.23	0.067	(0.196)	0.015	0.052
58	4.83	0.27	0.077	(0.195)	0.017	0.060
59	4.92	0.27	0.077	(0.194)	0.017	0.060
60	5.00	0.27	0.077	(0.193)	0.017	0.060
61	5.08	0.20	0.058	(0.192)	0.013	0.045
62	5.17	0.20	0.058	(0.191)	0.013	0.045
63	5.25	0.20	0.058	(0.191)	0.013	0.045
64	5.33	0.23	0.067	(0.190)	0.015	0.052
65	5.42	0.23	0.067	(0.189)	0.015	0.052
66	5.50	0.23	0.067	(0.188)	0.015	0.052
67	5.58	0.27	0.077	(0.187)	0.017	0.060
68	5.67	0.27	0.077	(0.186)	0.017	0.060
69	5.75	0.27	0.077	(0.186)	0.017	0.060
70	5.83	0.27	0.077	(0.185)	0.017	0.060
71	5.92	0.27	0.077	(0.184)	0.017	0.060
72	6.00	0.27	0.077	(0.183)	0.017	0.060
73	6.08	0.30	0.086	(0.182)	0.019	0.067
74	6.17	0.30	0.086	(0.182)	0.019	0.067
75	6.25	0.30	0.086	(0.181)	0.019	0.067
76	6.33	0.30	0.086	(0.180)	0.019	0.067
77	6.42	0.30	0.086	(0.179)	0.019	0.067
78	6.50	0.30	0.086	(0.178)	0.019	0.067
79	6.58	0.33	0.096	(0.177)	0.021	0.075
80	6.67	0.33	0.096	(0.177)	0.021	0.075
81	6.75	0.33	0.096	(0.176)	0.021	0.075
82	6.83	0.33	0.096	(0.175)	0.021	0.075
83	6.92	0.33	0.096	(0.174)	0.021	0.075
84	7.00	0.33	0.096	(0.174)	0.021	0.075
85	7.08	0.33	0.096	(0.173)	0.021	0.075
86	7.17	0.33	0.096	(0.172)	0.021	0.075
87	7.25	0.33	0.096	(0.171)	0.021	0.075
88	7.33	0.37	0.106	(0.170)	0.023	0.082
89	7.42	0.37	0.106	(0.170)	0.023	0.082
90	7.50	0.37	0.106	(0.169)	0.023	0.082
91	7.58	0.40	0.115	(0.168)	0.025	0.090
92	7.67	0.40	0.115	(0.167)	0.025	0.090
93	7.75	0.40	0.115	(0.167)	0.025	0.090
94	7.83	0.43	0.125	(0.166)	0.027	0.097
95	7.92	0.43	0.125	(0.165)	0.027	0.097
96	8.00	0.43	0.125	(0.164)	0.027	0.097
97	8.08	0.50	0.144	(0.163)	0.032	0.112
98	8.17	0.50	0.144	(0.163)	0.032	0.112
99	8.25	0.50	0.144	(0.162)	0.032	0.112
100	8.33	0.50	0.144	(0.161)	0.032	0.112
101	8.42	0.50	0.144	(0.160)	0.032	0.112
102	8.50	0.50	0.144	(0.160)	0.032	0.112
103	8.58	0.53	0.154	(0.159)	0.034	0.120
104	8.67	0.53	0.154	(0.158)	0.034	0.120
105	8.75	0.53	0.154	(0.157)	0.034	0.120
106	8.83	0.57	0.163	(0.157)	0.036	0.127
107	8.92	0.57	0.163	(0.156)	0.036	0.127
108	9.00	0.57	0.163	(0.155)	0.036	0.127
109	9.08	0.63	0.182	(0.154)	0.040	0.142
110	9.17	0.63	0.182	(0.154)	0.040	0.142
111	9.25	0.63	0.182	(0.153)	0.040	0.142
112	9.33	0.67	0.192	(0.152)	0.042	0.150
113	9.42	0.67	0.192	(0.152)	0.042	0.150
114	9.50	0.67	0.192	(0.151)	0.042	0.150
115	9.58	0.70	0.202	(0.150)	0.044	0.157
116	9.67	0.70	0.202	(0.149)	0.044	0.157
117	9.75	0.70	0.202	(0.149)	0.044	0.157
118	9.83	0.73	0.211	(0.148)	0.046	0.165
119	9.92	0.73	0.211	(0.147)	0.046	0.165
120	10.00	0.73	0.211	(0.147)	0.046	0.165
121	10.08	0.50	0.144	(0.146)	0.032	0.112

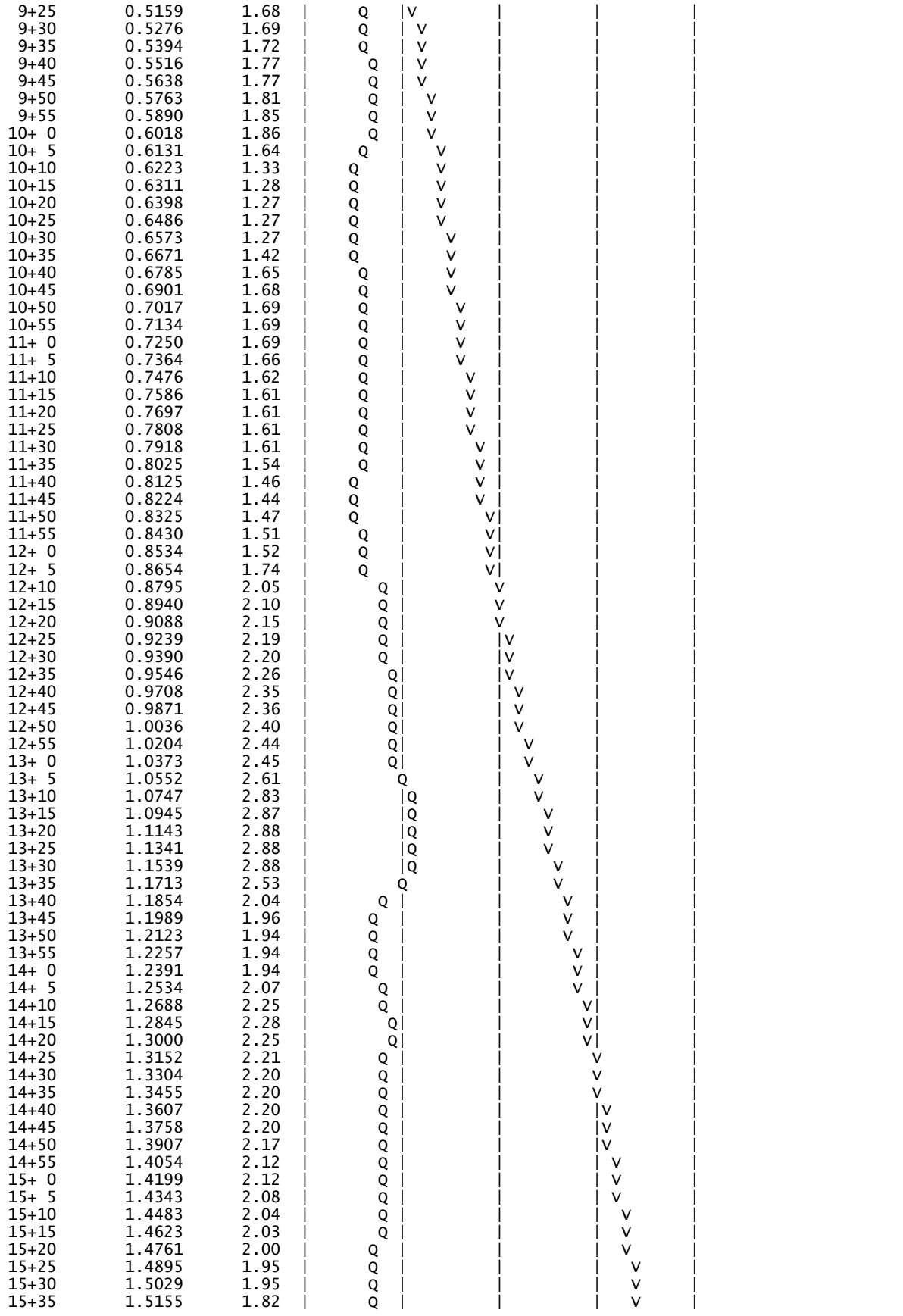
122	10.17	0.50	0.144	(0.145)	0.032	0.112
123	10.25	0.50	0.144	(0.144)	0.032	0.112
124	10.33	0.50	0.144	(0.144)	0.032	0.112
125	10.42	0.50	0.144	(0.143)	0.032	0.112
126	10.50	0.50	0.144	(0.142)	0.032	0.112
127	10.58	0.67	0.192	(0.142)	0.042	0.150
128	10.67	0.67	0.192	(0.141)	0.042	0.150
129	10.75	0.67	0.192	(0.140)	0.042	0.150
130	10.83	0.67	0.192	(0.140)	0.042	0.150
131	10.92	0.67	0.192	(0.139)	0.042	0.150
132	11.00	0.67	0.192	(0.138)	0.042	0.150
133	11.08	0.63	0.182	(0.137)	0.040	0.142
134	11.17	0.63	0.182	(0.137)	0.040	0.142
135	11.25	0.63	0.182	(0.136)	0.040	0.142
136	11.33	0.63	0.182	(0.135)	0.040	0.142
137	11.42	0.63	0.182	(0.135)	0.040	0.142
138	11.50	0.63	0.182	(0.134)	0.040	0.142
139	11.58	0.57	0.163	(0.133)	0.036	0.127
140	11.67	0.57	0.163	(0.133)	0.036	0.127
141	11.75	0.57	0.163	(0.132)	0.036	0.127
142	11.83	0.60	0.173	(0.131)	0.038	0.135
143	11.92	0.60	0.173	(0.131)	0.038	0.135
144	12.00	0.60	0.173	(0.130)	0.038	0.135
145	12.08	0.83	0.240	(0.130)	0.053	0.187
146	12.17	0.83	0.240	(0.129)	0.053	0.187
147	12.25	0.83	0.240	(0.128)	0.053	0.187
148	12.33	0.87	0.250	(0.128)	0.055	0.195
149	12.42	0.87	0.250	(0.127)	0.055	0.195
150	12.50	0.87	0.250	(0.126)	0.055	0.195
151	12.58	0.93	0.269	(0.126)	0.059	0.210
152	12.67	0.93	0.269	(0.125)	0.059	0.210
153	12.75	0.93	0.269	(0.124)	0.059	0.210
154	12.83	0.97	0.278	(0.124)	0.061	0.217
155	12.92	0.97	0.278	(0.123)	0.061	0.217
156	13.00	0.97	0.278	(0.123)	0.061	0.217
157	13.08	1.13	0.326	(0.122)	0.072	0.255
158	13.17	1.13	0.326	(0.121)	0.072	0.255
159	13.25	1.13	0.326	(0.121)	0.072	0.255
160	13.33	1.13	0.326	(0.120)	0.072	0.255
161	13.42	1.13	0.326	(0.119)	0.072	0.255
162	13.50	1.13	0.326	(0.119)	0.072	0.255
163	13.58	0.77	0.221	(0.118)	0.049	0.172
164	13.67	0.77	0.221	(0.118)	0.049	0.172
165	13.75	0.77	0.221	(0.117)	0.049	0.172
166	13.83	0.77	0.221	(0.116)	0.049	0.172
167	13.92	0.77	0.221	(0.116)	0.049	0.172
168	14.00	0.77	0.221	(0.115)	0.049	0.172
169	14.08	0.90	0.259	(0.115)	0.057	0.202
170	14.17	0.90	0.259	(0.114)	0.057	0.202
171	14.25	0.90	0.259	(0.113)	0.057	0.202
172	14.33	0.87	0.250	(0.113)	0.055	0.195
173	14.42	0.87	0.250	(0.112)	0.055	0.195
174	14.50	0.87	0.250	(0.112)	0.055	0.195
175	14.58	0.87	0.250	(0.111)	0.055	0.195
176	14.67	0.87	0.250	(0.111)	0.055	0.195
177	14.75	0.87	0.250	(0.110)	0.055	0.195
178	14.83	0.83	0.240	(0.109)	0.053	0.187
179	14.92	0.83	0.240	(0.109)	0.053	0.187
180	15.00	0.83	0.240	(0.108)	0.053	0.187
181	15.08	0.80	0.230	(0.108)	0.051	0.180
182	15.17	0.80	0.230	(0.107)	0.051	0.180
183	15.25	0.80	0.230	(0.107)	0.051	0.180
184	15.33	0.77	0.221	(0.106)	0.049	0.172
185	15.42	0.77	0.221	(0.106)	0.049	0.172
186	15.50	0.77	0.221	(0.105)	0.049	0.172
187	15.58	0.63	0.182	(0.105)	0.040	0.142
188	15.67	0.63	0.182	(0.104)	0.040	0.142
189	15.75	0.63	0.182	(0.103)	0.040	0.142
190	15.83	0.63	0.182	(0.103)	0.040	0.142
191	15.92	0.63	0.182	(0.102)	0.040	0.142
192	16.00	0.63	0.182	(0.102)	0.040	0.142
193	16.08	0.13	0.038	(0.101)	0.008	0.030
194	16.17	0.13	0.038	(0.101)	0.008	0.030
195	16.25	0.13	0.038	(0.100)	0.008	0.030
196	16.33	0.13	0.038	(0.100)	0.008	0.030

197	16.42	0.13	0.038	(0.099)	0.008	0.030
198	16.50	0.13	0.038	(0.099)	0.008	0.030
199	16.58	0.10	0.029	(0.098)	0.006	0.022
200	16.67	0.10	0.029	(0.098)	0.006	0.022
201	16.75	0.10	0.029	(0.097)	0.006	0.022
202	16.83	0.10	0.029	(0.097)	0.006	0.022
203	16.92	0.10	0.029	(0.096)	0.006	0.022
204	17.00	0.10	0.029	(0.096)	0.006	0.022
205	17.08	0.17	0.048	(0.095)	0.011	0.037
206	17.17	0.17	0.048	(0.095)	0.011	0.037
207	17.25	0.17	0.048	(0.094)	0.011	0.037
208	17.33	0.17	0.048	(0.094)	0.011	0.037
209	17.42	0.17	0.048	(0.093)	0.011	0.037
210	17.50	0.17	0.048	(0.093)	0.011	0.037
211	17.58	0.17	0.048	(0.093)	0.011	0.037
212	17.67	0.17	0.048	(0.092)	0.011	0.037
213	17.75	0.17	0.048	(0.092)	0.011	0.037
214	17.83	0.13	0.038	(0.091)	0.008	0.030
215	17.92	0.13	0.038	(0.091)	0.008	0.030
216	18.00	0.13	0.038	(0.090)	0.008	0.030
217	18.08	0.13	0.038	(0.090)	0.008	0.030
218	18.17	0.13	0.038	(0.089)	0.008	0.030
219	18.25	0.13	0.038	(0.089)	0.008	0.030
220	18.33	0.13	0.038	(0.088)	0.008	0.030
221	18.42	0.13	0.038	(0.088)	0.008	0.030
222	18.50	0.13	0.038	(0.088)	0.008	0.030
223	18.58	0.10	0.029	(0.087)	0.006	0.022
224	18.67	0.10	0.029	(0.087)	0.006	0.022
225	18.75	0.10	0.029	(0.086)	0.006	0.022
226	18.83	0.07	0.019	(0.086)	0.004	0.015
227	18.92	0.07	0.019	(0.086)	0.004	0.015
228	19.00	0.07	0.019	(0.085)	0.004	0.015
229	19.08	0.10	0.029	(0.085)	0.006	0.022
230	19.17	0.10	0.029	(0.084)	0.006	0.022
231	19.25	0.10	0.029	(0.084)	0.006	0.022
232	19.33	0.13	0.038	(0.084)	0.008	0.030
233	19.42	0.13	0.038	(0.083)	0.008	0.030
234	19.50	0.13	0.038	(0.083)	0.008	0.030
235	19.58	0.10	0.029	(0.082)	0.006	0.022
236	19.67	0.10	0.029	(0.082)	0.006	0.022
237	19.75	0.10	0.029	(0.082)	0.006	0.022
238	19.83	0.07	0.019	(0.081)	0.004	0.015
239	19.92	0.07	0.019	(0.081)	0.004	0.015
240	20.00	0.07	0.019	(0.081)	0.004	0.015
241	20.08	0.10	0.029	(0.080)	0.006	0.022
242	20.17	0.10	0.029	(0.080)	0.006	0.022
243	20.25	0.10	0.029	(0.080)	0.006	0.022
244	20.33	0.10	0.029	(0.079)	0.006	0.022
245	20.42	0.10	0.029	(0.079)	0.006	0.022
246	20.50	0.10	0.029	(0.078)	0.006	0.022
247	20.58	0.10	0.029	(0.078)	0.006	0.022
248	20.67	0.10	0.029	(0.078)	0.006	0.022
249	20.75	0.10	0.029	(0.078)	0.006	0.022
250	20.83	0.07	0.019	(0.077)	0.004	0.015
251	20.92	0.07	0.019	(0.077)	0.004	0.015
252	21.00	0.07	0.019	(0.077)	0.004	0.015
253	21.08	0.10	0.029	(0.076)	0.006	0.022
254	21.17	0.10	0.029	(0.076)	0.006	0.022
255	21.25	0.10	0.029	(0.076)	0.006	0.022
256	21.33	0.07	0.019	(0.075)	0.004	0.015
257	21.42	0.07	0.019	(0.075)	0.004	0.015
258	21.50	0.07	0.019	(0.075)	0.004	0.015
259	21.58	0.10	0.029	(0.075)	0.006	0.022
260	21.67	0.10	0.029	(0.074)	0.006	0.022
261	21.75	0.10	0.029	(0.074)	0.006	0.022
262	21.83	0.07	0.019	(0.074)	0.004	0.015
263	21.92	0.07	0.019	(0.074)	0.004	0.015
264	22.00	0.07	0.019	(0.073)	0.004	0.015
265	22.08	0.10	0.029	(0.073)	0.006	0.022
266	22.17	0.10	0.029	(0.073)	0.006	0.022
267	22.25	0.10	0.029	(0.073)	0.006	0.022
268	22.33	0.07	0.019	(0.072)	0.004	0.015
269	22.42	0.07	0.019	(0.072)	0.004	0.015
270	22.50	0.07	0.019	(0.072)	0.004	0.015
271	22.58	0.07	0.019	(0.072)	0.004	0.015

```
272  22.67     0.07      0.019       (  0.071)       0.004        0.015
273  22.75     0.07      0.019       (  0.071)       0.004        0.015
274  22.83     0.07      0.019       (  0.071)       0.004        0.015
275  22.92     0.07      0.019       (  0.071)       0.004        0.015
276  23.00     0.07      0.019       (  0.071)       0.004        0.015
277  23.08     0.07      0.019       (  0.071)       0.004        0.015
278  23.17     0.07      0.019       (  0.070)       0.004        0.015
279  23.25     0.07      0.019       (  0.070)       0.004        0.015
280  23.33     0.07      0.019       (  0.070)       0.004        0.015
281  23.42     0.07      0.019       (  0.070)       0.004        0.015
282  23.50     0.07      0.019       (  0.070)       0.004        0.015
283  23.58     0.07      0.019       (  0.070)       0.004        0.015
284  23.67     0.07      0.019       (  0.070)       0.004        0.015
285  23.75     0.07      0.019       (  0.070)       0.004        0.015
286  23.83     0.07      0.019       (  0.069)       0.004        0.015
287  23.92     0.07      0.019       (  0.069)       0.004        0.015
288  24.00     0.07      0.019       (  0.069)       0.004        0.015
                (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    22.5
      Flood volume = Effective rainfall      1.87(In)
       times area      11.2(Ac.)/[(In)/(Ft.)] =       1.7(Ac.Ft)
      Total soil loss =      0.53(In)
      Total soil loss =     0.493(Ac.Ft)
      Total rainfall =      2.40(In)
      Flood volume =       76106.4 Cubic Feet
      Total soil loss =       21465.9 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      2.875(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0004      0.06  Q         |         |         |         |
   0+10       0.0015      0.15  Q         |         |         |         |
   0+15       0.0026      0.17  Q         |         |         |         |
   0+20       0.0040      0.20  Q         |         |         |         |
   0+25       0.0057      0.24  Q         |         |         |         |
   0+30       0.0074      0.25  VQ        |         |         |         |
   0+35       0.0092      0.25  VQ        |         |         |         |
   0+40       0.0109      0.25  VQ        |         |         |         |
   0+45       0.0127      0.25  VQ        |         |         |         |
   0+50       0.0146      0.28  VQ        |         |         |         |
   0+55       0.0169      0.33  VQ        |         |         |         |
   1+ 0       0.0192      0.34  VQ        |         |         |         |
   1+ 5       0.0213      0.31  VQ        |         |         |         |
   1+10       0.0231      0.26  VQ        |         |         |         |
   1+15       0.0249      0.26  VQ        |         |         |         |
   1+20       0.0266      0.25  VQ        |         |         |         |
   1+25       0.0284      0.25  VQ        |         |         |         |
   1+30       0.0301      0.25  VQ        |         |         |         |
   1+35       0.0319      0.25  VQ        |         |         |         |
   1+40       0.0336      0.25  VQ        |         |         |         |
   1+45       0.0354      0.25  VQ        |         |         |         |
   1+50       0.0373      0.28  VQ        |         |         |         |
   1+55       0.0396      0.33  VQ        |         |         |         |
   2+ 0       0.0419      0.34  VQ        |         |         |         |
   2+ 5       0.0442      0.34  |Q        |         |         |         |
   2+10       0.0466      0.34  |Q        |         |         |         |
   2+15       0.0489      0.34  |Q        |         |         |         |
   2+20       0.0512      0.34  |Q        |         |         |         |
   2+25       0.0536      0.34  |Q        |         |         |         |
   2+30       0.0559      0.34  |Q        |         |         |         |
   2+35       0.0584      0.37  |Q        |         |         |         |
   2+40       0.0613      0.41  |Q        |         |         |         |
   2+45       0.0642      0.42  |Q        |         |         |         |
   2+50       0.0671      0.42  |Q        |         |         |         |
   2+55       0.0700      0.42  |Q        |         |         |         |
   3+ 0       0.0729      0.42  |Q        |         |         |         |
   3+ 5       0.0758      0.42  |Q        |         |         |         |
```

```
3+10        0.0788      0.42  |Q         |          |          |          |
3+15        0.0817      0.42  |Q         |          |          |          |
3+20        0.0846      0.42  |Q         |          |          |          |
3+25        0.0875      0.42  |QV        |          |          |          |
3+30        0.0904      0.42  |QV        |          |          |          |
3+35        0.0933      0.42  |QV        |          |          |          |
3+40        0.0962      0.42  |QV        |          |          |          |
3+45        0.0991      0.42  |QV        |          |          |          |
3+50        0.1023      0.45  |QV        |          |          |          |
3+55        0.1057      0.50  |QV        |          |          |          |
4+ 0        0.1092      0.51  | Q        |          |          |          |
4+ 5        0.1127      0.51  | Q        |          |          |          |
4+10        0.1162      0.51  | Q        |          |          |          |
4+15        0.1197      0.51  | Q        |          |          |          |
4+20        0.1234      0.54  | Q        |          |          |          |
4+25        0.1274      0.58  | Q        |          |          |          |
4+30        0.1315      0.59  | QV       |          |          |          |
4+35        0.1355      0.59  | QV       |          |          |          |
4+40        0.1396      0.59  | QV       |          |          |          |
4+45        0.1437      0.59  | QV       |          |          |          |
4+50        0.1480      0.62  | QV       |          |          |          |
4+55        0.1526      0.67  | QV       |          |          |          |
5+ 0        0.1572      0.67  | QV       |          |          |          |
5+ 5        0.1614      0.61  | QV       |          |          |          |
5+10        0.1651      0.53  | QV       |          |          |          |
5+15        0.1686      0.51  | QV       |          |          |          |
5+20        0.1723      0.54  | QV       |          |          |          |
5+25        0.1763      0.58  | Q V      |          |          |          |
5+30        0.1804      0.59  | Q V      |          |          |          |
5+35        0.1847      0.62  | Q V      |          |          |          |
5+40        0.1893      0.67  | Q V      |          |          |          |
5+45        0.1939      0.67  | Q V      |          |          |          |
5+50        0.1986      0.68  | Q V      |          |          |          |
5+55        0.2032      0.68  | Q V      |          |          |          |
6+ 0        0.2079      0.68  | Q V      |          |          |          |
6+ 5        0.2128      0.71  | Q V      |          |          |          |
6+10        0.2179      0.75  |  QV      |          |          |          |
6+15        0.2232      0.76  |  Q V     |          |          |          |
6+20        0.2284      0.76  |  Q V     |          |          |          |
6+25        0.2337      0.76  |  Q V     |          |          |          |
6+30        0.2389      0.76  |  Q V     |          |          |          |
6+35        0.2444      0.79  |  Q V     |          |          |          |
6+40        0.2501      0.84  |  Q V     |          |          |          |
6+45        0.2559      0.84  |  Q V     |          |          |          |
6+50        0.2617      0.85  |  Q V     |          |          |          |
6+55        0.2676      0.85  |  Q  V    |          |          |          |
7+ 0        0.2734      0.85  |  Q  V    |          |          |          |
7+ 5        0.2792      0.85  |  Q  V    |          |          |          |
7+10        0.2850      0.85  |  Q  V    |          |          |          |
7+15        0.2909      0.85  |  Q  V    |          |          |          |
7+20        0.2969      0.88  |  Q  V    |          |          |          |
7+25        0.3033      0.92  |  Q  V    |          |          |          |
7+30        0.3096      0.93  |  Q   V   |          |          |          |
7+35        0.3163      0.96  |  Q   V   |          |          |          |
7+40        0.3232      1.01  |   Q  V   |          |          |          |
7+45        0.3302      1.01  |   Q  V   |          |          |          |
7+50        0.3374      1.05  |   Q  V   |          |          |          |
7+55        0.3449      1.09  |   Q  V   |          |          |          |
8+ 0        0.3524      1.10  |   Q   V  |          |          |          |
8+ 5        0.3604      1.16  |   Q   V  |          |          |          |
8+10        0.3691      1.25  |    Q  V  |          |          |          |
8+15        0.3778      1.27  |    Q  V  |          |          |          |
8+20        0.3865      1.27  |    Q  V  |          |          |          |
8+25        0.3952      1.27  |    Q   V|          |          |          |
8+30        0.4040      1.27  |    Q   V|          |          |          |
8+35        0.4129      1.30  |    Q   V|          |          |          |
8+40        0.4222      1.34  |    Q   V|          |          |          |
8+45        0.4315      1.35  |    Q   V|          |          |          |
8+50        0.4410      1.38  |    Q    V          |          |          |
8+55        0.4509      1.43  |    Q    V          |          |          |
9+ 0        0.4608      1.44  |    Q    V          |          |          |
9+ 5        0.4711      1.50  |     Q   V          |          |          |
9+10        0.4820      1.59  |     Q   |V         |          |          |
9+15        0.4931      1.60  |     Q   |V         |          |          |
9+20        0.5044      1.64  |     Q   |V         |          |          |
```



15+40	1.5268	1.64	| Q	|	|	| V	|
15+45	1.5379	1.61	| Q	|	|	| V	|
15+50	1.5489	1.61	| Q	|	|	| V	|
15+55	1.5600	1.61	| Q	|	|	| V	|
16+ 0	1.5711	1.61	| Q	|	|	| V	|
16+ 5	1.5789	1.14	| Q	|	|	| V	|
16+10	1.5822	0.47	|Q	|	|	| V	|
16+15	1.5847	0.36	|Q	|	|	| V	|
16+20	1.5870	0.34	|Q	|	|	| V	|
16+25	1.5893	0.34	|Q	|	|	| V	|
16+30	1.5917	0.34	|Q	|	|	| V	|
16+35	1.5938	0.31	|Q	|	|	| V	|
16+40	1.5956	0.26	|Q	|	|	| V	|
16+45	1.5973	0.26	|Q	|	|	| V	|
16+50	1.5991	0.25	|Q	|	|	| V	|
16+55	1.6008	0.25	|Q	|	|	| V	|
17+ 0	1.6026	0.25	|Q	|	|	| V	|
17+ 5	1.6048	0.32	|Q	|	|	| V	|
17+10	1.6075	0.40	|Q	|	|	| V	|
17+15	1.6104	0.42	|Q	|	|	| V	|
17+20	1.6133	0.42	|Q	|	|	| V	|
17+25	1.6163	0.42	|Q	|	|	| V	|
17+30	1.6192	0.42	|Q	|	|	| V	|
17+35	1.6221	0.42	|Q	|	|	| V	|
17+40	1.6250	0.42	|Q	|	|	| V	|
17+45	1.6279	0.42	|Q	|	|	| V	|
17+50	1.6306	0.39	|Q	|	|	| V	|
17+55	1.6330	0.35	|Q	|	|	| V	|
18+ 0	1.6353	0.34	|Q	|	|	| V	|
18+ 5	1.6377	0.34	|Q	|	|	| V	|
18+10	1.6400	0.34	|Q	|	|	| V	|
18+15	1.6423	0.34	|Q	|	|	| V	|
18+20	1.6446	0.34	|Q	|	|	| V	|
18+25	1.6470	0.34	|Q	|	|	| V	|
18+30	1.6493	0.34	|Q	|	|	| V	|
18+35	1.6514	0.31	|Q	|	|	| V	|
18+40	1.6532	0.26	|Q	|	|	| V	|
18+45	1.6550	0.26	|Q	|	|	| V	|
18+50	1.6565	0.22	Q	|	|	| V	|
18+55	1.6577	0.18	Q	|	|	| V	|
19+ 0	1.6589	0.17	Q	|	|	| V	|
19+ 5	1.6603	0.20	Q	|	|	| V	|
19+10	1.6620	0.24	Q	|	|	| V	|
19+15	1.6637	0.25	|Q	|	|	| V	|
19+20	1.6657	0.28	|Q	|	|	| V	|
19+25	1.6680	0.33	|Q	|	|	| V	|
19+30	1.6703	0.34	|Q	|	|	| V	|
19+35	1.6724	0.31	|Q	|	|	| V	|
19+40	1.6742	0.26	|Q	|	|	| V	|
19+45	1.6760	0.26	|Q	|	|	| V	|
19+50	1.6775	0.22	Q	|	|	| V	|
19+55	1.6787	0.18	Q	|	|	| V	|
20+ 0	1.6799	0.17	Q	|	|	| V	|
20+ 5	1.6813	0.20	Q	|	|	| V	|
20+10	1.6830	0.24	Q	|	|	| V	|
20+15	1.6847	0.25	|Q	|	|	| V	|
20+20	1.6864	0.25	|Q	|	|	| V	|
20+25	1.6882	0.25	|Q	|	|	| V	|
20+30	1.6899	0.25	|Q	|	|	| V	|
20+35	1.6917	0.25	|Q	|	|	| V	|
20+40	1.6934	0.25	|Q	|	|	| V	|
20+45	1.6952	0.25	|Q	|	|	| V	|
20+50	1.6967	0.22	Q	|	|	| V	|
20+55	1.6979	0.18	Q	|	|	| V	|
21+ 0	1.6991	0.17	Q	|	|	| V	|
21+ 5	1.7005	0.20	Q	|	|	| V	|
21+10	1.7022	0.24	Q	|	|	| V	|
21+15	1.7039	0.25	|Q	|	|	| V	|
21+20	1.7054	0.22	Q	|	|	| V	|
21+25	1.7067	0.18	Q	|	|	| V	|
21+30	1.7078	0.17	Q	|	|	| V	|
21+35	1.7092	0.20	Q	|	|	| V	|
21+40	1.7109	0.24	Q	|	|	| V	|
21+45	1.7126	0.25	|Q	|	|	| V	|
21+50	1.7142	0.22	Q	|	|	| V	|

```
   21+55       1.7154      0.18  Q          |          |          |         v|
   22+ 0       1.7166      0.17  Q          |          |          |         v|
   22+ 5       1.7180      0.20  Q          |          |          |         v|
   22+10       1.7196      0.24  Q          |          |          |         v|
   22+15       1.7214      0.25  |Q         |          |          |         v|
   22+20       1.7229      0.22  Q          |          |          |         v|
   22+25       1.7241      0.18  Q          |          |          |         v|
   22+30       1.7253      0.17  Q          |          |          |         v|
   22+35       1.7265      0.17  Q          |          |          |         v|
   22+40       1.7276      0.17  Q          |          |          |         v|
   22+45       1.7288      0.17  Q          |          |          |         v|
   22+50       1.7300      0.17  Q          |          |          |         v|
   22+55       1.7311      0.17  Q          |          |          |         v|
   23+ 0       1.7323      0.17  Q          |          |          |         v|
   23+ 5       1.7335      0.17  Q          |          |          |         v|
   23+10       1.7346      0.17  Q          |          |          |         v|
   23+15       1.7358      0.17  Q          |          |          |         v|
   23+20       1.7370      0.17  Q          |          |          |         v|
   23+25       1.7381      0.17  Q          |          |          |         v|
   23+30       1.7393      0.17  Q          |          |          |         v|
   23+35       1.7405      0.17  Q          |          |          |         v|
   23+40       1.7416      0.17  Q          |          |          |         v|
   23+45       1.7428      0.17  Q          |          |          |         v|
   23+50       1.7440      0.17  Q          |          |          |         v|
   23+55       1.7451      0.17  Q          |          |          |         v|
   24+ 0       1.7463      0.17  Q          |          |          |         v|
   24+ 5       1.7470      0.11  Q          |          |          |         v|
   24+10       1.7471      0.02  Q          |          |          |         v|
   24+15       1.7472      0.00  Q          |          |          |         v|
-------------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 11/08/21 File: PROP2YRC2242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 4010

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

BCCOV AREA C2 PROPOSED CONDITION
2 YR STORM EVENT
21-0034
2021-11-08 EP

Drainage Area = 12.10(Ac.) = 0.019 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 12.10(Ac.) = 0.019 Sq. Mi.
Length along longest watercourse = 1395.00(Ft.)
Length along longest watercourse measured to centroid = 552.00(Ft.)
Length along longest watercourse = 0.264 Mi.
Length along longest watercourse measured to centroid = 0.105 Mi.
Difference in elevation = 18.00(Ft.)
Slope along watercourse = 68.1290 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.041 Hr.
Lag time = 2.48 Min.
25% of lag time = 0.62 Min.
40% of lag time = 0.99 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
12.10	2.40	29.04

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
12.10	6.20	75.02

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.200(In)

Point rain (area averaged) = 2.400(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.400(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
12.100	59.80	0.770

Total Area Entered = 12.10(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

59.8	39.8	0.672	0.770	0.206	1.000	0.206
					Sum (F) =	0.206

Area averaged mean soil loss (F) (In/Hr) = 0.206
Minimum soil loss rate ((In/Hr)) = 0.103
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.280

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	201.918	42.661	5.202
2	0.167	403.837	49.832	6.077
3	0.250	605.755	6.448	0.786
4	0.333	807.674	1.058	0.129
			Sum = 100.000 Sum=	12.195

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.019	(0.366)	0.005	0.014
2	0.17	0.07	0.019	(0.364)	0.005	0.014
3	0.25	0.07	0.019	(0.363)	0.005	0.014
4	0.33	0.10	0.029	(0.361)	0.008	0.021
5	0.42	0.10	0.029	(0.360)	0.008	0.021
6	0.50	0.10	0.029	(0.359)	0.008	0.021
7	0.58	0.10	0.029	(0.357)	0.008	0.021
8	0.67	0.10	0.029	(0.356)	0.008	0.021
9	0.75	0.10	0.029	(0.354)	0.008	0.021
10	0.83	0.13	0.038	(0.353)	0.011	0.028
11	0.92	0.13	0.038	(0.352)	0.011	0.028
12	1.00	0.13	0.038	(0.350)	0.011	0.028
13	1.08	0.10	0.029	(0.349)	0.008	0.021
14	1.17	0.10	0.029	(0.347)	0.008	0.021
15	1.25	0.10	0.029	(0.346)	0.008	0.021
16	1.33	0.10	0.029	(0.345)	0.008	0.021
17	1.42	0.10	0.029	(0.343)	0.008	0.021
18	1.50	0.10	0.029	(0.342)	0.008	0.021
19	1.58	0.10	0.029	(0.341)	0.008	0.021
20	1.67	0.10	0.029	(0.339)	0.008	0.021
21	1.75	0.10	0.029	(0.338)	0.008	0.021
22	1.83	0.13	0.038	(0.336)	0.011	0.028
23	1.92	0.13	0.038	(0.335)	0.011	0.028
24	2.00	0.13	0.038	(0.334)	0.011	0.028
25	2.08	0.13	0.038	(0.332)	0.011	0.028
26	2.17	0.13	0.038	(0.331)	0.011	0.028
27	2.25	0.13	0.038	(0.330)	0.011	0.028
28	2.33	0.13	0.038	(0.328)	0.011	0.028
29	2.42	0.13	0.038	(0.327)	0.011	0.028
30	2.50	0.13	0.038	(0.326)	0.011	0.028
31	2.58	0.17	0.048	(0.324)	0.013	0.035
32	2.67	0.17	0.048	(0.323)	0.013	0.035
33	2.75	0.17	0.048	(0.322)	0.013	0.035
34	2.83	0.17	0.048	(0.320)	0.013	0.035
35	2.92	0.17	0.048	(0.319)	0.013	0.035
36	3.00	0.17	0.048	(0.318)	0.013	0.035
37	3.08	0.17	0.048	(0.316)	0.013	0.035
38	3.17	0.17	0.048	(0.315)	0.013	0.035
39	3.25	0.17	0.048	(0.314)	0.013	0.035
40	3.33	0.17	0.048	(0.313)	0.013	0.035
41	3.42	0.17	0.048	(0.311)	0.013	0.035
42	3.50	0.17	0.048	(0.310)	0.013	0.035
43	3.58	0.17	0.048	(0.309)	0.013	0.035
44	3.67	0.17	0.048	(0.307)	0.013	0.035
45	3.75	0.17	0.048	(0.306)	0.013	0.035
46	3.83	0.20	0.058	(0.305)	0.016	0.041

47	3.92	0.20	0.058	(0.303)	0.016	0.041
48	4.00	0.20	0.058	(0.302)	0.016	0.041
49	4.08	0.20	0.058	(0.301)	0.016	0.041
50	4.17	0.20	0.058	(0.300)	0.016	0.041
51	4.25	0.20	0.058	(0.298)	0.016	0.041
52	4.33	0.23	0.067	(0.297)	0.019	0.048
53	4.42	0.23	0.067	(0.296)	0.019	0.048
54	4.50	0.23	0.067	(0.295)	0.019	0.048
55	4.58	0.23	0.067	(0.293)	0.019	0.048
56	4.67	0.23	0.067	(0.292)	0.019	0.048
57	4.75	0.23	0.067	(0.291)	0.019	0.048
58	4.83	0.27	0.077	(0.289)	0.022	0.055
59	4.92	0.27	0.077	(0.288)	0.022	0.055
60	5.00	0.27	0.077	(0.287)	0.022	0.055
61	5.08	0.20	0.058	(0.286)	0.016	0.041
62	5.17	0.20	0.058	(0.284)	0.016	0.041
63	5.25	0.20	0.058	(0.283)	0.016	0.041
64	5.33	0.23	0.067	(0.282)	0.019	0.048
65	5.42	0.23	0.067	(0.281)	0.019	0.048
66	5.50	0.23	0.067	(0.280)	0.019	0.048
67	5.58	0.27	0.077	(0.278)	0.022	0.055
68	5.67	0.27	0.077	(0.277)	0.022	0.055
69	5.75	0.27	0.077	(0.276)	0.022	0.055
70	5.83	0.27	0.077	(0.275)	0.022	0.055
71	5.92	0.27	0.077	(0.273)	0.022	0.055
72	6.00	0.27	0.077	(0.272)	0.022	0.055
73	6.08	0.30	0.086	(0.271)	0.024	0.062
74	6.17	0.30	0.086	(0.270)	0.024	0.062
75	6.25	0.30	0.086	(0.269)	0.024	0.062
76	6.33	0.30	0.086	(0.267)	0.024	0.062
77	6.42	0.30	0.086	(0.266)	0.024	0.062
78	6.50	0.30	0.086	(0.265)	0.024	0.062
79	6.58	0.33	0.096	(0.264)	0.027	0.069
80	6.67	0.33	0.096	(0.263)	0.027	0.069
81	6.75	0.33	0.096	(0.261)	0.027	0.069
82	6.83	0.33	0.096	(0.260)	0.027	0.069
83	6.92	0.33	0.096	(0.259)	0.027	0.069
84	7.00	0.33	0.096	(0.258)	0.027	0.069
85	7.08	0.33	0.096	(0.257)	0.027	0.069
86	7.17	0.33	0.096	(0.256)	0.027	0.069
87	7.25	0.33	0.096	(0.254)	0.027	0.069
88	7.33	0.37	0.106	(0.253)	0.030	0.076
89	7.42	0.37	0.106	(0.252)	0.030	0.076
90	7.50	0.37	0.106	(0.251)	0.030	0.076
91	7.58	0.40	0.115	(0.250)	0.032	0.083
92	7.67	0.40	0.115	(0.249)	0.032	0.083
93	7.75	0.40	0.115	(0.247)	0.032	0.083
94	7.83	0.43	0.125	(0.246)	0.035	0.090
95	7.92	0.43	0.125	(0.245)	0.035	0.090
96	8.00	0.43	0.125	(0.244)	0.035	0.090
97	8.08	0.50	0.144	(0.243)	0.040	0.104
98	8.17	0.50	0.144	(0.242)	0.040	0.104
99	8.25	0.50	0.144	(0.241)	0.040	0.104
100	8.33	0.50	0.144	(0.240)	0.040	0.104
101	8.42	0.50	0.144	(0.238)	0.040	0.104
102	8.50	0.50	0.144	(0.237)	0.040	0.104
103	8.58	0.53	0.154	(0.236)	0.043	0.111
104	8.67	0.53	0.154	(0.235)	0.043	0.111
105	8.75	0.53	0.154	(0.234)	0.043	0.111
106	8.83	0.57	0.163	(0.233)	0.046	0.118
107	8.92	0.57	0.163	(0.232)	0.046	0.118
108	9.00	0.57	0.163	(0.231)	0.046	0.118
109	9.08	0.63	0.182	(0.230)	0.051	0.131
110	9.17	0.63	0.182	(0.229)	0.051	0.131
111	9.25	0.63	0.182	(0.227)	0.051	0.131
112	9.33	0.67	0.192	(0.226)	0.054	0.138
113	9.42	0.67	0.192	(0.225)	0.054	0.138
114	9.50	0.67	0.192	(0.224)	0.054	0.138
115	9.58	0.70	0.202	(0.223)	0.056	0.145
116	9.67	0.70	0.202	(0.222)	0.056	0.145
117	9.75	0.70	0.202	(0.221)	0.056	0.145
118	9.83	0.73	0.211	(0.220)	0.059	0.152
119	9.92	0.73	0.211	(0.219)	0.059	0.152
120	10.00	0.73	0.211	(0.218)	0.059	0.152
121	10.08	0.50	0.144	(0.217)	0.040	0.104

122	10.17	0.50	0.144	(0.216)	0.040	0.104
123	10.25	0.50	0.144	(0.215)	0.040	0.104
124	10.33	0.50	0.144	(0.214)	0.040	0.104
125	10.42	0.50	0.144	(0.213)	0.040	0.104
126	10.50	0.50	0.144	(0.212)	0.040	0.104
127	10.58	0.67	0.192	(0.210)	0.054	0.138
128	10.67	0.67	0.192	(0.209)	0.054	0.138
129	10.75	0.67	0.192	(0.208)	0.054	0.138
130	10.83	0.67	0.192	(0.207)	0.054	0.138
131	10.92	0.67	0.192	(0.206)	0.054	0.138
132	11.00	0.67	0.192	(0.205)	0.054	0.138
133	11.08	0.63	0.182	(0.204)	0.051	0.131
134	11.17	0.63	0.182	(0.203)	0.051	0.131
135	11.25	0.63	0.182	(0.202)	0.051	0.131
136	11.33	0.63	0.182	(0.201)	0.051	0.131
137	11.42	0.63	0.182	(0.200)	0.051	0.131
138	11.50	0.63	0.182	(0.199)	0.051	0.131
139	11.58	0.57	0.163	(0.198)	0.046	0.118
140	11.67	0.57	0.163	(0.197)	0.046	0.118
141	11.75	0.57	0.163	(0.196)	0.046	0.118
142	11.83	0.60	0.173	(0.195)	0.048	0.124
143	11.92	0.60	0.173	(0.194)	0.048	0.124
144	12.00	0.60	0.173	(0.193)	0.048	0.124
145	12.08	0.83	0.240	(0.193)	0.067	0.173
146	12.17	0.83	0.240	(0.192)	0.067	0.173
147	12.25	0.83	0.240	(0.191)	0.067	0.173
148	12.33	0.87	0.250	(0.190)	0.070	0.180
149	12.42	0.87	0.250	(0.189)	0.070	0.180
150	12.50	0.87	0.250	(0.188)	0.070	0.180
151	12.58	0.93	0.269	(0.187)	0.075	0.194
152	12.67	0.93	0.269	(0.186)	0.075	0.194
153	12.75	0.93	0.269	(0.185)	0.075	0.194
154	12.83	0.97	0.278	(0.184)	0.078	0.200
155	12.92	0.97	0.278	(0.183)	0.078	0.200
156	13.00	0.97	0.278	(0.182)	0.078	0.200
157	13.08	1.13	0.326	(0.181)	0.091	0.235
158	13.17	1.13	0.326	(0.180)	0.091	0.235
159	13.25	1.13	0.326	(0.179)	0.091	0.235
160	13.33	1.13	0.326	(0.178)	0.091	0.235
161	13.42	1.13	0.326	(0.178)	0.091	0.235
162	13.50	1.13	0.326	(0.177)	0.091	0.235
163	13.58	0.77	0.221	(0.176)	0.062	0.159
164	13.67	0.77	0.221	(0.175)	0.062	0.159
165	13.75	0.77	0.221	(0.174)	0.062	0.159
166	13.83	0.77	0.221	(0.173)	0.062	0.159
167	13.92	0.77	0.221	(0.172)	0.062	0.159
168	14.00	0.77	0.221	(0.171)	0.062	0.159
169	14.08	0.90	0.259	(0.170)	0.073	0.187
170	14.17	0.90	0.259	(0.170)	0.073	0.187
171	14.25	0.90	0.259	(0.169)	0.073	0.187
172	14.33	0.87	0.250	(0.168)	0.070	0.180
173	14.42	0.87	0.250	(0.167)	0.070	0.180
174	14.50	0.87	0.250	(0.166)	0.070	0.180
175	14.58	0.87	0.250	(0.165)	0.070	0.180
176	14.67	0.87	0.250	(0.164)	0.070	0.180
177	14.75	0.87	0.250	(0.164)	0.070	0.180
178	14.83	0.83	0.240	(0.163)	0.067	0.173
179	14.92	0.83	0.240	(0.162)	0.067	0.173
180	15.00	0.83	0.240	(0.161)	0.067	0.173
181	15.08	0.80	0.230	(0.160)	0.065	0.166
182	15.17	0.80	0.230	(0.159)	0.065	0.166
183	15.25	0.80	0.230	(0.159)	0.065	0.166
184	15.33	0.77	0.221	(0.158)	0.062	0.159
185	15.42	0.77	0.221	(0.157)	0.062	0.159
186	15.50	0.77	0.221	(0.156)	0.062	0.159
187	15.58	0.63	0.182	(0.155)	0.051	0.131
188	15.67	0.63	0.182	(0.155)	0.051	0.131
189	15.75	0.63	0.182	(0.154)	0.051	0.131
190	15.83	0.63	0.182	(0.153)	0.051	0.131
191	15.92	0.63	0.182	(0.152)	0.051	0.131
192	16.00	0.63	0.182	(0.151)	0.051	0.131
193	16.08	0.13	0.038	(0.151)	0.011	0.028
194	16.17	0.13	0.038	(0.150)	0.011	0.028
195	16.25	0.13	0.038	(0.149)	0.011	0.028
196	16.33	0.13	0.038	(0.148)	0.011	0.028

197	16.42	0.13	0.038	(0.148)	0.011	0.028
198	16.50	0.13	0.038	(0.147)	0.011	0.028
199	16.58	0.10	0.029	(0.146)	0.008	0.021
200	16.67	0.10	0.029	(0.145)	0.008	0.021
201	16.75	0.10	0.029	(0.145)	0.008	0.021
202	16.83	0.10	0.029	(0.144)	0.008	0.021
203	16.92	0.10	0.029	(0.143)	0.008	0.021
204	17.00	0.10	0.029	(0.142)	0.008	0.021
205	17.08	0.17	0.048	(0.142)	0.013	0.035
206	17.17	0.17	0.048	(0.141)	0.013	0.035
207	17.25	0.17	0.048	(0.140)	0.013	0.035
208	17.33	0.17	0.048	(0.140)	0.013	0.035
209	17.42	0.17	0.048	(0.139)	0.013	0.035
210	17.50	0.17	0.048	(0.138)	0.013	0.035
211	17.58	0.17	0.048	(0.138)	0.013	0.035
212	17.67	0.17	0.048	(0.137)	0.013	0.035
213	17.75	0.17	0.048	(0.136)	0.013	0.035
214	17.83	0.13	0.038	(0.135)	0.011	0.028
215	17.92	0.13	0.038	(0.135)	0.011	0.028
216	18.00	0.13	0.038	(0.134)	0.011	0.028
217	18.08	0.13	0.038	(0.133)	0.011	0.028
218	18.17	0.13	0.038	(0.133)	0.011	0.028
219	18.25	0.13	0.038	(0.132)	0.011	0.028
220	18.33	0.13	0.038	(0.132)	0.011	0.028
221	18.42	0.13	0.038	(0.131)	0.011	0.028
222	18.50	0.13	0.038	(0.130)	0.011	0.028
223	18.58	0.10	0.029	(0.130)	0.008	0.021
224	18.67	0.10	0.029	(0.129)	0.008	0.021
225	18.75	0.10	0.029	(0.128)	0.008	0.021
226	18.83	0.07	0.019	(0.128)	0.005	0.014
227	18.92	0.07	0.019	(0.127)	0.005	0.014
228	19.00	0.07	0.019	(0.127)	0.005	0.014
229	19.08	0.10	0.029	(0.126)	0.008	0.021
230	19.17	0.10	0.029	(0.125)	0.008	0.021
231	19.25	0.10	0.029	(0.125)	0.008	0.021
232	19.33	0.13	0.038	(0.124)	0.011	0.028
233	19.42	0.13	0.038	(0.124)	0.011	0.028
234	19.50	0.13	0.038	(0.123)	0.011	0.028
235	19.58	0.10	0.029	(0.122)	0.008	0.021
236	19.67	0.10	0.029	(0.122)	0.008	0.021
237	19.75	0.10	0.029	(0.121)	0.008	0.021
238	19.83	0.07	0.019	(0.121)	0.005	0.014
239	19.92	0.07	0.019	(0.120)	0.005	0.014
240	20.00	0.07	0.019	(0.120)	0.005	0.014
241	20.08	0.10	0.029	(0.119)	0.008	0.021
242	20.17	0.10	0.029	(0.119)	0.008	0.021
243	20.25	0.10	0.029	(0.118)	0.008	0.021
244	20.33	0.10	0.029	(0.118)	0.008	0.021
245	20.42	0.10	0.029	(0.117)	0.008	0.021
246	20.50	0.10	0.029	(0.117)	0.008	0.021
247	20.58	0.10	0.029	(0.116)	0.008	0.021
248	20.67	0.10	0.029	(0.116)	0.008	0.021
249	20.75	0.10	0.029	(0.115)	0.008	0.021
250	20.83	0.07	0.019	(0.115)	0.005	0.014
251	20.92	0.07	0.019	(0.114)	0.005	0.014
252	21.00	0.07	0.019	(0.114)	0.005	0.014
253	21.08	0.10	0.029	(0.113)	0.008	0.021
254	21.17	0.10	0.029	(0.113)	0.008	0.021
255	21.25	0.10	0.029	(0.112)	0.008	0.021
256	21.33	0.07	0.019	(0.112)	0.005	0.014
257	21.42	0.07	0.019	(0.112)	0.005	0.014
258	21.50	0.07	0.019	(0.111)	0.005	0.014
259	21.58	0.10	0.029	(0.111)	0.008	0.021
260	21.67	0.10	0.029	(0.110)	0.008	0.021
261	21.75	0.10	0.029	(0.110)	0.008	0.021
262	21.83	0.07	0.019	(0.110)	0.005	0.014
263	21.92	0.07	0.019	(0.109)	0.005	0.014
264	22.00	0.07	0.019	(0.109)	0.005	0.014
265	22.08	0.10	0.029	(0.109)	0.008	0.021
266	22.17	0.10	0.029	(0.108)	0.008	0.021
267	22.25	0.10	0.029	(0.108)	0.008	0.021
268	22.33	0.07	0.019	(0.108)	0.005	0.014
269	22.42	0.07	0.019	(0.107)	0.005	0.014
270	22.50	0.07	0.019	(0.107)	0.005	0.014
271	22.58	0.07	0.019	(0.107)	0.005	0.014

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272  22.67     0.07      0.019       (  0.106)       0.005        0.014
273  22.75     0.07      0.019       (  0.106)       0.005        0.014
274  22.83     0.07      0.019       (  0.106)       0.005        0.014
275  22.92     0.07      0.019       (  0.105)       0.005        0.014
276  23.00     0.07      0.019       (  0.105)       0.005        0.014
277  23.08     0.07      0.019       (  0.105)       0.005        0.014
278  23.17     0.07      0.019       (  0.105)       0.005        0.014
279  23.25     0.07      0.019       (  0.104)       0.005        0.014
280  23.33     0.07      0.019       (  0.104)       0.005        0.014
281  23.42     0.07      0.019       (  0.104)       0.005        0.014
282  23.50     0.07      0.019       (  0.104)       0.005        0.014
283  23.58     0.07      0.019       (  0.104)       0.005        0.014
284  23.67     0.07      0.019       (  0.104)       0.005        0.014
285  23.75     0.07      0.019       (  0.103)       0.005        0.014
286  23.83     0.07      0.019       (  0.103)       0.005        0.014
287  23.92     0.07      0.019       (  0.103)       0.005        0.014
288  24.00     0.07      0.019       (  0.103)       0.005        0.014
               (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    20.7
      Flood volume = Effective rainfall      1.73(In)
       times area      12.1(Ac.)/[(In)/(Ft.)] =       1.7(Ac.Ft)
      Total soil loss =      0.67(In)
      Total soil loss =     0.678(Ac.Ft)
      Total rainfall =      2.40(In)
      Flood volume =       75897.2 Cubic Feet
      Total soil loss =       29515.6 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      2.867(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0005      0.07  Q         |         |         |         |
   0+10       0.0016      0.16  Q         |         |         |         |
   0+15       0.0027      0.17  Q         |         |         |         |
   0+20       0.0041      0.20  Q         |         |         |         |
   0+25       0.0058      0.25  Q         |         |         |         |
   0+30       0.0076      0.25  VQ        |         |         |         |
   0+35       0.0093      0.25  VQ        |         |         |         |
   0+40       0.0110      0.25  VQ        |         |         |         |
   0+45       0.0128      0.25  VQ        |         |         |         |
   0+50       0.0148      0.29  VQ        |         |         |         |
   0+55       0.0171      0.33  VQ        |         |         |         |
   1+ 0       0.0194      0.34  VQ        |         |         |         |
   1+ 5       0.0215      0.30  VQ        |         |         |         |
   1+10       0.0232      0.26  VQ        |         |         |         |
   1+15       0.0250      0.25  VQ        |         |         |         |
   1+20       0.0267      0.25  VQ        |         |         |         |
   1+25       0.0285      0.25  VQ        |         |         |         |
   1+30       0.0302      0.25  VQ        |         |         |         |
   1+35       0.0320      0.25  VQ        |         |         |         |
   1+40       0.0337      0.25  VQ        |         |         |         |
   1+45       0.0354      0.25  VQ        |         |         |         |
   1+50       0.0374      0.29  VQ        |         |         |         |
   1+55       0.0397      0.33  VQ        |         |         |         |
   2+ 0       0.0420      0.34  VQ        |         |         |         |
   2+ 5       0.0444      0.34  |Q        |         |         |         |
   2+10       0.0467      0.34  |Q        |         |         |         |
   2+15       0.0490      0.34  |Q        |         |         |         |
   2+20       0.0513      0.34  |Q        |         |         |         |
   2+25       0.0536      0.34  |Q        |         |         |         |
   2+30       0.0560      0.34  |Q        |         |         |         |
   2+35       0.0585      0.37  |Q        |         |         |         |
   2+40       0.0614      0.42  |Q        |         |         |         |
   2+45       0.0643      0.42  |Q        |         |         |         |
   2+50       0.0672      0.42  |Q        |         |         |         |
   2+55       0.0701      0.42  |Q        |         |         |         |
   3+ 0       0.0730      0.42  |Q        |         |         |         |
   3+ 5       0.0759      0.42  |Q        |         |         |         |
```

3+10	0.0788	0.42	Q			
3+15	0.0817	0.42	Q			
3+20	0.0846	0.42	Q			
3+25	0.0875	0.42	QV			
3+30	0.0904	0.42	QV			
3+35	0.0933	0.42	QV			
3+40	0.0962	0.42	QV			
3+45	0.0991	0.42	QV			
3+50	0.1023	0.46	QV			
3+55	0.1057	0.50	QV			
4+ 0	0.1092	0.51	Q			
4+ 5	0.1127	0.51	Q			
4+10	0.1162	0.51	Q			
4+15	0.1197	0.51	Q			
4+20	0.1234	0.54	Q			
4+25	0.1274	0.58	Q			
4+30	0.1315	0.59	QV			
4+35	0.1355	0.59	QV			
4+40	0.1396	0.59	QV			
4+45	0.1437	0.59	QV			
4+50	0.1480	0.63	QV			
4+55	0.1526	0.67	QV			
5+ 0	0.1572	0.67	QV			
5+ 5	0.1614	0.60	QV			
5+10	0.1650	0.52	QV			
5+15	0.1685	0.51	QV			
5+20	0.1722	0.54	QV			
5+25	0.1762	0.58	Q V			
5+30	0.1803	0.59	Q V			
5+35	0.1846	0.63	Q V			
5+40	0.1892	0.67	Q V			
5+45	0.1938	0.67	Q V			
5+50	0.1985	0.67	Q V			
5+55	0.2031	0.67	Q V			
6+ 0	0.2078	0.67	Q V			
6+ 5	0.2127	0.71	Q V			
6+10	0.2178	0.75	Q V			
6+15	0.2231	0.76	Q V			
6+20	0.2283	0.76	Q V			
6+25	0.2335	0.76	Q V			
6+30	0.2387	0.76	Q V			
6+35	0.2442	0.79	Q V			
6+40	0.2500	0.84	Q V			
6+45	0.2558	0.84	Q V			
6+50	0.2616	0.84	Q V			
6+55	0.2674	0.84	Q V			
7+ 0	0.2732	0.84	Q V			
7+ 5	0.2790	0.84	Q V			
7+10	0.2848	0.84	Q V			
7+15	0.2906	0.84	Q V			
7+20	0.2967	0.88	Q V			
7+25	0.3030	0.92	Q V			
7+30	0.3094	0.93	Q V			
7+35	0.3161	0.96	Q V			
7+40	0.3230	1.01	Q V			
7+45	0.3299	1.01	Q V			
7+50	0.3372	1.05	Q V			
7+55	0.3447	1.09	Q V			
8+ 0	0.3522	1.10	Q V			
8+ 5	0.3603	1.17	Q V			
8+10	0.3689	1.25	Q V			
8+15	0.3776	1.26	Q V			
8+20	0.3863	1.26	Q V			
8+25	0.3950	1.26	Q V			
8+30	0.4037	1.26	Q V			
8+35	0.4127	1.30	Q V			
8+40	0.4219	1.34	Q V			
8+45	0.4312	1.35	Q V			
8+50	0.4407	1.39	Q V			
8+55	0.4506	1.43	Q V			
9+ 0	0.4604	1.43	Q V			
9+ 5	0.4708	1.51	Q V			
9+10	0.4818	1.59	Q V			
9+15	0.4928	1.60	Q V			
9+20	0.5041	1.64	Q V			

9+25	0.5156	1.68	Q	V			
9+30	0.5272	1.69	Q	V			
9+35	0.5391	1.72	Q	V			
9+40	0.5513	1.76	Q	V			
9+45	0.5635	1.77	Q	V			
9+50	0.5759	1.81	Q	V			
9+55	0.5886	1.85	Q	V			
10+ 0	0.6014	1.85	Q	V			
10+ 5	0.6124	1.60	Q	V			
10+10	0.6215	1.31	Q	V			
10+15	0.6302	1.27	Q	V			
10+20	0.6389	1.26	Q	V			
10+25	0.6476	1.26	Q	V			
10+30	0.6564	1.26	Q	V			
10+35	0.6663	1.44	Q	V			
10+40	0.6777	1.65	Q	V			
10+45	0.6893	1.68	Q	V			
10+50	0.7009	1.69	Q	V			
10+55	0.7125	1.69	Q	V			
11+ 0	0.7241	1.69	Q	V			
11+ 5	0.7355	1.65	Q	V			
11+10	0.7466	1.61	Q	V			
11+15	0.7576	1.60	Q	V			
11+20	0.7687	1.60	Q	V			
11+25	0.7797	1.60	Q	V			
11+30	0.7907	1.60	Q	V			
11+35	0.8013	1.53	Q	V			
11+40	0.8112	1.45	Q	V			
11+45	0.8211	1.44	Q	V			
11+50	0.8312	1.47	Q	V			
11+55	0.8416	1.51	Q	V			
12+ 0	0.8521	1.52	Q	V			
12+ 5	0.8643	1.77	Q	V			
12+10	0.8785	2.06	Q	V			
12+15	0.8930	2.10	Q	V			
12+20	0.9077	2.14	Q	V			
12+25	0.9228	2.19	Q	V			
12+30	0.9379	2.19	Q	V			
12+35	0.9535	2.26	Q	V			
12+40	0.9697	2.35	Q	V			
12+45	0.9859	2.36	Q	V			
12+50	1.0024	2.40	Q	V			
12+55	1.0192	2.44	Q	V			
13+ 0	1.0361	2.44	Q	V			
13+ 5	1.0541	2.63	Q	V			
13+10	1.0737	2.84	Q	V			
13+15	1.0934	2.86	Q	V			
13+20	1.1131	2.87	Q	V			
13+25	1.1329	2.87	Q	V			
13+30	1.1526	2.87	Q	V			
13+35	1.1696	2.47	Q	V			
13+40	1.1835	2.01	Q	V			
13+45	1.1969	1.95	Q	V			
13+50	1.2103	1.94	Q	V			
13+55	1.2236	1.94	Q	V			
14+ 0	1.2370	1.94	Q	V			
14+ 5	1.2513	2.08	Q	V			
14+10	1.2668	2.25	Q	V			
14+15	1.2825	2.27	Q	V			
14+20	1.2979	2.24	Q	V			
14+25	1.3131	2.20	Q	V			
14+30	1.3282	2.19	Q	V			
14+35	1.3433	2.19	Q	V			
14+40	1.3584	2.19	Q	V			
14+45	1.3735	2.19	Q	V			
14+50	1.3883	2.16	Q	V			
14+55	1.4029	2.11	Q	V			
15+ 0	1.4174	2.11	Q	V			
15+ 5	1.4317	2.07	Q	V			
15+10	1.4457	2.03	Q	V			
15+15	1.4596	2.02	Q	V			
15+20	1.4733	1.99	Q	V			
15+25	1.4867	1.95	Q	V			
15+30	1.5001	1.94	Q	V			
15+35	1.5124	1.80	Q	V			

15+40	1.5237	1.63	| Q	|	|	| V	|
15+45	1.5347	1.61	| Q	|	|	| V	|
15+50	1.5458	1.60	| Q	|	|	| V	|
15+55	1.5568	1.60	| Q	|	|	| V	|
16+ 0	1.5678	1.60	| Q	|	|	| V	|
16+ 5	1.5751	1.06	| Q	|	|	| V	|
16+10	1.5781	0.43	|Q	|	|	| V	|
16+15	1.5805	0.35	|Q	|	|	| V	|
16+20	1.5829	0.34	|Q	|	|	| V	|
16+25	1.5852	0.34	|Q	|	|	| V	|
16+30	1.5875	0.34	|Q	|	|	| V	|
16+35	1.5896	0.30	|Q	|	|	| V	|
16+40	1.5914	0.26	|Q	|	|	| V	|
16+45	1.5931	0.25	|Q	|	|	| V	|
16+50	1.5949	0.25	|Q	|	|	| V	|
16+55	1.5966	0.25	|Q	|	|	| V	|
17+ 0	1.5983	0.25	|Q	|	|	| V	|
17+ 5	1.6006	0.32	|Q	|	|	| V	|
17+10	1.6034	0.41	|Q	|	|	| V	|
17+15	1.6063	0.42	|Q	|	|	| V	|
17+20	1.6092	0.42	|Q	|	|	| V	|
17+25	1.6121	0.42	|Q	|	|	| V	|
17+30	1.6150	0.42	|Q	|	|	| V	|
17+35	1.6179	0.42	|Q	|	|	| V	|
17+40	1.6208	0.42	|Q	|	|	| V	|
17+45	1.6237	0.42	|Q	|	|	| V	|
17+50	1.6264	0.39	|Q	|	|	| V	|
17+55	1.6287	0.34	|Q	|	|	| V	|
18+ 0	1.6311	0.34	|Q	|	|	| V	|
18+ 5	1.6334	0.34	|Q	|	|	| V	|
18+10	1.6357	0.34	|Q	|	|	| V	|
18+15	1.6380	0.34	|Q	|	|	| V	|
18+20	1.6404	0.34	|Q	|	|	| V	|
18+25	1.6427	0.34	|Q	|	|	| V	|
18+30	1.6450	0.34	|Q	|	|	| V	|
18+35	1.6471	0.30	|Q	|	|	| V	|
18+40	1.6489	0.26	|Q	|	|	| V	|
18+45	1.6506	0.25	|Q	|	|	| V	|
18+50	1.6521	0.22	Q	|	|	| V	|
18+55	1.6533	0.17	Q	|	|	| V	|
19+ 0	1.6545	0.17	Q	|	|	| V	|
19+ 5	1.6559	0.20	Q	|	|	| V	|
19+10	1.6576	0.25	Q	|	|	| V	|
19+15	1.6593	0.25	|Q	|	|	| V	|
19+20	1.6613	0.29	|Q	|	|	| V	|
19+25	1.6636	0.33	|Q	|	|	| V	|
19+30	1.6659	0.34	|Q	|	|	| V	|
19+35	1.6680	0.30	|Q	|	|	| V	|
19+40	1.6698	0.26	|Q	|	|	| V	|
19+45	1.6715	0.25	|Q	|	|	| V	|
19+50	1.6730	0.22	Q	|	|	| V	|
19+55	1.6742	0.17	Q	|	|	| V	|
20+ 0	1.6754	0.17	Q	|	|	| V	|
20+ 5	1.6768	0.20	Q	|	|	| V	|
20+10	1.6785	0.25	Q	|	|	| V	|
20+15	1.6802	0.25	|Q	|	|	| V	|
20+20	1.6820	0.25	|Q	|	|	| V	|
20+25	1.6837	0.25	|Q	|	|	| V	|
20+30	1.6855	0.25	|Q	|	|	| V	|
20+35	1.6872	0.25	|Q	|	|	| V	|
20+40	1.6889	0.25	|Q	|	|	| V	|
20+45	1.6907	0.25	|Q	|	|	| V	|
20+50	1.6922	0.22	Q	|	|	| V	|
20+55	1.6934	0.17	Q	|	|	| V	|
21+ 0	1.6945	0.17	Q	|	|	| V	|
21+ 5	1.6960	0.20	Q	|	|	| V	|
21+10	1.6977	0.25	Q	|	|	| V	|
21+15	1.6994	0.25	|Q	|	|	| V	|
21+20	1.7009	0.22	Q	|	|	| V	|
21+25	1.7021	0.17	Q	|	|	| V	|
21+30	1.7033	0.17	Q	|	|	| V	|
21+35	1.7047	0.20	Q	|	|	| V	|
21+40	1.7064	0.25	Q	|	|	| V	|
21+45	1.7081	0.25	|Q	|	|	| V	|
21+50	1.7096	0.22	Q	|	|	| V	|

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   21+55       1.7108      0.17  Q          |          |          |         v|
   22+ 0       1.7120      0.17  Q          |          |          |         v|
   22+ 5       1.7134      0.20  Q          |          |          |         v|
   22+10       1.7151      0.25  Q          |          |          |         v|
   22+15       1.7168      0.25  |Q         |          |          |         v|
   22+20       1.7183      0.22  Q          |          |          |         v|
   22+25       1.7195      0.17  Q          |          |          |         v|
   22+30       1.7207      0.17  Q          |          |          |         v|
   22+35       1.7218      0.17  Q          |          |          |         v|
   22+40       1.7230      0.17  Q          |          |          |         v|
   22+45       1.7242      0.17  Q          |          |          |         v|
   22+50       1.7253      0.17  Q          |          |          |         v|
   22+55       1.7265      0.17  Q          |          |          |         v|
   23+ 0       1.7277      0.17  Q          |          |          |         v|
   23+ 5       1.7288      0.17  Q          |          |          |         v|
   23+10       1.7300      0.17  Q          |          |          |         v|
   23+15       1.7311      0.17  Q          |          |          |         v|
   23+20       1.7323      0.17  Q          |          |          |         v|
   23+25       1.7335      0.17  Q          |          |          |         v|
   23+30       1.7346      0.17  Q          |          |          |         v|
   23+35       1.7358      0.17  Q          |          |          |         v|
   23+40       1.7369      0.17  Q          |          |          |         v|
   23+45       1.7381      0.17  Q          |          |          |         v|
   23+50       1.7393      0.17  Q          |          |          |         v|
   23+55       1.7404      0.17  Q          |          |          |         v|
   24+ 0       1.7416      0.17  Q          |          |          |         v|
   24+ 5       1.7423      0.10  Q          |          |          |         v|
   24+10       1.7423      0.01  Q          |          |          |         v|
   24+15       1.7424      0.00  Q          |          |          |         v|
-------------------------------------------------------------------------
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STAGE-STORAGE/OUTFLOW TABLES

BLDG C CMP CHAMBERS C1- Stage/Storage/Outflow Table

W.O.# 21-0034

Basin Information: CMP CHAMBERS

2-Year	ORIFICE
Q EXISTING	1.09
Opening (in)	4.5
# of Orifices	1
Area (sf)	0.1104
Opening (ft)	0.3750
Total Area (sf)	0.1104
G (ft/s^2)	32.2
Cd	0.66
Invert H (ft)	2.125

$Q_{ORIFICE}$= $Cd*Area*(2*G*H)^{0.5}$

Q_{WEIR}= $C*L*H^{3/2}$

2-Year

#	Elevation (ft)	Depth (ft)	Storage (cf)	Storage (ac-ft)	H (ft)	Q (cfs)	Total Q (cfs)	Comments
1	2208	0	0.00	0.000			0.00	Bottom of Basin/Invert of 2-Yr Orifice
2	2208.188	**0.1875**	**634.73**	**0.015**	0			Middle of 2-Yr Orifice
3	**2208.5**	**0.5**	**1692.61**	**0.039**	**0.3125**	0.33	0.33	
4	2209	1	**4692.68**	**0.108**	**0.8125**	0.53	0.53	
5	**2209.5**	1.5	**8442.56**	**0.194**	**1.3125**	0.67	0.67	
6	2210	2	**12716.08**	**0.292**	**1.8125**	0.79	0.79	
7	**2210.5**	2.5	**17365.80**	**0.399**	**2.3125**	0.89	0.89	
8	2211	3	**22278.63**	**0.511**	**2.8125**	0.98	0.98	
9	**2211.5**	**3.5**	**27359.28**	**0.628**	**3.3125**	**1.06**	1.06	
10	2212	4	**32521.77**	**0.747**	**3.8125**	1.14	1.14	
11	**2212.5**	4.5	**37684.26**	**0.865**	**4.3125**	1.21	1.21	
12	2213	5	**42764.90**	**0.982**	**4.8125**	1.28	1.28	
13	**2213.5**	5.5	**47677.74**	**1.095**	**5.3125**	1.35	1.35	
14	2214	6	**52327.45**	**1.201**	**5.8125**	1.41	1.41	
15	**2214.5**	6.5	**56600.97**	**1.299**	**6.3125**	1.47	1.47	
16	2215	7	**60350.85**	**1.385**	**6.8125**	1.53	1.53	
17	**2215.5**	7.50	**63350.92**	**1.454**	**7.3125**	1.58	1.58	
18	2216	8	**65043.53**	**1.493**	**7.8125**	1.64	1.64	Top of chambers

BLDG C CMP CHAMBERS C2- Stage/Storage/Outflow Table

W.O.# 21-0034

Basin Information: CMP CHAMBERS

	2-Year	ORIFICE
Q EXISTING	0.6	
Opening (in)	3	
# of Orifices	1	
Area (sf)	0.0491	
Opening (ft)	0.2500	
Total Area (sf)	0.0491	
G (ft/s^2)	32.2	
Cd	0.66	
Invert H (ft)	2.125	

$Q_{ORIFICE}$= Cd*Area*$(2*G*H)^{0.5}$

Q_{WEIR}= C*L*$H^{3/2}$

2-Year

#	Elevation (ft)	Depth (ft)	Storage (cf)	Storage (ac-ft)	H (ft)	Q (cfs)	Total Q (cfs)	Comments
1	2208	0	0.00	0.000			0.00	Bottom of Basin/Invert of 2-Yr Orifice
2	2208.125	**0.125**	**457.16**	**0.010**	0			Middle of 2-Yr Orifice
3	**2208.5**	**0.5**	**1828.65**	**0.042**	**0.375**	0.16	0.16	
4	2209	1	**5069.84**	**0.116**	**0.875**	0.24	0.24	
5	**2209.5**	1.5	**9121.10**	**0.209**	**1.375**	0.30	0.30	
6	2210	2	**13738.09**	**0.315**	**1.875**	0.36	0.36	
7	**2210.5**	2.5	**18761.50**	**0.431**	**2.375**	0.40	0.40	
8	2211	3	**24069.19**	**0.553**	**2.875**	0.44	0.44	
9	**2211.5**	**3.5**	**29558.17**	**0.679**	**3.375**	**0.48**	0.48	
10	2212	4	**35135.57**	**0.807**	**3.875**	0.51	0.51	
11	**2212.5**	4.5	**40712.98**	**0.935**	**4.375**	0.54	0.54	
12	2213	5	**46201.95**	**1.061**	**4.875**	0.57	0.57	
13	**2213.5**	5.5	**51509.64**	**1.182**	**5.375**	0.60	0.60	
14	2214	6	**56533.06**	**1.298**	**5.875**	0.63	0.63	
15	**2214.5**	6.5	**61150.05**	**1.404**	**6.375**	0.66	0.66	
16	2215	7	**65201.31**	**1.497**	**6.875**	0.68	0.68	
17	**2215.5**	7.50	**68442.49**	**1.571**	**7.375**	0.71	0.71	
18	2216	8	**70271.14**	**1.613**	**7.875**	0.73	0.73	Top of chambers

BASIN ROUTING (2-YEAR, 24-HOUR STORM EVENT)

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005
Study date: 11/25/21

BCCOV BLDG C AREA 9
2-YR 24 HR STORM
21-0034
2021-12-02 EP

Program License Serial Number 4010

********** HYDROGRAPH INFORMATION **********

From study/file name: PROP2YRC1242.rte

**********HYDROGRAPH DATA**********

Number of intervals = 291
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2.875 (CFS)
Total volume = 1.747 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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Process from Point/Station 100.000 to Point/Station 101.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 291
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

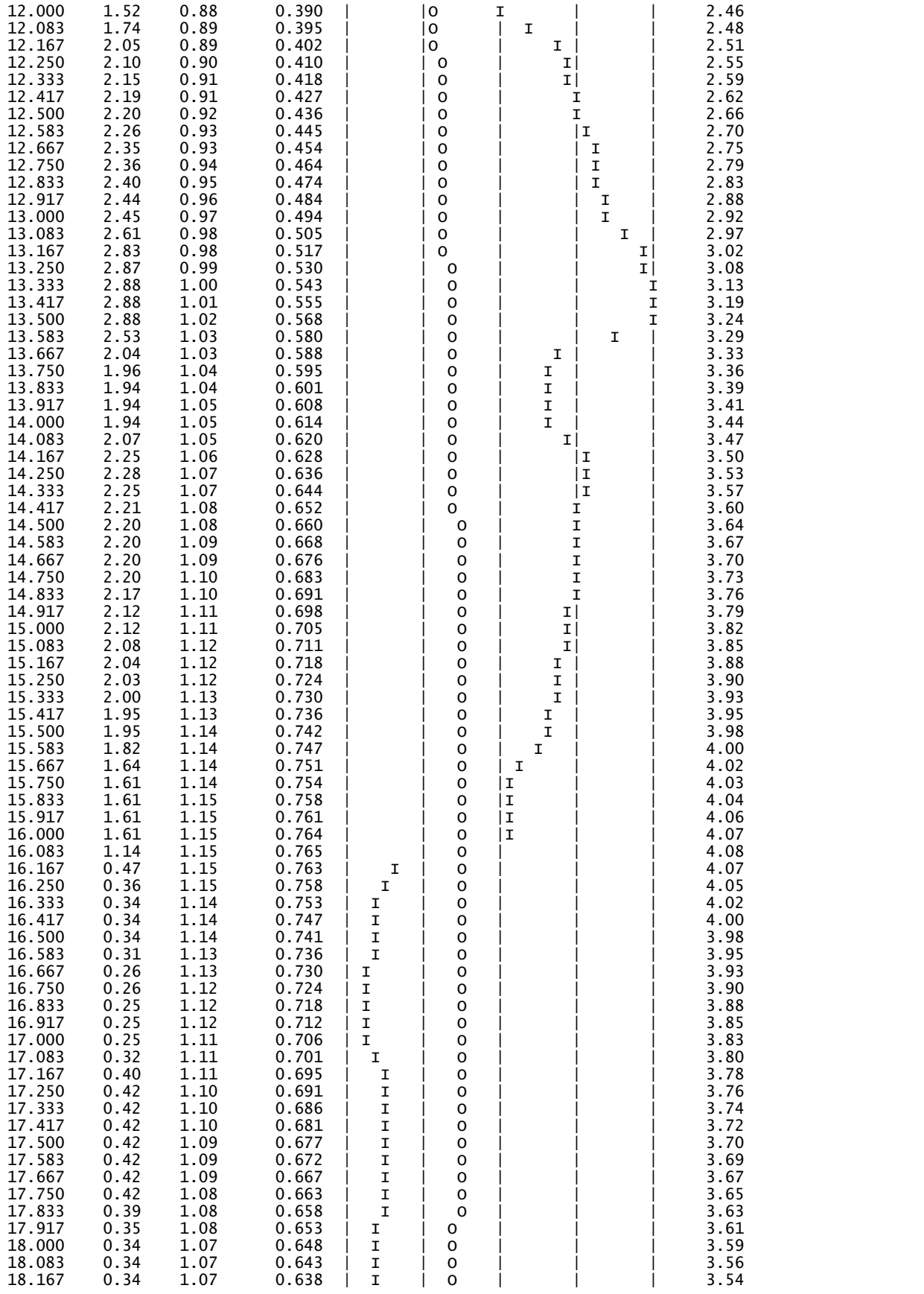
Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.188	0.015	0.001	0.015	0.015
0.500	0.039	0.330	0.038	0.040
1.000	0.108	0.530	0.106	0.110
1.500	0.194	0.670	0.192	0.196
2.000	0.292	0.790	0.289	0.295
2.500	0.399	0.890	0.396	0.402
3.000	0.511	0.980	0.508	0.514
3.500	0.628	1.060	0.624	0.632
4.000	0.747	1.140	0.743	0.751
4.500	0.865	1.210	0.861	0.869
5.000	0.982	1.280	0.978	0.986
5.500	1.095	1.350	1.090	1.100
6.000	1.201	1.410	1.196	1.206
6.500	1.299	1.470	1.294	1.304
7.000	1.385	1.530	1.380	1.390
7.500	1.454	1.580	1.449	1.459
8.000	1.493	1.640	1.487	1.499

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.7	1.44	2.16	2.88	Depth (Ft.)
0.083	0.06	0.00	0.000	O					0.00
0.167	0.15	0.00	0.001	OI					0.01
0.250	0.17	0.00	0.002	OI					0.03
0.333	0.20	0.00	0.003	O I					0.04
0.417	0.24	0.00	0.005	O I					0.06
0.500	0.25	0.00	0.007	O I					0.08
0.583	0.25	0.00	0.008	O I					0.10
0.667	0.25	0.00	0.010	O I					0.13
0.750	0.25	0.00	0.012	O I					0.15
0.833	0.28	0.00	0.014	O I					0.17
0.917	0.33	0.01	0.016	O I					0.20
1.000	0.34	0.04	0.018	O I					0.22
1.083	0.31	0.06	0.020	O I					0.25
1.167	0.26	0.08	0.021	O I					0.27
1.250	0.26	0.10	0.022	OI					0.28
1.333	0.25	0.11	0.023	OI					0.30
1.417	0.25	0.13	0.024	OI					0.31
1.500	0.25	0.14	0.025	OI					0.32
1.583	0.25	0.15	0.026	OI					0.33
1.667	0.25	0.16	0.026	OI					0.34
1.750	0.25	0.17	0.027	OI					0.35
1.833	0.28	0.18	0.028	O I					0.35
1.917	0.33	0.19	0.029	OI					0.37
2.000	0.34	0.20	0.030	OI					0.38
2.083	0.34	0.21	0.030	OI					0.39
2.167	0.34	0.22	0.031	OI					0.40
2.250	0.34	0.23	0.032	OI					0.41
2.333	0.34	0.24	0.033	OI					0.42
2.417	0.34	0.25	0.033	OI					0.43
2.500	0.34	0.26	0.034	OI					0.43
2.583	0.37	0.27	0.035	O I					0.44
2.667	0.41	0.28	0.035	OI					0.45
2.750	0.42	0.29	0.036	OI					0.46
2.833	0.42	0.30	0.037	OI					0.48
2.917	0.42	0.31	0.038	OI					0.49
3.000	0.42	0.32	0.039	OI					0.49
3.083	0.42	0.33	0.039	OI					0.50
3.167	0.42	0.33	0.040	OI					0.51
3.250	0.42	0.33	0.040	OI					0.51
3.333	0.42	0.34	0.041	OI					0.52
3.417	0.42	0.34	0.042	OI					0.52
3.500	0.42	0.34	0.042	OI					0.52
3.583	0.42	0.34	0.043	OI					0.53
3.667	0.42	0.34	0.043	OI					0.53
3.750	0.42	0.34	0.044	OI					0.54
3.833	0.45	0.35	0.045	O I					0.54
3.917	0.50	0.35	0.045	O I					0.55
4.000	0.51	0.35	0.047	O I					0.55
4.083	0.51	0.35	0.048	O I					0.56
4.167	0.51	0.36	0.049	O I					0.57
4.250	0.51	0.36	0.050	OI					0.58
4.333	0.54	0.36	0.051	OI					0.59
4.417	0.58	0.37	0.052	O I					0.59
4.500	0.59	0.37	0.054	O I					0.61
4.583	0.59	0.38	0.055	O I					0.62
4.667	0.59	0.38	0.057	O I					0.63
4.750	0.59	0.38	0.058	O I					0.64
4.833	0.62	0.39	0.059	O I					0.65
4.917	0.67	0.39	0.061	O I					0.66
5.000	0.67	0.40	0.063	O I					0.67
5.083	0.61	0.40	0.065	O I					0.69
5.167	0.53	0.41	0.066	OI					0.70
5.250	0.51	0.41	0.067	OI					0.70
5.333	0.54	0.41	0.067	OI					0.71
5.417	0.58	0.42	0.068	O I					0.71
5.500	0.59	0.42	0.070	O I					0.72
5.583	0.62	0.42	0.071	O I					0.73
5.667	0.67	0.43	0.072	O I					0.74

5.750	0.67	0.43	0.074	o I					0.75
5.833	0.68	0.44	0.076	o I					0.77
5.917	0.68	0.44	0.077	o I					0.78
6.000	0.68	0.45	0.079	o I					0.79
6.083	0.71	0.45	0.081	o I					0.80
6.167	0.75	0.46	0.083	o I					0.82
6.250	0.76	0.46	0.085	o I					0.83
6.333	0.76	0.47	0.087	o I					0.85
6.417	0.76	0.47	0.089	o I					0.86
6.500	0.76	0.48	0.091	o I					0.87
6.583	0.79	0.49	0.093	o I					0.89
6.667	0.84	0.49	0.095	o I					0.90
6.750	0.84	0.50	0.097	o I					0.92
6.833	0.85	0.51	0.100	o I					0.94
6.917	0.85	0.51	0.102	o I					0.96
7.000	0.85	0.52	0.104	o I					0.97
7.083	0.85	0.53	0.106	o I					0.99
7.167	0.85	0.53	0.109	o I					1.00
7.250	0.85	0.53	0.111	o I					1.02
7.333	0.88	0.54	0.113	o I					1.03
7.417	0.92	0.54	0.115	o I					1.04
7.500	0.93	0.55	0.118	o I					1.06
7.583	0.96	0.55	0.121	o I					1.07
7.667	1.01	0.56	0.124	o I					1.09
7.750	1.01	0.56	0.127	o I					1.11
7.833	1.05	0.57	0.130	o I					1.13
7.917	1.09	0.57	0.134	o I					1.15
8.000	1.10	0.58	0.137	o I					1.17
8.083	1.16	0.58	0.141	o I					1.19
8.167	1.25	0.59	0.145	o I					1.22
8.250	1.27	0.60	0.150	o I					1.24
8.333	1.27	0.61	0.154	o I					1.27
8.417	1.27	0.61	0.159	o I					1.30
8.500	1.27	0.62	0.163	o I					1.32
8.583	1.30	0.63	0.168	o I					1.35
8.667	1.34	0.64	0.173	o I					1.38
8.750	1.35	0.64	0.178	o I					1.40
8.833	1.38	0.65	0.183	o I					1.43
8.917	1.43	0.66	0.188	o I					1.46
9.000	1.44	0.67	0.193	o I					1.49
9.083	1.50	0.68	0.198	o I					1.52
9.167	1.59	0.68	0.204	o I					1.55
9.250	1.60	0.69	0.211	o I					1.59
9.333	1.64	0.70	0.217	o I					1.62
9.417	1.68	0.71	0.224	o I					1.65
9.500	1.69	0.71	0.230	o I					1.69
9.583	1.72	0.72	0.237	o I					1.72
9.667	1.77	0.73	0.244	o I					1.76
9.750	1.77	0.74	0.251	o I					1.79
9.833	1.81	0.75	0.259	o I					1.83
9.917	1.85	0.76	0.266	o I					1.87
10.000	1.86	0.77	0.273	o I					1.91
10.083	1.64	0.78	0.280	o I					1.94
10.167	1.33	0.78	0.285	o I					1.96
10.250	1.28	0.79	0.289	o I					1.98
10.333	1.27	0.79	0.292	o I					2.00
10.417	1.27	0.79	0.295	o I					2.02
10.500	1.27	0.80	0.299	o I					2.03
10.583	1.42	0.80	0.302	o I					2.05
10.667	1.65	0.80	0.307	o I					2.07
10.750	1.68	0.81	0.313	o I					2.10
10.833	1.69	0.82	0.319	o I					2.13
10.917	1.69	0.82	0.325	o I					2.16
11.000	1.69	0.83	0.331	o I					2.18
11.083	1.66	0.83	0.337	o I					2.21
11.167	1.62	0.84	0.343	o I					2.24
11.250	1.61	0.84	0.348	o I					2.26
11.333	1.61	0.85	0.353	o I					2.29
11.417	1.61	0.85	0.358	o I					2.31
11.500	1.61	0.86	0.364	o I					2.33
11.583	1.54	0.86	0.369	o I					2.36
11.667	1.46	0.87	0.373	o I					2.38
11.750	1.44	0.87	0.377	o I					2.40
11.833	1.47	0.87	0.381	o I					2.42
11.917	1.51	0.88	0.385	o I					2.44



18.250	0.34	1.06	0.633	I	O			3.52
18.333	0.34	1.06	0.628	I	O			3.50
18.417	0.34	1.06	0.623	I	O			3.48
18.500	0.34	1.05	0.618	I	O			3.46
18.583	0.31	1.05	0.613	I	O			3.44
18.667	0.26	1.05	0.608	I	O			3.42
18.750	0.26	1.04	0.603	I	O			3.39
18.833	0.22	1.04	0.597	I	O			3.37
18.917	0.18	1.03	0.591	I	O			3.34
19.000	0.17	1.03	0.586	I	O			3.32
19.083	0.20	1.03	0.580	I	O			3.29
19.167	0.24	1.02	0.574	I	O			3.27
19.250	0.25	1.02	0.569	I	O			3.25
19.333	0.28	1.02	0.564	I	O			3.23
19.417	0.33	1.01	0.559	I	O			3.20
19.500	0.34	1.01	0.554	I	O			3.18
19.583	0.31	1.01	0.549	I	O			3.16
19.667	0.26	1.00	0.544	I	O			3.14
19.750	0.26	1.00	0.539	I	O			3.12
19.833	0.22	1.00	0.534	I	O			3.10
19.917	0.18	0.99	0.529	I	O			3.08
20.000	0.17	0.99	0.523	I	O			3.05
20.083	0.20	0.98	0.518	I	O			3.03
20.167	0.24	0.98	0.512	I	O			3.01
20.250	0.25	0.98	0.507	I	O			2.98
20.333	0.25	0.97	0.502	I	O			2.96
20.417	0.25	0.97	0.497	I	O			2.94
20.500	0.25	0.97	0.492	I	O			2.92
20.583	0.25	0.96	0.488	I	O			2.90
20.667	0.25	0.96	0.483	I	O			2.87
20.750	0.25	0.95	0.478	I	O			2.85
20.833	0.22	0.95	0.473	I	O			2.83
20.917	0.18	0.95	0.468	I	O			2.81
21.000	0.17	0.94	0.463	I	O			2.78
21.083	0.20	0.94	0.457	I	O			2.76
21.167	0.24	0.93	0.452	I	O			2.74
21.250	0.25	0.93	0.448	I	O			2.72
21.333	0.22	0.93	0.443	I	O			2.70
21.417	0.18	0.92	0.438	I	O			2.67
21.500	0.17	0.92	0.433	I	O			2.65
21.583	0.20	0.91	0.428	I	O			2.63
21.667	0.24	0.91	0.423	I	O			2.61
21.750	0.25	0.91	0.419	I	O			2.59
21.833	0.22	0.90	0.414	I	O			2.57
21.917	0.18	0.90	0.409	I	O			2.55
22.000	0.17	0.89	0.404	I	O			2.52
22.083	0.20	0.89	0.399	I	O			2.50
22.167	0.24	0.89	0.395	I	O			2.48
22.250	0.25	0.88	0.390	I	O			2.46
22.333	0.22	0.88	0.386	I	O			2.44
22.417	0.18	0.87	0.381	I	O			2.42
22.500	0.17	0.87	0.376	I	O			2.39
22.583	0.17	0.86	0.372	I	O			2.37
22.667	0.17	0.86	0.367	I	O			2.35
22.750	0.17	0.86	0.362	I	O			2.33
22.833	0.17	0.85	0.357	I	O			2.31
22.917	0.17	0.85	0.353	I	O			2.28
23.000	0.17	0.84	0.348	I	O			2.26
23.083	0.17	0.84	0.343	I	O			2.24
23.167	0.17	0.83	0.339	I	O			2.22
23.250	0.17	0.83	0.334	I	O			2.20
23.333	0.17	0.83	0.330	I	O			2.18
23.417	0.17	0.82	0.325	I	O			2.16
23.500	0.17	0.82	0.321	I	O			2.13
23.583	0.17	0.81	0.316	I	O			2.11
23.667	0.17	0.81	0.312	I	O			2.09
23.750	0.17	0.80	0.308	I	O			2.07
23.833	0.17	0.80	0.303	I	O			2.05
23.917	0.17	0.80	0.299	I	O			2.03
24.000	0.17	0.79	0.295	I	O			2.01
24.083	0.11	0.79	0.290	I	O			1.99
24.167	0.02	0.78	0.285	I	O			1.96
24.250	0.00	0.78	0.280	I	O			1.94
24.333	0.00	0.77	0.274	I	O			1.91
24.417	0.00	0.76	0.269	I	O			1.88

24.500	0.00	0.76	0.264	I	o	|	|	1.86
24.583	0.00	0.75	0.259	I	o	|	|	1.83
24.667	0.00	0.74	0.254	I	o	|	|	1.80
24.750	0.00	0.74	0.249	I	o	|	|	1.78
24.833	0.00	0.73	0.244	I	o	|	|	1.75
24.917	0.00	0.72	0.239	I	o	|	|	1.73
25.000	0.00	0.72	0.234	I	o|	|	|	1.70
25.083	0.00	0.71	0.229	I	o|	|	|	1.68
25.167	0.00	0.71	0.224	I	o|	|	|	1.65
25.250	0.00	0.70	0.219	I	o|	|	|	1.63
25.333	0.00	0.69	0.214	I	o|	|	|	1.60
25.417	0.00	0.69	0.209	I	o|	|	|	1.58
25.500	0.00	0.68	0.205	I	o|	|	|	1.55
25.583	0.00	0.68	0.200	I	o|	|	|	1.53
25.667	0.00	0.67	0.195	I	o|	|	|	1.51
25.750	0.00	0.66	0.191	I	o|	|	|	1.48
25.833	0.00	0.66	0.186	I	o|	|	|	1.45
25.917	0.00	0.65	0.182	I	o|	|	|	1.43
26.000	0.00	0.64	0.177	I	o|	|	|	1.40
26.083	0.00	0.64	0.173	I	o|	|	|	1.38
26.167	0.00	0.63	0.168	I	o |	|	|	1.35
26.250	0.00	0.62	0.164	I	o |	|	|	1.33
26.333	0.00	0.61	0.160	I	o |	|	|	1.30
26.417	0.00	0.61	0.156	I	o |	|	|	1.28
26.500	0.00	0.60	0.151	I	o |	|	|	1.25
26.583	0.00	0.59	0.147	I	o |	|	|	1.23
26.667	0.00	0.59	0.143	I	o |	|	|	1.21
26.750	0.00	0.58	0.139	I	o |	|	|	1.18
26.833	0.00	0.57	0.135	I	o |	|	|	1.16
26.917	0.00	0.57	0.131	I	o |	|	|	1.14
27.000	0.00	0.56	0.127	I	o |	|	|	1.11
27.083	0.00	0.56	0.124	I	o |	|	|	1.09
27.167	0.00	0.55	0.120	I	o |	|	|	1.07
27.250	0.00	0.54	0.116	I	o |	|	|	1.05
27.333	0.00	0.54	0.112	I	o |	|	|	1.03
27.417	0.00	0.53	0.109	I	o |	|	|	1.00
27.500	0.00	0.52	0.105	I	o |	|	|	0.98
27.583	0.00	0.51	0.101	I	o |	|	|	0.95
27.667	0.00	0.50	0.098	I	o |	|	|	0.93
27.750	0.00	0.49	0.095	I	o |	|	|	0.90
27.833	0.00	0.48	0.091	I	o |	|	|	0.88
27.917	0.00	0.47	0.088	I	o |	|	|	0.85
28.000	0.00	0.46	0.085	I	o |	|	|	0.83
28.083	0.00	0.45	0.082	I	o |	|	|	0.81
28.167	0.00	0.44	0.078	I	o |	|	|	0.79
28.250	0.00	0.44	0.075	I	o |	|	|	0.76
28.333	0.00	0.43	0.072	I	o |	|	|	0.74
28.417	0.00	0.42	0.070	I	o |	|	|	0.72
28.500	0.00	0.41	0.067	I	o |	|	|	0.70
28.583	0.00	0.40	0.064	I	o |	|	|	0.68
28.667	0.00	0.39	0.061	I	o |	|	|	0.66
28.750	0.00	0.39	0.058	I	o |	|	|	0.64
28.833	0.00	0.38	0.056	I	o |	|	|	0.62
28.917	0.00	0.37	0.053	I	o |	|	|	0.60
29.000	0.00	0.36	0.051	I	o |	|	|	0.59
29.083	0.00	0.36	0.048	I	o |	|	|	0.57
29.167	0.00	0.35	0.046	I	o |	|	|	0.55
29.250	0.00	0.34	0.043	I	o |	|	|	0.53
29.333	0.00	0.34	0.041	I	o |	|	|	0.52
29.417	0.00	0.33	0.039	I	o |	|	|	0.50
29.500	0.00	0.30	0.037	I	o |	|	|	0.47
29.583	0.00	0.27	0.035	I	o |	|	|	0.44
29.667	0.00	0.25	0.033	I	o |	|	|	0.42
29.750	0.00	0.22	0.031	I	o |	|	|	0.40
29.833	0.00	0.20	0.030	I	o |	|	|	0.38
29.917	0.00	0.19	0.028	I	o |	|	|	0.36
30.000	0.00	0.17	0.027	I	o |	|	|	0.35
30.083	0.00	0.15	0.026	I	o |	|	|	0.33
30.167	0.00	0.14	0.025	I	o |	|	|	0.32
30.250	0.00	0.13	0.024	I	o |	|	|	0.31
30.333	0.00	0.12	0.023	I	o |	|	|	0.30
30.417	0.00	0.11	0.023	I	o |	|	|	0.29
30.500	0.00	0.10	0.022	I	o |	|	|	0.28
30.583	0.00	0.09	0.021	I	o |	|	|	0.27
30.667	0.00	0.08	0.021	I	o |	|	|	0.26

30.750	0.00	0.07	0.020	o	|	|	|	|	0.26
30.833	0.00	0.07	0.020	o	|	|	|	|	0.25
30.917	0.00	0.06	0.019	o	|	|	|	|	0.24
31.000	0.00	0.05	0.019	o	|	|	|	|	0.24
31.083	0.00	0.05	0.019	o	|	|	|	|	0.23
31.167	0.00	0.05	0.018	o	|	|	|	|	0.23
31.250	0.00	0.04	0.018	o	|	|	|	|	0.23
31.333	0.00	0.04	0.018	o	|	|	|	|	0.22
31.417	0.00	0.03	0.017	o	|	|	|	|	0.22
31.500	0.00	0.03	0.017	o	|	|	|	|	0.22
31.583	0.00	0.03	0.017	o	|	|	|	|	0.21
31.667	0.00	0.03	0.017	o	|	|	|	|	0.21
31.750	0.00	0.02	0.017	o	|	|	|	|	0.21
31.833	0.00	0.02	0.016	o	|	|	|	|	0.21
31.917	0.00	0.02	0.016	o	|	|	|	|	0.21
32.000	0.00	0.02	0.016	o	|	|	|	|	0.20
32.083	0.00	0.02	0.016	o	|	|	|	|	0.20
32.167	0.00	0.01	0.016	o	|	|	|	|	0.20
32.250	0.00	0.01	0.016	o	|	|	|	|	0.20
32.333	0.00	0.01	0.016	o	|	|	|	|	0.20
32.417	0.00	0.01	0.016	o	|	|	|	|	0.20
32.500	0.00	0.01	0.016	o	|	|	|	|	0.20
32.583	0.00	0.01	0.016	o	|	|	|	|	0.20
32.667	0.00	0.01	0.016	o	|	|	|	|	0.19
32.750	0.00	0.01	0.015	o	|	|	|	|	0.19
32.833	0.00	0.01	0.015	o	|	|	|	|	0.19
32.917	0.00	0.01	0.015	o	|	|	|	|	0.19
33.000	0.00	0.01	0.015	o	|	|	|	|	0.19
33.083	0.00	0.01	0.015	o	|	|	|	|	0.19
33.167	0.00	0.00	0.015	o	|	|	|	|	0.19
33.250	0.00	0.00	0.015	o	|	|	|	|	0.19
33.333	0.00	0.00	0.015	o	|	|	|	|	0.19
33.417	0.00	0.00	0.015	o	|	|	|	|	0.19
33.500	0.00	0.00	0.015	o	|	|	|	|	0.19
33.583	0.00	0.00	0.015	o	|	|	|	|	0.19
33.667	0.00	0.00	0.015	o	|	|	|	|	0.19
33.750	0.00	0.00	0.015	o	|	|	|	|	0.19
33.833	0.00	0.00	0.015	o	|	|	|	|	0.19
33.917	0.00	0.00	0.015	o	|	|	|	|	0.19
34.000	0.00	0.00	0.015	o	|	|	|	|	0.19
34.083	0.00	0.00	0.015	o	|	|	|	|	0.19
34.167	0.00	0.00	0.015	o	|	|	|	|	0.19
34.250	0.00	0.00	0.015	o	|	|	|	|	0.19
34.333	0.00	0.00	0.015	o	|	|	|	|	0.19
34.417	0.00	0.00	0.015	o	|	|	|	|	0.19
34.500	0.00	0.00	0.015	o	|	|	|	|	0.19
34.583	0.00	0.00	0.015	o	|	|	|	|	0.19

Remaining water in basin = 0.01 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 415
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 1.151 (CFS)
Total volume = 1.732 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005
Study date: 11/25/21

BCCOV BLDG C AREA 9
2 YR 24 HR STORM EVENT
21-0034
2021-12-02 EP

Program License Serial Number 4010

********** HYDROGRAPH INFORMATION **********

From study/file name: PROP2YRC2242.rte

**********HYDROGRAPH DATA**********

Number of intervals = 291
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2.867 (CFS)
Total volume = 1.742 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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Process from Point/Station 100.000 to Point/Station 101.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 291
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.125	0.010	0.001	0.010	0.010
0.500	0.042	0.160	0.041	0.043
1.000	0.116	0.240	0.115	0.117
1.500	0.209	0.300	0.208	0.210
2.000	0.315	0.360	0.314	0.316
2.500	0.431	0.400	0.430	0.432
3.000	0.553	0.440	0.551	0.555
3.500	0.679	0.480	0.677	0.681
4.000	0.807	0.510	0.805	0.809
4.500	0.935	0.540	0.933	0.937
5.000	1.061	0.570	1.059	1.063
5.500	1.182	0.600	1.180	1.184
6.000	1.298	0.630	1.296	1.300
6.500	1.404	0.660	1.402	1.406
7.000	1.497	0.680	1.495	1.499
7.500	1.571	0.710	1.569	1.573
8.000	1.613	0.730	1.610	1.616

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.7	1.43	2.15	2.87	Depth (Ft.)
0.083	0.07	0.00	0.000	O					0.00
0.167	0.16	0.00	0.001	OI					0.01
0.250	0.17	0.00	0.002	OI					0.03
0.333	0.20	0.00	0.003	O I					0.04
0.417	0.25	0.00	0.005	O I					0.06
0.500	0.25	0.00	0.007	O I					0.08
0.583	0.25	0.00	0.008	O I					0.11
0.667	0.25	0.00	0.010	O I					0.13
0.750	0.25	0.01	0.012	O I					0.15
0.833	0.29	0.02	0.014	O I					0.17
0.917	0.33	0.03	0.016	O I					0.19
1.000	0.34	0.04	0.018	O I					0.21
1.083	0.30	0.05	0.020	O I					0.24
1.167	0.26	0.06	0.021	O I					0.26
1.250	0.25	0.06	0.022	O I					0.27
1.333	0.25	0.07	0.024	O I					0.29
1.417	0.25	0.08	0.025	O I					0.30
1.500	0.25	0.08	0.026	O I					0.31
1.583	0.25	0.09	0.027	O I					0.33
1.667	0.25	0.09	0.028	OI					0.34
1.750	0.25	0.10	0.030	OI					0.35
1.833	0.29	0.10	0.031	O I					0.37
1.917	0.33	0.11	0.032	O I					0.38
2.000	0.34	0.12	0.034	O I					0.40
2.083	0.34	0.13	0.035	O I					0.42
2.167	0.34	0.13	0.037	O I					0.44
2.250	0.34	0.14	0.038	O I					0.45
2.333	0.34	0.15	0.039	O I					0.47
2.417	0.34	0.15	0.041	O I					0.48
2.500	0.34	0.16	0.042	O I					0.50
2.583	0.37	0.16	0.043	O I					0.51
2.667	0.42	0.16	0.045	O I					0.52
2.750	0.42	0.16	0.047	O I					0.53
2.833	0.42	0.17	0.048	O I					0.54
2.917	0.42	0.17	0.050	O I					0.55
3.000	0.42	0.17	0.052	O I					0.57
3.083	0.42	0.17	0.053	O I					0.58
3.167	0.42	0.17	0.055	O I					0.59
3.250	0.42	0.18	0.057	O I					0.60
3.333	0.42	0.18	0.059	O I					0.61
3.417	0.42	0.18	0.060	O I					0.62
3.500	0.42	0.18	0.062	O I					0.63
3.583	0.42	0.18	0.064	O I					0.65
3.667	0.42	0.19	0.065	O I					0.66
3.750	0.42	0.19	0.067	O I					0.67
3.833	0.46	0.19	0.069	O I					0.68
3.917	0.50	0.19	0.071	O I					0.69
4.000	0.51	0.19	0.073	O I					0.71
4.083	0.51	0.20	0.075	O I					0.72
4.167	0.51	0.20	0.077	O I					0.74
4.250	0.51	0.20	0.079	O I					0.75
4.333	0.54	0.20	0.081	O I					0.77
4.417	0.58	0.21	0.084	O I					0.78
4.500	0.59	0.21	0.086	O I					0.80
4.583	0.59	0.21	0.089	O I					0.82
4.667	0.59	0.21	0.092	O I					0.84
4.750	0.59	0.22	0.094	O I					0.85
4.833	0.63	0.22	0.097	O I					0.87
4.917	0.67	0.22	0.100	O I					0.89
5.000	0.67	0.23	0.103	O I					0.91
5.083	0.60	0.23	0.106	O I					0.93
5.167	0.52	0.23	0.108	O I					0.95
5.250	0.51	0.23	0.110	O I					0.96
5.333	0.54	0.24	0.112	O I					0.97
5.417	0.58	0.24	0.114	O I					0.99
5.500	0.59	0.24	0.117	O I					1.00
5.583	0.63	0.24	0.119	O I					1.02
5.667	0.67	0.24	0.122	O I					1.03

5.750	0.67	0.25	0.125	o I				1.05
5.833	0.67	0.25	0.128	o I				1.06
5.917	0.67	0.25	0.131	o I				1.08
6.000	0.67	0.25	0.134	o I				1.09
6.083	0.71	0.25	0.137	o I				1.11
6.167	0.75	0.26	0.140	o I				1.13
6.250	0.76	0.26	0.143	o I				1.15
6.333	0.76	0.26	0.147	o I				1.17
6.417	0.76	0.26	0.150	o I				1.18
6.500	0.76	0.26	0.154	o I				1.20
6.583	0.79	0.27	0.157	o I				1.22
6.667	0.84	0.27	0.161	o I				1.24
6.750	0.84	0.27	0.165	o I				1.26
6.833	0.84	0.27	0.169	o I				1.28
6.917	0.84	0.28	0.173	o I				1.30
7.000	0.84	0.28	0.177	o I				1.33
7.083	0.84	0.28	0.180	o I				1.35
7.167	0.84	0.28	0.184	o I				1.37
7.250	0.84	0.29	0.188	o I				1.39
7.333	0.88	0.29	0.192	o I				1.41
7.417	0.92	0.29	0.196	o I				1.43
7.500	0.93	0.29	0.201	o I				1.46
7.583	0.96	0.30	0.205	o I				1.48
7.667	1.01	0.30	0.210	o I				1.50
7.750	1.01	0.30	0.215	o I				1.53
7.833	1.05	0.31	0.220	o I				1.55
7.917	1.09	0.31	0.225	o I				1.58
8.000	1.10	0.31	0.230	o I				1.60
8.083	1.17	0.32	0.236	o I				1.63
8.167	1.25	0.32	0.242	o I				1.66
8.250	1.26	0.32	0.249	o I				1.69
8.333	1.26	0.33	0.255	o I				1.72
8.417	1.26	0.33	0.262	o I				1.75
8.500	1.26	0.33	0.268	o I				1.78
8.583	1.30	0.34	0.274	o I				1.81
8.667	1.34	0.34	0.281	o I				1.84
8.750	1.35	0.34	0.288	o I				1.87
8.833	1.39	0.35	0.295	o I				1.91
8.917	1.43	0.35	0.302	o I				1.94
9.000	1.43	0.36	0.310	o I				1.98
9.083	1.51	0.36	0.318	o I				2.01
9.167	1.59	0.36	0.326	o I				2.05
9.250	1.60	0.37	0.334	o I				2.08
9.333	1.64	0.37	0.343	o I				2.12
9.417	1.68	0.37	0.352	o I				2.16
9.500	1.69	0.38	0.361	o I				2.20
9.583	1.72	0.38	0.370	o I				2.24
9.667	1.76	0.38	0.379	o I				2.28
9.750	1.77	0.39	0.389	o I				2.32
9.833	1.81	0.39	0.398	o I				2.36
9.917	1.85	0.39	0.408	o I				2.40
10.000	1.85	0.40	0.418	o I				2.45
10.083	1.60	0.40	0.427	o I				2.48
10.167	1.31	0.40	0.435	o I				2.52
10.250	1.27	0.40	0.441	o I				2.54
10.333	1.26	0.41	0.447	o I				2.56
10.417	1.26	0.41	0.453	o I				2.59
10.500	1.26	0.41	0.459	o I				2.61
10.583	1.44	0.41	0.465	o I				2.64
10.667	1.65	0.41	0.473	o I				2.67
10.750	1.68	0.42	0.482	o I				2.71
10.833	1.69	0.42	0.490	o I				2.74
10.917	1.69	0.42	0.499	o I				2.78
11.000	1.69	0.43	0.508	o I				2.81
11.083	1.65	0.43	0.516	o I				2.85
11.167	1.61	0.43	0.525	o I				2.88
11.250	1.60	0.43	0.533	o I				2.92
11.333	1.60	0.44	0.541	o I				2.95
11.417	1.60	0.44	0.549	o I				2.98
11.500	1.60	0.44	0.557	o I				3.01
11.583	1.53	0.44	0.564	o I				3.05
11.667	1.45	0.45	0.572	o I				3.07
11.750	1.44	0.45	0.578	o I				3.10
11.833	1.47	0.45	0.585	o I				3.13
11.917	1.51	0.45	0.593	o I				3.16

12.000	1.52	0.45	0.600	| o |	| I |	| |	| |	3.19
12.083	1.77	0.46	0.608	| o |	| I |	| |	| |	3.22
12.167	2.06	0.46	0.618	| o |	| I|	| |	| |	3.26
12.250	2.10	0.46	0.629	| o |	| I|	| |	| |	3.30
12.333	2.14	0.47	0.641	| o |	| I|	| |	| |	3.35
12.417	2.19	0.47	0.652	| o |	| I |	| |	| |	3.39
12.500	2.19	0.48	0.664	| o |	| I |	| |	| |	3.44
12.583	2.26	0.48	0.676	| o |	| |I |	| |	| |	3.49
12.667	2.35	0.48	0.689	| o |	| | I |	| |	| |	3.54
12.750	2.36	0.49	0.702	| o |	| | I |	| |	| |	3.59
12.833	2.40	0.49	0.715	| o |	| | I |	| |	| |	3.64
12.917	2.44	0.49	0.728	| o |	| | | I |	| |	| |	3.69
13.000	2.44	0.49	0.741	| o |	| | | I |	| |	| |	3.74
13.083	2.63	0.50	0.755	| o |	| | | | I |	| |	| |	3.80
13.167	2.84	0.50	0.771	| o |	| | | | | I|	| |	| |	3.86
13.250	2.86	0.51	0.787	| o |	| | | | | I|	| |	| |	3.92
13.333	2.87	0.51	0.803	| o |	| | | | | | I	| |	| |	3.99
13.417	2.87	0.51	0.819	| o |	| | | | | | I	| |	| |	4.05
13.500	2.87	0.52	0.836	| o |	| | | | | | I	| |	| |	4.11
13.583	2.47	0.52	0.850	| o |	| | | | I |	| |	| |	4.17
13.667	2.01	0.52	0.862	| o |	| | | I |	| |	| |	4.22
13.750	1.95	0.53	0.872	| o |	| | I |	| |	| |	4.25
13.833	1.94	0.53	0.882	| o |	| | I |	| |	| |	4.29
13.917	1.94	0.53	0.892	| o |	| | I |	| |	| |	4.33
14.000	1.94	0.53	0.901	| o |	| | I |	| |	| |	4.37
14.083	2.08	0.53	0.912	| o |	| | | I|	| |	| |	4.41
14.167	2.25	0.54	0.923	| o |	| | | |I |	| |	| |	4.45
14.250	2.27	0.54	0.935	| | o |	| | | |I |	| |	| |	4.50
14.333	2.24	0.54	0.947	| | o |	| | | |I |	| |	| |	4.55
14.417	2.20	0.55	0.958	| | o |	| | | I |	| |	| |	4.59
14.500	2.19	0.55	0.969	| | o |	| | | I |	| |	| |	4.64
14.583	2.19	0.55	0.981	| | o |	| | | I |	| |	| |	4.68
14.667	2.19	0.55	0.992	| | o |	| | | I |	| |	| |	4.73
14.750	2.19	0.56	1.003	| | o |	| | | I |	| |	| |	4.77
14.833	2.16	0.56	1.014	| | o |	| | | I |	| |	| |	4.82
14.917	2.11	0.56	1.025	| | o |	| | I|	| |	| |	4.86
15.000	2.11	0.56	1.036	| | o |	| | I|	| |	| |	4.90
15.083	2.07	0.57	1.047	| | o |	| | I|	| |	| |	4.94
15.167	2.03	0.57	1.057	| | o |	| | | I |	| |	| |	4.98
15.250	2.02	0.57	1.067	| | o |	| | | I |	| |	| |	5.02
15.333	1.99	0.57	1.077	| | o |	| | | I |	| |	| |	5.06
15.417	1.95	0.58	1.086	| | o |	| | I |	| |	| |	5.10
15.500	1.94	0.58	1.096	| | o |	| | I |	| |	| |	5.14
15.583	1.80	0.58	1.105	| | o |	| | | I |	| |	| |	5.18
15.667	1.63	0.58	1.112	| | o |	| | I |	| |	| |	5.21
15.750	1.61	0.58	1.119	| | o |	|I |	| |	| |	5.24
15.833	1.60	0.59	1.126	| | o |	|I |	| |	| |	5.27
15.917	1.60	0.59	1.133	| | o |	|I |	| |	| |	5.30
16.000	1.60	0.59	1.140	| | o |	|I |	| |	| |	5.33
16.083	1.06	0.59	1.146	| | o | I |	| |	| |	| |	5.35
16.167	0.43	0.59	1.147	| | I o |	| |	| |	| |	5.35
16.250	0.35	0.59	1.145	| I o |	| |	| |	| |	5.35
16.333	0.34	0.59	1.144	| I o |	| |	| |	| |	5.34
16.417	0.34	0.59	1.142	| I o |	| |	| |	| |	5.33
16.500	0.34	0.59	1.140	| I o |	| |	| |	| |	5.33
16.583	0.30	0.59	1.138	| I o |	| |	| |	| |	5.32
16.667	0.26	0.59	1.136	| I o |	| |	| |	| |	5.31
16.750	0.25	0.59	1.134	| I o |	| |	| |	| |	5.30
16.833	0.25	0.59	1.131	| I o |	| |	| |	| |	5.29
16.917	0.25	0.59	1.129	| I o |	| |	| |	| |	5.28
17.000	0.25	0.59	1.127	| I o |	| |	| |	| |	5.27
17.083	0.32	0.59	1.125	| I o |	| |	| |	| |	5.26
17.167	0.41	0.59	1.123	| I o |	| |	| |	| |	5.26
17.250	0.42	0.59	1.122	| I o |	| |	| |	| |	5.25
17.333	0.42	0.58	1.121	| I o |	| |	| |	| |	5.25
17.417	0.42	0.58	1.120	| I o |	| |	| |	| |	5.24
17.500	0.42	0.58	1.119	| I o |	| |	| |	| |	5.24
17.583	0.42	0.58	1.118	| I o |	| |	| |	| |	5.23
17.667	0.42	0.58	1.117	| I o |	| |	| |	| |	5.23
17.750	0.42	0.58	1.115	| I o |	| |	| |	| |	5.22
17.833	0.39	0.58	1.114	| I o |	| |	| |	| |	5.22
17.917	0.34	0.58	1.113	| I o |	| |	| |	| |	5.21
18.000	0.34	0.58	1.111	| I o |	| |	| |	| |	5.21
18.083	0.34	0.58	1.109	| I o |	| |	| |	| |	5.20
18.167	0.34	0.58	1.108	| I o |	| |	| |	| |	5.19

18.250	0.34	0.58	1.106	| I o |	|	|	|	5.19
18.333	0.34	0.58	1.104	| I o |	|	|	|	5.18
18.417	0.34	0.58	1.103	| I o |	|	|	|	5.17
18.500	0.34	0.58	1.101	| I o |	|	|	|	5.16
18.583	0.30	0.58	1.099	| I o |	|	|	|	5.16
18.667	0.26	0.58	1.097	| I o |	|	|	|	5.15
18.750	0.25	0.58	1.095	| I o |	|	|	|	5.14
18.833	0.22	0.58	1.092	| I o |	|	|	|	5.13
18.917	0.17	0.58	1.090	|I o |	|	|	|	5.12
19.000	0.17	0.58	1.087	|I o |	|	|	|	5.11
19.083	0.20	0.58	1.084	| I o |	|	|	|	5.10
19.167	0.25	0.58	1.082	| I o |	|	|	|	5.09
19.250	0.25	0.57	1.080	| I o |	|	|	|	5.08
19.333	0.29	0.57	1.078	| I o |	|	|	|	5.07
19.417	0.33	0.57	1.076	| I o |	|	|	|	5.06
19.500	0.34	0.57	1.074	| I o |	|	|	|	5.05
19.583	0.30	0.57	1.072	| I o |	|	|	|	5.05
19.667	0.26	0.57	1.070	| I o |	|	|	|	5.04
19.750	0.25	0.57	1.068	| I o |	|	|	|	5.03
19.833	0.22	0.57	1.066	| I o |	|	|	|	5.02
19.917	0.17	0.57	1.063	|I o |	|	|	|	5.01
20.000	0.17	0.57	1.061	|I o |	|	|	|	5.00
20.083	0.20	0.57	1.058	| I o |	|	|	|	4.99
20.167	0.25	0.57	1.056	| I o |	|	|	|	4.98
20.250	0.25	0.57	1.053	| I o |	|	|	|	4.97
20.333	0.25	0.57	1.051	| I o |	|	|	|	4.96
20.417	0.25	0.57	1.049	| I o |	|	|	|	4.95
20.500	0.25	0.57	1.047	| I o |	|	|	|	4.94
20.583	0.25	0.57	1.045	| I o |	|	|	|	4.94
20.667	0.25	0.57	1.043	| I o |	|	|	|	4.93
20.750	0.25	0.57	1.040	| I o |	|	|	|	4.92
20.833	0.22	0.56	1.038	| I o |	|	|	|	4.91
20.917	0.17	0.56	1.036	|I o |	|	|	|	4.90
21.000	0.17	0.56	1.033	|I o |	|	|	|	4.89
21.083	0.20	0.56	1.030	| I o |	|	|	|	4.88
21.167	0.25	0.56	1.028	| I o |	|	|	|	4.87
21.250	0.25	0.56	1.026	| I o |	|	|	|	4.86
21.333	0.22	0.56	1.024	| I o |	|	|	|	4.85
21.417	0.17	0.56	1.021	|I o |	|	|	|	4.84
21.500	0.17	0.56	1.018	|I o |	|	|	|	4.83
21.583	0.20	0.56	1.016	| I o |	|	|	|	4.82
21.667	0.25	0.56	1.014	| I o |	|	|	|	4.81
21.750	0.25	0.56	1.011	| I o |	|	|	|	4.80
21.833	0.22	0.56	1.009	| I o |	|	|	|	4.79
21.917	0.17	0.56	1.007	|I o |	|	|	|	4.78
22.000	0.17	0.56	1.004	|I o |	|	|	|	4.77
22.083	0.20	0.56	1.002	| I o |	|	|	|	4.76
22.167	0.25	0.56	0.999	| I o |	|	|	|	4.76
22.250	0.25	0.55	0.997	| I o |	|	|	|	4.75
22.333	0.22	0.55	0.995	| I o |	|	|	|	4.74
22.417	0.17	0.55	0.993	|I o |	|	|	|	4.73
22.500	0.17	0.55	0.990	|I o |	|	|	|	4.72
22.583	0.17	0.55	0.987	|I o |	|	|	|	4.71
22.667	0.17	0.55	0.985	|I o |	|	|	|	4.70
22.750	0.17	0.55	0.982	|I o |	|	|	|	4.69
22.833	0.17	0.55	0.979	|I o |	|	|	|	4.68
22.917	0.17	0.55	0.977	|I o |	|	|	|	4.67
23.000	0.17	0.55	0.974	|I o |	|	|	|	4.66
23.083	0.17	0.55	0.971	|I o |	|	|	|	4.64
23.167	0.17	0.55	0.969	|I o |	|	|	|	4.63
23.250	0.17	0.55	0.966	|I o |	|	|	|	4.62
23.333	0.17	0.55	0.964	|I o |	|	|	|	4.61
23.417	0.17	0.55	0.961	|I o |	|	|	|	4.60
23.500	0.17	0.55	0.958	|I o |	|	|	|	4.59
23.583	0.17	0.54	0.956	|I o |	|	|	|	4.58
23.667	0.17	0.54	0.953	|I o |	|	|	|	4.57
23.750	0.17	0.54	0.951	|I o |	|	|	|	4.56
23.833	0.17	0.54	0.948	|I o |	|	|	|	4.55
23.917	0.17	0.54	0.946	|I o |	|	|	|	4.54
24.000	0.17	0.54	0.943	|I o |	|	|	|	4.53
24.083	0.10	0.54	0.940	|I o |	|	|	|	4.52
24.167	0.01	0.54	0.937	I o |	|	|	|	4.51
24.250	0.00	0.54	0.933	I o |	|	|	|	4.49
24.333	0.00	0.54	0.929	I o |	|	|	|	4.48
24.417	0.00	0.54	0.926	I o |	|	|	|	4.46

24.500	0.00	0.54	0.922	I	O	|	|	|	|	4.45
24.583	0.00	0.54	0.918	I	O	|	|	|	|	4.43
24.667	0.00	0.54	0.915	I	O	|	|	|	|	4.42
24.750	0.00	0.53	0.911	I	O	|	|	|	|	4.41
24.833	0.00	0.53	0.907	I	O	|	|	|	|	4.39
24.917	0.00	0.53	0.904	I	O	|	|	|	|	4.38
25.000	0.00	0.53	0.900	I	O	|	|	|	|	4.36
25.083	0.00	0.53	0.896	I	O	|	|	|	|	4.35
25.167	0.00	0.53	0.893	I	O	|	|	|	|	4.33
25.250	0.00	0.53	0.889	I	O	|	|	|	|	4.32
25.333	0.00	0.53	0.885	I	O	|	|	|	|	4.31
25.417	0.00	0.53	0.882	I	O	|	|	|	|	4.29
25.500	0.00	0.53	0.878	I	O	|	|	|	|	4.28
25.583	0.00	0.53	0.874	I	O	|	|	|	|	4.26
25.667	0.00	0.52	0.871	I	O	|	|	|	|	4.25
25.750	0.00	0.52	0.867	I	O	|	|	|	|	4.24
25.833	0.00	0.52	0.864	I	O	|	|	|	|	4.22
25.917	0.00	0.52	0.860	I	O	|	|	|	|	4.21
26.000	0.00	0.52	0.856	I	O	|	|	|	|	4.19
26.083	0.00	0.52	0.853	I	O	|	|	|	|	4.18
26.167	0.00	0.52	0.849	I	O	|	|	|	|	4.16
26.250	0.00	0.52	0.846	I	O	|	|	|	|	4.15
26.333	0.00	0.52	0.842	I	O	|	|	|	|	4.14
26.417	0.00	0.52	0.838	I	O	|	|	|	|	4.12
26.500	0.00	0.52	0.835	I	O	|	|	|	|	4.11
26.583	0.00	0.52	0.831	I	O	|	|	|	|	4.10
26.667	0.00	0.51	0.828	I	O	|	|	|	|	4.08
26.750	0.00	0.51	0.824	I	O	|	|	|	|	4.07
26.833	0.00	0.51	0.821	I	O	|	|	|	|	4.05
26.917	0.00	0.51	0.817	I	O	|	|	|	|	4.04
27.000	0.00	0.51	0.814	I	O	|	|	|	|	4.03
27.083	0.00	0.51	0.810	I	O	|	|	|	|	4.01
27.167	0.00	0.51	0.807	I	O	|	|	|	|	4.00
27.250	0.00	0.51	0.803	I	O	|	|	|	|	3.98
27.333	0.00	0.51	0.800	I	O	|	|	|	|	3.97
27.417	0.00	0.51	0.796	I	O	|	|	|	|	3.96
27.500	0.00	0.51	0.793	I	O	|	|	|	|	3.94
27.583	0.00	0.51	0.789	I	O	|	|	|	|	3.93
27.667	0.00	0.51	0.786	I	O	|	|	|	|	3.92
27.750	0.00	0.50	0.782	I	O	|	|	|	|	3.90
27.833	0.00	0.50	0.779	I	O	|	|	|	|	3.89
27.917	0.00	0.50	0.775	I	O	|	|	|	|	3.88
28.000	0.00	0.50	0.772	I	O	|	|	|	|	3.86
28.083	0.00	0.50	0.768	I	O	|	|	|	|	3.85
28.167	0.00	0.50	0.765	I	O	|	|	|	|	3.84
28.250	0.00	0.50	0.761	I	O	|	|	|	|	3.82
28.333	0.00	0.50	0.758	I	O	|	|	|	|	3.81
28.417	0.00	0.50	0.755	I	O	|	|	|	|	3.80
28.500	0.00	0.50	0.751	I	O	|	|	|	|	3.78
28.583	0.00	0.50	0.748	I	O	|	|	|	|	3.77
28.667	0.00	0.50	0.744	I	O	|	|	|	|	3.76
28.750	0.00	0.49	0.741	I	O	|	|	|	|	3.74
28.833	0.00	0.49	0.738	I	O	|	|	|	|	3.73
28.917	0.00	0.49	0.734	I	O	|	|	|	|	3.72
29.000	0.00	0.49	0.731	I	O	|	|	|	|	3.70
29.083	0.00	0.49	0.727	I	O	|	|	|	|	3.69
29.167	0.00	0.49	0.724	I	O	|	|	|	|	3.68
29.250	0.00	0.49	0.721	I	O	|	|	|	|	3.66
29.333	0.00	0.49	0.717	I	O	|	|	|	|	3.65
29.417	0.00	0.49	0.714	I	O	|	|	|	|	3.64
29.500	0.00	0.49	0.711	I	O	|	|	|	|	3.62
29.583	0.00	0.49	0.707	I	O	|	|	|	|	3.61
29.667	0.00	0.49	0.704	I	O	|	|	|	|	3.60
29.750	0.00	0.49	0.700	I	O	|	|	|	|	3.58
29.833	0.00	0.48	0.697	I	O	|	|	|	|	3.57
29.917	0.00	0.48	0.694	I	O	|	|	|	|	3.56
30.000	0.00	0.48	0.690	I	O	|	|	|	|	3.54
30.083	0.00	0.48	0.687	I	O	|	|	|	|	3.53
30.167	0.00	0.48	0.684	I	O	|	|	|	|	3.52
30.250	0.00	0.48	0.681	I	O	|	|	|	|	3.51
30.333	0.00	0.48	0.677	I	O	|	|	|	|	3.49
30.417	0.00	0.48	0.674	I	O	|	|	|	|	3.48
30.500	0.00	0.48	0.671	I	O	|	|	|	|	3.47
30.583	0.00	0.48	0.667	I	O	|	|	|	|	3.45
30.667	0.00	0.48	0.664	I	O	|	|	|	|	3.44

30.750	0.00	0.47	0.661	I	o	|	|	|	|	3.43
30.833	0.00	0.47	0.658	I	o	|	|	|	|	3.41
30.917	0.00	0.47	0.654	I	o	|	|	|	|	3.40
31.000	0.00	0.47	0.651	I	o	|	|	|	|	3.39
31.083	0.00	0.47	0.648	I	o	|	|	|	|	3.38
31.167	0.00	0.47	0.645	I	o	|	|	|	|	3.36
31.250	0.00	0.47	0.641	I	o	|	|	|	|	3.35
31.333	0.00	0.47	0.638	I	o	|	|	|	|	3.34
31.417	0.00	0.47	0.635	I	o	|	|	|	|	3.32
31.500	0.00	0.46	0.632	I	o	|	|	|	|	3.31
31.583	0.00	0.46	0.628	I	o	|	|	|	|	3.30
31.667	0.00	0.46	0.625	I	o	|	|	|	|	3.29
31.750	0.00	0.46	0.622	I	o	|	|	|	|	3.27
31.833	0.00	0.46	0.619	I	o	|	|	|	|	3.26
31.917	0.00	0.46	0.616	I	o	|	|	|	|	3.25
32.000	0.00	0.46	0.613	I	o	|	|	|	|	3.24
32.083	0.00	0.46	0.609	I	o	|	|	|	|	3.22
32.167	0.00	0.46	0.606	I	o	|	|	|	|	3.21
32.250	0.00	0.46	0.603	I	o	|	|	|	|	3.20
32.333	0.00	0.45	0.600	I	o	|	|	|	|	3.19
32.417	0.00	0.45	0.597	I	o	|	|	|	|	3.17
32.500	0.00	0.45	0.594	I	o	|	|	|	|	3.16
32.583	0.00	0.45	0.591	I	o	|	|	|	|	3.15
32.667	0.00	0.45	0.588	I	o	|	|	|	|	3.14
32.750	0.00	0.45	0.584	I	o	|	|	|	|	3.12
32.833	0.00	0.45	0.581	I	o	|	|	|	|	3.11
32.917	0.00	0.45	0.578	I	o	|	|	|	|	3.10
33.000	0.00	0.45	0.575	I	o	|	|	|	|	3.09
33.083	0.00	0.45	0.572	I	o	|	|	|	|	3.08
33.167	0.00	0.45	0.569	I	o	|	|	|	|	3.06
33.250	0.00	0.44	0.566	I	o	|	|	|	|	3.05
33.333	0.00	0.44	0.563	I	o	|	|	|	|	3.04
33.417	0.00	0.44	0.560	I	o	|	|	|	|	3.03
33.500	0.00	0.44	0.557	I	o	|	|	|	|	3.02
33.583	0.00	0.44	0.554	I	o	|	|	|	|	3.00
33.667	0.00	0.44	0.551	I	o	|	|	|	|	2.99
33.750	0.00	0.44	0.548	I	o	|	|	|	|	2.98
33.833	0.00	0.44	0.545	I	o	|	|	|	|	2.97
33.917	0.00	0.44	0.542	I	o	|	|	|	|	2.95
34.000	0.00	0.44	0.539	I	o	|	|	|	|	2.94
34.083	0.00	0.43	0.536	I	o	|	|	|	|	2.93
34.167	0.00	0.43	0.533	I	o	|	|	|	|	2.92
34.250	0.00	0.43	0.530	I	o	|	|	|	|	2.90
34.333	0.00	0.43	0.527	I	o	|	|	|	|	2.89
34.417	0.00	0.43	0.524	I	o	|	|	|	|	2.88
34.500	0.00	0.43	0.521	I	o	|	|	|	|	2.87
34.583	0.00	0.43	0.518	I	o	|	|	|	|	2.86
34.667	0.00	0.43	0.515	I	o	|	|	|	|	2.84
34.750	0.00	0.43	0.512	I	o	|	|	|	|	2.83
34.833	0.00	0.43	0.509	I	o	|	|	|	|	2.82
34.917	0.00	0.42	0.506	I	o	|	|	|	|	2.81
35.000	0.00	0.42	0.503	I	o	|	|	|	|	2.80
35.083	0.00	0.42	0.500	I	o	|	|	|	|	2.78
35.167	0.00	0.42	0.497	I	o	|	|	|	|	2.77
35.250	0.00	0.42	0.494	I	o	|	|	|	|	2.76
35.333	0.00	0.42	0.492	I	o	|	|	|	|	2.75
35.417	0.00	0.42	0.489	I	o	|	|	|	|	2.74
35.500	0.00	0.42	0.486	I	o	|	|	|	|	2.72
35.583	0.00	0.42	0.483	I	o	|	|	|	|	2.71
35.667	0.00	0.42	0.480	I	o	|	|	|	|	2.70
35.750	0.00	0.42	0.477	I	o	|	|	|	|	2.69
35.833	0.00	0.41	0.474	I	o	|	|	|	|	2.68
35.917	0.00	0.41	0.472	I	o	|	|	|	|	2.67
36.000	0.00	0.41	0.469	I	o	|	|	|	|	2.65
36.083	0.00	0.41	0.466	I	o	|	|	|	|	2.64
36.167	0.00	0.41	0.463	I	o	|	|	|	|	2.63
36.250	0.00	0.41	0.460	I	o	|	|	|	|	2.62
36.333	0.00	0.41	0.457	I	o	|	|	|	|	2.61
36.417	0.00	0.41	0.455	I	o	|	|	|	|	2.60
36.500	0.00	0.41	0.452	I	o	|	|	|	|	2.59
36.583	0.00	0.41	0.449	I	o	|	|	|	|	2.57
36.667	0.00	0.40	0.446	I	o	|	|	|	|	2.56
36.750	0.00	0.40	0.443	I	o	|	|	|	|	2.55
36.833	0.00	0.40	0.441	I	o	|	|	|	|	2.54
36.917	0.00	0.40	0.438	I	o	|	|	|	|	2.53

37.000	0.00	0.40	0.435	I	o	|	|	|	|	2.52
37.083	0.00	0.40	0.432	I	o	|	|	|	|	2.51
37.167	0.00	0.40	0.430	I	o	|	|	|	|	2.49
37.250	0.00	0.40	0.427	I	o	|	|	|	|	2.48
37.333	0.00	0.40	0.424	I	o	|	|	|	|	2.47
37.417	0.00	0.40	0.421	I	o	|	|	|	|	2.46
37.500	0.00	0.40	0.419	I	o	|	|	|	|	2.45
37.583	0.00	0.39	0.416	I	o	|	|	|	|	2.43
37.667	0.00	0.39	0.413	I	o	|	|	|	|	2.42
37.750	0.00	0.39	0.410	I	o	|	|	|	|	2.41
37.833	0.00	0.39	0.408	I	o	|	|	|	|	2.40
37.917	0.00	0.39	0.405	I	o	|	|	|	|	2.39
38.000	0.00	0.39	0.402	I	o	|	|	|	|	2.38
38.083	0.00	0.39	0.400	I	o	|	|	|	|	2.36
38.167	0.00	0.39	0.397	I	o	|	|	|	|	2.35
38.250	0.00	0.39	0.394	I	o	|	|	|	|	2.34
38.333	0.00	0.39	0.392	I	o	|	|	|	|	2.33
38.417	0.00	0.39	0.389	I	o	|	|	|	|	2.32
38.500	0.00	0.38	0.386	I	o	|	|	|	|	2.31
38.583	0.00	0.38	0.384	I	o	|	|	|	|	2.30
38.667	0.00	0.38	0.381	I	o	|	|	|	|	2.28
38.750	0.00	0.38	0.378	I	o	|	|	|	|	2.27
38.833	0.00	0.38	0.376	I	o	|	|	|	|	2.26
38.917	0.00	0.38	0.373	I	o	|	|	|	|	2.25
39.000	0.00	0.38	0.371	I	o	|	|	|	|	2.24
39.083	0.00	0.38	0.368	I	o	|	|	|	|	2.23
39.167	0.00	0.38	0.365	I	o	|	|	|	|	2.22
39.250	0.00	0.38	0.363	I	o	|	|	|	|	2.21
39.333	0.00	0.38	0.360	I	o	|	|	|	|	2.19
39.417	0.00	0.37	0.358	I	o	|	|	|	|	2.18
39.500	0.00	0.37	0.355	I	o	|	|	|	|	2.17
39.583	0.00	0.37	0.352	I	o	|	|	|	|	2.16
39.667	0.00	0.37	0.350	I	o	|	|	|	|	2.15
39.750	0.00	0.37	0.347	I	o	|	|	|	|	2.14
39.833	0.00	0.37	0.345	I	o	|	|	|	|	2.13
39.917	0.00	0.37	0.342	I	o	|	|	|	|	2.12
40.000	0.00	0.37	0.340	I	o	|	|	|	|	2.11
40.083	0.00	0.37	0.337	I	o	|	|	|	|	2.10
40.167	0.00	0.37	0.335	I	o	|	|	|	|	2.08
40.250	0.00	0.37	0.332	I	o	|	|	|	|	2.07
40.333	0.00	0.37	0.330	I	o	|	|	|	|	2.06
40.417	0.00	0.36	0.327	I	o	|	|	|	|	2.05
40.500	0.00	0.36	0.325	I	o	|	|	|	|	2.04
40.583	0.00	0.36	0.322	I	o	|	|	|	|	2.03
40.667	0.00	0.36	0.320	I	o	|	|	|	|	2.02
40.750	0.00	0.36	0.317	I	o	|	|	|	|	2.01
40.833	0.00	0.36	0.315	I	o	|	|	|	|	2.00
40.917	0.00	0.36	0.312	I	o	|	|	|	|	1.99
41.000	0.00	0.36	0.310	I	o	|	|	|	|	1.97
41.083	0.00	0.36	0.307	I	o	|	|	|	|	1.96
41.167	0.00	0.35	0.305	I	o	|	|	|	|	1.95
41.250	0.00	0.35	0.302	I	o	|	|	|	|	1.94
41.333	0.00	0.35	0.300	I	o	|	|	|	|	1.93
41.417	0.00	0.35	0.297	I	o	|	|	|	|	1.92
41.500	0.00	0.35	0.295	I	o	|	|	|	|	1.91
41.583	0.00	0.35	0.293	I	o	|	|	|	|	1.89
41.667	0.00	0.35	0.290	I	o	|	|	|	|	1.88
41.750	0.00	0.34	0.288	I	o	|	|	|	|	1.87
41.833	0.00	0.34	0.286	I	o	|	|	|	|	1.86
41.917	0.00	0.34	0.283	I	o	|	|	|	|	1.85
42.000	0.00	0.34	0.281	I	o	|	|	|	|	1.84
42.083	0.00	0.34	0.278	I	o	|	|	|	|	1.83
42.167	0.00	0.34	0.276	I	o	|	|	|	|	1.82
42.250	0.00	0.34	0.274	I	o	|	|	|	|	1.81
42.333	0.00	0.34	0.272	I	o	|	|	|	|	1.79
42.417	0.00	0.33	0.269	I	o	|	|	|	|	1.78
42.500	0.00	0.33	0.267	I	o	|	|	|	|	1.77
42.583	0.00	0.33	0.265	I	o	|	|	|	|	1.76
42.667	0.00	0.33	0.262	I	o	|	|	|	|	1.75
42.750	0.00	0.33	0.260	I	o	|	|	|	|	1.74
42.833	0.00	0.33	0.258	I	o	|	|	|	|	1.73
42.917	0.00	0.33	0.256	I	o	|	|	|	|	1.72
43.000	0.00	0.33	0.253	I	o	|	|	|	|	1.71
43.083	0.00	0.32	0.251	I	o	|	|	|	|	1.70
43.167	0.00	0.32	0.249	I	o	|	|	|	|	1.69

43.250	0.00	0.32	0.247	I	o	|	|	|	1.68
43.333	0.00	0.32	0.244	I	o	|	|	|	1.67
43.417	0.00	0.32	0.242	I	o	|	|	|	1.66
43.500	0.00	0.32	0.240	I	o	|	|	|	1.65
43.583	0.00	0.32	0.238	I	o	|	|	|	1.64
43.667	0.00	0.32	0.236	I	o	|	|	|	1.63
43.750	0.00	0.31	0.234	I	o	|	|	|	1.62
43.833	0.00	0.31	0.231	I	o	|	|	|	1.61
43.917	0.00	0.31	0.229	I	o	|	|	|	1.60
44.000	0.00	0.31	0.227	I	o	|	|	|	1.59
44.083	0.00	0.31	0.225	I	o	|	|	|	1.58
44.167	0.00	0.31	0.223	I	o	|	|	|	1.57
44.250	0.00	0.31	0.221	I	o	|	|	|	1.56
44.333	0.00	0.31	0.219	I	o	|	|	|	1.55
44.417	0.00	0.30	0.216	I	o	|	|	|	1.54
44.500	0.00	0.30	0.214	I	o	|	|	|	1.53
44.583	0.00	0.30	0.212	I	o	|	|	|	1.52
44.667	0.00	0.30	0.210	I	o	|	|	|	1.51
44.750	0.00	0.30	0.208	I	o	|	|	|	1.50
44.833	0.00	0.30	0.206	I	o	|	|	|	1.48
44.917	0.00	0.30	0.204	I	o	|	|	|	1.47
45.000	0.00	0.30	0.202	I	o	|	|	|	1.46
45.083	0.00	0.29	0.200	I	o	|	|	|	1.45
45.167	0.00	0.29	0.198	I	o	|	|	|	1.44
45.250	0.00	0.29	0.196	I	o	|	|	|	1.43
45.333	0.00	0.29	0.194	I	o	|	|	|	1.42
45.417	0.00	0.29	0.192	I	o	|	|	|	1.41
45.500	0.00	0.29	0.190	I	o	|	|	|	1.40
45.583	0.00	0.29	0.188	I	o	|	|	|	1.39
45.667	0.00	0.29	0.186	I	o	|	|	|	1.38
45.750	0.00	0.28	0.184	I	o	|	|	|	1.37
45.833	0.00	0.28	0.182	I	o	|	|	|	1.36
45.917	0.00	0.28	0.180	I	o	|	|	|	1.35
46.000	0.00	0.28	0.178	I	o	|	|	|	1.33
46.083	0.00	0.28	0.176	I	o	|	|	|	1.32
46.167	0.00	0.28	0.174	I	o	|	|	|	1.31
46.250	0.00	0.28	0.172	I	o	|	|	|	1.30
46.333	0.00	0.28	0.171	I	o	|	|	|	1.29
46.417	0.00	0.27	0.169	I	o	|	|	|	1.28
46.500	0.00	0.27	0.167	I	o	|	|	|	1.27
46.583	0.00	0.27	0.165	I	o	|	|	|	1.26
46.667	0.00	0.27	0.163	I	o	|	|	|	1.25
46.750	0.00	0.27	0.161	I	o	|	|	|	1.24
46.833	0.00	0.27	0.159	I	o	|	|	|	1.23
46.917	0.00	0.27	0.158	I	o	|	|	|	1.22
47.000	0.00	0.27	0.156	I	o	|	|	|	1.21
47.083	0.00	0.26	0.154	I	o	|	|	|	1.20
47.167	0.00	0.26	0.152	I	o	|	|	|	1.19
47.250	0.00	0.26	0.150	I	o	|	|	|	1.18
47.333	0.00	0.26	0.148	I	o	|	|	|	1.17
47.417	0.00	0.26	0.147	I	o	|	|	|	1.16
47.500	0.00	0.26	0.145	I	o	|	|	|	1.16
47.583	0.00	0.26	0.143	I	o	|	|	|	1.15
47.667	0.00	0.26	0.141	I	o	|	|	|	1.14
47.750	0.00	0.26	0.140	I	o	|	|	|	1.13
47.833	0.00	0.25	0.138	I	o	|	|	|	1.12
47.917	0.00	0.25	0.136	I	o	|	|	|	1.11
48.000	0.00	0.25	0.134	I	o	|	|	|	1.10
48.083	0.00	0.25	0.133	I	o	|	|	|	1.09
48.167	0.00	0.25	0.131	I	o	|	|	|	1.08
48.250	0.00	0.25	0.129	I	o	|	|	|	1.07
48.333	0.00	0.25	0.127	I	o	|	|	|	1.06
48.417	0.00	0.25	0.126	I	o	|	|	|	1.05
48.500	0.00	0.25	0.124	I	o	|	|	|	1.04
48.583	0.00	0.24	0.122	I	o	|	|	|	1.03
48.667	0.00	0.24	0.121	I	o	|	|	|	1.03
48.750	0.00	0.24	0.119	I	o	|	|	|	1.02
48.833	0.00	0.24	0.117	I	o	|	|	|	1.01
48.917	0.00	0.24	0.116	I	o	|	|	|	1.00
49.000	0.00	0.24	0.114	I	o	|	|	|	0.99
49.083	0.00	0.24	0.112	I	o	|	|	|	0.98
49.167	0.00	0.23	0.111	I	o	|	|	|	0.96
49.250	0.00	0.23	0.109	I	o	|	|	|	0.95
49.333	0.00	0.23	0.108	I	o	|	|	|	0.94
49.417	0.00	0.23	0.106	I	o	|	|	|	0.93

49.500	0.00	0.23	0.104	I O	|	|	|	0.92
49.583	0.00	0.23	0.103	I O	|	|	|	0.91
49.667	0.00	0.22	0.101	I O	|	|	|	0.90
49.750	0.00	0.22	0.100	I O	|	|	|	0.89
49.833	0.00	0.22	0.098	I O	|	|	|	0.88
49.917	0.00	0.22	0.097	I O	|	|	|	0.87
50.000	0.00	0.22	0.095	I O	|	|	|	0.86
50.083	0.00	0.22	0.094	I O	|	|	|	0.85
50.167	0.00	0.21	0.092	I O	|	|	|	0.84
50.250	0.00	0.21	0.091	I O	|	|	|	0.83
50.333	0.00	0.21	0.089	I O	|	|	|	0.82
50.417	0.00	0.21	0.088	I O	|	|	|	0.81
50.500	0.00	0.21	0.086	I O	|	|	|	0.80
50.583	0.00	0.21	0.085	I O	|	|	|	0.79
50.667	0.00	0.20	0.084	I O	|	|	|	0.78
50.750	0.00	0.20	0.082	I O	|	|	|	0.77
50.833	0.00	0.20	0.081	I O	|	|	|	0.76
50.917	0.00	0.20	0.079	I O	|	|	|	0.75
51.000	0.00	0.20	0.078	I O	|	|	|	0.74
51.083	0.00	0.20	0.077	I O	|	|	|	0.73
51.167	0.00	0.20	0.075	I O	|	|	|	0.73
51.250	0.00	0.19	0.074	I O	|	|	|	0.72
51.333	0.00	0.19	0.073	I O	|	|	|	0.71
51.417	0.00	0.19	0.071	I O	|	|	|	0.70
51.500	0.00	0.19	0.070	I O	|	|	|	0.69
51.583	0.00	0.19	0.069	I O	|	|	|	0.68
51.667	0.00	0.19	0.067	I O	|	|	|	0.67
51.750	0.00	0.19	0.066	I O	|	|	|	0.66
51.833	0.00	0.18	0.065	I O	|	|	|	0.65
51.917	0.00	0.18	0.064	I O	|	|	|	0.65
52.000	0.00	0.18	0.062	I O	|	|	|	0.64
52.083	0.00	0.18	0.061	I O	|	|	|	0.63
52.167	0.00	0.18	0.060	I O	|	|	|	0.62
52.250	0.00	0.18	0.059	IO	|	|	|	0.61
52.333	0.00	0.18	0.057	IO	|	|	|	0.60
52.417	0.00	0.18	0.056	IO	|	|	|	0.60
52.500	0.00	0.17	0.055	IO	|	|	|	0.59
52.583	0.00	0.17	0.054	IO	|	|	|	0.58
52.667	0.00	0.17	0.053	IO	|	|	|	0.57
52.750	0.00	0.17	0.051	IO	|	|	|	0.56
52.833	0.00	0.17	0.050	IO	|	|	|	0.56
52.917	0.00	0.17	0.049	IO	|	|	|	0.55
53.000	0.00	0.17	0.048	IO	|	|	|	0.54
53.083	0.00	0.17	0.047	IO	|	|	|	0.53
53.167	0.00	0.16	0.046	IO	|	|	|	0.52
53.250	0.00	0.16	0.045	IO	|	|	|	0.52
53.333	0.00	0.16	0.043	IO	|	|	|	0.51
53.417	0.00	0.16	0.042	IO	|	|	|	0.50
53.500	0.00	0.16	0.041	IO	|	|	|	0.49
53.583	0.00	0.15	0.040	IO	|	|	|	0.48
53.667	0.00	0.15	0.039	IO	|	|	|	0.47
53.750	0.00	0.14	0.038	IO	|	|	|	0.45
53.833	0.00	0.14	0.037	IO	|	|	|	0.44
53.917	0.00	0.13	0.036	IO	|	|	|	0.43
54.000	0.00	0.13	0.035	IO	|	|	|	0.42
54.083	0.00	0.12	0.035	IO	|	|	|	0.41
54.167	0.00	0.12	0.034	IO	|	|	|	0.40
54.250	0.00	0.11	0.033	IO	|	|	|	0.39
54.333	0.00	0.11	0.032	IO	|	|	|	0.38
54.417	0.00	0.11	0.031	IO	|	|	|	0.38
54.500	0.00	0.10	0.031	IO	|	|	|	0.37
54.583	0.00	0.10	0.030	IO	|	|	|	0.36
54.667	0.00	0.10	0.029	IO	|	|	|	0.35
54.750	0.00	0.09	0.029	IO	|	|	|	0.34
54.833	0.00	0.09	0.028	IO	|	|	|	0.34
54.917	0.00	0.09	0.027	O	|	|	|	0.33
55.000	0.00	0.08	0.027	O	|	|	|	0.32
55.083	0.00	0.08	0.026	O	|	|	|	0.31
55.167	0.00	0.08	0.026	O	|	|	|	0.31
55.250	0.00	0.08	0.025	O	|	|	|	0.30
55.333	0.00	0.07	0.025	O	|	|	|	0.30
55.417	0.00	0.07	0.024	O	|	|	|	0.29
55.500	0.00	0.07	0.024	O	|	|	|	0.28
55.583	0.00	0.07	0.023	O	|	|	|	0.28
55.667	0.00	0.06	0.023	O	|	|	|	0.27

55.750	0.00	0.06	0.022	o	|	|	|	|	0.27
55.833	0.00	0.06	0.022	o	|	|	|	|	0.26
55.917	0.00	0.06	0.021	o	|	|	|	|	0.26
56.000	0.00	0.06	0.021	o	|	|	|	|	0.25
56.083	0.00	0.05	0.021	o	|	|	|	|	0.25
56.167	0.00	0.05	0.020	o	|	|	|	|	0.25
56.250	0.00	0.05	0.020	o	|	|	|	|	0.24
56.333	0.00	0.05	0.020	o	|	|	|	|	0.24
56.417	0.00	0.05	0.019	o	|	|	|	|	0.23
56.500	0.00	0.05	0.019	o	|	|	|	|	0.23
56.583	0.00	0.04	0.019	o	|	|	|	|	0.23
56.667	0.00	0.04	0.018	o	|	|	|	|	0.22
56.750	0.00	0.04	0.018	o	|	|	|	|	0.22
56.833	0.00	0.04	0.018	o	|	|	|	|	0.22
56.917	0.00	0.04	0.018	o	|	|	|	|	0.21
57.000	0.00	0.04	0.017	o	|	|	|	|	0.21
57.083	0.00	0.04	0.017	o	|	|	|	|	0.21
57.167	0.00	0.03	0.017	o	|	|	|	|	0.20
57.250	0.00	0.03	0.017	o	|	|	|	|	0.20
57.333	0.00	0.03	0.016	o	|	|	|	|	0.20
57.417	0.00	0.03	0.016	o	|	|	|	|	0.20
57.500	0.00	0.03	0.016	o	|	|	|	|	0.19
57.583	0.00	0.03	0.016	o	|	|	|	|	0.19
57.667	0.00	0.03	0.015	o	|	|	|	|	0.19
57.750	0.00	0.03	0.015	o	|	|	|	|	0.19
57.833	0.00	0.03	0.015	o	|	|	|	|	0.18
57.917	0.00	0.03	0.015	o	|	|	|	|	0.18
58.000	0.00	0.02	0.015	o	|	|	|	|	0.18
58.083	0.00	0.02	0.015	o	|	|	|	|	0.18
58.167	0.00	0.02	0.014	o	|	|	|	|	0.18
58.250	0.00	0.02	0.014	o	|	|	|	|	0.17
58.333	0.00	0.02	0.014	o	|	|	|	|	0.17
58.417	0.00	0.02	0.014	o	|	|	|	|	0.17
58.500	0.00	0.02	0.014	o	|	|	|	|	0.17
58.583	0.00	0.02	0.014	o	|	|	|	|	0.17
58.667	0.00	0.02	0.014	o	|	|	|	|	0.17
58.750	0.00	0.02	0.013	o	|	|	|	|	0.17
58.833	0.00	0.02	0.013	o	|	|	|	|	0.16
58.917	0.00	0.02	0.013	o	|	|	|	|	0.16
59.000	0.00	0.02	0.013	o	|	|	|	|	0.16
59.083	0.00	0.02	0.013	o	|	|	|	|	0.16
59.167	0.00	0.02	0.013	o	|	|	|	|	0.16
59.250	0.00	0.01	0.013	o	|	|	|	|	0.16
59.333	0.00	0.01	0.013	o	|	|	|	|	0.16
59.417	0.00	0.01	0.013	o	|	|	|	|	0.16
59.500	0.00	0.01	0.012	o	|	|	|	|	0.15
59.583	0.00	0.01	0.012	o	|	|	|	|	0.15
59.667	0.00	0.01	0.012	o	|	|	|	|	0.15
59.750	0.00	0.01	0.012	o	|	|	|	|	0.15
59.833	0.00	0.01	0.012	o	|	|	|	|	0.15
59.917	0.00	0.01	0.012	o	|	|	|	|	0.15
60.000	0.00	0.01	0.012	o	|	|	|	|	0.15
60.083	0.00	0.01	0.012	o	|	|	|	|	0.15
60.167	0.00	0.01	0.012	o	|	|	|	|	0.15
60.250	0.00	0.01	0.012	o	|	|	|	|	0.15
60.333	0.00	0.01	0.012	o	|	|	|	|	0.14
60.417	0.00	0.01	0.012	o	|	|	|	|	0.14
60.500	0.00	0.01	0.012	o	|	|	|	|	0.14
60.583	0.00	0.01	0.012	o	|	|	|	|	0.14
60.667	0.00	0.01	0.011	o	|	|	|	|	0.14
60.750	0.00	0.01	0.011	o	|	|	|	|	0.14
60.833	0.00	0.01	0.011	o	|	|	|	|	0.14
60.917	0.00	0.01	0.011	o	|	|	|	|	0.14
61.000	0.00	0.01	0.011	o	|	|	|	|	0.14
61.083	0.00	0.01	0.011	o	|	|	|	|	0.14
61.167	0.00	0.01	0.011	o	|	|	|	|	0.14
61.250	0.00	0.01	0.011	o	|	|	|	|	0.14
61.333	0.00	0.01	0.011	o	|	|	|	|	0.14
61.417	0.00	0.01	0.011	o	|	|	|	|	0.14
61.500	0.00	0.01	0.011	o	|	|	|	|	0.14
61.583	0.00	0.01	0.011	o	|	|	|	|	0.14
61.667	0.00	0.01	0.011	o	|	|	|	|	0.14
61.750	0.00	0.01	0.011	o	|	|	|	|	0.14
61.833	0.00	0.01	0.011	o	|	|	|	|	0.13
61.917	0.00	0.00	0.011	o	|	|	|	|	0.13

62.000	0.00	0.00	0.011	o	|	|	|	|	0.13
62.083	0.00	0.00	0.011	o	|	|	|	|	0.13
62.167	0.00	0.00	0.011	o	|	|	|	|	0.13
62.250	0.00	0.00	0.011	o	|	|	|	|	0.13
62.333	0.00	0.00	0.011	o	|	|	|	|	0.13
62.417	0.00	0.00	0.011	o	|	|	|	|	0.13
62.500	0.00	0.00	0.011	o	|	|	|	|	0.13
62.583	0.00	0.00	0.011	o	|	|	|	|	0.13
62.667	0.00	0.00	0.011	o	|	|	|	|	0.13
62.750	0.00	0.00	0.011	o	|	|	|	|	0.13
62.833	0.00	0.00	0.010	o	|	|	|	|	0.13
62.917	0.00	0.00	0.010	o	|	|	|	|	0.13
63.000	0.00	0.00	0.010	o	|	|	|	|	0.13
63.083	0.00	0.00	0.010	o	|	|	|	|	0.13
63.167	0.00	0.00	0.010	o	|	|	|	|	0.13
63.250	0.00	0.00	0.010	o	|	|	|	|	0.13
63.333	0.00	0.00	0.010	o	|	|	|	|	0.13
63.417	0.00	0.00	0.010	o	|	|	|	|	0.13
63.500	0.00	0.00	0.010	o	|	|	|	|	0.13
63.583	0.00	0.00	0.010	o	|	|	|	|	0.13
63.667	0.00	0.00	0.010	o	|	|	|	|	0.13
63.750	0.00	0.00	0.010	o	|	|	|	|	0.13
63.833	0.00	0.00	0.010	o	|	|	|	|	0.13
63.917	0.00	0.00	0.010	o	|	|	|	|	0.13
64.000	0.00	0.00	0.010	o	|	|	|	|	0.13
64.083	0.00	0.00	0.010	o	|	|	|	|	0.13
64.167	0.00	0.00	0.010	o	|	|	|	|	0.13
64.250	0.00	0.00	0.010	o	|	|	|	|	0.13
64.333	0.00	0.00	0.010	o	|	|	|	|	0.13
64.417	0.00	0.00	0.010	o	|	|	|	|	0.13
64.500	0.00	0.00	0.010	o	|	|	|	|	0.13
64.583	0.00	0.00	0.010	o	|	|	|	|	0.13
64.667	0.00	0.00	0.010	o	|	|	|	|	0.13
64.750	0.00	0.00	0.010	o	|	|	|	|	0.13
64.833	0.00	0.00	0.010	o	|	|	|	|	0.13
64.917	0.00	0.00	0.010	o	|	|	|	|	0.13
65.000	0.00	0.00	0.010	o	|	|	|	|	0.13
65.083	0.00	0.00	0.010	o	|	|	|	|	0.13
65.167	0.00	0.00	0.010	o	|	|	|	|	0.13
65.250	0.00	0.00	0.010	o	|	|	|	|	0.13
65.333	0.00	0.00	0.010	o	|	|	|	|	0.13
65.417	0.00	0.00	0.010	o	|	|	|	|	0.13
65.500	0.00	0.00	0.010	o	|	|	|	|	0.13
65.583	0.00	0.00	0.010	o	|	|	|	|	0.13
65.667	0.00	0.00	0.010	o	|	|	|	|	0.13
65.750	0.00	0.00	0.010	o	|	|	|	|	0.13
65.833	0.00	0.00	0.010	o	|	|	|	|	0.12

Remaining water in basin = 0.01 (Ac.Ft)

**********HYDROGRAPH DATA**********

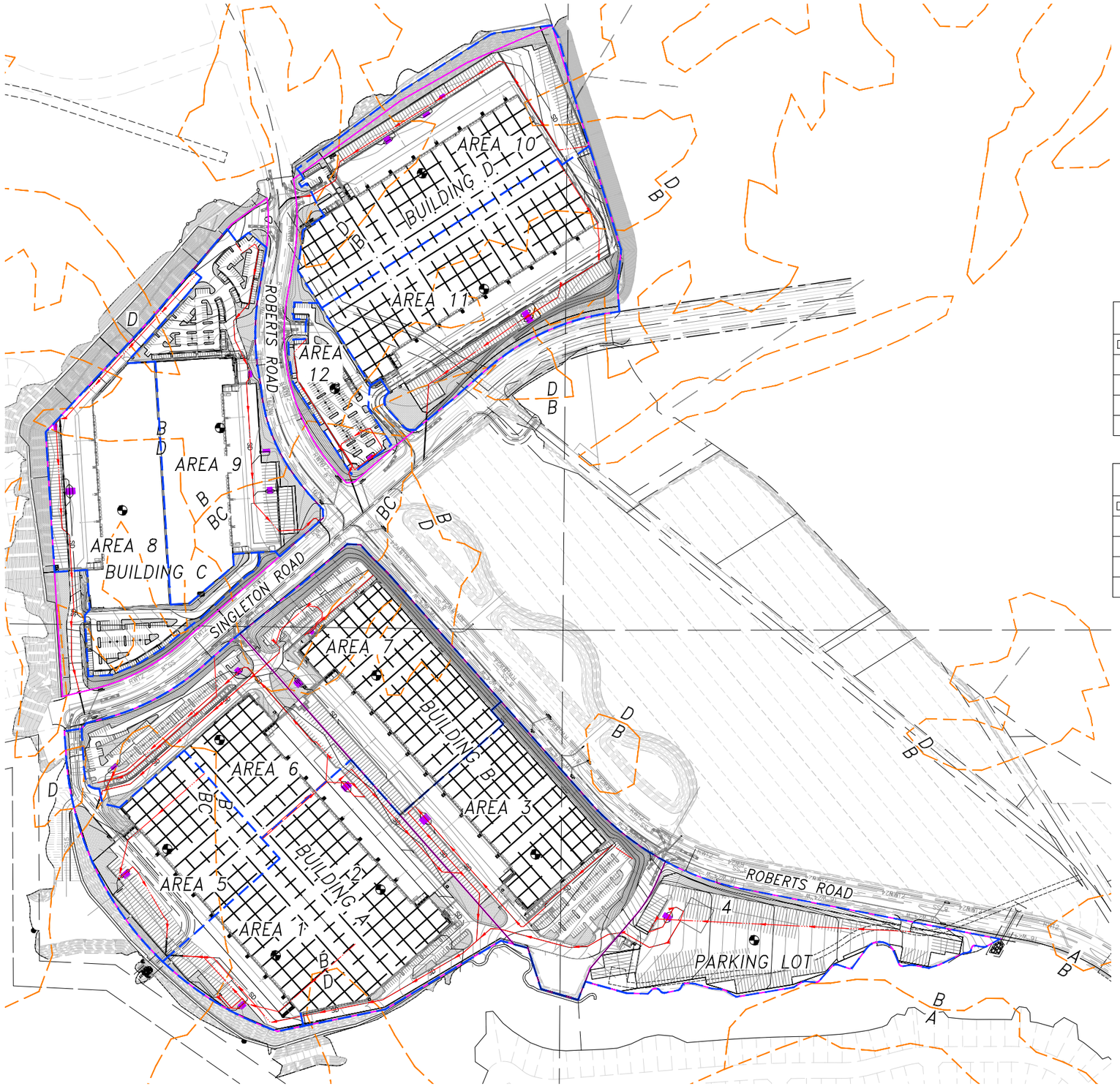
Number of intervals = 790
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.591 (CFS)
Total volume = 1.732 (Ac.Ft)

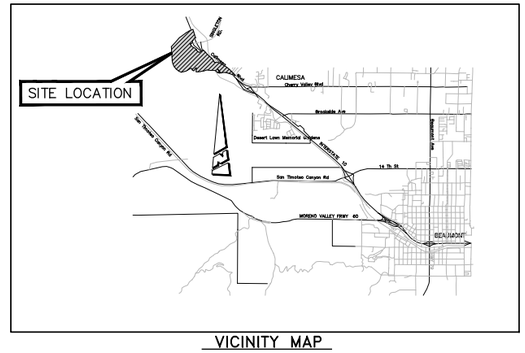
Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

UNIT HYDROGRAPH HYDROLOGY MAP





VICINITY MAP
N.T.S.
T2S, R2W, SECTION 23,24,25,26

PROPOSED AREAS						
DRAINAGE AREA	1	2	3	4	5	6
TOTAL AREA	6.8 AC	9.5 AC	12.3 AC	9.2 AC	8.1 AC	9.0 AC
L_T	1116 Ft	2462 Ft	2287 Ft	3348 Ft	899 Ft	1634 Ft
L_{CA}	860 Ft	2251 Ft	2251 Ft	2754 Ft	602 Ft	512 Ft
ΔH	6.5 Ft	6.50 Ft	9.30 Ft	37.50 Ft	6.50	3.70 Ft

PROPOSED AREAS						
DRAINAGE AREA	7	8	9	10	11	12
TOTAL AREA	12.5 AC	11.2 AC	12.1 AC	14.1 AC	14.1 AC	2.9 AC
L_T	1378 Ft	1821 Ft	1395 Ft	1473 Ft	1370 Ft	621 Ft
L_{CA}	1136 Ft	683 Ft	552 Ft	540 Ft	486 Ft	341 Ft
ΔH	3.3 Ft	29.30 Ft	18 Ft	7 Ft	2.80 Ft	9 Ft

LEGEND

- NODE / ELEV – NODE NUMBER / ELEVATION (FT)
- AC / FT – AREA (AC) / LENGTH (FT)
- DRAINAGE AREA BOUNDARY (PROPOSED)
- FLOWLINE (PROPOSED)
- PROJECT BOUNDARY
- NRCS SOIL BOUNDARY

GENERAL NOTES:

1. OVERALL BLCOV PROJECT AREA WILL BE MASS GRADED AND BACKBONE IMPROVEMENTS WILL BE CONSTRUCTED PRIOR TO ANY CONSTRUCTION COMMENCING FOR THE BUILDING A, BUILDING B, BUILDING C, BUILDING D, OR PARKING LOT PROJECTS.
2. EXISTING CONTOURS SHOWN IN EXHIBITS ARE TAKEN FROM THE MASS GRADING PLAN FOR PARCEL MAP 37862.

N
W WEBB E
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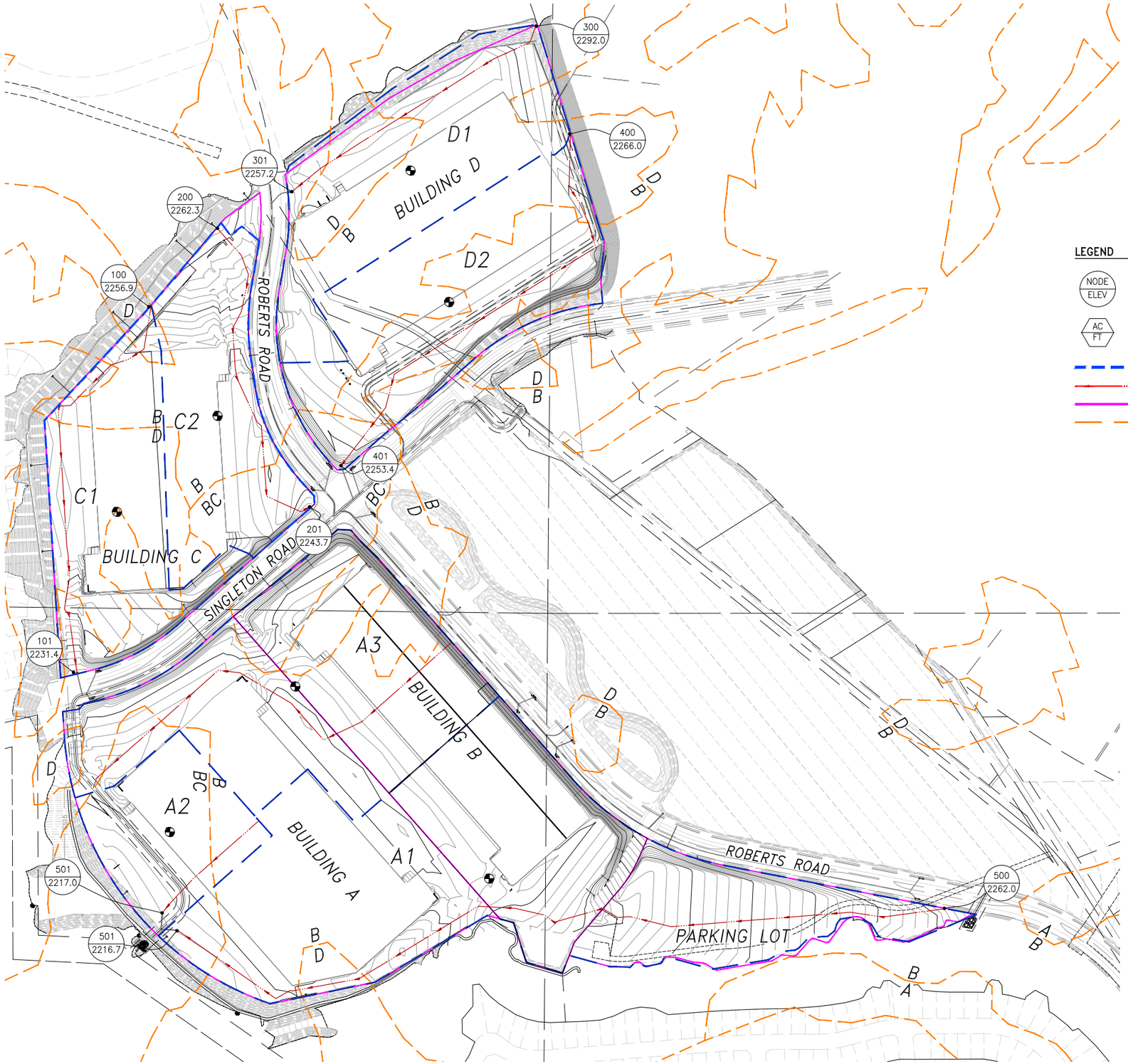
1" = 200'
200 0 200 400 600

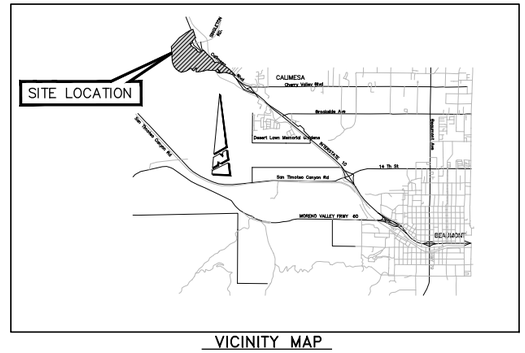
CITY OF CALIMESA, COUNTY OF RIVERSIDE
BIRTCHER COMMERCE CENTER OAK VALLEY

INDUSTRIAL DEVELOPMENT
DEVELOPED CONDITION
PRELIMINARY PROPOSED UNIT HYDROGRAPH EXHIBIT

SCALE:	1" = 200'	ALBERT A. WEBB ASSOCIATES	W.O. 21-0034
DATE:	12/14/2020	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	SHEET 1
DESIGNED:	EP		OF 1 SHEETS
CHECKED:	BJV		DWG. NO.
PLN CK REF:			
F.B.			

H:\2021\21-0034\DRAINAGE\PHYD\DWG FOLDER\21-0034 PRELIM UH MAP 2021-11-23.DWG 12/6/2021 4:30:41 PM





VICINITY MAP
N.T.S.
T2S, R2W, SECTION 23,24,25,26

LEGEND

NODE / ELEV	– NODE NUMBER – ELEVATION (FT)
AC / FT	– AREA (AC) – LENGTH (FT)
	– DRAINAGE AREA BOUNDARY
	– FLOWLINE (PROPOSED)
	– PROJECT BOUNDARY
	– NRCS SOIL BOUNDARY

EXISTING AREAS			
DRAINAGE AREA	A1	A2	A3
TOTAL AREA	37.7 AC	7.5 AC	21.7 AC
L_T	3231 Ft	526 Ft	1790 Ft
L_{CA}	1394 Ft	234 Ft	939 Ft
ΔH	45.0 Ft	7 Ft	23 Ft

EXISTING AREAS		
DRAINAGE AREA	C1	C2
TOTAL AREA	13.2 AC	11.8 AC
L_T	1645 Ft	1321 Ft
L_{CA}	629 Ft	574 Ft
ΔH	25.0 Ft	19 Ft

EXISTING AREAS		
DRAINAGE AREA	D1	D2
TOTAL AREA	15.8 AC	16.9 AC
L_T	1174 Ft	1828 Ft
L_{CA}	440 Ft	756 Ft
ΔH	35.0 Ft	13 Ft

GENERAL NOTES:

1. OVERALL BLCOV PROJECT AREA WILL BE MASS GRADED AND BACKBONE IMPROVEMENTS WILL BE CONSTRUCTED PRIOR TO ANY CONSTRUCTION COMMENCING FOR THE BUILDING A, BUILDING B, BUILDING C, BUILDING D, OR PARKING LOT PROJECTS.
2. EXISTING CONTOURS SHOWN IN EXHIBITS ARE TAKEN FROM THE MASS GRADING PLAN FOR PARCEL MAP 37862.

N
W WEBB E
S

1" = 200'
200 0 200 400 600

CITY OF CALIMESA, COUNTY OF RIVERSIDE
BIRTCHER COMMERCE CENTER OAK VALLEY

INDUSTRIAL DEVELOPMENT
DEVELOPED CONDITION
EXISTING UNIT HYDROGRAPH EXHIBIT

SCALE:	1" = 200'	ALBERT A. WEBB ASSOCIATES	W.O. 21-0034
DATE:	12/14/2020	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE, CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	SHEET 1
DESIGNED:	EP		OF 1 SHEETS
CHECKED:	BJV		DWG. NO.
PLN CK REF:			
F.B.			

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APPENDIX D – UNIT HYDROGRAPH AND ROUTING

RELEVANT EXCERPTS AND MAPS FROM

"HYDROLOGY AND HYDRAULICS STUDY: OAK VALLEY TOWN CENTER PARCEL MAP NO. 37862 MASS GRADING PLAN"

OAK VALLEY TOWN CENTER
HYDROLOGY AND HYDRAULICS STUDY

PARCEL MAP NO. 37862

CITY OF CALIMESA, CALIFORNIA

PREPARED FOR:

OAK VALLEY DEVELOPMENT PARTNERS
10140 ROBERTS ROAD
CALIMESA, CA 92320

PREPARED BY:

PROACTIVE ENGINEERING WEST

25109 JEFFERSON AVENUE, SUITE 200
MURRIETA, CA 92562
PHONE: 951-200-6840 ● FAX: 866-454-4478

DATE PREPARED:

July 2021

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APPENDICES

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APPENDIX A-1: 2-Year-1-Hour Precipitation
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APPENDIX E-18: CP-14
APPENDIX E-19: CP-15
APPENDIX E-20: CP-16
APPENDIX E-21: CP-17
APPENDIX E-22: CP-18
APPENDIX E-23: CP-19
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APPENDIX E-26: CP-22
APPENDIX E-27: CP-23
APPENDIX E-28: CP-24

APPENDIX F: Velocity Calculations
APPENDIX F-1: Area A/Line A Point of Discharge Velocity Calculation – Undeveloped Condition
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APPENDIX F-3: Line A Point of Discharge Velocity Calculation – Developed Condition
APPENDIX F-4: Line B Point of Discharge Velocity Calculation – Developed Condition
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EXHIBITS

EXHIBIT A: Undeveloped Condition Hydrology Index Map

EXHIBIT B: Developed Condition Hydrology Index Map

EXHIBIT C: Drainage Facilities Map

I. INTRODUCTION

Oak Valley Town Center (OVTC), Parcel Map No. 37862, is a proposed development in the City of Calimesa, lying southwesterly of the Interstate 10 Freeway (I-10) off the Singleton Road exit. The project is roughly 230 acres and will develop business park and commercial land use areas, as well as the infrastructure Singleton and Roberts Road. Oak Valley Town Center is a part of the Summerwind Ranch at Oak Valley Specific Plan that proposes the development of residential, business park, commercial and open space land use areas across roughly 2,600 acres of land.

The purpose of this study is to determine the existing and proposed hydrologic conditions to properly size the necessary drainage improvements to support the construction of Oak Valley Town Center. The scope of this report will include:

- Determine peak 100-year flow rates for the construction of the project's ultimate developed condition using the Rational Method outlined in the Riverside County Flood Control and Water Conservation District
- Based on the ultimate developed condition, determine the necessary drainage improvements that will properly convey the calculated 100-year flow rates
- Summarize analyses and proposed infrastructure storm drain improvements

II. PROJECT SITE

Oak Valley Town Center is part of the Summerwind Ranch at Oak Valley Specific plan that lies within the San Timoteo sub-basin of the Santa Ana River Watershed. The project site lies within an open grassland valley that is bounded by the I-10 freeway to the east and rolling hills and ridgelines to the west and south. Most of the project is undeveloped. There are a handful of existing properties that are fairly spread apart from each other along the I-10, as well as a couple of properties within the central portion of the valley.

Large off-site tributary areas on the east side of the I-10 contribute significant drainage to the project site through multiple pipe and box culverts. Drainage from these tributary areas begin in the San Bernardino Mountain ranges and flow in a southwesterly manner, ultimately, flowing through the proposed project site until it reaches the San Timoteo Creek. The proposed storm drain system will maintain the existing drainage course and outlet on-site, as well, as intercepted off-site drainage, into the natural streambed areas leading to the San Timoteo Creek; ultimately joining the Santa Ana River. See Figures 1 and 2 for the project Vicinity Map and Site Plan, respectively.

III. HYDROLOGY

The rational design parameters and methodologies outlined in the Riverside County Flood Control and Water Conservation District's (RCFCWCD) *Hydrology Manual*[1] were used to determine the 100-year design flow rates for the project. Calculations for the rational methodology were performed using the CivilDesign computer software.

Two hydrology analyses will be performed for this project site:

- On-site hydrology
  - The rational method was used to calculate the 100-year flow rates for the on-site tributary areas. We assume the ultimate developed condition to determine the peak flow rates tributary to the proposed OVTC storm drain infrastructure. This includes the OVTC project site, as well as future Summerwind developments located north of OVTC.
- Off-site hydrology
  - The unit hydrograph method will be used to calculate the 100-year flow rates for the off-site tributary areas. Off-site refers to the large tributary areas east of the I-10, where their respective flow rates are collected via pipe and box culverts that cross the I-10 and outlet onto the OVTC project site.

On-site Hydrology

The 100-year flow rates for Areas A and B, as shown on Exhibit B, will be analyzed using the rational method.

As directed by the *Hydrology Manual*[1], Antecedent Moisture Condition II (AMC II) was used for all rational method analyses.

Soil classification for the project site is based on the Hydrologic Soils Group Map for El Casco (Plate C-1.18) of the *Hydrology Manual*[1], as shown on Appendix A-4 of this report. Hydrologic soils group (HSG) "B" and "D" are what primarily occupies the project site. There are small patches of areas within the rolling hills and ridgelines where HSG "A" and "C" are present. Soil "B" is described as soils with a moderate rate of water transmission and soil "D" is described as soils with high runoff potential.

The rainfall values and slope of intensity duration curve were obtained from the isohyetal maps in the *Hydrology Manual*[1], as shown on Appendices A-1 to A-3. Below is a summary of the design parameters used for calculation.

2-Year-1-Hour Precipitation per Plate D-4.3 (Appendix A-1)	0.54”
100-Year-1-Hour Precipitation per Plate D-4.4 (Appendix A-2)	1.33”
Slope of Intensity Duration Curve per Plate D-4.6 (Appendix A-3)	0.55

For rational method purposes, the project site was analyzed as an undeveloped area – poor cover for the undeveloped condition. Since the hydrology study is split up into two parts (On-site and Off-site) for the undeveloped condition, the flow rates calculated in each report were simply added together to compute a total Q for each drainage area. Refer to Exhibit A for the total Q and on-site drainage area delineation.

The areas tributary to storm drain Line A are designated as Drainage Area A and Areas C, D and E, as shown on Exhibit B. Areas C, D and E are off-site tributary areas, while Drainage Area A is on-site. As mentioned before, off-site tributary areas are analyzed by the unit hydrograph method, per a separate study. The off-site areas were included in the rational method calculations as a user defined entry to account for the drainage coming from existing culverts crossing the I-10. The portion of Drainage Area A, where the OVTC project site is located, consists of industrial parcels, a commercial parcel and the infrastructure Singleton and Roberts Road streets for the ultimate developed condition. See Figure 2 for the Project Site plan. For hydrology purposes, the industrial parcels were analyzed as commercial land use. Since the ultimate developed condition is assumed to determine the peak 100-year flow rates tributary to the OVTC infrastructure storm drain system, Drainage Area A includes future Summerwind developments. Per Tentative Tract Map No. 33536, planning areas E-1, E-2 and D-1, which are delineated as Garden Courts, Townhomes and Community Recreation land use, respectively, are tributary to the OVTC storm drain infrastructure and are included in the rational method analysis calculations. For hydrology purposes, the Garden Courts and Townhomes were analyzed as commercial land use and the Community Recreation as condominium land use. See Exhibit B for the on-site hydrology map.

The areas tributary to storm drain line B are designated as Drainage Area B and Areas A and B, as shown on Exhibit B. Areas A and B are off-site tributary areas, while Drainage Area B is on-site. As mentioned before, off-site tributary areas are analyzed by the unit hydrograph method, per a separate study. Like Line A, the off-site drainage was used as a user defined entry to account for the drainage coming from the existing culverts crossing the I-10. Drainage Area B only consists of a commercial parcel for the developed condition. See Exhibit B for the Drainage Area B on-site hydrology map.

Calculations for the undeveloped and developed rational method analyses can be found in Appendix B and C, respectively, of this report.

Off-site Hydrology

The 100-year flow rates for Areas A, B, C, D and E, as shown on Exhibit B, were analyzed using the unit hydrograph method. These areas are tributary to existing pipe and box culverts that cross the I-10 and outlet onto the OVTC project site. As mentioned before, the off-site hydrology analysis is presented in a separate study, *Hydraulic Analyses for Culverts Crossing I-10 TTM 37862*[2].

IV. STORM DRAIN HYDRAULICS

Storm Drain

Three mainline storm drain systems (Lines A, B and C) are proposed to support the construction of OVTC.

Line A is a proposed reinforced box culvert (RCB) that runs through the infrastructure Singleton Road. It is the main storm drain system that is responsible for most of the on-site drainage but also takes on significant off-site drainage, as shown as Drainage Area A and Areas C, D and E per Exhibit B. The existing 72" CMP culvert that currently runs under the existing Roberts Road intercepts off-site drainage coming from the 6'x8' RCB crossing the I-10. The project will remove and replace the existing 72" CMP with an 8'x8' (WxH) RCB, where Line A begins. The upstream 72" CMP survey flowline elevation of 2249.61 was maintained to begin the Line A design. As you move downstream in Line A, two sub-mainline storm drain systems, Lines A1 and A2, confluence with Line A at the major intersection of Singleton and Roberts Road. As mentioned before, most of the on-site drainage are collected and conveyed in these storm drain systems (A, A1 and A2). Storm drain lateral stub outs are provided for the commercial and business park parcels. The locations of these lateral stub outs are based on the low points of the rough grading, where it is assumed the private storm drain systems within the parcels will join the infrastructure storm drain system. CP-09 is the only storm drain lateral that collects off-site drainage. It connects to the existing 48" RCP that crosses the I-10 near the eastbound Singleton off-ramp, where it intercepts off-site drainage from Area D. Line A

discharges in the southwest corner of the project site, where it joins the existing watercourse that leads to the San Timoteo Creek.

Line B is a proposed double 6'x4' (WxH) box culvert that crosses the proposed Roberts Road. It collects off-site drainage from Areas B and E that are tributary to four existing culverts that cross the I-10, as well as on-site drainage from a portion of a commercial parcel. Drainage from the four culverts confluence at the current OVTC project boundary where the existing Roberts Road and Cooper Drive intersect. For the rough grade condition, a trapezoidal channel conveys the off-site drainage from this confluence point to the starting point of Line B. The developer of the commercial parcel will be responsible to construct storm drain that collects off-site drainage from the confluence point to the double box culvert once the site plan is finalized. The double box culvert alignment roughly starts from the northerly Roberts Road right-of-way (ROW) line and ends roughly at the southerly ROW line where the collected drainage outlets into the existing watercourse that runs along the southside of the OVTC project site.

Line C is a proposed arch culvert. Like Line B, this culvert crosses Roberts Road and outlets into the existing watercourse that runs along the southside of the OVTC project site. It serves as a by-pass line for the off-site drainage tributary to the existing double 7'x10' box culvert (Culvert A) crossing the I-10 onto the project site.

The Water Surface Profile Gradient Program (WSPG) software was used to analyze the proposed storm drain lines and laterals. The hydraulics is based on the storm drain profile design and the 100-year flow rate calculations per the studies performed for this project site. The WSPG calculations can be found in Appendix E of this report.

Velocity calculations for Drainage Areas A and B for the undeveloped condition and the point of discharge for Lines A and B were calculated using the CivilDesign computer software.The increase in velocity at the point of discharge for Lines A and B will be mitigated by properly sized riprap aprons that contain 2-ton riprap. A manning's number of 0.04 was used for the riprap apron for the developed condition and 0.025 for the undeveloped condition. Calculations for the exit velocities can be found in Appendix F.

The proposed storm drain alignments, pipe sizing and calculated flow rates can be found on the drainage facilities map, as shown on Exhibit C.

Catch Basins

Twelve catch basins are proposed to support the construction of OVTC. Of the twelve proposed catch basins, four are sump and eight are on-grade. The AutoCAD Civil3D Hydraflow Express extension was used to properly size catch basins and determine their efficiency. The curb opening design parameters used in calculation are consistent with the Riverside County Transportation Department catch basin standard details. The flow rates captured by the catch basin are used for the WSPG calculations for their respective storm drain laterals.

A summary table for the proposed catch basins is provided on the next page and the catch basin calculations can be found in Appendix D of this report.

CB #	HYDRO MAP NODE	CATCH BASIN TYPE	SIZE (FEET)	Q_{100} (CFS)	UPSTREAM Q_{BYPASS}	$Q_{TRIBUTARY}$ (CFS)	$Q_{CAPTURED}$ (CFS)	Q_{BYPASS} (CFS)	Q_{BYPASS} TO CB #
1	10.2	On-Grade	21	12.1	0	12.1	12.1	0	N/A
2	10.4	On-Grade	14	6.3	0.71	7.01	7.01	0	N/A
3	4.3	On-Grade	14	7	0	7	5.97	1.03	12
4	6.24	Sag	14	7.6	0	7.6	7.6	0	N/A
5	6.17	Sag	14	6.7	1.3	8	8	0	N/A
6	6.17	Sag	4	3.5	0.53	4.03	4.03	0	N/A
7	6.11	On-Grade	10	7.1	1.36	8.46	7.16	1.3	5
8	6.11	On-Grade	10	5.2	1.31	6.51	5.98	0.53	6
9	6.3	On-Grade	10	5.7	0	5.7	4.39	1.31	8
10	6.3	On-Grade	10	5.8	0	5.8	4.44	1.36	7
11	7.1	On-Grade	10	5.9	0	5.9	5.19	0.71	2
12	7.13	Sag	7	4.4	1.03	5.43	5.43	0	N/A

V. WATER QUALITY

The developers of the proposed industrial and commercial parcels for OVTC will be responsible for treating their runoff before joining the infrastructure storm drain systems delineated in this drainage study. Catch basin inserts will be installed in all catch basin locations for treating street runoff. Refer to the OVTC Water Quality Management Plan report for more details.

VI. SUMMARY

The developed and undeveloped hydrology conditions were analyzed in this study. All proposed storm drain systems (Line A, B & C) intercept off-site drainage crossing the I-

10 freeway onto the project site. Lines A and B also convey on-site drainage from the proposed developments. On-site drainage from the proposed developments and streets will be treated by approved BMPs prior to discharging into the storm drain systems. The increased velocities at the point of discharge for both Lines A and B will be mitigated by properly sized riprap aprons.

Below are summary tables comparing the flow rates and exit velocities at the point of discharge for Lines A and B.

Flow Rate

Storm Drain Line	A	B
Undeveloped Flow Rate (CFS)	1,593	768
Developed Flow Rate (CFS)	1,775	829
Difference (CFS)	+182	+61

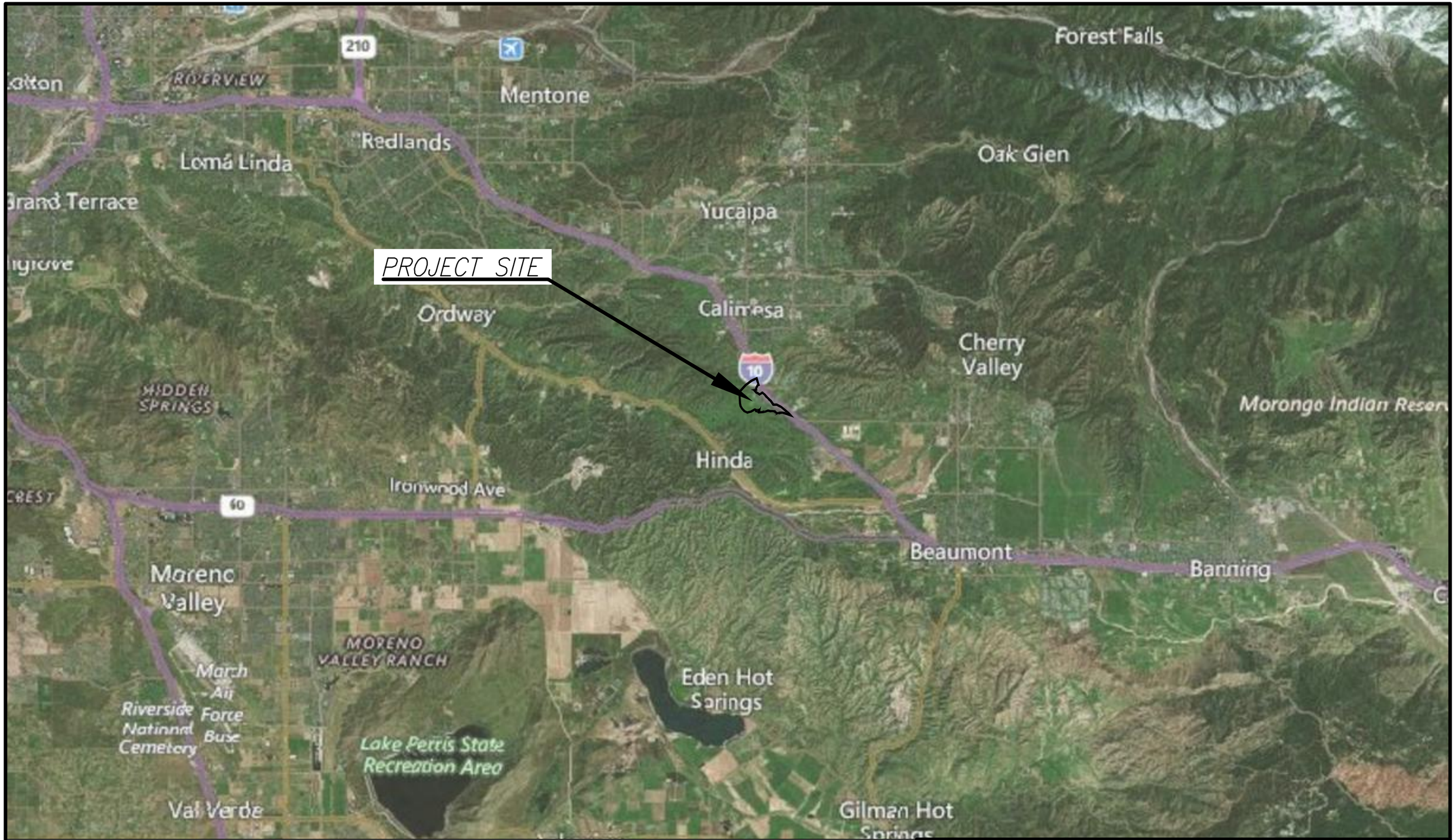
Velocity

Storm Drain Line	A	B
Undeveloped Exist Velocity (Feet per Second)	16.2	14.2
Developed Exist Velocity (Feet per Second)	8.5	6.6
Difference (Feet per Second)	-7.7	-7.6

VII. REFERENCES

1. Riverside County Flood Control and Water Conservation District Hydrology Manual, April 1978
2. JLC Engineering & Consulting, Inc. Hydraulic Analyses for Culverts Crossing I-10 TTM 37862, November 2020.

FIGURE 1: Vicinity Map



SCALE: 1"=10,000'

PROACTIVE ENGINEERING CONSULTANTS WEST
25109 JEFFERSON AVE. SUITE 200
MURRIETA, CA 92562
951-200-6840

FIGURE 1

OAK VALLEY TOWN CENTER
VICINITY MAP

Plotted: Apr 08, 2020 - 8:32am By: PEC West-DMC: C:\Users\PEC West-User\Desktop\WFH\1-Working Folder\01.168.000 Oak Valley Town Center\Hydro\Drainage\Drawings\Vicinity Map.dwg

FIGURE 2: Site Plan

FUTURE SUMMERWIND DEVELOPMENT

INTERSTATE 10 HIGHWAY

PROPOSED BUILDING PAD=262.6

SINGLETON ROAD

PROPOSED BUILDING PAD=251.9

FUTURE SUMMERWIND DEVELOPMENT

SINGLETON ROAD

OAK VALLEY TOWN CENTER

PROPOSED BUILDING PAD=226.4

COOPER DRIVE

EXISTING ROBERTS ROAD

PROPOSED BUILDING PAD=223.9

ROBERTS ROAD

INTERSTATE 10 HIGHWAY

TO SAN TIMOTEO CREEK

SUMMERWIND PHASE 1

LEGEND:

- OVTC PROJECT BOUNDARY
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- LAND USE BOUNDARY
- INDUSTRIAL PARCEL
- COMMERCIAL PARCEL

SCALE: 1"=600'

PROACTIVE ENGINEERING CONSULTANTS WEST
25109 JEFFERSON AVE. SUITE 200
MURRIETA, CA 92562
951-200-6840

PROACTIVE ENGINEERING WEST

FIGURE 2
OAK VALLEY TOWN CENTER
SITE PLAN

Plotted: Jun 14, 2021 - 8:41am By: ajboylon DWG: N:\01.169.000 Oak Valley Town Center\Hydro\Drainage - Ultimate Condition\Drawings\Site Plan.dwg

EXHIBIT A: Undeveloped Condition Hydrology Map

AREA "D"
(PER CULVERT ANALYSIS)

AREA "C"
(PER CULVERT ANALYSIS)

AREA "B"
(PER CULVERT ANALYSIS)

AREA "A"
(PER CULVERT ANALYSIS)

AREA "E"
(PER CULVERT ANALYSIS)

INTERSTATE 10 HIGHWAY

INTERSTATE 10 HIGHWAY

CULVERT D1
EX. 30" CMP
Q_{MAX}=43 CFS

CULVERT D2
EX. 36" RCP
Q_{MAX}=104 CFS

CULVERT C
EX. 6'Wx8'H RCB
Q_{MAX}=910 CFS

CULVERT E
EX. 30" RCP
Q_{MAX}=42 CFS

CULVERT B1 & B2
Q_{MAX}=586.14 CFS

CULVERT B1
EX. DBL 48" CMP

CULVERT B2
EX. 48" CMP

CULVERT B3
EX. DBL 48" RCP
Q_{MAX}=140 CFS

CULVERT A
EX. DBL 10'Wx7'H
Q_{MAX}=1905 CFS

SINGLETON ROAD

ROBERTS ROAD

ROBERTS ROAD

A

B

0.7 AC

1 / 374

2 / 372

2 / 230.1 AC

101 / 156.7 AC

100 / 0.4 AC

101 / 378

102 / 376

Q_{100}=786 CFS TOTAL; V_{AVG}=14.2 FT/S
(CULVERTS B-3, E)

SUMMERWIND PHASE 1

SUMMERWIND PHASE 1

Q_{100}=1,593 CFS TOTAL; V_{AVG}=16.2 FT/S
Q_{100}=535.6 CFS (ONSITE AREA A)
Q_{100}=1,057 CFS (CULVERTS C, D1, D2)

1 / 178

102 / 171

Q_{100}=3,016 CFS TOTAL; V_{AVG}=18.1 FT/S
Q_{100}=343 CFS (ONSITE AREA B)
Q_{100}=2,673 CFS (CULVERTS A, B-3, E)

TO SAN TIMOTEO CREEK

LEGEND:

- A — DRAINAGE AREA
- OVTC PROJECT BOUNDARY
- WATERSHED BOUNDARY
- SUBAREA BOUNDARY
- FLOW PATH
- EXISTING STORM DRAIN
- X-X / XX AC — SUBAREA NAME / ACREAGE
- XX / XXX.X / *XXX.X — NODE: FLOWLINE ELEVATION / * INVERT ELEVATION (IF SHOWN)

NOTE: CULVERT DATA PER SEPARATE STUDY. SEE TTM 37862 HYDRAULIC ANALYSES FOR CULVERTS CROSSING 1-10

250' 0 250' 500' 750'

SCALE: 1"=250'

EXHIBIT A

PROACTIVE ENGINEERING CONSULTANTS WEST
25109 Jefferson Ave, Suite 200
Murrieta, CA 92562
951-200-6840

PROACTIVE
ENGINEERING WEST

CITY OF CALIMESA

OAK VALLEY TOWN CENTER

UNDEVELOPED CONDITION
ONSITE HYDROLOGY MAP

EXHIBIT B: Developed Condition Hydrology Index Map

AREA "D"
(PER CULVERT ANALYSIS)

AREA "C"
(PER CULVERT ANALYSIS)

AREA "E"
(PER CULVERT ANALYSIS)

AREA "B"
(PER CULVERT ANALYSIS)

CULVERT D1
EX. 30" CMP
Q_{MAX}=43 CFS

CULVERT D2
EX. 36" RCP
Q_{MAX}=104 CFS

CULVERT C
EX. 6'Wx8'H RCB
Q_{MAX}=910 CFS

CULVERT E
EX. 30" RCP
Q_{MAX}=42 CFS

CULVERT B1 & B2
Q_{MAX}=586.14 CFS

CULVERT B1
EX. DBL 48" CMP

CULVERT B2
EX. 48" CMP

CULVERT B3
EX. DBL 48" RCP
Q_{MAX}=140 CFS

CULVERT A
EX. DBL 10'Wx7'H
Q_{MAX}=1905 CFS

INTERSTATE 10 HIGHWAY

SINGLETON ROAD

ROBERTS RD

FUTURE SUMMERWIND DEVELOPMENT
PLANNING AREA E-1 GARDEN COURTS PER SPECIFIC PLAN

FUTURE SUMMERWIND DEVELOPMENT
PLANNING AREA E-2 TOWNHOMES PER SPECIFIC PLAN

FUTURE SUMMERWIND DEVELOPMENT
STREET - ROBERTS ROAD

FUTURE SUMMERWIND DEVELOPMENT

FUTURE SUMMERWIND DEVELOPMENT
PLANNING AREA B-1 COMMUNITY RECREATION PER SPECIFIC PLAN

FUTURE SUMMERWIND DEVELOPMENT

EXISTING SUMMERWIND PHASE 1

LEGEND:

- A — DRAINAGE AREA
- OVTC PROJECT BOUNDARY
- WATERSHED BOUNDARY
- SUBAREA BOUNDARY
- FLOW PATH
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- X-X / XX AC — SUBAREA NAME / ACREAGE
- XX / XXX.X / *XXX.X — NODE / FLOWLINE ELEVATION / * INVERT ELEVATION (IF SHOWN)
- FUTURE SUMMERWIND DEVELOPMENT TRIBUTARY TO THE OVTC STORM DRAIN INFRASTRUCTURE

NOTE: CULVERT DATA PER SEPARATE STUDY. SEE TTM 37862 HYDRAULIC ANALYSES FOR CULVERTS CROSSING 1-10

200' 0 200' 400' 600'
SCALE: 1"=200'

EXHIBIT B

CITY OF CALIMESA

PROACTIVE ENGINEERING CONSULTANTS WEST
25109 JEFFERSON AVE. SUITE 200
MURRIETA, CA 92562
951-200-6840

PROACTIVE ENGINEERING WEST

OAK VALLEY TOWN CENTER

DEVELOPED CONDITION
ONSITE HYDROLOGY MAP

EXHIBIT C: Drainage Facilities Map

CULVERT D1
EX. 30" CMP
Q_{MAX}=43 CFS

CULVERT D2
EX. 36" RCP
Q_{MAX}=104 CFS

CULVERT C
EX. 6'Wx8'H RCB
Q_{MAX}=910 CFS

CULVERT E
EX. 30" RCP
Q_{MAX}=42 CFS

CULVERT B1 & B2
Q_{MAX}=586.14 CFS

CULVERT B1
EX. DBL 48" CMP

CULVERT B2
EX. 48" CMP

CULVERT B3
EX. DBL 48" RCP
Q_{MAX}=140 CFS

CULVERT A
EX. DBL 10'Wx7'H
Q_{MAX}=1905 CFS

INTERSTATE 10 HIGHWAY

INTERSTATE 10 HIGHWAY

SINGLETON ROAD

ROBERTS ROAD

FUTURE SUMMERWIND DEVELOPMENT

FUTURE SUMMERWIND DEVELOPMENT

FUTURE SUMMERWIND DEVELOPMENT

SUMMERWIND PHASE 1

A

A

A

A

B

CP-09 (R7)
48" RCP
Q_{100}=147 CFS

CP-09 (R1-6)
60" RCP
Q_{100}=147 CFS

30' PUBLIC SD ESMT

30' PUBLIC SD ESMT

40' PUBLIC SD ESMT

40' PUBLIC SD ESMT

50' PUBLIC SD ESMT

EXISTING CULVERT
Q_{MAX}=910 CFS

CP-22
30" RCP
Q_{100}=10.4 CFS

LINE A2
66" RCP
Q_{100}=203.2 CFS

CP-08
18" RCP
Q_{100}=10 CFS

LINE A (R17)
10x8 RCB
Q_{100}=1,053 CFS

CATCH BASIN 3
W=14'
Q_{100}=7.0 CFS

CP-07
18" RCP

CP-06
30" RCP
Q_{100}=70 CFS

LINE A2
66" RCP
Q_{100}=213.6 CFS

CATCH BASIN 12
W=14' (SAG)
Q_{100}=4.4 CFS

CP-21
18" RCP

CATCH BASIN 11
W=10'
Q_{100}=5.9 CFS

CP-20
18" RCP

LINE A2 (R1)
66" RCP
Q_{100}=222.8 CFS

CP-05
18" RCP
Q_{100}=27.9 CFS

LINE A
12x10 RCB
Q_{100}=1,474 CFS

CP-10
18" RCP
Q_{100}=6.7 CFS

LINE A
12x10 RCB
Q_{100}=1,481 CFS

CATCH BASIN 2
W=14'
Q_{100}=6.3 CFS

CP-04
18" RCP

CP-02
30" RCP
Q_{100}=27.7 CFS

LINE A
12x10 RCB
Q_{100}=1,520 CFS

CP-23
42" RCP
Q_{100}=57.1 CFS

LINE A
12x10 RCB
Q_{100}=1,497 CFS

CATCH BASIN 1
W=14'
Q_{100}=12.1 CFS

CP-03
18" RCP

LINE A
12x10 RCB
Q_{100}=1,567 CFS

CP-24
24" RCP
Q_{100}=23.9 CFS

CP-01
42" RCP
Q_{100}=101.4 CFS

LINE A
12'x10' (WxH) RCB
Q_{100}=1,675 CFS

LINE A
10x8 RCB
Q_{100}=1,045 CFS

LINE A
8x10 RCB
Q_{100}=1,058 CFS

LINE A
10x8 RCB
Q_{100}=1,128 CFS

LINE A
12x10 RCB
Q_{100}=1,128 CFS

CATCH BASIN 4
W=14' (SAG)
Q_{100}=7.6 CFS

LATERAL CP-11
18" RCP

LINE A1
66" RCP
Q_{100}=145.6 CFS

LINE A
12x10 RCB
Q_{100}=1,253 CFS

LINE A
12x10 RCB
Q_{100}=1,446 CFS

LINE A1
66" RCP
Q_{100}=140.4 CFS

CATCH BASIN 6
W=4' (SAG)
Q_{100}=3.5 CFS

CP-14
18" RCP

LINE A1
66" RCP
Q_{100}=119.2 CFS

CP-12
24" RCP
Q_{100}=21.2 CFS

LINE A1
66" RCP
Q_{100}=110.3 CFS

CATCH BASIN 5
W=14' (SAG)
Q_{100}=6.7 CFS

CP-13
18" RCP

CP-15
30" RCP
Q_{100}=31 CFS

CATCH BASIN 7
W=10'
Q_{100}=7.1 CFS

CP-16
18" RCP

CP-18
36" RCP
Q_{100}=56.1 CFS

LINE A1
48" RCP
Q_{100}=67.3 CFS

CATCH BASIN 8
W=10'
Q_{100}=5.2 CFS

CP-17
18" RCP

LINE A1
48" RCP
Q_{100}=79.4 CFS

CATCH BASIN 10
W=10'
Q_{100}=5.8 CFS

CP-19
18" RCP

LINE A1
18" RCP
Q_{100}=11.2 CFS

LINE B
DOUBLE 6x4 CULVERT
Q_{100}=828.8 CFS

CATCH BASIN 9
W=10'
Q_{100}=5.7 CFS

LINE A1
18" RCP

LINE C
ARCH CULVERTT
Q_{100}=1,905 CFS

WOB

WOB

WOB

LEGEND:

A — DRAINAGE AREA

OVTC PROJECT BOUNDARY

WATERSHED BOUNDARY

PROPOSED STORM DRAIN

EXISTING STORM DRAIN

NOTE: CULVERT DATA PER SEPARATE STUDY. SEE TTM 37862
HYDRAULIC ANALYSES FOR CULVERTS CROSSING 1-10

200' 0 200' 400' 600'

SCALE: 1"=200'

EXHIBIT C

PROACTIVE ENGINEERING CONSULTANTS WEST
25109 JEFFERSON AVE. SUITE 200
MURRIETA, CA 92562
951-200-6840

PROACTIVE ENGINEERING WEST

CITY OF CALIMESA

OAK VALLEY TOWN CENTER

PRELIMINARY DRAINAGE FACILITIES MAP

FOR REVIEW ONLY

Birtcher Commerce Center Oak Valley - Building D
DPR 21-06
Calimesa, County of Riverside, California

Preliminary Drainage Study

Prepared for:
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SECTION 1 - SUMMARY

PURPOSE

The purpose of this report is to document the hydrologic and hydraulic analyses performed in support of the Birtcher Commerce Center Oak Valley (BCCOV) - Building D project located in the city of Calimesa in the County of Riverside, California. The overall BCCOV project site (PM 37862) consists of approximately 220 acres of currently vacant land and is bounded by the Interstate-10 (I-10) highway along its northeast, the single-family residential tract TR 32702 (currently under construction) along its southeastern boundary, vacant land along its southern boundary, and a future residential development to its northwest. The San Timoteo Creek runs from north to south along the eastern boundary of the BCCOV site and continues south of the site.

The BCCOV - Building D project is bounded by Roberts Road to its west, vacant land to its northwest, the existing I-10 highway to its east, and Singleton Road to its south. The project proposes to build an industrial development on approximately 32.0 acres. This report will summarize the hydrologic and hydraulic analyses that were conducted in order to determine the necessary drainage improvements required to provide flood protection for the proposed building and safely convey the runoff through the site.

The scope of this report will include the following:

- Determine the peak 100-year and 10-year flow rates for the developed condition using the Riverside County Flood Control and Water Conservation District (RCFC&WCD) Rational Method.
- Determine the required storm drain facilities, alignment, and sizes required to flood protect the project site.
- Determine the necessary flow rate required for water quality treatment.
- Determine the necessary detention volume required to mitigate for increases in runoff for the 24-hour duration storm event for the 2-year return frequency
- Preparation of a preliminary report summarizing the hydrology and hydraulic results.

DESCRIPTION OF WATERSHED

As previously described, the project is proposing an industrial development on approximately 32.0 acres of vacant land within the boundaries of the overall BCCOV project boundary. The overall BCCOV project, and all areas within its boundary including the BCCOV - Building D project, is located within the Summerwind Ranch at Oak Valley Specific Plan which comprises approximately 2,600 acres of land within the city of Calimesa.

The currently vacant overall BCCOV project site generally drains towards the center of the site where a natural streambed area conveys flows from north to south. The project site is currently impacted by considerable offsite flow that enters the site via multiple existing culverts running underneath the I-10 Highway. The existing culverts convey approximately 3730 cfs of flows generated mainly by the San Bernardino Mountains located northeast of the overall BCCOV project site. The offsite flows combine with the existing onsite flows and are conveyed south through the site via the existing streambed areas before ultimately discharging into the San Timoteo Creek.

Prior to any construction commencing for the BCCOV - Building D project, the overall BCCOV project site will be mass graded. The mass grading phase also includes the construction of retaining walls along the boundaries of the overall BCCOV project, graded pads, the construction of backbone street improvements for Singleton Road and Roberts Road, the installation of backbone storm drain facilities, and the installation of storm drain stub-outs for the individual BCCOV industrial developments to discharge into. The overall drainage pattern of the mass grade phase will perpetuate the drainage pattern

of the existing, vacant project site. However, runoff in the mass graded phase will be captured in temporary inlets and conveyed towards the backbone storm drain facilities. The backbone storm drain facilities have been designed to convey the fully developed flows from the overall BCCOV project as well as the existing offsite flows generated north of the I-10 highway southerly towards the San Timoteo Creek. A separate drainage study titled "Hydrology and Hydraulics Study: Oak Valley Town Center Parcel Map No. 37862 Mass Grading Plan" was conducted for the mass grade phase of the project and encompasses the design and layout of the backbone storm drain facilities.

The completion of the mass grade phase (along with backbone improvements for Roberts Road and Singleton Road) for the overall BCCOV project site will be considered the existing condition for the purpose of this preliminary drainage study for the BCCOV - Building D project. Temporary inlets and any existing CMP constructed in the mass grade phase will be removed in the ultimate condition. Storm drain stub-outs constructed in the mass grade phase will remain in place and be used as connection points for the proposed onsite developments of the BCCOV - Building D project.

Existing elevations across the site vary from 2295 to 2230 feet (NAVD88 datum). The existing site generally surface flows from northwest to southeast towards two sediment basins in the southwestern corner of the site. The flows collected in the basin are then conveyed towards the backbone storm drain facilities located near the intersection of Roberts Road and Singleton Road. The backbone storm drain facilities convey flows southwest before ultimately discharging into the San Timoteo Creek.

PROPOSED CONDITIONS

In the proposed condition of the BCCOV - Building D project, onsite runoff will be conveyed throughout the site via proposed ribbon gutters and curb & gutters. Onsite runoff will then be captured by a network of catch basins and drainage inlets provided at low points. Proposed private underground storm drain conveys captured flows towards proposed biotreatment devices for water quality treatment. Modular Wetland System (MWS) vaults are being proposed to provide water quality treatment (additional information regarding the MWS vaults can be found in the separate Preliminary WQMP Report). CMP chamber detention systems with orifice outlets are proposed to mitigate onsite flows for the 2-year 24-hour storm event to meet HCOC requirements.

All flows captured onsite are then conveyed towards existing storm drain stub-outs that will be constructed in the mass grading phase of the overall BCCOV project once treated for water quality and mitigated to be within 10% of the pre-development flows for the 2-year storm event with a duration of 24 hours. These stub-outs have been sized to convey the fully developed flows generated by the BCCOV - Building D project per a separate drainage study ("Hydrology and Hydraulics Study: Oak Valley Town Center Parcel Map No. 37862 Mass Grading Plan") and conveys flows towards the backbone storm drain lines which will be constructed in the mass grade phase of the overall BCCOV project. The backbone storm drain line conveys flows towards the southern boundary of the overall BCCOV project boundary and ultimately discharges all captured flows offsite and into the San Timoteo Creek.

METHODOLOGY

HYDROLOGY

Hydrologic calculations were performed in accordance with the RCFC&WCD Hydrology Manual, dated April 1978. The Rational Method was utilized in determining peak flow rates.

The hydrological parameters, including rainfall values and soil types were derived from the RCFC&WCD Hydrology Manual. The isohyetal maps and soil map have been included in Section 2.

Rational Method calculations were performed using a computer program developed by CivilDesign Corporation and Joseph E. Bonadiman and Associates Inc. The computer program is commonly referred to as CivilD which incorporates the hydrological parameters outlined in the RCFC&WCD Hydrology Manual.

The Rational Method was used to determine the peak flow rates to size and design the drainage facilities need to convey onsite flows through the site to the existing stub-outs. The flow rates were computed by generating a hydrologic "link-node" model in which the overall area is divided into separate drainage sub-areas, each tributary to a concentration point (node) determined by the proposed layout and grading.

The Unit Hydrograph Method was used to determine the peak flow rates and volumes associated with the 2-year event for the site. Calculations were performed for both the existing condition and developed condition to be used in the analysis of the proposed detention systems. See Section 4 for additional information and results regarding the hydrologic analyses performed for this project.

HYDRAULICS

Water quality calculations were performed using spreadsheets that were created by RCFC&WCD. Final calculations and additional details can be found in the Preliminary-WQMP.

Basin routing calculations were performed using the CivilD computer program. The CivilD program utilizes the Modified-Puls methodology to routes unit hydrographs through a basin using the stage-storage and stage-discharge curves determined from the proposed basin design. See Section 4 for additional discussion and results.

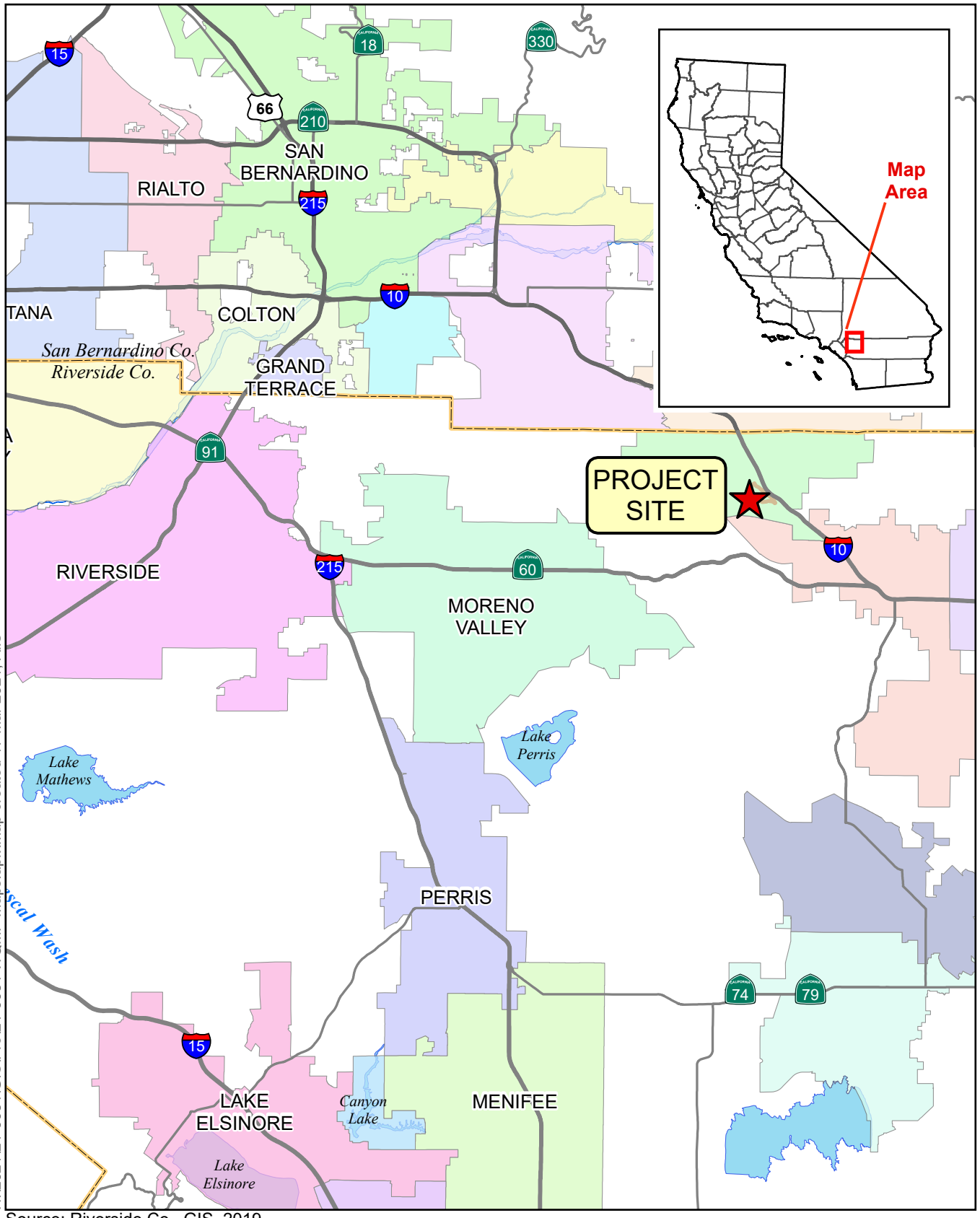
Hydraulic calculations to determine the required pipe sizes of proposed storm drain facilities will be provided in the Final Drainage Study.

FIG. 1 VICINITY MAP

FIG. 2 USGS TOPOGRAPHY MAP

FIG. 3 AERIAL PHOTOGRAPH

FIG. 4 RECEIVING WATERBODIES



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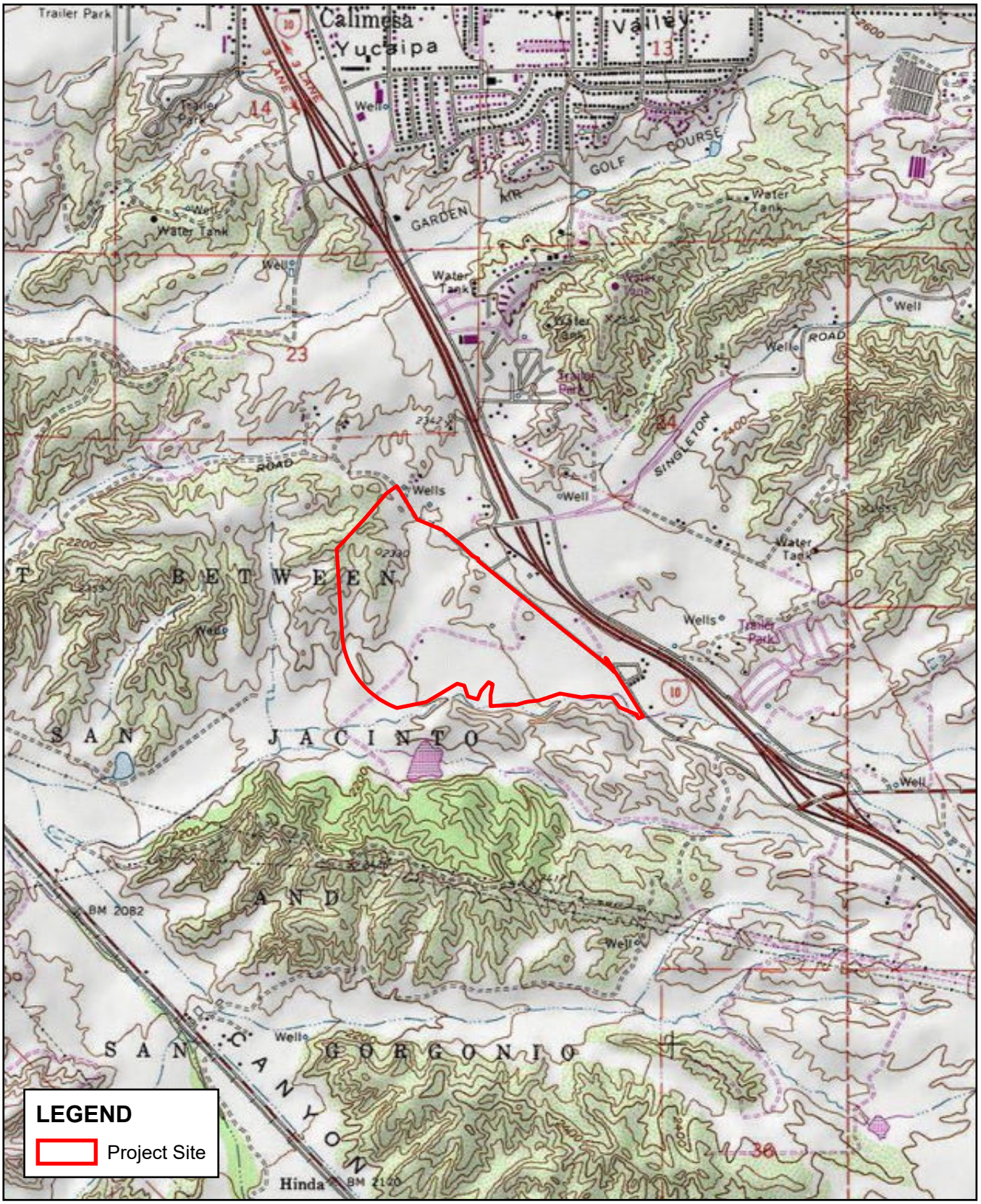
Source: Riverside Co. GIS, 2019

0 2 4 6 Miles

Figure 1 – Vicinity Map

21-0034 OVTC INDUSTRIAL

ALBERT A. WEBB ASSOCIATES



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Sources: ESRI / USGS 7.5min Quad
DRGs: EL CASCO

0 1,000 2,000 3,000 Feet

Figure 2 - USGS Map
21-0034 OVTC INDUSTRIAL

ALBERT A. WEBB ASSOCIATES



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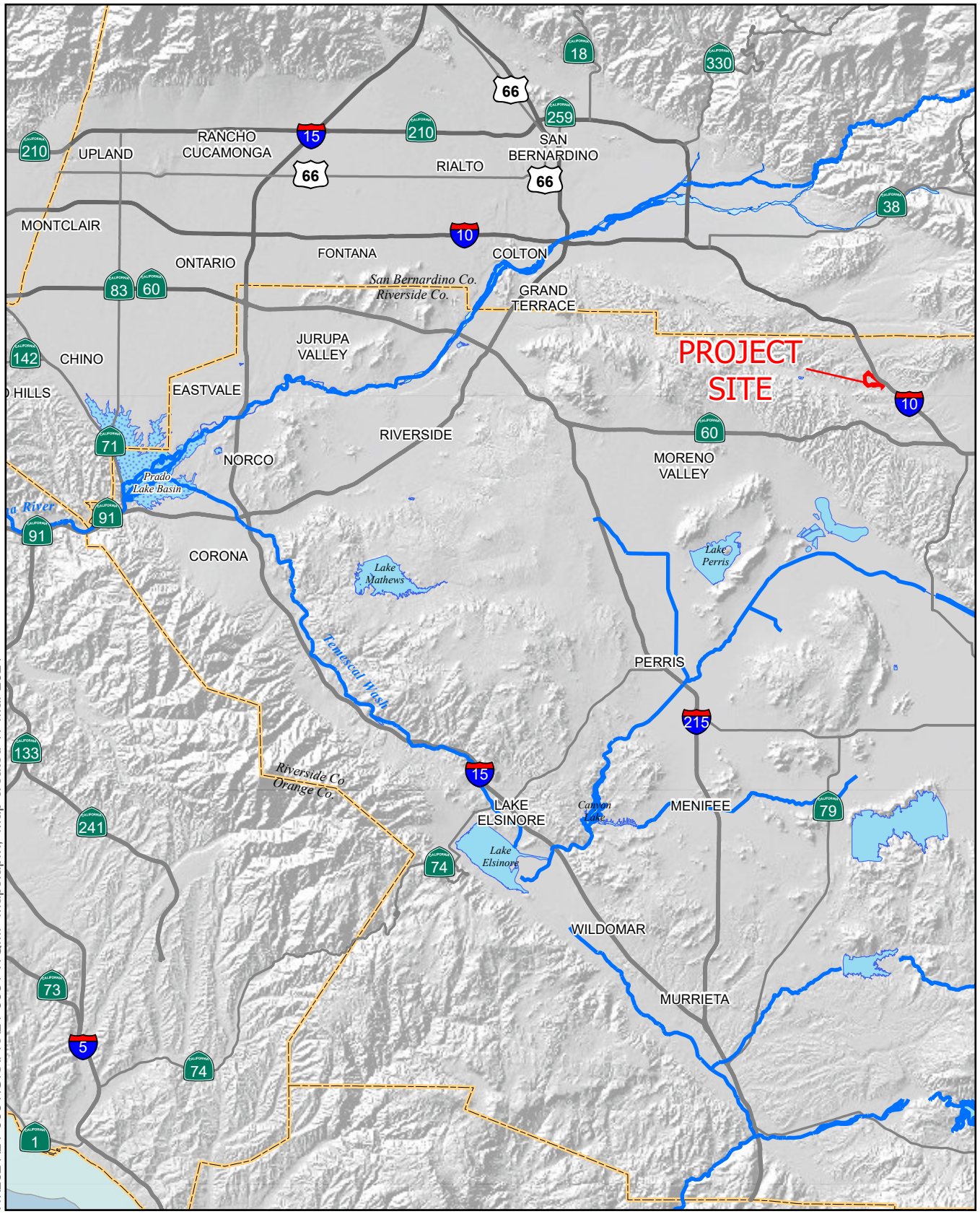
Source: Riverside Co. GIS, Jan. 2020.

0 600 1,200 1,800 Feet

Figure 3 - Aerial Map

21-0034 OVTC INDUSTRIAL

ALBERT A. WEBB ASSOCIATES



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Sources: USGS DLG; USGS 30m DEM

0 2 4 6 8 Miles

Figure 4 – Receiving Waterbodies

21-0034 OVTC INDUSTRIAL

ALBERT A. WEBB ASSOCIATES

SECTION 2 - HYDROLOGY ANALYSIS

HYDROLOGY PARAMETERS

The RCFC&WCD Hydrology Manual was used to determine several of the hydrological parameters. The following rainfall depths were utilized in the hydrology analyses, which were obtained from the isohyetal maps provided in the RCFC&WCD Hydrology Manual:

Table 1 – Precipitation Values

	Duration
Storm Event	1-Hour (inches)
10-Year	0.91
100-Year	1.35

The value for slope of intensity was determined to be 0.550. The standard intensity-duration curve data (Plate D-4.1) has been included in Appendix A.

Based on the Plate C-1.18 [El Casco] in the RCFC&WCD Hydrology Manual, the project site is classified as soil types B, C, and D but is predominately soil type B. The soils map is included in Appendix A.

ON-SITE RATIONAL METHOD HYDROLOGY

The rational method was used to determine peak flow rates in order to adequately size the proposed subsurface storm drains and associated inlets used to convey on-site flows. Calculations were performed for approximately 31.1 acres of total area that is tributary to the proposed storm drain facilities within the BCCOV - Building D project boundary. A small portion of the site, consisting mainly of the driveways and adjacent sloped areas will drain towards the backbone streets (Singleton Road and Roberts Road) and be captured in the backbone catch basins.

The BCCOV – Building D project has been provided three (3) stub-out connections located at various points throughout the project area. These stub-outs have been sized to accept the fully developed flows generated by the project area.

Subareas within the rational method calculations for the BCCOV – Building D project have been broken up based on the area tributary to the existing stub-outs constructed in the mass grade phase of the overall BCCOV project. The 600-Series consists of approximately 14.1 acres of area tributary to the existing stub-out located near the middle of the southeastern boundary and makes up the southeastern half of the project site. The 650-Series consists of approximately 2.9 acres of area tributary to the existing stub-out located near the intersection of Singleton Road and Roberts Road. This area contains a parking area located near the southwestern boundary of the site. The 700-Series consists of approximately 14.1 acres of area tributary to the existing stub-out located near northwestern corner of the site and makes up the northern half of the project site.

Areas were further broken up based on the location of localized low points throughout the site. In final engineering, areas will be further broken up to determine the 100-year flow rates entering any proposed inlets located onsite. The majority of flows are directed towards the proposed inlets via ribbon gutters and/or curb & gutters. Most subareas consist of a combination of the proposed building, parking stalls,

drive aisles, concrete walkways, and/or landscaped areas. All onsite areas within the calculations were considered as commercial subarea types.

The following table summarizes the rational method results at key points:

Table 3 – Rational Method Results

Point of Interest	10-Year Peak Flow Rate (cfs)	100-Year Peak Flow Rate (cfs)
Node 605 – Flows from south/east portions of site	29.6	45.5
Node 651 – Flows from southwestern parking lot	5.9	8.8
Node 707 – Flows from northern portion of site	29.8	44.6

The rational method output files and hydrology map have been included in Appendix A.

OFF-SITE RATIONAL METHOD HYDROLOGY

The BCCOV - Building D project is impacted by runoff generated by approximately 0.8 acres of offsite area. This offsite area consists of sloped areas constructed in the mass grade phase of the overall BCCOV project. This area has been included in the rational method calculations within the 700-Series and has been accounted for in the preliminary sizing of the proposed storm drain facilities.

Runoff generated by offsite areas east of the project area are collected offsite and conveyed through the BCCOV – Building D project area via a separate offsite storm drain pipe. No onsite connections are proposed into this offsite storm drain line.

As described in Section 1, the overall BCCOV project site is impacted by considerable offsite flows generated by the San Bernardino Mountains located northeast of the I-10 Highway. These flows will enter the backbone storm drain facilities and will not impact the BCCOV - Building D project. Details regarding these offsite flows and the backbone storm drain facilities can be found in the separate drainage study titled "Hydrology and Hydraulics Study: Oak Valley Town Center Parcel Map No. 37862 Mass Grading Plan" (excerpts from the report can be found in Appendix C).

SECTION 3 - HYDRAULIC ANALYSIS

ON-SITE STORM DRAIN FACILITIES

Onsite Storm Drain

Existing stub-outs have been sized to accept the flows generated by the fully developed of the BCCOV - Building D project and will be constructed in the mass grade phase (per the separate study titled "Hydrology and Hydraulics Study: Oak Valley Town Center Parcel Map No. 37862 Mass Grading Plan").

Hydraulic calculations will be performed for all proposed, onsite storms drain facilities 12 inches in diameter or greater in the Final Drainage Study.

CMP Chambers D1

To mitigate for HCOC requirements, a CMP detention system is proposed to hold 84,000 cubic ft of runoff. This would require the system to consist of 4 barrels, which are 398 ft long each. Solid chambers are proposed as infiltration is not feasible. An outlet structure is proposed to consist of an orifice with the invert at the bottom of the chambers to mitigate the peak flow rate of the 2-year storm event. The details of the CMP chamber and orifice sizing have been included in Appendix B.

CMP Chambers D2

To mitigate for HCOC requirements, a CMP detention system is proposed to hold 80,000 cubic ft of runoff. This would require the system to consist of 4 barrels, which are 378 ft long each. Solid chambers are proposed as infiltration is not feasible. An outlet structure is proposed to consist of an orifice with the invert at the bottom of the chambers to mitigate the peak flow rate of the 2-year storm event. The details of the CMP chamber and orifice sizing have been included in Appendix B.

CMP Chambers D3

To mitigate for HCOC requirements, a CMP detention system is proposed to hold a total of 17,000 cubic ft of runoff. Two underground chamber systems are proposed to be connected by an equalizer pipe. Each system is to consist of 4 barrels, which are 22 ft long each. Solid chambers are proposed as infiltration is not feasible. An outlet structure is proposed to consist of an orifice with the invert at the bottom of the chambers to mitigate the peak flow rate of the 2-year storm event. The details of the CMP chamber and orifice sizing have been included in Appendix B.

Inlet Capacities

Grate inlets are proposed at the low points within ribbon gutters in order to capture onsite flows. For larger flows, a series of 3'x 3' or 2'x 3' grates are proposed in ribbon gutters to prevent excessive ponding from occurring.

SECTION 4 - DETENTION SYSTEM ANALYSIS

ON-SITE UNIT HYDROGRAPH METHOD HYDROLOGY

The unit hydrograph method was used to determine the peak flow rates and volumes in order to adequately size the proposed chamber detention systems to address HCOC mitigation. Unit hydrographs were performed for the 2-year storm with a duration of 24-hours in the existing condition and developed condition. The existing condition is used to establish a baseline for comparative purposes. The developed condition is used for design purposes, it was utilized in the routing analysis in order to size and analyze the proposed basin and chamber detention systems.

In the existing condition analysis, the Building D project site was broken up into two main areas. Approximately 15.8 acres are labelled as Area D1 and are tributary to the existing northern stub out within the Building D project site. Approximately 16.9 acres are labelled as Area D2 and are tributary to the existing southern stub out within the Building D project site. In the proposed condition, Building D is divided into Areas 10, 11 and 12. Area 10 consists of approximately 14.1 acres of the existing condition Area D1. Area 11 consists of approximately 14.1 acres of existing condition area D2. Area 12 consists of approximately 2.9 acres of mostly the existing condition Area D2 as well as a portion of Area D2. Area 12 outlets into the lateral in the southwest corner of the Building D site.

The following table summarizes the results of the unit hydrograph analysis:

Table 4 – Unit Hydrograph Results

EXISTING CONDITION 2-YEAR, 24-HOUR STORM		
AREA	D1	D2
VOL (AC-FT)	0.33	0.37
PEAK (CFS)	0.91	1.40

PROPOSED CONDITION 2-YEAR, 24-HOUR STORM			
AREA	10	11	12
VOL (AC-FT)	2.1	2.0	0.42
PEAK (CFS)	3.39	3.30	0.70

BASIN ROUTING ANALYSIS

A routing analysis was completed to demonstrate that the basin and CMP chamber systems contain substantial volume needed to mitigate flows down to existing condition peak flow rates.

Basin routing calculations were conducted for each building area (Areas 10, 11 and 12). A stage-storage-discharge table was determined for each area. The stage-storage-discharge tables provide input data at select elevations in the chambers which will determine the storage and discharge at each point based on the mitigation configuration of the outlet structures.

For Area 10, the proposed outlet structure consists of a 4-inch orifice with an invert set at the bottom of the chambers to mitigate the 2-year storm event with a duration of 24 hours. The orifice creates a maximum ponding depth of 4.64 ft above the chamber bottom, which is below the 8 ft depth of the top of the chambers.

For Area 11, the proposed outlet structure consists of a 4.5-inch orifice with an invert set at the bottom of the chambers to mitigate the 2-year storm event with a duration of 24 hours. The orifice creates a maximum ponding depth of 4.20 ft above the chamber bottom, which is below the 8 ft depth of the top of the chambers.

For Area 12, the proposed outlet structure consists of three 1.5-inch orifices with an invert set at the bottom of the chambers to mitigate the 2-year storm event with a duration of 24 hours. The orifice creates a maximum ponding depth of 4.22 ft above the chamber bottom, which is below the 8 ft depth of the top of the chambers.

The following tables present the result of routing analysis for the 24-hour 2-year storm event to demonstrate that the CMP chamber systems provide the necessary storage volume needed to restrict the outflow to existing condition flow rates.

Table 5 – Basin Routing Results

EXISTING CONDITION 2-YEAR, 24-HOUR STORM			
	VOL (AC-FT)	PEAK FLOW (CFS)	
AREA D1	0.33	0.91	
AREA D2	0.37	1.40	
82.9% D2 (PROP AREA 11)	-	1.08	
17.1% D2 (PROP AREA 12)	-	0.23	
PROPOSED CONDITION 2-YEAR, 24-HOUR STORM			
	VOL (AC-FT)	PEAK FLOW (CFS)	ROUTING PEAK FLOW (CFS)
AREA 10	2.1	3.39	0.98
AREA 11	2.0	3.30	1.17
AREA 12	0.42	0.70	0.23
COMBINED (EXISTING D2)	2.42	4.0	1.40

The basin routing calculations and other hydraulic calculations have been provided in Appendix C. Based on the table above, the proposed detention chambers for have the capacity to mitigate for the required HCOC. All discharge flow rates in the developed condition are lower than or within ten percent of the flow rate exiting the site in the existing condition.

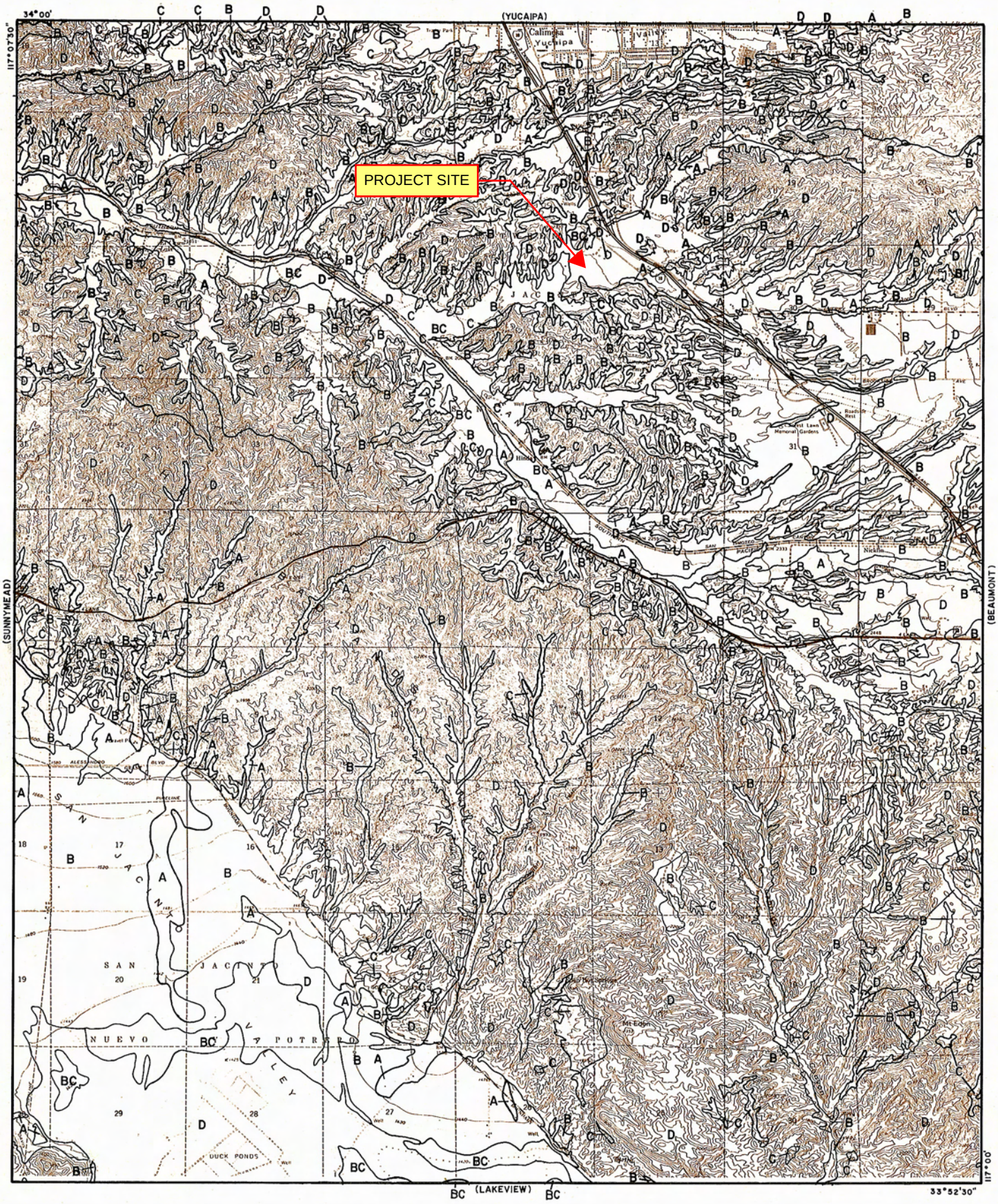
SECTION 5 - CONCLUSION

Based on the analyses and results of this report, the following conclusions were derived from the hydrology and hydraulic results:

- The proposed drainage improvements will adequately convey flows towards the existing backbone storm drain facilities and provide flood protection for the 100-year storm event.
- The proposed MWS biotreatment devices will provide adequate water quality treatment.
- The proposed CMP detention chambers and orifice system will adequately mitigate for increases in runoff for the 24-hour duration storm event for the 2-year return frequency.
- The proposed project will not impact flooding condition to upstream or downstream properties.

APPENDIX A – HYDROLOGY ANALYSIS

HYDROLOGIC SOILS GROUP MAP (PLATE C-1.18)



LEGEND

—— SOILS GROUP BOUNDARY

A SOILS GROUP DESIGNATION

RCFC&WCD

HYDROLOGY MANUAL

0 FEET 5000

HYDROLOGIC SOILS GROUP MAP FOR EL CASCO

PLATE C-1.18

RAINFALL INTENSITY

RCFC & WCD

HYDROLOGY MANUAL

RAINFALL INTENSITY–INCHES PER HOUR

ANZA			BANNING			BEAUMONT			CALIMESA			CANYON LAKE		
DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR	DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR	DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR	DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR	DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR
5	4.23	6.85	5	3.32	4.93	5	3.32	4.93	5	3.57	5.30	5	3.07	4.61
6	3.80	6.16	6	3.02	4.47	6	3.02	4.47	6	3.23	4.79	6	2.81	4.23
7	3.48	5.63	7	2.78	4.12	7	2.78	4.12	7	2.97	4.40	7	2.61	3.93
8	3.22	5.21	8	2.59	3.84	8	2.59	3.84	8	2.76	4.09	8	2.45	3.68
9	3.01	4.87	9	2.43	3.61	9	2.43	3.61	9	2.58	3.83	9	2.31	3.48
10	2.83	4.58	10	2.30	3.41	10	2.30	3.41	10	2.44	3.62	10	2.20	3.31
11	2.67	4.33	11	2.19	3.24	11	2.19	3.24	11	2.31	3.43	11	2.10	3.16
12	2.54	4.12	12	2.09	3.10	12	2.09	3.10	12	2.21	3.27	12	2.01	3.03
13	2.43	3.93	13	2.00	2.97	13	2.00	2.97	13	2.11	3.13	13	1.94	2.92
14	2.33	3.77	14	1.92	2.85	14	1.92	2.85	14	2.03	3.01	14	1.87	2.82
15	2.23	3.62	15	1.86	2.75	15	1.86	2.75	15	1.95	2.89	15	1.81	2.72
16	2.15	3.49	16	1.79	2.66	16	1.79	2.66	16	1.88	2.79	16	1.75	2.64
17	2.08	3.37	17	1.74	2.58	17	1.74	2.58	17	1.82	2.70	17	1.70	2.56
18	2.01	3.26	18	1.68	2.50	18	1.68	2.50	18	1.76	2.62	18	1.66	2.50
19	1.95	3.16	19	1.64	2.43	19	1.64	2.43	19	1.71	2.54	19	1.62	2.43
20	1.89	3.06	20	1.59	2.36	20	1.59	2.36	20	1.67	2.47	20	1.58	2.37
22	1.79	2.90	22	1.51	2.25	22	1.51	2.25	22	1.58	2.34	22	1.51	2.27
24	1.70	2.76	24	1.45	2.15	24	1.45	2.15	24	1.51	2.23	24	1.44	2.17
26	1.62	2.63	26	1.39	2.06	26	1.39	2.06	26	1.44	2.14	26	1.39	2.09
28	1.56	2.52	28	1.33	1.98	28	1.33	1.98	28	1.38	2.05	28	1.34	2.02
30	1.49	2.42	30	1.29	1.91	30	1.29	1.91	30	1.33	1.98	30	1.30	1.95
32	1.44	2.33	32	1.24	1.84	32	1.24	1.84	32	1.29	1.91	32	1.26	1.89
34	1.39	2.25	34	1.20	1.78	34	1.20	1.78	34	1.24	1.85	34	1.22	1.84
36	1.34	2.18	36	1.17	1.73	36	1.17	1.73	36	1.21	1.79	36	1.19	1.79
38	1.30	2.11	38	1.13	1.68	38	1.13	1.68	38	1.17	1.74	38	1.16	1.74
40	1.27	2.05	40	1.10	1.64	40	1.10	1.64	40	1.14	1.69	40	1.13	1.70
45	1.18	1.91	45	1.04	1.54	45	1.04	1.54	45	1.07	1.58	45	1.07	1.61
50	1.11	1.80	50	.98	1.45	50	.98	1.45	50	1.01	1.49	50	1.02	1.53
55	1.05	1.70	55	.93	1.38	55	.93	1.38	55	.95	1.42	55	.97	1.46
60	1.00	1.62	60	.89	1.32	60	.89	1.32	60	.91	1.35	60	.93	1.40
65	.95	1.55	65	.85	1.27	65	.85	1.27	65	.87	1.29	65	.89	1.35
70	.91	1.48	70	.82	1.22	70	.82	1.22	70	.84	1.24	70	.86	1.30
75	.88	1.42	75	.79	1.17	75	.79	1.17	75	.80	1.19	75	.84	1.26
80	.85	1.37	80	.76	1.13	80	.76	1.13	80	.78	1.15	80	.81	1.22
85	.82	1.32	85	.74	1.10	85	.74	1.10	85	.75	1.11	85	.79	1.18
SLOPE = .580			SLOPE = .530			SLOPE = .530			SLOPE = .550			SLOPE = .480		

STANDARD INTENSITY–DURATION CURVES DATA

PLATE D-4.1 (1 of 6)

10-YEAR ONSITE HYDROLOGY (RATIONAL METHOD)

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 12/01/21 File:600.out

BCCOV BLDG D
10-YEAR STORM EVENT 600 SERIES
21-0034 DEVELOPED CONDITION
2021-12-01 EP

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 4010

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Calimesa] area used.
10 year storm 10 minute intensity = 2.440(In/Hr)
10 year storm 60 minute intensity = 0.910(In/Hr)
100 year storm 10 minute intensity = 3.620(In/Hr)
100 year storm 60 minute intensity = 1.350(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.910(In/Hr)
Slope of intensity duration curve = 0.5500

++

Process from Point/Station 600.000 to Point/Station 601.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 610.000(Ft.)
Top (of initial area) elevation = 2262.600(Ft.)
Bottom (of initial area) elevation = 2256.200(Ft.)
Difference in elevation = 6.400(Ft.)
Slope = 0.01049 s(percent)= 1.05
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 9.707 min.
Rainfall intensity = 2.478(In/Hr) for a 10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.880
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.500
RI index for soil(AMC 2) = 65.50
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 14.613(CFS)
Total initial stream area = 6.700(Ac.)
Pervious area fraction = 0.100

++

Process from Point/Station 601.000 to Point/Station 602.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2252.200(Ft.)
Downstream point/station elevation = 2250.800(Ft.)
Pipe length = 150.00(Ft.) Manning's N = 0.013

```
No. of pipes = 1  Required pipe flow  =    14.613(CFS)
Nearest computed pipe diameter  =     21.00(In.)
Calculated individual pipe flow  =    14.613(CFS)
Normal flow depth in pipe =   16.41(In.)
Flow top width inside pipe =   17.36(In.)
Critical Depth =   17.01(In.)
Pipe flow velocity =      7.24(Ft/s)
Travel time through pipe =    0.35 min.
Time of concentration (TC) =    10.05 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      602.000 to Point/Station      602.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      6.700(Ac.)
Runoff from this stream =     14.613(CFS)
Time of concentration =   10.05 min.
Rainfall intensity =     2.431(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      603.000 to Point/Station      604.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   590.000(Ft.)
Top (of initial area) elevation =  2262.600(Ft.)
Bottom (of initial area) elevation =  2256.200(Ft.)
Difference in elevation =     6.400(Ft.)
Slope =    0.01085  s(percent)=       1.08
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.515 min.
Rainfall intensity =      2.506(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.880
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.500
RI index for soil(AMC 2)  =  65.50
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     16.322(CFS)
Total initial stream area =        7.400(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      604.000 to Point/Station      602.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2251.900(Ft.)
Downstream point/station elevation =  2250.800(Ft.)
Pipe length  =   358.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    16.322(CFS)
Nearest computed pipe diameter  =     27.00(In.)
Calculated individual pipe flow  =    16.322(CFS)
Normal flow depth in pipe =   21.02(In.)
Flow top width inside pipe =   22.42(In.)
Critical Depth =   16.92(In.)
Pipe flow velocity =      4.91(Ft/s)
Travel time through pipe =    1.21 min.
Time of concentration (TC) =    10.73 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      602.000 to Point/Station      602.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      7.400(Ac.)
Runoff from this stream =     16.322(CFS)
Time of concentration =   10.73 min.
Rainfall intensity =     2.345(In/Hr)
Summary of stream data:
```

```
Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                (In/Hr)


1       14.613     10.05                2.431
2       16.322     10.73                2.345
Largest stream flow has longer time of concentration
Qp =     16.322 + sum of
          Qb         Ia/Ib
          14.613 *    0.965 =     14.099
Qp =     30.421

Total of 2 streams to confluence:
Flow rates before confluence point:
      14.613      16.322
Area of streams before confluence:
        6.700        7.400
Results of confluence:
Total flow rate =     30.421(CFS)
Time of concentration =    10.729 min.
Effective stream area after confluence =     14.100(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      602.000 to Point/Station      605.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =  2250.800(Ft.)
Downstream point/station elevation =  2245.100(Ft.)
Pipe length  =   600.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    30.421(CFS)
Nearest computed pipe diameter  =     27.00(In.)
Calculated individual pipe flow  =    30.421(CFS)
Normal flow depth in pipe =   22.31(In.)
Flow top width inside pipe =   20.45(In.)
Critical Depth =   22.89(In.)
Pipe flow velocity =      8.65(Ft/s)
Travel time through pipe =    1.16 min.
Time of concentration (TC) =    11.88 min.
End of computations, total study area =           14.10 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  65.5
```

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 12/01/21 File:650.out

BCCOV BLDG D
10-YEAR STORM EVENT 650 SERIES
21-0034 DEVELOPED CONDITION
2021-12-01 EP

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 4010

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Calimesa] area used.
10 year storm 10 minute intensity = 2.440(In/Hr)
10 year storm 60 minute intensity = 0.910(In/Hr)
100 year storm 10 minute intensity = 3.620(In/Hr)
100 year storm 60 minute intensity = 1.350(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.910(In/Hr)
Slope of intensity duration curve = 0.5500

++

Process from Point/Station 650.000 to Point/Station 651.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 590.000(Ft.)
Top (of initial area) elevation = 2257.600(Ft.)
Bottom (of initial area) elevation = 2254.400(Ft.)
Difference in elevation = 3.200(Ft.)
Slope = 0.00542 s(percent)= 0.54
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 10.930 min.
Rainfall intensity = 2.322(In/Hr) for a 10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.875
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.700
Decimal fraction soil group C = 0.200
Decimal fraction soil group D = 0.100
RI index for soil(AMC 2) = 60.50
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 5.894(CFS)
Total initial stream area = 2.900(Ac.)
Pervious area fraction = 0.100

++

Process from Point/Station 651.000 to Point/Station 651.500
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2250.400(Ft.)
Downstream point/station elevation = 2249.000(Ft.)
Pipe length = 492.00(Ft.) Manning's N = 0.013

No. of pipes = 1 Required pipe flow =   5.894(CFS)
Nearest computed pipe diameter =   21.00(In.)
Calculated individual pipe flow =   5.894(CFS)
Normal flow depth in pipe =   12.91(In.)
Flow top width inside pipe =   20.44(In.)
Critical Depth =   10.73(In.)
Pipe flow velocity =   3.80(Ft/s)
Travel time through pipe =   2.16 min.
Time of concentration (TC) =   13.09 min.
End of computations, total study area =   2.90 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number = 60.5

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 12/01/21 File:700.out

BCCOV BLDG D
10-YEAR STORM EVENT 700 SERIES
21-0034 DEVELOPED CONDITION
2021-12-01 EP

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 4010

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Calimesa] area used.
10 year storm 10 minute intensity = 2.440(In/Hr)
10 year storm 60 minute intensity = 0.910(In/Hr)
100 year storm 10 minute intensity = 3.620(In/Hr)
100 year storm 60 minute intensity = 1.350(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.910(In/Hr)
Slope of intensity duration curve = 0.5500

++

Process from Point/Station 700.000 to Point/Station 701.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 510.000(Ft.)
Top (of initial area) elevation = 2264.400(Ft.)
Bottom (of initial area) elevation = 2257.200(Ft.)
Difference in elevation = 7.200(Ft.)
Slope = 0.01412 s(percent)= 1.41
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 8.515 min.
Rainfall intensity = 2.663(In/Hr) for a 10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.879
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.700
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.300
RI index for soil(AMC 2) = 61.70
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 7.254(CFS)
Total initial stream area = 3.100(Ac.)
Pervious area fraction = 0.100

++

Process from Point/Station 701.000 to Point/Station 702.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2254.200(Ft.)
Downstream point/station elevation = 2251.600(Ft.)
Pipe length = 310.00(Ft.) Manning's N = 0.013

```
No. of pipes = 1  Required pipe flow  =     7.254(CFS)
Nearest computed pipe diameter  =     18.00(In.)
Calculated individual pipe flow  =     7.254(CFS)
Normal flow depth in pipe =   11.67(In.)
Flow top width inside pipe =   17.19(In.)
Critical Depth =   12.52(In.)
Pipe flow velocity =      5.98(Ft/s)
Travel time through pipe =    0.86 min.
Time of concentration (TC) =     9.38 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      702.000 to Point/Station      702.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      3.100(Ac.)
Runoff from this stream =      7.254(CFS)
Time of concentration =    9.38 min.
Rainfall intensity =     2.525(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      703.000 to Point/Station      704.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   690.000(Ft.)
Top (of initial area) elevation =  2262.600(Ft.)
Bottom (of initial area) elevation =  2256.200(Ft.)
Difference in elevation =     6.400(Ft.)
Slope =    0.00928  s(percent)=       0.93
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   10.452 min.
Rainfall intensity =      2.379(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.874
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.900
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.100
RI index for soil(AMC 2)  =  57.90
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     10.605(CFS)
Total initial stream area =        5.100(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      704.000 to Point/Station      702.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2253.200(Ft.)
Downstream point/station elevation =  2251.600(Ft.)
Pipe length  =    90.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    10.605(CFS)
Nearest computed pipe diameter  =     18.00(In.)
Calculated individual pipe flow  =    10.605(CFS)
Normal flow depth in pipe =   11.71(In.)
Flow top width inside pipe =   17.17(In.)
Critical Depth =   15.00(In.)
Pipe flow velocity =      8.71(Ft/s)
Travel time through pipe =    0.17 min.
Time of concentration (TC) =    10.62 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      702.000 to Point/Station      702.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      5.100(Ac.)
Runoff from this stream =     10.605(CFS)
Time of concentration =   10.62 min.
Rainfall intensity =     2.358(In/Hr)
```

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      705.000 to Point/Station      706.000
**** INITIAL AREA EVALUATION ****
------------------------------------------------------------------------------
Initial area flow distance =   545.000(Ft.)
Top (of initial area) elevation =  2262.600(Ft.)
Bottom (of initial area) elevation =  2256.200(Ft.)
Difference in elevation =     6.400(Ft.)
Slope =    0.01174  s(percent)=       1.17
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.072 min.
Rainfall intensity =      2.572(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.881
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.500
RI index for soil(AMC 2)  =  65.50
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     13.365(CFS)
Total initial stream area =        5.900(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      706.000 to Point/Station      702.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  2253.200(Ft.)
Downstream point/station elevation =  2251.600(Ft.)
Pipe length  =   114.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    13.365(CFS)
Nearest computed pipe diameter  =     21.00(In.)
Calculated individual pipe flow  =    13.365(CFS)
Normal flow depth in pipe =   13.10(In.)
Flow top width inside pipe =   20.35(In.)
Critical Depth =   16.32(In.)
Pipe flow velocity =      8.48(Ft/s)
Travel time through pipe =    0.22 min.
Time of concentration (TC) =     9.30 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      702.000 to Point/Station      702.000
**** CONFLUENCE OF MINOR STREAMS ****
------------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 3
Stream flow area =      5.900(Ac.)
Runoff from this stream =     13.365(CFS)
Time of concentration =    9.30 min.
Rainfall intensity =     2.538(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        7.254      9.38                2.525
2       10.605     10.62                2.358
3       13.365      9.30                2.538
Largest stream flow has longer or shorter time of concentration
Qp =     13.365 + sum of
          Qa          Tb/Ta
           7.254 *    0.991 =      7.190
          Qa          Tb/Ta
          10.605 *    0.875 =      9.280
Qp =     29.835

Total of 3 streams to confluence:
Flow rates before confluence point:
       7.254      10.605      13.365
Area of streams before confluence:
        3.100        5.100        5.900
```

Results of confluence:
Total flow rate = 29.835(CFS)
Time of concentration = 9.297 min.
Effective stream area after confluence = 14.100(Ac.)

++
Process from Point/Station 702.000 to Point/Station 707.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2251.600(Ft.)
Downstream point/station elevation = 2248.000(Ft.)
Pipe length = 250.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 29.835(CFS)
Nearest computed pipe diameter = 27.00(In.)
Calculated individual pipe flow = 29.835(CFS)
Normal flow depth in pipe = 18.30(In.)
Flow top width inside pipe = 25.23(In.)
Critical Depth = 22.72(In.)
Pipe flow velocity = 10.39(Ft/s)
Travel time through pipe = 0.40 min.
Time of concentration (TC) = 9.70 min.
End of computations, total study area = 14.10 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number = 61.9

100-YEAR ONSITE HYDROLOGY (RATIONAL METHOD)

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 12/01/21 File:600.out

BCCOV BLDG D
100-YEAR STORM EVENT 600 SERIES
21-0034 DEVELOPED CONDITION
2021-12-01 EP

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 4010

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Calimesa] area used.
10 year storm 10 minute intensity = 2.440(In/Hr)
10 year storm 60 minute intensity = 0.910(In/Hr)
100 year storm 10 minute intensity = 3.620(In/Hr)
100 year storm 60 minute intensity = 1.350(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.350(In/Hr)
Slope of intensity duration curve = 0.5500

++

Process from Point/Station 600.000 to Point/Station 601.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 610.000(Ft.)
Top (of initial area) elevation = 2262.600(Ft.)
Bottom (of initial area) elevation = 2256.200(Ft.)
Difference in elevation = 6.400(Ft.)
Slope = 0.01049 s(percent)= 1.05
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 9.707 min.
Rainfall intensity = 3.676(In/Hr) for a 100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.886
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.500
RI index for soil(AMC 2) = 65.50
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 21.813(CFS)
Total initial stream area = 6.700(Ac.)
Pervious area fraction = 0.100

++

Process from Point/Station 601.000 to Point/Station 602.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2252.200(Ft.)
Downstream point/station elevation = 2250.800(Ft.)
Pipe length = 150.00(Ft.) Manning's N = 0.013

```
No. of pipes = 1  Required pipe flow  =    21.813(CFS)
Nearest computed pipe diameter  =     24.00(In.)
Calculated individual pipe flow  =    21.813(CFS)
Normal flow depth in pipe =   19.64(In.)
Flow top width inside pipe =   18.51(In.)
Critical Depth =   20.03(In.)
Pipe flow velocity =      7.93(Ft/s)
Travel time through pipe =    0.32 min.
Time of concentration (TC) =    10.02 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      602.000 to Point/Station      602.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      6.700(Ac.)
Runoff from this stream =     21.813(CFS)
Time of concentration =   10.02 min.
Rainfall intensity =     3.612(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      603.000 to Point/Station      604.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   590.000(Ft.)
Top (of initial area) elevation =  2262.600(Ft.)
Bottom (of initial area) elevation =  2256.200(Ft.)
Difference in elevation =     6.400(Ft.)
Slope =    0.01085  s(percent)=       1.08
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.515 min.
Rainfall intensity =      3.717(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.886
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.500
RI index for soil(AMC 2)  =  65.50
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     24.362(CFS)
Total initial stream area =        7.400(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      604.000 to Point/Station      602.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2251.900(Ft.)
Downstream point/station elevation =  2250.800(Ft.)
Pipe length  =   358.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    24.362(CFS)
Nearest computed pipe diameter  =     33.00(In.)
Calculated individual pipe flow  =    24.362(CFS)
Normal flow depth in pipe =   22.97(In.)
Flow top width inside pipe =   30.36(In.)
Critical Depth =   19.62(In.)
Pipe flow velocity =      5.52(Ft/s)
Travel time through pipe =    1.08 min.
Time of concentration (TC) =    10.60 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      602.000 to Point/Station      602.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      7.400(Ac.)
Runoff from this stream =     24.362(CFS)
Time of concentration =   10.60 min.
Rainfall intensity =     3.503(In/Hr)
Summary of stream data:
```

```
Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1       21.813     10.02                3.612
2       24.362     10.60                3.503
Largest stream flow has longer time of concentration
Qp =     24.362 + sum of
          Qb         Ia/Ib
          21.813 *    0.970 =     21.156
Qp =     45.518

Total of 2 streams to confluence:
Flow rates before confluence point:
      21.813      24.362
Area of streams before confluence:
        6.700        7.400
Results of confluence:
Total flow rate =     45.518(CFS)
Time of concentration =    10.596 min.
Effective stream area after confluence =     14.100(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      602.000 to Point/Station      605.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =  2250.800(Ft.)
Downstream point/station elevation =  2245.100(Ft.)
Pipe length  =   600.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    45.518(CFS)
Nearest computed pipe diameter  =     33.00(In.)
Calculated individual pipe flow  =    45.518(CFS)
Normal flow depth in pipe =   24.09(In.)
Flow top width inside pipe =   29.30(In.)
Critical Depth =   26.81(In.)
Pipe flow velocity =      9.80(Ft/s)
Travel time through pipe =    1.02 min.
Time of concentration (TC) =    11.62 min.
End of computations, total study area =           14.10 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  65.5
```

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 12/01/21 File:650.out

BCCOV BLDG D
100-YEAR STORM EVENT 650 SERIES
21-0034 DEVELOPED CONDITION
2021-12-01 EP

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 4010

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Calimesa] area used.
10 year storm 10 minute intensity = 2.440(In/Hr)
10 year storm 60 minute intensity = 0.910(In/Hr)
100 year storm 10 minute intensity = 3.620(In/Hr)
100 year storm 60 minute intensity = 1.350(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.350(In/Hr)
Slope of intensity duration curve = 0.5500

++

Process from Point/Station 650.000 to Point/Station 651.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 590.000(Ft.)
Top (of initial area) elevation = 2257.600(Ft.)
Bottom (of initial area) elevation = 2254.400(Ft.)
Difference in elevation = 3.200(Ft.)
Slope = 0.00542 s(percent)= 0.54
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 10.930 min.
Rainfall intensity = 3.444(In/Hr) for a 100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.882
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.700
Decimal fraction soil group C = 0.200
Decimal fraction soil group D = 0.100
RI index for soil(AMC 2) = 60.50
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 8.808(CFS)
Total initial stream area = 2.900(Ac.)
Pervious area fraction = 0.100

++

Process from Point/Station 651.000 to Point/Station 651.500
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2250.400(Ft.)
Downstream point/station elevation = 2249.000(Ft.)
Pipe length = 492.00(Ft.) Manning's N = 0.013

No. of pipes = 1 Required pipe flow =   8.808(CFS)
Nearest computed pipe diameter =   24.00(In.)
Calculated individual pipe flow =   8.808(CFS)
Normal flow depth in pipe =   15.21(In.)
Flow top width inside pipe =   23.12(In.)
Critical Depth =   12.69(In.)
Pipe flow velocity =   4.19(Ft/s)
Travel time through pipe =   1.96 min.
Time of concentration (TC) =   12.89 min.
End of computations, total study area =   2.90 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number = 60.5

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 12/01/21 File:700.out

BCCOV BLDG D
100-YEAR STORM EVENT 700 SERIES
21-0034 DEVELOPED CONDITION
2021-12-01 EP

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 4010

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Calimesa] area used.
10 year storm 10 minute intensity = 2.440(In/Hr)
10 year storm 60 minute intensity = 0.910(In/Hr)
100 year storm 10 minute intensity = 3.620(In/Hr)
100 year storm 60 minute intensity = 1.350(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.350(In/Hr)
Slope of intensity duration curve = 0.5500

++

Process from Point/Station 700.000 to Point/Station 701.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 510.000(Ft.)
Top (of initial area) elevation = 2264.400(Ft.)
Bottom (of initial area) elevation = 2257.200(Ft.)
Difference in elevation = 7.200(Ft.)
Slope = 0.01412 s(percent)= 1.41
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 8.515 min.
Rainfall intensity = 3.951(In/Hr) for a 100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.884
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.700
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.300
RI index for soil(AMC 2) = 61.70
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 10.832(CFS)
Total initial stream area = 3.100(Ac.)
Pervious area fraction = 0.100

++

Process from Point/Station 701.000 to Point/Station 702.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2254.200(Ft.)
Downstream point/station elevation = 2251.600(Ft.)
Pipe length = 310.00(Ft.) Manning's N = 0.013

```
No. of pipes = 1  Required pipe flow  =    10.832(CFS)
Nearest computed pipe diameter  =     21.00(In.)
Calculated individual pipe flow  =    10.832(CFS)
Normal flow depth in pipe =   13.52(In.)
Flow top width inside pipe =   20.11(In.)
Critical Depth =   14.72(In.)
Pipe flow velocity =      6.61(Ft/s)
Travel time through pipe =    0.78 min.
Time of concentration (TC) =     9.30 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      702.000 to Point/Station      702.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      3.100(Ac.)
Runoff from this stream =     10.832(CFS)
Time of concentration =    9.30 min.
Rainfall intensity =     3.765(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      703.000 to Point/Station      704.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   690.000(Ft.)
Top (of initial area) elevation =  2262.600(Ft.)
Bottom (of initial area) elevation =  2256.200(Ft.)
Difference in elevation =     6.400(Ft.)
Slope =    0.00928  s(percent)=       0.93
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   10.452 min.
Rainfall intensity =      3.530(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.881
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.900
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.100
RI index for soil(AMC 2)  =  57.90
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     15.853(CFS)
Total initial stream area =        5.100(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      704.000 to Point/Station      702.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =  2253.200(Ft.)
Downstream point/station elevation =  2251.600(Ft.)
Pipe length  =    90.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    15.853(CFS)
Nearest computed pipe diameter  =     21.00(In.)
Calculated individual pipe flow  =    15.853(CFS)
Normal flow depth in pipe =   13.57(In.)
Flow top width inside pipe =   20.08(In.)
Critical Depth =   17.64(In.)
Pipe flow velocity =      9.64(Ft/s)
Travel time through pipe =    0.16 min.
Time of concentration (TC) =    10.61 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      702.000 to Point/Station      702.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      5.100(Ac.)
Runoff from this stream =     15.853(CFS)
Time of concentration =   10.61 min.
Rainfall intensity =     3.501(In/Hr)
```

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      705.000 to Point/Station      706.000
**** INITIAL AREA EVALUATION ****
------------------------------------------------------------------------------
Initial area flow distance =   545.000(Ft.)
Top (of initial area) elevation =  2262.600(Ft.)
Bottom (of initial area) elevation =  2256.200(Ft.)
Difference in elevation =     6.400(Ft.)
Slope =    0.01174  s(percent)=       1.17
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.072 min.
Rainfall intensity =      3.816(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.886
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.500
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.500
RI index for soil(AMC 2)  =  65.50
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     19.946(CFS)
Total initial stream area =        5.900(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      706.000 to Point/Station      702.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
------------------------------------------------------------------------------
Upstream point/station elevation =  2253.200(Ft.)
Downstream point/station elevation =  2251.600(Ft.)
Pipe length  =   114.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    19.946(CFS)
Nearest computed pipe diameter  =     24.00(In.)
Calculated individual pipe flow  =    19.946(CFS)
Normal flow depth in pipe =   15.42(In.)
Flow top width inside pipe =   23.00(In.)
Critical Depth =   19.26(In.)
Pipe flow velocity =      9.35(Ft/s)
Travel time through pipe =    0.20 min.
Time of concentration (TC) =     9.28 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      702.000 to Point/Station      702.000
**** CONFLUENCE OF MINOR STREAMS ****
------------------------------------------------------------------------------
Along Main Stream number: 1 in normal stream number 3
Stream flow area =      5.900(Ac.)
Runoff from this stream =     19.946(CFS)
Time of concentration =    9.28 min.
Rainfall intensity =     3.769(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1       10.832      9.30                3.765
2       15.853     10.61                3.501
3       19.946      9.28                3.769
Largest stream flow has longer or shorter time of concentration
Qp =     19.946 + sum of
          Qa          Tb/Ta
          10.832 *    0.998 =     10.808
          Qa          Tb/Ta
          15.853 *    0.874 =     13.863
Qp =     44.617

Total of 3 streams to confluence:
Flow rates before confluence point:
      10.832      15.853      19.946
Area of streams before confluence:
        3.100        5.100        5.900
```

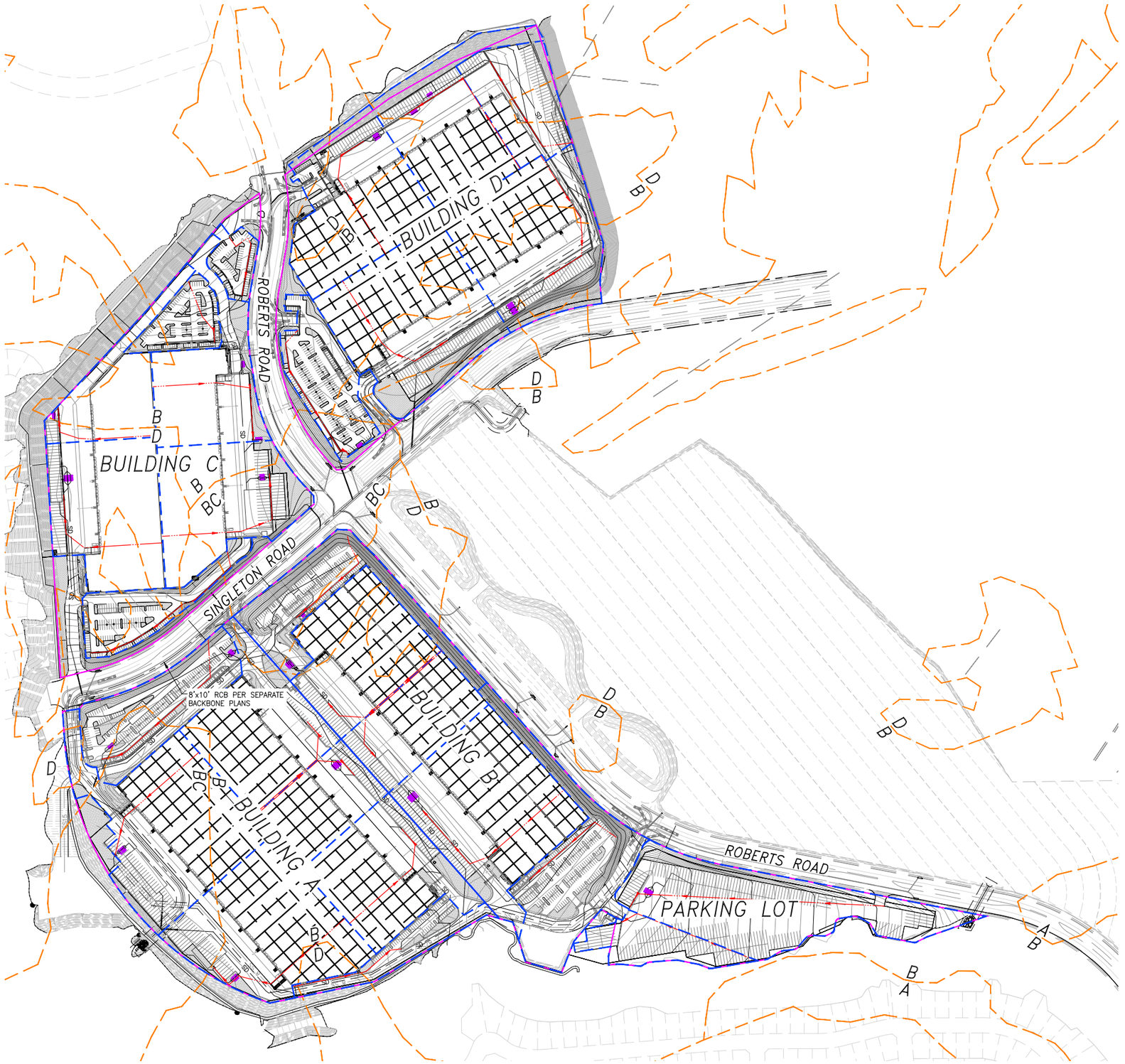
Results of confluence:
Total flow rate = 44.617(CFS)
Time of concentration = 9.276 min.
Effective stream area after confluence = 14.100(Ac.)

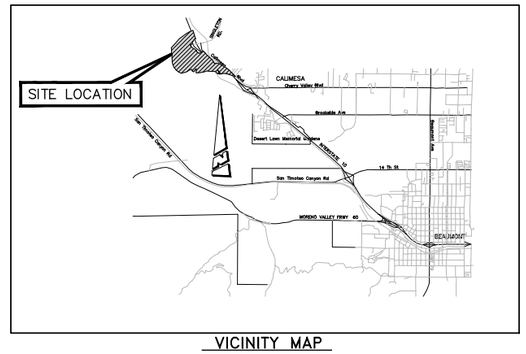
++
Process from Point/Station 702.000 to Point/Station 707.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2251.600(Ft.)
Downstream point/station elevation = 2248.000(Ft.)
Pipe length = 250.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 44.617(CFS)
Nearest computed pipe diameter = 30.00(In.)
Calculated individual pipe flow = 44.617(CFS)
Normal flow depth in pipe = 22.38(In.)
Flow top width inside pipe = 26.11(In.)
Critical Depth = 26.63(In.)
Pipe flow velocity = 11.36(Ft/s)
Travel time through pipe = 0.37 min.
Time of concentration (TC) = 9.64 min.
End of computations, total study area = 14.10 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number = 61.9

RATIONAL METHOD HYDROLOGY MAPS





VICINITY MAP

N.T.S.

T2S, R2W, SECTION 23,24,25,26

GENERAL NOTES:

1. OVERALL BLCOV PROJECT AREA WILL BE MASS GRADED AND BACKBONE IMPROVEMENTS WILL BE CONSTRUCTED PRIOR TO ANY CONSTRUCTION COMMENCING FOR THE BUILDING A, BUILDING B, BUILDING C, BUILDING D, OR PARKING LOT PROJECTS.
2. EXISTING CONTOURS SHOWN IN EXHIBITS ARE TAKEN FROM THE MASS GRADING PLAN FOR PARCEL MAP 37862.

LEGEND

- NODE / ELEV – NODE NUMBER / ELEVATION (FT)
- AC / FT – AREA (AC) / LENGTH (FT)
- DRAINAGE AREA BOUNDARY (PROPOSED)
- FLOWLINE (PROPOSED)
- PROJECT BOUNDARY
- NRCS SOIL BOUNDARY
- MWS TREATMENT VAULT (SEE PWQMP)

N
W WEBB E
S

1" = 200'

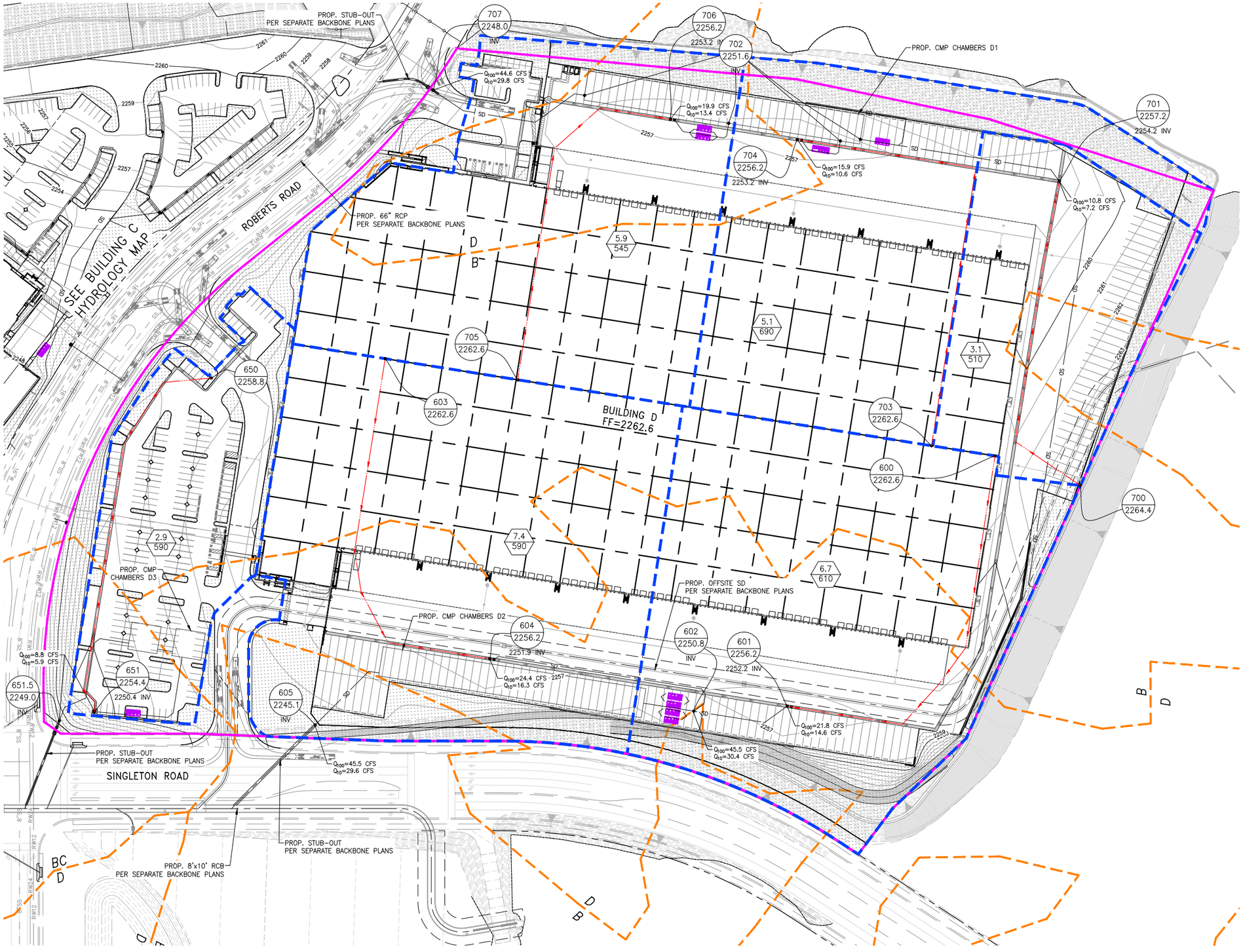
200 0 200 400 600

CITY OF CALIMESA, COUNTY OF RIVERSIDE
BIRTCHER COMMERCE CENTER OAK VALLEY

OVERALL BCCOV SITE PLAN
INDUSTRIAL DEVELOPMENT
DEVELOPED CONDITION
PRELIMINARY RATIONAL METHOD EXHIBIT

SCALE: 1" = 200'	ALBERT A. WEBB ASSOCIATES	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	W.O. 21-0034
DATE: 12/14/2020			SHEET 1
DESIGNED: EP			OF 2 SHEETS
CHECKED: BJV			DWG. NO.
PLN CK REF:			
F.B.			

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LEGEND

NODE / ELEV	– NODE NUMBER – ELEVATION (FT)
AC / FT	– AREA (AC) – LENGTH (FT)
	– DRAINAGE AREA BOUNDARY (PROPOSED)
	– FLOWLINE (PROPOSED)
	– PROJECT BOUNDARY
	– NRCS SOIL BOUNDARY
	– MWS TREATMENT VAULT (SEE PWQMP)

W N S E

1" = 70'

70 0 70 140 210

CITY OF CALIMESA, COUNTY OF RIVERSIDE
BIRTCHER COMMERCE CENTER OAK VALLEY

BCCOV – BUILDING D
INDUSTRIAL DEVELOPMENT
DEVELOPED CONDITION
PRELIMINARY RATIONAL METHOD EXHIBIT

SCALE:	1"=70'
DATE:	5/3/2021
DESIGNED:	EP
CHECKED:	BJV
PLN CK REF:	
F.B.	

ALBERT A. WEBB ASSOCIATES
ENGINEERING CONSULTANTS
3788 McCRAY STREET
RIVERSIDE, CA. 92506
PH. (951) 686-1070
FAX (951) 788-1256

W.O.	21-0034
SHEET	2
OF	2 SHEETS
DWG. NO.	

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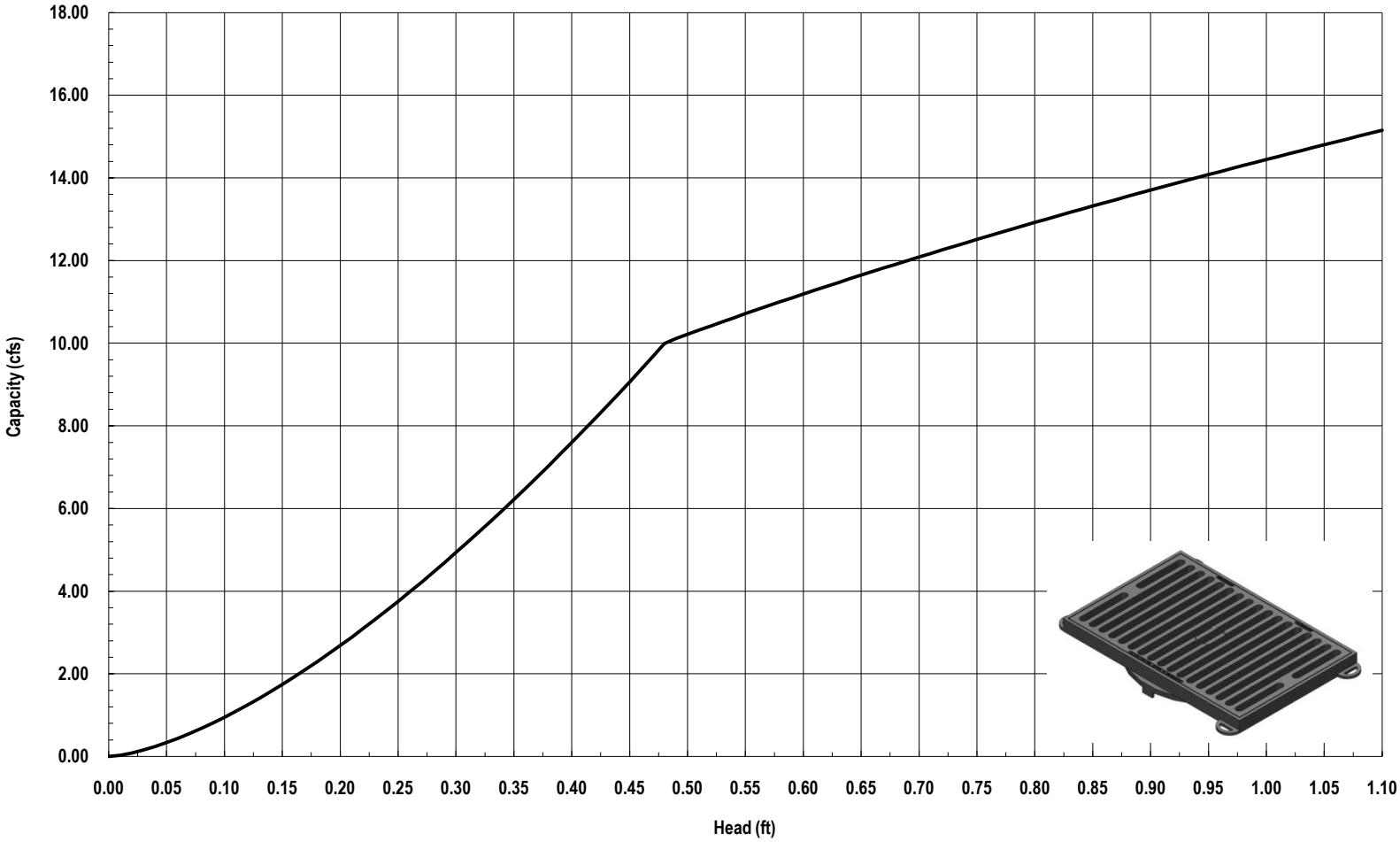
APPENDIX B – HYDRAULIC ANALYSIS

Hydraulic calculations to be provided in Final Engineering.

PRELIMINARY INLET CHARTS

IN FINAL ENGINEERING, EACH INLET WILL BE EVALUATED

Nyloplast 2' x 3' Road & Highway Grate Inlet Capacity Chart



PRELIMINARY Qs

Q= CFS

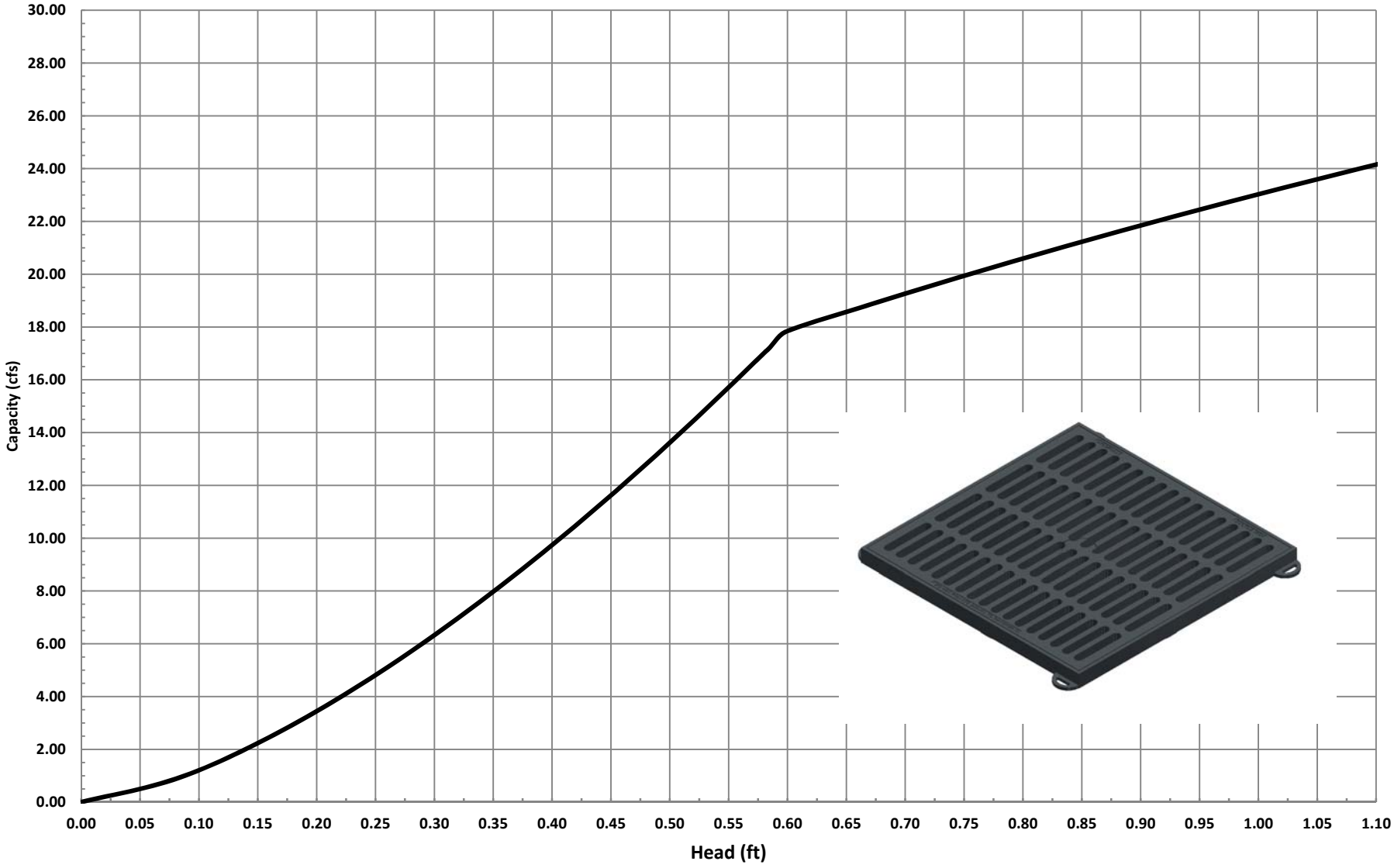
$Q_{2\text{-GRATES}}$= Q/2 = CFS

$Q_{1.5\text{-CLOGGING FACTOR}}$= Q*1.5 =

Nyloplast®
3130 Verona Avenue • Buford, GA 30518
(866) 888-8479 / (770) 932-2443 • Fax: (770) 932-2490
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IN FINAL ENGINEERING, EACH INLET WILL BE EVALUATED

Nyloplast 3' x 3' Road & Highway Inlet Capacity Chart



PRELIMINARY Qs
Q= CFS
$Q_{2\text{-GRATES}}$= Q/2 = CFS
$Q_{1.5\text{-CLOGGING FACTOR}}$= Q*1.5 =

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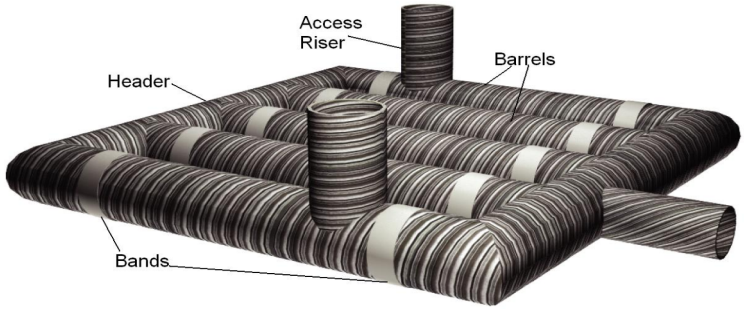
CMP CHAMBER SIZING

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CONTECH CMP DETENTION SYSTEMS

CONTECH CONSTRUCTION PRODUCTS INC.

For design assistance, drawings,
and pricing send completed worksheet to:
dyods@contech-cpi.com



Project Summary

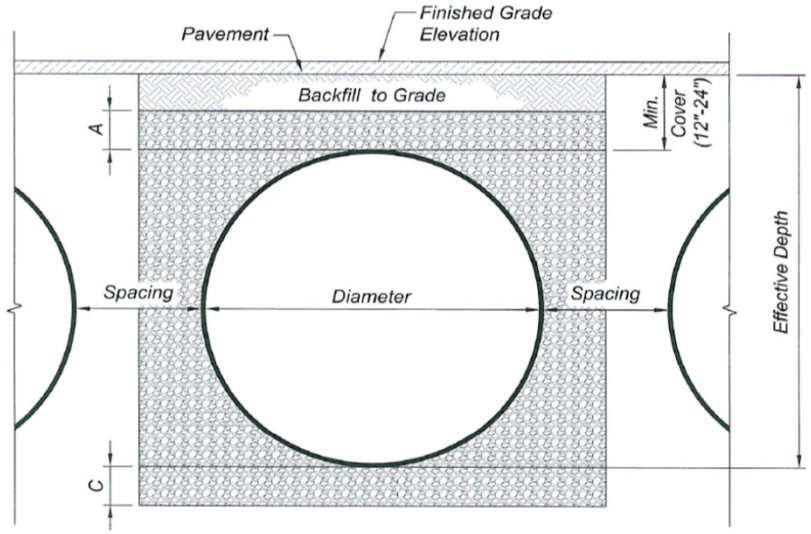
Date:	12/1/2021
Project Name:	BCCOV BLDG D AREA 10
City / County:	Calimesa
State:	CA
Designed By:	EP
Company:	Albert A. Webb Associates
Telephone:	

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	84,000
Limiting Width (ft):	50.00
Invert Depth Below Asphalt (ft):	10.00
Solid or Perforated Pipe:	Solid
Shape Or Diameter (in):	96
Number Of Headers:	2
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	0
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	84,144	cf	
Porous Stone Storage:	0	cf	
Total Storage Provided:	84,144	cf	100.2% Of Required Storage
Number of Barrels:	4	barrels	
Length per Barrel:	398.0	ft	
Length Per Header:	41.0	ft	
Rectangular Footprint (W x L):	44. ft x 417. ft		

CONTECH Materials

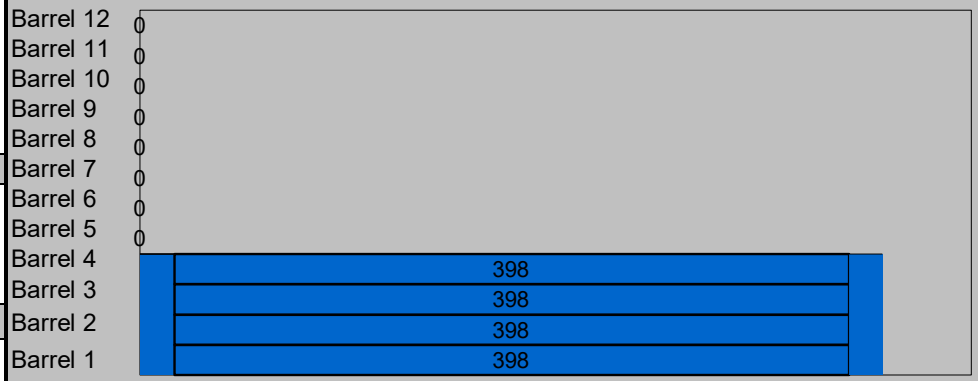
Total CMP Footage:	1,674	ft
Approximate Total Pieces:	72	pcs
Approximate Coupling Bands:	74	bands
Approximate Truckloads:	36	trucks

Construction Quantities**

Total Excavation:	6796	cy
Porous Stone Backfill For Storage:	0	cy stone
Backfill to Grade Excluding Stone:	3680	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



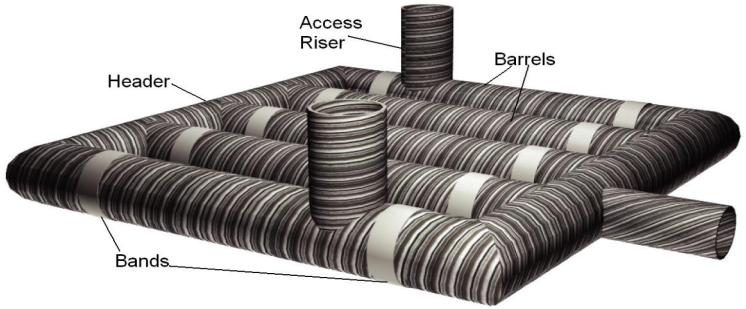
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CONTECH CONSTRUCTION PRODUCTS INC.

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and pricing send completed worksheet to:
dyods@contech-cpi.com



Project Summary

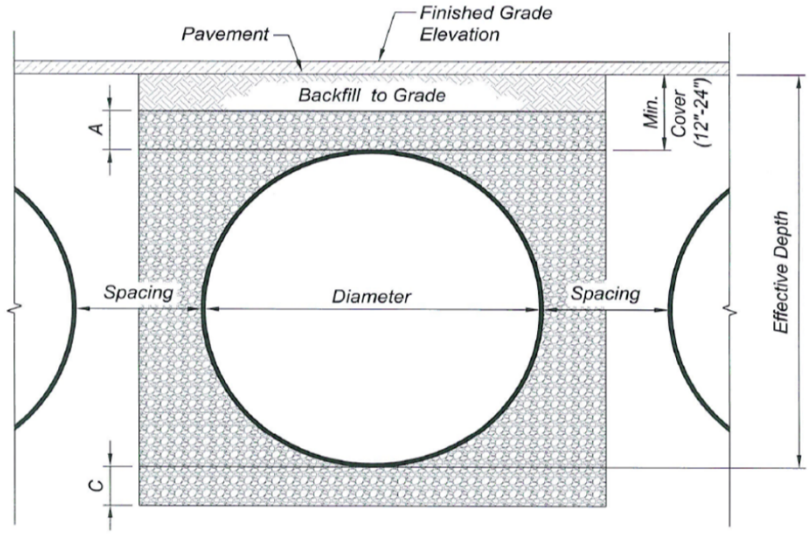
Date:	12/1/2021
Project Name:	BCCOV BLDG D AREA 11
City / County:	Calimesa
State:	CA
Designed By:	EP
Company:	Albert A. Webb Associates
Telephone:	

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	80,000
Limiting Width (ft):	50.00
Invert Depth Below Asphalt (ft):	10.00
Solid or Perforated Pipe:	Solid
Shape Or Diameter (in):	96
Number Of Headers:	2
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	0
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	80,123	cf	
Porous Stone Storage:	0	cf	
Total Storage Provided:	80,123	cf	100.2% Of Required Storage
Number of Barrels:	4	barrels	
Length per Barrel:	378.0	ft	
Length Per Header:	41.0	ft	
Rectangular Footprint (W x L):	44. ft x 397. ft		

CONTECH Materials

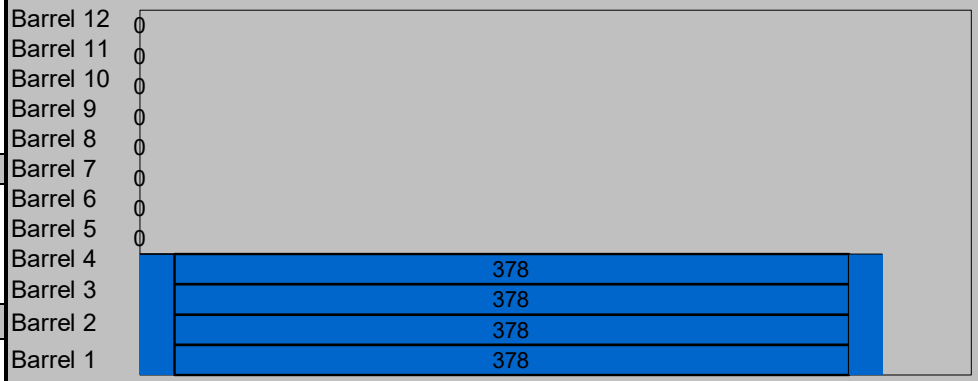
Total CMP Footage:	1,594	ft
Approximate Total Pieces:	68	pcs
Approximate Coupling Bands:	70	bands
Approximate Truckloads:	34	trucks

Construction Quantities**

Total Excavation:	6470	cy
Porous Stone Backfill For Storage:	0	cy stone
Backfill to Grade Excluding Stone:	3502	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



Barrel Footage (w/o headers)

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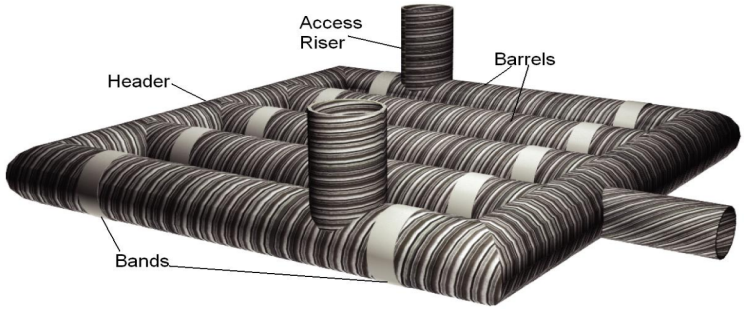
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Project Summary

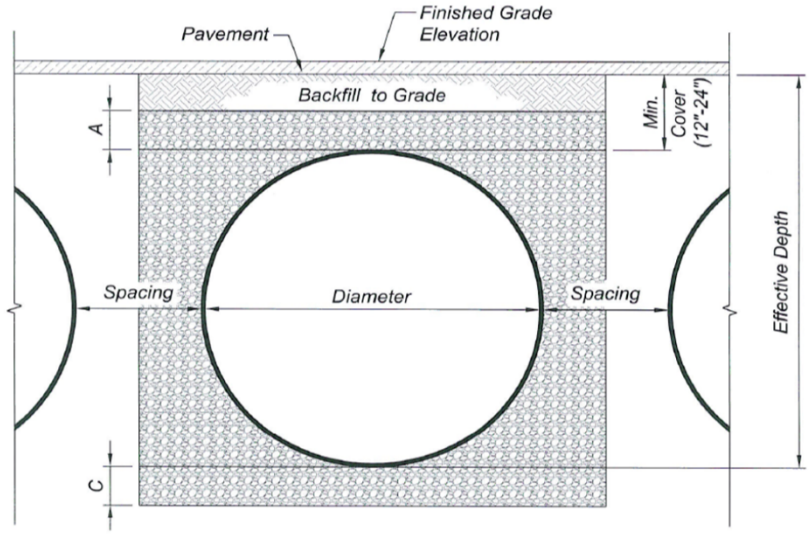
Date:	12/6/2021
Project Name:	BCCOV BLDG D AREA 12
City / County:	Calimesa
State:	CA
Designed By:	EP
Company:	Albert A. Webb Associates
Telephone:	

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	8,500
Limiting Width (ft):	45.00
Invert Depth Below Asphalt (ft):	10.00
Solid or Perforated Pipe:	Solid
Shape Or Diameter (in):	96
Number Of Headers:	2
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	0
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	8,545	cf	
Porous Stone Storage:	0	cf	
Total Storage Provided:	8,545	cf	100.5% Of Required Storage
Number of Barrels:	4	barrels	
Length per Barrel:	22.0	ft	
Length Per Header:	41.0	ft	
Rectangular Footprint (W x L):	44. ft x 41. ft		

CONTECH Materials

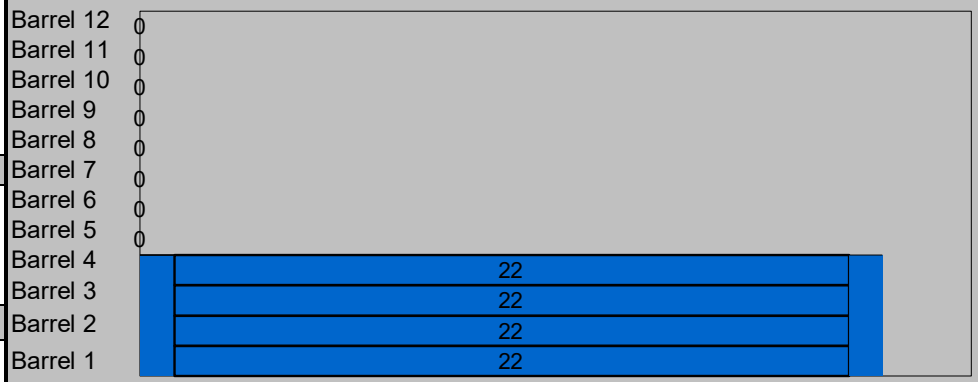
Total CMP Footage:	170	ft
Approximate Total Pieces:	8	pcs
Approximate Coupling Bands:	10	bands
Approximate Truckloads:	4	trucks

Construction Quantities**

Total Excavation:	669	cy
Porous Stone Backfill For Storage:	0	cy stone
Backfill to Grade Excluding Stone:	353	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



TWO CHAMBER SYSTEMS CONNECTED BY AN EQUALIZER PIPE ARE PROPOSED TO DETAIN A TOTAL 17,000 CF

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APPENDIX C – UNIT HYRDROGRAPH AND ROUTING

EXISTING CONDITION UNIT HYDROGRAPHS (2-YEAR, 24-HOUR STORM)

U n i t H y d r o g r a p h A n a l y s i s

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Study date 11/04/21 File: EX2YRD242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 4010

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

BCCOV - AREA D1 EXISTING CONDITION
2-YEAR STORM EVENT
21-0034
11-04-2021 EP

Drainage Area = 15.80(Ac.) = 0.025 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 15.80(Ac.) = 0.025 Sq. Mi.
Length along longest watercourse = 1174.00(Ft.)
Length along longest watercourse measured to centroid = 440.00(Ft.)
Length along longest watercourse = 0.222 Mi.
Length along longest watercourse measured to centroid = 0.083 Mi.
Difference in elevation = 34.80(Ft.)
Slope along watercourse = 156.5111 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.061 Hr.
Lag time = 3.63 Min.
25% of lag time = 0.91 Min.
40% of lag time = 1.45 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
15.80	2.40	37.92

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
15.80	6.20	97.96

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.200(In)

Point rain (area averaged) = 2.400(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.400(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
15.800	87.60	0.000

Total Area Entered = 15.80(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

87.6 74.2 0.313 0.000 0.313 1.000 0.313
Sum (F) = 0.313

Area averaged mean soil loss (F) (In/Hr) = 0.313
Minimum soil loss rate ((In/Hr)) = 0.156
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	137.615	26.988	4.297
2	0.167	275.230	55.201	8.790
3	0.250	412.845	13.359	2.127
4	0.333	550.460	3.222	0.513
5	0.417	688.075	0.961	0.153
6	0.500	825.690	0.269	0.043
			Sum = 100.000	Sum= 15.923

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.019	(0.555)	0.017	0.002
2	0.17	0.07	0.019	(0.553)	0.017	0.002
3	0.25	0.07	0.019	(0.550)	0.017	0.002
4	0.33	0.10	0.029	(0.548)	0.026	0.003
5	0.42	0.10	0.029	(0.546)	0.026	0.003
6	0.50	0.10	0.029	(0.544)	0.026	0.003
7	0.58	0.10	0.029	(0.542)	0.026	0.003
8	0.67	0.10	0.029	(0.540)	0.026	0.003
9	0.75	0.10	0.029	(0.538)	0.026	0.003
10	0.83	0.13	0.038	(0.536)	0.035	0.004
11	0.92	0.13	0.038	(0.533)	0.035	0.004
12	1.00	0.13	0.038	(0.531)	0.035	0.004
13	1.08	0.10	0.029	(0.529)	0.026	0.003
14	1.17	0.10	0.029	(0.527)	0.026	0.003
15	1.25	0.10	0.029	(0.525)	0.026	0.003
16	1.33	0.10	0.029	(0.523)	0.026	0.003
17	1.42	0.10	0.029	(0.521)	0.026	0.003
18	1.50	0.10	0.029	(0.519)	0.026	0.003
19	1.58	0.10	0.029	(0.517)	0.026	0.003
20	1.67	0.10	0.029	(0.515)	0.026	0.003
21	1.75	0.10	0.029	(0.513)	0.026	0.003
22	1.83	0.13	0.038	(0.511)	0.035	0.004
23	1.92	0.13	0.038	(0.508)	0.035	0.004
24	2.00	0.13	0.038	(0.506)	0.035	0.004
25	2.08	0.13	0.038	(0.504)	0.035	0.004
26	2.17	0.13	0.038	(0.502)	0.035	0.004
27	2.25	0.13	0.038	(0.500)	0.035	0.004
28	2.33	0.13	0.038	(0.498)	0.035	0.004
29	2.42	0.13	0.038	(0.496)	0.035	0.004
30	2.50	0.13	0.038	(0.494)	0.035	0.004
31	2.58	0.17	0.048	(0.492)	0.043	0.005
32	2.67	0.17	0.048	(0.490)	0.043	0.005
33	2.75	0.17	0.048	(0.488)	0.043	0.005
34	2.83	0.17	0.048	(0.486)	0.043	0.005
35	2.92	0.17	0.048	(0.484)	0.043	0.005
36	3.00	0.17	0.048	(0.482)	0.043	0.005
37	3.08	0.17	0.048	(0.480)	0.043	0.005
38	3.17	0.17	0.048	(0.478)	0.043	0.005
39	3.25	0.17	0.048	(0.476)	0.043	0.005
40	3.33	0.17	0.048	(0.474)	0.043	0.005
41	3.42	0.17	0.048	(0.472)	0.043	0.005
42	3.50	0.17	0.048	(0.470)	0.043	0.005
43	3.58	0.17	0.048	(0.468)	0.043	0.005
44	3.67	0.17	0.048	(0.466)	0.043	0.005

45	3.75	0.17	0.048	(0.464)	0.043	0.005
46	3.83	0.20	0.058	(0.462)	0.052	0.006
47	3.92	0.20	0.058	(0.460)	0.052	0.006
48	4.00	0.20	0.058	(0.458)	0.052	0.006
49	4.08	0.20	0.058	(0.457)	0.052	0.006
50	4.17	0.20	0.058	(0.455)	0.052	0.006
51	4.25	0.20	0.058	(0.453)	0.052	0.006
52	4.33	0.23	0.067	(0.451)	0.060	0.007
53	4.42	0.23	0.067	(0.449)	0.060	0.007
54	4.50	0.23	0.067	(0.447)	0.060	0.007
55	4.58	0.23	0.067	(0.445)	0.060	0.007
56	4.67	0.23	0.067	(0.443)	0.060	0.007
57	4.75	0.23	0.067	(0.441)	0.060	0.007
58	4.83	0.27	0.077	(0.439)	0.069	0.008
59	4.92	0.27	0.077	(0.437)	0.069	0.008
60	5.00	0.27	0.077	(0.435)	0.069	0.008
61	5.08	0.20	0.058	(0.434)	0.052	0.006
62	5.17	0.20	0.058	(0.432)	0.052	0.006
63	5.25	0.20	0.058	(0.430)	0.052	0.006
64	5.33	0.23	0.067	(0.428)	0.060	0.007
65	5.42	0.23	0.067	(0.426)	0.060	0.007
66	5.50	0.23	0.067	(0.424)	0.060	0.007
67	5.58	0.27	0.077	(0.422)	0.069	0.008
68	5.67	0.27	0.077	(0.420)	0.069	0.008
69	5.75	0.27	0.077	(0.419)	0.069	0.008
70	5.83	0.27	0.077	(0.417)	0.069	0.008
71	5.92	0.27	0.077	(0.415)	0.069	0.008
72	6.00	0.27	0.077	(0.413)	0.069	0.008
73	6.08	0.30	0.086	(0.411)	0.078	0.009
74	6.17	0.30	0.086	(0.409)	0.078	0.009
75	6.25	0.30	0.086	(0.408)	0.078	0.009
76	6.33	0.30	0.086	(0.406)	0.078	0.009
77	6.42	0.30	0.086	(0.404)	0.078	0.009
78	6.50	0.30	0.086	(0.402)	0.078	0.009
79	6.58	0.33	0.096	(0.400)	0.086	0.010
80	6.67	0.33	0.096	(0.398)	0.086	0.010
81	6.75	0.33	0.096	(0.397)	0.086	0.010
82	6.83	0.33	0.096	(0.395)	0.086	0.010
83	6.92	0.33	0.096	(0.393)	0.086	0.010
84	7.00	0.33	0.096	(0.391)	0.086	0.010
85	7.08	0.33	0.096	(0.390)	0.086	0.010
86	7.17	0.33	0.096	(0.388)	0.086	0.010
87	7.25	0.33	0.096	(0.386)	0.086	0.010
88	7.33	0.37	0.106	(0.384)	0.095	0.011
89	7.42	0.37	0.106	(0.382)	0.095	0.011
90	7.50	0.37	0.106	(0.381)	0.095	0.011
91	7.58	0.40	0.115	(0.379)	0.104	0.012
92	7.67	0.40	0.115	(0.377)	0.104	0.012
93	7.75	0.40	0.115	(0.376)	0.104	0.012
94	7.83	0.43	0.125	(0.374)	0.112	0.012
95	7.92	0.43	0.125	(0.372)	0.112	0.012
96	8.00	0.43	0.125	(0.370)	0.112	0.012
97	8.08	0.50	0.144	(0.369)	0.130	0.014
98	8.17	0.50	0.144	(0.367)	0.130	0.014
99	8.25	0.50	0.144	(0.365)	0.130	0.014
100	8.33	0.50	0.144	(0.363)	0.130	0.014
101	8.42	0.50	0.144	(0.362)	0.130	0.014
102	8.50	0.50	0.144	(0.360)	0.130	0.014
103	8.58	0.53	0.154	(0.358)	0.138	0.015
104	8.67	0.53	0.154	(0.357)	0.138	0.015
105	8.75	0.53	0.154	(0.355)	0.138	0.015
106	8.83	0.57	0.163	(0.353)	0.147	0.016
107	8.92	0.57	0.163	(0.352)	0.147	0.016
108	9.00	0.57	0.163	(0.350)	0.147	0.016
109	9.08	0.63	0.182	(0.348)	0.164	0.018
110	9.17	0.63	0.182	(0.347)	0.164	0.018
111	9.25	0.63	0.182	(0.345)	0.164	0.018
112	9.33	0.67	0.192	(0.343)	0.173	0.019
113	9.42	0.67	0.192	(0.342)	0.173	0.019
114	9.50	0.67	0.192	(0.340)	0.173	0.019
115	9.58	0.70	0.202	(0.339)	0.181	0.020
116	9.67	0.70	0.202	(0.337)	0.181	0.020
117	9.75	0.70	0.202	(0.335)	0.181	0.020
118	9.83	0.73	0.211	(0.334)	0.190	0.021
119	9.92	0.73	0.211	(0.332)	0.190	0.021

120	10.00	0.73	0.211	(	0.330)		0.190		0.021
121	10.08	0.50	0.144	(	0.329)		0.130		0.014
122	10.17	0.50	0.144	(	0.327)		0.130		0.014
123	10.25	0.50	0.144	(	0.326)		0.130		0.014
124	10.33	0.50	0.144	(	0.324)		0.130		0.014
125	10.42	0.50	0.144	(	0.322)		0.130		0.014
126	10.50	0.50	0.144	(	0.321)		0.130		0.014
127	10.58	0.67	0.192	(	0.319)		0.173		0.019
128	10.67	0.67	0.192	(	0.318)		0.173		0.019
129	10.75	0.67	0.192	(	0.316)		0.173		0.019
130	10.83	0.67	0.192	(	0.315)		0.173		0.019
131	10.92	0.67	0.192	(	0.313)		0.173		0.019
132	11.00	0.67	0.192	(	0.312)		0.173		0.019
133	11.08	0.63	0.182	(	0.310)		0.164		0.018
134	11.17	0.63	0.182	(	0.309)		0.164		0.018
135	11.25	0.63	0.182	(	0.307)		0.164		0.018
136	11.33	0.63	0.182	(	0.306)		0.164		0.018
137	11.42	0.63	0.182	(	0.304)		0.164		0.018
138	11.50	0.63	0.182	(	0.302)		0.164		0.018
139	11.58	0.57	0.163	(	0.301)		0.147		0.016
140	11.67	0.57	0.163	(	0.299)		0.147		0.016
141	11.75	0.57	0.163	(	0.298)		0.147		0.016
142	11.83	0.60	0.173	(	0.297)		0.156		0.017
143	11.92	0.60	0.173	(	0.295)		0.156		0.017
144	12.00	0.60	0.173	(	0.294)		0.156		0.017
145	12.08	0.83	0.240	(	0.292)		0.216		0.024
146	12.17	0.83	0.240	(	0.291)		0.216		0.024
147	12.25	0.83	0.240	(	0.289)		0.216		0.024
148	12.33	0.87	0.250	(	0.288)		0.225		0.025
149	12.42	0.87	0.250	(	0.286)		0.225		0.025
150	12.50	0.87	0.250	(	0.285)		0.225		0.025
151	12.58	0.93	0.269	(	0.283)		0.242		0.027
152	12.67	0.93	0.269	(	0.282)		0.242		0.027
153	12.75	0.93	0.269	(	0.281)		0.242		0.027
154	12.83	0.97	0.278	(	0.279)		0.251		0.028
155	12.92	0.97	0.278	(	0.278)		0.251		0.028
156	13.00	0.97	0.278	(	0.276)		0.251		0.028
157	13.08	1.13	0.326		0.275	(	0.294)		0.051
158	13.17	1.13	0.326		0.274	(	0.294)		0.053
159	13.25	1.13	0.326		0.272	(	0.294)		0.054
160	13.33	1.13	0.326		0.271	(	0.294)		0.056
161	13.42	1.13	0.326		0.269	(	0.294)		0.057
162	13.50	1.13	0.326		0.268	(	0.294)		0.058
163	13.58	0.77	0.221	(	0.267)		0.199		0.022
164	13.67	0.77	0.221	(	0.265)		0.199		0.022
165	13.75	0.77	0.221	(	0.264)		0.199		0.022
166	13.83	0.77	0.221	(	0.263)		0.199		0.022
167	13.92	0.77	0.221	(	0.261)		0.199		0.022
168	14.00	0.77	0.221	(	0.260)		0.199		0.022
169	14.08	0.90	0.259	(	0.259)		0.233		0.026
170	14.17	0.90	0.259	(	0.257)		0.233		0.026
171	14.25	0.90	0.259	(	0.256)		0.233		0.026
172	14.33	0.87	0.250	(	0.255)		0.225		0.025
173	14.42	0.87	0.250	(	0.253)		0.225		0.025
174	14.50	0.87	0.250	(	0.252)		0.225		0.025
175	14.58	0.87	0.250	(	0.251)		0.225		0.025
176	14.67	0.87	0.250	(	0.249)		0.225		0.025
177	14.75	0.87	0.250	(	0.248)		0.225		0.025
178	14.83	0.83	0.240	(	0.247)		0.216		0.024
179	14.92	0.83	0.240	(	0.246)		0.216		0.024
180	15.00	0.83	0.240	(	0.244)		0.216		0.024
181	15.08	0.80	0.230	(	0.243)		0.207		0.023
182	15.17	0.80	0.230	(	0.242)		0.207		0.023
183	15.25	0.80	0.230	(	0.241)		0.207		0.023
184	15.33	0.77	0.221	(	0.239)		0.199		0.022
185	15.42	0.77	0.221	(	0.238)		0.199		0.022
186	15.50	0.77	0.221	(	0.237)		0.199		0.022
187	15.58	0.63	0.182	(	0.236)		0.164		0.018
188	15.67	0.63	0.182	(	0.235)		0.164		0.018
189	15.75	0.63	0.182	(	0.233)		0.164		0.018
190	15.83	0.63	0.182	(	0.232)		0.164		0.018
191	15.92	0.63	0.182	(	0.231)		0.164		0.018
192	16.00	0.63	0.182	(	0.230)		0.164		0.018
193	16.08	0.13	0.038	(	0.229)		0.035		0.004
194	16.17	0.13	0.038	(	0.227)		0.035		0.004

195	16.25	0.13	0.038	(0.226)	0.035	0.004
196	16.33	0.13	0.038	(0.225)	0.035	0.004
197	16.42	0.13	0.038	(0.224)	0.035	0.004
198	16.50	0.13	0.038	(0.223)	0.035	0.004
199	16.58	0.10	0.029	(0.222)	0.026	0.003
200	16.67	0.10	0.029	(0.221)	0.026	0.003
201	16.75	0.10	0.029	(0.219)	0.026	0.003
202	16.83	0.10	0.029	(0.218)	0.026	0.003
203	16.92	0.10	0.029	(0.217)	0.026	0.003
204	17.00	0.10	0.029	(0.216)	0.026	0.003
205	17.08	0.17	0.048	(0.215)	0.043	0.005
206	17.17	0.17	0.048	(0.214)	0.043	0.005
207	17.25	0.17	0.048	(0.213)	0.043	0.005
208	17.33	0.17	0.048	(0.212)	0.043	0.005
209	17.42	0.17	0.048	(0.211)	0.043	0.005
210	17.50	0.17	0.048	(0.210)	0.043	0.005
211	17.58	0.17	0.048	(0.209)	0.043	0.005
212	17.67	0.17	0.048	(0.208)	0.043	0.005
213	17.75	0.17	0.048	(0.207)	0.043	0.005
214	17.83	0.13	0.038	(0.206)	0.035	0.004
215	17.92	0.13	0.038	(0.205)	0.035	0.004
216	18.00	0.13	0.038	(0.204)	0.035	0.004
217	18.08	0.13	0.038	(0.203)	0.035	0.004
218	18.17	0.13	0.038	(0.202)	0.035	0.004
219	18.25	0.13	0.038	(0.201)	0.035	0.004
220	18.33	0.13	0.038	(0.200)	0.035	0.004
221	18.42	0.13	0.038	(0.199)	0.035	0.004
222	18.50	0.13	0.038	(0.198)	0.035	0.004
223	18.58	0.10	0.029	(0.197)	0.026	0.003
224	18.67	0.10	0.029	(0.196)	0.026	0.003
225	18.75	0.10	0.029	(0.195)	0.026	0.003
226	18.83	0.07	0.019	(0.194)	0.017	0.002
227	18.92	0.07	0.019	(0.193)	0.017	0.002
228	19.00	0.07	0.019	(0.192)	0.017	0.002
229	19.08	0.10	0.029	(0.191)	0.026	0.003
230	19.17	0.10	0.029	(0.190)	0.026	0.003
231	19.25	0.10	0.029	(0.189)	0.026	0.003
232	19.33	0.13	0.038	(0.188)	0.035	0.004
233	19.42	0.13	0.038	(0.188)	0.035	0.004
234	19.50	0.13	0.038	(0.187)	0.035	0.004
235	19.58	0.10	0.029	(0.186)	0.026	0.003
236	19.67	0.10	0.029	(0.185)	0.026	0.003
237	19.75	0.10	0.029	(0.184)	0.026	0.003
238	19.83	0.07	0.019	(0.183)	0.017	0.002
239	19.92	0.07	0.019	(0.183)	0.017	0.002
240	20.00	0.07	0.019	(0.182)	0.017	0.002
241	20.08	0.10	0.029	(0.181)	0.026	0.003
242	20.17	0.10	0.029	(0.180)	0.026	0.003
243	20.25	0.10	0.029	(0.179)	0.026	0.003
244	20.33	0.10	0.029	(0.179)	0.026	0.003
245	20.42	0.10	0.029	(0.178)	0.026	0.003
246	20.50	0.10	0.029	(0.177)	0.026	0.003
247	20.58	0.10	0.029	(0.176)	0.026	0.003
248	20.67	0.10	0.029	(0.176)	0.026	0.003
249	20.75	0.10	0.029	(0.175)	0.026	0.003
250	20.83	0.07	0.019	(0.174)	0.017	0.002
251	20.92	0.07	0.019	(0.173)	0.017	0.002
252	21.00	0.07	0.019	(0.173)	0.017	0.002
253	21.08	0.10	0.029	(0.172)	0.026	0.003
254	21.17	0.10	0.029	(0.171)	0.026	0.003
255	21.25	0.10	0.029	(0.171)	0.026	0.003
256	21.33	0.07	0.019	(0.170)	0.017	0.002
257	21.42	0.07	0.019	(0.169)	0.017	0.002
258	21.50	0.07	0.019	(0.169)	0.017	0.002
259	21.58	0.10	0.029	(0.168)	0.026	0.003
260	21.67	0.10	0.029	(0.168)	0.026	0.003
261	21.75	0.10	0.029	(0.167)	0.026	0.003
262	21.83	0.07	0.019	(0.166)	0.017	0.002
263	21.92	0.07	0.019	(0.166)	0.017	0.002
264	22.00	0.07	0.019	(0.165)	0.017	0.002
265	22.08	0.10	0.029	(0.165)	0.026	0.003
266	22.17	0.10	0.029	(0.164)	0.026	0.003
267	22.25	0.10	0.029	(0.164)	0.026	0.003
268	22.33	0.07	0.019	(0.163)	0.017	0.002
269	22.42	0.07	0.019	(0.163)	0.017	0.002

270	22.50	0.07	0.019	(0.162)	0.017	0.002
271	22.58	0.07	0.019	(0.162)	0.017	0.002
272	22.67	0.07	0.019	(0.161)	0.017	0.002
273	22.75	0.07	0.019	(0.161)	0.017	0.002
274	22.83	0.07	0.019	(0.160)	0.017	0.002
275	22.92	0.07	0.019	(0.160)	0.017	0.002
276	23.00	0.07	0.019	(0.160)	0.017	0.002
277	23.08	0.07	0.019	(0.159)	0.017	0.002
278	23.17	0.07	0.019	(0.159)	0.017	0.002
279	23.25	0.07	0.019	(0.158)	0.017	0.002
280	23.33	0.07	0.019	(0.158)	0.017	0.002
281	23.42	0.07	0.019	(0.158)	0.017	0.002
282	23.50	0.07	0.019	(0.158)	0.017	0.002
283	23.58	0.07	0.019	(0.157)	0.017	0.002
284	23.67	0.07	0.019	(0.157)	0.017	0.002
285	23.75	0.07	0.019	(0.157)	0.017	0.002
286	23.83	0.07	0.019	(0.157)	0.017	0.002
287	23.92	0.07	0.019	(0.157)	0.017	0.002
288	24.00	0.07	0.019	(0.156)	0.017	0.002

(Loss Rate Not Used)

Sum = 100.0 Sum = 3.0

Flood volume = Effective rainfall 0.25(In)
times area 15.8(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 2.15(In)
Total soil loss = 2.829(Ac.Ft)
Total rainfall = 2.40(In)
Flood volume = 14403.8 Cubic Feet
Total soil loss = 123241.6 Cubic Feet

Peak flow rate of this hydrograph = 0.909(CFS)

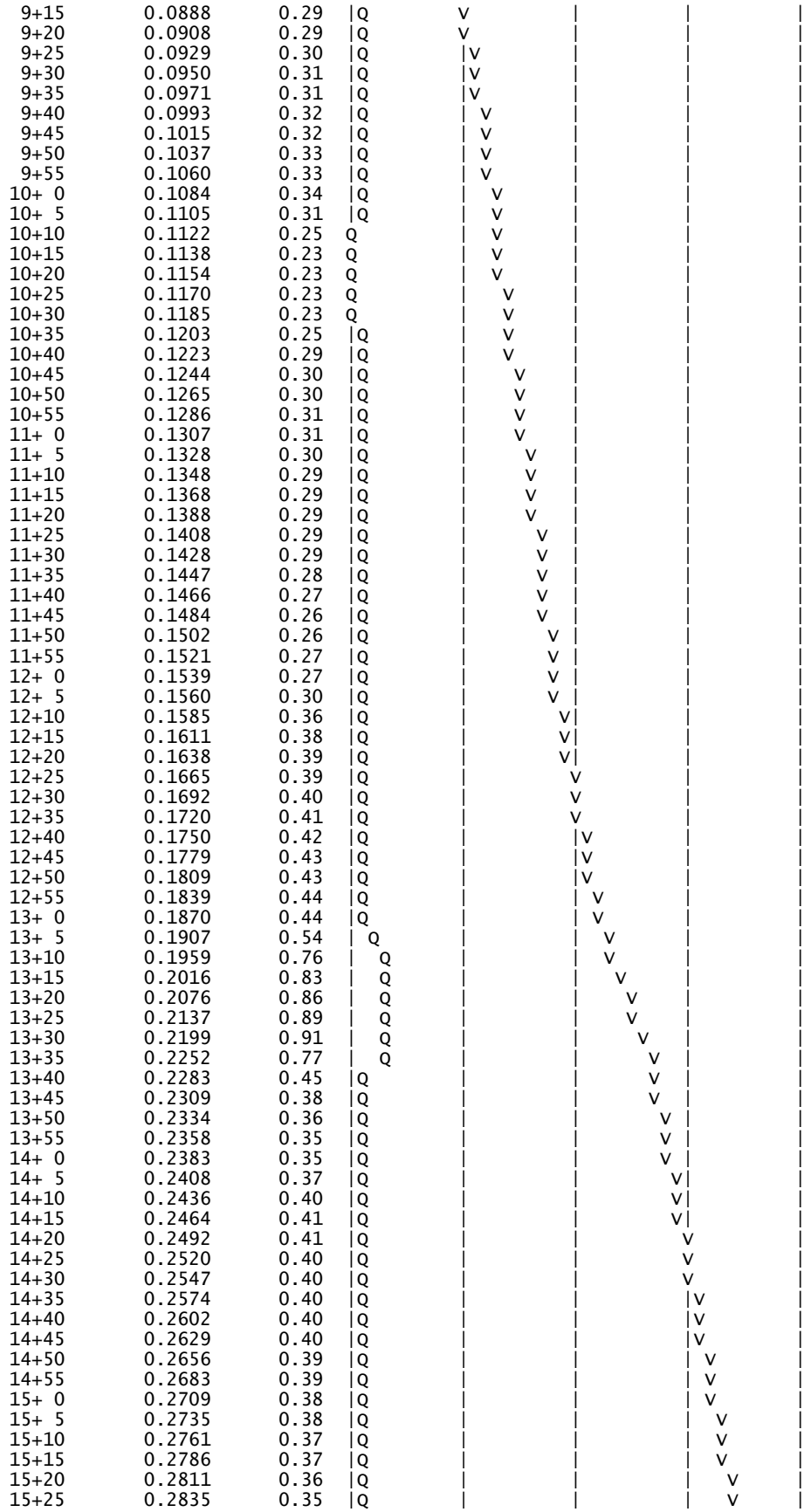
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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.01	Q				
0+10	0.0002	0.03	Q				
0+15	0.0004	0.03	Q				
0+20	0.0007	0.03	Q				
0+25	0.0010	0.04	Q				
0+30	0.0013	0.05	Q				
0+35	0.0016	0.05	Q				
0+40	0.0019	0.05	Q				
0+45	0.0022	0.05	Q				
0+50	0.0026	0.05	Q				
0+55	0.0030	0.06	Q				
1+ 0	0.0034	0.06	Q				
1+ 5	0.0038	0.06	Q				
1+10	0.0041	0.05	Q				
1+15	0.0044	0.05	Q				
1+20	0.0047	0.05	Q				
1+25	0.0051	0.05	Q				
1+30	0.0054	0.05	Q				
1+35	0.0057	0.05	Q				
1+40	0.0060	0.05	Q				
1+45	0.0063	0.05	Q				
1+50	0.0067	0.05	Q				
1+55	0.0071	0.06	Q				
2+ 0	0.0075	0.06	Q				
2+ 5	0.0079	0.06	Q				
2+10	0.0083	0.06	QV				
2+15	0.0088	0.06	QV				
2+20	0.0092	0.06	QV				
2+25	0.0096	0.06	QV				
2+30	0.0100	0.06	QV				
2+35	0.0105	0.07	QV				
2+40	0.0110	0.07	QV				
2+45	0.0115	0.08	QV				
2+50	0.0120	0.08	QV				
2+55	0.0126	0.08	QV				

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3+ 0       0.0131      0.08  QV        |         |         |         |
3+ 5       0.0136      0.08  QV        |         |         |         |
3+10       0.0141      0.08  QV        |         |         |         |
3+15       0.0147      0.08  QV        |         |         |         |
3+20       0.0152      0.08  QV        |         |         |         |
3+25       0.0157      0.08  QV        |         |         |         |
3+30       0.0162      0.08  QV        |         |         |         |
3+35       0.0168      0.08  Q V       |         |         |         |
3+40       0.0173      0.08  Q V       |         |         |         |
3+45       0.0178      0.08  Q V       |         |         |         |
3+50       0.0184      0.08  Q V       |         |         |         |
3+55       0.0190      0.09  Q V       |         |         |         |
4+ 0       0.0196      0.09  Q V       |         |         |         |
4+ 5       0.0202      0.09  Q V       |         |         |         |
4+10       0.0209      0.09  Q V       |         |         |         |
4+15       0.0215      0.09  Q V       |         |         |         |
4+20       0.0222      0.10  Q V       |         |         |         |
4+25       0.0229      0.10  Q V       |         |         |         |
4+30       0.0236      0.11  Q V       |         |         |         |
4+35       0.0244      0.11  Q V       |         |         |         |
4+40       0.0251      0.11  Q  V      |         |         |         |
4+45       0.0258      0.11  Q  V      |         |         |         |
4+50       0.0266      0.11  Q  V      |         |         |         |
4+55       0.0274      0.12  Q  V      |         |         |         |
5+ 0       0.0283      0.12  Q  V      |         |         |         |
5+ 5       0.0290      0.11  Q  V      |         |         |         |
5+10       0.0297      0.10  Q  V      |         |         |         |
5+15       0.0304      0.09  Q  V      |         |         |         |
5+20       0.0310      0.10  Q  V      |         |         |         |
5+25       0.0317      0.10  Q  V      |         |         |         |
5+30       0.0325      0.11  Q  V      |         |         |         |
5+35       0.0332      0.11  Q   V     |         |         |         |
5+40       0.0341      0.12  Q   V     |         |         |         |
5+45       0.0349      0.12  Q   V     |         |         |         |
5+50       0.0357      0.12  Q   V     |         |         |         |
5+55       0.0366      0.12  Q   V     |         |         |         |
6+ 0       0.0374      0.12  Q   V     |         |         |         |
6+ 5       0.0383      0.13  Q   V     |         |         |         |
6+10       0.0392      0.13  Q   V     |         |         |         |
6+15       0.0402      0.14  Q   V     |         |         |         |
6+20       0.0411      0.14  Q   V     |         |         |         |
6+25       0.0421      0.14  Q    V    |         |         |         |
6+30       0.0430      0.14  Q    V    |         |         |         |
6+35       0.0440      0.14  Q    V    |         |         |         |
6+40       0.0450      0.15  Q    V    |         |         |         |
6+45       0.0461      0.15  Q    V    |         |         |         |
6+50       0.0471      0.15  Q    V    |         |         |         |
6+55       0.0482      0.15  Q    V    |         |         |         |
7+ 0       0.0492      0.15  Q    V    |         |         |         |
7+ 5       0.0503      0.15  Q     V   |         |         |         |
7+10       0.0513      0.15  Q     V   |         |         |         |
7+15       0.0524      0.15  Q     V   |         |         |         |
7+20       0.0535      0.16  Q     V   |         |         |         |
7+25       0.0546      0.17  Q     V   |         |         |         |
7+30       0.0558      0.17  Q     V   |         |         |         |
7+35       0.0569      0.17  Q     V   |         |         |         |
7+40       0.0582      0.18  Q      V  |         |         |         |
7+45       0.0594      0.18  Q      V  |         |         |         |
7+50       0.0607      0.19  Q      V  |         |         |         |
7+55       0.0621      0.20  Q      V  |         |         |         |
8+ 0       0.0635      0.20  Q      V  |         |         |         |
8+ 5       0.0649      0.21  Q      V  |         |         |         |
8+10       0.0664      0.22  Q       V |         |         |         |
8+15       0.0680      0.23  Q       V |         |         |         |
8+20       0.0696      0.23  Q       V |         |         |         |
8+25       0.0711      0.23  Q       V |         |         |         |
8+30       0.0727      0.23  Q       V |         |         |         |
8+35       0.0743      0.23  Q       V |         |         |         |
8+40       0.0760      0.24  Q        V|         |         |         |
8+45       0.0777      0.24  Q        V|         |         |         |
8+50       0.0794      0.25  Q        V|         |         |         |
8+55       0.0812      0.26  |Q       V|         |         |         |
9+ 0       0.0830      0.26  |Q        V         |         |         |
9+ 5       0.0848      0.27  |Q        V         |         |         |
9+10       0.0868      0.29  |Q        V         |         |         |
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15+30	0.2860	0.35	|Q	|	|	|	V |
15+35	0.2883	0.34	|Q	|	|	|	V |
15+40	0.2904	0.30	|Q	|	|	|	V |
15+45	0.2924	0.29	|Q	|	|	|	V |
15+50	0.2944	0.29	|Q	|	|	|	V |
15+55	0.2964	0.29	|Q	|	|	|	V |
16+ 0	0.2984	0.29	|Q	|	|	|	V |
16+ 5	0.3000	0.23	Q	|	|	|	V |
16+10	0.3007	0.10	Q	|	|	|	V |
16+15	0.3012	0.07	Q	|	|	|	V |
16+20	0.3016	0.06	Q	|	|	|	V |
16+25	0.3020	0.06	Q	|	|	|	V |
16+30	0.3025	0.06	Q	|	|	|	V |
16+35	0.3028	0.06	Q	|	|	|	V |
16+40	0.3032	0.05	Q	|	|	|	V |
16+45	0.3035	0.05	Q	|	|	|	V |
16+50	0.3038	0.05	Q	|	|	|	V |
16+55	0.3041	0.05	Q	|	|	|	V |
17+ 0	0.3044	0.05	Q	|	|	|	V |
17+ 5	0.3048	0.05	Q	|	|	|	V |
17+10	0.3053	0.07	Q	|	|	|	V |
17+15	0.3058	0.08	Q	|	|	|	V |
17+20	0.3064	0.08	Q	|	|	|	V |
17+25	0.3069	0.08	Q	|	|	|	V |
17+30	0.3074	0.08	Q	|	|	|	V |
17+35	0.3079	0.08	Q	|	|	|	V |
17+40	0.3085	0.08	Q	|	|	|	V |
17+45	0.3090	0.08	Q	|	|	|	V |
17+50	0.3095	0.07	Q	|	|	|	V |
17+55	0.3099	0.06	Q	|	|	|	V |
18+ 0	0.3103	0.06	Q	|	|	|	V |
18+ 5	0.3108	0.06	Q	|	|	|	V |
18+10	0.3112	0.06	Q	|	|	|	V |
18+15	0.3116	0.06	Q	|	|	|	V |
18+20	0.3120	0.06	Q	|	|	|	V |
18+25	0.3125	0.06	Q	|	|	|	V |
18+30	0.3129	0.06	Q	|	|	|	V |
18+35	0.3133	0.06	Q	|	|	|	V |
18+40	0.3136	0.05	Q	|	|	|	V |
18+45	0.3139	0.05	Q	|	|	|	V |
18+50	0.3142	0.04	Q	|	|	|	V |
18+55	0.3144	0.03	Q	|	|	|	V |
19+ 0	0.3147	0.03	Q	|	|	|	V |
19+ 5	0.3149	0.03	Q	|	|	|	V |
19+10	0.3152	0.04	Q	|	|	|	V |
19+15	0.3155	0.05	Q	|	|	|	V |
19+20	0.3159	0.05	Q	|	|	|	V |
19+25	0.3163	0.06	Q	|	|	|	V |
19+30	0.3167	0.06	Q	|	|	|	V |
19+35	0.3171	0.06	Q	|	|	|	V |
19+40	0.3174	0.05	Q	|	|	|	V |
19+45	0.3177	0.05	Q	|	|	|	V |
19+50	0.3180	0.04	Q	|	|	|	V |
19+55	0.3182	0.03	Q	|	|	|	V |
20+ 0	0.3185	0.03	Q	|	|	|	V |
20+ 5	0.3187	0.03	Q	|	|	|	V |
20+10	0.3190	0.04	Q	|	|	|	V |
20+15	0.3193	0.05	Q	|	|	|	V |
20+20	0.3196	0.05	Q	|	|	|	V |
20+25	0.3199	0.05	Q	|	|	|	V |
20+30	0.3202	0.05	Q	|	|	|	V |
20+35	0.3206	0.05	Q	|	|	|	V |
20+40	0.3209	0.05	Q	|	|	|	V |
20+45	0.3212	0.05	Q	|	|	|	V |
20+50	0.3215	0.04	Q	|	|	|	V |
20+55	0.3217	0.03	Q	|	|	|	V |
21+ 0	0.3219	0.03	Q	|	|	|	V |
21+ 5	0.3222	0.03	Q	|	|	|	V |
21+10	0.3225	0.04	Q	|	|	|	V|
21+15	0.3228	0.05	Q	|	|	|	V|
21+20	0.3231	0.04	Q	|	|	|	V|
21+25	0.3233	0.03	Q	|	|	|	V|
21+30	0.3235	0.03	Q	|	|	|	V|
21+35	0.3237	0.03	Q	|	|	|	V|
21+40	0.3240	0.04	Q	|	|	|	V|

21+45	0.3244	0.05	Q	|	|	|	V|
21+50	0.3246	0.04	Q	|	|	|	V|
21+55	0.3249	0.03	Q	|	|	|	V|
22+ 0	0.3251	0.03	Q	|	|	|	V|
22+ 5	0.3253	0.03	Q	|	|	|	V|
22+10	0.3256	0.04	Q	|	|	|	V|
22+15	0.3259	0.05	Q	|	|	|	V|
22+20	0.3262	0.04	Q	|	|	|	V|
22+25	0.3265	0.03	Q	|	|	|	V|
22+30	0.3267	0.03	Q	|	|	|	V|
22+35	0.3269	0.03	Q	|	|	|	V|
22+40	0.3271	0.03	Q	|	|	|	V|
22+45	0.3273	0.03	Q	|	|	|	V|
22+50	0.3275	0.03	Q	|	|	|	V|
22+55	0.3277	0.03	Q	|	|	|	V|
23+ 0	0.3279	0.03	Q	|	|	|	V|
23+ 5	0.3281	0.03	Q	|	|	|	V|
23+10	0.3284	0.03	Q	|	|	|	V|
23+15	0.3286	0.03	Q	|	|	|	V|
23+20	0.3288	0.03	Q	|	|	|	V|
23+25	0.3290	0.03	Q	|	|	|	V|
23+30	0.3292	0.03	Q	|	|	|	V|
23+35	0.3294	0.03	Q	|	|	|	V|
23+40	0.3296	0.03	Q	|	|	|	V|
23+45	0.3298	0.03	Q	|	|	|	V|
23+50	0.3300	0.03	Q	|	|	|	V|
23+55	0.3303	0.03	Q	|	|	|	V|
24+ 0	0.3305	0.03	Q	|	|	|	V|
24+ 5	0.3306	0.02	Q	|	|	|	V|
24+10	0.3307	0.01	Q	|	|	|	V|
24+15	0.3307	0.00	Q	|	|	|	V|
24+20	0.3307	0.00	Q	|	|	|	V|
24+25	0.3307	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 11/04/21 File: EX2YRD2242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 4010

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

BCCOV - AREA D2 EXISTING CONDITION
2-YEAR STORM EVENT
21-0034
11-04-2021 EP

Drainage Area = 16.90(Ac.) = 0.026 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 16.90(Ac.) = 0.026 Sq. Mi.
Length along longest watercourse = 1828.00(Ft.)
Length along longest watercourse measured to centroid = 757.00(Ft.)
Length along longest watercourse = 0.346 Mi.
Length along longest watercourse measured to centroid = 0.143 Mi.
Difference in elevation = 12.60(Ft.)
Slope along watercourse = 36.3939 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.116 Hr.
Lag time = 6.97 Min.
25% of lag time = 1.74 Min.
40% of lag time = 2.79 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
16.90	2.40	40.56

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
16.90	6.20	104.78

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.200(In)

Point rain (area averaged) = 2.400(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.400(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
16.900	89.30	0.000

Total Area Entered = 16.90(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

89.3	76.9	0.281	0.000	0.281	1.000	0.281
					Sum (F) =	0.281

Area averaged mean soil loss (F) (In/Hr) = 0.281
Minimum soil loss rate ((In/Hr)) = 0.140
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	71.726	7.458	1.270
2	0.167	143.452	42.488	7.237
3	0.250	215.178	28.206	4.804
4	0.333	286.904	10.712	1.825
5	0.417	358.630	5.843	0.995
6	0.500	430.355	2.913	0.496
7	0.583	502.081	1.036	0.176
8	0.667	573.807	0.579	0.099
9	0.750	645.533	0.484	0.082
10	0.833	717.259	0.280	0.048
			Sum = 100.000	Sum= 17.032

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.019	(0.498)	0.017	0.002
2	0.17	0.07	0.019	(0.496)	0.017	0.002
3	0.25	0.07	0.019	(0.494)	0.017	0.002
4	0.33	0.10	0.029	(0.492)	0.026	0.003
5	0.42	0.10	0.029	(0.490)	0.026	0.003
6	0.50	0.10	0.029	(0.488)	0.026	0.003
7	0.58	0.10	0.029	(0.486)	0.026	0.003
8	0.67	0.10	0.029	(0.484)	0.026	0.003
9	0.75	0.10	0.029	(0.483)	0.026	0.003
10	0.83	0.13	0.038	(0.481)	0.035	0.004
11	0.92	0.13	0.038	(0.479)	0.035	0.004
12	1.00	0.13	0.038	(0.477)	0.035	0.004
13	1.08	0.10	0.029	(0.475)	0.026	0.003
14	1.17	0.10	0.029	(0.473)	0.026	0.003
15	1.25	0.10	0.029	(0.471)	0.026	0.003
16	1.33	0.10	0.029	(0.469)	0.026	0.003
17	1.42	0.10	0.029	(0.467)	0.026	0.003
18	1.50	0.10	0.029	(0.466)	0.026	0.003
19	1.58	0.10	0.029	(0.464)	0.026	0.003
20	1.67	0.10	0.029	(0.462)	0.026	0.003
21	1.75	0.10	0.029	(0.460)	0.026	0.003
22	1.83	0.13	0.038	(0.458)	0.035	0.004
23	1.92	0.13	0.038	(0.456)	0.035	0.004
24	2.00	0.13	0.038	(0.454)	0.035	0.004
25	2.08	0.13	0.038	(0.453)	0.035	0.004
26	2.17	0.13	0.038	(0.451)	0.035	0.004
27	2.25	0.13	0.038	(0.449)	0.035	0.004
28	2.33	0.13	0.038	(0.447)	0.035	0.004
29	2.42	0.13	0.038	(0.445)	0.035	0.004
30	2.50	0.13	0.038	(0.444)	0.035	0.004
31	2.58	0.17	0.048	(0.442)	0.043	0.005
32	2.67	0.17	0.048	(0.440)	0.043	0.005
33	2.75	0.17	0.048	(0.438)	0.043	0.005
34	2.83	0.17	0.048	(0.436)	0.043	0.005
35	2.92	0.17	0.048	(0.434)	0.043	0.005
36	3.00	0.17	0.048	(0.433)	0.043	0.005
37	3.08	0.17	0.048	(0.431)	0.043	0.005
38	3.17	0.17	0.048	(0.429)	0.043	0.005
39	3.25	0.17	0.048	(0.427)	0.043	0.005
40	3.33	0.17	0.048	(0.426)	0.043	0.005

41	3.42	0.17	0.048	(0.424)	0.043	0.005
42	3.50	0.17	0.048	(0.422)	0.043	0.005
43	3.58	0.17	0.048	(0.420)	0.043	0.005
44	3.67	0.17	0.048	(0.418)	0.043	0.005
45	3.75	0.17	0.048	(0.417)	0.043	0.005
46	3.83	0.20	0.058	(0.415)	0.052	0.006
47	3.92	0.20	0.058	(0.413)	0.052	0.006
48	4.00	0.20	0.058	(0.411)	0.052	0.006
49	4.08	0.20	0.058	(0.410)	0.052	0.006
50	4.17	0.20	0.058	(0.408)	0.052	0.006
51	4.25	0.20	0.058	(0.406)	0.052	0.006
52	4.33	0.23	0.067	(0.404)	0.060	0.007
53	4.42	0.23	0.067	(0.403)	0.060	0.007
54	4.50	0.23	0.067	(0.401)	0.060	0.007
55	4.58	0.23	0.067	(0.399)	0.060	0.007
56	4.67	0.23	0.067	(0.398)	0.060	0.007
57	4.75	0.23	0.067	(0.396)	0.060	0.007
58	4.83	0.27	0.077	(0.394)	0.069	0.008
59	4.92	0.27	0.077	(0.392)	0.069	0.008
60	5.00	0.27	0.077	(0.391)	0.069	0.008
61	5.08	0.20	0.058	(0.389)	0.052	0.006
62	5.17	0.20	0.058	(0.387)	0.052	0.006
63	5.25	0.20	0.058	(0.386)	0.052	0.006
64	5.33	0.23	0.067	(0.384)	0.060	0.007
65	5.42	0.23	0.067	(0.382)	0.060	0.007
66	5.50	0.23	0.067	(0.381)	0.060	0.007
67	5.58	0.27	0.077	(0.379)	0.069	0.008
68	5.67	0.27	0.077	(0.377)	0.069	0.008
69	5.75	0.27	0.077	(0.376)	0.069	0.008
70	5.83	0.27	0.077	(0.374)	0.069	0.008
71	5.92	0.27	0.077	(0.372)	0.069	0.008
72	6.00	0.27	0.077	(0.371)	0.069	0.008
73	6.08	0.30	0.086	(0.369)	0.078	0.009
74	6.17	0.30	0.086	(0.367)	0.078	0.009
75	6.25	0.30	0.086	(0.366)	0.078	0.009
76	6.33	0.30	0.086	(0.364)	0.078	0.009
77	6.42	0.30	0.086	(0.362)	0.078	0.009
78	6.50	0.30	0.086	(0.361)	0.078	0.009
79	6.58	0.33	0.096	(0.359)	0.086	0.010
80	6.67	0.33	0.096	(0.358)	0.086	0.010
81	6.75	0.33	0.096	(0.356)	0.086	0.010
82	6.83	0.33	0.096	(0.354)	0.086	0.010
83	6.92	0.33	0.096	(0.353)	0.086	0.010
84	7.00	0.33	0.096	(0.351)	0.086	0.010
85	7.08	0.33	0.096	(0.350)	0.086	0.010
86	7.17	0.33	0.096	(0.348)	0.086	0.010
87	7.25	0.33	0.096	(0.346)	0.086	0.010
88	7.33	0.37	0.106	(0.345)	0.095	0.011
89	7.42	0.37	0.106	(0.343)	0.095	0.011
90	7.50	0.37	0.106	(0.342)	0.095	0.011
91	7.58	0.40	0.115	(0.340)	0.104	0.012
92	7.67	0.40	0.115	(0.339)	0.104	0.012
93	7.75	0.40	0.115	(0.337)	0.104	0.012
94	7.83	0.43	0.125	(0.335)	0.112	0.012
95	7.92	0.43	0.125	(0.334)	0.112	0.012
96	8.00	0.43	0.125	(0.332)	0.112	0.012
97	8.08	0.50	0.144	(0.331)	0.130	0.014
98	8.17	0.50	0.144	(0.329)	0.130	0.014
99	8.25	0.50	0.144	(0.328)	0.130	0.014
100	8.33	0.50	0.144	(0.326)	0.130	0.014
101	8.42	0.50	0.144	(0.325)	0.130	0.014
102	8.50	0.50	0.144	(0.323)	0.130	0.014
103	8.58	0.53	0.154	(0.322)	0.138	0.015
104	8.67	0.53	0.154	(0.320)	0.138	0.015
105	8.75	0.53	0.154	(0.319)	0.138	0.015
106	8.83	0.57	0.163	(0.317)	0.147	0.016
107	8.92	0.57	0.163	(0.316)	0.147	0.016
108	9.00	0.57	0.163	(0.314)	0.147	0.016
109	9.08	0.63	0.182	(0.313)	0.164	0.018
110	9.17	0.63	0.182	(0.311)	0.164	0.018
111	9.25	0.63	0.182	(0.310)	0.164	0.018
112	9.33	0.67	0.192	(0.308)	0.173	0.019
113	9.42	0.67	0.192	(0.307)	0.173	0.019
114	9.50	0.67	0.192	(0.305)	0.173	0.019
115	9.58	0.70	0.202	(0.304)	0.181	0.020

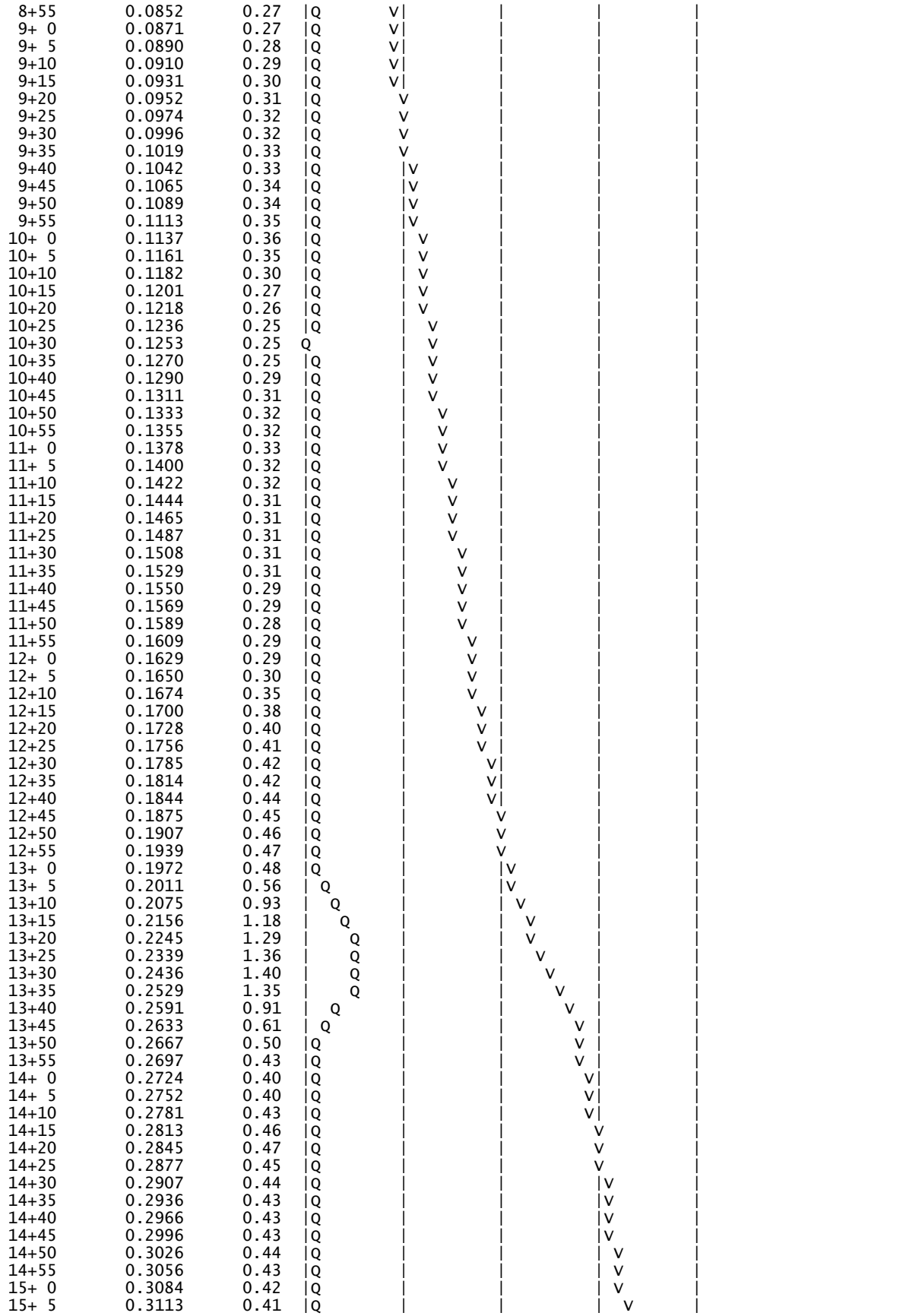
116	9.67	0.70	0.202	(	0.302)	0.181	0.020
117	9.75	0.70	0.202	(	0.301)	0.181	0.020
118	9.83	0.73	0.211	(	0.299)	0.190	0.021
119	9.92	0.73	0.211	(	0.298)	0.190	0.021
120	10.00	0.73	0.211	(	0.297)	0.190	0.021
121	10.08	0.50	0.144	(	0.295)	0.130	0.014
122	10.17	0.50	0.144	(	0.294)	0.130	0.014
123	10.25	0.50	0.144	(	0.292)	0.130	0.014
124	10.33	0.50	0.144	(	0.291)	0.130	0.014
125	10.42	0.50	0.144	(	0.289)	0.130	0.014
126	10.50	0.50	0.144	(	0.288)	0.130	0.014
127	10.58	0.67	0.192	(	0.287)	0.173	0.019
128	10.67	0.67	0.192	(	0.285)	0.173	0.019
129	10.75	0.67	0.192	(	0.284)	0.173	0.019
130	10.83	0.67	0.192	(	0.282)	0.173	0.019
131	10.92	0.67	0.192	(	0.281)	0.173	0.019
132	11.00	0.67	0.192	(	0.280)	0.173	0.019
133	11.08	0.63	0.182	(	0.278)	0.164	0.018
134	11.17	0.63	0.182	(	0.277)	0.164	0.018
135	11.25	0.63	0.182	(	0.276)	0.164	0.018
136	11.33	0.63	0.182	(	0.274)	0.164	0.018
137	11.42	0.63	0.182	(	0.273)	0.164	0.018
138	11.50	0.63	0.182	(	0.271)	0.164	0.018
139	11.58	0.57	0.163	(	0.270)	0.147	0.016
140	11.67	0.57	0.163	(	0.269)	0.147	0.016
141	11.75	0.57	0.163	(	0.267)	0.147	0.016
142	11.83	0.60	0.173	(	0.266)	0.156	0.017
143	11.92	0.60	0.173	(	0.265)	0.156	0.017
144	12.00	0.60	0.173	(	0.263)	0.156	0.017
145	12.08	0.83	0.240	(	0.262)	0.216	0.024
146	12.17	0.83	0.240	(	0.261)	0.216	0.024
147	12.25	0.83	0.240	(	0.260)	0.216	0.024
148	12.33	0.87	0.250	(	0.258)	0.225	0.025
149	12.42	0.87	0.250	(	0.257)	0.225	0.025
150	12.50	0.87	0.250	(	0.256)	0.225	0.025
151	12.58	0.93	0.269	(	0.254)	0.242	0.027
152	12.67	0.93	0.269	(	0.253)	0.242	0.027
153	12.75	0.93	0.269	(	0.252)	0.242	0.027
154	12.83	0.97	0.278		0.251	(0.251)	0.028
155	12.92	0.97	0.278		0.249	(0.251)	0.029
156	13.00	0.97	0.278		0.248	(0.251)	0.030
157	13.08	1.13	0.326		0.247	(0.294)	0.080
158	13.17	1.13	0.326		0.245	(0.294)	0.081
159	13.25	1.13	0.326		0.244	(0.294)	0.082
160	13.33	1.13	0.326		0.243	(0.294)	0.083
161	13.42	1.13	0.326		0.242	(0.294)	0.085
162	13.50	1.13	0.326		0.241	(0.294)	0.086
163	13.58	0.77	0.221	(	0.239)	0.199	0.022
164	13.67	0.77	0.221	(	0.238)	0.199	0.022
165	13.75	0.77	0.221	(	0.237)	0.199	0.022
166	13.83	0.77	0.221	(	0.236)	0.199	0.022
167	13.92	0.77	0.221	(	0.234)	0.199	0.022
168	14.00	0.77	0.221	(	0.233)	0.199	0.022
169	14.08	0.90	0.259		0.232	(0.233)	0.027
170	14.17	0.90	0.259		0.231	(0.233)	0.028
171	14.25	0.90	0.259		0.230	(0.233)	0.029
172	14.33	0.87	0.250	(	0.229)	0.225	0.025
173	14.42	0.87	0.250	(	0.227)	0.225	0.025
174	14.50	0.87	0.250	(	0.226)	0.225	0.025
175	14.58	0.87	0.250	(	0.225)	0.225	0.025
176	14.67	0.87	0.250		0.224	(0.225)	0.026
177	14.75	0.87	0.250		0.223	(0.225)	0.027
178	14.83	0.83	0.240	(	0.222)	0.216	0.024
179	14.92	0.83	0.240	(	0.220)	0.216	0.024
180	15.00	0.83	0.240	(	0.219)	0.216	0.024
181	15.08	0.80	0.230	(	0.218)	0.207	0.023
182	15.17	0.80	0.230	(	0.217)	0.207	0.023
183	15.25	0.80	0.230	(	0.216)	0.207	0.023
184	15.33	0.77	0.221	(	0.215)	0.199	0.022
185	15.42	0.77	0.221	(	0.214)	0.199	0.022
186	15.50	0.77	0.221	(	0.213)	0.199	0.022
187	15.58	0.63	0.182	(	0.212)	0.164	0.018
188	15.67	0.63	0.182	(	0.210)	0.164	0.018
189	15.75	0.63	0.182	(	0.209)	0.164	0.018
190	15.83	0.63	0.182	(	0.208)	0.164	0.018

191	15.92	0.63	0.182	(0.207)	0.164	0.018
192	16.00	0.63	0.182	(0.206)	0.164	0.018
193	16.08	0.13	0.038	(0.205)	0.035	0.004
194	16.17	0.13	0.038	(0.204)	0.035	0.004
195	16.25	0.13	0.038	(0.203)	0.035	0.004
196	16.33	0.13	0.038	(0.202)	0.035	0.004
197	16.42	0.13	0.038	(0.201)	0.035	0.004
198	16.50	0.13	0.038	(0.200)	0.035	0.004
199	16.58	0.10	0.029	(0.199)	0.026	0.003
200	16.67	0.10	0.029	(0.198)	0.026	0.003
201	16.75	0.10	0.029	(0.197)	0.026	0.003
202	16.83	0.10	0.029	(0.196)	0.026	0.003
203	16.92	0.10	0.029	(0.195)	0.026	0.003
204	17.00	0.10	0.029	(0.194)	0.026	0.003
205	17.08	0.17	0.048	(0.193)	0.043	0.005
206	17.17	0.17	0.048	(0.192)	0.043	0.005
207	17.25	0.17	0.048	(0.191)	0.043	0.005
208	17.33	0.17	0.048	(0.190)	0.043	0.005
209	17.42	0.17	0.048	(0.189)	0.043	0.005
210	17.50	0.17	0.048	(0.188)	0.043	0.005
211	17.58	0.17	0.048	(0.187)	0.043	0.005
212	17.67	0.17	0.048	(0.186)	0.043	0.005
213	17.75	0.17	0.048	(0.185)	0.043	0.005
214	17.83	0.13	0.038	(0.184)	0.035	0.004
215	17.92	0.13	0.038	(0.184)	0.035	0.004
216	18.00	0.13	0.038	(0.183)	0.035	0.004
217	18.08	0.13	0.038	(0.182)	0.035	0.004
218	18.17	0.13	0.038	(0.181)	0.035	0.004
219	18.25	0.13	0.038	(0.180)	0.035	0.004
220	18.33	0.13	0.038	(0.179)	0.035	0.004
221	18.42	0.13	0.038	(0.178)	0.035	0.004
222	18.50	0.13	0.038	(0.177)	0.035	0.004
223	18.58	0.10	0.029	(0.177)	0.026	0.003
224	18.67	0.10	0.029	(0.176)	0.026	0.003
225	18.75	0.10	0.029	(0.175)	0.026	0.003
226	18.83	0.07	0.019	(0.174)	0.017	0.002
227	18.92	0.07	0.019	(0.173)	0.017	0.002
228	19.00	0.07	0.019	(0.172)	0.017	0.002
229	19.08	0.10	0.029	(0.172)	0.026	0.003
230	19.17	0.10	0.029	(0.171)	0.026	0.003
231	19.25	0.10	0.029	(0.170)	0.026	0.003
232	19.33	0.13	0.038	(0.169)	0.035	0.004
233	19.42	0.13	0.038	(0.168)	0.035	0.004
234	19.50	0.13	0.038	(0.168)	0.035	0.004
235	19.58	0.10	0.029	(0.167)	0.026	0.003
236	19.67	0.10	0.029	(0.166)	0.026	0.003
237	19.75	0.10	0.029	(0.165)	0.026	0.003
238	19.83	0.07	0.019	(0.165)	0.017	0.002
239	19.92	0.07	0.019	(0.164)	0.017	0.002
240	20.00	0.07	0.019	(0.163)	0.017	0.002
241	20.08	0.10	0.029	(0.162)	0.026	0.003
242	20.17	0.10	0.029	(0.162)	0.026	0.003
243	20.25	0.10	0.029	(0.161)	0.026	0.003
244	20.33	0.10	0.029	(0.160)	0.026	0.003
245	20.42	0.10	0.029	(0.160)	0.026	0.003
246	20.50	0.10	0.029	(0.159)	0.026	0.003
247	20.58	0.10	0.029	(0.158)	0.026	0.003
248	20.67	0.10	0.029	(0.158)	0.026	0.003
249	20.75	0.10	0.029	(0.157)	0.026	0.003
250	20.83	0.07	0.019	(0.156)	0.017	0.002
251	20.92	0.07	0.019	(0.156)	0.017	0.002
252	21.00	0.07	0.019	(0.155)	0.017	0.002
253	21.08	0.10	0.029	(0.154)	0.026	0.003
254	21.17	0.10	0.029	(0.154)	0.026	0.003
255	21.25	0.10	0.029	(0.153)	0.026	0.003
256	21.33	0.07	0.019	(0.153)	0.017	0.002
257	21.42	0.07	0.019	(0.152)	0.017	0.002
258	21.50	0.07	0.019	(0.151)	0.017	0.002
259	21.58	0.10	0.029	(0.151)	0.026	0.003
260	21.67	0.10	0.029	(0.150)	0.026	0.003
261	21.75	0.10	0.029	(0.150)	0.026	0.003
262	21.83	0.07	0.019	(0.149)	0.017	0.002
263	21.92	0.07	0.019	(0.149)	0.017	0.002
264	22.00	0.07	0.019	(0.148)	0.017	0.002
265	22.08	0.10	0.029	(0.148)	0.026	0.003

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266  22.17     0.10      0.029       (  0.147)       0.026        0.003
267  22.25     0.10      0.029       (  0.147)       0.026        0.003
268  22.33     0.07      0.019       (  0.146)       0.017        0.002
269  22.42     0.07      0.019       (  0.146)       0.017        0.002
270  22.50     0.07      0.019       (  0.145)       0.017        0.002
271  22.58     0.07      0.019       (  0.145)       0.017        0.002
272  22.67     0.07      0.019       (  0.145)       0.017        0.002
273  22.75     0.07      0.019       (  0.144)       0.017        0.002
274  22.83     0.07      0.019       (  0.144)       0.017        0.002
275  22.92     0.07      0.019       (  0.144)       0.017        0.002
276  23.00     0.07      0.019       (  0.143)       0.017        0.002
277  23.08     0.07      0.019       (  0.143)       0.017        0.002
278  23.17     0.07      0.019       (  0.143)       0.017        0.002
279  23.25     0.07      0.019       (  0.142)       0.017        0.002
280  23.33     0.07      0.019       (  0.142)       0.017        0.002
281  23.42     0.07      0.019       (  0.142)       0.017        0.002
282  23.50     0.07      0.019       (  0.141)       0.017        0.002
283  23.58     0.07      0.019       (  0.141)       0.017        0.002
284  23.67     0.07      0.019       (  0.141)       0.017        0.002
285  23.75     0.07      0.019       (  0.141)       0.017        0.002
286  23.83     0.07      0.019       (  0.141)       0.017        0.002
287  23.92     0.07      0.019       (  0.141)       0.017        0.002
288  24.00     0.07      0.019       (  0.140)       0.017        0.002
               (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     3.2
      Flood volume = Effective rainfall      0.27(In)
       times area      16.9(Ac.)/[(In)/(Ft.)] =       0.4(Ac.Ft)
      Total soil loss =      2.13(In)
      Total soil loss =     3.005(Ac.Ft)
      Total rainfall =      2.40(In)
      Flood volume =       16330.8 Cubic Feet
      Total soil loss =      130897.1 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      1.405(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0000      0.00  Q          |         |         |         |
  0+10       0.0001      0.02  Q          |         |         |         |
  0+15       0.0003      0.03  Q          |         |         |         |
  0+20       0.0005      0.03  Q          |         |         |         |
  0+25       0.0008      0.04  Q          |         |         |         |
  0+30       0.0011      0.04  Q          |         |         |         |
  0+35       0.0014      0.05  Q          |         |         |         |
  0+40       0.0017      0.05  Q          |         |         |         |
  0+45       0.0021      0.05  Q          |         |         |         |
  0+50       0.0024      0.05  Q          |         |         |         |
  0+55       0.0028      0.06  Q          |         |         |         |
  1+ 0       0.0032      0.06  Q          |         |         |         |
  1+ 5       0.0037      0.06  Q          |         |         |         |
  1+10       0.0041      0.06  Q          |         |         |         |
  1+15       0.0044      0.05  Q          |         |         |         |
  1+20       0.0048      0.05  Q          |         |         |         |
  1+25       0.0051      0.05  Q          |         |         |         |
  1+30       0.0055      0.05  Q          |         |         |         |
  1+35       0.0058      0.05  Q          |         |         |         |
  1+40       0.0061      0.05  Q          |         |         |         |
  1+45       0.0065      0.05  Q          |         |         |         |
  1+50       0.0068      0.05  Q          |         |         |         |
  1+55       0.0072      0.06  Q          |         |         |         |
  2+ 0       0.0076      0.06  Q          |         |         |         |
  2+ 5       0.0081      0.06  Q          |         |         |         |
  2+10       0.0085      0.06  Q          |         |         |         |
  2+15       0.0090      0.07  Q          |         |         |         |
  2+20       0.0094      0.07  QV         |         |         |         |
  2+25       0.0099      0.07  QV         |         |         |         |
  2+30       0.0103      0.07  QV         |         |         |         |
  2+35       0.0108      0.07  QV         |         |         |         |
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2+40       0.0113      0.07  QV        |         |         |         |
2+45       0.0118      0.08  QV        |         |         |         |
2+50       0.0124      0.08  QV        |         |         |         |
2+55       0.0129      0.08  QV        |         |         |         |
3+ 0       0.0135      0.08  QV        |         |         |         |
3+ 5       0.0141      0.08  QV        |         |         |         |
3+10       0.0146      0.08  QV        |         |         |         |
3+15       0.0152      0.08  QV        |         |         |         |
3+20       0.0157      0.08  QV        |         |         |         |
3+25       0.0163      0.08  QV        |         |         |         |
3+30       0.0169      0.08  QV        |         |         |         |
3+35       0.0174      0.08  QV        |         |         |         |
3+40       0.0180      0.08  QV        |         |         |         |
3+45       0.0186      0.08  QV        |         |         |         |
3+50       0.0191      0.08  Q V       |         |         |         |
3+55       0.0197      0.09  Q V       |         |         |         |
4+ 0       0.0204      0.09  Q V       |         |         |         |
4+ 5       0.0211      0.10  Q V       |         |         |         |
4+10       0.0217      0.10  Q V       |         |         |         |
4+15       0.0224      0.10  Q V       |         |         |         |
4+20       0.0231      0.10  Q V       |         |         |         |
4+25       0.0238      0.11  Q V       |         |         |         |
4+30       0.0246      0.11  Q V       |         |         |         |
4+35       0.0254      0.11  Q V       |         |         |         |
4+40       0.0261      0.11  Q V       |         |         |         |
4+45       0.0269      0.11  Q V       |         |         |         |
4+50       0.0277      0.12  Q V       |         |         |         |
4+55       0.0286      0.12  Q  V      |         |         |         |
5+ 0       0.0294      0.13  Q  V      |         |         |         |
5+ 5       0.0303      0.13  Q  V      |         |         |         |
5+10       0.0311      0.11  Q  V      |         |         |         |
5+15       0.0318      0.10  Q  V      |         |         |         |
5+20       0.0325      0.10  Q  V      |         |         |         |
5+25       0.0333      0.11  Q  V      |         |         |         |
5+30       0.0340      0.11  Q  V      |         |         |         |
5+35       0.0348      0.11  Q  V      |         |         |         |
5+40       0.0357      0.12  Q  V      |         |         |         |
5+45       0.0365      0.13  Q  V      |         |         |         |
5+50       0.0374      0.13  Q  V      |         |         |         |
5+55       0.0383      0.13  Q   V     |         |         |         |
6+ 0       0.0392      0.13  Q   V     |         |         |         |
6+ 5       0.0401      0.13  Q   V     |         |         |         |
6+10       0.0411      0.14  Q   V     |         |         |         |
6+15       0.0421      0.14  Q   V     |         |         |         |
6+20       0.0431      0.15  Q   V     |         |         |         |
6+25       0.0441      0.15  Q   V     |         |         |         |
6+30       0.0451      0.15  Q   V     |         |         |         |
6+35       0.0461      0.15  Q   V     |         |         |         |
6+40       0.0472      0.16  Q    V    |         |         |         |
6+45       0.0483      0.16  Q    V    |         |         |         |
6+50       0.0494      0.16  Q    V    |         |         |         |
6+55       0.0505      0.16  Q    V    |         |         |         |
7+ 0       0.0517      0.16  Q    V    |         |         |         |
7+ 5       0.0528      0.16  Q    V    |         |         |         |
7+10       0.0539      0.16  Q    V    |         |         |         |
7+15       0.0550      0.16  Q    V    |         |         |         |
7+20       0.0562      0.16  Q    V    |         |         |         |
7+25       0.0573      0.17  Q     V   |         |         |         |
7+30       0.0586      0.18  Q     V   |         |         |         |
7+35       0.0598      0.18  Q     V   |         |         |         |
7+40       0.0611      0.19  Q     V   |         |         |         |
7+45       0.0624      0.19  Q     V   |         |         |         |
7+50       0.0638      0.20  Q     V   |         |         |         |
7+55       0.0652      0.20  Q     V   |         |         |         |
8+ 0       0.0666      0.21  Q      V  |         |         |         |
8+ 5       0.0681      0.21  Q      V  |         |         |         |
8+10       0.0696      0.23  Q      V  |         |         |         |
8+15       0.0713      0.24  Q      V  |         |         |         |
8+20       0.0729      0.24  Q      V  |         |         |         |
8+25       0.0746      0.24  Q      V  |         |         |         |
8+30       0.0763      0.24  Q       V |         |         |         |
8+35       0.0780      0.25  Q       V |         |         |         |
8+40       0.0797      0.25  |Q      V |         |         |         |
8+45       0.0815      0.26  |Q      V |         |         |         |
8+50       0.0833      0.26  |Q      V |         |         |         |
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15+10	0.3141	0.40	|Q	|	|	| V	|
15+15	0.3168	0.40	|Q	|	|	| V	|
15+20	0.3195	0.39	|Q	|	|	| V	|
15+25	0.3222	0.39	|Q	|	|	| V	|
15+30	0.3248	0.38	|Q	|	|	| V	|
15+35	0.3273	0.37	|Q	|	|	| V	|
15+40	0.3297	0.34	|Q	|	|	| V	|
15+45	0.3320	0.33	|Q	|	|	| V	|
15+50	0.3342	0.32	|Q	|	|	| V	|
15+55	0.3363	0.31	|Q	|	|	| V	|
16+ 0	0.3385	0.31	|Q	|	|	| V	|
16+ 5	0.3405	0.29	|Q	|	|	| V	|
16+10	0.3418	0.19	Q	|	|	| V	|
16+15	0.3426	0.12	Q	|	|	| V	|
16+20	0.3433	0.09	Q	|	|	| V	|
16+25	0.3438	0.08	Q	|	|	| V	|
16+30	0.3443	0.07	Q	|	|	| V	|
16+35	0.3447	0.07	Q	|	|	| V	|
16+40	0.3452	0.06	Q	|	|	| V	|
16+45	0.3455	0.05	Q	|	|	| V	|
16+50	0.3459	0.05	Q	|	|	| V	|
16+55	0.3462	0.05	Q	|	|	| V	|
17+ 0	0.3466	0.05	Q	|	|	| V	|
17+ 5	0.3469	0.05	Q	|	|	| V	|
17+10	0.3474	0.07	Q	|	|	| V	|
17+15	0.3479	0.07	Q	|	|	| V	|
17+20	0.3484	0.08	Q	|	|	| V	|
17+25	0.3490	0.08	Q	|	|	| V	|
17+30	0.3495	0.08	Q	|	|	| V	|
17+35	0.3501	0.08	Q	|	|	| V	|
17+40	0.3506	0.08	Q	|	|	| V	|
17+45	0.3512	0.08	Q	|	|	| V	|
17+50	0.3518	0.08	Q	|	|	| V	|
17+55	0.3523	0.07	Q	|	|	| V	|
18+ 0	0.3527	0.07	Q	|	|	| V	|
18+ 5	0.3532	0.07	Q	|	|	| V	|
18+10	0.3537	0.07	Q	|	|	| V	|
18+15	0.3541	0.07	Q	|	|	| V	|
18+20	0.3546	0.07	Q	|	|	| V	|
18+25	0.3550	0.07	Q	|	|	| V	|
18+30	0.3555	0.07	Q	|	|	| V	|
18+35	0.3559	0.06	Q	|	|	| V	|
18+40	0.3563	0.06	Q	|	|	| V	|
18+45	0.3567	0.05	Q	|	|	| V	|
18+50	0.3570	0.05	Q	|	|	| V	|
18+55	0.3573	0.04	Q	|	|	| V	|
19+ 0	0.3576	0.04	Q	|	|	| V	|
19+ 5	0.3578	0.04	Q	|	|	| V	|
19+10	0.3581	0.04	Q	|	|	| V	|
19+15	0.3584	0.05	Q	|	|	| V	|
19+20	0.3587	0.05	Q	|	|	| V	|
19+25	0.3591	0.06	Q	|	|	| V	|
19+30	0.3596	0.06	Q	|	|	| V	|
19+35	0.3600	0.06	Q	|	|	| V	|
19+40	0.3604	0.06	Q	|	|	| V	|
19+45	0.3607	0.05	Q	|	|	| V	|
19+50	0.3611	0.05	Q	|	|	| V	|
19+55	0.3614	0.04	Q	|	|	| V	|
20+ 0	0.3616	0.04	Q	|	|	| V	|
20+ 5	0.3619	0.04	Q	|	|	| V	|
20+10	0.3622	0.04	Q	|	|	| V	|
20+15	0.3625	0.05	Q	|	|	| V	|
20+20	0.3628	0.05	Q	|	|	| V	|
20+25	0.3631	0.05	Q	|	|	| V	|
20+30	0.3635	0.05	Q	|	|	| V	|
20+35	0.3638	0.05	Q	|	|	| V	|
20+40	0.3641	0.05	Q	|	|	| V	|
20+45	0.3645	0.05	Q	|	|	| V	|
20+50	0.3648	0.05	Q	|	|	| V	|
20+55	0.3651	0.04	Q	|	|	| V	|
21+ 0	0.3653	0.04	Q	|	|	| V	|
21+ 5	0.3656	0.04	Q	|	|	| V	|
21+10	0.3659	0.04	Q	|	|	| V	|
21+15	0.3662	0.05	Q	|	|	| V	|
21+20	0.3665	0.05	Q	|	|	| V	|

21+25	0.3668	0.04	Q	|	|	|	v|
21+30	0.3670	0.04	Q	|	|	|	v|
21+35	0.3673	0.04	Q	|	|	|	v|
21+40	0.3676	0.04	Q	|	|	|	v|
21+45	0.3679	0.05	Q	|	|	|	v|
21+50	0.3682	0.05	Q	|	|	|	v|
21+55	0.3685	0.04	Q	|	|	|	v|
22+ 0	0.3687	0.04	Q	|	|	|	v|
22+ 5	0.3690	0.04	Q	|	|	|	v|
22+10	0.3692	0.04	Q	|	|	|	v|
22+15	0.3696	0.05	Q	|	|	|	v|
22+20	0.3699	0.05	Q	|	|	|	v|
22+25	0.3702	0.04	Q	|	|	|	v|
22+30	0.3704	0.04	Q	|	|	|	v|
22+35	0.3706	0.03	Q	|	|	|	v|
22+40	0.3709	0.03	Q	|	|	|	v|
22+45	0.3711	0.03	Q	|	|	|	v|
22+50	0.3713	0.03	Q	|	|	|	v|
22+55	0.3716	0.03	Q	|	|	|	v|
23+ 0	0.3718	0.03	Q	|	|	|	v|
23+ 5	0.3720	0.03	Q	|	|	|	v|
23+10	0.3722	0.03	Q	|	|	|	v|
23+15	0.3725	0.03	Q	|	|	|	v|
23+20	0.3727	0.03	Q	|	|	|	v|
23+25	0.3729	0.03	Q	|	|	|	v|
23+30	0.3731	0.03	Q	|	|	|	v|
23+35	0.3734	0.03	Q	|	|	|	v|
23+40	0.3736	0.03	Q	|	|	|	v|
23+45	0.3738	0.03	Q	|	|	|	v|
23+50	0.3740	0.03	Q	|	|	|	v|
23+55	0.3743	0.03	Q	|	|	|	v|
24+ 0	0.3745	0.03	Q	|	|	|	v|
24+ 5	0.3747	0.03	Q	|	|	|	v|
24+10	0.3748	0.02	Q	|	|	|	v|
24+15	0.3749	0.01	Q	|	|	|	v|
24+20	0.3749	0.00	Q	|	|	|	v|
24+25	0.3749	0.00	Q	|	|	|	v|
24+30	0.3749	0.00	Q	|	|	|	v|
24+35	0.3749	0.00	Q	|	|	|	v|
24+40	0.3749	0.00	Q	|	|	|	v|
24+45	0.3749	0.00	Q	|	|	|	v|

PROPOSED CONDITION UNIT HYDROGRAPHS (2-YEAR, 24-HOUR STORM)

AREA 10

```
        U n i t   H y d r o g r a p h   A n a l y s i s

        Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2008, Version 8.1
               Study date  11/09/21 File: PROP2YRD1242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 4010

------------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



------------------------------------------------------------------------
BCCOV AREA D1 PROPOSED CONDITION
2-YEAR STORM EVENT
21-0034
2021-11-09 EP
------------------------------------------------------------------------
Drainage Area =      14.10(Ac.)  =      0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =      14.10(Ac.)  =      0.022 Sq. Mi.
Length along longest watercourse =    1473.00(Ft.)
Length along longest watercourse measured to centroid =     540.00(Ft.)
Length along longest watercourse =      0.279 Mi.
Length along longest watercourse measured to centroid =      0.102 Mi.
Difference in elevation =       7.00(Ft.)
Slope along watercourse =     25.0916 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.051 Hr.
Lag time =     3.03 Min.
25% of lag time =     0.76 Min.
40% of lag time =     1.21 Min.
Unit time =     5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       14.10           2.40                 33.84

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       14.10           6.20                 87.42

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    2.400(In)
Area Averaged 100-Year Rainfall =    6.200(In)

Point rain (area averaged) =    2.400(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    2.400(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    14.100           60.80         0.790
 Total Area Entered =     14.10(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
```

60.8	40.8	0.662	0.790	0.191	1.000	0.191
					Sum (F) =	0.191

Area averaged mean soil loss (F) (In/Hr) = 0.191
Minimum soil loss rate ((In/Hr)) = 0.096
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.270

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	164.969	34.459	4.897
2	0.167	329.938	53.153	7.553
3	0.250	494.907	10.103	1.436
4	0.333	659.875	1.778	0.253
5	0.417	824.844	0.507	0.072
			Sum = 100.000	Sum= 14.210

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time		Pattern	Storm Rain	Loss rate(In./Hr)		Effective
	(Hr.)	Percent	(In/Hr)	Max	Low	(In/Hr)
1	0.08	0.07	0.019	(0.339)	0.005	0.014
2	0.17	0.07	0.019	(0.338)	0.005	0.014
3	0.25	0.07	0.019	(0.337)	0.005	0.014
4	0.33	0.10	0.029	(0.335)	0.008	0.021
5	0.42	0.10	0.029	(0.334)	0.008	0.021
6	0.50	0.10	0.029	(0.333)	0.008	0.021
7	0.58	0.10	0.029	(0.331)	0.008	0.021
8	0.67	0.10	0.029	(0.330)	0.008	0.021
9	0.75	0.10	0.029	(0.329)	0.008	0.021
10	0.83	0.13	0.038	(0.328)	0.010	0.028
11	0.92	0.13	0.038	(0.326)	0.010	0.028
12	1.00	0.13	0.038	(0.325)	0.010	0.028
13	1.08	0.10	0.029	(0.324)	0.008	0.021
14	1.17	0.10	0.029	(0.322)	0.008	0.021
15	1.25	0.10	0.029	(0.321)	0.008	0.021
16	1.33	0.10	0.029	(0.320)	0.008	0.021
17	1.42	0.10	0.029	(0.319)	0.008	0.021
18	1.50	0.10	0.029	(0.317)	0.008	0.021
19	1.58	0.10	0.029	(0.316)	0.008	0.021
20	1.67	0.10	0.029	(0.315)	0.008	0.021
21	1.75	0.10	0.029	(0.313)	0.008	0.021
22	1.83	0.13	0.038	(0.312)	0.010	0.028
23	1.92	0.13	0.038	(0.311)	0.010	0.028
24	2.00	0.13	0.038	(0.310)	0.010	0.028
25	2.08	0.13	0.038	(0.308)	0.010	0.028
26	2.17	0.13	0.038	(0.307)	0.010	0.028
27	2.25	0.13	0.038	(0.306)	0.010	0.028
28	2.33	0.13	0.038	(0.305)	0.010	0.028
29	2.42	0.13	0.038	(0.303)	0.010	0.028
30	2.50	0.13	0.038	(0.302)	0.010	0.028
31	2.58	0.17	0.048	(0.301)	0.013	0.035
32	2.67	0.17	0.048	(0.300)	0.013	0.035
33	2.75	0.17	0.048	(0.299)	0.013	0.035
34	2.83	0.17	0.048	(0.297)	0.013	0.035
35	2.92	0.17	0.048	(0.296)	0.013	0.035
36	3.00	0.17	0.048	(0.295)	0.013	0.035
37	3.08	0.17	0.048	(0.294)	0.013	0.035
38	3.17	0.17	0.048	(0.292)	0.013	0.035
39	3.25	0.17	0.048	(0.291)	0.013	0.035
40	3.33	0.17	0.048	(0.290)	0.013	0.035
41	3.42	0.17	0.048	(0.289)	0.013	0.035
42	3.50	0.17	0.048	(0.288)	0.013	0.035
43	3.58	0.17	0.048	(0.286)	0.013	0.035
44	3.67	0.17	0.048	(0.285)	0.013	0.035
45	3.75	0.17	0.048	(0.284)	0.013	0.035

46	3.83	0.20	0.058	(0.283)	0.016	0.042
47	3.92	0.20	0.058	(0.282)	0.016	0.042
48	4.00	0.20	0.058	(0.280)	0.016	0.042
49	4.08	0.20	0.058	(0.279)	0.016	0.042
50	4.17	0.20	0.058	(0.278)	0.016	0.042
51	4.25	0.20	0.058	(0.277)	0.016	0.042
52	4.33	0.23	0.067	(0.276)	0.018	0.049
53	4.42	0.23	0.067	(0.274)	0.018	0.049
54	4.50	0.23	0.067	(0.273)	0.018	0.049
55	4.58	0.23	0.067	(0.272)	0.018	0.049
56	4.67	0.23	0.067	(0.271)	0.018	0.049
57	4.75	0.23	0.067	(0.270)	0.018	0.049
58	4.83	0.27	0.077	(0.269)	0.021	0.056
59	4.92	0.27	0.077	(0.267)	0.021	0.056
60	5.00	0.27	0.077	(0.266)	0.021	0.056
61	5.08	0.20	0.058	(0.265)	0.016	0.042
62	5.17	0.20	0.058	(0.264)	0.016	0.042
63	5.25	0.20	0.058	(0.263)	0.016	0.042
64	5.33	0.23	0.067	(0.262)	0.018	0.049
65	5.42	0.23	0.067	(0.261)	0.018	0.049
66	5.50	0.23	0.067	(0.259)	0.018	0.049
67	5.58	0.27	0.077	(0.258)	0.021	0.056
68	5.67	0.27	0.077	(0.257)	0.021	0.056
69	5.75	0.27	0.077	(0.256)	0.021	0.056
70	5.83	0.27	0.077	(0.255)	0.021	0.056
71	5.92	0.27	0.077	(0.254)	0.021	0.056
72	6.00	0.27	0.077	(0.253)	0.021	0.056
73	6.08	0.30	0.086	(0.251)	0.023	0.063
74	6.17	0.30	0.086	(0.250)	0.023	0.063
75	6.25	0.30	0.086	(0.249)	0.023	0.063
76	6.33	0.30	0.086	(0.248)	0.023	0.063
77	6.42	0.30	0.086	(0.247)	0.023	0.063
78	6.50	0.30	0.086	(0.246)	0.023	0.063
79	6.58	0.33	0.096	(0.245)	0.026	0.070
80	6.67	0.33	0.096	(0.244)	0.026	0.070
81	6.75	0.33	0.096	(0.243)	0.026	0.070
82	6.83	0.33	0.096	(0.242)	0.026	0.070
83	6.92	0.33	0.096	(0.240)	0.026	0.070
84	7.00	0.33	0.096	(0.239)	0.026	0.070
85	7.08	0.33	0.096	(0.238)	0.026	0.070
86	7.17	0.33	0.096	(0.237)	0.026	0.070
87	7.25	0.33	0.096	(0.236)	0.026	0.070
88	7.33	0.37	0.106	(0.235)	0.029	0.077
89	7.42	0.37	0.106	(0.234)	0.029	0.077
90	7.50	0.37	0.106	(0.233)	0.029	0.077
91	7.58	0.40	0.115	(0.232)	0.031	0.084
92	7.67	0.40	0.115	(0.231)	0.031	0.084
93	7.75	0.40	0.115	(0.230)	0.031	0.084
94	7.83	0.43	0.125	(0.229)	0.034	0.091
95	7.92	0.43	0.125	(0.228)	0.034	0.091
96	8.00	0.43	0.125	(0.226)	0.034	0.091
97	8.08	0.50	0.144	(0.225)	0.039	0.105
98	8.17	0.50	0.144	(0.224)	0.039	0.105
99	8.25	0.50	0.144	(0.223)	0.039	0.105
100	8.33	0.50	0.144	(0.222)	0.039	0.105
101	8.42	0.50	0.144	(0.221)	0.039	0.105
102	8.50	0.50	0.144	(0.220)	0.039	0.105
103	8.58	0.53	0.154	(0.219)	0.041	0.112
104	8.67	0.53	0.154	(0.218)	0.041	0.112
105	8.75	0.53	0.154	(0.217)	0.041	0.112
106	8.83	0.57	0.163	(0.216)	0.044	0.119
107	8.92	0.57	0.163	(0.215)	0.044	0.119
108	9.00	0.57	0.163	(0.214)	0.044	0.119
109	9.08	0.63	0.182	(0.213)	0.049	0.133
110	9.17	0.63	0.182	(0.212)	0.049	0.133
111	9.25	0.63	0.182	(0.211)	0.049	0.133
112	9.33	0.67	0.192	(0.210)	0.052	0.140
113	9.42	0.67	0.192	(0.209)	0.052	0.140
114	9.50	0.67	0.192	(0.208)	0.052	0.140
115	9.58	0.70	0.202	(0.207)	0.054	0.147
116	9.67	0.70	0.202	(0.206)	0.054	0.147
117	9.75	0.70	0.202	(0.205)	0.054	0.147
118	9.83	0.73	0.211	(0.204)	0.057	0.154
119	9.92	0.73	0.211	(0.203)	0.057	0.154
120	10.00	0.73	0.211	(0.202)	0.057	0.154

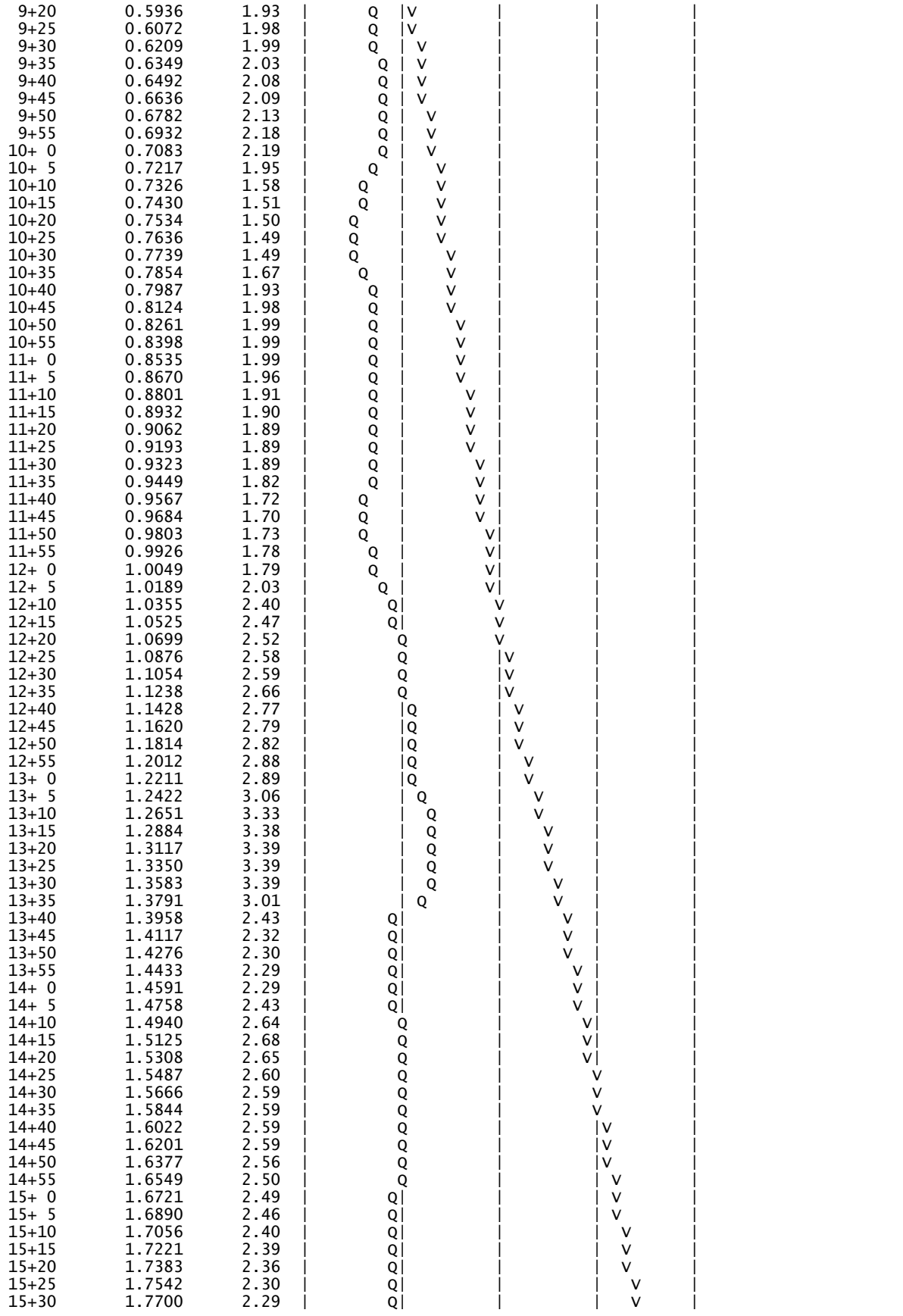
121	10.08	0.50	0.144	(0.201)	0.039	0.105
122	10.17	0.50	0.144	(0.200)	0.039	0.105
123	10.25	0.50	0.144	(0.199)	0.039	0.105
124	10.33	0.50	0.144	(0.198)	0.039	0.105
125	10.42	0.50	0.144	(0.197)	0.039	0.105
126	10.50	0.50	0.144	(0.196)	0.039	0.105
127	10.58	0.67	0.192	(0.195)	0.052	0.140
128	10.67	0.67	0.192	(0.194)	0.052	0.140
129	10.75	0.67	0.192	(0.193)	0.052	0.140
130	10.83	0.67	0.192	(0.192)	0.052	0.140
131	10.92	0.67	0.192	(0.192)	0.052	0.140
132	11.00	0.67	0.192	(0.191)	0.052	0.140
133	11.08	0.63	0.182	(0.190)	0.049	0.133
134	11.17	0.63	0.182	(0.189)	0.049	0.133
135	11.25	0.63	0.182	(0.188)	0.049	0.133
136	11.33	0.63	0.182	(0.187)	0.049	0.133
137	11.42	0.63	0.182	(0.186)	0.049	0.133
138	11.50	0.63	0.182	(0.185)	0.049	0.133
139	11.58	0.57	0.163	(0.184)	0.044	0.119
140	11.67	0.57	0.163	(0.183)	0.044	0.119
141	11.75	0.57	0.163	(0.182)	0.044	0.119
142	11.83	0.60	0.173	(0.181)	0.047	0.126
143	11.92	0.60	0.173	(0.180)	0.047	0.126
144	12.00	0.60	0.173	(0.180)	0.047	0.126
145	12.08	0.83	0.240	(0.179)	0.065	0.175
146	12.17	0.83	0.240	(0.178)	0.065	0.175
147	12.25	0.83	0.240	(0.177)	0.065	0.175
148	12.33	0.87	0.250	(0.176)	0.067	0.182
149	12.42	0.87	0.250	(0.175)	0.067	0.182
150	12.50	0.87	0.250	(0.174)	0.067	0.182
151	12.58	0.93	0.269	(0.173)	0.073	0.196
152	12.67	0.93	0.269	(0.172)	0.073	0.196
153	12.75	0.93	0.269	(0.172)	0.073	0.196
154	12.83	0.97	0.278	(0.171)	0.075	0.203
155	12.92	0.97	0.278	(0.170)	0.075	0.203
156	13.00	0.97	0.278	(0.169)	0.075	0.203
157	13.08	1.13	0.326	(0.168)	0.088	0.238
158	13.17	1.13	0.326	(0.167)	0.088	0.238
159	13.25	1.13	0.326	(0.166)	0.088	0.238
160	13.33	1.13	0.326	(0.166)	0.088	0.238
161	13.42	1.13	0.326	(0.165)	0.088	0.238
162	13.50	1.13	0.326	(0.164)	0.088	0.238
163	13.58	0.77	0.221	(0.163)	0.060	0.161
164	13.67	0.77	0.221	(0.162)	0.060	0.161
165	13.75	0.77	0.221	(0.161)	0.060	0.161
166	13.83	0.77	0.221	(0.161)	0.060	0.161
167	13.92	0.77	0.221	(0.160)	0.060	0.161
168	14.00	0.77	0.221	(0.159)	0.060	0.161
169	14.08	0.90	0.259	(0.158)	0.070	0.189
170	14.17	0.90	0.259	(0.157)	0.070	0.189
171	14.25	0.90	0.259	(0.157)	0.070	0.189
172	14.33	0.87	0.250	(0.156)	0.067	0.182
173	14.42	0.87	0.250	(0.155)	0.067	0.182
174	14.50	0.87	0.250	(0.154)	0.067	0.182
175	14.58	0.87	0.250	(0.153)	0.067	0.182
176	14.67	0.87	0.250	(0.153)	0.067	0.182
177	14.75	0.87	0.250	(0.152)	0.067	0.182
178	14.83	0.83	0.240	(0.151)	0.065	0.175
179	14.92	0.83	0.240	(0.150)	0.065	0.175
180	15.00	0.83	0.240	(0.149)	0.065	0.175
181	15.08	0.80	0.230	(0.149)	0.062	0.168
182	15.17	0.80	0.230	(0.148)	0.062	0.168
183	15.25	0.80	0.230	(0.147)	0.062	0.168
184	15.33	0.77	0.221	(0.146)	0.060	0.161
185	15.42	0.77	0.221	(0.146)	0.060	0.161
186	15.50	0.77	0.221	(0.145)	0.060	0.161
187	15.58	0.63	0.182	(0.144)	0.049	0.133
188	15.67	0.63	0.182	(0.143)	0.049	0.133
189	15.75	0.63	0.182	(0.143)	0.049	0.133
190	15.83	0.63	0.182	(0.142)	0.049	0.133
191	15.92	0.63	0.182	(0.141)	0.049	0.133
192	16.00	0.63	0.182	(0.141)	0.049	0.133
193	16.08	0.13	0.038	(0.140)	0.010	0.028
194	16.17	0.13	0.038	(0.139)	0.010	0.028
195	16.25	0.13	0.038	(0.138)	0.010	0.028

196	16.33	0.13	0.038	(0.138)	0.010	0.028
197	16.42	0.13	0.038	(0.137)	0.010	0.028
198	16.50	0.13	0.038	(0.136)	0.010	0.028
199	16.58	0.10	0.029	(0.136)	0.008	0.021
200	16.67	0.10	0.029	(0.135)	0.008	0.021
201	16.75	0.10	0.029	(0.134)	0.008	0.021
202	16.83	0.10	0.029	(0.134)	0.008	0.021
203	16.92	0.10	0.029	(0.133)	0.008	0.021
204	17.00	0.10	0.029	(0.132)	0.008	0.021
205	17.08	0.17	0.048	(0.132)	0.013	0.035
206	17.17	0.17	0.048	(0.131)	0.013	0.035
207	17.25	0.17	0.048	(0.130)	0.013	0.035
208	17.33	0.17	0.048	(0.130)	0.013	0.035
209	17.42	0.17	0.048	(0.129)	0.013	0.035
210	17.50	0.17	0.048	(0.128)	0.013	0.035
211	17.58	0.17	0.048	(0.128)	0.013	0.035
212	17.67	0.17	0.048	(0.127)	0.013	0.035
213	17.75	0.17	0.048	(0.126)	0.013	0.035
214	17.83	0.13	0.038	(0.126)	0.010	0.028
215	17.92	0.13	0.038	(0.125)	0.010	0.028
216	18.00	0.13	0.038	(0.124)	0.010	0.028
217	18.08	0.13	0.038	(0.124)	0.010	0.028
218	18.17	0.13	0.038	(0.123)	0.010	0.028
219	18.25	0.13	0.038	(0.123)	0.010	0.028
220	18.33	0.13	0.038	(0.122)	0.010	0.028
221	18.42	0.13	0.038	(0.121)	0.010	0.028
222	18.50	0.13	0.038	(0.121)	0.010	0.028
223	18.58	0.10	0.029	(0.120)	0.008	0.021
224	18.67	0.10	0.029	(0.120)	0.008	0.021
225	18.75	0.10	0.029	(0.119)	0.008	0.021
226	18.83	0.07	0.019	(0.119)	0.005	0.014
227	18.92	0.07	0.019	(0.118)	0.005	0.014
228	19.00	0.07	0.019	(0.117)	0.005	0.014
229	19.08	0.10	0.029	(0.117)	0.008	0.021
230	19.17	0.10	0.029	(0.116)	0.008	0.021
231	19.25	0.10	0.029	(0.116)	0.008	0.021
232	19.33	0.13	0.038	(0.115)	0.010	0.028
233	19.42	0.13	0.038	(0.115)	0.010	0.028
234	19.50	0.13	0.038	(0.114)	0.010	0.028
235	19.58	0.10	0.029	(0.114)	0.008	0.021
236	19.67	0.10	0.029	(0.113)	0.008	0.021
237	19.75	0.10	0.029	(0.113)	0.008	0.021
238	19.83	0.07	0.019	(0.112)	0.005	0.014
239	19.92	0.07	0.019	(0.112)	0.005	0.014
240	20.00	0.07	0.019	(0.111)	0.005	0.014
241	20.08	0.10	0.029	(0.111)	0.008	0.021
242	20.17	0.10	0.029	(0.110)	0.008	0.021
243	20.25	0.10	0.029	(0.110)	0.008	0.021
244	20.33	0.10	0.029	(0.109)	0.008	0.021
245	20.42	0.10	0.029	(0.109)	0.008	0.021
246	20.50	0.10	0.029	(0.108)	0.008	0.021
247	20.58	0.10	0.029	(0.108)	0.008	0.021
248	20.67	0.10	0.029	(0.107)	0.008	0.021
249	20.75	0.10	0.029	(0.107)	0.008	0.021
250	20.83	0.07	0.019	(0.106)	0.005	0.014
251	20.92	0.07	0.019	(0.106)	0.005	0.014
252	21.00	0.07	0.019	(0.106)	0.005	0.014
253	21.08	0.10	0.029	(0.105)	0.008	0.021
254	21.17	0.10	0.029	(0.105)	0.008	0.021
255	21.25	0.10	0.029	(0.104)	0.008	0.021
256	21.33	0.07	0.019	(0.104)	0.005	0.014
257	21.42	0.07	0.019	(0.104)	0.005	0.014
258	21.50	0.07	0.019	(0.103)	0.005	0.014
259	21.58	0.10	0.029	(0.103)	0.008	0.021
260	21.67	0.10	0.029	(0.102)	0.008	0.021
261	21.75	0.10	0.029	(0.102)	0.008	0.021
262	21.83	0.07	0.019	(0.102)	0.005	0.014
263	21.92	0.07	0.019	(0.101)	0.005	0.014
264	22.00	0.07	0.019	(0.101)	0.005	0.014
265	22.08	0.10	0.029	(0.101)	0.008	0.021
266	22.17	0.10	0.029	(0.100)	0.008	0.021
267	22.25	0.10	0.029	(0.100)	0.008	0.021
268	22.33	0.07	0.019	(0.100)	0.005	0.014
269	22.42	0.07	0.019	(0.099)	0.005	0.014
270	22.50	0.07	0.019	(0.099)	0.005	0.014

```
271  22.58     0.07      0.019       (  0.099)       0.005        0.014
272  22.67     0.07      0.019       (  0.099)       0.005        0.014
273  22.75     0.07      0.019       (  0.098)       0.005        0.014
274  22.83     0.07      0.019       (  0.098)       0.005        0.014
275  22.92     0.07      0.019       (  0.098)       0.005        0.014
276  23.00     0.07      0.019       (  0.098)       0.005        0.014
277  23.08     0.07      0.019       (  0.097)       0.005        0.014
278  23.17     0.07      0.019       (  0.097)       0.005        0.014
279  23.25     0.07      0.019       (  0.097)       0.005        0.014
280  23.33     0.07      0.019       (  0.097)       0.005        0.014
281  23.42     0.07      0.019       (  0.097)       0.005        0.014
282  23.50     0.07      0.019       (  0.096)       0.005        0.014
283  23.58     0.07      0.019       (  0.096)       0.005        0.014
284  23.67     0.07      0.019       (  0.096)       0.005        0.014
285  23.75     0.07      0.019       (  0.096)       0.005        0.014
286  23.83     0.07      0.019       (  0.096)       0.005        0.014
287  23.92     0.07      0.019       (  0.096)       0.005        0.014
288  24.00     0.07      0.019       (  0.096)       0.005        0.014
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    21.0
      Flood volume = Effective rainfall      1.75(In)
       times area      14.1(Ac.)/[(In)/(Ft.)] =       2.1(Ac.Ft)
      Total soil loss =      0.65(In)
      Total soil loss =     0.761(Ac.Ft)
      Total rainfall =      2.40(In)
      Flood volume =       89670.1 Cubic Feet
      Total soil loss =       33165.7 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      3.388(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                 Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0005      0.07  Q         |         |         |         |
  0+10       0.0017      0.17  Q         |         |         |         |
  0+15       0.0030      0.19  Q         |         |         |         |
  0+20       0.0046      0.23  Q         |         |         |         |
  0+25       0.0066      0.29  VQ        |         |         |         |
  0+30       0.0086      0.30  VQ        |         |         |         |
  0+35       0.0107      0.30  VQ        |         |         |         |
  0+40       0.0127      0.30  VQ        |         |         |         |
  0+45       0.0148      0.30  VQ        |         |         |         |
  0+50       0.0171      0.33  VQ        |         |         |         |
  0+55       0.0198      0.39  VQ        |         |         |         |
  1+ 0       0.0225      0.40  VQ        |         |         |         |
  1+ 5       0.0250      0.36  VQ        |         |         |         |
  1+10       0.0271      0.31  VQ        |         |         |         |
  1+15       0.0292      0.30  VQ        |         |         |         |
  1+20       0.0313      0.30  VQ        |         |         |         |
  1+25       0.0333      0.30  VQ        |         |         |         |
  1+30       0.0354      0.30  VQ        |         |         |         |
  1+35       0.0375      0.30  VQ        |         |         |         |
  1+40       0.0395      0.30  VQ        |         |         |         |
  1+45       0.0416      0.30  VQ        |         |         |         |
  1+50       0.0439      0.33  VQ        |         |         |         |
  1+55       0.0465      0.39  VQ        |         |         |         |
  2+ 0       0.0493      0.40  VQ        |         |         |         |
  2+ 5       0.0520      0.40  |Q        |         |         |         |
  2+10       0.0547      0.40  |Q        |         |         |         |
  2+15       0.0575      0.40  |Q        |         |         |         |
  2+20       0.0602      0.40  |Q        |         |         |         |
  2+25       0.0630      0.40  |Q        |         |         |         |
  2+30       0.0657      0.40  |Q        |         |         |         |
  2+35       0.0687      0.43  |Q        |         |         |         |
  2+40       0.0720      0.49  |Q        |         |         |         |
  2+45       0.0755      0.50  |Q        |         |         |         |
  2+50       0.0789      0.50  |Q        |         |         |         |
  2+55       0.0823      0.50  |Q        |         |         |         |
  3+ 0       0.0857      0.50  |Q        |         |         |         |
```

3+ 5	0.0892	0.50	Q			
3+10	0.0926	0.50	Q			
3+15	0.0960	0.50	Q			
3+20	0.0995	0.50	Q			
3+25	0.1029	0.50	Q			
3+30	0.1063	0.50	QV			
3+35	0.1098	0.50	QV			
3+40	0.1132	0.50	QV			
3+45	0.1166	0.50	QV			
3+50	0.1203	0.53	Q			
3+55	0.1243	0.59	Q			
4+ 0	0.1284	0.60	Q			
4+ 5	0.1325	0.60	Q			
4+10	0.1367	0.60	Q			
4+15	0.1408	0.60	Q			
4+20	0.1451	0.63	Q			
4+25	0.1498	0.69	Q			
4+30	0.1546	0.70	QV			
4+35	0.1594	0.70	QV			
4+40	0.1642	0.70	QV			
4+45	0.1690	0.70	QV			
4+50	0.1741	0.73	QV			
4+55	0.1795	0.78	Q			
5+ 0	0.1850	0.79	Q			
5+ 5	0.1900	0.73	QV			
5+10	0.1943	0.62	QV			
5+15	0.1984	0.60	QV			
5+20	0.2028	0.63	QV			
5+25	0.2075	0.69	Q V			
5+30	0.2123	0.70	Q V			
5+35	0.2173	0.73	Q V			
5+40	0.2227	0.78	QV			
5+45	0.2282	0.79	QV			
5+50	0.2337	0.80	QV			
5+55	0.2392	0.80	QV			
6+ 0	0.2447	0.80	QV			
6+ 5	0.2504	0.83	QV			
6+10	0.2565	0.88	QV			
6+15	0.2626	0.89	Q V			
6+20	0.2688	0.90	Q V			
6+25	0.2750	0.90	Q V			
6+30	0.2812	0.90	Q V			
6+35	0.2876	0.93	Q V			
6+40	0.2943	0.98	Q V			
6+45	0.3012	0.99	Q V			
6+50	0.3080	1.00	Q V			
6+55	0.3149	1.00	Q V			
7+ 0	0.3218	1.00	Q V			
7+ 5	0.3286	1.00	Q V			
7+10	0.3355	1.00	Q V			
7+15	0.3424	1.00	Q V			
7+20	0.3495	1.03	Q V			
7+25	0.3569	1.08	Q V			
7+30	0.3644	1.09	Q V			
7+35	0.3722	1.13	Q V			
7+40	0.3804	1.18	Q V			
7+45	0.3886	1.19	Q V			
7+50	0.3971	1.23	Q V			
7+55	0.4059	1.28	Q V			
8+ 0	0.4148	1.29	Q V			
8+ 5	0.4242	1.36	Q V			
8+10	0.4343	1.47	Q V			
8+15	0.4446	1.49	Q V			
8+20	0.4549	1.49	Q V			
8+25	0.4652	1.49	Q V			
8+30	0.4754	1.49	Q V			
8+35	0.4860	1.53	Q V			
8+40	0.4969	1.58	Q V			
8+45	0.5078	1.59	Q V			
8+50	0.5190	1.63	Q V			
8+55	0.5306	1.68	Q V			
9+ 0	0.5423	1.69	Q V			
9+ 5	0.5544	1.76	Q V			
9+10	0.5673	1.87	Q V			
9+15	0.5803	1.89	Q V			



15+35	1.7848	2.15	| Q |	|	|	| V |
15+40	1.7982	1.94	| Q |	|	|	| V |
15+45	1.8113	1.90	| Q |	|	|	| V |
15+50	1.8243	1.90	| Q |	|	|	| V |
15+55	1.8374	1.89	| Q |	|	|	| V |
16+ 0	1.8504	1.89	| Q |	|	|	| V |
16+ 5	1.8599	1.38	| Q |	|	|	| V |
16+10	1.8639	0.58	| Q |	|	|	| V |
16+15	1.8669	0.43	|Q |	|	|	| V |
16+20	1.8697	0.41	|Q |	|	|	| V |
16+25	1.8724	0.40	|Q |	|	|	| V |
16+30	1.8752	0.40	|Q |	|	|	| V |
16+35	1.8777	0.36	|Q |	|	|	| V |
16+40	1.8798	0.31	|Q |	|	|	| V |
16+45	1.8819	0.30	|Q |	|	|	| V |
16+50	1.8840	0.30	|Q |	|	|	| V |
16+55	1.8860	0.30	|Q |	|	|	| V |
17+ 0	1.8881	0.30	|Q |	|	|	| V |
17+ 5	1.8906	0.37	|Q |	|	|	| V |
17+10	1.8939	0.47	|Q |	|	|	| V |
17+15	1.8973	0.49	|Q |	|	|	| V |
17+20	1.9007	0.50	|Q |	|	|	| V |
17+25	1.9041	0.50	|Q |	|	|	| V |
17+30	1.9076	0.50	|Q |	|	|	| V |
17+35	1.9110	0.50	|Q |	|	|	| V |
17+40	1.9144	0.50	|Q |	|	|	| V |
17+45	1.9179	0.50	|Q |	|	|	| V |
17+50	1.9210	0.46	|Q |	|	|	| V |
17+55	1.9239	0.41	|Q |	|	|	| V |
18+ 0	1.9266	0.40	|Q |	|	|	| V |
18+ 5	1.9294	0.40	|Q |	|	|	| V |
18+10	1.9321	0.40	|Q |	|	|	| V |
18+15	1.9349	0.40	|Q |	|	|	| V |
18+20	1.9376	0.40	|Q |	|	|	| V |
18+25	1.9404	0.40	|Q |	|	|	| V |
18+30	1.9431	0.40	|Q |	|	|	| V |
18+35	1.9456	0.36	|Q |	|	|	| V |
18+40	1.9478	0.31	|Q |	|	|	| V |
18+45	1.9498	0.30	|Q |	|	|	| V |
18+50	1.9517	0.27	|Q |	|	|	| V |
18+55	1.9531	0.21	| Q |	|	|	| V |
19+ 0	1.9545	0.20	| Q |	|	|	| V |
19+ 5	1.9561	0.23	| Q |	|	|	| V |
19+10	1.9581	0.29	|Q |	|	|	| V |
19+15	1.9601	0.30	|Q |	|	|	| V |
19+20	1.9624	0.33	|Q |	|	|	| V |
19+25	1.9651	0.39	|Q |	|	|	| V |
19+30	1.9678	0.40	|Q |	|	|	| V |
19+35	1.9703	0.36	|Q |	|	|	| V |
19+40	1.9725	0.31	|Q |	|	|	| V |
19+45	1.9745	0.30	|Q |	|	|	| V |
19+50	1.9764	0.27	|Q |	|	|	| V |
19+55	1.9778	0.21	| Q |	|	|	| V |
20+ 0	1.9792	0.20	| Q |	|	|	| V |
20+ 5	1.9808	0.23	| Q |	|	|	| V |
20+10	1.9828	0.29	|Q |	|	|	| V |
20+15	1.9848	0.30	|Q |	|	|	| V |
20+20	1.9869	0.30	|Q |	|	|	| V |
20+25	1.9889	0.30	|Q |	|	|	| V |
20+30	1.9910	0.30	|Q |	|	|	| V |
20+35	1.9931	0.30	|Q |	|	|	| V |
20+40	1.9951	0.30	|Q |	|	|	| V |
20+45	1.9972	0.30	|Q |	|	|	| V |
20+50	1.9990	0.26	|Q |	|	|	| V |
20+55	2.0005	0.21	| Q |	|	|	| V |
21+ 0	2.0019	0.20	| Q |	|	|	| V |
21+ 5	2.0035	0.23	| Q |	|	|	| V |
21+10	2.0054	0.29	|Q |	|	|	| V |
21+15	2.0075	0.30	|Q |	|	|	| V|
21+20	2.0093	0.26	|Q |	|	|	| V|
21+25	2.0108	0.21	| Q |	|	|	| V|
21+30	2.0121	0.20	| Q |	|	|	| V|
21+35	2.0138	0.23	| Q |	|	|	| V|
21+40	2.0157	0.29	|Q |	|	|	| V|
21+45	2.0178	0.30	|Q |	|	|	| V|

21+50	2.0196	0.26	|Q	|	|	|	v|
21+55	2.0210	0.21	Q	|	|	|	v|
22+ 0	2.0224	0.20	Q	|	|	|	v|
22+ 5	2.0240	0.23	Q	|	|	|	v|
22+10	2.0260	0.29	|Q	|	|	|	v|
22+15	2.0281	0.30	|Q	|	|	|	v|
22+20	2.0299	0.26	|Q	|	|	|	v|
22+25	2.0313	0.21	Q	|	|	|	v|
22+30	2.0327	0.20	Q	|	|	|	v|
22+35	2.0341	0.20	Q	|	|	|	v|
22+40	2.0355	0.20	Q	|	|	|	v|
22+45	2.0369	0.20	Q	|	|	|	v|
22+50	2.0382	0.20	Q	|	|	|	v|
22+55	2.0396	0.20	Q	|	|	|	v|
23+ 0	2.0410	0.20	Q	|	|	|	v|
23+ 5	2.0423	0.20	Q	|	|	|	v|
23+10	2.0437	0.20	Q	|	|	|	v|
23+15	2.0451	0.20	Q	|	|	|	v|
23+20	2.0465	0.20	Q	|	|	|	v|
23+25	2.0478	0.20	Q	|	|	|	v|
23+30	2.0492	0.20	Q	|	|	|	v|
23+35	2.0506	0.20	Q	|	|	|	v|
23+40	2.0519	0.20	Q	|	|	|	v|
23+45	2.0533	0.20	Q	|	|	|	v|
23+50	2.0547	0.20	Q	|	|	|	v|
23+55	2.0561	0.20	Q	|	|	|	v|
24+ 0	2.0574	0.20	Q	|	|	|	v|
24+ 5	2.0583	0.13	Q	|	|	|	v|
24+10	2.0585	0.02	Q	|	|	|	v|
24+15	2.0585	0.00	Q	|	|	|	v|
24+20	2.0585	0.00	Q	|	|	|	v|

AREA 11

```
        U n i t   H y d r o g r a p h   A n a l y s i s

        Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2008, Version 8.1
               Study date  11/09/21 File: PROP2YRD2242.out

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------------------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 4010

------------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



------------------------------------------------------------------------

BCCOV AREA D2 PROPOSED CONDITION- 2 YR STORM
21-0034
2021-11-09 EP
------------------------------------------------------------------------
Drainage Area =      14.10(Ac.)  =      0.022 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =      14.10(Ac.)  =      0.022 Sq. Mi.
Length along longest watercourse =    1370.00(Ft.)
Length along longest watercourse measured to centroid =     486.00(Ft.)
Length along longest watercourse =      0.259 Mi.
Length along longest watercourse measured to centroid =      0.092 Mi.
Difference in elevation =       3.00(Ft.)
Slope along watercourse =     11.5620 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.055 Hr.
Lag time =     3.28 Min.
25% of lag time =     0.82 Min.
40% of lag time =     1.31 Min.
Unit time =     5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       14.10           2.40                 33.84

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       14.10           6.20                 87.42

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    2.400(In)
Area Averaged 100-Year Rainfall =    6.200(In)

Point rain (area averaged) =    2.400(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    2.400(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    14.100           65.50         0.760
 Total Area Entered =     14.10(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
```

65.5	45.6	0.615	0.760	0.194	1.000	0.194
					Sum (F) =	0.194

Area averaged mean soil loss (F) (In/Hr) = 0.194
Minimum soil loss rate ((In/Hr)) = 0.097
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.290

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	152.342	31.187	4.432
2	0.167	304.684	54.150	7.695
3	0.250	457.025	11.586	1.646
4	0.333	609.367	2.274	0.323
5	0.417	761.709	0.803	0.114
			Sum = 100.000	Sum= 14.210

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time		Pattern	Storm Rain	Loss rate(In./Hr)		Effective
	(Hr.)	Percent	(In/Hr)	Max	Low	(In/Hr)
1	0.08	0.07	0.019	(0.345)	0.006	0.014
2	0.17	0.07	0.019	(0.343)	0.006	0.014
3	0.25	0.07	0.019	(0.342)	0.006	0.014
4	0.33	0.10	0.029	(0.341)	0.008	0.020
5	0.42	0.10	0.029	(0.339)	0.008	0.020
6	0.50	0.10	0.029	(0.338)	0.008	0.020
7	0.58	0.10	0.029	(0.337)	0.008	0.020
8	0.67	0.10	0.029	(0.335)	0.008	0.020
9	0.75	0.10	0.029	(0.334)	0.008	0.020
10	0.83	0.13	0.038	(0.333)	0.011	0.027
11	0.92	0.13	0.038	(0.331)	0.011	0.027
12	1.00	0.13	0.038	(0.330)	0.011	0.027
13	1.08	0.10	0.029	(0.329)	0.008	0.020
14	1.17	0.10	0.029	(0.327)	0.008	0.020
15	1.25	0.10	0.029	(0.326)	0.008	0.020
16	1.33	0.10	0.029	(0.325)	0.008	0.020
17	1.42	0.10	0.029	(0.324)	0.008	0.020
18	1.50	0.10	0.029	(0.322)	0.008	0.020
19	1.58	0.10	0.029	(0.321)	0.008	0.020
20	1.67	0.10	0.029	(0.320)	0.008	0.020
21	1.75	0.10	0.029	(0.318)	0.008	0.020
22	1.83	0.13	0.038	(0.317)	0.011	0.027
23	1.92	0.13	0.038	(0.316)	0.011	0.027
24	2.00	0.13	0.038	(0.315)	0.011	0.027
25	2.08	0.13	0.038	(0.313)	0.011	0.027
26	2.17	0.13	0.038	(0.312)	0.011	0.027
27	2.25	0.13	0.038	(0.311)	0.011	0.027
28	2.33	0.13	0.038	(0.310)	0.011	0.027
29	2.42	0.13	0.038	(0.308)	0.011	0.027
30	2.50	0.13	0.038	(0.307)	0.011	0.027
31	2.58	0.17	0.048	(0.306)	0.014	0.034
32	2.67	0.17	0.048	(0.304)	0.014	0.034
33	2.75	0.17	0.048	(0.303)	0.014	0.034
34	2.83	0.17	0.048	(0.302)	0.014	0.034
35	2.92	0.17	0.048	(0.301)	0.014	0.034
36	3.00	0.17	0.048	(0.299)	0.014	0.034
37	3.08	0.17	0.048	(0.298)	0.014	0.034
38	3.17	0.17	0.048	(0.297)	0.014	0.034
39	3.25	0.17	0.048	(0.296)	0.014	0.034
40	3.33	0.17	0.048	(0.295)	0.014	0.034
41	3.42	0.17	0.048	(0.293)	0.014	0.034
42	3.50	0.17	0.048	(0.292)	0.014	0.034
43	3.58	0.17	0.048	(0.291)	0.014	0.034
44	3.67	0.17	0.048	(0.290)	0.014	0.034
45	3.75	0.17	0.048	(0.288)	0.014	0.034

46	3.83	0.20	0.058	(0.287)	0.017	0.041
47	3.92	0.20	0.058	(0.286)	0.017	0.041
48	4.00	0.20	0.058	(0.285)	0.017	0.041
49	4.08	0.20	0.058	(0.284)	0.017	0.041
50	4.17	0.20	0.058	(0.282)	0.017	0.041
51	4.25	0.20	0.058	(0.281)	0.017	0.041
52	4.33	0.23	0.067	(0.280)	0.019	0.048
53	4.42	0.23	0.067	(0.279)	0.019	0.048
54	4.50	0.23	0.067	(0.278)	0.019	0.048
55	4.58	0.23	0.067	(0.276)	0.019	0.048
56	4.67	0.23	0.067	(0.275)	0.019	0.048
57	4.75	0.23	0.067	(0.274)	0.019	0.048
58	4.83	0.27	0.077	(0.273)	0.022	0.055
59	4.92	0.27	0.077	(0.272)	0.022	0.055
60	5.00	0.27	0.077	(0.270)	0.022	0.055
61	5.08	0.20	0.058	(0.269)	0.017	0.041
62	5.17	0.20	0.058	(0.268)	0.017	0.041
63	5.25	0.20	0.058	(0.267)	0.017	0.041
64	5.33	0.23	0.067	(0.266)	0.019	0.048
65	5.42	0.23	0.067	(0.265)	0.019	0.048
66	5.50	0.23	0.067	(0.263)	0.019	0.048
67	5.58	0.27	0.077	(0.262)	0.022	0.055
68	5.67	0.27	0.077	(0.261)	0.022	0.055
69	5.75	0.27	0.077	(0.260)	0.022	0.055
70	5.83	0.27	0.077	(0.259)	0.022	0.055
71	5.92	0.27	0.077	(0.258)	0.022	0.055
72	6.00	0.27	0.077	(0.257)	0.022	0.055
73	6.08	0.30	0.086	(0.255)	0.025	0.061
74	6.17	0.30	0.086	(0.254)	0.025	0.061
75	6.25	0.30	0.086	(0.253)	0.025	0.061
76	6.33	0.30	0.086	(0.252)	0.025	0.061
77	6.42	0.30	0.086	(0.251)	0.025	0.061
78	6.50	0.30	0.086	(0.250)	0.025	0.061
79	6.58	0.33	0.096	(0.249)	0.028	0.068
80	6.67	0.33	0.096	(0.248)	0.028	0.068
81	6.75	0.33	0.096	(0.246)	0.028	0.068
82	6.83	0.33	0.096	(0.245)	0.028	0.068
83	6.92	0.33	0.096	(0.244)	0.028	0.068
84	7.00	0.33	0.096	(0.243)	0.028	0.068
85	7.08	0.33	0.096	(0.242)	0.028	0.068
86	7.17	0.33	0.096	(0.241)	0.028	0.068
87	7.25	0.33	0.096	(0.240)	0.028	0.068
88	7.33	0.37	0.106	(0.239)	0.031	0.075
89	7.42	0.37	0.106	(0.238)	0.031	0.075
90	7.50	0.37	0.106	(0.237)	0.031	0.075
91	7.58	0.40	0.115	(0.235)	0.033	0.082
92	7.67	0.40	0.115	(0.234)	0.033	0.082
93	7.75	0.40	0.115	(0.233)	0.033	0.082
94	7.83	0.43	0.125	(0.232)	0.036	0.089
95	7.92	0.43	0.125	(0.231)	0.036	0.089
96	8.00	0.43	0.125	(0.230)	0.036	0.089
97	8.08	0.50	0.144	(0.229)	0.042	0.102
98	8.17	0.50	0.144	(0.228)	0.042	0.102
99	8.25	0.50	0.144	(0.227)	0.042	0.102
100	8.33	0.50	0.144	(0.226)	0.042	0.102
101	8.42	0.50	0.144	(0.225)	0.042	0.102
102	8.50	0.50	0.144	(0.224)	0.042	0.102
103	8.58	0.53	0.154	(0.223)	0.045	0.109
104	8.67	0.53	0.154	(0.222)	0.045	0.109
105	8.75	0.53	0.154	(0.221)	0.045	0.109
106	8.83	0.57	0.163	(0.219)	0.047	0.116
107	8.92	0.57	0.163	(0.218)	0.047	0.116
108	9.00	0.57	0.163	(0.217)	0.047	0.116
109	9.08	0.63	0.182	(0.216)	0.053	0.130
110	9.17	0.63	0.182	(0.215)	0.053	0.130
111	9.25	0.63	0.182	(0.214)	0.053	0.130
112	9.33	0.67	0.192	(0.213)	0.056	0.136
113	9.42	0.67	0.192	(0.212)	0.056	0.136
114	9.50	0.67	0.192	(0.211)	0.056	0.136
115	9.58	0.70	0.202	(0.210)	0.058	0.143
116	9.67	0.70	0.202	(0.209)	0.058	0.143
117	9.75	0.70	0.202	(0.208)	0.058	0.143
118	9.83	0.73	0.211	(0.207)	0.061	0.150
119	9.92	0.73	0.211	(0.206)	0.061	0.150
120	10.00	0.73	0.211	(0.205)	0.061	0.150

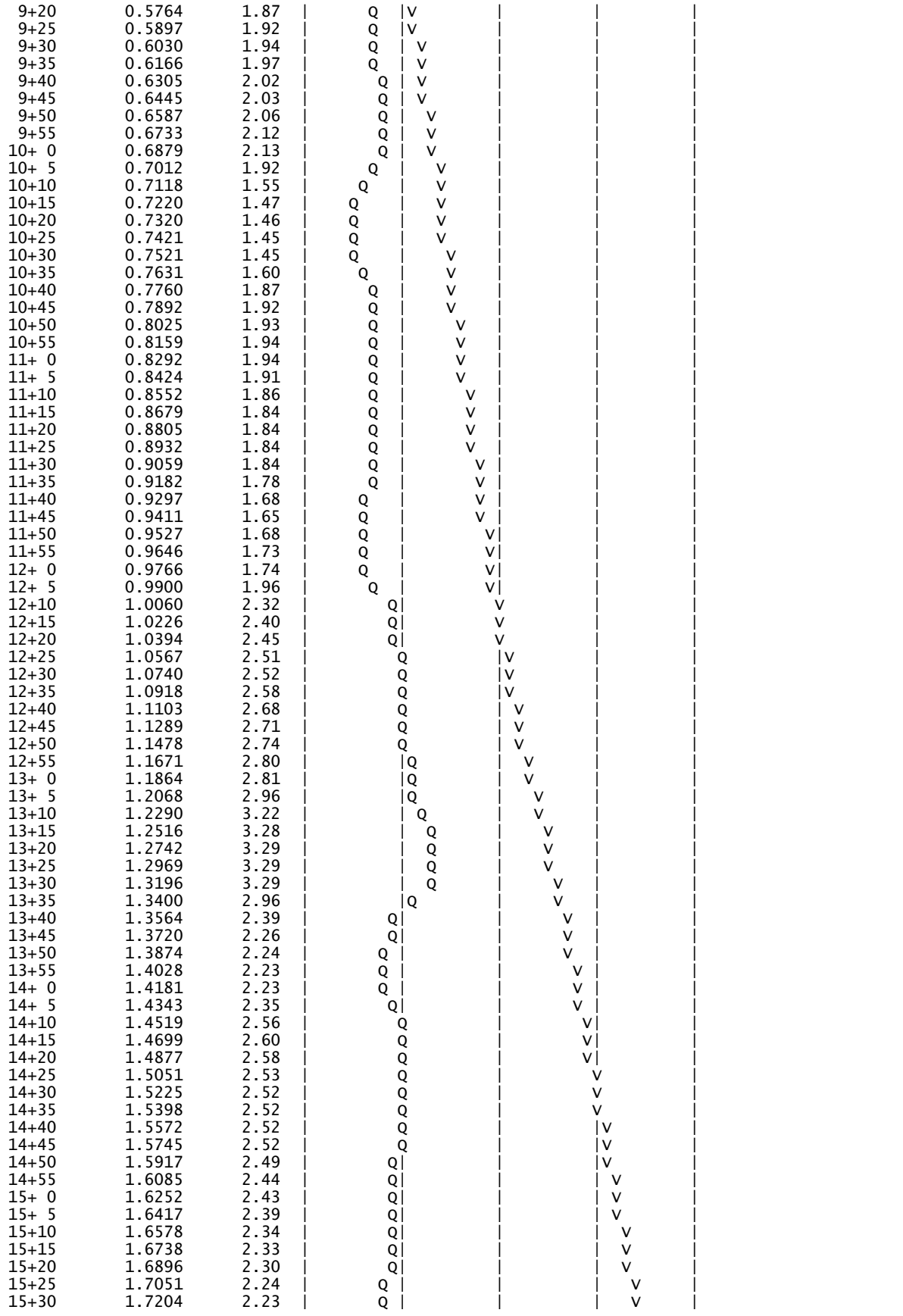
121	10.08	0.50	0.144	(0.204)	0.042	0.102
122	10.17	0.50	0.144	(0.203)	0.042	0.102
123	10.25	0.50	0.144	(0.202)	0.042	0.102
124	10.33	0.50	0.144	(0.201)	0.042	0.102
125	10.42	0.50	0.144	(0.200)	0.042	0.102
126	10.50	0.50	0.144	(0.199)	0.042	0.102
127	10.58	0.67	0.192	(0.198)	0.056	0.136
128	10.67	0.67	0.192	(0.197)	0.056	0.136
129	10.75	0.67	0.192	(0.196)	0.056	0.136
130	10.83	0.67	0.192	(0.195)	0.056	0.136
131	10.92	0.67	0.192	(0.195)	0.056	0.136
132	11.00	0.67	0.192	(0.194)	0.056	0.136
133	11.08	0.63	0.182	(0.193)	0.053	0.130
134	11.17	0.63	0.182	(0.192)	0.053	0.130
135	11.25	0.63	0.182	(0.191)	0.053	0.130
136	11.33	0.63	0.182	(0.190)	0.053	0.130
137	11.42	0.63	0.182	(0.189)	0.053	0.130
138	11.50	0.63	0.182	(0.188)	0.053	0.130
139	11.58	0.57	0.163	(0.187)	0.047	0.116
140	11.67	0.57	0.163	(0.186)	0.047	0.116
141	11.75	0.57	0.163	(0.185)	0.047	0.116
142	11.83	0.60	0.173	(0.184)	0.050	0.123
143	11.92	0.60	0.173	(0.183)	0.050	0.123
144	12.00	0.60	0.173	(0.182)	0.050	0.123
145	12.08	0.83	0.240	(0.181)	0.070	0.170
146	12.17	0.83	0.240	(0.181)	0.070	0.170
147	12.25	0.83	0.240	(0.180)	0.070	0.170
148	12.33	0.87	0.250	(0.179)	0.072	0.177
149	12.42	0.87	0.250	(0.178)	0.072	0.177
150	12.50	0.87	0.250	(0.177)	0.072	0.177
151	12.58	0.93	0.269	(0.176)	0.078	0.191
152	12.67	0.93	0.269	(0.175)	0.078	0.191
153	12.75	0.93	0.269	(0.174)	0.078	0.191
154	12.83	0.97	0.278	(0.173)	0.081	0.198
155	12.92	0.97	0.278	(0.173)	0.081	0.198
156	13.00	0.97	0.278	(0.172)	0.081	0.198
157	13.08	1.13	0.326	(0.171)	0.095	0.232
158	13.17	1.13	0.326	(0.170)	0.095	0.232
159	13.25	1.13	0.326	(0.169)	0.095	0.232
160	13.33	1.13	0.326	(0.168)	0.095	0.232
161	13.42	1.13	0.326	(0.167)	0.095	0.232
162	13.50	1.13	0.326	(0.166)	0.095	0.232
163	13.58	0.77	0.221	(0.166)	0.064	0.157
164	13.67	0.77	0.221	(0.165)	0.064	0.157
165	13.75	0.77	0.221	(0.164)	0.064	0.157
166	13.83	0.77	0.221	(0.163)	0.064	0.157
167	13.92	0.77	0.221	(0.162)	0.064	0.157
168	14.00	0.77	0.221	(0.161)	0.064	0.157
169	14.08	0.90	0.259	(0.161)	0.075	0.184
170	14.17	0.90	0.259	(0.160)	0.075	0.184
171	14.25	0.90	0.259	(0.159)	0.075	0.184
172	14.33	0.87	0.250	(0.158)	0.072	0.177
173	14.42	0.87	0.250	(0.157)	0.072	0.177
174	14.50	0.87	0.250	(0.157)	0.072	0.177
175	14.58	0.87	0.250	(0.156)	0.072	0.177
176	14.67	0.87	0.250	(0.155)	0.072	0.177
177	14.75	0.87	0.250	(0.154)	0.072	0.177
178	14.83	0.83	0.240	(0.153)	0.070	0.170
179	14.92	0.83	0.240	(0.153)	0.070	0.170
180	15.00	0.83	0.240	(0.152)	0.070	0.170
181	15.08	0.80	0.230	(0.151)	0.067	0.164
182	15.17	0.80	0.230	(0.150)	0.067	0.164
183	15.25	0.80	0.230	(0.149)	0.067	0.164
184	15.33	0.77	0.221	(0.149)	0.064	0.157
185	15.42	0.77	0.221	(0.148)	0.064	0.157
186	15.50	0.77	0.221	(0.147)	0.064	0.157
187	15.58	0.63	0.182	(0.146)	0.053	0.130
188	15.67	0.63	0.182	(0.146)	0.053	0.130
189	15.75	0.63	0.182	(0.145)	0.053	0.130
190	15.83	0.63	0.182	(0.144)	0.053	0.130
191	15.92	0.63	0.182	(0.143)	0.053	0.130
192	16.00	0.63	0.182	(0.143)	0.053	0.130
193	16.08	0.13	0.038	(0.142)	0.011	0.027
194	16.17	0.13	0.038	(0.141)	0.011	0.027
195	16.25	0.13	0.038	(0.141)	0.011	0.027

196	16.33	0.13	0.038	(0.140)	0.011	0.027
197	16.42	0.13	0.038	(0.139)	0.011	0.027
198	16.50	0.13	0.038	(0.138)	0.011	0.027
199	16.58	0.10	0.029	(0.138)	0.008	0.020
200	16.67	0.10	0.029	(0.137)	0.008	0.020
201	16.75	0.10	0.029	(0.136)	0.008	0.020
202	16.83	0.10	0.029	(0.136)	0.008	0.020
203	16.92	0.10	0.029	(0.135)	0.008	0.020
204	17.00	0.10	0.029	(0.134)	0.008	0.020
205	17.08	0.17	0.048	(0.134)	0.014	0.034
206	17.17	0.17	0.048	(0.133)	0.014	0.034
207	17.25	0.17	0.048	(0.132)	0.014	0.034
208	17.33	0.17	0.048	(0.132)	0.014	0.034
209	17.42	0.17	0.048	(0.131)	0.014	0.034
210	17.50	0.17	0.048	(0.130)	0.014	0.034
211	17.58	0.17	0.048	(0.130)	0.014	0.034
212	17.67	0.17	0.048	(0.129)	0.014	0.034
213	17.75	0.17	0.048	(0.128)	0.014	0.034
214	17.83	0.13	0.038	(0.128)	0.011	0.027
215	17.92	0.13	0.038	(0.127)	0.011	0.027
216	18.00	0.13	0.038	(0.126)	0.011	0.027
217	18.08	0.13	0.038	(0.126)	0.011	0.027
218	18.17	0.13	0.038	(0.125)	0.011	0.027
219	18.25	0.13	0.038	(0.125)	0.011	0.027
220	18.33	0.13	0.038	(0.124)	0.011	0.027
221	18.42	0.13	0.038	(0.123)	0.011	0.027
222	18.50	0.13	0.038	(0.123)	0.011	0.027
223	18.58	0.10	0.029	(0.122)	0.008	0.020
224	18.67	0.10	0.029	(0.122)	0.008	0.020
225	18.75	0.10	0.029	(0.121)	0.008	0.020
226	18.83	0.07	0.019	(0.120)	0.006	0.014
227	18.92	0.07	0.019	(0.120)	0.006	0.014
228	19.00	0.07	0.019	(0.119)	0.006	0.014
229	19.08	0.10	0.029	(0.119)	0.008	0.020
230	19.17	0.10	0.029	(0.118)	0.008	0.020
231	19.25	0.10	0.029	(0.118)	0.008	0.020
232	19.33	0.13	0.038	(0.117)	0.011	0.027
233	19.42	0.13	0.038	(0.117)	0.011	0.027
234	19.50	0.13	0.038	(0.116)	0.011	0.027
235	19.58	0.10	0.029	(0.115)	0.008	0.020
236	19.67	0.10	0.029	(0.115)	0.008	0.020
237	19.75	0.10	0.029	(0.114)	0.008	0.020
238	19.83	0.07	0.019	(0.114)	0.006	0.014
239	19.92	0.07	0.019	(0.113)	0.006	0.014
240	20.00	0.07	0.019	(0.113)	0.006	0.014
241	20.08	0.10	0.029	(0.112)	0.008	0.020
242	20.17	0.10	0.029	(0.112)	0.008	0.020
243	20.25	0.10	0.029	(0.111)	0.008	0.020
244	20.33	0.10	0.029	(0.111)	0.008	0.020
245	20.42	0.10	0.029	(0.110)	0.008	0.020
246	20.50	0.10	0.029	(0.110)	0.008	0.020
247	20.58	0.10	0.029	(0.110)	0.008	0.020
248	20.67	0.10	0.029	(0.109)	0.008	0.020
249	20.75	0.10	0.029	(0.109)	0.008	0.020
250	20.83	0.07	0.019	(0.108)	0.006	0.014
251	20.92	0.07	0.019	(0.108)	0.006	0.014
252	21.00	0.07	0.019	(0.107)	0.006	0.014
253	21.08	0.10	0.029	(0.107)	0.008	0.020
254	21.17	0.10	0.029	(0.106)	0.008	0.020
255	21.25	0.10	0.029	(0.106)	0.008	0.020
256	21.33	0.07	0.019	(0.106)	0.006	0.014
257	21.42	0.07	0.019	(0.105)	0.006	0.014
258	21.50	0.07	0.019	(0.105)	0.006	0.014
259	21.58	0.10	0.029	(0.104)	0.008	0.020
260	21.67	0.10	0.029	(0.104)	0.008	0.020
261	21.75	0.10	0.029	(0.104)	0.008	0.020
262	21.83	0.07	0.019	(0.103)	0.006	0.014
263	21.92	0.07	0.019	(0.103)	0.006	0.014
264	22.00	0.07	0.019	(0.103)	0.006	0.014
265	22.08	0.10	0.029	(0.102)	0.008	0.020
266	22.17	0.10	0.029	(0.102)	0.008	0.020
267	22.25	0.10	0.029	(0.102)	0.008	0.020
268	22.33	0.07	0.019	(0.101)	0.006	0.014
269	22.42	0.07	0.019	(0.101)	0.006	0.014
270	22.50	0.07	0.019	(0.101)	0.006	0.014

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271  22.58     0.07      0.019       (  0.100)       0.006        0.014
272  22.67     0.07      0.019       (  0.100)       0.006        0.014
273  22.75     0.07      0.019       (  0.100)       0.006        0.014
274  22.83     0.07      0.019       (  0.100)       0.006        0.014
275  22.92     0.07      0.019       (  0.099)       0.006        0.014
276  23.00     0.07      0.019       (  0.099)       0.006        0.014
277  23.08     0.07      0.019       (  0.099)       0.006        0.014
278  23.17     0.07      0.019       (  0.099)       0.006        0.014
279  23.25     0.07      0.019       (  0.098)       0.006        0.014
280  23.33     0.07      0.019       (  0.098)       0.006        0.014
281  23.42     0.07      0.019       (  0.098)       0.006        0.014
282  23.50     0.07      0.019       (  0.098)       0.006        0.014
283  23.58     0.07      0.019       (  0.098)       0.006        0.014
284  23.67     0.07      0.019       (  0.098)       0.006        0.014
285  23.75     0.07      0.019       (  0.097)       0.006        0.014
286  23.83     0.07      0.019       (  0.097)       0.006        0.014
287  23.92     0.07      0.019       (  0.097)       0.006        0.014
288  24.00     0.07      0.019       (  0.097)       0.006        0.014
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    20.4
      Flood volume = Effective rainfall      1.70(In)
       times area      14.1(Ac.)/[(In)/(Ft.)] =       2.0(Ac.Ft)
      Total soil loss =      0.70(In)
      Total soil loss =     0.818(Ac.Ft)
      Total rainfall =      2.40(In)
      Flood volume =       87213.4 Cubic Feet
      Total soil loss =       35622.4 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      3.295(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ------------------------------------------------------------------------
   0+ 5       0.0004      0.06  Q         |         |         |         |
   0+10       0.0016      0.17  Q         |         |         |         |
   0+15       0.0028      0.19  Q         |         |         |         |
   0+20       0.0044      0.22  Q         |         |         |         |
   0+25       0.0063      0.28  VQ        |         |         |         |
   0+30       0.0083      0.29  VQ        |         |         |         |
   0+35       0.0103      0.29  VQ        |         |         |         |
   0+40       0.0123      0.29  VQ        |         |         |         |
   0+45       0.0143      0.29  VQ        |         |         |         |
   0+50       0.0165      0.32  VQ        |         |         |         |
   0+55       0.0191      0.37  VQ        |         |         |         |
   1+ 0       0.0217      0.38  VQ        |         |         |         |
   1+ 5       0.0242      0.36  VQ        |         |         |         |
   1+10       0.0263      0.30  VQ        |         |         |         |
   1+15       0.0283      0.29  VQ        |         |         |         |
   1+20       0.0303      0.29  VQ        |         |         |         |
   1+25       0.0323      0.29  VQ        |         |         |         |
   1+30       0.0343      0.29  VQ        |         |         |         |
   1+35       0.0363      0.29  VQ        |         |         |         |
   1+40       0.0383      0.29  VQ        |         |         |         |
   1+45       0.0403      0.29  VQ        |         |         |         |
   1+50       0.0425      0.32  VQ        |         |         |         |
   1+55       0.0451      0.37  VQ        |         |         |         |
   2+ 0       0.0477      0.38  VQ        |         |         |         |
   2+ 5       0.0504      0.39  |Q        |         |         |         |
   2+10       0.0531      0.39  |Q        |         |         |         |
   2+15       0.0557      0.39  |Q        |         |         |         |
   2+20       0.0584      0.39  |Q        |         |         |         |
   2+25       0.0611      0.39  |Q        |         |         |         |
   2+30       0.0637      0.39  |Q        |         |         |         |
   2+35       0.0666      0.42  |Q        |         |         |         |
   2+40       0.0699      0.47  |Q        |         |         |         |
   2+45       0.0732      0.48  |Q        |         |         |         |
   2+50       0.0765      0.48  |Q        |         |         |         |
   2+55       0.0798      0.48  |Q        |         |         |         |
   3+ 0       0.0832      0.48  |Q        |         |         |         |
```

```
3+ 5       0.0865      0.48  |Q         |          |          |          |
3+10       0.0899      0.48  |Q         |          |          |          |
3+15       0.0932      0.48  |Q         |          |          |          |
3+20       0.0965      0.48  |Q         |          |          |          |
3+25       0.0999      0.48  |Q         |          |          |          |
3+30       0.1032      0.48  |QV        |          |          |          |
3+35       0.1065      0.48  |QV        |          |          |          |
3+40       0.1099      0.48  |QV        |          |          |          |
3+45       0.1132      0.48  |QV        |          |          |          |
3+50       0.1168      0.51  | Q        |          |          |          |
3+55       0.1207      0.57  | Q        |          |          |          |
4+ 0       0.1246      0.58  | Q        |          |          |          |
4+ 5       0.1286      0.58  | Q        |          |          |          |
4+10       0.1326      0.58  | Q        |          |          |          |
4+15       0.1367      0.58  | Q        |          |          |          |
4+20       0.1409      0.61  | Q        |          |          |          |
4+25       0.1454      0.66  | Q        |          |          |          |
4+30       0.1501      0.68  | Q        |          |          |          |
4+35       0.1548      0.68  | QV       |          |          |          |
4+40       0.1594      0.68  | QV       |          |          |          |
4+45       0.1641      0.68  | QV       |          |          |          |
4+50       0.1690      0.71  | QV       |          |          |          |
4+55       0.1742      0.76  |  Q       |          |          |          |
5+ 0       0.1795      0.77  |  Q       |          |          |          |
5+ 5       0.1845      0.71  | QV       |          |          |          |
5+10       0.1887      0.61  | QV       |          |          |          |
5+15       0.1927      0.59  | QV       |          |          |          |
5+20       0.1969      0.61  | QV       |          |          |          |
5+25       0.2015      0.66  | Q V      |          |          |          |
5+30       0.2061      0.68  | Q V      |          |          |          |
5+35       0.2110      0.71  | Q V      |          |          |          |
5+40       0.2163      0.76  |  QV      |          |          |          |
5+45       0.2216      0.77  |  QV      |          |          |          |
5+50       0.2269      0.77  |  QV      |          |          |          |
5+55       0.2323      0.78  |  QV      |          |          |          |
6+ 0       0.2376      0.78  |  QV      |          |          |          |
6+ 5       0.2431      0.81  |  QV      |          |          |          |
6+10       0.2491      0.86  |  QV      |          |          |          |
6+15       0.2550      0.87  |  Q V     |          |          |          |
6+20       0.2610      0.87  |  Q V     |          |          |          |
6+25       0.2670      0.87  |  Q V     |          |          |          |
6+30       0.2731      0.87  |  Q V     |          |          |          |
6+35       0.2793      0.90  |  Q V     |          |          |          |
6+40       0.2858      0.95  |  Q V     |          |          |          |
6+45       0.2925      0.97  |  Q V     |          |          |          |
6+50       0.2992      0.97  |  Q V     |          |          |          |
6+55       0.3058      0.97  |  Q  V    |          |          |          |
7+ 0       0.3125      0.97  |  Q  V    |          |          |          |
7+ 5       0.3192      0.97  |  Q  V    |          |          |          |
7+10       0.3259      0.97  |  Q  V    |          |          |          |
7+15       0.3325      0.97  |  Q  V    |          |          |          |
7+20       0.3394      1.00  |  Q  V    |          |          |          |
7+25       0.3467      1.05  |   Q V    |          |          |          |
7+30       0.3540      1.06  |   Q  V   |          |          |          |
7+35       0.3615      1.10  |   Q  V   |          |          |          |
7+40       0.3694      1.15  |   Q  V   |          |          |          |
7+45       0.3774      1.16  |   Q  V   |          |          |          |
7+50       0.3856      1.19  |   Q  V   |          |          |          |
7+55       0.3942      1.25  |   Q  V   |          |          |          |
8+ 0       0.4029      1.26  |    Q  V  |          |          |          |
8+ 5       0.4120      1.32  |    Q  V  |          |          |          |
8+10       0.4218      1.43  |    Q  V  |          |          |          |
8+15       0.4317      1.45  |    Q  V  |          |          |          |
8+20       0.4417      1.45  |    Q  V  |          |          |          |
8+25       0.4517      1.45  |    Q   V|          |          |          |
8+30       0.4618      1.45  |    Q   V|          |          |          |
8+35       0.4720      1.48  |    Q   V|          |          |          |
8+40       0.4826      1.54  |     Q  V|          |          |          |
8+45       0.4932      1.55  |     Q  V|          |          |          |
8+50       0.5041      1.58  |     Q   V          |          |          |
8+55       0.5153      1.63  |     Q   V          |          |          |
9+ 0       0.5267      1.64  |     Q   V          |          |          |
9+ 5       0.5384      1.71  |     Q   V          |          |          |
9+10       0.5509      1.81  |      Q  |V         |          |          |
9+15       0.5635      1.84  |      Q  |V         |          |          |
```



15+35	1.7350	2.11	| Q |	|	|	| V |
15+40	1.7480	1.90	| Q |	|	|	| V |
15+45	1.7608	1.85	| Q |	|	|	| V |
15+50	1.7735	1.84	| Q |	|	|	| V |
15+55	1.7862	1.84	| Q |	|	|	| V |
16+ 0	1.7989	1.84	| Q |	|	|	| V |
16+ 5	1.8084	1.39	| Q |	|	|	| V |
16+10	1.8126	0.60	| Q |	|	|	| V |
16+15	1.8155	0.43	|Q |	|	|	| V |
16+20	1.8183	0.40	|Q |	|	|	| V |
16+25	1.8210	0.39	|Q |	|	|	| V |
16+30	1.8236	0.39	|Q |	|	|	| V |
16+35	1.8261	0.36	|Q |	|	|	| V |
16+40	1.8282	0.30	|Q |	|	|	| V |
16+45	1.8302	0.29	|Q |	|	|	| V |
16+50	1.8322	0.29	|Q |	|	|	| V |
16+55	1.8342	0.29	|Q |	|	|	| V |
17+ 0	1.8362	0.29	|Q |	|	|	| V |
17+ 5	1.8386	0.35	|Q |	|	|	| V |
17+10	1.8418	0.46	|Q |	|	|	| V |
17+15	1.8451	0.48	|Q |	|	|	| V |
17+20	1.8484	0.48	|Q |	|	|	| V |
17+25	1.8517	0.48	|Q |	|	|	| V |
17+30	1.8551	0.48	|Q |	|	|	| V |
17+35	1.8584	0.48	|Q |	|	|	| V |
17+40	1.8617	0.48	|Q |	|	|	| V |
17+45	1.8651	0.48	|Q |	|	|	| V |
17+50	1.8682	0.45	|Q |	|	|	| V |
17+55	1.8710	0.40	|Q |	|	|	| V |
18+ 0	1.8737	0.39	|Q |	|	|	| V |
18+ 5	1.8763	0.39	|Q |	|	|	| V |
18+10	1.8790	0.39	|Q |	|	|	| V |
18+15	1.8817	0.39	|Q |	|	|	| V |
18+20	1.8844	0.39	|Q |	|	|	| V |
18+25	1.8870	0.39	|Q |	|	|	| V |
18+30	1.8897	0.39	|Q |	|	|	| V |
18+35	1.8922	0.36	|Q |	|	|	| V |
18+40	1.8943	0.30	|Q |	|	|	| V |
18+45	1.8963	0.29	|Q |	|	|	| V |
18+50	1.8981	0.26	|Q |	|	|	| V |
18+55	1.8995	0.21	| Q |	|	|	| V |
19+ 0	1.9009	0.20	| Q |	|	|	| V |
19+ 5	1.9024	0.22	| Q |	|	|	| V |
19+10	1.9043	0.28	|Q |	|	|	| V |
19+15	1.9063	0.29	|Q |	|	|	| V |
19+20	1.9085	0.32	|Q |	|	|	| V |
19+25	1.9111	0.37	|Q |	|	|	| V |
19+30	1.9137	0.38	|Q |	|	|	| V |
19+35	1.9162	0.36	|Q |	|	|	| V |
19+40	1.9183	0.30	|Q |	|	|	| V |
19+45	1.9203	0.29	|Q |	|	|	| V |
19+50	1.9221	0.26	|Q |	|	|	| V |
19+55	1.9235	0.21	| Q |	|	|	| V |
20+ 0	1.9249	0.20	| Q |	|	|	| V |
20+ 5	1.9264	0.22	| Q |	|	|	| V |
20+10	1.9283	0.28	|Q |	|	|	| V |
20+15	1.9303	0.29	|Q |	|	|	| V |
20+20	1.9323	0.29	|Q |	|	|	| V |
20+25	1.9343	0.29	|Q |	|	|	| V |
20+30	1.9363	0.29	|Q |	|	|	| V |
20+35	1.9383	0.29	|Q |	|	|	| V |
20+40	1.9403	0.29	|Q |	|	|	| V |
20+45	1.9423	0.29	|Q |	|	|	| V |
20+50	1.9441	0.26	|Q |	|	|	| V |
20+55	1.9456	0.21	| Q |	|	|	| V |
21+ 0	1.9469	0.20	| Q |	|	|	| V |
21+ 5	1.9485	0.22	| Q |	|	|	| V |
21+10	1.9504	0.28	|Q |	|	|	| V |
21+15	1.9523	0.29	|Q |	|	|	| V|
21+20	1.9541	0.26	|Q |	|	|	| V|
21+25	1.9556	0.21	| Q |	|	|	| V|
21+30	1.9569	0.20	| Q |	|	|	| V|
21+35	1.9585	0.22	| Q |	|	|	| V|
21+40	1.9604	0.28	|Q |	|	|	| V|
21+45	1.9624	0.29	|Q |	|	|	| V|

```
   21+50       1.9641      0.26  |Q        |         |         |        v|
   21+55       1.9656      0.21  Q        |         |         |        v|
   22+ 0       1.9669      0.20  Q        |         |         |        v|
   22+ 5       1.9685      0.22  Q        |         |         |        v|
   22+10       1.9704      0.28  |Q        |         |         |        v|
   22+15       1.9724      0.29  |Q        |         |         |        v|
   22+20       1.9742      0.26  |Q        |         |         |        v|
   22+25       1.9756      0.21  Q        |         |         |        v|
   22+30       1.9769      0.20  Q        |         |         |        v|
   22+35       1.9783      0.19  Q        |         |         |        v|
   22+40       1.9796      0.19  Q        |         |         |        v|
   22+45       1.9810      0.19  Q        |         |         |        v|
   22+50       1.9823      0.19  Q        |         |         |        v|
   22+55       1.9836      0.19  Q        |         |         |        v|
   23+ 0       1.9850      0.19  Q        |         |         |        v|
   23+ 5       1.9863      0.19  Q        |         |         |        v|
   23+10       1.9876      0.19  Q        |         |         |        v|
   23+15       1.9890      0.19  Q        |         |         |        v|
   23+20       1.9903      0.19  Q        |         |         |        v|
   23+25       1.9916      0.19  Q        |         |         |        v|
   23+30       1.9930      0.19  Q        |         |         |        v|
   23+35       1.9943      0.19  Q        |         |         |        v|
   23+40       1.9956      0.19  Q        |         |         |        v|
   23+45       1.9970      0.19  Q        |         |         |        v|
   23+50       1.9983      0.19  Q        |         |         |        v|
   23+55       1.9996      0.19  Q        |         |         |        v|
   24+ 0       2.0010      0.19  Q        |         |         |        v|
   24+ 5       2.0019      0.13  Q        |         |         |        v|
   24+10       2.0021      0.03  Q        |         |         |        v|
   24+15       2.0021      0.01  Q        |         |         |        v|
   24+20       2.0021      0.00  Q        |         |         |         v
-------------------------------------------------------------------------
```

AREA 12

```
        U n i t   H y d r o g r a p h   A n a l y s i s

        Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2008, Version 8.1
               Study date  11/09/21 File: PROP2YRD3242.out

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------------------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 4010

------------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



------------------------------------------------------------------------
BCCOV AREA D3 PROPOSED CONDITION
2-YEAR STORM EVENT
21-0034
2021-11-9 EP
------------------------------------------------------------------------
Drainage Area =       2.90(Ac.)  =      0.005 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       2.90(Ac.)  =      0.005 Sq. Mi.
Length along longest watercourse =     622.00(Ft.)
Length along longest watercourse measured to centroid =     341.00(Ft.)
Length along longest watercourse =      0.118 Mi.
Length along longest watercourse measured to centroid =      0.065 Mi.
Difference in elevation =       9.00(Ft.)
Slope along watercourse =     76.3987 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.025 Hr.
Lag time =     1.48 Min.
25% of lag time =     0.37 Min.
40% of lag time =     0.59 Min.
Unit time =     5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.90           2.40                 6.96

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.90           6.20                17.98

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    2.400(In)
Area Averaged 100-Year Rainfall =    6.200(In)

Point rain (area averaged) =    2.400(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    2.400(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     2.900           59.80         0.790
 Total Area Entered =      2.90(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
```

59.8	39.8	0.672	0.790	0.194	1.000	0.194
					Sum (F) =	0.194

Area averaged mean soil loss (F) (In/Hr) = 0.194
Minimum soil loss rate ((In/Hr)) = 0.097
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.270

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	336.835	61.739	1.804
2	0.167	673.670	36.985	1.081
3	0.250	1010.505	1.276	0.037
			Sum = 100.000 Sum=	2.923

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.019	(0.344)	0.005	0.014
2	0.17	0.07	0.019	(0.343)	0.005	0.014
3	0.25	0.07	0.019	(0.342)	0.005	0.014
4	0.33	0.10	0.029	(0.340)	0.008	0.021
5	0.42	0.10	0.029	(0.339)	0.008	0.021
6	0.50	0.10	0.029	(0.338)	0.008	0.021
7	0.58	0.10	0.029	(0.336)	0.008	0.021
8	0.67	0.10	0.029	(0.335)	0.008	0.021
9	0.75	0.10	0.029	(0.334)	0.008	0.021
10	0.83	0.13	0.038	(0.332)	0.010	0.028
11	0.92	0.13	0.038	(0.331)	0.010	0.028
12	1.00	0.13	0.038	(0.330)	0.010	0.028
13	1.08	0.10	0.029	(0.328)	0.008	0.021
14	1.17	0.10	0.029	(0.327)	0.008	0.021
15	1.25	0.10	0.029	(0.326)	0.008	0.021
16	1.33	0.10	0.029	(0.324)	0.008	0.021
17	1.42	0.10	0.029	(0.323)	0.008	0.021
18	1.50	0.10	0.029	(0.322)	0.008	0.021
19	1.58	0.10	0.029	(0.321)	0.008	0.021
20	1.67	0.10	0.029	(0.319)	0.008	0.021
21	1.75	0.10	0.029	(0.318)	0.008	0.021
22	1.83	0.13	0.038	(0.317)	0.010	0.028
23	1.92	0.13	0.038	(0.315)	0.010	0.028
24	2.00	0.13	0.038	(0.314)	0.010	0.028
25	2.08	0.13	0.038	(0.313)	0.010	0.028
26	2.17	0.13	0.038	(0.312)	0.010	0.028
27	2.25	0.13	0.038	(0.310)	0.010	0.028
28	2.33	0.13	0.038	(0.309)	0.010	0.028
29	2.42	0.13	0.038	(0.308)	0.010	0.028
30	2.50	0.13	0.038	(0.307)	0.010	0.028
31	2.58	0.17	0.048	(0.305)	0.013	0.035
32	2.67	0.17	0.048	(0.304)	0.013	0.035
33	2.75	0.17	0.048	(0.303)	0.013	0.035
34	2.83	0.17	0.048	(0.302)	0.013	0.035
35	2.92	0.17	0.048	(0.300)	0.013	0.035
36	3.00	0.17	0.048	(0.299)	0.013	0.035
37	3.08	0.17	0.048	(0.298)	0.013	0.035
38	3.17	0.17	0.048	(0.297)	0.013	0.035
39	3.25	0.17	0.048	(0.295)	0.013	0.035
40	3.33	0.17	0.048	(0.294)	0.013	0.035
41	3.42	0.17	0.048	(0.293)	0.013	0.035
42	3.50	0.17	0.048	(0.292)	0.013	0.035
43	3.58	0.17	0.048	(0.291)	0.013	0.035
44	3.67	0.17	0.048	(0.289)	0.013	0.035
45	3.75	0.17	0.048	(0.288)	0.013	0.035
46	3.83	0.20	0.058	(0.287)	0.016	0.042
47	3.92	0.20	0.058	(0.286)	0.016	0.042

48	4.00	0.20	0.058	(0.284)	0.016	0.042
49	4.08	0.20	0.058	(0.283)	0.016	0.042
50	4.17	0.20	0.058	(0.282)	0.016	0.042
51	4.25	0.20	0.058	(0.281)	0.016	0.042
52	4.33	0.23	0.067	(0.280)	0.018	0.049
53	4.42	0.23	0.067	(0.278)	0.018	0.049
54	4.50	0.23	0.067	(0.277)	0.018	0.049
55	4.58	0.23	0.067	(0.276)	0.018	0.049
56	4.67	0.23	0.067	(0.275)	0.018	0.049
57	4.75	0.23	0.067	(0.274)	0.018	0.049
58	4.83	0.27	0.077	(0.273)	0.021	0.056
59	4.92	0.27	0.077	(0.271)	0.021	0.056
60	5.00	0.27	0.077	(0.270)	0.021	0.056
61	5.08	0.20	0.058	(0.269)	0.016	0.042
62	5.17	0.20	0.058	(0.268)	0.016	0.042
63	5.25	0.20	0.058	(0.267)	0.016	0.042
64	5.33	0.23	0.067	(0.265)	0.018	0.049
65	5.42	0.23	0.067	(0.264)	0.018	0.049
66	5.50	0.23	0.067	(0.263)	0.018	0.049
67	5.58	0.27	0.077	(0.262)	0.021	0.056
68	5.67	0.27	0.077	(0.261)	0.021	0.056
69	5.75	0.27	0.077	(0.260)	0.021	0.056
70	5.83	0.27	0.077	(0.259)	0.021	0.056
71	5.92	0.27	0.077	(0.257)	0.021	0.056
72	6.00	0.27	0.077	(0.256)	0.021	0.056
73	6.08	0.30	0.086	(0.255)	0.023	0.063
74	6.17	0.30	0.086	(0.254)	0.023	0.063
75	6.25	0.30	0.086	(0.253)	0.023	0.063
76	6.33	0.30	0.086	(0.252)	0.023	0.063
77	6.42	0.30	0.086	(0.251)	0.023	0.063
78	6.50	0.30	0.086	(0.249)	0.023	0.063
79	6.58	0.33	0.096	(0.248)	0.026	0.070
80	6.67	0.33	0.096	(0.247)	0.026	0.070
81	6.75	0.33	0.096	(0.246)	0.026	0.070
82	6.83	0.33	0.096	(0.245)	0.026	0.070
83	6.92	0.33	0.096	(0.244)	0.026	0.070
84	7.00	0.33	0.096	(0.243)	0.026	0.070
85	7.08	0.33	0.096	(0.242)	0.026	0.070
86	7.17	0.33	0.096	(0.241)	0.026	0.070
87	7.25	0.33	0.096	(0.240)	0.026	0.070
88	7.33	0.37	0.106	(0.238)	0.029	0.077
89	7.42	0.37	0.106	(0.237)	0.029	0.077
90	7.50	0.37	0.106	(0.236)	0.029	0.077
91	7.58	0.40	0.115	(0.235)	0.031	0.084
92	7.67	0.40	0.115	(0.234)	0.031	0.084
93	7.75	0.40	0.115	(0.233)	0.031	0.084
94	7.83	0.43	0.125	(0.232)	0.034	0.091
95	7.92	0.43	0.125	(0.231)	0.034	0.091
96	8.00	0.43	0.125	(0.230)	0.034	0.091
97	8.08	0.50	0.144	(0.229)	0.039	0.105
98	8.17	0.50	0.144	(0.228)	0.039	0.105
99	8.25	0.50	0.144	(0.227)	0.039	0.105
100	8.33	0.50	0.144	(0.226)	0.039	0.105
101	8.42	0.50	0.144	(0.224)	0.039	0.105
102	8.50	0.50	0.144	(0.223)	0.039	0.105
103	8.58	0.53	0.154	(0.222)	0.041	0.112
104	8.67	0.53	0.154	(0.221)	0.041	0.112
105	8.75	0.53	0.154	(0.220)	0.041	0.112
106	8.83	0.57	0.163	(0.219)	0.044	0.119
107	8.92	0.57	0.163	(0.218)	0.044	0.119
108	9.00	0.57	0.163	(0.217)	0.044	0.119
109	9.08	0.63	0.182	(0.216)	0.049	0.133
110	9.17	0.63	0.182	(0.215)	0.049	0.133
111	9.25	0.63	0.182	(0.214)	0.049	0.133
112	9.33	0.67	0.192	(0.213)	0.052	0.140
113	9.42	0.67	0.192	(0.212)	0.052	0.140
114	9.50	0.67	0.192	(0.211)	0.052	0.140
115	9.58	0.70	0.202	(0.210)	0.054	0.147
116	9.67	0.70	0.202	(0.209)	0.054	0.147
117	9.75	0.70	0.202	(0.208)	0.054	0.147
118	9.83	0.73	0.211	(0.207)	0.057	0.154
119	9.92	0.73	0.211	(0.206)	0.057	0.154
120	10.00	0.73	0.211	(0.205)	0.057	0.154
121	10.08	0.50	0.144	(0.204)	0.039	0.105
122	10.17	0.50	0.144	(0.203)	0.039	0.105

123	10.25	0.50	0.144	(0.202)	0.039	0.105
124	10.33	0.50	0.144	(0.201)	0.039	0.105
125	10.42	0.50	0.144	(0.200)	0.039	0.105
126	10.50	0.50	0.144	(0.199)	0.039	0.105
127	10.58	0.67	0.192	(0.198)	0.052	0.140
128	10.67	0.67	0.192	(0.197)	0.052	0.140
129	10.75	0.67	0.192	(0.196)	0.052	0.140
130	10.83	0.67	0.192	(0.195)	0.052	0.140
131	10.92	0.67	0.192	(0.194)	0.052	0.140
132	11.00	0.67	0.192	(0.193)	0.052	0.140
133	11.08	0.63	0.182	(0.192)	0.049	0.133
134	11.17	0.63	0.182	(0.191)	0.049	0.133
135	11.25	0.63	0.182	(0.190)	0.049	0.133
136	11.33	0.63	0.182	(0.190)	0.049	0.133
137	11.42	0.63	0.182	(0.189)	0.049	0.133
138	11.50	0.63	0.182	(0.188)	0.049	0.133
139	11.58	0.57	0.163	(0.187)	0.044	0.119
140	11.67	0.57	0.163	(0.186)	0.044	0.119
141	11.75	0.57	0.163	(0.185)	0.044	0.119
142	11.83	0.60	0.173	(0.184)	0.047	0.126
143	11.92	0.60	0.173	(0.183)	0.047	0.126
144	12.00	0.60	0.173	(0.182)	0.047	0.126
145	12.08	0.83	0.240	(0.181)	0.065	0.175
146	12.17	0.83	0.240	(0.180)	0.065	0.175
147	12.25	0.83	0.240	(0.179)	0.065	0.175
148	12.33	0.87	0.250	(0.179)	0.067	0.182
149	12.42	0.87	0.250	(0.178)	0.067	0.182
150	12.50	0.87	0.250	(0.177)	0.067	0.182
151	12.58	0.93	0.269	(0.176)	0.073	0.196
152	12.67	0.93	0.269	(0.175)	0.073	0.196
153	12.75	0.93	0.269	(0.174)	0.073	0.196
154	12.83	0.97	0.278	(0.173)	0.075	0.203
155	12.92	0.97	0.278	(0.172)	0.075	0.203
156	13.00	0.97	0.278	(0.171)	0.075	0.203
157	13.08	1.13	0.326	(0.171)	0.088	0.238
158	13.17	1.13	0.326	(0.170)	0.088	0.238
159	13.25	1.13	0.326	(0.169)	0.088	0.238
160	13.33	1.13	0.326	(0.168)	0.088	0.238
161	13.42	1.13	0.326	(0.167)	0.088	0.238
162	13.50	1.13	0.326	(0.166)	0.088	0.238
163	13.58	0.77	0.221	(0.165)	0.060	0.161
164	13.67	0.77	0.221	(0.165)	0.060	0.161
165	13.75	0.77	0.221	(0.164)	0.060	0.161
166	13.83	0.77	0.221	(0.163)	0.060	0.161
167	13.92	0.77	0.221	(0.162)	0.060	0.161
168	14.00	0.77	0.221	(0.161)	0.060	0.161
169	14.08	0.90	0.259	(0.160)	0.070	0.189
170	14.17	0.90	0.259	(0.160)	0.070	0.189
171	14.25	0.90	0.259	(0.159)	0.070	0.189
172	14.33	0.87	0.250	(0.158)	0.067	0.182
173	14.42	0.87	0.250	(0.157)	0.067	0.182
174	14.50	0.87	0.250	(0.156)	0.067	0.182
175	14.58	0.87	0.250	(0.156)	0.067	0.182
176	14.67	0.87	0.250	(0.155)	0.067	0.182
177	14.75	0.87	0.250	(0.154)	0.067	0.182
178	14.83	0.83	0.240	(0.153)	0.065	0.175
179	14.92	0.83	0.240	(0.152)	0.065	0.175
180	15.00	0.83	0.240	(0.152)	0.065	0.175
181	15.08	0.80	0.230	(0.151)	0.062	0.168
182	15.17	0.80	0.230	(0.150)	0.062	0.168
183	15.25	0.80	0.230	(0.149)	0.062	0.168
184	15.33	0.77	0.221	(0.149)	0.060	0.161
185	15.42	0.77	0.221	(0.148)	0.060	0.161
186	15.50	0.77	0.221	(0.147)	0.060	0.161
187	15.58	0.63	0.182	(0.146)	0.049	0.133
188	15.67	0.63	0.182	(0.146)	0.049	0.133
189	15.75	0.63	0.182	(0.145)	0.049	0.133
190	15.83	0.63	0.182	(0.144)	0.049	0.133
191	15.92	0.63	0.182	(0.143)	0.049	0.133
192	16.00	0.63	0.182	(0.143)	0.049	0.133
193	16.08	0.13	0.038	(0.142)	0.010	0.028
194	16.17	0.13	0.038	(0.141)	0.010	0.028
195	16.25	0.13	0.038	(0.140)	0.010	0.028
196	16.33	0.13	0.038	(0.140)	0.010	0.028
197	16.42	0.13	0.038	(0.139)	0.010	0.028

198	16.50	0.13	0.038	(0.138)	0.010	0.028
199	16.58	0.10	0.029	(0.138)	0.008	0.021
200	16.67	0.10	0.029	(0.137)	0.008	0.021
201	16.75	0.10	0.029	(0.136)	0.008	0.021
202	16.83	0.10	0.029	(0.135)	0.008	0.021
203	16.92	0.10	0.029	(0.135)	0.008	0.021
204	17.00	0.10	0.029	(0.134)	0.008	0.021
205	17.08	0.17	0.048	(0.133)	0.013	0.035
206	17.17	0.17	0.048	(0.133)	0.013	0.035
207	17.25	0.17	0.048	(0.132)	0.013	0.035
208	17.33	0.17	0.048	(0.131)	0.013	0.035
209	17.42	0.17	0.048	(0.131)	0.013	0.035
210	17.50	0.17	0.048	(0.130)	0.013	0.035
211	17.58	0.17	0.048	(0.129)	0.013	0.035
212	17.67	0.17	0.048	(0.129)	0.013	0.035
213	17.75	0.17	0.048	(0.128)	0.013	0.035
214	17.83	0.13	0.038	(0.128)	0.010	0.028
215	17.92	0.13	0.038	(0.127)	0.010	0.028
216	18.00	0.13	0.038	(0.126)	0.010	0.028
217	18.08	0.13	0.038	(0.126)	0.010	0.028
218	18.17	0.13	0.038	(0.125)	0.010	0.028
219	18.25	0.13	0.038	(0.124)	0.010	0.028
220	18.33	0.13	0.038	(0.124)	0.010	0.028
221	18.42	0.13	0.038	(0.123)	0.010	0.028
222	18.50	0.13	0.038	(0.123)	0.010	0.028
223	18.58	0.10	0.029	(0.122)	0.008	0.021
224	18.67	0.10	0.029	(0.121)	0.008	0.021
225	18.75	0.10	0.029	(0.121)	0.008	0.021
226	18.83	0.07	0.019	(0.120)	0.005	0.014
227	18.92	0.07	0.019	(0.120)	0.005	0.014
228	19.00	0.07	0.019	(0.119)	0.005	0.014
229	19.08	0.10	0.029	(0.119)	0.008	0.021
230	19.17	0.10	0.029	(0.118)	0.008	0.021
231	19.25	0.10	0.029	(0.117)	0.008	0.021
232	19.33	0.13	0.038	(0.117)	0.010	0.028
233	19.42	0.13	0.038	(0.116)	0.010	0.028
234	19.50	0.13	0.038	(0.116)	0.010	0.028
235	19.58	0.10	0.029	(0.115)	0.008	0.021
236	19.67	0.10	0.029	(0.115)	0.008	0.021
237	19.75	0.10	0.029	(0.114)	0.008	0.021
238	19.83	0.07	0.019	(0.114)	0.005	0.014
239	19.92	0.07	0.019	(0.113)	0.005	0.014
240	20.00	0.07	0.019	(0.113)	0.005	0.014
241	20.08	0.10	0.029	(0.112)	0.008	0.021
242	20.17	0.10	0.029	(0.112)	0.008	0.021
243	20.25	0.10	0.029	(0.111)	0.008	0.021
244	20.33	0.10	0.029	(0.111)	0.008	0.021
245	20.42	0.10	0.029	(0.110)	0.008	0.021
246	20.50	0.10	0.029	(0.110)	0.008	0.021
247	20.58	0.10	0.029	(0.109)	0.008	0.021
248	20.67	0.10	0.029	(0.109)	0.008	0.021
249	20.75	0.10	0.029	(0.108)	0.008	0.021
250	20.83	0.07	0.019	(0.108)	0.005	0.014
251	20.92	0.07	0.019	(0.108)	0.005	0.014
252	21.00	0.07	0.019	(0.107)	0.005	0.014
253	21.08	0.10	0.029	(0.107)	0.008	0.021
254	21.17	0.10	0.029	(0.106)	0.008	0.021
255	21.25	0.10	0.029	(0.106)	0.008	0.021
256	21.33	0.07	0.019	(0.105)	0.005	0.014
257	21.42	0.07	0.019	(0.105)	0.005	0.014
258	21.50	0.07	0.019	(0.105)	0.005	0.014
259	21.58	0.10	0.029	(0.104)	0.008	0.021
260	21.67	0.10	0.029	(0.104)	0.008	0.021
261	21.75	0.10	0.029	(0.104)	0.008	0.021
262	21.83	0.07	0.019	(0.103)	0.005	0.014
263	21.92	0.07	0.019	(0.103)	0.005	0.014
264	22.00	0.07	0.019	(0.103)	0.005	0.014
265	22.08	0.10	0.029	(0.102)	0.008	0.021
266	22.17	0.10	0.029	(0.102)	0.008	0.021
267	22.25	0.10	0.029	(0.102)	0.008	0.021
268	22.33	0.07	0.019	(0.101)	0.005	0.014
269	22.42	0.07	0.019	(0.101)	0.005	0.014
270	22.50	0.07	0.019	(0.101)	0.005	0.014
271	22.58	0.07	0.019	(0.100)	0.005	0.014
272	22.67	0.07	0.019	(0.100)	0.005	0.014

273	22.75	0.07	0.019	(0.100)	0.005	0.014
274	22.83	0.07	0.019	(0.099)	0.005	0.014
275	22.92	0.07	0.019	(0.099)	0.005	0.014
276	23.00	0.07	0.019	(0.099)	0.005	0.014
277	23.08	0.07	0.019	(0.099)	0.005	0.014
278	23.17	0.07	0.019	(0.099)	0.005	0.014
279	23.25	0.07	0.019	(0.098)	0.005	0.014
280	23.33	0.07	0.019	(0.098)	0.005	0.014
281	23.42	0.07	0.019	(0.098)	0.005	0.014
282	23.50	0.07	0.019	(0.098)	0.005	0.014
283	23.58	0.07	0.019	(0.098)	0.005	0.014
284	23.67	0.07	0.019	(0.097)	0.005	0.014
285	23.75	0.07	0.019	(0.097)	0.005	0.014
286	23.83	0.07	0.019	(0.097)	0.005	0.014
287	23.92	0.07	0.019	(0.097)	0.005	0.014
288	24.00	0.07	0.019	(0.097)	0.005	0.014

(Loss Rate Not Used)

Sum = 100.0 Sum = 21.0

Flood volume = Effective rainfall 1.75(In)
times area 2.9(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.65(In)
Total soil loss = 0.157(Ac.Ft)
Total rainfall = 2.40(In)
Flood volume = 18443.2 Cubic Feet
Total soil loss = 6821.5 Cubic Feet

Peak flow rate of this hydrograph = 0.697(CFS)

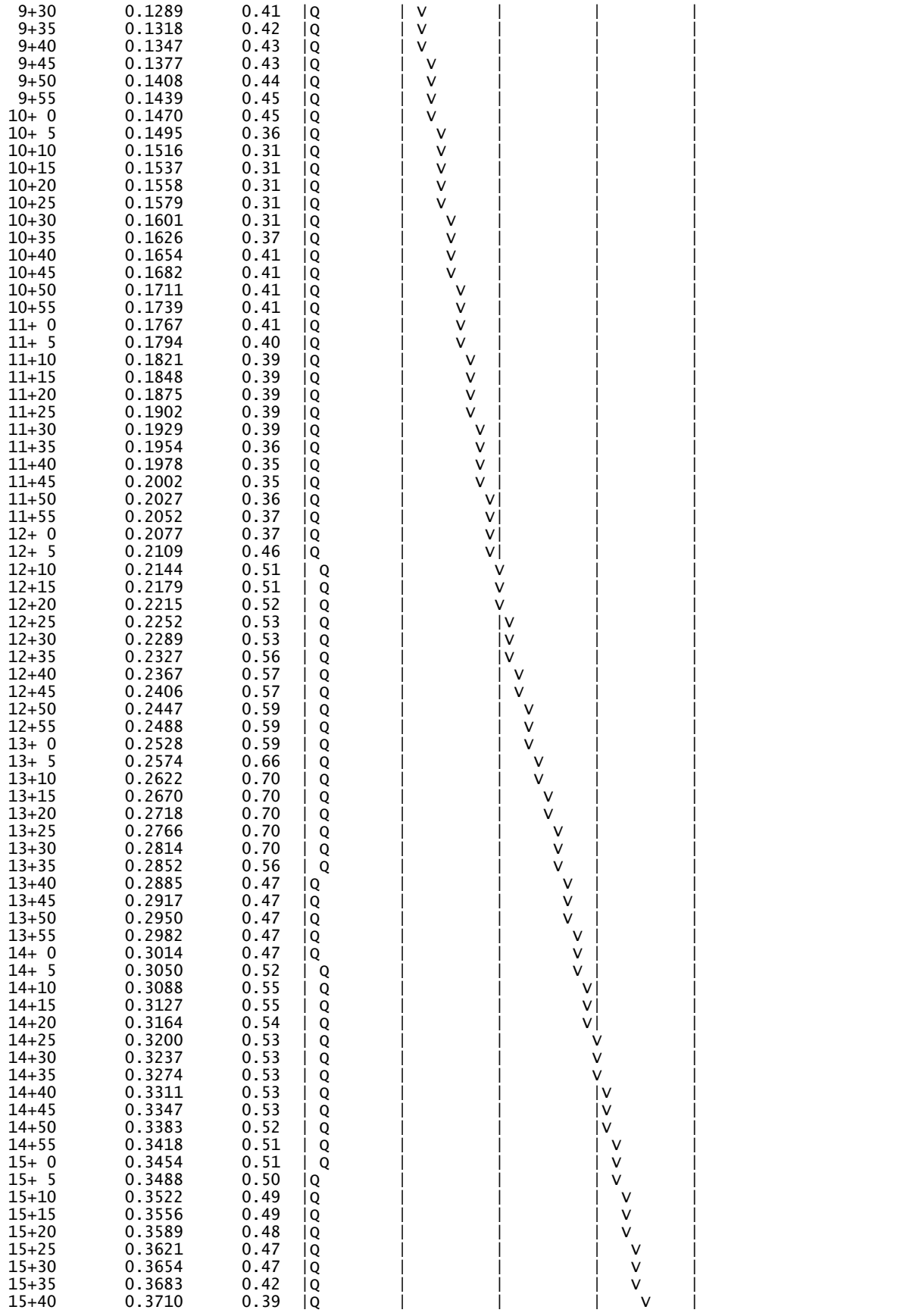
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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q				
0+10	0.0005	0.04	Q				
0+15	0.0007	0.04	Q				
0+20	0.0011	0.05	Q				
0+25	0.0015	0.06	Q				
0+30	0.0019	0.06	Q				
0+35	0.0024	0.06	Q				
0+40	0.0028	0.06	Q				
0+45	0.0032	0.06	Q				
0+50	0.0037	0.07	Q				
0+55	0.0043	0.08	Q				
1+ 0	0.0049	0.08	Q				
1+ 5	0.0053	0.07	Q				
1+10	0.0058	0.06	Q				
1+15	0.0062	0.06	Q				
1+20	0.0066	0.06	Q				
1+25	0.0070	0.06	Q				
1+30	0.0075	0.06	Q				
1+35	0.0079	0.06	Q				
1+40	0.0083	0.06	Q				
1+45	0.0087	0.06	Q				
1+50	0.0092	0.07	Q				
1+55	0.0098	0.08	Q				
2+ 0	0.0104	0.08	Q				
2+ 5	0.0109	0.08	QV				
2+10	0.0115	0.08	QV				
2+15	0.0121	0.08	QV				
2+20	0.0126	0.08	QV				
2+25	0.0132	0.08	QV				
2+30	0.0137	0.08	QV				
2+35	0.0144	0.09	QV				
2+40	0.0151	0.10	QV				
2+45	0.0158	0.10	QV				
2+50	0.0165	0.10	QV				
2+55	0.0172	0.10	QV				
3+ 0	0.0179	0.10	QV				
3+ 5	0.0186	0.10	QV				
3+10	0.0193	0.10	QV				

```
3+15       0.0200      0.10  QV         |          |          |          |
3+20       0.0207      0.10  QV         |          |          |          |
3+25       0.0215      0.10  Q V        |          |          |          |
3+30       0.0222      0.10  Q V        |          |          |          |
3+35       0.0229      0.10  Q V        |          |          |          |
3+40       0.0236      0.10  Q V        |          |          |          |
3+45       0.0243      0.10  Q V        |          |          |          |
3+50       0.0251      0.12  Q V        |          |          |          |
3+55       0.0259      0.12  Q V        |          |          |          |
4+ 0       0.0268      0.12  Q V        |          |          |          |
4+ 5       0.0276      0.12  Q V        |          |          |          |
4+10       0.0285      0.12  Q V        |          |          |          |
4+15       0.0293      0.12  Q V        |          |          |          |
4+20       0.0302      0.14  Q V        |          |          |          |
4+25       0.0312      0.14  Q V        |          |          |          |
4+30       0.0322      0.14  Q  V       |          |          |          |
4+35       0.0332      0.14  Q  V       |          |          |          |
4+40       0.0342      0.14  Q  V       |          |          |          |
4+45       0.0352      0.14  Q  V       |          |          |          |
4+50       0.0362      0.16  Q  V       |          |          |          |
4+55       0.0374      0.16  Q  V       |          |          |          |
5+ 0       0.0385      0.16  Q  V       |          |          |          |
5+ 5       0.0395      0.14  Q  V       |          |          |          |
5+10       0.0403      0.12  Q  V       |          |          |          |
5+15       0.0412      0.12  Q  V       |          |          |          |
5+20       0.0421      0.14  Q  V       |          |          |          |
5+25       0.0431      0.14  Q   V      |          |          |          |
5+30       0.0441      0.14  Q   V      |          |          |          |
5+35       0.0451      0.16  Q   V      |          |          |          |
5+40       0.0463      0.16  Q   V      |          |          |          |
5+45       0.0474      0.16  Q   V      |          |          |          |
5+50       0.0485      0.16  Q   V      |          |          |          |
5+55       0.0497      0.16  Q   V      |          |          |          |
6+ 0       0.0508      0.16  Q   V      |          |          |          |
6+ 5       0.0520      0.18  Q   V      |          |          |          |
6+10       0.0533      0.18  Q    V     |          |          |          |
6+15       0.0545      0.18  Q    V     |          |          |          |
6+20       0.0558      0.18  Q    V     |          |          |          |
6+25       0.0571      0.18  Q    V     |          |          |          |
6+30       0.0584      0.18  Q    V     |          |          |          |
6+35       0.0597      0.20  Q    V     |          |          |          |
6+40       0.0611      0.20  Q    V     |          |          |          |
6+45       0.0625      0.20  Q    V     |          |          |          |
6+50       0.0639      0.20  Q     V    |          |          |          |
6+55       0.0654      0.20  Q     V    |          |          |          |
7+ 0       0.0668      0.20  Q     V    |          |          |          |
7+ 5       0.0682      0.20  Q     V    |          |          |          |
7+10       0.0696      0.20  Q     V    |          |          |          |
7+15       0.0710      0.20  Q     V    |          |          |          |
7+20       0.0725      0.22  Q     V    |          |          |          |
7+25       0.0740      0.23  Q     V    |          |          |          |
7+30       0.0756      0.23  Q      V   |          |          |          |
7+35       0.0772      0.24  Q      V   |          |          |          |
7+40       0.0789      0.25  Q      V   |          |          |          |
7+45       0.0806      0.25  Q      V   |          |          |          |
7+50       0.0824      0.26  |Q     V   |          |          |          |
7+55       0.0842      0.27  |Q     V   |          |          |          |
8+ 0       0.0861      0.27  |Q      V  |          |          |          |
8+ 5       0.0881      0.29  |Q      V  |          |          |          |
8+10       0.0902      0.31  |Q      V  |          |          |          |
8+15       0.0923      0.31  |Q      V  |          |          |          |
8+20       0.0944      0.31  |Q      V  |          |          |          |
8+25       0.0965      0.31  |Q       V|          |          |          |
8+30       0.0987      0.31  |Q       V|          |          |          |
8+35       0.1009      0.32  |Q       V|          |          |          |
8+40       0.1031      0.33  |Q       V|          |          |          |
8+45       0.1054      0.33  |Q       V|          |          |          |
8+50       0.1077      0.34  |Q        V          |          |          |
8+55       0.1101      0.35  |Q        V          |          |          |
9+ 0       0.1125      0.35  |Q        V          |          |          |
9+ 5       0.1151      0.37  |Q        V          |          |          |
9+10       0.1178      0.39  |Q         |V        |          |          |
9+15       0.1205      0.39  |Q         |V        |          |          |
9+20       0.1232      0.40  |Q         |V        |          |          |
9+25       0.1260      0.41  |Q         |V        |          |          |
```



15+45	0.3736	0.39	|Q	|	|	|	V |
15+50	0.3763	0.39	|Q	|	|	|	V |
15+55	0.3790	0.39	|Q	|	|	|	V |
16+ 0	0.3817	0.39	|Q	|	|	|	V |
16+ 5	0.3831	0.20	Q	|	|	|	V |
16+10	0.3837	0.09	Q	|	|	|	V |
16+15	0.3842	0.08	Q	|	|	|	V |
16+20	0.3848	0.08	Q	|	|	|	V |
16+25	0.3854	0.08	Q	|	|	|	V |
16+30	0.3859	0.08	Q	|	|	|	V |
16+35	0.3864	0.07	Q	|	|	|	V |
16+40	0.3868	0.06	Q	|	|	|	V |
16+45	0.3872	0.06	Q	|	|	|	V |
16+50	0.3877	0.06	Q	|	|	|	V |
16+55	0.3881	0.06	Q	|	|	|	V |
17+ 0	0.3885	0.06	Q	|	|	|	V |
17+ 5	0.3891	0.09	Q	|	|	|	V |
17+10	0.3898	0.10	Q	|	|	|	V |
17+15	0.3905	0.10	Q	|	|	|	V |
17+20	0.3912	0.10	Q	|	|	|	V |
17+25	0.3919	0.10	Q	|	|	|	V |
17+30	0.3926	0.10	Q	|	|	|	V |
17+35	0.3933	0.10	Q	|	|	|	V |
17+40	0.3940	0.10	Q	|	|	|	V |
17+45	0.3948	0.10	Q	|	|	|	V |
17+50	0.3954	0.09	Q	|	|	|	V |
17+55	0.3959	0.08	Q	|	|	|	V |
18+ 0	0.3965	0.08	Q	|	|	|	V |
18+ 5	0.3971	0.08	Q	|	|	|	V |
18+10	0.3976	0.08	Q	|	|	|	V |
18+15	0.3982	0.08	Q	|	|	|	V |
18+20	0.3988	0.08	Q	|	|	|	V |
18+25	0.3993	0.08	Q	|	|	|	V |
18+30	0.3999	0.08	Q	|	|	|	V |
18+35	0.4004	0.07	Q	|	|	|	V |
18+40	0.4008	0.06	Q	|	|	|	V |
18+45	0.4012	0.06	Q	|	|	|	V |
18+50	0.4015	0.05	Q	|	|	|	V |
18+55	0.4018	0.04	Q	|	|	|	V |
19+ 0	0.4021	0.04	Q	|	|	|	V |
19+ 5	0.4025	0.05	Q	|	|	|	V |
19+10	0.4029	0.06	Q	|	|	|	V |
19+15	0.4033	0.06	Q	|	|	|	V |
19+20	0.4038	0.07	Q	|	|	|	V |
19+25	0.4044	0.08	Q	|	|	|	V |
19+30	0.4050	0.08	Q	|	|	|	V |
19+35	0.4054	0.07	Q	|	|	|	V |
19+40	0.4059	0.06	Q	|	|	|	V |
19+45	0.4063	0.06	Q	|	|	|	V |
19+50	0.4066	0.05	Q	|	|	|	V |
19+55	0.4069	0.04	Q	|	|	|	V |
20+ 0	0.4072	0.04	Q	|	|	|	V |
20+ 5	0.4076	0.05	Q	|	|	|	V |
20+10	0.4080	0.06	Q	|	|	|	V |
20+15	0.4084	0.06	Q	|	|	|	V |
20+20	0.4088	0.06	Q	|	|	|	V |
20+25	0.4093	0.06	Q	|	|	|	V |
20+30	0.4097	0.06	Q	|	|	|	V |
20+35	0.4101	0.06	Q	|	|	|	V |
20+40	0.4105	0.06	Q	|	|	|	V |
20+45	0.4110	0.06	Q	|	|	|	V |
20+50	0.4113	0.05	Q	|	|	|	V |
20+55	0.4116	0.04	Q	|	|	|	V |
21+ 0	0.4119	0.04	Q	|	|	|	V |
21+ 5	0.4122	0.05	Q	|	|	|	V |
21+10	0.4126	0.06	Q	|	|	|	V |
21+15	0.4131	0.06	Q	|	|	|	V|
21+20	0.4134	0.05	Q	|	|	|	V|
21+25	0.4137	0.04	Q	|	|	|	V|
21+30	0.4140	0.04	Q	|	|	|	V|
21+35	0.4143	0.05	Q	|	|	|	V|
21+40	0.4148	0.06	Q	|	|	|	V|
21+45	0.4152	0.06	Q	|	|	|	V|
21+50	0.4155	0.05	Q	|	|	|	V|
21+55	0.4158	0.04	Q	|	|	|	V|

```
  22+ 0       0.4161      0.04  Q          |          |          |         v|
  22+ 5       0.4165      0.05  Q          |          |          |         v|
  22+10       0.4169      0.06  Q          |          |          |         v|
  22+15       0.4173      0.06  Q          |          |          |         v|
  22+20       0.4176      0.05  Q          |          |          |         v|
  22+25       0.4179      0.04  Q          |          |          |         v|
  22+30       0.4182      0.04  Q          |          |          |         v|
  22+35       0.4185      0.04  Q          |          |          |         v|
  22+40       0.4188      0.04  Q          |          |          |         v|
  22+45       0.4191      0.04  Q          |          |          |         v|
  22+50       0.4193      0.04  Q          |          |          |         v|
  22+55       0.4196      0.04  Q          |          |          |         v|
  23+ 0       0.4199      0.04  Q          |          |          |         v|
  23+ 5       0.4202      0.04  Q          |          |          |         v|
  23+10       0.4205      0.04  Q          |          |          |         v|
  23+15       0.4207      0.04  Q          |          |          |         v|
  23+20       0.4210      0.04  Q          |          |          |         v|
  23+25       0.4213      0.04  Q          |          |          |         v|
  23+30       0.4216      0.04  Q          |          |          |         v|
  23+35       0.4219      0.04  Q          |          |          |         v|
  23+40       0.4222      0.04  Q          |          |          |         v|
  23+45       0.4224      0.04  Q          |          |          |         v|
  23+50       0.4227      0.04  Q          |          |          |         v|
  23+55       0.4230      0.04  Q          |          |          |         v|
  24+ 0       0.4233      0.04  Q          |          |          |         v|
  24+ 5       0.4234      0.02  Q          |          |          |         v|
  24+10       0.4234      0.00  Q          |          |          |          v
-------------------------------------------------------------------------
```

STAGE-STORAGE/OUTFLOW TABLES

BLDG D CMP CHAMBERS D1 - Stage/Storage/Outflow Table

W.O.# 21-0034

Basin Information: CMP CHAMBERS

2-Year	ORIFICE
Q EXISTING	0.91
Opening (in)	4
# of Orifices	1
Area (sf)	0.0873
Opening (ft)	0.3333
Total Area (sf)	0.0873
G (ft/s^2)	32.2
Cd	0.66
Invert H (ft)	2.125

$Q_{ORIFICE}$= Cd*Area*$(2*G*H)^{0.5}$

Q_{WEIR}= C*L*$H^{3/2}$

2-Year

#	Elevation (ft)	Depth (ft)	Storage (cf)	Storage (ac-ft)	H (ft)	Q (cfs)	Total Q (cfs)	Comments
1	2208	0	0.00	0.000			0.00	Bottom of Basin/Invert of 2-Yr Orifice
2	2208.167	**0.16667**	**729.89**	**0.017**	0			Middle of 2-Yr Orifice
3	**2208.5**	**0.5**	**2189.67**	**0.050**	**0.333333333**	0.27	0.27	
4	2209	1	**6070.75**	**0.139**	**0.833333333**	0.42	0.42	
5	**2209.5**	1.5	**10921.83**	**0.251**	**1.333333333**	0.53	0.53	
6	2210	2	**16450.33**	**0.378**	**1.833333333**	0.63	0.63	
7	**2210.5**	2.5	**22465.49**	**0.516**	**2.333333333**	0.71	0.71	
8	2211	3	**28821.05**	**0.662**	**2.833333333**	0.78	0.78	
9	**2211.5**	**3.5**	**35393.69**	**0.813**	**3.333333333**	**0.84**	0.84	
10	2212	4	**42072.21**	**0.966**	**3.833333333**	0.90	0.90	
11	**2212.5**	4.5	**48750.73**	**1.119**	**4.333333333**	0.96	0.96	
12	2213	5	**55323.37**	**1.270**	**4.833333333**	1.02	1.02	
13	**2213.5**	5.5	**61678.93**	**1.416**	**5.333333333**	1.07	1.07	
14	2214	6	**67694.09**	**1.554**	**5.833333333**	1.12	1.12	
15	**2214.5**	6.5	**73222.59**	**1.681**	**6.333333333**	1.16	1.16	
16	2215	7	**78073.67**	**1.792**	**6.833333333**	1.21	1.21	
17	**2215.5**	7.50	**81954.75**	**1.881**	**7.333333333**	1.25	1.25	
18	2216	8	**84144.42**	**1.932**	**7.833333333**	1.29	1.29	Top of chambers

BLDG D CMP CHAMBERS D2- Stage/Storage/Outflow Table

W.O.# 20-0258

Basin Information: CMP CHAMBERS

2-Year	ORIFICE
Q EXISTING	1.1
Opening (in)	4.5
# of Orifices	1
Area (sf)	0.1104
Opening (ft)	0.3750
Total Area (sf)	0.1104
G (ft/s^2)	32.2
Cd	0.66
Invert H (ft)	2.125

$Q_{ORIFICE}$= $Cd*Area*(2*G*H)^{0.5}$

Q_{WEIR}= $C*L*H^{3/2}$

2-Year

#	Elevation (ft)	Depth (ft)	Storage (cf)	Storage (ac-ft)	H (ft)	Q (cfs)	Total Q (cfs)	Comments
1	2208	0	0.00	0.000			0.00	Bottom of Basin/Invert of 2-Yr Orifice
2	2208.188	**0.1875**	**781.89**	**0.018**	0			Middle of 2-Yr Orifice
3	**2208.5**	**0.5**	**2085.03**	**0.048**	**0.3125**	0.33	0.33	
4	2209	1	**5780.63**	**0.133**	**0.8125**	0.53	0.53	
5	**2209.5**	1.5	**10399.88**	**0.239**	**1.3125**	0.67	0.67	
6	2210	2	**15664.17**	**0.360**	**1.8125**	0.79	0.79	
7	**2210.5**	2.5	**21391.87**	**0.491**	**2.3125**	0.89	0.89	
8	2211	3	**27443.70**	**0.630**	**2.8125**	0.98	0.98	
9	**2211.5**	**3.5**	**33702.23**	**0.774**	**3.3125**	**1.06**	1.06	
10	2212	4	**40061.59**	**0.920**	**3.8125**	1.14	1.14	
11	**2212.5**	4.5	**46420.95**	**1.066**	**4.3125**	1.21	1.21	
12	2213	5	**52679.48**	**1.209**	**4.8125**	1.28	1.28	
13	**2213.5**	5.5	**58731.31**	**1.348**	**5.3125**	1.35	1.35	
14	2214	6	**64459.01**	**1.480**	**5.8125**	1.41	1.41	
15	**2214.5**	6.5	**69723.30**	**1.601**	**6.3125**	1.47	1.47	
16	2215	7	**74342.55**	**1.707**	**6.8125**	1.53	1.53	
17	**2215.5**	7.50	**78038.15**	**1.792**	**7.3125**	1.58	1.58	
18	2216	8	**80123.18**	**1.839**	**7.8125**	1.64	1.64	Top of chambers

BLDG D CMP CHAMBERS D3 - Stage/Storage/Outflow Table

W.O.# 21-0034

Basin Information: CMP CHAMBERS

$Q_{ORIFICE}$= Cd*Area*(2*G*H)$^{0.5}$

Q_{WEIR}= C*L*H$^{3/2}$

2-Year	ORIFICE
Q EXISTING	0.22
Opening (in)	2
# of Orifices	1
Area (sf)	0.0218
Opening (ft)	0.1667
Total Area (sf)	0.0218
G (ft/s^2)	32.2
Cd	0.66
Invert H (ft)	2.125

2-Year

#	Elevation (ft)	Depth (ft)	Storage (cf)	Storage (ac-ft)	H (ft)	Q (cfs)	Total Q (cfs)	Comments
1	2208	0	0.00	0.000			0.00	Bottom of Basin/Invert of 2-Yr Orifice
2	2208.083	**0.08333**	**75.21**	**0.002**	0			Middle of 2-Yr Orifice
3	**2208.5**	**0.5**	**451.28**	**0.010**	**0.416666667**	0.07	0.07	
4	2209	1	**1251.14**	**0.029**	**0.916666667**	0.11	0.11	
5	**2209.5**	1.5	**2250.91**	**0.052**	**1.416666667**	0.14	0.14	
6	2210	2	**3390.30**	**0.078**	**1.916666667**	0.16	0.16	
7	**2210.5**	2.5	**4629.98**	**0.106**	**2.416666667**	0.18	0.18	
8	2211	3	**5939.82**	**0.136**	**2.916666667**	0.20	0.20	
9	**2211.5**	**3.5**	**7294.40**	**0.167**	**3.416666667**	**0.21**	0.21	
10	2212	4	**8670.80**	**0.199**	**3.916666667**	0.23	0.23	
11	**2212.5**	4.5	**10047.19**	**0.231**	**4.416666667**	0.24	0.24	
12	2213	5	**11401.77**	**0.262**	**4.916666667**	0.26	0.26	
13	**2213.5**	5.5	**12711.61**	**0.292**	**5.416666667**	0.27	0.27	
14	2214	6	**13951.29**	**0.320**	**5.916666667**	0.28	0.28	
15	**2214.5**	6.5	**15090.68**	**0.346**	**6.416666667**	0.29	0.29	
16	2215	7	**16090.45**	**0.369**	**6.916666667**	0.30	0.30	
17	**2215.5**	7.50	**16890.32**	**0.388**	**7.416666667**	0.31	0.31	
18	2216	8	**17341.59**	**0.398**	**7.916666667**	0.33	0.33	Top of chambers

BASIN ROUTING (2-YEAR, 24-HOUR STORM EVENT)

FLOOD HYDROGRAPH ROUTING PROGRAM
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Study date: 11/25/21

BCCOV BLDG D AREA 10
2 YR 24 HR STORM EVENT
21-0034
2021-11-25 EP

Program License Serial Number 4010

********** HYDROGRAPH INFORMATION **********

From study/file name: PROP2YRD1242.rte

**********HYDROGRAPH DATA**********

Number of intervals = 292
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 3.388 (CFS)
Total volume = 2.059 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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Process from Point/Station 100.000 to Point/Station 101.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 292
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

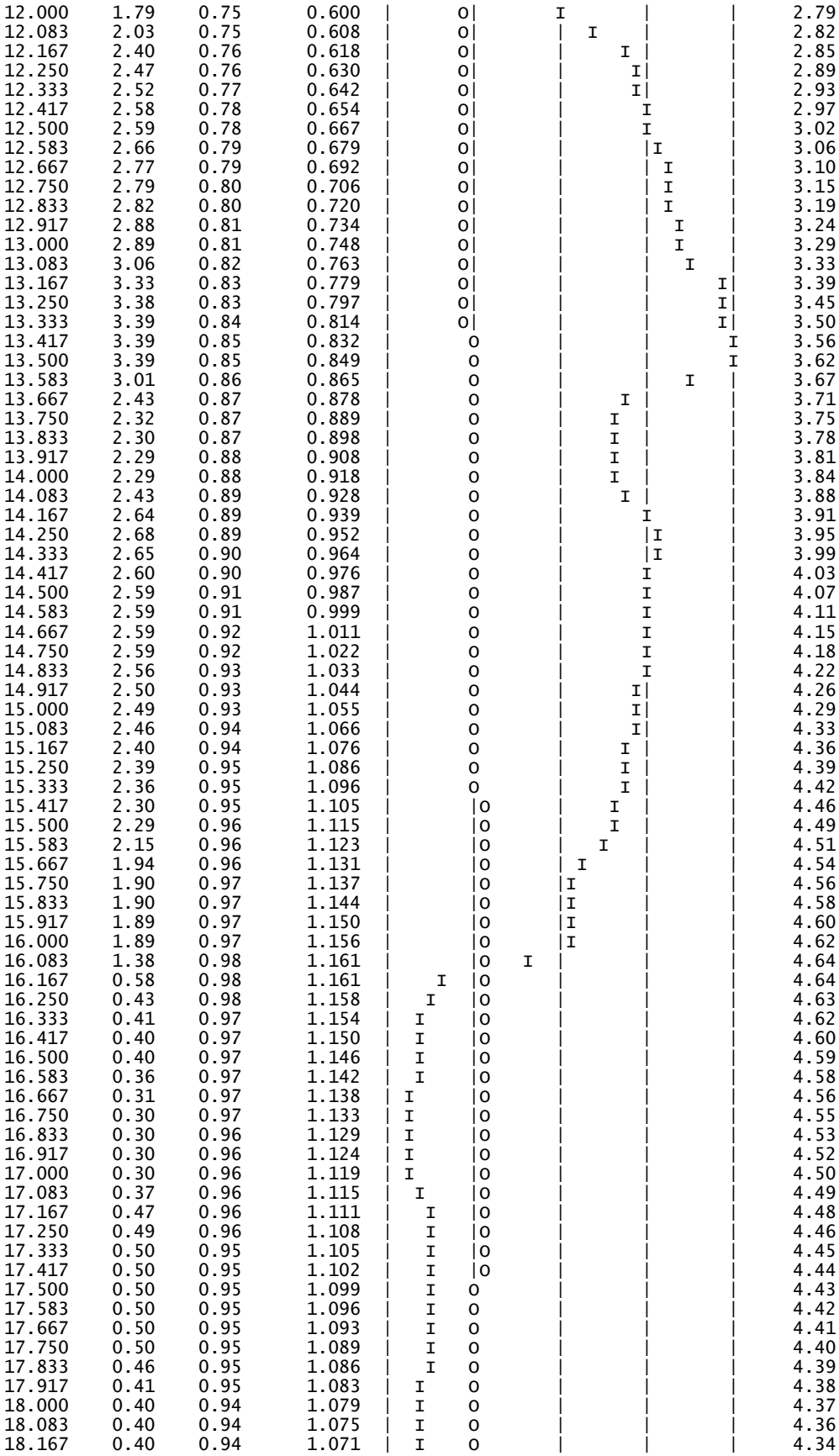
Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.167	0.017	0.001	0.017	0.017
0.500	0.050	0.270	0.049	0.051
1.000	0.139	0.420	0.138	0.140
1.500	0.251	0.530	0.249	0.253
2.000	0.378	0.630	0.376	0.380
2.500	0.516	0.710	0.514	0.518
3.000	0.662	0.780	0.659	0.665
3.500	0.813	0.840	0.810	0.816
4.000	0.966	0.900	0.963	0.969
4.500	1.119	0.960	1.116	1.122
5.000	1.270	1.020	1.266	1.274
5.500	1.416	1.070	1.412	1.420
6.000	1.554	1.120	1.550	1.558
6.500	1.681	1.160	1.677	1.685
7.000	1.792	1.210	1.788	1.796
7.500	1.881	1.250	1.877	1.885
8.000	1.932	1.290	1.928	1.936

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.8	1.69	2.54	3.39	Depth (Ft.)
0.083	0.07	0.00	0.000	O	|	|	|	|	0.00
0.167	0.17	0.00	0.001	OI	|	|	|	|	0.01
0.250	0.19	0.00	0.002	OI	|	|	|	|	0.02
0.333	0.23	0.00	0.004	O I	|	|	|	|	0.04
0.417	0.29	0.00	0.006	O I	|	|	|	|	0.06
0.500	0.30	0.00	0.008	O I	|	|	|	|	0.07
0.583	0.30	0.00	0.010	O I	|	|	|	|	0.09
0.667	0.30	0.00	0.012	O I	|	|	|	|	0.11
0.750	0.30	0.00	0.014	O I	|	|	|	|	0.14
0.833	0.33	0.00	0.016	O I	|	|	|	|	0.16
0.917	0.39	0.01	0.018	O I	|	|	|	|	0.18
1.000	0.40	0.03	0.021	O I	|	|	|	|	0.21
1.083	0.36	0.05	0.023	O I	|	|	|	|	0.23
1.167	0.31	0.07	0.025	O I	|	|	|	|	0.25
1.250	0.30	0.08	0.027	O I	|	|	|	|	0.27
1.333	0.30	0.09	0.028	O I	|	|	|	|	0.28
1.417	0.30	0.10	0.030	O I	|	|	|	|	0.29
1.500	0.30	0.11	0.031	|OI	|	|	|	|	0.31
1.583	0.30	0.12	0.032	|OI	|	|	|	|	0.32
1.667	0.30	0.13	0.033	|OI	|	|	|	|	0.33
1.750	0.30	0.14	0.034	|OI	|	|	|	|	0.34
1.833	0.33	0.15	0.036	|O I	|	|	|	|	0.35
1.917	0.39	0.16	0.037	|O I	|	|	|	|	0.37
2.000	0.40	0.18	0.038	|O I	|	|	|	|	0.38
2.083	0.40	0.19	0.040	|O I	|	|	|	|	0.40
2.167	0.40	0.20	0.041	|O I	|	|	|	|	0.41
2.250	0.40	0.21	0.043	|O I	|	|	|	|	0.43
2.333	0.40	0.22	0.044	| OI	|	|	|	|	0.44
2.417	0.40	0.23	0.045	| OI	|	|	|	|	0.45
2.500	0.40	0.24	0.046	| OI	|	|	|	|	0.46
2.583	0.43	0.25	0.047	| O I	|	|	|	|	0.47
2.667	0.49	0.26	0.049	| O I	|	|	|	|	0.49
2.750	0.50	0.27	0.050	| O I	|	|	|	|	0.50
2.833	0.50	0.27	0.052	| O I	|	|	|	|	0.51
2.917	0.50	0.28	0.054	| O I	|	|	|	|	0.52
3.000	0.50	0.28	0.055	| O I	|	|	|	|	0.53
3.083	0.50	0.28	0.057	| O I	|	|	|	|	0.54
3.167	0.50	0.28	0.058	| O I	|	|	|	|	0.55
3.250	0.50	0.29	0.059	| O I	|	|	|	|	0.55
3.333	0.50	0.29	0.061	| O I	|	|	|	|	0.56
3.417	0.50	0.29	0.062	| O I	|	|	|	|	0.57
3.500	0.50	0.29	0.064	| O I	|	|	|	|	0.58
3.583	0.50	0.30	0.065	| O I	|	|	|	|	0.59
3.667	0.50	0.30	0.067	| O I	|	|	|	|	0.59
3.750	0.50	0.30	0.068	| O I	|	|	|	|	0.60
3.833	0.53	0.30	0.069	| O I	|	|	|	|	0.61
3.917	0.59	0.31	0.071	| O I	|	|	|	|	0.62
4.000	0.60	0.31	0.073	| O I	|	|	|	|	0.63
4.083	0.60	0.31	0.075	| O I	|	|	|	|	0.64
4.167	0.60	0.32	0.077	| O I	|	|	|	|	0.65
4.250	0.60	0.32	0.079	| O I	|	|	|	|	0.66
4.333	0.63	0.32	0.081	| O I	|	|	|	|	0.67
4.417	0.69	0.33	0.083	| O I	|	|	|	|	0.69
4.500	0.70	0.33	0.086	| O I	|	|	|	|	0.70
4.583	0.70	0.33	0.088	| O I	|	|	|	|	0.72
4.667	0.70	0.34	0.091	| O I	|	|	|	|	0.73
4.750	0.70	0.34	0.093	| O I	|	|	|	|	0.74
4.833	0.73	0.35	0.096	| O I	|	|	|	|	0.76
4.917	0.78	0.35	0.099	| O I|	|	|	|	0.77
5.000	0.79	0.36	0.102	| O I|	|	|	|	0.79
5.083	0.73	0.36	0.104	| O I |	|	|	|	0.81
5.167	0.62	0.37	0.107	| O I |	|	|	|	0.82
5.250	0.60	0.37	0.108	| O I |	|	|	|	0.83
5.333	0.63	0.37	0.110	| O I |	|	|	|	0.84
5.417	0.69	0.37	0.112	| O I |	|	|	|	0.85
5.500	0.70	0.38	0.114	| O I |	|	|	|	0.86
5.583	0.73	0.38	0.116	| O I |	|	|	|	0.87
5.667	0.78	0.39	0.119	| O I|	|	|	|	0.89

5.750	0.79	0.39	0.122	o I				0.90
5.833	0.80	0.40	0.124	o I				0.92
5.917	0.80	0.40	0.127	o I				0.93
6.000	0.80	0.40	0.130	o I				0.95
6.083	0.83	0.41	0.133	o I				0.96
6.167	0.88	0.41	0.136	o I				0.98
6.250	0.89	0.42	0.139	o I				1.00
6.333	0.90	0.42	0.142	o I				1.01
6.417	0.90	0.43	0.146	o I				1.03
6.500	0.90	0.43	0.149	o I				1.04
6.583	0.93	0.43	0.152	o I				1.06
6.667	0.98	0.44	0.156	o I				1.07
6.750	0.99	0.44	0.160	o I				1.09
6.833	1.00	0.44	0.163	o I				1.11
6.917	1.00	0.45	0.167	o I				1.13
7.000	1.00	0.45	0.171	o I				1.14
7.083	1.00	0.45	0.175	o I				1.16
7.167	1.00	0.46	0.178	o I				1.18
7.250	1.00	0.46	0.182	o I				1.19
7.333	1.03	0.47	0.186	o I				1.21
7.417	1.08	0.47	0.190	o I				1.23
7.500	1.09	0.47	0.194	o I				1.25
7.583	1.13	0.48	0.198	o I				1.27
7.667	1.18	0.48	0.203	o I				1.29
7.750	1.19	0.49	0.208	o I				1.31
7.833	1.23	0.49	0.213	o I				1.33
7.917	1.28	0.50	0.218	o I				1.35
8.000	1.29	0.50	0.224	o I				1.38
8.083	1.36	0.51	0.229	o I				1.40
8.167	1.47	0.51	0.236	o I				1.43
8.250	1.49	0.52	0.242	o I				1.46
8.333	1.49	0.53	0.249	o I				1.49
8.417	1.49	0.53	0.255	o I				1.52
8.500	1.49	0.54	0.262	o I				1.54
8.583	1.53	0.54	0.269	o I				1.57
8.667	1.58	0.55	0.276	o I				1.60
8.750	1.59	0.56	0.283	o I				1.63
8.833	1.63	0.56	0.290	o I				1.65
8.917	1.68	0.57	0.298	o I				1.68
9.000	1.69	0.57	0.305	o I				1.71
9.083	1.76	0.58	0.313	o I				1.74
9.167	1.87	0.59	0.322	o I				1.78
9.250	1.89	0.59	0.331	o I				1.81
9.333	1.93	0.60	0.340	o I				1.85
9.417	1.98	0.61	0.349	o I				1.89
9.500	1.99	0.61	0.358	o I				1.92
9.583	2.03	0.62	0.368	o I				1.96
9.667	2.08	0.63	0.378	o I				2.00
9.750	2.09	0.64	0.388	o I				2.04
9.833	2.13	0.64	0.398	o I				2.07
9.917	2.18	0.65	0.408	o I				2.11
10.000	2.19	0.65	0.419	o I				2.15
10.083	1.95	0.66	0.429	o I				2.18
10.167	1.58	0.66	0.436	o I				2.21
10.250	1.51	0.67	0.442	o I				2.23
10.333	1.50	0.67	0.448	o I				2.25
10.417	1.49	0.67	0.454	o I				2.27
10.500	1.49	0.68	0.459	o I				2.29
10.583	1.67	0.68	0.465	o I				2.32
10.667	1.93	0.69	0.473	o I				2.34
10.750	1.98	0.69	0.482	o I				2.38
10.833	1.99	0.70	0.491	o I				2.41
10.917	1.99	0.70	0.500	o I				2.44
11.000	1.99	0.71	0.509	o I				2.47
11.083	1.96	0.71	0.517	o I				2.50
11.167	1.91	0.71	0.526	o I				2.53
11.250	1.90	0.72	0.534	o I				2.56
11.333	1.89	0.72	0.542	o I				2.59
11.417	1.89	0.73	0.550	o I				2.62
11.500	1.89	0.73	0.558	o I				2.64
11.583	1.82	0.73	0.566	o I				2.67
11.667	1.72	0.74	0.573	o I				2.69
11.750	1.70	0.74	0.580	o I				2.72
11.833	1.73	0.74	0.586	o I				2.74
11.917	1.78	0.75	0.593	o I				2.76



18.250	0.40	0.94	1.068	| I o |	|	|	4.33
18.333	0.40	0.94	1.064	| I o |	|	|	4.32
18.417	0.40	0.94	1.060	| I o |	|	|	4.31
18.500	0.40	0.94	1.057	| I o |	|	|	4.30
18.583	0.36	0.93	1.053	| I o |	|	|	4.28
18.667	0.31	0.93	1.049	| I o |	|	|	4.27
18.750	0.30	0.93	1.044	| I o |	|	|	4.26
18.833	0.27	0.93	1.040	| I o |	|	|	4.24
18.917	0.21	0.93	1.035	|I o |	|	|	4.23
19.000	0.20	0.93	1.030	|I o |	|	|	4.21
19.083	0.23	0.92	1.025	| I o |	|	|	4.19
19.167	0.29	0.92	1.021	| I o |	|	|	4.18
19.250	0.30	0.92	1.016	| I o |	|	|	4.16
19.333	0.33	0.92	1.012	| I o |	|	|	4.15
19.417	0.39	0.92	1.008	| I o |	|	|	4.14
19.500	0.40	0.92	1.005	| I o |	|	|	4.13
19.583	0.36	0.91	1.001	| I o |	|	|	4.11
19.667	0.31	0.91	0.997	| I o |	|	|	4.10
19.750	0.30	0.91	0.993	| I o |	|	|	4.09
19.833	0.27	0.91	0.989	| I o |	|	|	4.07
19.917	0.21	0.91	0.984	|I o |	|	|	4.06
20.000	0.20	0.91	0.979	|I o |	|	|	4.04
20.083	0.23	0.90	0.975	| I o |	|	|	4.03
20.167	0.29	0.90	0.970	| I o |	|	|	4.01
20.250	0.30	0.90	0.966	| I o |	|	|	4.00
20.333	0.30	0.90	0.962	| I o |	|	|	3.99
20.417	0.30	0.90	0.958	| I o |	|	|	3.97
20.500	0.30	0.90	0.954	| I o |	|	|	3.96
20.583	0.30	0.89	0.949	| I o |	|	|	3.95
20.667	0.30	0.89	0.945	| I o |	|	|	3.93
20.750	0.30	0.89	0.941	| I o |	|	|	3.92
20.833	0.26	0.89	0.937	| I o |	|	|	3.91
20.917	0.21	0.89	0.933	|I o |	|	|	3.89
21.000	0.20	0.89	0.928	|I o |	|	|	3.88
21.083	0.23	0.88	0.923	| I o |	|	|	3.86
21.167	0.29	0.88	0.919	| I o |	|	|	3.85
21.250	0.30	0.88	0.915	| I o |	|	|	3.83
21.333	0.26	0.88	0.911	| I o |	|	|	3.82
21.417	0.21	0.88	0.907	|I o |	|	|	3.81
21.500	0.20	0.87	0.902	|I o |	|	|	3.79
21.583	0.23	0.87	0.897	| I o |	|	|	3.78
21.667	0.29	0.87	0.893	| I o |	|	|	3.76
21.750	0.30	0.87	0.889	| I o |	|	|	3.75
21.833	0.26	0.87	0.885	| I o |	|	|	3.74
21.917	0.21	0.87	0.881	|I o |	|	|	3.72
22.000	0.20	0.86	0.876	|I o |	|	|	3.71
22.083	0.23	0.86	0.872	| I o |	|	|	3.69
22.167	0.29	0.86	0.868	| I o |	|	|	3.68
22.250	0.30	0.86	0.864	| I o |	|	|	3.67
22.333	0.26	0.86	0.860	| I o |	|	|	3.65
22.417	0.21	0.86	0.855	|I o |	|	|	3.64
22.500	0.20	0.85	0.851	|I o |	|	|	3.62
22.583	0.20	0.85	0.847	|I o |	|	|	3.61
22.667	0.20	0.85	0.842	|I o |	|	|	3.59
22.750	0.20	0.85	0.838	|I o |	|	|	3.58
22.833	0.20	0.85	0.833	|I o |	|	|	3.57
22.917	0.20	0.85	0.829	|I o|	|	|	3.55
23.000	0.20	0.84	0.824	|I o|	|	|	3.54
23.083	0.20	0.84	0.820	|I o|	|	|	3.52
23.167	0.20	0.84	0.815	|I o|	|	|	3.51
23.250	0.20	0.84	0.811	|I o|	|	|	3.49
23.333	0.20	0.84	0.806	|I o|	|	|	3.48
23.417	0.20	0.84	0.802	|I o|	|	|	3.46
23.500	0.20	0.83	0.798	|I o|	|	|	3.45
23.583	0.20	0.83	0.793	|I o|	|	|	3.43
23.667	0.20	0.83	0.789	|I o|	|	|	3.42
23.750	0.20	0.83	0.785	|I o|	|	|	3.41
23.833	0.20	0.83	0.780	|I o|	|	|	3.39
23.917	0.20	0.83	0.776	|I o|	|	|	3.38
24.000	0.20	0.82	0.772	|I o|	|	|	3.36
24.083	0.13	0.82	0.767	|I o|	|	|	3.35
24.167	0.02	0.82	0.762	I o|	|	|	3.33
24.250	0.00	0.82	0.757	I o|	|	|	3.31
24.333	0.00	0.82	0.751	I o|	|	|	3.29
24.417	0.00	0.81	0.745	I o|	|	|	3.28

24.500	0.00	0.81	0.740	I	o	|	|	|	3.26
24.583	0.00	0.81	0.734	I	o	|	|	|	3.24
24.667	0.00	0.81	0.729	I	o	|	|	|	3.22
24.750	0.00	0.80	0.723	I	o	|	|	|	3.20
24.833	0.00	0.80	0.717	I	o	|	|	|	3.18
24.917	0.00	0.80	0.712	I	o	|	|	|	3.17
25.000	0.00	0.80	0.706	I	o	|	|	|	3.15
25.083	0.00	0.80	0.701	I	o	|	|	|	3.13
25.167	0.00	0.79	0.696	I	o	|	|	|	3.11
25.250	0.00	0.79	0.690	I	o	|	|	|	3.09
25.333	0.00	0.79	0.685	I	o	|	|	|	3.07
25.417	0.00	0.79	0.679	I	o	|	|	|	3.06
25.500	0.00	0.78	0.674	I	o	|	|	|	3.04
25.583	0.00	0.78	0.668	I	o	|	|	|	3.02
25.667	0.00	0.78	0.663	I	o	|	|	|	3.00
25.750	0.00	0.78	0.658	I	o	|	|	|	2.99
25.833	0.00	0.78	0.652	I	o	|	|	|	2.97
25.917	0.00	0.77	0.647	I	o	|	|	|	2.95
26.000	0.00	0.77	0.642	I	o	|	|	|	2.93
26.083	0.00	0.77	0.636	I	o	|	|	|	2.91
26.167	0.00	0.77	0.631	I	o	|	|	|	2.89
26.250	0.00	0.76	0.626	I	o	|	|	|	2.88
26.333	0.00	0.76	0.621	I	o	|	|	|	2.86
26.417	0.00	0.76	0.615	I	o	|	|	|	2.84
26.500	0.00	0.76	0.610	I	o	|	|	|	2.82
26.583	0.00	0.75	0.605	I	o	|	|	|	2.80
26.667	0.00	0.75	0.600	I	o	|	|	|	2.79
26.750	0.00	0.75	0.595	I	o	|	|	|	2.77
26.833	0.00	0.75	0.589	I	o	|	|	|	2.75
26.917	0.00	0.74	0.584	I	o	|	|	|	2.73
27.000	0.00	0.74	0.579	I	o	|	|	|	2.72
27.083	0.00	0.74	0.574	I	o	|	|	|	2.70
27.167	0.00	0.74	0.569	I	o	|	|	|	2.68
27.250	0.00	0.73	0.564	I	o	|	|	|	2.66
27.333	0.00	0.73	0.559	I	o	|	|	|	2.65
27.417	0.00	0.73	0.554	I	o	|	|	|	2.63
27.500	0.00	0.73	0.549	I	o	|	|	|	2.61
27.583	0.00	0.72	0.544	I	o	|	|	|	2.60
27.667	0.00	0.72	0.539	I	o	|	|	|	2.58
27.750	0.00	0.72	0.534	I	o	|	|	|	2.56
27.833	0.00	0.72	0.529	I	o	|	|	|	2.54
27.917	0.00	0.71	0.524	I	o	|	|	|	2.53
28.000	0.00	0.71	0.519	I	o	|	|	|	2.51
28.083	0.00	0.71	0.514	I	o	|	|	|	2.49
28.167	0.00	0.71	0.509	I	o	|	|	|	2.48
28.250	0.00	0.70	0.505	I	o	|	|	|	2.46
28.333	0.00	0.70	0.500	I	o	|	|	|	2.44
28.417	0.00	0.70	0.495	I	o	|	|	|	2.42
28.500	0.00	0.70	0.490	I	o	|	|	|	2.41
28.583	0.00	0.69	0.485	I	o	|	|	|	2.39
28.667	0.00	0.69	0.481	I	o	|	|	|	2.37
28.750	0.00	0.69	0.476	I	o	|	|	|	2.35
28.833	0.00	0.68	0.471	I	o	|	|	|	2.34
28.917	0.00	0.68	0.466	I	o	|	|	|	2.32
29.000	0.00	0.68	0.462	I	o	|	|	|	2.30
29.083	0.00	0.68	0.457	I	o	|	|	|	2.29
29.167	0.00	0.67	0.452	I	o	|	|	|	2.27
29.250	0.00	0.67	0.448	I	o	|	|	|	2.25
29.333	0.00	0.67	0.443	I	o	|	|	|	2.24
29.417	0.00	0.67	0.439	I	o	|	|	|	2.22
29.500	0.00	0.66	0.434	I	o	|	|	|	2.20
29.583	0.00	0.66	0.430	I	o	|	|	|	2.19
29.667	0.00	0.66	0.425	I	o	|	|	|	2.17
29.750	0.00	0.65	0.420	I	o	|	|	|	2.15
29.833	0.00	0.65	0.416	I	o	|	|	|	2.14
29.917	0.00	0.65	0.412	I	o	|	|	|	2.12
30.000	0.00	0.65	0.407	I	o	|	|	|	2.11
30.083	0.00	0.64	0.403	I	o	|	|	|	2.09
30.167	0.00	0.64	0.398	I	o	|	|	|	2.07
30.250	0.00	0.64	0.394	I	o	|	|	|	2.06
30.333	0.00	0.64	0.389	I	o	|	|	|	2.04
30.417	0.00	0.63	0.385	I	o	|	|	|	2.03
30.500	0.00	0.63	0.381	I	o	|	|	|	2.01
30.583	0.00	0.63	0.376	I	o	|	|	|	1.99
30.667	0.00	0.63	0.372	I	o	|	|	|	1.98

30.750	0.00	0.62	0.368	I	o	|	|	|	1.96
30.833	0.00	0.62	0.363	I	o	|	|	|	1.94
30.917	0.00	0.62	0.359	I	o	|	|	|	1.93
31.000	0.00	0.61	0.355	I	o	|	|	|	1.91
31.083	0.00	0.61	0.351	I	o	|	|	|	1.89
31.167	0.00	0.61	0.347	I	o	|	|	|	1.88
31.250	0.00	0.60	0.342	I	o	|	|	|	1.86
31.333	0.00	0.60	0.338	I	o	|	|	|	1.84
31.417	0.00	0.60	0.334	I	o	|	|	|	1.83
31.500	0.00	0.59	0.330	I	o	|	|	|	1.81
31.583	0.00	0.59	0.326	I	o	|	|	|	1.80
31.667	0.00	0.59	0.322	I	o	|	|	|	1.78
31.750	0.00	0.58	0.318	I	o	|	|	|	1.76
31.833	0.00	0.58	0.314	I	o	|	|	|	1.75
31.917	0.00	0.58	0.310	I	o	|	|	|	1.73
32.000	0.00	0.57	0.306	I	o	|	|	|	1.72
32.083	0.00	0.57	0.302	I	o	|	|	|	1.70
32.167	0.00	0.57	0.298	I	o	|	|	|	1.69
32.250	0.00	0.56	0.294	I	o	|	|	|	1.67
32.333	0.00	0.56	0.290	I	o	|	|	|	1.65
32.417	0.00	0.56	0.287	I	o	|	|	|	1.64
32.500	0.00	0.55	0.283	I	o	|	|	|	1.62
32.583	0.00	0.55	0.279	I	o	|	|	|	1.61
32.667	0.00	0.55	0.275	I	o	|	|	|	1.59
32.750	0.00	0.55	0.271	I	o	|	|	|	1.58
32.833	0.00	0.54	0.268	I	o	|	|	|	1.57
32.917	0.00	0.54	0.264	I	o	|	|	|	1.55
33.000	0.00	0.54	0.260	I	o	|	|	|	1.54
33.083	0.00	0.53	0.256	I	o	|	|	|	1.52
33.167	0.00	0.53	0.253	I	o	|	|	|	1.51
33.250	0.00	0.53	0.249	I	o	|	|	|	1.49
33.333	0.00	0.52	0.245	I	o	|	|	|	1.48
33.417	0.00	0.52	0.242	I	o	|	|	|	1.46
33.500	0.00	0.52	0.238	I	o	|	|	|	1.44
33.583	0.00	0.51	0.235	I	o	|	|	|	1.43
33.667	0.00	0.51	0.231	I	o	|	|	|	1.41
33.750	0.00	0.51	0.228	I	o	|	|	|	1.40
33.833	0.00	0.50	0.224	I	o	|	|	|	1.38
33.917	0.00	0.50	0.221	I	o	|	|	|	1.37
34.000	0.00	0.50	0.217	I	o	|	|	|	1.35
34.083	0.00	0.49	0.214	I	o	|	|	|	1.33
34.167	0.00	0.49	0.211	I	o	|	|	|	1.32
34.250	0.00	0.49	0.207	I	o	|	|	|	1.30
34.333	0.00	0.48	0.204	I	o	|	|	|	1.29
34.417	0.00	0.48	0.201	I	o	|	|	|	1.27
34.500	0.00	0.48	0.197	I	o	|	|	|	1.26
34.583	0.00	0.47	0.194	I	o	|	|	|	1.25
34.667	0.00	0.47	0.191	I	o	|	|	|	1.23
34.750	0.00	0.47	0.187	I	o	|	|	|	1.22
34.833	0.00	0.46	0.184	I	o	|	|	|	1.20
34.917	0.00	0.46	0.181	I	o	|	|	|	1.19
35.000	0.00	0.46	0.178	I	o	|	|	|	1.17
35.083	0.00	0.46	0.175	I	o	|	|	|	1.16
35.167	0.00	0.45	0.172	I	o	|	|	|	1.15
35.250	0.00	0.45	0.169	I	o	|	|	|	1.13
35.333	0.00	0.45	0.165	I	o	|	|	|	1.12
35.417	0.00	0.44	0.162	I	o	|	|	|	1.10
35.500	0.00	0.44	0.159	I	o	|	|	|	1.09
35.583	0.00	0.44	0.156	I	o	|	|	|	1.08
35.667	0.00	0.43	0.153	I	o	|	|	|	1.06
35.750	0.00	0.43	0.150	I	o	|	|	|	1.05
35.833	0.00	0.43	0.147	I	o	|	|	|	1.04
35.917	0.00	0.43	0.144	I	o	|	|	|	1.02
36.000	0.00	0.42	0.142	I	o	|	|	|	1.01
36.083	0.00	0.42	0.139	I	o	|	|	|	1.00
36.167	0.00	0.41	0.136	I	o	|	|	|	0.98
36.250	0.00	0.41	0.133	I	o	|	|	|	0.97
36.333	0.00	0.41	0.130	I	o	|	|	|	0.95
36.417	0.00	0.40	0.127	I	o	|	|	|	0.93
36.500	0.00	0.40	0.125	I	o	|	|	|	0.92
36.583	0.00	0.39	0.122	I	o	|	|	|	0.90
36.667	0.00	0.39	0.119	I	o	|	|	|	0.89
36.750	0.00	0.38	0.117	I	o	|	|	|	0.87
36.833	0.00	0.38	0.114	I	o	|	|	|	0.86
36.917	0.00	0.37	0.111	I	o	|	|	|	0.84

37.000	0.00	0.37	0.109	I o	|	|	|	0.83
37.083	0.00	0.36	0.106	I o	|	|	|	0.82
37.167	0.00	0.36	0.104	I o	|	|	|	0.80
37.250	0.00	0.36	0.101	I o	|	|	|	0.79
37.333	0.00	0.35	0.099	I o	|	|	|	0.77
37.417	0.00	0.35	0.096	I o	|	|	|	0.76
37.500	0.00	0.34	0.094	I o	|	|	|	0.75
37.583	0.00	0.34	0.092	I o	|	|	|	0.73
37.667	0.00	0.34	0.089	I o	|	|	|	0.72
37.750	0.00	0.33	0.087	I o	|	|	|	0.71
37.833	0.00	0.33	0.085	I o	|	|	|	0.70
37.917	0.00	0.32	0.083	I o	|	|	|	0.68
38.000	0.00	0.32	0.080	I o	|	|	|	0.67
38.083	0.00	0.32	0.078	I o	|	|	|	0.66
38.167	0.00	0.31	0.076	I o	|	|	|	0.65
38.250	0.00	0.31	0.074	I o	|	|	|	0.63
38.333	0.00	0.31	0.072	I o	|	|	|	0.62
38.417	0.00	0.30	0.070	I o	|	|	|	0.61
38.500	0.00	0.30	0.068	I o	|	|	|	0.60
38.583	0.00	0.30	0.065	I o	|	|	|	0.59
38.667	0.00	0.29	0.063	I o	|	|	|	0.58
38.750	0.00	0.29	0.061	I o	|	|	|	0.56
38.833	0.00	0.29	0.059	I o	|	|	|	0.55
38.917	0.00	0.28	0.057	I o	|	|	|	0.54
39.000	0.00	0.28	0.056	I o	|	|	|	0.53
39.083	0.00	0.28	0.054	I o	|	|	|	0.52
39.167	0.00	0.27	0.052	I o	|	|	|	0.51
39.250	0.00	0.27	0.050	I o	|	|	|	0.50
39.333	0.00	0.25	0.048	I o	|	|	|	0.48
39.417	0.00	0.24	0.046	I o	|	|	|	0.46
39.500	0.00	0.23	0.045	I o	|	|	|	0.45
39.583	0.00	0.21	0.043	I o	|	|	|	0.43
39.667	0.00	0.20	0.042	IO	|	|	|	0.42
39.750	0.00	0.19	0.040	IO	|	|	|	0.40
39.833	0.00	0.18	0.039	IO	|	|	|	0.39
39.917	0.00	0.17	0.038	IO	|	|	|	0.38
40.000	0.00	0.16	0.037	IO	|	|	|	0.37
40.083	0.00	0.15	0.036	IO	|	|	|	0.36
40.167	0.00	0.15	0.035	IO	|	|	|	0.35
40.250	0.00	0.14	0.034	IO	|	|	|	0.34
40.333	0.00	0.13	0.033	IO	|	|	|	0.33
40.417	0.00	0.12	0.032	IO	|	|	|	0.32
40.500	0.00	0.12	0.031	IO	|	|	|	0.31
40.583	0.00	0.11	0.030	IO	|	|	|	0.30
40.667	0.00	0.10	0.030	O	|	|	|	0.29
40.750	0.00	0.10	0.029	O	|	|	|	0.29
40.833	0.00	0.09	0.028	O	|	|	|	0.28
40.917	0.00	0.09	0.028	O	|	|	|	0.27
41.000	0.00	0.08	0.027	O	|	|	|	0.27
41.083	0.00	0.08	0.026	O	|	|	|	0.26
41.167	0.00	0.07	0.026	O	|	|	|	0.26
41.250	0.00	0.07	0.025	O	|	|	|	0.25
41.333	0.00	0.07	0.025	O	|	|	|	0.25
41.417	0.00	0.06	0.025	O	|	|	|	0.24
41.500	0.00	0.06	0.024	O	|	|	|	0.24
41.583	0.00	0.06	0.024	O	|	|	|	0.23
41.667	0.00	0.05	0.023	O	|	|	|	0.23
41.750	0.00	0.05	0.023	O	|	|	|	0.23
41.833	0.00	0.05	0.023	O	|	|	|	0.22
41.917	0.00	0.04	0.022	O	|	|	|	0.22
42.000	0.00	0.04	0.022	O	|	|	|	0.22
42.083	0.00	0.04	0.022	O	|	|	|	0.22
42.167	0.00	0.04	0.022	O	|	|	|	0.21
42.250	0.00	0.04	0.021	O	|	|	|	0.21
42.333	0.00	0.03	0.021	O	|	|	|	0.21
42.417	0.00	0.03	0.021	O	|	|	|	0.21
42.500	0.00	0.03	0.021	O	|	|	|	0.20
42.583	0.00	0.03	0.020	O	|	|	|	0.20
42.667	0.00	0.03	0.020	O	|	|	|	0.20
42.750	0.00	0.03	0.020	O	|	|	|	0.20
42.833	0.00	0.02	0.020	O	|	|	|	0.20
42.917	0.00	0.02	0.020	O	|	|	|	0.19
43.000	0.00	0.02	0.020	O	|	|	|	0.19
43.083	0.00	0.02	0.019	O	|	|	|	0.19
43.167	0.00	0.02	0.019	O	|	|	|	0.19

43.250	0.00	0.02	0.019	o	|	|	|	|	0.19
43.333	0.00	0.02	0.019	o	|	|	|	|	0.19
43.417	0.00	0.02	0.019	o	|	|	|	|	0.19
43.500	0.00	0.02	0.019	o	|	|	|	|	0.18
43.583	0.00	0.01	0.019	o	|	|	|	|	0.18
43.667	0.00	0.01	0.019	o	|	|	|	|	0.18
43.750	0.00	0.01	0.018	o	|	|	|	|	0.18
43.833	0.00	0.01	0.018	o	|	|	|	|	0.18
43.917	0.00	0.01	0.018	o	|	|	|	|	0.18
44.000	0.00	0.01	0.018	o	|	|	|	|	0.18
44.083	0.00	0.01	0.018	o	|	|	|	|	0.18
44.167	0.00	0.01	0.018	o	|	|	|	|	0.18
44.250	0.00	0.01	0.018	o	|	|	|	|	0.18
44.333	0.00	0.01	0.018	o	|	|	|	|	0.18
44.417	0.00	0.01	0.018	o	|	|	|	|	0.18
44.500	0.00	0.01	0.018	o	|	|	|	|	0.18
44.583	0.00	0.01	0.018	o	|	|	|	|	0.17
44.667	0.00	0.01	0.018	o	|	|	|	|	0.17
44.750	0.00	0.01	0.018	o	|	|	|	|	0.17
44.833	0.00	0.01	0.018	o	|	|	|	|	0.17
44.917	0.00	0.01	0.018	o	|	|	|	|	0.17
45.000	0.00	0.01	0.018	o	|	|	|	|	0.17
45.083	0.00	0.01	0.018	o	|	|	|	|	0.17
45.167	0.00	0.00	0.017	o	|	|	|	|	0.17
45.250	0.00	0.00	0.017	o	|	|	|	|	0.17
45.333	0.00	0.00	0.017	o	|	|	|	|	0.17
45.417	0.00	0.00	0.017	o	|	|	|	|	0.17
45.500	0.00	0.00	0.017	o	|	|	|	|	0.17
45.583	0.00	0.00	0.017	o	|	|	|	|	0.17
45.667	0.00	0.00	0.017	o	|	|	|	|	0.17
45.750	0.00	0.00	0.017	o	|	|	|	|	0.17
45.833	0.00	0.00	0.017	o	|	|	|	|	0.17
45.917	0.00	0.00	0.017	o	|	|	|	|	0.17
46.000	0.00	0.00	0.017	o	|	|	|	|	0.17
46.083	0.00	0.00	0.017	o	|	|	|	|	0.17
46.167	0.00	0.00	0.017	o	|	|	|	|	0.17
46.250	0.00	0.00	0.017	o	|	|	|	|	0.17
46.333	0.00	0.00	0.017	o	|	|	|	|	0.17
46.417	0.00	0.00	0.017	o	|	|	|	|	0.17
46.500	0.00	0.00	0.017	o	|	|	|	|	0.17
46.583	0.00	0.00	0.017	o	|	|	|	|	0.17
46.667	0.00	0.00	0.017	o	|	|	|	|	0.17
46.750	0.00	0.00	0.017	o	|	|	|	|	0.17
46.833	0.00	0.00	0.017	o	|	|	|	|	0.17
46.917	0.00	0.00	0.017	o	|	|	|	|	0.17
47.000	0.00	0.00	0.017	o	|	|	|	|	0.17
47.083	0.00	0.00	0.017	o	|	|	|	|	0.17
47.167	0.00	0.00	0.017	o	|	|	|	|	0.17
47.250	0.00	0.00	0.017	o	|	|	|	|	0.17
47.333	0.00	0.00	0.017	o	|	|	|	|	0.17
47.417	0.00	0.00	0.017	o	|	|	|	|	0.17
47.500	0.00	0.00	0.017	o	|	|	|	|	0.17
47.583	0.00	0.00	0.017	o	|	|	|	|	0.17

Remaining water in basin = 0.02 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 571
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.977 (CFS)
Total volume = 2.042 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

FLOOD HYDROGRAPH ROUTING PROGRAM
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Study date: 11/25/21

BCCOV BLDG D AREA 11
2 YR 24 HR STORM EVENT
21-0034
2021-12-02 EP

Program License Serial Number 4010

********** HYDROGRAPH INFORMATION **********

From study/file name: PROP2YRD2242.rte

**********HYDROGRAPH DATA**********

Number of intervals = 292
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 3.295 (CFS)
Total volume = 2.002 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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Process from Point/Station 100.000 to Point/Station 101.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 292
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

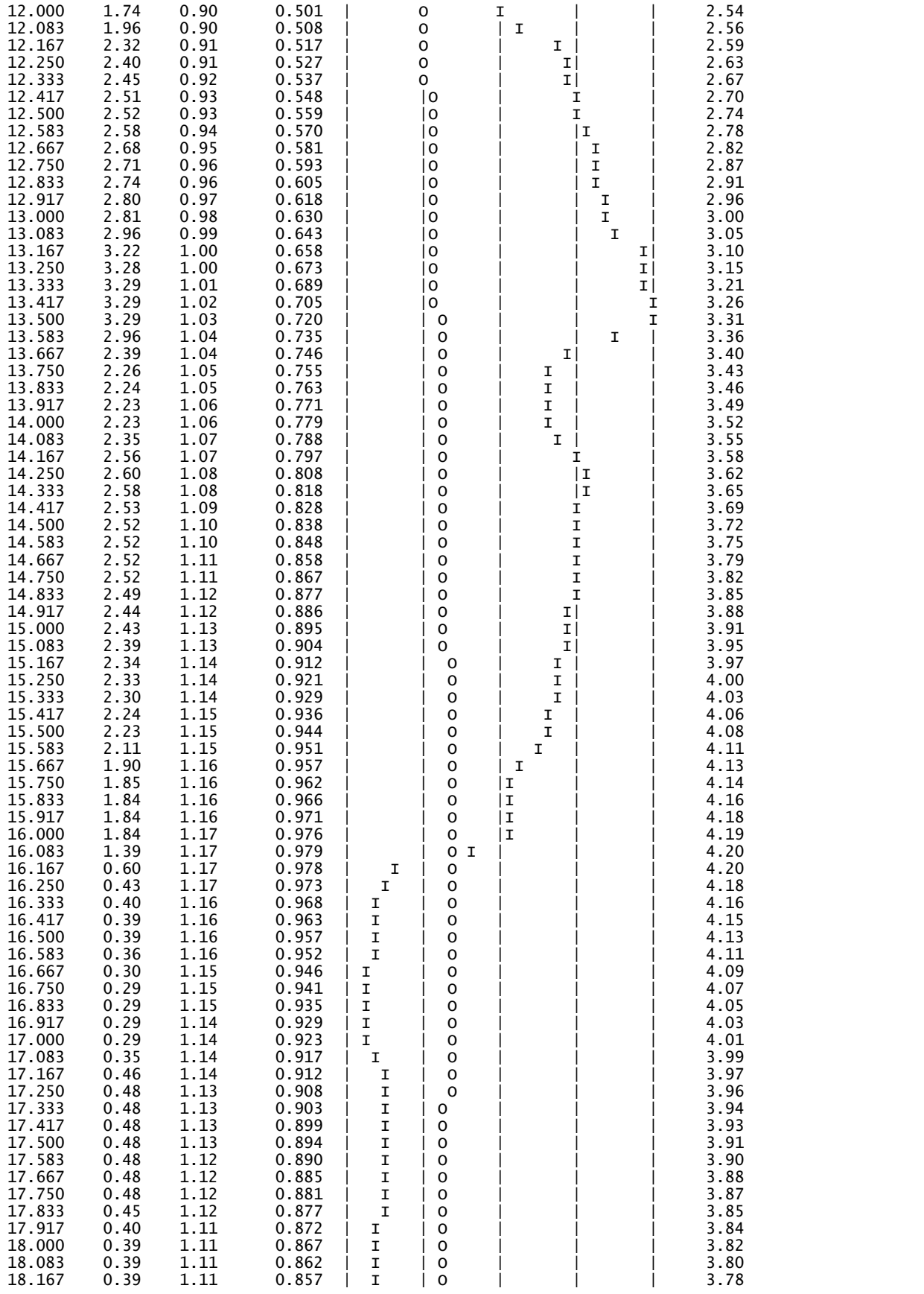
Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.188	0.018	0.001	0.018	0.018
0.500	0.048	0.330	0.047	0.049
1.000	0.133	0.530	0.131	0.135
1.500	0.239	0.670	0.237	0.241
2.000	0.360	0.790	0.357	0.363
2.500	0.491	0.890	0.488	0.494
3.000	0.630	0.980	0.627	0.633
3.500	0.774	1.060	0.770	0.778
4.000	0.920	1.140	0.916	0.924
4.500	1.066	1.210	1.062	1.070
5.000	1.209	1.280	1.205	1.213
5.500	1.348	1.350	1.343	1.353
6.000	1.480	1.410	1.475	1.485
6.500	1.601	1.470	1.596	1.606
7.000	1.707	1.530	1.702	1.712
7.500	1.792	1.580	1.787	1.797
8.000	1.839	1.640	1.833	1.845

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.8	1.65	2.47	3.29	Depth (Ft.)
0.083	0.06	0.00	0.000	O					0.00
0.167	0.17	0.00	0.001	OI					0.01
0.250	0.19	0.00	0.002	OI					0.02
0.333	0.22	0.00	0.004	O I					0.04
0.417	0.28	0.00	0.005	O I					0.06
0.500	0.29	0.00	0.007	O I					0.08
0.583	0.29	0.00	0.009	O I					0.10
0.667	0.29	0.00	0.011	O I					0.12
0.750	0.29	0.00	0.013	O I					0.14
0.833	0.32	0.00	0.015	O I					0.16
0.917	0.37	0.00	0.018	O I					0.19
1.000	0.38	0.03	0.020	O I					0.21
1.083	0.36	0.05	0.023	O I					0.24
1.167	0.30	0.07	0.024	O I					0.25
1.250	0.29	0.09	0.026	O I					0.27
1.333	0.29	0.10	0.027	O I					0.28
1.417	0.29	0.12	0.029	OI					0.30
1.500	0.29	0.13	0.030	OI					0.31
1.583	0.29	0.14	0.031	OI					0.32
1.667	0.29	0.15	0.032	OI					0.33
1.750	0.29	0.16	0.033	OI					0.34
1.833	0.32	0.17	0.034	O I					0.35
1.917	0.37	0.19	0.035	O I					0.36
2.000	0.38	0.20	0.036	O I					0.38
2.083	0.39	0.21	0.037	OI					0.39
2.167	0.39	0.23	0.038	OI					0.40
2.250	0.39	0.24	0.040	OI					0.41
2.333	0.39	0.25	0.041	OI					0.42
2.417	0.39	0.26	0.041	OI					0.43
2.500	0.39	0.27	0.042	OI					0.44
2.583	0.42	0.28	0.043	O I					0.45
2.667	0.47	0.29	0.044	O I					0.46
2.750	0.48	0.30	0.046	O I					0.47
2.833	0.48	0.32	0.047	OI					0.49
2.917	0.48	0.33	0.048	OI					0.50
3.000	0.48	0.33	0.049	OI					0.51
3.083	0.48	0.33	0.050	OI					0.51
3.167	0.48	0.34	0.051	OI					0.52
3.250	0.48	0.34	0.052	OI					0.52
3.333	0.48	0.34	0.053	OI					0.53
3.417	0.48	0.34	0.054	OI					0.54
3.500	0.48	0.35	0.055	OI					0.54
3.583	0.48	0.35	0.056	OI					0.55
3.667	0.48	0.35	0.057	OI					0.55
3.750	0.48	0.35	0.058	OI					0.56
3.833	0.51	0.36	0.059	OI					0.56
3.917	0.57	0.36	0.060	O I					0.57
4.000	0.58	0.36	0.061	O I					0.58
4.083	0.58	0.37	0.063	O I					0.59
4.167	0.58	0.37	0.064	O I					0.60
4.250	0.58	0.37	0.066	O I					0.61
4.333	0.61	0.38	0.067	O I					0.61
4.417	0.66	0.38	0.069	O I					0.62
4.500	0.68	0.38	0.071	O I					0.64
4.583	0.68	0.39	0.073	O I					0.65
4.667	0.68	0.39	0.075	O I					0.66
4.750	0.68	0.40	0.077	O I					0.67
4.833	0.71	0.40	0.079	O I					0.68
4.917	0.76	0.41	0.081	O I					0.70
5.000	0.77	0.41	0.084	O I					0.71
5.083	0.71	0.42	0.086	O I					0.72
5.167	0.61	0.42	0.088	OI					0.73
5.250	0.59	0.43	0.089	OI					0.74
5.333	0.61	0.43	0.090	OI					0.75
5.417	0.66	0.43	0.092	O I					0.76
5.500	0.68	0.44	0.093	O I					0.77
5.583	0.71	0.44	0.095	O I					0.78
5.667	0.76	0.45	0.097	O I					0.79

5.750	0.77	0.45	0.099	o I				0.80
5.833	0.77	0.46	0.101	o I				0.81
5.917	0.78	0.46	0.103	o I				0.83
6.000	0.78	0.47	0.106	o I				0.84
6.083	0.81	0.47	0.108	o I				0.85
6.167	0.86	0.48	0.110	o I				0.87
6.250	0.87	0.48	0.113	o I				0.88
6.333	0.87	0.49	0.116	o I				0.90
6.417	0.87	0.50	0.118	o I				0.91
6.500	0.87	0.50	0.121	o I				0.93
6.583	0.90	0.51	0.123	o I				0.94
6.667	0.95	0.51	0.126	o I				0.96
6.750	0.97	0.52	0.129	o I				0.98
6.833	0.97	0.53	0.132	o I				1.00
6.917	0.97	0.53	0.135	o I				1.01
7.000	0.97	0.54	0.138	o I				1.03
7.083	0.97	0.54	0.141	o I				1.04
7.167	0.97	0.54	0.144	o I				1.05
7.250	0.97	0.55	0.147	o I				1.07
7.333	1.00	0.55	0.150	o I				1.08
7.417	1.05	0.56	0.153	o I				1.10
7.500	1.06	0.56	0.157	o I				1.11
7.583	1.10	0.57	0.160	o I				1.13
7.667	1.15	0.57	0.164	o I				1.15
7.750	1.16	0.58	0.168	o I				1.17
7.833	1.19	0.58	0.172	o I				1.19
7.917	1.25	0.59	0.177	o I				1.21
8.000	1.26	0.59	0.181	o I				1.23
8.083	1.32	0.60	0.186	o I				1.25
8.167	1.43	0.61	0.191	o I				1.28
8.250	1.45	0.61	0.197	o I				1.30
8.333	1.45	0.62	0.203	o I				1.33
8.417	1.45	0.63	0.208	o I				1.36
8.500	1.45	0.64	0.214	o I				1.38
8.583	1.48	0.64	0.220	o I				1.41
8.667	1.54	0.65	0.226	o I				1.44
8.750	1.55	0.66	0.232	o I				1.47
8.833	1.58	0.67	0.238	o I				1.50
8.917	1.63	0.68	0.244	o I				1.52
9.000	1.64	0.68	0.251	o I				1.55
9.083	1.71	0.69	0.258	o I				1.58
9.167	1.81	0.70	0.265	o I				1.61
9.250	1.84	0.70	0.273	o I				1.64
9.333	1.87	0.71	0.281	o I				1.67
9.417	1.92	0.72	0.289	o I				1.71
9.500	1.94	0.73	0.297	o I				1.74
9.583	1.97	0.74	0.306	o I				1.78
9.667	2.02	0.74	0.314	o I				1.81
9.750	2.03	0.75	0.323	o I				1.85
9.833	2.06	0.76	0.332	o I				1.88
9.917	2.12	0.77	0.341	o I				1.92
10.000	2.13	0.78	0.350	o I				1.96
10.083	1.92	0.79	0.359	o I				2.00
10.167	1.55	0.79	0.365	o I				2.02
10.250	1.47	0.80	0.370	o I				2.04
10.333	1.46	0.80	0.375	o I				2.06
10.417	1.45	0.80	0.379	o I				2.07
10.500	1.45	0.81	0.384	o I				2.09
10.583	1.60	0.81	0.389	o I				2.11
10.667	1.87	0.82	0.395	o I				2.13
10.750	1.92	0.82	0.403	o I				2.16
10.833	1.93	0.83	0.410	o I				2.19
10.917	1.94	0.83	0.418	o I				2.22
11.000	1.94	0.84	0.425	o I				2.25
11.083	1.91	0.85	0.433	o I				2.28
11.167	1.86	0.85	0.440	o I				2.31
11.250	1.84	0.86	0.447	o I				2.33
11.333	1.84	0.86	0.454	o I				2.36
11.417	1.84	0.87	0.460	o I				2.38
11.500	1.84	0.87	0.467	o I				2.41
11.583	1.78	0.88	0.473	o I				2.43
11.667	1.68	0.88	0.479	o I				2.46
11.750	1.65	0.89	0.485	o I				2.48
11.833	1.68	0.89	0.490	o I				2.50
11.917	1.73	0.89	0.496	o I				2.52



18.250	0.39	1.10	0.852	| I	| o	|	|	3.77
18.333	0.39	1.10	0.847	| I	| o	|	|	3.75
18.417	0.39	1.10	0.842	| I	| o	|	|	3.73
18.500	0.39	1.09	0.837	| I	| o	|	|	3.72
18.583	0.36	1.09	0.832	| I	| o	|	|	3.70
18.667	0.30	1.09	0.827	| I	| o	|	|	3.68
18.750	0.29	1.09	0.822	| I	| o	|	|	3.66
18.833	0.26	1.08	0.816	| I	| o	|	|	3.64
18.917	0.21	1.08	0.810	| I	| o	|	|	3.62
19.000	0.20	1.08	0.804	|I	| o	|	|	3.60
19.083	0.22	1.07	0.798	| I	| o	|	|	3.58
19.167	0.28	1.07	0.793	| I	| o	|	|	3.56
19.250	0.29	1.07	0.787	| I	| o	|	|	3.55
19.333	0.32	1.06	0.782	| I	| o	|	|	3.53
19.417	0.37	1.06	0.777	| I	| o	|	|	3.51
19.500	0.38	1.06	0.772	| I	| o	|	|	3.49
19.583	0.36	1.06	0.768	| I	| o	|	|	3.48
19.667	0.30	1.05	0.763	| I	| o	|	|	3.46
19.750	0.29	1.05	0.758	| I	| o	|	|	3.44
19.833	0.26	1.05	0.752	| I	| o	|	|	3.42
19.917	0.21	1.04	0.747	| I	| o	|	|	3.41
20.000	0.20	1.04	0.741	|I	| o	|	|	3.38
20.083	0.22	1.04	0.735	| I	| o	|	|	3.37
20.167	0.28	1.04	0.730	| I	| o	|	|	3.35
20.250	0.29	1.03	0.725	| I	| o	|	|	3.33
20.333	0.29	1.03	0.719	| I	| o	|	|	3.31
20.417	0.29	1.03	0.714	| I	|o	|	|	3.29
20.500	0.29	1.02	0.709	| I	|o	|	|	3.28
20.583	0.29	1.02	0.704	| I	|o	|	|	3.26
20.667	0.29	1.02	0.699	| I	|o	|	|	3.24
20.750	0.29	1.02	0.694	| I	|o	|	|	3.22
20.833	0.26	1.01	0.689	| I	|o	|	|	3.21
20.917	0.21	1.01	0.684	| I	|o	|	|	3.19
21.000	0.20	1.01	0.678	|I	|o	|	|	3.17
21.083	0.22	1.00	0.673	| I	|o	|	|	3.15
21.167	0.28	1.00	0.668	| I	|o	|	|	3.13
21.250	0.29	1.00	0.663	| I	|o	|	|	3.11
21.333	0.26	1.00	0.658	| I	|o	|	|	3.10
21.417	0.21	0.99	0.652	| I	|o	|	|	3.08
21.500	0.20	0.99	0.647	|I	|o	|	|	3.06
21.583	0.22	0.99	0.642	| I	|o	|	|	3.04
21.667	0.28	0.98	0.637	| I	|o	|	|	3.02
21.750	0.29	0.98	0.632	| I	|o	|	|	3.01
21.833	0.26	0.98	0.627	| I	|o	|	|	2.99
21.917	0.21	0.97	0.622	| I	|o	|	|	2.97
22.000	0.20	0.97	0.616	|I	|o	|	|	2.95
22.083	0.22	0.97	0.611	| I	|o	|	|	2.93
22.167	0.28	0.96	0.606	| I	|o	|	|	2.91
22.250	0.29	0.96	0.602	| I	|o	|	|	2.90
22.333	0.26	0.96	0.597	| I	|o	|	|	2.88
22.417	0.21	0.96	0.592	| I	|o	|	|	2.86
22.500	0.20	0.95	0.587	|I	|o	|	|	2.84
22.583	0.19	0.95	0.582	|I	|o	|	|	2.83
22.667	0.19	0.95	0.576	|I	|o	|	|	2.81
22.750	0.19	0.94	0.571	|I	|o	|	|	2.79
22.833	0.19	0.94	0.566	|I	|o	|	|	2.77
22.917	0.19	0.94	0.561	|I	|o	|	|	2.75
23.000	0.19	0.93	0.556	|I	|o	|	|	2.73
23.083	0.19	0.93	0.551	|I	|o	|	|	2.72
23.167	0.19	0.93	0.546	|I	o	|	|	2.70
23.250	0.19	0.92	0.541	|I	o	|	|	2.68
23.333	0.19	0.92	0.536	|I	o	|	|	2.66
23.417	0.19	0.92	0.531	|I	o	|	|	2.64
23.500	0.19	0.91	0.526	|I	o	|	|	2.63
23.583	0.19	0.91	0.521	|I	o	|	|	2.61
23.667	0.19	0.91	0.516	|I	o	|	|	2.59
23.750	0.19	0.90	0.511	|I	o	|	|	2.57
23.833	0.19	0.90	0.506	|I	o	|	|	2.55
23.917	0.19	0.90	0.501	|I	o	|	|	2.54
24.000	0.19	0.89	0.496	|I	o	|	|	2.52
24.083	0.13	0.89	0.491	|I	o	|	|	2.50
24.167	0.03	0.89	0.486	I	o	|	|	2.48
24.250	0.01	0.88	0.480	I	o	|	|	2.46
24.333	0.00	0.88	0.474	I	o	|	|	2.43
24.417	0.00	0.87	0.468	I	o	|	|	2.41

24.500	0.00	0.87	0.462	I	o	|	|	|	2.39
24.583	0.00	0.86	0.456	I	o	|	|	|	2.37
24.667	0.00	0.86	0.450	I	o	|	|	|	2.34
24.750	0.00	0.85	0.444	I	o	|	|	|	2.32
24.833	0.00	0.85	0.438	I	o	|	|	|	2.30
24.917	0.00	0.85	0.432	I	o	|	|	|	2.28
25.000	0.00	0.84	0.427	I	o	|	|	|	2.25
25.083	0.00	0.84	0.421	I	o	|	|	|	2.23
25.167	0.00	0.83	0.415	I	o	|	|	|	2.21
25.250	0.00	0.83	0.409	I	o	|	|	|	2.19
25.333	0.00	0.82	0.404	I	o|	|	|	|	2.17
25.417	0.00	0.82	0.398	I	o|	|	|	|	2.15
25.500	0.00	0.81	0.392	I	o|	|	|	|	2.12
25.583	0.00	0.81	0.387	I	o|	|	|	|	2.10
25.667	0.00	0.81	0.381	I	o|	|	|	|	2.08
25.750	0.00	0.80	0.376	I	o|	|	|	|	2.06
25.833	0.00	0.80	0.370	I	o|	|	|	|	2.04
25.917	0.00	0.79	0.365	I	o|	|	|	|	2.02
26.000	0.00	0.79	0.359	I	o|	|	|	|	2.00
26.083	0.00	0.78	0.354	I	o|	|	|	|	1.97
26.167	0.00	0.78	0.348	I	o|	|	|	|	1.95
26.250	0.00	0.77	0.343	I	o|	|	|	|	1.93
26.333	0.00	0.77	0.338	I	o|	|	|	|	1.91
26.417	0.00	0.76	0.333	I	o|	|	|	|	1.89
26.500	0.00	0.76	0.327	I	o|	|	|	|	1.86
26.583	0.00	0.75	0.322	I	o|	|	|	|	1.84
26.667	0.00	0.75	0.317	I	o|	|	|	|	1.82
26.750	0.00	0.74	0.312	I	o|	|	|	|	1.80
26.833	0.00	0.74	0.307	I	o|	|	|	|	1.78
26.917	0.00	0.73	0.302	I	o|	|	|	|	1.76
27.000	0.00	0.73	0.297	I	o|	|	|	|	1.74
27.083	0.00	0.72	0.292	I	o|	|	|	|	1.72
27.167	0.00	0.72	0.287	I	o |	|	|	|	1.70
27.250	0.00	0.71	0.282	I	o |	|	|	|	1.68
27.333	0.00	0.71	0.277	I	o |	|	|	|	1.66
27.417	0.00	0.70	0.272	I	o |	|	|	|	1.64
27.500	0.00	0.70	0.267	I	o |	|	|	|	1.62
27.583	0.00	0.69	0.262	I	o |	|	|	|	1.60
27.667	0.00	0.69	0.258	I	o |	|	|	|	1.58
27.750	0.00	0.68	0.253	I	o |	|	|	|	1.56
27.833	0.00	0.68	0.248	I	o |	|	|	|	1.54
27.917	0.00	0.67	0.244	I	o |	|	|	|	1.52
28.000	0.00	0.67	0.239	I	o |	|	|	|	1.50
28.083	0.00	0.66	0.234	I	o |	|	|	|	1.48
28.167	0.00	0.66	0.230	I	o |	|	|	|	1.46
28.250	0.00	0.65	0.225	I	o |	|	|	|	1.44
28.333	0.00	0.65	0.221	I	o |	|	|	|	1.41
28.417	0.00	0.64	0.216	I	o |	|	|	|	1.39
28.500	0.00	0.63	0.212	I	o |	|	|	|	1.37
28.583	0.00	0.63	0.208	I	o |	|	|	|	1.35
28.667	0.00	0.62	0.203	I	o |	|	|	|	1.33
28.750	0.00	0.62	0.199	I	o |	|	|	|	1.31
28.833	0.00	0.61	0.195	I	o |	|	|	|	1.29
28.917	0.00	0.61	0.191	I	o |	|	|	|	1.27
29.000	0.00	0.60	0.186	I	o |	|	|	|	1.25
29.083	0.00	0.60	0.182	I	o |	|	|	|	1.23
29.167	0.00	0.59	0.178	I	o |	|	|	|	1.21
29.250	0.00	0.58	0.174	I	o |	|	|	|	1.19
29.333	0.00	0.58	0.170	I	o |	|	|	|	1.18
29.417	0.00	0.57	0.166	I	o |	|	|	|	1.16
29.500	0.00	0.57	0.162	I	o |	|	|	|	1.14
29.583	0.00	0.56	0.158	I	o |	|	|	|	1.12
29.667	0.00	0.56	0.155	I	o |	|	|	|	1.10
29.750	0.00	0.55	0.151	I	o |	|	|	|	1.08
29.833	0.00	0.55	0.147	I	o |	|	|	|	1.07
29.917	0.00	0.54	0.143	I	o |	|	|	|	1.05
30.000	0.00	0.54	0.139	I	o |	|	|	|	1.03
30.083	0.00	0.53	0.136	I	o |	|	|	|	1.01
30.167	0.00	0.53	0.132	I	o |	|	|	|	0.99
30.250	0.00	0.52	0.128	I	o |	|	|	|	0.97
30.333	0.00	0.51	0.125	I	o |	|	|	|	0.95
30.417	0.00	0.50	0.121	I	o |	|	|	|	0.93
30.500	0.00	0.49	0.118	I	o |	|	|	|	0.91
30.583	0.00	0.49	0.115	I	o |	|	|	|	0.89
30.667	0.00	0.48	0.111	I	o |	|	|	|	0.87

30.750	0.00	0.47	0.108	I o	|	|	|	0.85
30.833	0.00	0.46	0.105	I o	|	|	|	0.83
30.917	0.00	0.46	0.102	I o	|	|	|	0.82
31.000	0.00	0.45	0.099	I o	|	|	|	0.80
31.083	0.00	0.44	0.095	I o	|	|	|	0.78
31.167	0.00	0.43	0.092	I o	|	|	|	0.76
31.250	0.00	0.43	0.089	I o	|	|	|	0.74
31.333	0.00	0.42	0.087	I o	|	|	|	0.73
31.417	0.00	0.41	0.084	I o	|	|	|	0.71
31.500	0.00	0.41	0.081	I o	|	|	|	0.69
31.583	0.00	0.40	0.078	I o	|	|	|	0.68
31.667	0.00	0.39	0.075	I o	|	|	|	0.66
31.750	0.00	0.39	0.073	I o	|	|	|	0.64
31.833	0.00	0.38	0.070	I o	|	|	|	0.63
31.917	0.00	0.38	0.067	I o	|	|	|	0.61
32.000	0.00	0.37	0.065	I o	|	|	|	0.60
32.083	0.00	0.36	0.062	I o	|	|	|	0.58
32.167	0.00	0.36	0.060	I o	|	|	|	0.57
32.250	0.00	0.35	0.057	I o	|	|	|	0.56
32.333	0.00	0.35	0.055	I o	|	|	|	0.54
32.417	0.00	0.34	0.053	I o	|	|	|	0.53
32.500	0.00	0.34	0.050	I o	|	|	|	0.51
32.583	0.00	0.33	0.048	I o	|	|	|	0.50
32.667	0.00	0.31	0.046	I o	|	|	|	0.48
32.750	0.00	0.28	0.044	I o	|	|	|	0.46
32.833	0.00	0.26	0.042	I o	|	|	|	0.44
32.917	0.00	0.24	0.040	I o	|	|	|	0.42
33.000	0.00	0.23	0.039	I o	|	|	|	0.40
33.083	0.00	0.21	0.037	I o	|	|	|	0.39
33.167	0.00	0.19	0.036	IO	|	|	|	0.37
33.250	0.00	0.18	0.034	IO	|	|	|	0.36
33.333	0.00	0.17	0.033	IO	|	|	|	0.35
33.417	0.00	0.15	0.032	IO	|	|	|	0.33
33.500	0.00	0.14	0.031	IO	|	|	|	0.32
33.583	0.00	0.13	0.030	IO	|	|	|	0.31
33.667	0.00	0.12	0.029	IO	|	|	|	0.30
33.750	0.00	0.11	0.028	IO	|	|	|	0.30
33.833	0.00	0.11	0.028	IO	|	|	|	0.29
33.917	0.00	0.10	0.027	O	|	|	|	0.28
34.000	0.00	0.09	0.026	O	|	|	|	0.27
34.083	0.00	0.08	0.026	O	|	|	|	0.27
34.167	0.00	0.08	0.025	O	|	|	|	0.26
34.250	0.00	0.07	0.025	O	|	|	|	0.26
34.333	0.00	0.07	0.024	O	|	|	|	0.25
34.417	0.00	0.06	0.024	O	|	|	|	0.25
34.500	0.00	0.06	0.023	O	|	|	|	0.24
34.583	0.00	0.05	0.023	O	|	|	|	0.24
34.667	0.00	0.05	0.022	O	|	|	|	0.23
34.750	0.00	0.05	0.022	O	|	|	|	0.23
34.833	0.00	0.04	0.022	O	|	|	|	0.23
34.917	0.00	0.04	0.022	O	|	|	|	0.22
35.000	0.00	0.04	0.021	O	|	|	|	0.22
35.083	0.00	0.03	0.021	O	|	|	|	0.22
35.167	0.00	0.03	0.021	O	|	|	|	0.22
35.250	0.00	0.03	0.021	O	|	|	|	0.21
35.333	0.00	0.03	0.020	O	|	|	|	0.21
35.417	0.00	0.03	0.020	O	|	|	|	0.21
35.500	0.00	0.02	0.020	O	|	|	|	0.21
35.583	0.00	0.02	0.020	O	|	|	|	0.21
35.667	0.00	0.02	0.020	O	|	|	|	0.21
35.750	0.00	0.02	0.020	O	|	|	|	0.20
35.833	0.00	0.02	0.019	O	|	|	|	0.20
35.917	0.00	0.02	0.019	O	|	|	|	0.20
36.000	0.00	0.01	0.019	O	|	|	|	0.20
36.083	0.00	0.01	0.019	O	|	|	|	0.20
36.167	0.00	0.01	0.019	O	|	|	|	0.20
36.250	0.00	0.01	0.019	O	|	|	|	0.20
36.333	0.00	0.01	0.019	O	|	|	|	0.20
36.417	0.00	0.01	0.019	O	|	|	|	0.20
36.500	0.00	0.01	0.019	O	|	|	|	0.20
36.583	0.00	0.01	0.019	O	|	|	|	0.20
36.667	0.00	0.01	0.019	O	|	|	|	0.19
36.750	0.00	0.01	0.019	O	|	|	|	0.19
36.833	0.00	0.01	0.019	O	|	|	|	0.19
36.917	0.00	0.01	0.018	O	|	|	|	0.19

37.000	0.00	0.01	0.018	o	|	|	|	0.19
37.083	0.00	0.01	0.018	o	|	|	|	0.19
37.167	0.00	0.01	0.018	o	|	|	|	0.19
37.250	0.00	0.00	0.018	o	|	|	|	0.19
37.333	0.00	0.00	0.018	o	|	|	|	0.19
37.417	0.00	0.00	0.018	o	|	|	|	0.19
37.500	0.00	0.00	0.018	o	|	|	|	0.19
37.583	0.00	0.00	0.018	o	|	|	|	0.19
37.667	0.00	0.00	0.018	o	|	|	|	0.19
37.750	0.00	0.00	0.018	o	|	|	|	0.19
37.833	0.00	0.00	0.018	o	|	|	|	0.19
37.917	0.00	0.00	0.018	o	|	|	|	0.19
38.000	0.00	0.00	0.018	o	|	|	|	0.19
38.083	0.00	0.00	0.018	o	|	|	|	0.19
38.167	0.00	0.00	0.018	o	|	|	|	0.19
38.250	0.00	0.00	0.018	o	|	|	|	0.19
38.333	0.00	0.00	0.018	o	|	|	|	0.19
38.417	0.00	0.00	0.018	o	|	|	|	0.19
38.500	0.00	0.00	0.018	o	|	|	|	0.19
38.583	0.00	0.00	0.018	o	|	|	|	0.19
38.667	0.00	0.00	0.018	o	|	|	|	0.19
38.750	0.00	0.00	0.018	o	|	|	|	0.19
38.833	0.00	0.00	0.018	o	|	|	|	0.19
38.917	0.00	0.00	0.018	o	|	|	|	0.19
39.000	0.00	0.00	0.018	o	|	|	|	0.19

Remaining water in basin = 0.02 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 468
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 1.168 (CFS)
Total volume = 1.984 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005
Study date: 11/25/21

BCCOV BLDG D AREA 12
2 YR 24 HR STORM EVENT
21-0034
2021-12-02 EP

Program License Serial Number 4010

********** HYDROGRAPH INFORMATION **********

From study/file name: PROP2YRD3242.rte

**********HYDROGRAPH DATA**********

Number of intervals = 290
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.697 (CFS)
Total volume = 0.423 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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Process from Point/Station 100.000 to Point/Station 101.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 290
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.083	0.002	0.001	0.002	0.002
0.500	0.010	0.070	0.010	0.010
1.000	0.029	0.110	0.029	0.029
1.500	0.052	0.140	0.052	0.052
2.000	0.078	0.160	0.077	0.079
2.500	0.106	0.180	0.105	0.107
3.000	0.136	0.200	0.135	0.137
3.500	0.167	0.210	0.166	0.168
4.000	0.199	0.230	0.198	0.200
4.500	0.231	0.240	0.230	0.232
5.000	0.262	0.260	0.261	0.263
5.500	0.292	0.270	0.291	0.293
6.000	0.320	0.280	0.319	0.321
6.500	0.346	0.290	0.345	0.347
7.000	0.369	0.300	0.368	0.370
7.500	0.388	0.310	0.387	0.389
8.000	0.398	0.330	0.397	0.399

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.2	0.35	0.52	0.70	Depth (Ft.)
0.083	0.03	0.00	0.000	OI	|	|	|	|	0.00
0.167	0.04	0.00	0.000	OI	|	|	|	|	0.01
0.250	0.04	0.00	0.001	OI	|	|	|	|	0.02
0.333	0.05	0.00	0.001	O I	|	|	|	|	0.04
0.417	0.06	0.00	0.001	O I	|	|	|	|	0.05
0.500	0.06	0.00	0.002	O I	|	|	|	|	0.07
0.583	0.06	0.00	0.002	O I	|	|	|	|	0.09
0.667	0.06	0.01	0.003	O I	|	|	|	|	0.11
0.750	0.06	0.01	0.003	O I	|	|	|	|	0.13
0.833	0.07	0.01	0.003	O I	|	|	|	|	0.15
0.917	0.08	0.02	0.004	O I	|	|	|	|	0.17
1.000	0.08	0.02	0.004	O I	|	|	|	|	0.20
1.083	0.07	0.02	0.005	|O I	|	|	|	|	0.22
1.167	0.06	0.03	0.005	|OI	|	|	|	|	0.23
1.250	0.06	0.03	0.005	|OI	|	|	|	|	0.24
1.333	0.06	0.03	0.005	|OI	|	|	|	|	0.26
1.417	0.06	0.03	0.006	|OI	|	|	|	|	0.27
1.500	0.06	0.03	0.006	|OI	|	|	|	|	0.28
1.583	0.06	0.03	0.006	|OI	|	|	|	|	0.29
1.667	0.06	0.04	0.006	|OI	|	|	|	|	0.30
1.750	0.06	0.04	0.006	|OI	|	|	|	|	0.31
1.833	0.07	0.04	0.006	|O I	|	|	|	|	0.32
1.917	0.08	0.04	0.007	|O I	|	|	|	|	0.33
2.000	0.08	0.04	0.007	| OI	|	|	|	|	0.34
2.083	0.08	0.05	0.007	| OI	|	|	|	|	0.36
2.167	0.08	0.05	0.007	| OI	|	|	|	|	0.37
2.250	0.08	0.05	0.008	| OI	|	|	|	|	0.38
2.333	0.08	0.05	0.008	| OI	|	|	|	|	0.39
2.417	0.08	0.05	0.008	| OI	|	|	|	|	0.40
2.500	0.08	0.06	0.008	| OI	|	|	|	|	0.41
2.583	0.09	0.06	0.009	| O I	|	|	|	|	0.42
2.667	0.10	0.06	0.009	| O I	|	|	|	|	0.44
2.750	0.10	0.06	0.009	| O I	|	|	|	|	0.45
2.833	0.10	0.06	0.009	| O I	|	|	|	|	0.47
2.917	0.10	0.07	0.010	| OI	|	|	|	|	0.48
3.000	0.10	0.07	0.010	| OI	|	|	|	|	0.49
3.083	0.10	0.07	0.010	| OI	|	|	|	|	0.50
3.167	0.10	0.07	0.010	| OI	|	|	|	|	0.51
3.250	0.10	0.07	0.011	| OI	|	|	|	|	0.51
3.333	0.10	0.07	0.011	| OI	|	|	|	|	0.52
3.417	0.10	0.07	0.011	| OI	|	|	|	|	0.52
3.500	0.10	0.07	0.011	| OI	|	|	|	|	0.53
3.583	0.10	0.07	0.011	| OI	|	|	|	|	0.54
3.667	0.10	0.07	0.012	| OI	|	|	|	|	0.54
3.750	0.10	0.07	0.012	| OI	|	|	|	|	0.55
3.833	0.12	0.07	0.012	| O I	|	|	|	|	0.55
3.917	0.12	0.07	0.012	| O I	|	|	|	|	0.56
4.000	0.12	0.08	0.013	| O I	|	|	|	|	0.57
4.083	0.12	0.08	0.013	| O I	|	|	|	|	0.58
4.167	0.12	0.08	0.013	| O I	|	|	|	|	0.59
4.250	0.12	0.08	0.014	| O I	|	|	|	|	0.59
4.333	0.14	0.08	0.014	| O I	|	|	|	|	0.60
4.417	0.14	0.08	0.014	| O I	|	|	|	|	0.61
4.500	0.14	0.08	0.015	| O I	|	|	|	|	0.63
4.583	0.14	0.08	0.015	| O I	|	|	|	|	0.64
4.667	0.14	0.08	0.016	| O I	|	|	|	|	0.65
4.750	0.14	0.08	0.016	| O I	|	|	|	|	0.66
4.833	0.16	0.08	0.017	| O I|	|	|	|	0.67
4.917	0.16	0.08	0.017	| O I|	|	|	|	0.69
5.000	0.16	0.09	0.018	| O I|	|	|	|	0.70
5.083	0.14	0.09	0.018	| O I |	|	|	|	0.71
5.167	0.12	0.09	0.018	| OI |	|	|	|	0.72
5.250	0.12	0.09	0.019	| OI |	|	|	|	0.73
5.333	0.14	0.09	0.019	| O I |	|	|	|	0.73
5.417	0.14	0.09	0.019	| O I |	|	|	|	0.74
5.500	0.14	0.09	0.020	| O I |	|	|	|	0.75
5.583	0.16	0.09	0.020	| O I|	|	|	|	0.76
5.667	0.16	0.09	0.020	| O I|	|	|	|	0.78

5.750	0.16	0.09	0.021	o I|				0.79
5.833	0.16	0.09	0.021	o I|				0.80
5.917	0.16	0.10	0.022	o I|				0.81
6.000	0.16	0.10	0.022	o I|				0.83
6.083	0.18	0.10	0.023	o I				0.84
6.167	0.18	0.10	0.023	o I				0.85
6.250	0.18	0.10	0.024	o I				0.87
6.333	0.18	0.10	0.025	o I				0.89
6.417	0.18	0.10	0.025	o I				0.90
6.500	0.18	0.10	0.026	o I				0.91
6.583	0.20	0.10	0.026	o |I				0.93
6.667	0.20	0.11	0.027	o |I				0.95
6.750	0.20	0.11	0.028	o |I				0.97
6.833	0.20	0.11	0.028	o |I				0.98
6.917	0.20	0.11	0.029	o |I				1.00
7.000	0.20	0.11	0.030	o |I				1.01
7.083	0.20	0.11	0.030	o |I				1.03
7.167	0.20	0.11	0.031	o |I				1.04
7.250	0.20	0.11	0.032	o |I				1.06
7.333	0.22	0.11	0.032	o |I				1.07
7.417	0.23	0.12	0.033	o | I				1.09
7.500	0.23	0.12	0.034	o | I				1.10
7.583	0.24	0.12	0.035	o | I				1.12
7.667	0.25	0.12	0.035	o | I				1.14
7.750	0.25	0.12	0.036	o | I				1.16
7.833	0.26	0.12	0.037	o | I				1.18
7.917	0.27	0.12	0.038	o | I				1.20
8.000	0.27	0.12	0.039	o | I				1.22
8.083	0.29	0.12	0.040	o | I				1.24
8.167	0.31	0.13	0.041	o | I				1.27
8.250	0.31	0.13	0.043	o | I				1.30
8.333	0.31	0.13	0.044	o | I				1.32
8.417	0.31	0.13	0.045	o | I				1.35
8.500	0.31	0.13	0.046	o | I				1.38
8.583	0.32	0.13	0.048	o | I				1.40
8.667	0.33	0.14	0.049	o | I|				1.43
8.750	0.33	0.14	0.050	o | I|				1.46
8.833	0.34	0.14	0.052	o | I|				1.49
8.917	0.35	0.14	0.053	o | I|				1.52
9.000	0.35	0.14	0.054	o | I				1.55
9.083	0.37	0.14	0.056	o | |I				1.57
9.167	0.39	0.14	0.057	o | |I				1.61
9.250	0.39	0.15	0.059	o | |I				1.64
9.333	0.40	0.15	0.061	o | | I				1.67
9.417	0.41	0.15	0.063	o | | I				1.71
9.500	0.41	0.15	0.064	o | | I				1.74
9.583	0.42	0.15	0.066	o | | I				1.78
9.667	0.43	0.15	0.068	o| | I				1.81
9.750	0.43	0.15	0.070	o| | I				1.85
9.833	0.44	0.16	0.072	o| | I				1.89
9.917	0.45	0.16	0.074	o| | I				1.92
10.000	0.45	0.16	0.076	o| | I				1.96
10.083	0.36	0.16	0.078	o| I				2.00
10.167	0.31	0.16	0.079	o| I				2.02
10.250	0.31	0.16	0.080	o| I				2.04
10.333	0.31	0.16	0.081	o| I				2.05
10.417	0.31	0.16	0.082	o| I				2.07
10.500	0.31	0.16	0.083	o| I				2.09
10.583	0.37	0.16	0.084	o| |I				2.11
10.667	0.41	0.17	0.086	o| | I				2.14
10.750	0.41	0.17	0.087	o| | I				2.17
10.833	0.41	0.17	0.089	o| | I				2.20
10.917	0.41	0.17	0.091	o| | I				2.23
11.000	0.41	0.17	0.092	o| | I				2.26
11.083	0.40	0.17	0.094	o| | I				2.29
11.167	0.39	0.17	0.096	o| |I				2.31
11.250	0.39	0.17	0.097	o| |I				2.34
11.333	0.39	0.17	0.098	o |I				2.37
11.417	0.39	0.18	0.100	o |I				2.39
11.500	0.39	0.18	0.101	o |I				2.42
11.583	0.36	0.18	0.103	o I				2.44
11.667	0.35	0.18	0.104	o I				2.47
11.750	0.35	0.18	0.105	o I				2.49
11.833	0.36	0.18	0.106	o I				2.51
11.917	0.37	0.18	0.108	o I				2.53

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12.000    0.37    0.18      0.109  |       o       I       |       |       |     2.55
12.083    0.46    0.18      0.111  |       o       |    I  |       |       |     2.58
12.167    0.51    0.18      0.113  |       o       |      I|       |       |     2.61
12.250    0.51    0.19      0.115  |       o       |      I|       |       |     2.65
12.333    0.52    0.19      0.117  |       o       |       I       |       |     2.69
12.417    0.53    0.19      0.120  |       o       |       I       |       |     2.73
12.500    0.53    0.19      0.122  |       o       |       I       |       |     2.76
12.583    0.56    0.19      0.124  |       o       |       |I      |       |     2.81
12.667    0.57    0.19      0.127  |       o       |       | I     |       |     2.85
12.750    0.57    0.20      0.129  |       o       |       | I     |       |     2.89
12.833    0.59    0.20      0.132  |       |o      |       | I     |       |     2.94
12.917    0.59    0.20      0.135  |       |o      |       |  I    |       |     2.98
13.000    0.59    0.20      0.138  |       |o      |       |  I    |       |     3.02
13.083    0.66    0.20      0.140  |       |o      |       |     I |       |     3.07
13.167    0.70    0.20      0.144  |       |o      |       |      I|       |     3.12
13.250    0.70    0.20      0.147  |       |o      |       |       I       |     3.18
13.333    0.70    0.20      0.151  |       |o      |       |       I       |     3.23
13.417    0.70    0.21      0.154  |       |o      |       |       I       |     3.29
13.500    0.70    0.21      0.157  |       |o      |       |       I       |     3.34
13.583    0.56    0.21      0.160  |       |o      |       |I      |       |     3.39
13.667    0.47    0.21      0.162  |       |o      |    I  |       |       |     3.42
13.750    0.47    0.21      0.164  |       |o      |    I  |       |       |     3.45
13.833    0.47    0.21      0.166  |       |o      |    I  |       |       |     3.48
13.917    0.47    0.21      0.168  |       |o      |    I  |       |       |     3.51
14.000    0.47    0.21      0.170  |       |o      |    I  |       |       |     3.54
14.083    0.52    0.21      0.171  |       |o      |      I|       |       |     3.57
14.167    0.55    0.21      0.174  |       |o      |       |I      |       |     3.60
14.250    0.55    0.22      0.176  |       |o      |       |I      |       |     3.64
14.333    0.54    0.22      0.178  |       |o      |       I       |       |     3.68
14.417    0.53    0.22      0.180  |       | o     |       I       |       |     3.71
14.500    0.53    0.22      0.183  |       | o     |       I       |       |     3.74
14.583    0.53    0.22      0.185  |       | o     |       I       |       |     3.78
14.667    0.53    0.22      0.187  |       | o     |       I       |       |     3.81
14.750    0.53    0.22      0.189  |       | o     |       I       |       |     3.85
14.833    0.52    0.23      0.191  |       | o     |      I|       |       |     3.88
14.917    0.51    0.23      0.193  |       | o     |      I|       |       |     3.91
15.000    0.51    0.23      0.195  |       | o     |      I|       |       |     3.94
15.083    0.50    0.23      0.197  |       | o     |     I |       |       |     3.97
15.167    0.49    0.23      0.199  |       | o     |     I |       |       |     4.00
15.250    0.49    0.23      0.201  |       | o     |     I |       |       |     4.03
15.333    0.48    0.23      0.202  |       | o     |     I |       |       |     4.05
15.417    0.47    0.23      0.204  |       | o     |    I  |       |       |     4.08
15.500    0.47    0.23      0.206  |       | o     |    I  |       |       |     4.11
15.583    0.42    0.23      0.207  |       | o     |  I    |       |       |     4.13
15.667    0.39    0.23      0.208  |       | o     |I      |       |       |     4.15
15.750    0.39    0.23      0.210  |       | o     |I      |       |       |     4.16
15.833    0.39    0.23      0.211  |       | o     |I      |       |       |     4.18
15.917    0.39    0.23      0.212  |       | o     |I      |       |       |     4.20
16.000    0.39    0.23      0.213  |       | o     |I      |       |       |     4.21
16.083    0.20    0.23      0.213  |       |Io     |       |       |       |     4.22
16.167    0.09    0.23      0.213  |  I    | o     |       |       |       |     4.21
16.250    0.08    0.23      0.211  |  I    | o     |       |       |       |     4.19
16.333    0.08    0.23      0.210  |  I    | o     |       |       |       |     4.18
16.417    0.08    0.23      0.209  |  I    | o     |       |       |       |     4.16
16.500    0.08    0.23      0.208  |  I    | o     |       |       |       |     4.15
16.583    0.07    0.23      0.207  |  I    | o     |       |       |       |     4.13
16.667    0.06    0.23      0.206  | I     | o     |       |       |       |     4.11
16.750    0.06    0.23      0.205  | I     | o     |       |       |       |     4.09
16.833    0.06    0.23      0.204  | I     | o     |       |       |       |     4.07
16.917    0.06    0.23      0.203  | I     | o     |       |       |       |     4.06
17.000    0.06    0.23      0.201  | I     | o     |       |       |       |     4.04
17.083    0.09    0.23      0.200  |  I    | o     |       |       |       |     4.02
17.167    0.10    0.23      0.199  |   I   | o     |       |       |       |     4.01
17.250    0.10    0.23      0.199  |   I   | o     |       |       |       |     3.99
17.333    0.10    0.23      0.198  |   I   | o     |       |       |       |     3.98
17.417    0.10    0.23      0.197  |   I   | o     |       |       |       |     3.97
17.500    0.10    0.23      0.196  |   I   | o     |       |       |       |     3.95
17.583    0.10    0.23      0.195  |   I   | o     |       |       |       |     3.94
17.667    0.10    0.23      0.194  |   I   | o     |       |       |       |     3.93
17.750    0.10    0.23      0.193  |   I   | o     |       |       |       |     3.91
17.833    0.09    0.23      0.192  |   I   | o     |       |       |       |     3.90
17.917    0.08    0.23      0.191  |  I    | o     |       |       |       |     3.88
18.000    0.08    0.22      0.191  |  I    | o     |       |       |       |     3.87
18.083    0.08    0.22      0.190  |  I    | o     |       |       |       |     3.85
18.167    0.08    0.22      0.189  |  I    | o     |       |       |       |     3.84
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18.250	0.08	0.22	0.188	| I	| O	|	|	3.82
18.333	0.08	0.22	0.187	| I	| O	|	|	3.81
18.417	0.08	0.22	0.186	| I	| O	|	|	3.79
18.500	0.08	0.22	0.185	| I	| O	|	|	3.78
18.583	0.07	0.22	0.184	| I	| O	|	|	3.76
18.667	0.06	0.22	0.183	| I	| O	|	|	3.74
18.750	0.06	0.22	0.182	| I	| O	|	|	3.73
18.833	0.05	0.22	0.180	| I	| O	|	|	3.71
18.917	0.04	0.22	0.179	|I	|O	|	|	3.69
19.000	0.04	0.22	0.178	|I	|O	|	|	3.67
19.083	0.05	0.22	0.177	| I	|O	|	|	3.65
19.167	0.06	0.22	0.176	| I	|O	|	|	3.64
19.250	0.06	0.21	0.175	| I	|O	|	|	3.62
19.333	0.07	0.21	0.174	| I	|O	|	|	3.60
19.417	0.08	0.21	0.173	| I	|O	|	|	3.59
19.500	0.08	0.21	0.172	| I	|O	|	|	3.58
19.583	0.07	0.21	0.171	| I	|O	|	|	3.56
19.667	0.06	0.21	0.170	| I	|O	|	|	3.54
19.750	0.06	0.21	0.169	| I	|O	|	|	3.53
19.833	0.05	0.21	0.168	| I	|O	|	|	3.51
19.917	0.04	0.21	0.167	|I	|O	|	|	3.49
20.000	0.04	0.21	0.165	|I	|O	|	|	3.48
20.083	0.05	0.21	0.164	| I	|O	|	|	3.46
20.167	0.06	0.21	0.163	| I	|O	|	|	3.44
20.250	0.06	0.21	0.162	| I	|O	|	|	3.42
20.333	0.06	0.21	0.161	| I	|O	|	|	3.41
20.417	0.06	0.21	0.160	| I	|O	|	|	3.39
20.500	0.06	0.21	0.159	| I	|O	|	|	3.38
20.583	0.06	0.21	0.158	| I	|O	|	|	3.36
20.667	0.06	0.21	0.157	| I	|O	|	|	3.34
20.750	0.06	0.21	0.156	| I	|O	|	|	3.33
20.833	0.05	0.21	0.155	| I	|O	|	|	3.31
20.917	0.04	0.21	0.154	|I	|O	|	|	3.29
21.000	0.04	0.21	0.153	|I	|O	|	|	3.27
21.083	0.05	0.21	0.152	| I	|O	|	|	3.26
21.167	0.06	0.20	0.151	| I	|O	|	|	3.24
21.250	0.06	0.20	0.150	| I	|O	|	|	3.22
21.333	0.05	0.20	0.149	| I	|O	|	|	3.21
21.417	0.04	0.20	0.148	|I	|O	|	|	3.19
21.500	0.04	0.20	0.147	|I	|O	|	|	3.17
21.583	0.05	0.20	0.146	| I	|O	|	|	3.15
21.667	0.06	0.20	0.145	| I	|O	|	|	3.14
21.750	0.06	0.20	0.144	| I	|O	|	|	3.12
21.833	0.05	0.20	0.143	| I	|O	|	|	3.11
21.917	0.04	0.20	0.142	|I	|O	|	|	3.09
22.000	0.04	0.20	0.140	|I	|O	|	|	3.07
22.083	0.05	0.20	0.139	| I	|O	|	|	3.05
22.167	0.06	0.20	0.138	| I	|O	|	|	3.04
22.250	0.06	0.20	0.137	| I	|O	|	|	3.02
22.333	0.05	0.20	0.136	| I	|O	|	|	3.01
22.417	0.04	0.20	0.135	|I	|O	|	|	2.99
22.500	0.04	0.20	0.134	|I	|O	|	|	2.97
22.583	0.04	0.20	0.133	|I	|O	|	|	2.95
22.667	0.04	0.20	0.132	|I	|O	|	|	2.93
22.750	0.04	0.20	0.131	|I	|O	|	|	2.92
22.833	0.04	0.20	0.130	|I	O	|	|	2.90
22.917	0.04	0.20	0.129	|I	O	|	|	2.88
23.000	0.04	0.19	0.128	|I	O	|	|	2.86
23.083	0.04	0.19	0.127	|I	O	|	|	2.85
23.167	0.04	0.19	0.126	|I	O	|	|	2.83
23.250	0.04	0.19	0.125	|I	O	|	|	2.81
23.333	0.04	0.19	0.124	|I	O	|	|	2.79
23.417	0.04	0.19	0.123	|I	O	|	|	2.78
23.500	0.04	0.19	0.122	|I	O	|	|	2.76
23.583	0.04	0.19	0.121	|I	O	|	|	2.74
23.667	0.04	0.19	0.120	|I	O	|	|	2.73
23.750	0.04	0.19	0.118	|I	O	|	|	2.71
23.833	0.04	0.19	0.117	|I	O	|	|	2.69
23.917	0.04	0.19	0.116	|I	O	|	|	2.67
24.000	0.04	0.19	0.115	|I	O	|	|	2.66
24.083	0.02	0.19	0.114	I	O	|	|	2.64
24.167	0.00	0.18	0.113	I	O	|	|	2.62
24.250	0.00	0.18	0.112	I	O	|	|	2.60
24.333	0.00	0.18	0.111	I	O	|	|	2.58
24.417	0.00	0.18	0.109	I	O	|	|	2.56

24.500	0.00	0.18	0.108	I	o	|	|	2.54
24.583	0.00	0.18	0.107	I	o	|	|	2.51
24.667	0.00	0.18	0.106	I	o	|	|	2.49
24.750	0.00	0.18	0.104	I	o	|	|	2.47
24.833	0.00	0.18	0.103	I	o	|	|	2.45
24.917	0.00	0.18	0.102	I	o	|	|	2.43
25.000	0.00	0.18	0.101	I	o	|	|	2.41
25.083	0.00	0.18	0.100	I	o	|	|	2.38
25.167	0.00	0.17	0.098	I	o	|	|	2.36
25.250	0.00	0.17	0.097	I	o|	|	|	2.34
25.333	0.00	0.17	0.096	I	o|	|	|	2.32
25.417	0.00	0.17	0.095	I	o|	|	|	2.30
25.500	0.00	0.17	0.094	I	o|	|	|	2.28
25.583	0.00	0.17	0.092	I	o|	|	|	2.26
25.667	0.00	0.17	0.091	I	o|	|	|	2.24
25.750	0.00	0.17	0.090	I	o|	|	|	2.21
25.833	0.00	0.17	0.089	I	o|	|	|	2.19
25.917	0.00	0.17	0.088	I	o|	|	|	2.17
26.000	0.00	0.17	0.087	I	o|	|	|	2.15
26.083	0.00	0.17	0.085	I	o|	|	|	2.13
26.167	0.00	0.16	0.084	I	o|	|	|	2.11
26.250	0.00	0.16	0.083	I	o|	|	|	2.09
26.333	0.00	0.16	0.082	I	o|	|	|	2.07
26.417	0.00	0.16	0.081	I	o|	|	|	2.05
26.500	0.00	0.16	0.080	I	o|	|	|	2.03
26.583	0.00	0.16	0.079	I	o|	|	|	2.01
26.667	0.00	0.16	0.078	I	o|	|	|	1.99
26.750	0.00	0.16	0.077	I	o|	|	|	1.97
26.833	0.00	0.16	0.075	I	o|	|	|	1.95
26.917	0.00	0.16	0.074	I	o|	|	|	1.93
27.000	0.00	0.16	0.073	I	o|	|	|	1.91
27.083	0.00	0.16	0.072	I	o|	|	|	1.89
27.167	0.00	0.15	0.071	I	o|	|	|	1.87
27.250	0.00	0.15	0.070	I	o|	|	|	1.85
27.333	0.00	0.15	0.069	I	o|	|	|	1.83
27.417	0.00	0.15	0.068	I	o |	|	|	1.81
27.500	0.00	0.15	0.067	I	o |	|	|	1.79
27.583	0.00	0.15	0.066	I	o |	|	|	1.77
27.667	0.00	0.15	0.065	I	o |	|	|	1.75
27.750	0.00	0.15	0.064	I	o |	|	|	1.73
27.833	0.00	0.15	0.063	I	o |	|	|	1.71
27.917	0.00	0.15	0.062	I	o |	|	|	1.69
28.000	0.00	0.15	0.061	I	o |	|	|	1.67
28.083	0.00	0.15	0.060	I	o |	|	|	1.65
28.167	0.00	0.15	0.059	I	o |	|	|	1.63
28.250	0.00	0.14	0.058	I	o |	|	|	1.61
28.333	0.00	0.14	0.057	I	o |	|	|	1.59
28.417	0.00	0.14	0.056	I	o |	|	|	1.57
28.500	0.00	0.14	0.055	I	o |	|	|	1.55
28.583	0.00	0.14	0.054	I	o |	|	|	1.53
28.667	0.00	0.14	0.053	I	o |	|	|	1.52
28.750	0.00	0.14	0.052	I	o |	|	|	1.50
28.833	0.00	0.14	0.051	I	o |	|	|	1.48
28.917	0.00	0.14	0.050	I	o |	|	|	1.46
29.000	0.00	0.14	0.049	I	o |	|	|	1.43
29.083	0.00	0.13	0.048	I	o |	|	|	1.41
29.167	0.00	0.13	0.047	I	o |	|	|	1.39
29.250	0.00	0.13	0.046	I	o |	|	|	1.37
29.333	0.00	0.13	0.045	I	o |	|	|	1.35
29.417	0.00	0.13	0.044	I	o |	|	|	1.34
29.500	0.00	0.13	0.044	I	o |	|	|	1.32
29.583	0.00	0.13	0.043	I	o |	|	|	1.30
29.667	0.00	0.13	0.042	I	o |	|	|	1.28
29.750	0.00	0.13	0.041	I	o |	|	|	1.26
29.833	0.00	0.12	0.040	I	o |	|	|	1.24
29.917	0.00	0.12	0.039	I	o |	|	|	1.22
30.000	0.00	0.12	0.038	I	o |	|	|	1.20
30.083	0.00	0.12	0.038	I	o |	|	|	1.18
30.167	0.00	0.12	0.037	I	o |	|	|	1.17
30.250	0.00	0.12	0.036	I	o |	|	|	1.15
30.333	0.00	0.12	0.035	I	o |	|	|	1.13
30.417	0.00	0.12	0.034	I	o |	|	|	1.11
30.500	0.00	0.12	0.033	I	o |	|	|	1.10
30.583	0.00	0.11	0.033	I	o |	|	|	1.08
30.667	0.00	0.11	0.032	I	o |	|	|	1.06

30.750	0.00	0.11	0.031	I o				1.04
30.833	0.00	0.11	0.030	I o				1.03
30.917	0.00	0.11	0.030	I o				1.01
31.000	0.00	0.11	0.029	I o				0.99
31.083	0.00	0.11	0.028	I o				0.97
31.167	0.00	0.11	0.027	I o				0.95
31.250	0.00	0.10	0.027	I o				0.94
31.333	0.00	0.10	0.026	I o				0.92
31.417	0.00	0.10	0.025	I o				0.90
31.500	0.00	0.10	0.024	I o				0.88
31.583	0.00	0.10	0.024	I o				0.86
31.667	0.00	0.10	0.023	I o				0.84
31.750	0.00	0.10	0.022	I o				0.83
31.833	0.00	0.09	0.022	I o				0.81
31.917	0.00	0.09	0.021	I o				0.79
32.000	0.00	0.09	0.020	I o				0.78
32.083	0.00	0.09	0.020	I o				0.76
32.167	0.00	0.09	0.019	I o				0.74
32.250	0.00	0.09	0.019	I o				0.73
32.333	0.00	0.09	0.018	I o				0.71
32.417	0.00	0.09	0.017	I o				0.69
32.500	0.00	0.08	0.017	I o				0.68
32.583	0.00	0.08	0.016	I o				0.66
32.667	0.00	0.08	0.016	I o				0.65
32.750	0.00	0.08	0.015	I o				0.63
32.833	0.00	0.08	0.015	I o				0.62
32.917	0.00	0.08	0.014	I o				0.61
33.000	0.00	0.08	0.013	I o				0.59
33.083	0.00	0.08	0.013	I o				0.58
33.167	0.00	0.08	0.012	I o				0.56
33.250	0.00	0.07	0.012	I o				0.55
33.333	0.00	0.07	0.011	I o				0.54
33.417	0.00	0.07	0.011	I o				0.52
33.500	0.00	0.07	0.010	I o				0.51
33.583	0.00	0.07	0.010	I o				0.50
33.667	0.00	0.07	0.009	I o				0.47
33.750	0.00	0.06	0.009	I o				0.45
33.833	0.00	0.06	0.009	I o				0.43
33.917	0.00	0.05	0.008	I o				0.41
34.000	0.00	0.05	0.008	I o				0.39
34.083	0.00	0.05	0.008	I o				0.37
34.167	0.00	0.05	0.007	I o				0.35
34.250	0.00	0.04	0.007	IO				0.34
34.333	0.00	0.04	0.007	IO				0.32
34.417	0.00	0.04	0.006	IO				0.31
34.500	0.00	0.04	0.006	IO				0.30
34.583	0.00	0.03	0.006	IO				0.28
34.667	0.00	0.03	0.006	IO				0.27
34.750	0.00	0.03	0.005	IO				0.26
34.833	0.00	0.03	0.005	IO				0.25
34.917	0.00	0.03	0.005	IO				0.24
35.000	0.00	0.03	0.005	IO				0.23
35.083	0.00	0.02	0.005	IO				0.22
35.167	0.00	0.02	0.004	IO				0.21
35.250	0.00	0.02	0.004	O				0.20
35.333	0.00	0.02	0.004	O				0.20
35.417	0.00	0.02	0.004	O				0.19
35.500	0.00	0.02	0.004	O				0.18
35.583	0.00	0.02	0.004	O				0.18
35.667	0.00	0.02	0.004	O				0.17
35.750	0.00	0.01	0.004	O				0.17
35.833	0.00	0.01	0.004	O				0.16
35.917	0.00	0.01	0.003	O				0.16
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36.167	0.00	0.01	0.003	O				0.14
36.250	0.00	0.01	0.003	O				0.14
36.333	0.00	0.01	0.003	O				0.14
36.417	0.00	0.01	0.003	O				0.13
36.500	0.00	0.01	0.003	O				0.13
36.583	0.00	0.01	0.003	O				0.13
36.667	0.00	0.01	0.003	O				0.12
36.750	0.00	0.01	0.003	O				0.12
36.833	0.00	0.01	0.003	O				0.12
36.917	0.00	0.01	0.003	O				0.12

37.000	0.00	0.01	0.003	o	|	|	|	0.11
37.083	0.00	0.01	0.003	o	|	|	|	0.11
37.167	0.00	0.01	0.003	o	|	|	|	0.11
37.250	0.00	0.01	0.002	o	|	|	|	0.11
37.333	0.00	0.00	0.002	o	|	|	|	0.11
37.417	0.00	0.00	0.002	o	|	|	|	0.10
37.500	0.00	0.00	0.002	o	|	|	|	0.10
37.583	0.00	0.00	0.002	o	|	|	|	0.10
37.667	0.00	0.00	0.002	o	|	|	|	0.10
37.750	0.00	0.00	0.002	o	|	|	|	0.10
37.833	0.00	0.00	0.002	o	|	|	|	0.10
37.917	0.00	0.00	0.002	o	|	|	|	0.10
38.000	0.00	0.00	0.002	o	|	|	|	0.09
38.083	0.00	0.00	0.002	o	|	|	|	0.09
38.167	0.00	0.00	0.002	o	|	|	|	0.09
38.250	0.00	0.00	0.002	o	|	|	|	0.09
38.333	0.00	0.00	0.002	o	|	|	|	0.09
38.417	0.00	0.00	0.002	o	|	|	|	0.09
38.500	0.00	0.00	0.002	o	|	|	|	0.09
38.583	0.00	0.00	0.002	o	|	|	|	0.09
38.667	0.00	0.00	0.002	o	|	|	|	0.09
38.750	0.00	0.00	0.002	o	|	|	|	0.09
38.833	0.00	0.00	0.002	o	|	|	|	0.09
38.917	0.00	0.00	0.002	o	|	|	|	0.09
39.000	0.00	0.00	0.002	o	|	|	|	0.09
39.083	0.00	0.00	0.002	o	|	|	|	0.09
39.167	0.00	0.00	0.002	o	|	|	|	0.08
39.250	0.00	0.00	0.002	o	|	|	|	0.08
39.333	0.00	0.00	0.002	o	|	|	|	0.08
39.417	0.00	0.00	0.002	o	|	|	|	0.08
39.500	0.00	0.00	0.002	o	|	|	|	0.08
39.583	0.00	0.00	0.002	o	|	|	|	0.08

Remaining water in basin = 0.00 (Ac.Ft)

**********HYDROGRAPH DATA**********

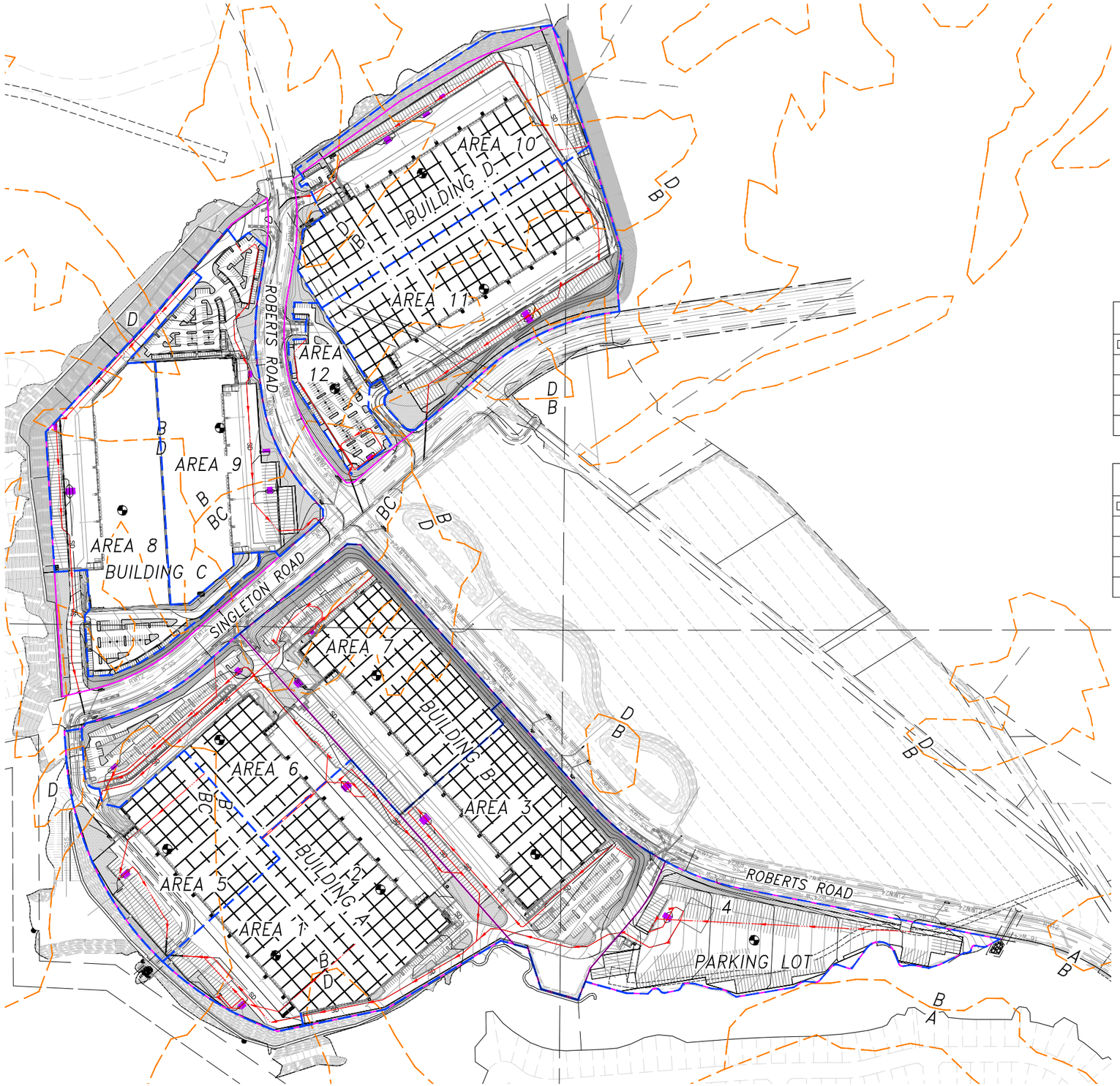
Number of intervals = 475
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.234 (CFS)
Total volume = 0.421 (Ac.Ft)

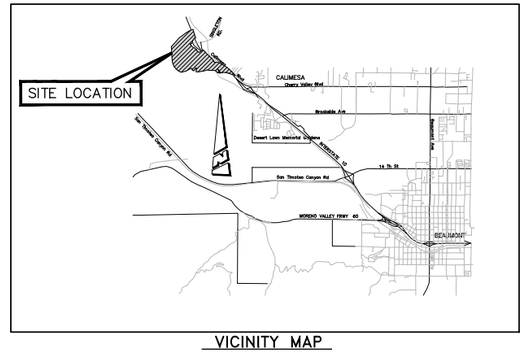
Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

UNIT HYDROGRAPH HYDROLOGY MAP





VICINITY MAP
N.T.S.
T2S, R2W, SECTION 23,24,25,26

PROPOSED AREAS						
DRAINAGE AREA	1	2	3	4	5	6
TOTAL AREA	6.8 AC	9.5 AC	12.3 AC	9.2 AC	8.1 AC	9.0 AC
L_T	1116 Ft	2462 Ft	2287 Ft	3348 Ft	899 Ft	1634 Ft
L_{CA}	860 Ft	2251 Ft	2251 Ft	2754 Ft	602 Ft	512 Ft
ΔH	6.5 Ft	6.50 Ft	9.30 Ft	37.50 Ft	6.50	3.70 Ft

PROPOSED AREAS						
DRAINAGE AREA	7	8	9	10	11	12
TOTAL AREA	12.5 AC	11.2 AC	12.1 AC	14.1 AC	14.1 AC	2.9 AC
L_T	1378 Ft	1821 Ft	1395 Ft	1473 Ft	1370 Ft	621 Ft
L_{CA}	1136 Ft	683 Ft	552 Ft	540 Ft	486 Ft	341 Ft
ΔH	3.3 Ft	29.30 Ft	18 Ft	7 Ft	2.80 Ft	9 Ft

LEGEND

- NODE / ELEV – NODE NUMBER / ELEVATION (FT)
- AC / FT – AREA (AC) / LENGTH (FT)
- DRAINAGE AREA BOUNDARY (PROPOSED)
- FLOWLINE (PROPOSED)
- PROJECT BOUNDARY
- NRCS SOIL BOUNDARY

GENERAL NOTES:

1. OVERALL BLCOV PROJECT AREA WILL BE MASS GRADED AND BACKBONE IMPROVEMENTS WILL BE CONSTRUCTED PRIOR TO ANY CONSTRUCTION COMMENCING FOR THE BUILDING A, BUILDING B, BUILDING C, BUILDING D, OR PARKING LOT PROJECTS.
2. EXISTING CONTOURS SHOWN IN EXHIBITS ARE TAKEN FROM THE MASS GRADING PLAN FOR PARCEL MAP 37862.

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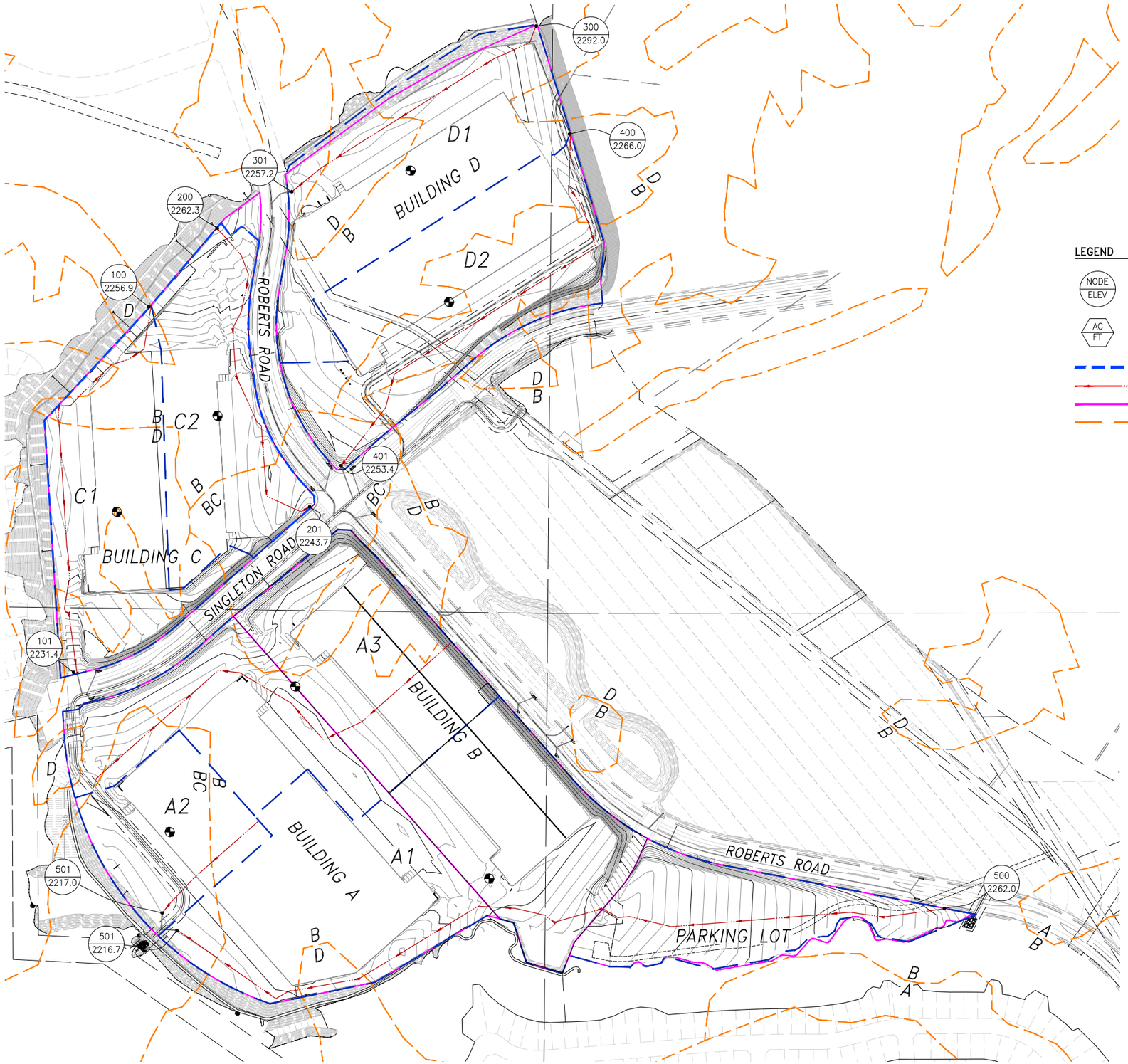
1" = 200'
200 0 200 400 600

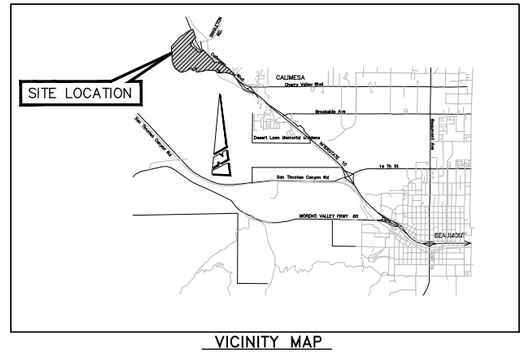
CITY OF CALIMESA, COUNTY OF RIVERSIDE
BIRTCHER COMMERCE CENTER OAK VALLEY

INDUSTRIAL DEVELOPMENT
DEVELOPED CONDITION
PRELIMINARY PROPOSED UNIT HYDROGRAPH EXHIBIT

SCALE:	1" = 200'	ALBERT A. WEBB ASSOCIATES	W.O. 21-0034
DATE:	12/14/2020	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	SHEET 1
DESIGNED:	EP		OF 1 SHEETS
CHECKED:	BJV		DWG. NO.
PLN CK REF:			
F.B.			

H:\2021\21-0034\DRAINAGE\PHYD\DWG FOLDER\21-0034 PRELIM UH MAP 2021-11-23.DWG 12/6/2021 4:30:41 PM





VICINITY MAP
N.T.S.
T2S, R2W, SECTION 23,24,25,26

LEGEND

NODE / ELEV	– NODE NUMBER – ELEVATION (FT)
AC / FT	– AREA (AC) – LENGTH (FT)
	– DRAINAGE AREA BOUNDARY
	– FLOWLINE (PROPOSED)
	– PROJECT BOUNDARY
	– NRCS SOIL BOUNDARY

EXISTING AREAS			
DRAINAGE AREA	A1	A2	A3
TOTAL AREA	37.7 AC	7.5 AC	21.7 AC
L_T	3231 Ft	526 Ft	1790 Ft
L_{CA}	1394 Ft	234 Ft	939 Ft
ΔH	45.0 Ft	7 Ft	23 Ft

EXISTING AREAS		
DRAINAGE AREA	C1	C2
TOTAL AREA	13.2 AC	11.8 AC
L_T	1645 Ft	1321 Ft
L_{CA}	629 Ft	574 Ft
ΔH	25.0 Ft	19 Ft

EXISTING AREAS		
DRAINAGE AREA	D1	D2
TOTAL AREA	15.8 AC	16.9 AC
L_T	1174 Ft	1828 Ft
L_{CA}	440 Ft	756 Ft
ΔH	35.0 Ft	13 Ft

GENERAL NOTES:

1. OVERALL BLCOV PROJECT AREA WILL BE MASS GRADED AND BACKBONE IMPROVEMENTS WILL BE CONSTRUCTED PRIOR TO ANY CONSTRUCTION COMMENCING FOR THE BUILDING A, BUILDING B, BUILDING C, BUILDING D, OR PARKING LOT PROJECTS.
2. EXISTING CONTOURS SHOWN IN EXHIBITS ARE TAKEN FROM THE MASS GRADING PLAN FOR PARCEL MAP 37862.

N
W WEBB E
S

1" = 200'
200 0 200 400 600

CITY OF CALIMESA, COUNTY OF RIVERSIDE
BIRTCHER COMMERCE CENTER OAK VALLEY

INDUSTRIAL DEVELOPMENT
DEVELOPED CONDITION
EXISTING UNIT HYDROGRAPH EXHIBIT

SCALE:	1" = 200'	ALBERT A. WEBB ASSOCIATES	W.O. 21-0034
DATE:	12/14/2020	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE, CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	SHEET 1
DESIGNED:	EP		OF 1 SHEETS
CHECKED:	BJV		DWG. NO.
PLN CK REF:			
F.B.			

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APPENDIX D- REFERENCES

RELEVANT EXCERPTS AND MAPS FROM

"HYDROLOGY AND HYDRAULICS STUDY: OAK VALLEY TOWN CENTER PARCEL MAP NO. 37862 MASS GRADING PLAN"

OAK VALLEY TOWN CENTER
HYDROLOGY AND HYDRAULICS STUDY

PARCEL MAP NO. 37862

CITY OF CALIMESA, CALIFORNIA

PREPARED FOR:

OAK VALLEY DEVELOPMENT PARTNERS
10140 ROBERTS ROAD
CALIMESA, CA 92320

PREPARED BY:

PROACTIVE ENGINEERING WEST

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MURRIETA, CA 92562
PHONE: 951-200-6840 ● FAX: 866-454-4478

DATE PREPARED:

July 2021

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EXHIBIT A: Undeveloped Condition Hydrology Index Map

EXHIBIT B: Developed Condition Hydrology Index Map

EXHIBIT C: Drainage Facilities Map

I. INTRODUCTION

Oak Valley Town Center (OVTC), Parcel Map No. 37862, is a proposed development in the City of Calimesa, lying southwesterly of the Interstate 10 Freeway (I-10) off the Singleton Road exit. The project is roughly 230 acres and will develop business park and commercial land use areas, as well as the infrastructure Singleton and Roberts Road. Oak Valley Town Center is a part of the Summerwind Ranch at Oak Valley Specific Plan that proposes the development of residential, business park, commercial and open space land use areas across roughly 2,600 acres of land.

The purpose of this study is to determine the existing and proposed hydrologic conditions to properly size the necessary drainage improvements to support the construction of Oak Valley Town Center. The scope of this report will include:

- Determine peak 100-year flow rates for the construction of the project's ultimate developed condition using the Rational Method outlined in the Riverside County Flood Control and Water Conservation District
- Based on the ultimate developed condition, determine the necessary drainage improvements that will properly convey the calculated 100-year flow rates
- Summarize analyses and proposed infrastructure storm drain improvements

II. PROJECT SITE

Oak Valley Town Center is part of the Summerwind Ranch at Oak Valley Specific plan that lies within the San Timoteo sub-basin of the Santa Ana River Watershed. The project site lies within an open grassland valley that is bounded by the I-10 freeway to the east and rolling hills and ridgelines to the west and south. Most of the project is undeveloped. There are a handful of existing properties that are fairly spread apart from each other along the I-10, as well as a couple of properties within the central portion of the valley.

Large off-site tributary areas on the east side of the I-10 contribute significant drainage to the project site through multiple pipe and box culverts. Drainage from these tributary areas begin in the San Bernardino Mountain ranges and flow in a southwesterly manner, ultimately, flowing through the proposed project site until it reaches the San Timoteo Creek. The proposed storm drain system will maintain the existing drainage course and outlet on-site, as well, as intercepted off-site drainage, into the natural streambed areas leading to the San Timoteo Creek; ultimately joining the Santa Ana River. See Figures 1 and 2 for the project Vicinity Map and Site Plan, respectively.

III. HYDROLOGY

The rational design parameters and methodologies outlined in the Riverside County Flood Control and Water Conservation District's (RCFCWCD) *Hydrology Manual*[1] were used to determine the 100-year design flow rates for the project. Calculations for the rational methodology were performed using the CivilDesign computer software.

Two hydrology analyses will be performed for this project site:

- On-site hydrology
  - The rational method was used to calculate the 100-year flow rates for the on-site tributary areas. We assume the ultimate developed condition to determine the peak flow rates tributary to the proposed OVTC storm drain infrastructure. This includes the OVTC project site, as well as future Summerwind developments located north of OVTC.
- Off-site hydrology
  - The unit hydrograph method will be used to calculate the 100-year flow rates for the off-site tributary areas. Off-site refers to the large tributary areas east of the I-10, where their respective flow rates are collected via pipe and box culverts that cross the I-10 and outlet onto the OVTC project site.

On-site Hydrology

The 100-year flow rates for Areas A and B, as shown on Exhibit B, will be analyzed using the rational method.

As directed by the *Hydrology Manual*[1], Antecedent Moisture Condition II (AMC II) was used for all rational method analyses.

Soil classification for the project site is based on the Hydrologic Soils Group Map for El Casco (Plate C-1.18) of the *Hydrology Manual*[1], as shown on Appendix A-4 of this report. Hydrologic soils group (HSG) "B" and "D" are what primarily occupies the project site. There are small patches of areas within the rolling hills and ridgelines where HSG "A" and "C" are present. Soil "B" is described as soils with a moderate rate of water transmission and soil "D" is described as soils with high runoff potential.

The rainfall values and slope of intensity duration curve were obtained from the isohyetal maps in the *Hydrology Manual*[1], as shown on Appendices A-1 to A-3. Below is a summary of the design parameters used for calculation.

2-Year-1-Hour Precipitation per Plate D-4.3 (Appendix A-1)	0.54”
100-Year-1-Hour Precipitation per Plate D-4.4 (Appendix A-2)	1.33”
Slope of Intensity Duration Curve per Plate D-4.6 (Appendix A-3)	0.55

For rational method purposes, the project site was analyzed as an undeveloped area – poor cover for the undeveloped condition. Since the hydrology study is split up into two parts (On-site and Off-site) for the undeveloped condition, the flow rates calculated in each report were simply added together to compute a total Q for each drainage area. Refer to Exhibit A for the total Q and on-site drainage area delineation.

The areas tributary to storm drain Line A are designated as Drainage Area A and Areas C, D and E, as shown on Exhibit B. Areas C, D and E are off-site tributary areas, while Drainage Area A is on-site. As mentioned before, off-site tributary areas are analyzed by the unit hydrograph method, per a separate study. The off-site areas were included in the rational method calculations as a user defined entry to account for the drainage coming from existing culverts crossing the I-10. The portion of Drainage Area A, where the OVTC project site is located, consists of industrial parcels, a commercial parcel and the infrastructure Singleton and Roberts Road streets for the ultimate developed condition. See Figure 2 for the Project Site plan. For hydrology purposes, the industrial parcels were analyzed as commercial land use. Since the ultimate developed condition is assumed to determine the peak 100-year flow rates tributary to the OVTC infrastructure storm drain system, Drainage Area A includes future Summerwind developments. Per Tentative Tract Map No. 33536, planning areas E-1, E-2 and D-1, which are delineated as Garden Courts, Townhomes and Community Recreation land use, respectively, are tributary to the OVTC storm drain infrastructure and are included in the rational method analysis calculations. For hydrology purposes, the Garden Courts and Townhomes were analyzed as commercial land use and the Community Recreation as condominium land use. See Exhibit B for the on-site hydrology map.

The areas tributary to storm drain line B are designated as Drainage Area B and Areas A and B, as shown on Exhibit B. Areas A and B are off-site tributary areas, while Drainage Area B is on-site. As mentioned before, off-site tributary areas are analyzed by the unit hydrograph method, per a separate study. Like Line A, the off-site drainage was used as a user defined entry to account for the drainage coming from the existing culverts crossing the I-10. Drainage Area B only consists of a commercial parcel for the developed condition. See Exhibit B for the Drainage Area B on-site hydrology map.

Calculations for the undeveloped and developed rational method analyses can be found in Appendix B and C, respectively, of this report.

Off-site Hydrology

The 100-year flow rates for Areas A, B, C, D and E, as shown on Exhibit B, were analyzed using the unit hydrograph method. These areas are tributary to existing pipe and box culverts that cross the I-10 and outlet onto the OVTC project site. As mentioned before, the off-site hydrology analysis is presented in a separate study, *Hydraulic Analyses for Culverts Crossing I-10 TTM 37862*[2].

IV. STORM DRAIN HYDRAULICS

Storm Drain

Three mainline storm drain systems (Lines A, B and C) are proposed to support the construction of OVTC.

Line A is a proposed reinforced box culvert (RCB) that runs through the infrastructure Singleton Road. It is the main storm drain system that is responsible for most of the on-site drainage but also takes on significant off-site drainage, as shown as Drainage Area A and Areas C, D and E per Exhibit B. The existing 72" CMP culvert that currently runs under the existing Roberts Road intercepts off-site drainage coming from the 6'x8' RCB crossing the I-10. The project will remove and replace the existing 72" CMP with an 8'x8' (WxH) RCB, where Line A begins. The upstream 72" CMP survey flowline elevation of 2249.61 was maintained to begin the Line A design. As you move downstream in Line A, two sub-mainline storm drain systems, Lines A1 and A2, confluence with Line A at the major intersection of Singleton and Roberts Road. As mentioned before, most of the on-site drainage are collected and conveyed in these storm drain systems (A, A1 and A2). Storm drain lateral stub outs are provided for the commercial and business park parcels. The locations of these lateral stub outs are based on the low points of the rough grading, where it is assumed the private storm drain systems within the parcels will join the infrastructure storm drain system. CP-09 is the only storm drain lateral that collects off-site drainage. It connects to the existing 48" RCP that crosses the I-10 near the eastbound Singleton off-ramp, where it intercepts off-site drainage from Area D. Line A

discharges in the southwest corner of the project site, where it joins the existing watercourse that leads to the San Timoteo Creek.

Line B is a proposed double 6'x4' (WxH) box culvert that crosses the proposed Roberts Road. It collects off-site drainage from Areas B and E that are tributary to four existing culverts that cross the I-10, as well as on-site drainage from a portion of a commercial parcel. Drainage from the four culverts confluence at the current OVTC project boundary where the existing Roberts Road and Cooper Drive intersect. For the rough grade condition, a trapezoidal channel conveys the off-site drainage from this confluence point to the starting point of Line B. The developer of the commercial parcel will be responsible to construct storm drain that collects off-site drainage from the confluence point to the double box culvert once the site plan is finalized. The double box culvert alignment roughly starts from the northerly Roberts Road right-of-way (ROW) line and ends roughly at the southerly ROW line where the collected drainage outlets into the existing watercourse that runs along the southside of the OVTC project site.

Line C is a proposed arch culvert. Like Line B, this culvert crosses Roberts Road and outlets into the existing watercourse that runs along the southside of the OVTC project site. It serves as a by-pass line for the off-site drainage tributary to the existing double 7'x10' box culvert (Culvert A) crossing the I-10 onto the project site.

The Water Surface Profile Gradient Program (WSPG) software was used to analyze the proposed storm drain lines and laterals. The hydraulics is based on the storm drain profile design and the 100-year flow rate calculations per the studies performed for this project site. The WSPG calculations can be found in Appendix E of this report.

Velocity calculations for Drainage Areas A and B for the undeveloped condition and the point of discharge for Lines A and B were calculated using the CivilDesign computer software.The increase in velocity at the point of discharge for Lines A and B will be mitigated by properly sized riprap aprons that contain 2-ton riprap. A manning's number of 0.04 was used for the riprap apron for the developed condition and 0.025 for the undeveloped condition. Calculations for the exit velocities can be found in Appendix F.

The proposed storm drain alignments, pipe sizing and calculated flow rates can be found on the drainage facilities map, as shown on Exhibit C.

Catch Basins

Twelve catch basins are proposed to support the construction of OVTC. Of the twelve proposed catch basins, four are sump and eight are on-grade. The AutoCAD Civil3D Hydraflow Express extension was used to properly size catch basins and determine their efficiency. The curb opening design parameters used in calculation are consistent with the Riverside County Transportation Department catch basin standard details. The flow rates captured by the catch basin are used for the WSPG calculations for their respective storm drain laterals.

A summary table for the proposed catch basins is provided on the next page and the catch basin calculations can be found in Appendix D of this report.

CB #	HYDRO MAP NODE	CATCH BASIN TYPE	SIZE (FEET)	Q_{100} (CFS)	UPSTREAM Q_{BYPASS}	$Q_{TRIBUTARY}$ (CFS)	$Q_{CAPTURED}$ (CFS)	Q_{BYPASS} (CFS)	Q_{BYPASS} TO CB #
1	10.2	On-Grade	21	12.1	0	12.1	12.1	0	N/A
2	10.4	On-Grade	14	6.3	0.71	7.01	7.01	0	N/A
3	4.3	On-Grade	14	7	0	7	5.97	1.03	12
4	6.24	Sag	14	7.6	0	7.6	7.6	0	N/A
5	6.17	Sag	14	6.7	1.3	8	8	0	N/A
6	6.17	Sag	4	3.5	0.53	4.03	4.03	0	N/A
7	6.11	On-Grade	10	7.1	1.36	8.46	7.16	1.3	5
8	6.11	On-Grade	10	5.2	1.31	6.51	5.98	0.53	6
9	6.3	On-Grade	10	5.7	0	5.7	4.39	1.31	8
10	6.3	On-Grade	10	5.8	0	5.8	4.44	1.36	7
11	7.1	On-Grade	10	5.9	0	5.9	5.19	0.71	2
12	7.13	Sag	7	4.4	1.03	5.43	5.43	0	N/A

V. WATER QUALITY

The developers of the proposed industrial and commercial parcels for OVTC will be responsible for treating their runoff before joining the infrastructure storm drain systems delineated in this drainage study. Catch basin inserts will be installed in all catch basin locations for treating street runoff. Refer to the OVTC Water Quality Management Plan report for more details.

VI. SUMMARY

The developed and undeveloped hydrology conditions were analyzed in this study. All proposed storm drain systems (Line A, B & C) intercept off-site drainage crossing the I-

10 freeway onto the project site. Lines A and B also convey on-site drainage from the proposed developments. On-site drainage from the proposed developments and streets will be treated by approved BMPs prior to discharging into the storm drain systems. The increased velocities at the point of discharge for both Lines A and B will be mitigated by properly sized riprap aprons.

Below are summary tables comparing the flow rates and exit velocities at the point of discharge for Lines A and B.

Flow Rate

Storm Drain Line	A	B
Undeveloped Flow Rate (CFS)	1,593	768
Developed Flow Rate (CFS)	1,775	829
Difference (CFS)	+182	+61

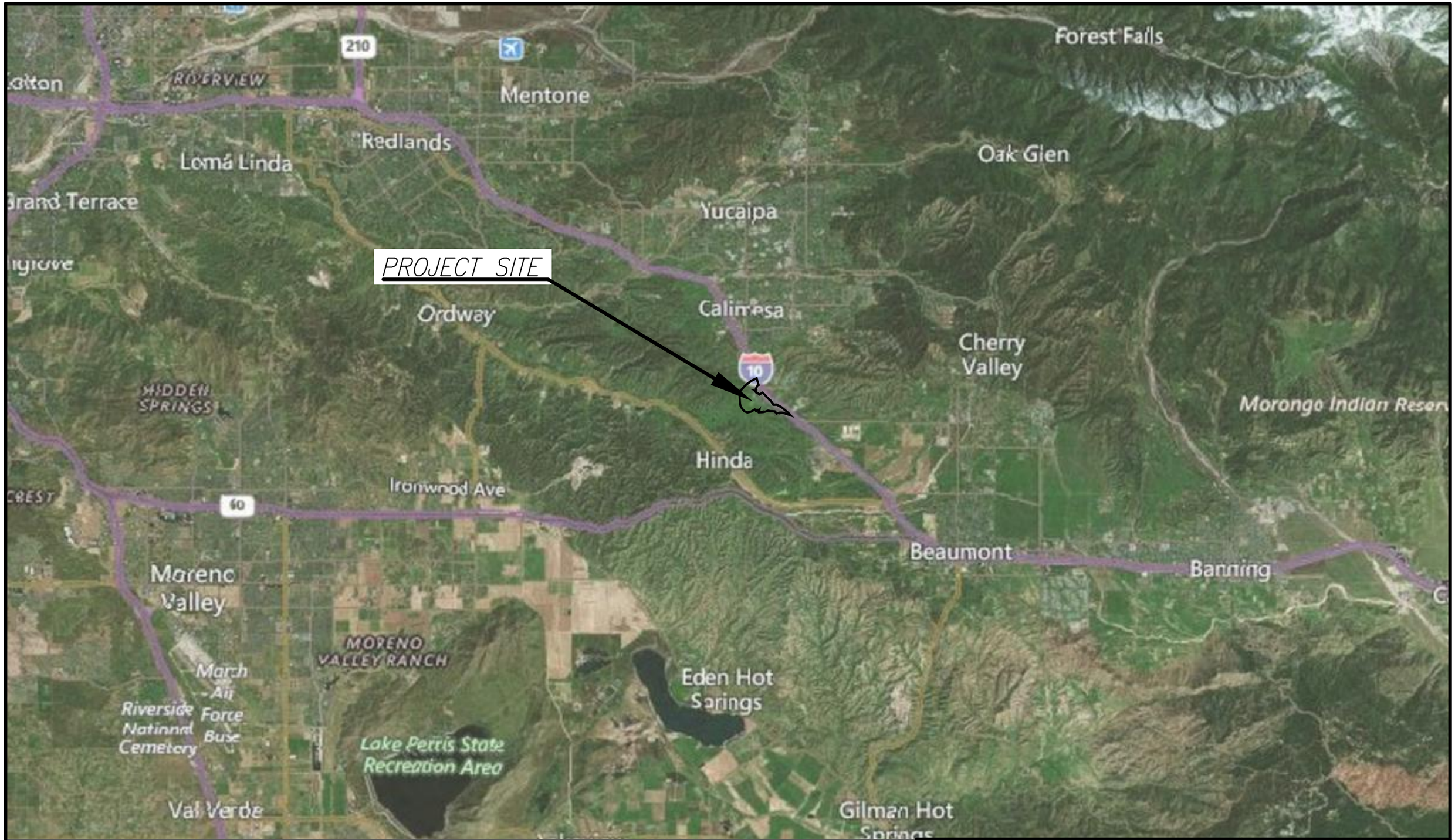
Velocity

Storm Drain Line	A	B
Undeveloped Exist Velocity (Feet per Second)	16.2	14.2
Developed Exist Velocity (Feet per Second)	8.5	6.6
Difference (Feet per Second)	-7.7	-7.6

VII. REFERENCES

1. Riverside County Flood Control and Water Conservation District Hydrology Manual, April 1978
2. JLC Engineering & Consulting, Inc. Hydraulic Analyses for Culverts Crossing I-10 TTM 37862, November 2020.

FIGURE 1: Vicinity Map



SCALE: 1"=10,000'

PROACTIVE ENGINEERING CONSULTANTS WEST
25109 JEFFERSON AVE. SUITE 200
MURRIETA, CA 92562
951-200-6840

FIGURE 1

OAK VALLEY TOWN CENTER
VICINITY MAP

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FIGURE 2: Site Plan

FUTURE SUMMERWIND DEVELOPMENT

INTERSTATE 10 HIGHWAY

PROPOSED BUILDING PAD=262.6

SINGLETON ROAD

PROPOSED BUILDING PAD=251.9

FUTURE SUMMERWIND DEVELOPMENT

SINGLETON ROAD

OAK VALLEY TOWN CENTER

PROPOSED BUILDING PAD=226.4

COOPER DRIVE

EXISTING ROBERTS ROAD

PROPOSED BUILDING PAD=223.9

ROBERTS ROAD

INTERSTATE 10 HIGHWAY

TO SAN TIMOTEO CREEK

SUMMERWIND PHASE 1

LEGEND:

- OVTC PROJECT BOUNDARY
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- LAND USE BOUNDARY
- INDUSTRIAL PARCEL
- COMMERCIAL PARCEL

SCALE: 1"=600'

PROACTIVE ENGINEERING CONSULTANTS WEST
25109 JEFFERSON AVE. SUITE 200
MURRIETA, CA 92562
951-200-6840

PROACTIVE ENGINEERING WEST

FIGURE 2
OAK VALLEY TOWN CENTER
SITE PLAN

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EXHIBIT A: Undeveloped Condition Hydrology Map

AREA "D"
(PER CULVERT ANALYSIS)

AREA "C"
(PER CULVERT ANALYSIS)

AREA "B"
(PER CULVERT ANALYSIS)

AREA "A"
(PER CULVERT ANALYSIS)

AREA "E"
(PER CULVERT ANALYSIS)

INTERSTATE 10 HIGHWAY

INTERSTATE 10 HIGHWAY

CULVERT D1
EX. 30" CMP
Q_{MAX}=43 CFS

CULVERT D2
EX. 36" RCP
Q_{MAX}=104 CFS

CULVERT C
EX. 6'Wx8'H RCB
Q_{MAX}=910 CFS

CULVERT E
EX. 30" RCP
Q_{MAX}=42 CFS

CULVERT B1 & B2
Q_{MAX}=586.14 CFS

CULVERT B1
EX. DBL 48" CMP

CULVERT B2
EX. 48" CMP

CULVERT B3
EX. DBL 48" RCP
Q_{MAX}=140 CFS

CULVERT A
EX. DBL 10'Wx7'H
Q_{MAX}=1905 CFS

SINGLETON ROAD

ROBERTS ROAD

ROBERTS ROAD

A

B

0.7 AC

1 / 374

2 / 372

2 / 230.1 AC

101 / 156.7 AC

100 / 0.4 AC

101 / 378

102 / 376

Q_{100}=786 CFS TOTAL; V_{AVG}=14.2 FT/S
(CULVERTS B-3, E)

SUMMERWIND PHASE 1

SUMMERWIND PHASE 1

Q_{100}=1,593 CFS TOTAL; V_{AVG}=16.2 FT/S
Q_{100}=535.6 CFS (ONSITE AREA A)
Q_{100}=1,057 CFS (CULVERTS C, D1, D2)

1 / 178

102 / 171

Q_{100}=3,016 CFS TOTAL; V_{AVG}=18.1 FT/S
Q_{100}=343 CFS (ONSITE AREA B)
Q_{100}=2,673 CFS (CULVERTS A, B-3, E)

TO SAN TIMOTEO CREEK

LEGEND:

- A — DRAINAGE AREA
- OVTC PROJECT BOUNDARY
- WATERSHED BOUNDARY
- SUBAREA BOUNDARY
- FLOW PATH
- EXISTING STORM DRAIN
- X-X / XX AC — SUBAREA NAME / ACREAGE
- XX / XXX.X / *XXX.X — NODE: FLOWLINE ELEVATION / * INVERT ELEVATION (IF SHOWN)

NOTE: CULVERT DATA PER SEPARATE STUDY. SEE TTM 37862 HYDRAULIC ANALYSES FOR CULVERTS CROSSING 1-10

250' 0 250' 500' 750'

SCALE: 1"=250'

EXHIBIT A

PROACTIVE ENGINEERING CONSULTANTS WEST
25109 Jefferson Ave, Suite 200
Murrieta, CA 92562
951-200-6840

PROACTIVE
ENGINEERING WEST

CITY OF CALIMESA

OAK VALLEY TOWN CENTER

UNDEVELOPED CONDITION
ONSITE HYDROLOGY MAP

EXHIBIT B: Developed Condition Hydrology Index Map

AREA "D"
(PER CULVERT ANALYSIS)

AREA "C"
(PER CULVERT ANALYSIS)

AREA "E"
(PER CULVERT ANALYSIS)

AREA "B"
(PER CULVERT ANALYSIS)

CULVERT D1
EX. 30" CMP
Q_{MAX}=43 CFS

CULVERT D2
EX. 36" RCP
Q_{MAX}=104 CFS

CULVERT C
EX. 6'Wx8'H RCB
Q_{MAX}=910 CFS

CULVERT E
EX. 30" RCP
Q_{MAX}=42 CFS

CULVERT B1 & B2
Q_{MAX}=586.14 CFS

CULVERT B1
EX. DBL 48" CMP

CULVERT B2
EX. 48" CMP

CULVERT B3
EX. DBL 48" RCP
Q_{MAX}=140 CFS

CULVERT A
EX. DBL 10'Wx7'H
Q_{MAX}=1905 CFS

INTERSTATE 10 HIGHWAY

SINGLETON ROAD

ROBERTS RD

FUTURE SUMMERWIND DEVELOPMENT
PLANNING AREA E-1 GARDEN COURTS PER SPECIFIC PLAN

FUTURE SUMMERWIND DEVELOPMENT
PLANNING AREA E-2 TOWNHOMES PER SPECIFIC PLAN

FUTURE SUMMERWIND DEVELOPMENT
STREET - ROBERTS ROAD

FUTURE SUMMERWIND DEVELOPMENT

FUTURE SUMMERWIND DEVELOPMENT
PLANNING AREA B-1 COMMUNITY RECREATION PER SPECIFIC PLAN

FUTURE SUMMERWIND DEVELOPMENT

EXISTING SUMMERWIND PHASE 1

LEGEND:

- A — DRAINAGE AREA
- OVTC PROJECT BOUNDARY
- WATERSHED BOUNDARY
- SUBAREA BOUNDARY
- FLOW PATH
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- X-X / XX AC — SUBAREA NAME / ACREAGE
- XX / XXX.X / *XXX.X — NODE / FLOWLINE ELEVATION / * INVERT ELEVATION (IF SHOWN)
- FUTURE SUMMERWIND DEVELOPMENT TRIBUTARY TO THE OVTC STORM DRAIN INFRASTRUCTURE

NOTE: CULVERT DATA PER SEPARATE STUDY. SEE TTM 37862 HYDRAULIC ANALYSES FOR CULVERTS CROSSING 1-10

200' 0 200' 400' 600'
SCALE: 1"=200'

EXHIBIT B

CITY OF CALIMESA

PROACTIVE ENGINEERING CONSULTANTS WEST
25109 JEFFERSON AVE. SUITE 200
MURRIETA, CA 92562
951-200-6840

PROACTIVE ENGINEERING WEST

OAK VALLEY TOWN CENTER

DEVELOPED CONDITION
ONSITE HYDROLOGY MAP

EXHIBIT C: Drainage Facilities Map

CULVERT D1
EX. 30" CMP
Q_{MAX}=43 CFS

CULVERT D2
EX. 36" RCP
Q_{MAX}=104 CFS

CULVERT C
EX. 6'Wx8'H RCB
Q_{MAX}=910 CFS

CULVERT E
EX. 30" RCP
Q_{MAX}=42 CFS

CULVERT B1 & B2
Q_{MAX}=586.14 CFS

CULVERT B1
EX. DBL 48" CMP

CULVERT B2
EX. 48" CMP

CULVERT B3
EX. DBL 48" RCP
Q_{MAX}=140 CFS

CULVERT A
EX. DBL 10'Wx7'H
Q_{MAX}=1905 CFS

INTERSTATE 10 HIGHWAY

INTERSTATE 10 HIGHWAY

SINGLETON ROAD

ROBERTS ROAD

FUTURE SUMMERWIND DEVELOPMENT

FUTURE SUMMERWIND DEVELOPMENT

FUTURE SUMMERWIND DEVELOPMENT

SUMMERWIND PHASE 1

A

A

A

A

B

CP-09 (R7)
48" RCP
Q_{100}=147 CFS

CP-09 (R1-6)
60" RCP
Q_{100}=147 CFS

30' PUBLIC SD ESMT

30' PUBLIC SD ESMT

40' PUBLIC SD ESMT

40' PUBLIC SD ESMT

50' PUBLIC SD ESMT

EXISTING CULVERT
Q_{MAX}=910 CFS

CP-22
30" RCP
Q_{100}=10.4 CFS

LINE A2
66" RCP
Q_{100}=203.2 CFS

CP-08
18" RCP
Q_{100}=10 CFS

LINE A (R17)
10x8 RCB
Q_{100}=1,053 CFS

CATCH BASIN 3
W=14'
Q_{100}=7.0 CFS

CP-07
18" RCP

CP-06
30" RCP
Q_{100}=70 CFS

LINE A2
66" RCP
Q_{100}=213.6 CFS

CATCH BASIN 12
W=14' (SAG)
Q_{100}=4.4 CFS

CP-21
18" RCP

CATCH BASIN 11
W=10'
Q_{100}=5.9 CFS

CP-20
18" RCP

LINE A2 (R1)
66" RCP
Q_{100}=222.8 CFS

CP-05
18" RCP
Q_{100}=27.9 CFS

LINE A
12x10 RCB
Q_{100}=1,474 CFS

CP-10
18" RCP
Q_{100}=6.7 CFS

LINE A
12x10 RCB
Q_{100}=1,481 CFS

CATCH BASIN 2
W=14'
Q_{100}=6.3 CFS

CP-04
18" RCP

CP-02
30" RCP
Q_{100}=27.7 CFS

LINE A
12x10 RCB
Q_{100}=1,520 CFS

CP-23
42" RCP
Q_{100}=57.1 CFS

LINE A
12x10 RCB
Q_{100}=1,497 CFS

CATCH BASIN 1
W=14'
Q_{100}=12.1 CFS

CP-03
18" RCP

LINE A
12x10 RCB
Q_{100}=1,567 CFS

CP-24
24" RCP
Q_{100}=23.9 CFS

CP-01
42" RCP
Q_{100}=101.4 CFS

LINE A
12'x10' (WxH) RCB
Q_{100}=1,675 CFS

LINE A
10x8 RCB
Q_{100}=1,045 CFS

LINE A
8x10 RCB
Q_{100}=1,058 CFS

LINE A
10x8 RCB
Q_{100}=1,128 CFS

LINE A
12x10 RCB
Q_{100}=1,128 CFS

CATCH BASIN 4
W=14' (SAG)
Q_{100}=7.6 CFS

LATERAL CP-11
18" RCP

LINE A1
66" RCP
Q_{100}=145.6 CFS

LINE A
12x10 RCB
Q_{100}=1,253 CFS

LINE A
12x10 RCB
Q_{100}=1,446 CFS

LINE A1
66" RCP
Q_{100}=140.4 CFS

CATCH BASIN 6
W=4' (SAG)
Q_{100}=3.5 CFS

CP-14
18" RCP

LINE A1
66" RCP
Q_{100}=119.2 CFS

CP-12
24" RCP
Q_{100}=21.2 CFS

LINE A1
66" RCP
Q_{100}=110.3 CFS

CATCH BASIN 5
W=14' (SAG)
Q_{100}=6.7 CFS

CP-13
18" RCP

CP-15
30" RCP
Q_{100}=31 CFS

CATCH BASIN 7
W=10'
Q_{100}=7.1 CFS

CP-16
18" RCP

CP-18
36" RCP
Q_{100}=56.1 CFS

LINE A1
48" RCP
Q_{100}=67.3 CFS

CATCH BASIN 8
W=10'
Q_{100}=5.2 CFS

CP-17
18" RCP

LINE A1
48" RCP
Q_{100}=79.4 CFS

CATCH BASIN 10
W=10'
Q_{100}=5.8 CFS

CP-19
18" RCP

LINE A1
18" RCP
Q_{100}=11.2 CFS

LINE B
DOUBLE 6x4 CULVERT
Q_{100}=828.8 CFS

CATCH BASIN 9
W=10'
Q_{100}=5.7 CFS

LINE A1
18" RCP

LINE C
ARCH CULVERTT
Q_{100}=1,905 CFS

WOB

WOB

WOB

LEGEND:

A — DRAINAGE AREA

OVTC PROJECT BOUNDARY

WATERSHED BOUNDARY

PROPOSED STORM DRAIN

EXISTING STORM DRAIN

NOTE: CULVERT DATA PER SEPARATE STUDY. SEE TTM 37862
HYDRAULIC ANALYSES FOR CULVERTS CROSSING 1-10

200' 0 200' 400' 600'

SCALE: 1"=200'

EXHIBIT C

PROACTIVE ENGINEERING CONSULTANTS WEST
25109 JEFFERSON AVE. SUITE 200
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PROACTIVE ENGINEERING WEST

CITY OF CALIMESA

OAK VALLEY TOWN CENTER

PRELIMINARY DRAINAGE FACILITIES MAP

FOR REVIEW ONLY

Birtcher Commerce Center Oak Valley - Parking Lot
DPR 21-02
Calimesa, County of Riverside, California

Preliminary Drainage Study

Prepared for:
Birtcher Development
450 Newport Center Drive, Suite 220
Newport Beach, CA 92660
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ALBERT A. WEBB ASSOCIATES
3788 McCray Street
Riverside, CA 92506

Original Date Prepared: May 2021
Revision Date(s):

[Stamp]

Engineer
Title

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SECTION 1 - SUMMARY

PURPOSE

The purpose of this report is to document the hydrologic and hydraulic analyses performed in support of the Birtcher Commerce Center Oak Valley (BCCOV) – Parking Lot project located in the city of Calimesa in the County of Riverside, California. The overall BCCOV project site (PM 37862) consists of approximately 220 acres of currently vacant land and is bounded by the Interstate-10 (I-10) highway along its northeast, the single-family residential tract TR 32702 (currently under construction) along its southeastern boundary, vacant land along its southern boundary, and a future residential development to its northwest. The San Timoteo Creek runs from north to south along the eastern boundary of the BCCOV site and continues south of the site.

The BCCOV - Parking Lot project is bounded by Roberts Road to its north, future industrial development BCCOV – Building B to its west, and the San Timoteo Creek along its southern and eastern boundaries. The project proposes to build a parking lot on approximately 8.7 acres. This report will summarize the hydrologic and hydraulic analyses that were conducted in order to determine the necessary drainage improvements required to provide flood protection for the proposed project and safely convey the runoff through the site.

The scope of this report will include the following:

- Determine the peak 100-year and 10-year flow rates for the developed condition using the Riverside County Flood Control and Water Conservation District (RCFC&WCD) Rational Method.
- Determine the required storm drain facilities, alignment, and sizes required to flood protect the project site.
- Determine the necessary flow rate required for water quality treatment.
- Determine the necessary detention volume required to mitigate for increases in runoff for the 24-hour duration storm event for the 2-year return frequency
- Preparation of a preliminary report summarizing the hydrology and hydraulic results.

DESCRIPTION OF WATERSHED

As previously described, the project is proposing an industrial development on approximately 8.7 acres of vacant land within the boundaries of the overall BCCOV project boundary. The overall BCCOV project, and all areas within its boundary including the BCCOV - Parking Lot project, is located within the Summerwind Ranch at Oak Valley Specific Plan which comprises approximately 2,600 acres of land within the city of Calimesa.

The currently vacant overall BCCOV project site generally drains towards the center of the site where a natural streambed area conveys flows from north to south. The project site is currently impacted by considerable offsite flow that enters the site via multiple existing culverts running underneath the I-10 Highway. The existing culverts convey approximately 3730 cfs of flows generated mainly by the San Bernardino Mountains located northeast of the overall BCCOV project site. The offsite flows combine with the existing onsite flows and are conveyed south through the site via the existing streambed areas before ultimately discharging into the San Timoteo Creek.

Prior to any construction commencing for the BCCOV - Parking Lot project, the overall BCCOV project site will be mass graded. The mass grading phase also includes the construction of retaining walls along the boundaries of the overall BCCOV project, graded pads, the construction of backbone street improvements for Singleton Road and Roberts Road, the installation of backbone storm drain facilities, and the installation of storm drain stub-outs for the individual BCCOV industrial developments to discharge into. The overall drainage pattern of the mass grade phase will perpetuate the drainage pattern

of the existing, vacant project site. However, runoff in the mass graded phase will be captured in temporary inlets and conveyed towards the backbone storm drain facilities. The backbone storm drain facilities have been designed to convey the fully developed flows from the overall BCCOV project as well as the existing offsite flows generated north of the I-10 highway southerly towards the San Timoteo Creek. A separate drainage study titled "Hydrology and Hydraulics Study: Oak Valley Town Center Parcel Map No. 37862 Mass Grading Plan" was conducted for the mass grade phase of the project and encompasses the design and layout of the backbone storm drain facilities.

The completion of the mass grade phase (along with backbone improvements for Roberts Road and Singleton Road) for the overall BCCOV project site will be considered the existing condition for the purpose of this preliminary drainage study for the BCCOV - Parking Lot project. Temporary inlets and any existing CMP constructed in the mass grade phase will be removed in the ultimate condition. Storm drain stub-outs constructed in the mass grade phase will remain in place and be used as connection points for the proposed onsite developments of the BCCOV - Parking Lot project.

Existing elevations across the site vary from 2258 to 2230 feet (NAVD88 datum). The existing site surface flows towards an earthen swale near the center of the site. The swale conveys flows from east to west towards a sediment basin located near the southwestern corner of the project site. Large flows in the existing condition will fill up the sediment basin before spilling out and traveling southwest towards the San Timoteo Creek.

PROPOSED CONDITIONS

In the proposed condition of the BCCOV - Parking Lot project, onsite runoff will generally surface flow from east to west before being intercepted by proposed ribbon gutters near the western boundary. Onsite runoff will then be captured by a network of drainage inlets provided at low points. Proposed underground storm drain conveys captured flows towards proposed biotreatment devices for water quality treatment. Modular Wetland System (MWS) vaults are being proposed to provide water quality treatment (additional information regarding the MWS vaults can be found in the separate Preliminary WQMP Report). CMP chamber detention systems with orifice outlets are proposed to mitigate onsite flows for the 2-year 24-hour storm event to meet HCOC requirements.

All flows captured onsite are then conveyed towards existing storm drain stub-outs that will be constructed in the mass grading phase of the overall BCCOV project once treated for water quality and mitigated to be within 10% of the pre-development flows for the 2-year storm event with a duration of 24 hours. These stub-outs have been sized to convey the fully developed flows generated by the BCCOV - Parking Lot project per a separate drainage study ("Hydrology and Hydraulics Study: Oak Valley Town Center Parcel Map No. 37862 Mass Grading Plan") and conveys flows towards the backbone storm drain lines which will be constructed in the mass grade phase of the overall BCCOV project. The backbone storm drain line conveys flows towards the southern boundary of the overall BCCOV project boundary and ultimately discharges all captured flows offsite and into the San Timoteo Creek.

METHODOLOGY

HYDROLOGY

Hydrologic calculations were performed in accordance with the RCFC&WCD Hydrology Manual, dated April 1978. The Rational Method was utilized in determining peak flow rates.

The hydrological parameters, including rainfall values and soil types were derived from the RCFC&WCD Hydrology Manual. The isohyetal maps and soil map have been included in Section 2.

Rational Method calculations were performed using a computer program developed by CivilDesign Corporation and Joseph E. Bonadiman and Associates Inc. The computer program is commonly referred to as CivilD which incorporates the hydrological parameters outlined in the RCFC&WCD Hydrology Manual.

The Rational Method was used to determine the peak flow rates to size and design the drainage facilities need to convey onsite flows through the site to the existing stub-outs. The flow rates were computed by generating a hydrologic "link-node" model in which the overall area is divided into separate drainage sub-areas, each tributary to a concentration point (node) determined by the proposed layout and grading.

The Unit Hydrograph Method was used to determine the peak flow rates and volumes associated with the 2-year event for the site. Calculations were performed for both the existing condition and developed condition to be used in the analysis of the proposed detention systems. See Section 4 for additional information and results regarding the hydrologic analyses performed for this project.

HYDRAULICS

Water quality calculations were performed using spreadsheets that were created by RCFC&WCD. Final calculations and additional details can be found in the Preliminary-WQMP.

Basin routing calculations were performed using the CivilD computer program. The CivilD program utilizes the Modified-Puls methodology to routes unit hydrographs through a basin using the stage-storage and stage-discharge curves determined from the proposed basin design. See Section 4 for additional discussion and results.

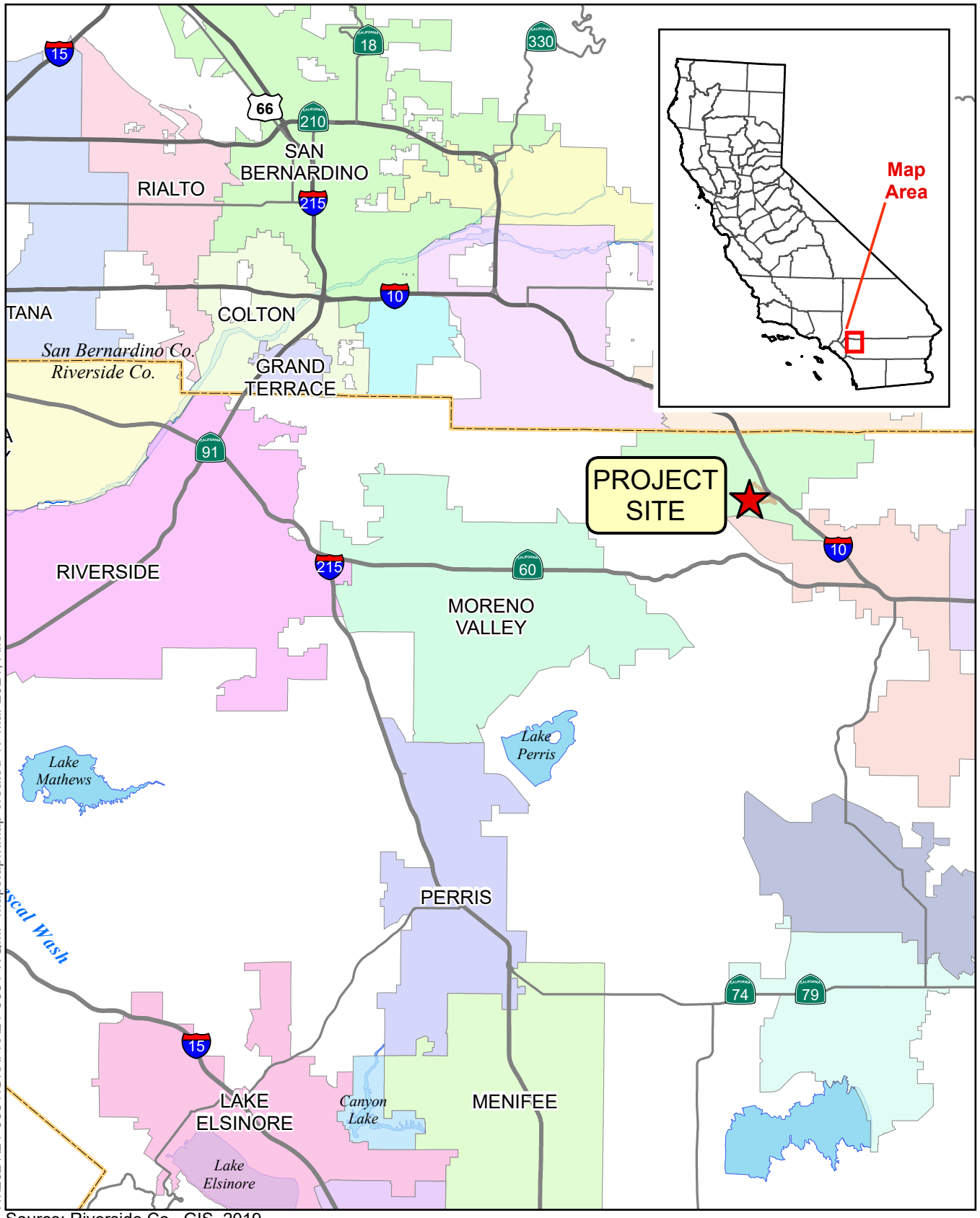
Hydraulic calculations to determine the required pipe sizes of proposed storm drain facilities will be provided in the Final Drainage Study.

FIG. 1 VICINITY MAP

FIG. 2 USGS TOPOGRAPHY MAP

FIG. 3 AERIAL PHOTOGRAPH

FIG. 4 RECEIVING WATERBODIES



H:\2021\21-0034\GIS\Pro\21-0034 WQMP Maps.aprxMap created 17 Mar 2021; AliS

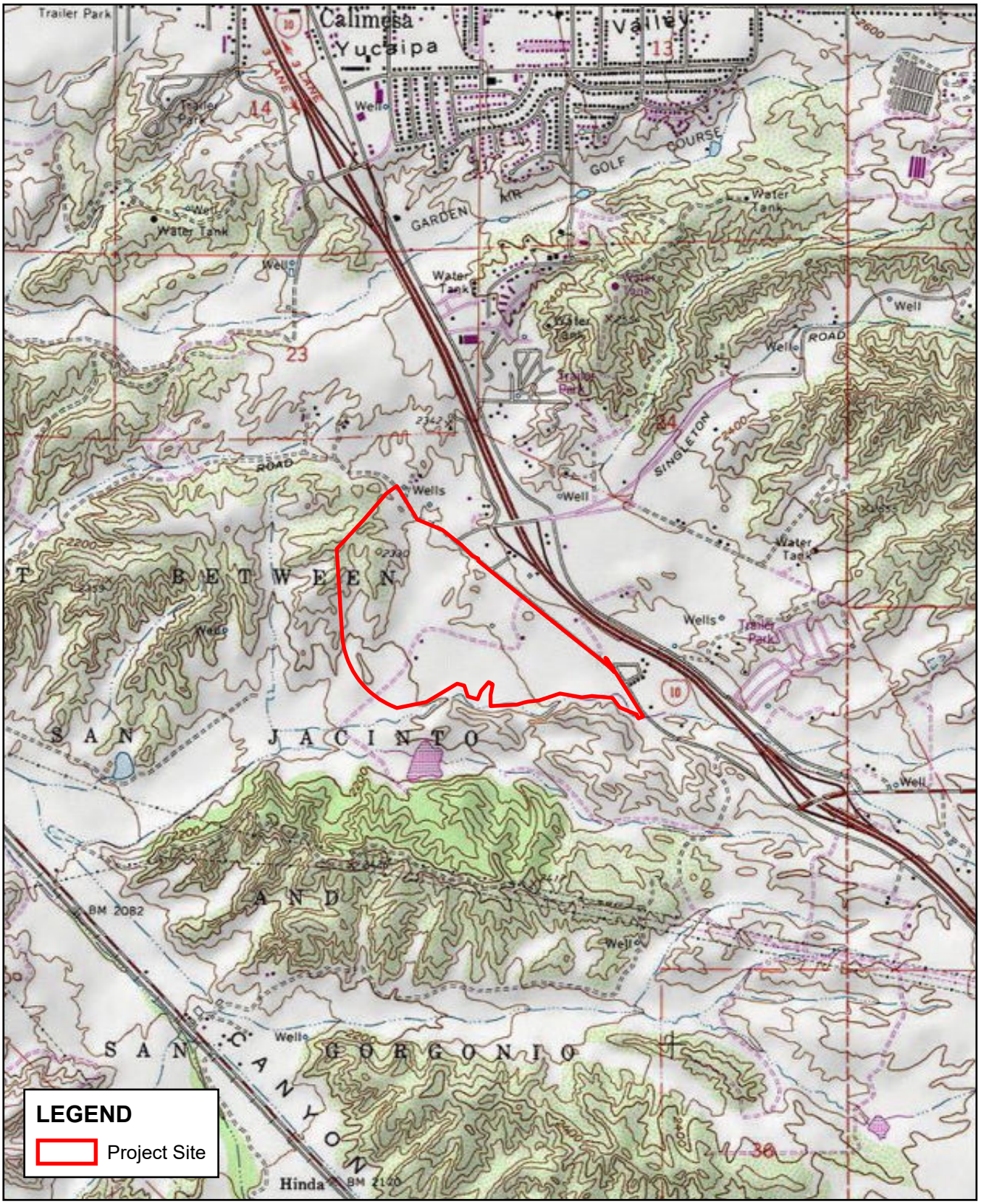
Source: Riverside Co. GIS, 2019

0 2 4 6 Miles

Figure 1 – Vicinity Map

21-0034 OVTC INDUSTRIAL

ALBERT A. WEBB ASSOCIATES



H:\2021\21-0034\GIS\Pro\21-0034 WQMP Maps.aprx; Map created 17 Mar 2021; AliS

Sources: ESRI / USGS 7.5min Quad
DRGs: EL CASCO

0 1,000 2,000 3,000 Feet

Figure 2 - USGS Map
21-0034 OVTC INDUSTRIAL

ALBERT A. WEBB ASSOCIATES



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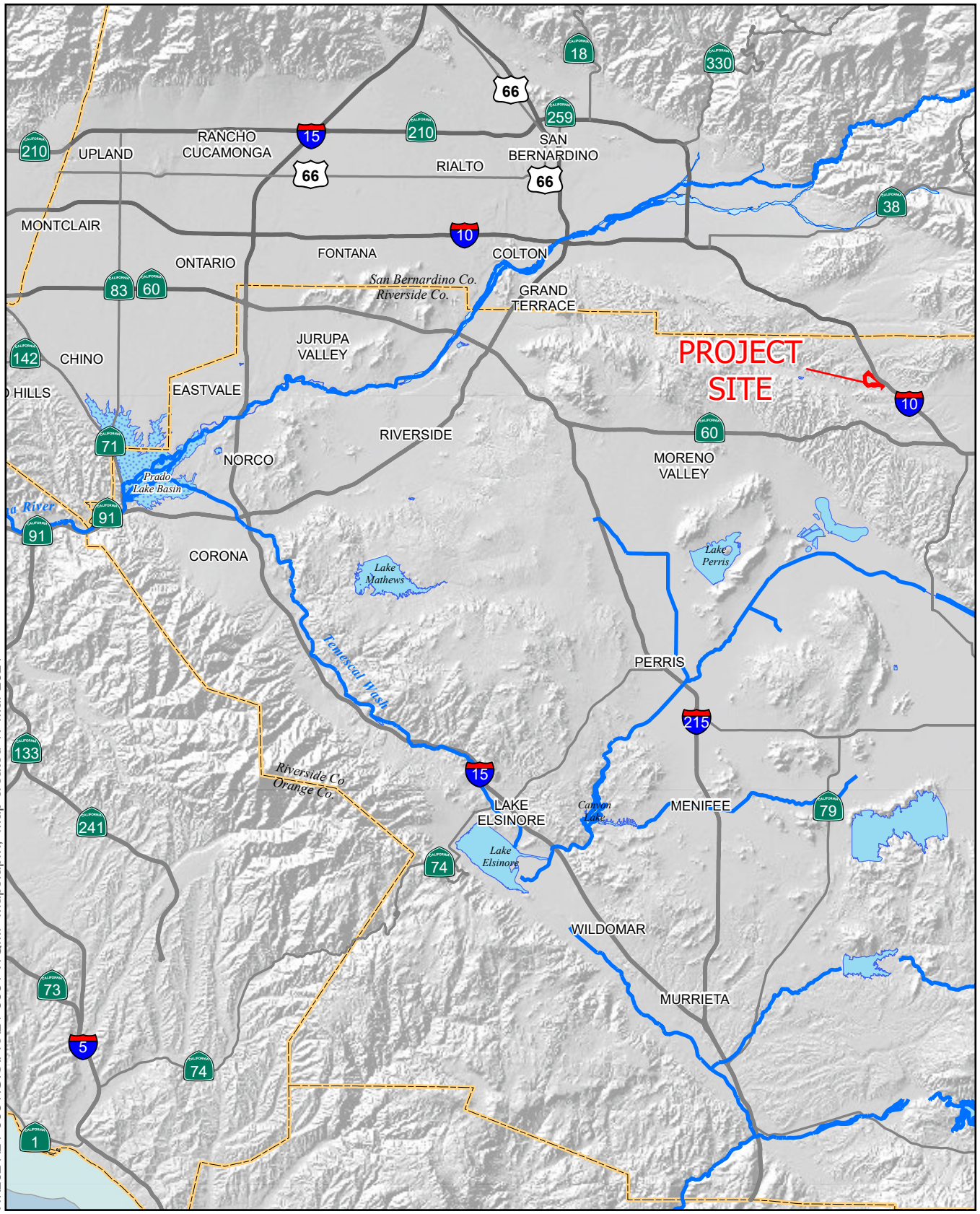
Source: Riverside Co. GIS, Jan. 2020.

0 600 1,200 1,800 Feet

Figure 3 - Aerial Map

21-0034 OVTC INDUSTRIAL

ALBERT A. WEBB ASSOCIATES



H:\2021\21-0034\GIS\Pro\21-0034 WQMP Maps.aprx; Map created 17 Mar 2021

Sources: USGS DLG; USGS 30m DEM

0 2 4 6 8 Miles

Figure 4 – Receiving Waterbodies

21-0034 OVTC INDUSTRIAL

ALBERT A. WEBB ASSOCIATES

SECTION 2 - HYDROLOGY ANALYSIS

HYDROLOGY PARAMETERS

The RCFC&WCD Hydrology Manual was used to determine several of the hydrological parameters. The following rainfall depths were utilized in the hydrology analyses, which were obtained from the isohyetal maps provided in the RCFC&WCD Hydrology Manual:

Table 1 – Precipitation Values

	Duration
Storm Event	1-Hour (inches)
10-Year	0.91
100-Year	1.35

The value for slope of intensity was determined to be 0.550. The standard intensity-duration curve data (Plate D-4.1) has been included in Appendix A.

Based on the Plate C-1.18 [El Casco] in the RCFC&WCD Hydrology Manual, the project site is classified as soil type B. The soils map is included in Appendix A.

ON-SITE RATIONAL METHOD HYDROLOGY

The rational method was used to determine peak flow rates in order to adequately size the proposed subsurface storm drains and associated inlets used to convey on-site flows. Calculations were performed for approximately 8.6 acres of total area that is tributary to the proposed storm drain facilities within the BCCOV - Parking Lot project boundary.

Runoff captured within the BCCOV – Parking Lot project area will be conveyed west via underground storm drain lines. These captured flows will enter the proposed storm drain facilities to be constructed with the development of the future BCCOV – Building a project. The storm drain line will run southwest through the BCCOV – Building B and BCCOV Building A projects before discharging into an existing storm drain stub-out that will be constructed in the mass grade phase of the overall BCCOV project. A hydrologic analysis for the BCCOV – Building A and BCCOV – Building B projects can be found in separate drainage studies specific to those projects.

Subareas within the rational method calculations for the BCCOV – Parking Lot project have been broken up based on the location of localized low points throughout the site. The subareas consist of a combination of the proposed parking stalls, drive aisles, concrete walkways, and/or landscaped areas. All onsite areas within the calculations were considered as commercial subarea types.

The following table summarizes the rational method results at key points:

Table 3 – Rational Method Results

Point of Interest	10-Year Peak Flow Rate (cfs)	100-Year Peak Flow Rate (cfs)
Node 802 – Total flows generated by parking lot area	18.1	27.4

The rational method output files and hydrology map have been included in Appendix A.

OFF-SITE RATIONAL METHOD HYDROLOGY

As described in Section 1, the overall BCCOV project site is impacted by considerable offsite flows generated by the San Bernardino Mountains located northeast of the I-10 Highway. Near the northeast corner of the BCCOV – Parking Lot project site is an existing culvert (to be constructed in the mass grade phase) that discharges offsite flows towards the San Timoteo Creek. These flows travel along the eastern and southern boundary of the project site and do not impact the onsite project area. Details regarding these offsite flows and the backbone storm drain facilities can be found in the separate drainage study titled "Hydrology and Hydraulics Study: Oak Valley Town Center Parcel Map No. 37862 Mass Grading Plan" (excerpts from the report can be found in Appendix C).

SECTION 3 - HYDRAULIC ANALYSIS

ON-SITE STORM DRAIN FACILITIES

Onsite Storm Drain

Existing stub-outs have been sized to accept the flows generated by the fully developed of the BCCOV - Parking Lot project and will be constructed in the mass grade phase (per the separate study titled "Hydrology and Hydraulics Study: Oak Valley Town Center Parcel Map No. 37862 Mass Grading Plan").

Hydraulic calculations will be performed for all proposed, onsite storms drain facilities 12 inches in diameter or greater in the Final Drainage Study.

CMP Chambers P1

To mitigate for HCOC requirements, a CMP detention system is proposed to hold 46,000 cubic ft of runoff. This would require the system to consist of 9 barrels, which are 81 ft long each. Solid chambers are proposed as infiltration is not feasible. An outlet structure is proposed to consist of an orifice with the invert at the bottom of the chambers to mitigate the peak flow rate of the 2-year storm event. The details of the CMP chamber and orifice sizing have been included in Appendix B.

Inlet Capacities

Grate inlets are proposed at the low points within ribbon gutters in order to capture onsite flows. For larger flows, a series of 3'x 3' or 2'x 3' grates are proposed in ribbon gutters to prevent excessive ponding from occurring.

SECTION 4 - BASIN ROUTING ANALYSIS

ON-SITE UNIT HYDROGRAPH METHOD HYDROLOGY

The unit hydrograph method was used to determine the peak flow rates and volumes in order to adequately size the proposed chamber detention systems to address HCOC mitigation. Unit hydrographs were performed for the 2-year storm with a duration of 24-hours in the existing condition and developed condition. The existing condition is used to establish a baseline for comparative purposes. The developed condition is used for design purposes, it was utilized in the routing analysis in order to size and analyze the proposed basin and chamber detention systems.

In the existing condition analysis, the Parking Lot project site was broken up and included in the analysis of Area A1 which includes portions of the Buildings A and B sites as well as the Parking Lot. Approximately 37.7 acres are labelled as Area A1 and are tributary to the existing eastern stub out within the Building A project site. In the proposed condition, the Parking Lot area is referred to as Area 4. Area 4 consists of approximately 9.2 acres of the existing condition Area A1.

The following table summarizes the results of the unit hydrograph analysis:

Table 4 – Unit Hydrograph Results

EXISTING CONDITION 2-YEAR, 24-HOUR STORM	
AREA	A1
VOL (AC-FT)	0.76
PEAK (CFS)	1.26

PROPOSED CONDITION 2-YEAR, 24-HOUR STORM	
AREA	4
VOL (AC-FT)	1.20
PEAK (CFS)	1.96

BASIN ROUTING ANALYSIS

A routing analysis was completed to demonstrate that the basin and CMP chamber systems contain substantial volume needed to mitigate flows down to existing condition peak flow rates.

Basin routing calculations were conducted for the Parking Lot Area 4. A stage-storage-discharge table was determined for the area. The stage-storage-discharge tables provide input data at select elevations in the chamber which will determine the storage and discharge at each point based on the mitigation configuration of the outlet structures.

For Area 4, the proposed outlet structure consists of two 1.5-inch orifices with an invert set at the bottom of the chambers to mitigate the 2-year storm event with a duration of 24 hours. The orifice creates a maximum ponding depth of 5.96 ft above the chamber bottom, which is below the 8 ft depth of the top of the chambers. The routing analysis for the detention chambers resulted in a drawdown time exceeding the 72-hour limit for above ground basins to prevent vector issues. The CMP detention system consists of underground chambers. Therefore, vector issues are not anticipated for the chambers even with a high drawdown time.

The following tables present the result of routing analysis for the 24-hour 2-year storm event to demonstrate that the CMP chamber systems provide the necessary storage volume needed to restrict the outflow to existing condition flow rates.

Table 5 – Basin Routing Results

EXISTING CONDITION 2-YEAR, 24-HOUR STORM			
	VOL (AC-FT)	PEAK FLOW (CFS)	
AREA A1	0.76	1.26	
18.1% A1 (PROP. AREA 1)	-	0.23	
25% A1 (PROP. AREA 2)	-	0.31	
32.4% A1 (PROP AREA 3)	-	0.41	
24.5%A1 (PROP AREA 4)	-	0.31	
PROPOSED CONDITION 2-YEAR, 24-HOUR STORM			
	VOL (AC-FT)	PEAK FLOW (CFS)	ROUTING PEAK FLOW (CFS)
AREA 1	1.06	1.75	0.16
AREA 2	1.40	2.37	0.33
AREA 3	1.67	2.75	0.47
AREA 4	1.20	1.96	0.32
COMBINED (EXISTING A1)	5.33	8.83	1.28

The basin routing calculations and other hydraulic calculations have been provided in Appendix C. Based on the table above, the proposed detention chambers for have the capacity to mitigate for the required HCOC. All discharge flow rates in the developed condition are lower than or within ten percent of the flow rate exiting the site in the existing condition.

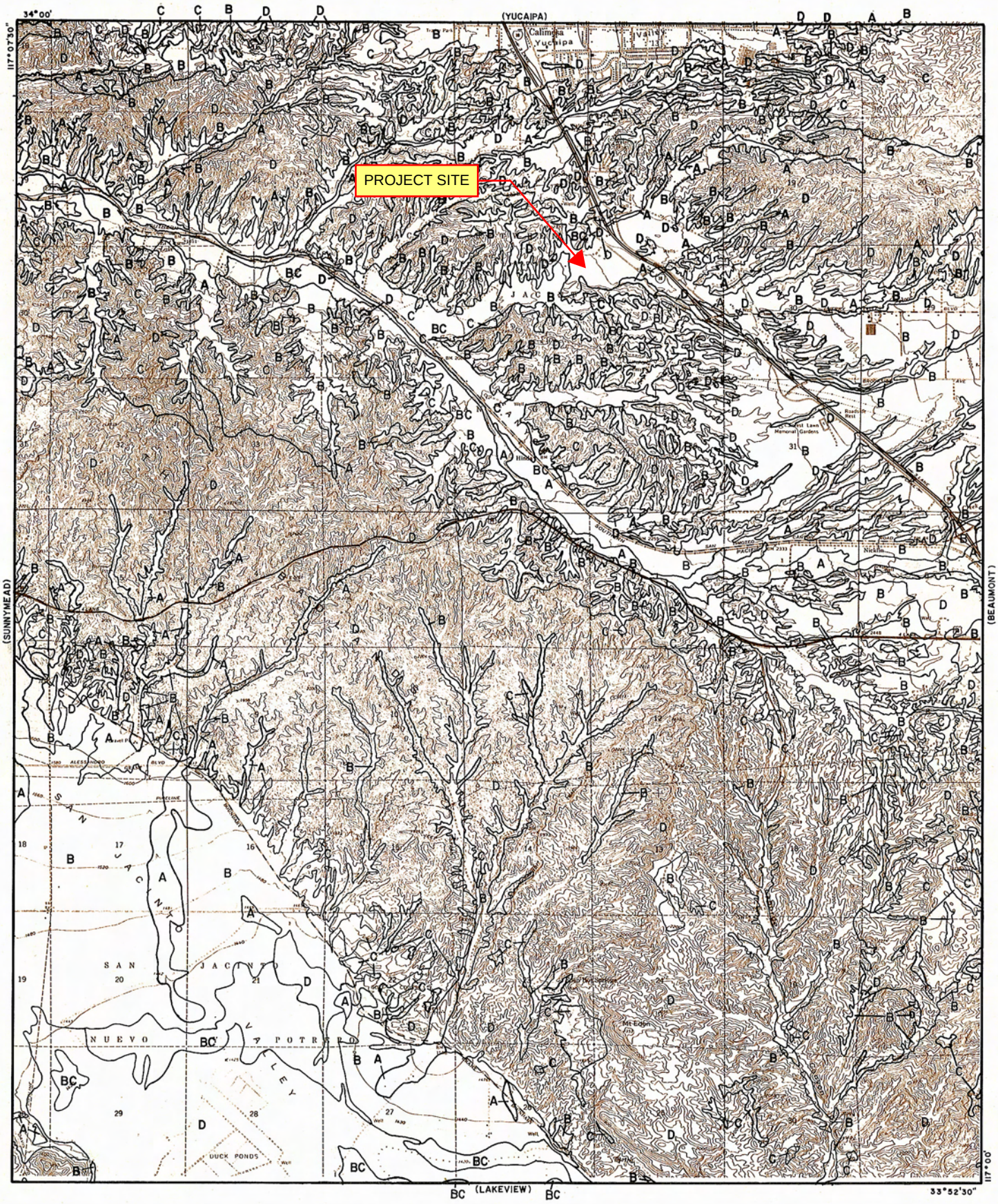
SECTION 5 - CONCLUSION

Based on the analyses and results of this report, the following conclusions were derived from the hydrology and hydraulic results:

- The proposed drainage improvements will adequately convey flows towards the existing backbone storm drain facilities and provide flood protection for the 100-year storm event.
- The proposed MWS biotreatment devices will provide adequate water quality treatment.
- The proposed CMP detention chambers and orifice system will adequately mitigate for increases in runoff for the 24-hour duration storm event for the 2-year return frequency.
- The proposed project will not impact flooding condition to upstream or downstream properties.

APPENDIX A – HYDROLOGY ANALYSIS

HYDROLOGIC SOILS GROUP MAP (PLATE C-1.18)



LEGEND

—— SOILS GROUP BOUNDARY

A SOILS GROUP DESIGNATION

RCFC&WCD

HYDROLOGY MANUAL

0 FEET 5000

HYDROLOGIC SOILS GROUP MAP FOR EL CASCO

PLATE C-1.18

RAINFALL INTENSITY

RCFC & WCD

HYDROLOGY MANUAL

RAINFALL INTENSITY–INCHES PER HOUR

ANZA			BANNING			BEAUMONT			CALIMESA			CANYON LAKE		
DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR	DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR	DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR	DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR	DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR
5	4.23	6.85	5	3.32	4.93	5	3.32	4.93	5	3.57	5.30	5	3.07	4.61
6	3.80	6.16	6	3.02	4.47	6	3.02	4.47	6	3.23	4.79	6	2.81	4.23
7	3.48	5.63	7	2.78	4.12	7	2.78	4.12	7	2.97	4.40	7	2.61	3.93
8	3.22	5.21	8	2.59	3.84	8	2.59	3.84	8	2.76	4.09	8	2.45	3.68
9	3.01	4.87	9	2.43	3.61	9	2.43	3.61	9	2.58	3.83	9	2.31	3.48
10	2.83	4.58	10	2.30	3.41	10	2.30	3.41	10	2.44	3.62	10	2.20	3.31
11	2.67	4.33	11	2.19	3.24	11	2.19	3.24	11	2.31	3.43	11	2.10	3.16
12	2.54	4.12	12	2.09	3.10	12	2.09	3.10	12	2.21	3.27	12	2.01	3.03
13	2.43	3.93	13	2.00	2.97	13	2.00	2.97	13	2.11	3.13	13	1.94	2.92
14	2.33	3.77	14	1.92	2.85	14	1.92	2.85	14	2.03	3.01	14	1.87	2.82
15	2.23	3.62	15	1.86	2.75	15	1.86	2.75	15	1.95	2.89	15	1.81	2.72
16	2.15	3.49	16	1.79	2.66	16	1.79	2.66	16	1.88	2.79	16	1.75	2.64
17	2.08	3.37	17	1.74	2.58	17	1.74	2.58	17	1.82	2.70	17	1.70	2.56
18	2.01	3.26	18	1.68	2.50	18	1.68	2.50	18	1.76	2.62	18	1.66	2.50
19	1.95	3.16	19	1.64	2.43	19	1.64	2.43	19	1.71	2.54	19	1.62	2.43
20	1.89	3.06	20	1.59	2.36	20	1.59	2.36	20	1.67	2.47	20	1.58	2.37
22	1.79	2.90	22	1.51	2.25	22	1.51	2.25	22	1.58	2.34	22	1.51	2.27
24	1.70	2.76	24	1.45	2.15	24	1.45	2.15	24	1.51	2.23	24	1.44	2.17
26	1.62	2.63	26	1.39	2.06	26	1.39	2.06	26	1.44	2.14	26	1.39	2.09
28	1.56	2.52	28	1.33	1.98	28	1.33	1.98	28	1.38	2.05	28	1.34	2.02
30	1.49	2.42	30	1.29	1.91	30	1.29	1.91	30	1.33	1.98	30	1.30	1.95
32	1.44	2.33	32	1.24	1.84	32	1.24	1.84	32	1.29	1.91	32	1.26	1.89
34	1.39	2.25	34	1.20	1.78	34	1.20	1.78	34	1.24	1.85	34	1.22	1.84
36	1.34	2.18	36	1.17	1.73	36	1.17	1.73	36	1.21	1.79	36	1.19	1.79
38	1.30	2.11	38	1.13	1.68	38	1.13	1.68	38	1.17	1.74	38	1.16	1.74
40	1.27	2.05	40	1.10	1.64	40	1.10	1.64	40	1.14	1.69	40	1.13	1.70
45	1.18	1.91	45	1.04	1.54	45	1.04	1.54	45	1.07	1.58	45	1.07	1.61
50	1.11	1.80	50	.98	1.45	50	.98	1.45	50	1.01	1.49	50	1.02	1.53
55	1.05	1.70	55	.93	1.38	55	.93	1.38	55	.95	1.42	55	.97	1.46
60	1.00	1.62	60	.89	1.32	60	.89	1.32	60	.91	1.35	60	.93	1.40
65	.95	1.55	65	.85	1.27	65	.85	1.27	65	.87	1.29	65	.89	1.35
70	.91	1.48	70	.82	1.22	70	.82	1.22	70	.84	1.24	70	.86	1.30
75	.88	1.42	75	.79	1.17	75	.79	1.17	75	.80	1.19	75	.84	1.26
80	.85	1.37	80	.76	1.13	80	.76	1.13	80	.78	1.15	80	.81	1.22
85	.82	1.32	85	.74	1.10	85	.74	1.10	85	.75	1.11	85	.79	1.18
SLOPE = .580			SLOPE = .530			SLOPE = .530			SLOPE = .550			SLOPE = .480		

STANDARD INTENSITY–DURATION CURVES DATA

PLATE D-4.1 (1 of 6)

10-YEAR ONSITE HYDROLOGY (RATIONAL METHOD)

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 12/01/21 File:800.out

BCCOV PARKING LOT
10-YEAR STORM EVENT 800 SERIES
21-0034 DEVELOPED CONDITION
2021-12-01 EP

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 4010

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Calimesa] area used.
10 year storm 10 minute intensity = 2.440(In/Hr)
10 year storm 60 minute intensity = 0.910(In/Hr)
100 year storm 10 minute intensity = 3.620(In/Hr)
100 year storm 60 minute intensity = 1.350(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.910(In/Hr)
Slope of intensity duration curve = 0.5500

++

Process from Point/Station 800.000 to Point/Station 801.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 580.000(Ft.)
Top (of initial area) elevation = 2244.000(Ft.)
Bottom (of initial area) elevation = 2235.000(Ft.)
Difference in elevation = 9.000(Ft.)
Slope = 0.01552 s(percent)= 1.55
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 8.797 min.
Rainfall intensity = 2.616(In/Hr) for a 10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.874
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 56.00
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 4.117(CFS)
Total initial stream area = 1.800(Ac.)
Pervious area fraction = 0.100

++

Process from Point/Station 801.000 to Point/Station 802.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2230.000(Ft.)
Downstream point/station elevation = 2229.700(Ft.)
Pipe length = 76.00(Ft.) Manning's N = 0.013

```
No. of pipes = 1  Required pipe flow  =     4.117(CFS)
Nearest computed pipe diameter  =     18.00(In.)
Calculated individual pipe flow  =     4.117(CFS)
Normal flow depth in pipe =   10.30(In.)
Flow top width inside pipe =   17.81(In.)
Critical Depth =    9.32(In.)
Pipe flow velocity =      3.94(Ft/s)
Travel time through pipe =    0.32 min.
Time of concentration (TC) =     9.12 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      802.000 to Point/Station      802.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      1.800(Ac.)
Runoff from this stream =      4.117(CFS)
Time of concentration =    9.12 min.
Rainfall intensity =     2.565(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      803.000 to Point/Station      802.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =  1000.000(Ft.)
Top (of initial area) elevation =  2256.500(Ft.)
Bottom (of initial area) elevation =  2235.300(Ft.)
Difference in elevation =    21.200(Ft.)
Slope =    0.02120  s(percent)=       2.12
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   10.277 min.
Rainfall intensity =      2.402(In/Hr) for a    10.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.873
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     14.252(CFS)
Total initial stream area =        6.800(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      802.000 to Point/Station      802.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      6.800(Ac.)
Runoff from this stream =     14.252(CFS)
Time of concentration =   10.28 min.
Rainfall intensity =     2.402(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        4.117      9.12                 2.565
2       14.252     10.28                 2.402
Largest stream flow has longer time of concentration
Qp =     14.252 + sum of
          Qb          Ia/Ib
           4.117 *    0.936 =      3.855
Qp =     18.106

Total of 2 streams to confluence:
Flow rates before confluence point:
       4.117      14.252
Area of streams before confluence:
        1.800        6.800
```

Results of confluence:
Total flow rate = 18.106(CFS)
Time of concentration = 10.277 min.
Effective stream area after confluence = 8.600(Ac.)

++
Process from Point/Station 802.000 to Point/Station 804.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2229.700(Ft.)
Downstream point/station elevation = 2207.100(Ft.)
Pipe length = 1100.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 18.106(CFS)
Nearest computed pipe diameter = 21.00(In.)
Calculated individual pipe flow = 18.106(CFS)
Normal flow depth in pipe = 14.18(In.)
Flow top width inside pipe = 19.67(In.)
Critical Depth = 18.57(In.)
Pipe flow velocity = 10.49(Ft/s)
Travel time through pipe = 1.75 min.
Time of concentration (TC) = 12.03 min.
End of computations, total study area = 8.60 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number = 56.0

100-YEAR ONSITE HYDROLOGY (RATIONAL METHOD)

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 12/01/21 File:800.out

BCCOV PARKING LOT
100-YEAR STORM EVENT 800 SERIES
21-0034 DEVELOPED CONDITION
2021-12-01 EP

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 4010

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Calimesa] area used.
10 year storm 10 minute intensity = 2.440(In/Hr)
10 year storm 60 minute intensity = 0.910(In/Hr)
100 year storm 10 minute intensity = 3.620(In/Hr)
100 year storm 60 minute intensity = 1.350(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.350(In/Hr)
Slope of intensity duration curve = 0.5500

++

Process from Point/Station 800.000 to Point/Station 801.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 580.000(Ft.)
Top (of initial area) elevation = 2244.000(Ft.)
Bottom (of initial area) elevation = 2235.000(Ft.)
Difference in elevation = 9.000(Ft.)
Slope = 0.01552 s(percent)= 1.55
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 8.797 min.
Rainfall intensity = 3.881(In/Hr) for a 100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.881
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2) = 56.00
Pervious area fraction = 0.100; Impervious fraction = 0.900
Initial subarea runoff = 6.153(CFS)
Total initial stream area = 1.800(Ac.)
Pervious area fraction = 0.100

++

Process from Point/Station 801.000 to Point/Station 802.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2230.000(Ft.)
Downstream point/station elevation = 2229.700(Ft.)
Pipe length = 76.00(Ft.) Manning's N = 0.013

```
No. of pipes = 1  Required pipe flow  =     6.153(CFS)
Nearest computed pipe diameter  =     18.00(In.)
Calculated individual pipe flow  =     6.153(CFS)
Normal flow depth in pipe =   13.76(In.)
Flow top width inside pipe =   15.28(In.)
Critical Depth =   11.50(In.)
Pipe flow velocity =      4.24(Ft/s)
Travel time through pipe =    0.30 min.
Time of concentration (TC) =     9.10 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      802.000 to Point/Station      802.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      1.800(Ac.)
Runoff from this stream =      6.153(CFS)
Time of concentration =    9.10 min.
Rainfall intensity =     3.810(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      803.000 to Point/Station      802.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =  1000.000(Ft.)
Top (of initial area) elevation =  2256.500(Ft.)
Bottom (of initial area) elevation =  2235.300(Ft.)
Difference in elevation =    21.200(Ft.)
Slope =    0.02120  s(percent)=       2.12
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   10.277 min.
Rainfall intensity =      3.563(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.880
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     21.309(CFS)
Total initial stream area =        6.800(Ac.)
Pervious area fraction = 0.100


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      802.000 to Point/Station      802.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      6.800(Ac.)
Runoff from this stream =     21.309(CFS)
Time of concentration =   10.28 min.
Rainfall intensity =     3.563(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        6.153      9.10                 3.810
2       21.309     10.28                 3.563
Largest stream flow has longer time of concentration
Qp =     21.309 + sum of
          Qb          Ia/Ib
           6.153 *    0.935 =      5.754
Qp =     27.063

Total of 2 streams to confluence:
Flow rates before confluence point:
       6.153      21.309
Area of streams before confluence:
        1.800        6.800
```

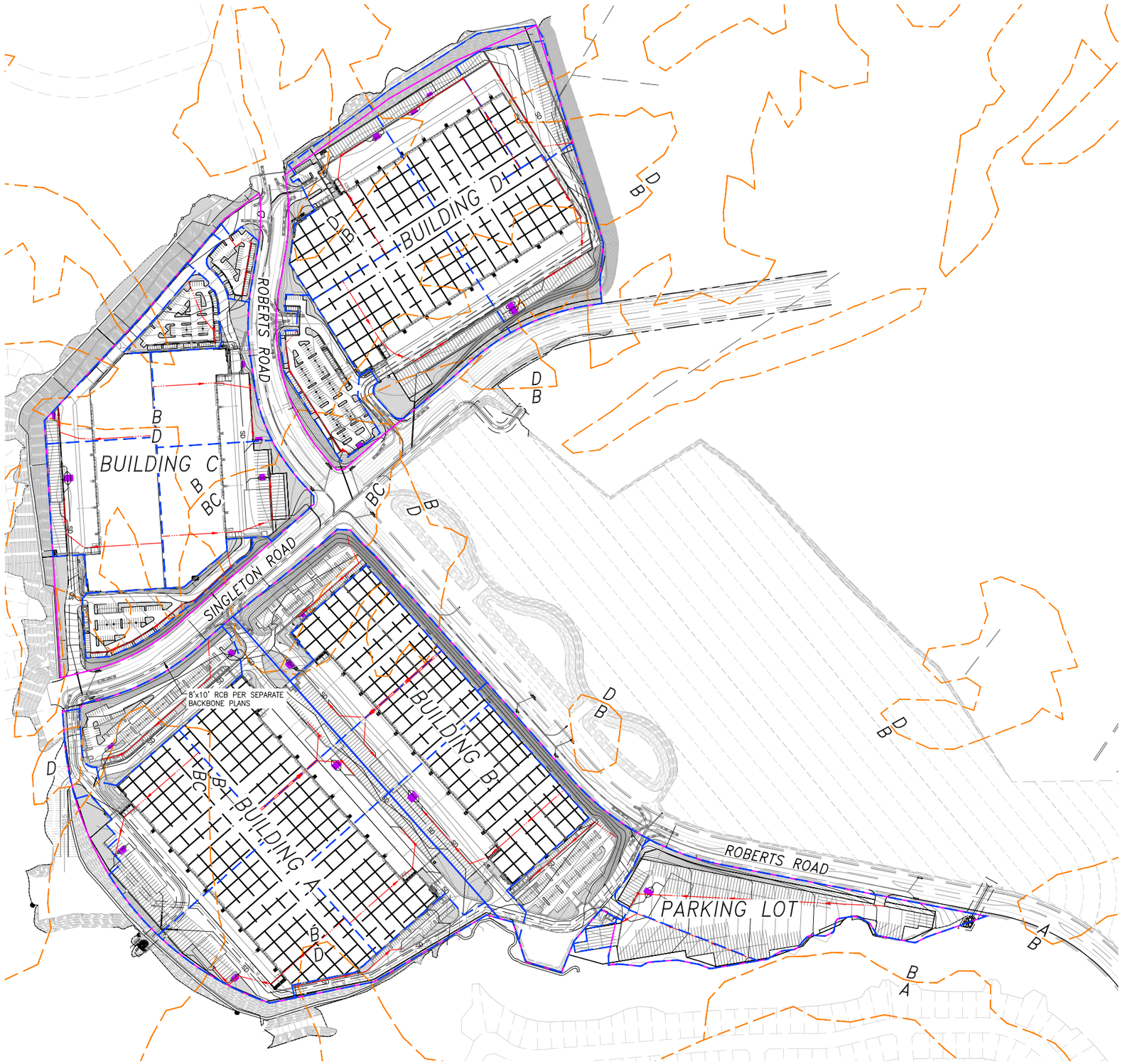
Results of confluence:
Total flow rate = 27.063(CFS)
Time of concentration = 10.277 min.
Effective stream area after confluence = 8.600(Ac.)

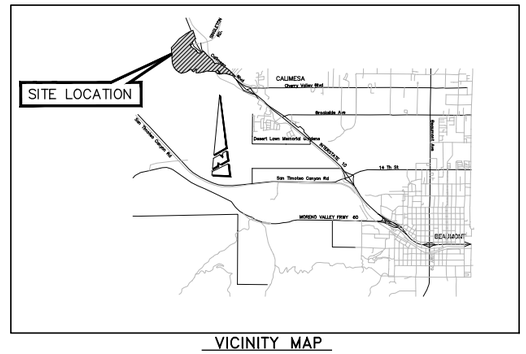
++
Process from Point/Station 802.000 to Point/Station 804.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 2229.700(Ft.)
Downstream point/station elevation = 2207.100(Ft.)
Pipe length = 1100.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 27.063(CFS)
Nearest computed pipe diameter = 24.00(In.)
Calculated individual pipe flow = 27.063(CFS)
Normal flow depth in pipe = 16.76(In.)
Flow top width inside pipe = 22.03(In.)
Critical Depth = 21.71(In.)
Pipe flow velocity = 11.55(Ft/s)
Travel time through pipe = 1.59 min.
Time of concentration (TC) = 11.86 min.
End of computations, total study area = 8.60 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number = 56.0

RATIONAL METHOD HYDROLOGY MAPS





VICINITY MAP

N.T.S.

T2S, R2W, SECTION 23,24,25,26

GENERAL NOTES:

1. OVERALL BLCOV PROJECT AREA WILL BE MASS GRADED AND BACKBONE IMPROVEMENTS WILL BE CONSTRUCTED PRIOR TO ANY CONSTRUCTION COMMENCING FOR THE BUILDING A, BUILDING B, BUILDING C, BUILDING D, OR PARKING LOT PROJECTS.
2. EXISTING CONTOURS SHOWN IN EXHIBITS ARE TAKEN FROM THE MASS GRADING PLAN FOR PARCEL MAP 37862.

LEGEND

- NODE / ELEV – NODE NUMBER / ELEVATION (FT)
- AC / FT – AREA (AC) / LENGTH (FT)
- DRAINAGE AREA BOUNDARY (PROPOSED)
- FLOWLINE (PROPOSED)
- PROJECT BOUNDARY
- NRCS SOIL BOUNDARY
- MWS TREATMENT VAULT (SEE PWQMP)

N
W WEBB E
S

1" = 200'

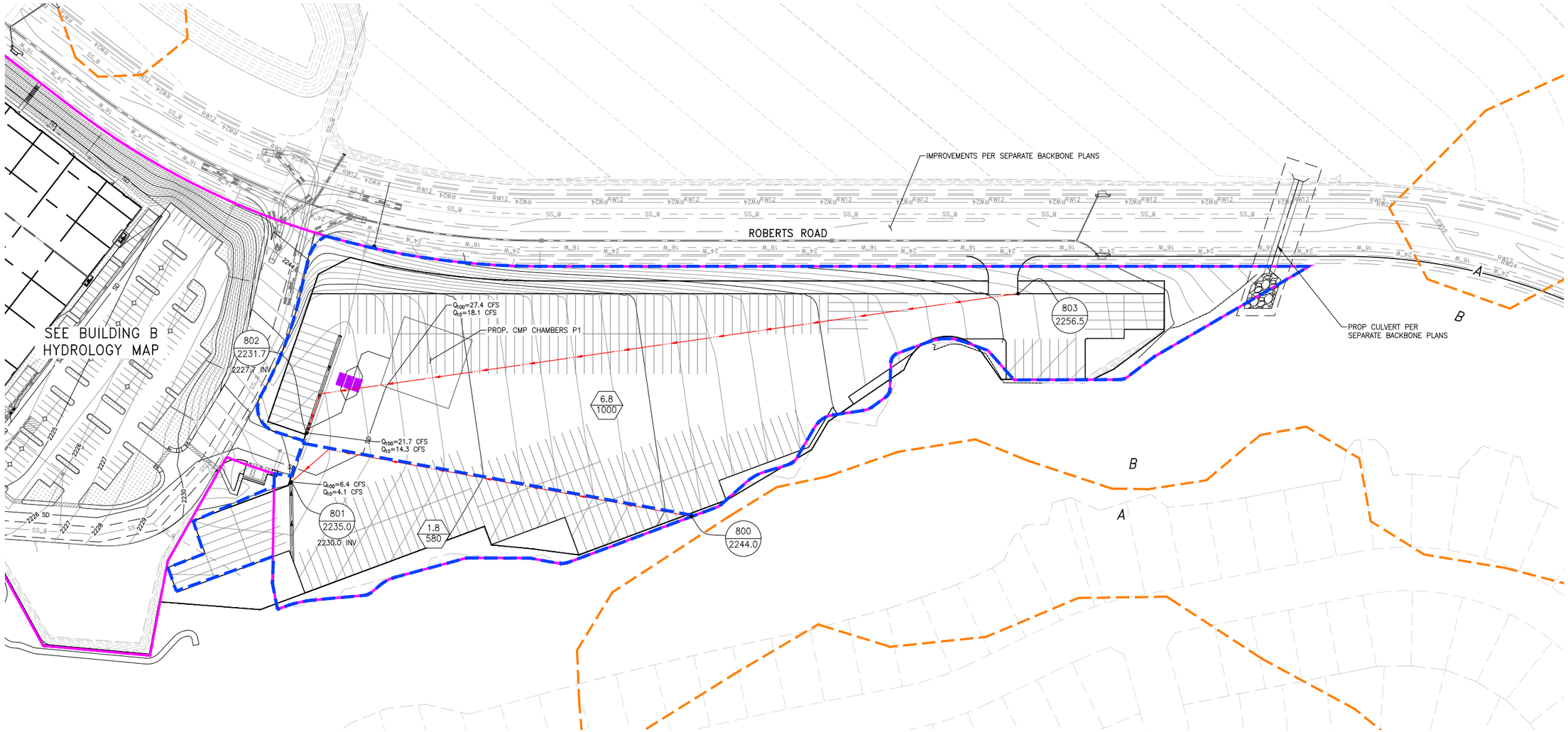
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CITY OF CALIMESA, COUNTY OF RIVERSIDE
BIRTCHER COMMERCE CENTER OAK VALLEY

OVERALL BCCOV SITE PLAN
INDUSTRIAL DEVELOPMENT
DEVELOPED CONDITION
PRELIMINARY RATIONAL METHOD EXHIBIT

SCALE: 1" = 200'	ALBERT A. WEBB ASSOCIATES	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	W.O. 21-0034
DATE: 12/14/2020			SHEET 1
DESIGNED: EP			OF 2 SHEETS
CHECKED: BJV			DWG. NO.
PLN CK REF:			
F.B.			

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LEGEND

- NODE / ELEV – NODE NUMBER; ELEVATION (FT)
- AC / FT – AREA (AC); LENGTH (FT)
- DRAINAGE AREA BOUNDARY (PROPOSED)
- FLOWLINE (PROPOSED)
- PROJECT BOUNDARY
- NRCS SOIL BOUNDARY
- MWS TREATMENT VAULT (SEE PWQMP)

N W E S

1" = 70'

70 0 70 140 210

CITY OF CALIMESA, COUNTY OF RIVERSIDE
BIRTCHER COMMERCE CENTER OAK VALLEY

BCCOV – PARKING LOT
INDUSTRIAL DEVELOPMENT
DEVELOPED CONDITION
PRELIMINARY RATIONAL METHOD EXHIBIT

SCALE:	1"=70'	W.O.	21-0034
DATE:	5/3/2021	SHEET	2
DESIGNED:	EP	OF	2 SHEETS
CHECKED:	BJV		
PLN CK REF:		DWG. NO.	
F.B.			

ALBERT A. WEBB ASSOCIATES
ENGINEERING CONSULTANTS
3788 McCRAY STREET
RIVERSIDE, CA. 92506
PH. (951) 686-1070
FAX (951) 788-1256

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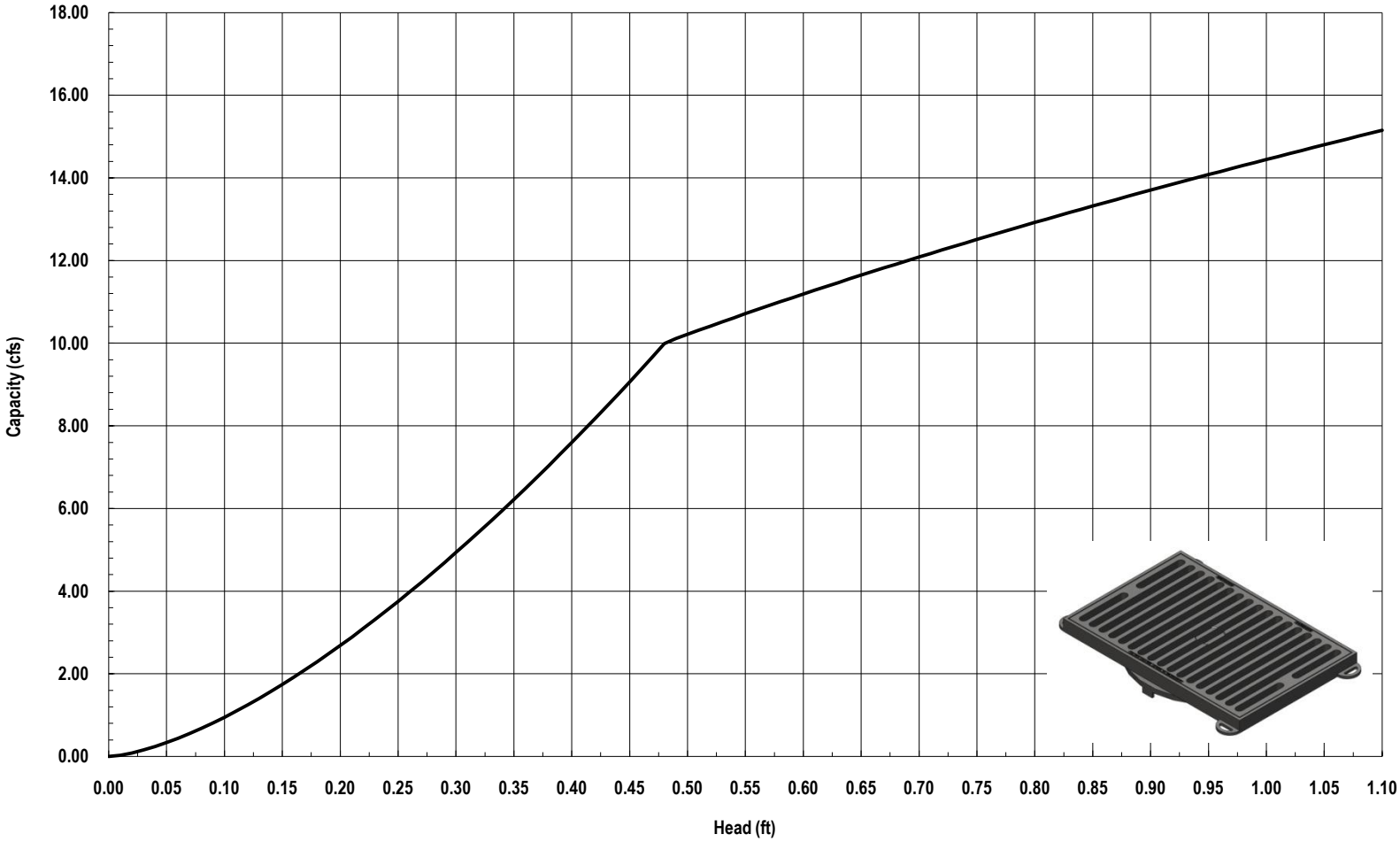
APPENDIX B – HYDRAULIC ANALYSIS

Hydraulic calculations to be provided in Final Engineering.

PRELIMINARY INLET CHARTS

IN FINAL ENGINEERING, EACH INLET WILL BE EVALUATED

Nyloplast 2' x 3' Road & Highway Grate Inlet Capacity Chart



PRELIMINARY Qs

Q= CFS

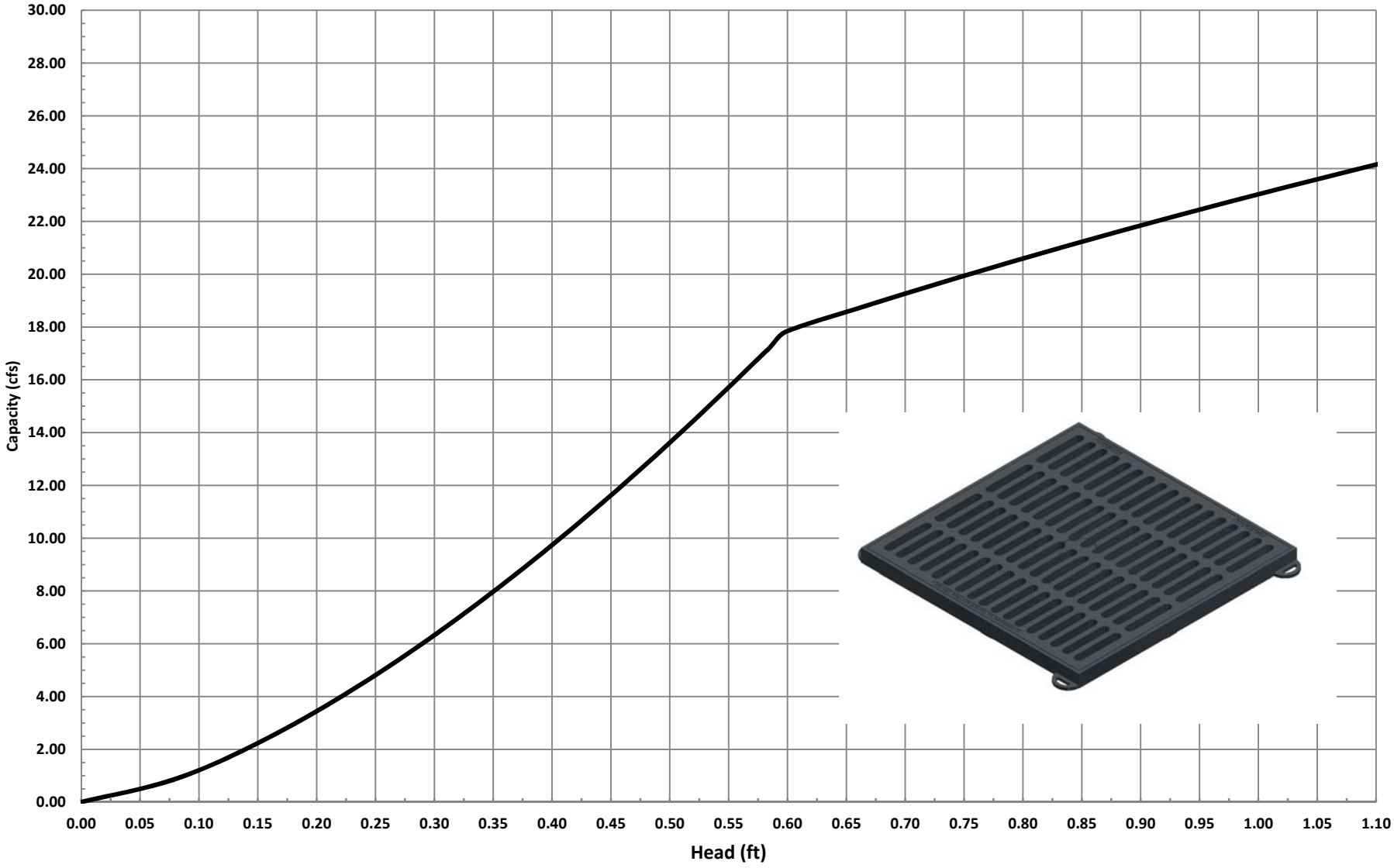
$Q_{2\text{-GRATES}}$= Q/2 = CFS

$Q_{1.5\text{-CLOGGING FACTOR}}$= Q*1.5 =

Nyloplast®
3130 Verona Avenue • Buford, GA 30518
(866) 888-8479 / (770) 932-2443 • Fax: (770) 932-2490
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IN FINAL ENGINEERING, EACH INLET WILL BE EVALUATED

Nyloplast 3' x 3' Road & Highway Inlet Capacity Chart



PRELIMINARY Qs
Q= CFS
$Q_{2\text{-GRATES}}$= Q/2 = CFS
$Q_{1.5\text{-CLOGGING FACTOR}}$= Q*1.5 =

Nyloplast
3130 Verona Avenue • Buford, GA 30518
(866) 888-8479 / (770) 932-2443 • Fax: (770) 932-2490

© Nyloplast Inlet Capacity Charts June 2012

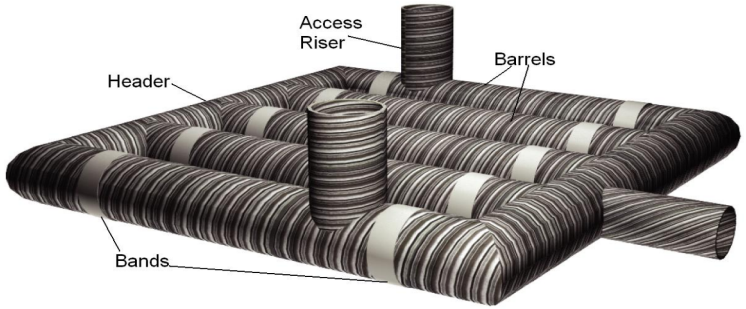
CMP CHAMBER SIZING

DYODS™
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CONTECH CMP DETENTION SYSTEMS

CONTECH CONSTRUCTION PRODUCTS INC.

For design assistance, drawings,
and pricing send completed worksheet to:
dyods@contech-cpi.com



Project Summary

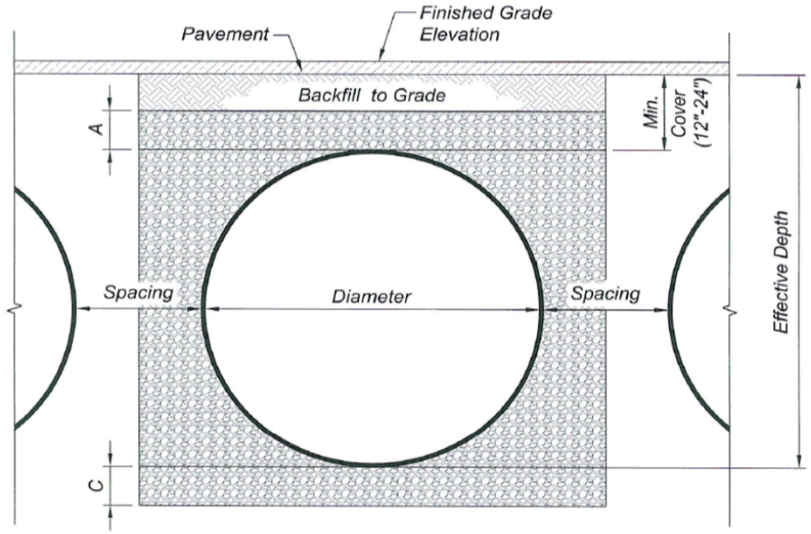
Date:	12/1/2021
Project Name:	BCCOV PARKING AREA 4
City / County:	Calimesa
State:	CA
Designed By:	EP
Company:	Albert A. Webb Associates
Telephone:	

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	46,000
Limiting Width (ft):	100.00
Invert Depth Below Asphalt (ft):	10.00
Solid or Perforated Pipe:	Solid
Shape Or Diameter (in):	96
Number Of Headers:	2
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	0
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	46,295	cf	
Porous Stone Storage:	0	cf	
Total Storage Provided:	46,295	cf	100.6% Of Required Storage
Number of Barrels:	9	barrels	
Length per Barrel:	81.0	ft	
Length Per Header:	96.0	ft	
Rectangular Footprint (W x L):	99. ft x 100. ft		

CONTECH Materials

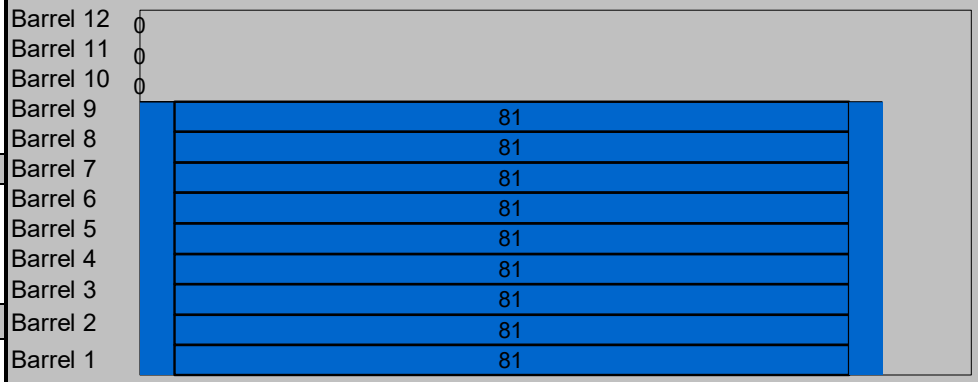
Total CMP Footage:	921	ft
Approximate Total Pieces:	44	pcs
Approximate Coupling Bands:	51	bands
Approximate Truckloads:	22	trucks

Construction Quantities**

Total Excavation:	3667	cy
Porous Stone Backfill For Storage:	0	cy stone
Backfill to Grade Excluding Stone:	1952	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



Barrel Footage (w/o headers)

© 2007 CONTECH Stormwater Solutions

APPENDIX C – UNIT HYDROGRAPH AND ROUTING

EXISTING CONDITION UNIT HYDROGRAPHS (2-YEAR, 24-HOUR STORM)

U n i t H y d r o g r a p h A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2008, Version 8.1
Study date 11/24/21 File: EX2YRA1242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 4010

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

BCCOV AREA A1 EXISTING CONDITION
2-YEAR 24 HOUR STORM EVENT
21-0034
2021-11-22 EP

Drainage Area = 37.70(Ac.) = 0.059 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 37.70(Ac.) = 0.059 Sq. Mi.
Length along longest watercourse = 3231.00(Ft.)
Length along longest watercourse measured to centroid = 1394.00(Ft.)
Length along longest watercourse = 0.612 Mi.
Length along longest watercourse measured to centroid = 0.264 Mi.
Difference in elevation = 45.30(Ft.)
Slope along watercourse = 74.0279 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.159 Hr.
Lag time = 9.54 Min.
25% of lag time = 2.38 Min.
40% of lag time = 3.82 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
37.70	2.40	90.48

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
37.70	6.20	233.74

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.200(In)

Point rain (area averaged) = 2.400(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.400(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
37.700	86.20	0.000

Total Area Entered = 37.70(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

86.2	71.9	0.339	0.000	0.339	1.000	0.339
					Sum (F) =	0.339

Area averaged mean soil loss (F) (In/Hr) = 0.339
Minimum soil loss rate ((In/Hr)) = 0.170
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	52.421	4.579	1.740
2	0.167	104.842	23.119	8.784
3	0.250	157.263	37.515	14.254
4	0.333	209.684	13.955	5.302
5	0.417	262.105	8.053	3.060
6	0.500	314.526	5.188	1.971
7	0.583	366.947	3.309	1.257
8	0.667	419.368	1.927	0.732
9	0.750	471.789	0.794	0.302
10	0.833	524.210	0.520	0.197
11	0.917	576.631	0.358	0.136
12	1.000	629.052	0.374	0.142
13	1.083	681.473	0.212	0.080
14	1.167	733.894	0.098	0.037
			Sum = 100.000	Sum= 37.995

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.019	(0.602)	0.017	0.002
2	0.17	0.07	0.019	(0.599)	0.017	0.002
3	0.25	0.07	0.019	(0.597)	0.017	0.002
4	0.33	0.10	0.029	(0.595)	0.026	0.003
5	0.42	0.10	0.029	(0.592)	0.026	0.003
6	0.50	0.10	0.029	(0.590)	0.026	0.003
7	0.58	0.10	0.029	(0.588)	0.026	0.003
8	0.67	0.10	0.029	(0.585)	0.026	0.003
9	0.75	0.10	0.029	(0.583)	0.026	0.003
10	0.83	0.13	0.038	(0.581)	0.035	0.004
11	0.92	0.13	0.038	(0.579)	0.035	0.004
12	1.00	0.13	0.038	(0.576)	0.035	0.004
13	1.08	0.10	0.029	(0.574)	0.026	0.003
14	1.17	0.10	0.029	(0.572)	0.026	0.003
15	1.25	0.10	0.029	(0.569)	0.026	0.003
16	1.33	0.10	0.029	(0.567)	0.026	0.003
17	1.42	0.10	0.029	(0.565)	0.026	0.003
18	1.50	0.10	0.029	(0.563)	0.026	0.003
19	1.58	0.10	0.029	(0.560)	0.026	0.003
20	1.67	0.10	0.029	(0.558)	0.026	0.003
21	1.75	0.10	0.029	(0.556)	0.026	0.003
22	1.83	0.13	0.038	(0.554)	0.035	0.004
23	1.92	0.13	0.038	(0.551)	0.035	0.004
24	2.00	0.13	0.038	(0.549)	0.035	0.004
25	2.08	0.13	0.038	(0.547)	0.035	0.004
26	2.17	0.13	0.038	(0.545)	0.035	0.004
27	2.25	0.13	0.038	(0.543)	0.035	0.004
28	2.33	0.13	0.038	(0.540)	0.035	0.004
29	2.42	0.13	0.038	(0.538)	0.035	0.004
30	2.50	0.13	0.038	(0.536)	0.035	0.004
31	2.58	0.17	0.048	(0.534)	0.043	0.005
32	2.67	0.17	0.048	(0.532)	0.043	0.005
33	2.75	0.17	0.048	(0.529)	0.043	0.005
34	2.83	0.17	0.048	(0.527)	0.043	0.005
35	2.92	0.17	0.048	(0.525)	0.043	0.005
36	3.00	0.17	0.048	(0.523)	0.043	0.005

37	3.08	0.17	0.048	(0.521)	0.043	0.005
38	3.17	0.17	0.048	(0.519)	0.043	0.005
39	3.25	0.17	0.048	(0.516)	0.043	0.005
40	3.33	0.17	0.048	(0.514)	0.043	0.005
41	3.42	0.17	0.048	(0.512)	0.043	0.005
42	3.50	0.17	0.048	(0.510)	0.043	0.005
43	3.58	0.17	0.048	(0.508)	0.043	0.005
44	3.67	0.17	0.048	(0.506)	0.043	0.005
45	3.75	0.17	0.048	(0.504)	0.043	0.005
46	3.83	0.20	0.058	(0.501)	0.052	0.006
47	3.92	0.20	0.058	(0.499)	0.052	0.006
48	4.00	0.20	0.058	(0.497)	0.052	0.006
49	4.08	0.20	0.058	(0.495)	0.052	0.006
50	4.17	0.20	0.058	(0.493)	0.052	0.006
51	4.25	0.20	0.058	(0.491)	0.052	0.006
52	4.33	0.23	0.067	(0.489)	0.060	0.007
53	4.42	0.23	0.067	(0.487)	0.060	0.007
54	4.50	0.23	0.067	(0.485)	0.060	0.007
55	4.58	0.23	0.067	(0.483)	0.060	0.007
56	4.67	0.23	0.067	(0.480)	0.060	0.007
57	4.75	0.23	0.067	(0.478)	0.060	0.007
58	4.83	0.27	0.077	(0.476)	0.069	0.008
59	4.92	0.27	0.077	(0.474)	0.069	0.008
60	5.00	0.27	0.077	(0.472)	0.069	0.008
61	5.08	0.20	0.058	(0.470)	0.052	0.006
62	5.17	0.20	0.058	(0.468)	0.052	0.006
63	5.25	0.20	0.058	(0.466)	0.052	0.006
64	5.33	0.23	0.067	(0.464)	0.060	0.007
65	5.42	0.23	0.067	(0.462)	0.060	0.007
66	5.50	0.23	0.067	(0.460)	0.060	0.007
67	5.58	0.27	0.077	(0.458)	0.069	0.008
68	5.67	0.27	0.077	(0.456)	0.069	0.008
69	5.75	0.27	0.077	(0.454)	0.069	0.008
70	5.83	0.27	0.077	(0.452)	0.069	0.008
71	5.92	0.27	0.077	(0.450)	0.069	0.008
72	6.00	0.27	0.077	(0.448)	0.069	0.008
73	6.08	0.30	0.086	(0.446)	0.078	0.009
74	6.17	0.30	0.086	(0.444)	0.078	0.009
75	6.25	0.30	0.086	(0.442)	0.078	0.009
76	6.33	0.30	0.086	(0.440)	0.078	0.009
77	6.42	0.30	0.086	(0.438)	0.078	0.009
78	6.50	0.30	0.086	(0.436)	0.078	0.009
79	6.58	0.33	0.096	(0.434)	0.086	0.010
80	6.67	0.33	0.096	(0.432)	0.086	0.010
81	6.75	0.33	0.096	(0.430)	0.086	0.010
82	6.83	0.33	0.096	(0.428)	0.086	0.010
83	6.92	0.33	0.096	(0.426)	0.086	0.010
84	7.00	0.33	0.096	(0.424)	0.086	0.010
85	7.08	0.33	0.096	(0.422)	0.086	0.010
86	7.17	0.33	0.096	(0.421)	0.086	0.010
87	7.25	0.33	0.096	(0.419)	0.086	0.010
88	7.33	0.37	0.106	(0.417)	0.095	0.011
89	7.42	0.37	0.106	(0.415)	0.095	0.011
90	7.50	0.37	0.106	(0.413)	0.095	0.011
91	7.58	0.40	0.115	(0.411)	0.104	0.012
92	7.67	0.40	0.115	(0.409)	0.104	0.012
93	7.75	0.40	0.115	(0.407)	0.104	0.012
94	7.83	0.43	0.125	(0.405)	0.112	0.012
95	7.92	0.43	0.125	(0.403)	0.112	0.012
96	8.00	0.43	0.125	(0.402)	0.112	0.012
97	8.08	0.50	0.144	(0.400)	0.130	0.014
98	8.17	0.50	0.144	(0.398)	0.130	0.014
99	8.25	0.50	0.144	(0.396)	0.130	0.014
100	8.33	0.50	0.144	(0.394)	0.130	0.014
101	8.42	0.50	0.144	(0.392)	0.130	0.014
102	8.50	0.50	0.144	(0.390)	0.130	0.014
103	8.58	0.53	0.154	(0.389)	0.138	0.015
104	8.67	0.53	0.154	(0.387)	0.138	0.015
105	8.75	0.53	0.154	(0.385)	0.138	0.015
106	8.83	0.57	0.163	(0.383)	0.147	0.016
107	8.92	0.57	0.163	(0.381)	0.147	0.016
108	9.00	0.57	0.163	(0.380)	0.147	0.016
109	9.08	0.63	0.182	(0.378)	0.164	0.018
110	9.17	0.63	0.182	(0.376)	0.164	0.018
111	9.25	0.63	0.182	(0.374)	0.164	0.018

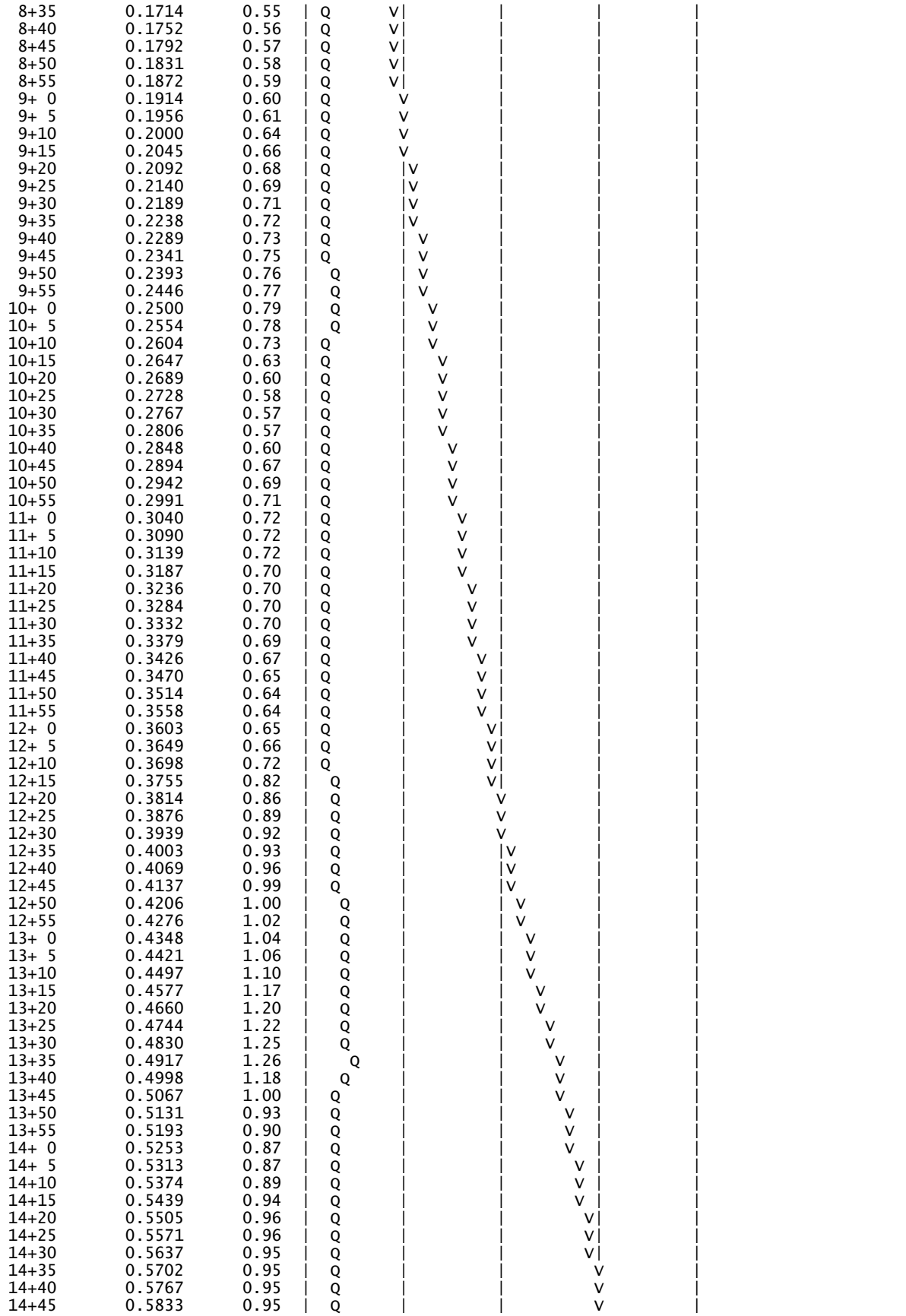
112	9.33	0.67	0.192	(0.372)	0.173	0.019
113	9.42	0.67	0.192	(0.371)	0.173	0.019
114	9.50	0.67	0.192	(0.369)	0.173	0.019
115	9.58	0.70	0.202	(0.367)	0.181	0.020
116	9.67	0.70	0.202	(0.365)	0.181	0.020
117	9.75	0.70	0.202	(0.364)	0.181	0.020
118	9.83	0.73	0.211	(0.362)	0.190	0.021
119	9.92	0.73	0.211	(0.360)	0.190	0.021
120	10.00	0.73	0.211	(0.358)	0.190	0.021
121	10.08	0.50	0.144	(0.357)	0.130	0.014
122	10.17	0.50	0.144	(0.355)	0.130	0.014
123	10.25	0.50	0.144	(0.353)	0.130	0.014
124	10.33	0.50	0.144	(0.351)	0.130	0.014
125	10.42	0.50	0.144	(0.350)	0.130	0.014
126	10.50	0.50	0.144	(0.348)	0.130	0.014
127	10.58	0.67	0.192	(0.346)	0.173	0.019
128	10.67	0.67	0.192	(0.345)	0.173	0.019
129	10.75	0.67	0.192	(0.343)	0.173	0.019
130	10.83	0.67	0.192	(0.341)	0.173	0.019
131	10.92	0.67	0.192	(0.340)	0.173	0.019
132	11.00	0.67	0.192	(0.338)	0.173	0.019
133	11.08	0.63	0.182	(0.336)	0.164	0.018
134	11.17	0.63	0.182	(0.335)	0.164	0.018
135	11.25	0.63	0.182	(0.333)	0.164	0.018
136	11.33	0.63	0.182	(0.331)	0.164	0.018
137	11.42	0.63	0.182	(0.330)	0.164	0.018
138	11.50	0.63	0.182	(0.328)	0.164	0.018
139	11.58	0.57	0.163	(0.326)	0.147	0.016
140	11.67	0.57	0.163	(0.325)	0.147	0.016
141	11.75	0.57	0.163	(0.323)	0.147	0.016
142	11.83	0.60	0.173	(0.322)	0.156	0.017
143	11.92	0.60	0.173	(0.320)	0.156	0.017
144	12.00	0.60	0.173	(0.318)	0.156	0.017
145	12.08	0.83	0.240	(0.317)	0.216	0.024
146	12.17	0.83	0.240	(0.315)	0.216	0.024
147	12.25	0.83	0.240	(0.314)	0.216	0.024
148	12.33	0.87	0.250	(0.312)	0.225	0.025
149	12.42	0.87	0.250	(0.310)	0.225	0.025
150	12.50	0.87	0.250	(0.309)	0.225	0.025
151	12.58	0.93	0.269	(0.307)	0.242	0.027
152	12.67	0.93	0.269	(0.306)	0.242	0.027
153	12.75	0.93	0.269	(0.304)	0.242	0.027
154	12.83	0.97	0.278	(0.303)	0.251	0.028
155	12.92	0.97	0.278	(0.301)	0.251	0.028
156	13.00	0.97	0.278	(0.300)	0.251	0.028
157	13.08	1.13	0.326	(0.298)	0.294	0.033
158	13.17	1.13	0.326	(0.297)	0.294	0.033
159	13.25	1.13	0.326	(0.295)	0.294	0.033
160	13.33	1.13	0.326	0.294	(0.294)	0.033
161	13.42	1.13	0.326	0.292	(0.294)	0.034
162	13.50	1.13	0.326	0.291	(0.294)	0.036
163	13.58	0.77	0.221	(0.289)	0.199	0.022
164	13.67	0.77	0.221	(0.288)	0.199	0.022
165	13.75	0.77	0.221	(0.286)	0.199	0.022
166	13.83	0.77	0.221	(0.285)	0.199	0.022
167	13.92	0.77	0.221	(0.283)	0.199	0.022
168	14.00	0.77	0.221	(0.282)	0.199	0.022
169	14.08	0.90	0.259	(0.280)	0.233	0.026
170	14.17	0.90	0.259	(0.279)	0.233	0.026
171	14.25	0.90	0.259	(0.278)	0.233	0.026
172	14.33	0.87	0.250	(0.276)	0.225	0.025
173	14.42	0.87	0.250	(0.275)	0.225	0.025
174	14.50	0.87	0.250	(0.273)	0.225	0.025
175	14.58	0.87	0.250	(0.272)	0.225	0.025
176	14.67	0.87	0.250	(0.271)	0.225	0.025
177	14.75	0.87	0.250	(0.269)	0.225	0.025
178	14.83	0.83	0.240	(0.268)	0.216	0.024
179	14.92	0.83	0.240	(0.266)	0.216	0.024
180	15.00	0.83	0.240	(0.265)	0.216	0.024
181	15.08	0.80	0.230	(0.264)	0.207	0.023
182	15.17	0.80	0.230	(0.262)	0.207	0.023
183	15.25	0.80	0.230	(0.261)	0.207	0.023
184	15.33	0.77	0.221	(0.260)	0.199	0.022
185	15.42	0.77	0.221	(0.258)	0.199	0.022
186	15.50	0.77	0.221	(0.257)	0.199	0.022

187	15.58	0.63	0.182	(0.256)	0.164	0.018
188	15.67	0.63	0.182	(0.254)	0.164	0.018
189	15.75	0.63	0.182	(0.253)	0.164	0.018
190	15.83	0.63	0.182	(0.252)	0.164	0.018
191	15.92	0.63	0.182	(0.250)	0.164	0.018
192	16.00	0.63	0.182	(0.249)	0.164	0.018
193	16.08	0.13	0.038	(0.248)	0.035	0.004
194	16.17	0.13	0.038	(0.247)	0.035	0.004
195	16.25	0.13	0.038	(0.245)	0.035	0.004
196	16.33	0.13	0.038	(0.244)	0.035	0.004
197	16.42	0.13	0.038	(0.243)	0.035	0.004
198	16.50	0.13	0.038	(0.242)	0.035	0.004
199	16.58	0.10	0.029	(0.240)	0.026	0.003
200	16.67	0.10	0.029	(0.239)	0.026	0.003
201	16.75	0.10	0.029	(0.238)	0.026	0.003
202	16.83	0.10	0.029	(0.237)	0.026	0.003
203	16.92	0.10	0.029	(0.236)	0.026	0.003
204	17.00	0.10	0.029	(0.234)	0.026	0.003
205	17.08	0.17	0.048	(0.233)	0.043	0.005
206	17.17	0.17	0.048	(0.232)	0.043	0.005
207	17.25	0.17	0.048	(0.231)	0.043	0.005
208	17.33	0.17	0.048	(0.230)	0.043	0.005
209	17.42	0.17	0.048	(0.229)	0.043	0.005
210	17.50	0.17	0.048	(0.227)	0.043	0.005
211	17.58	0.17	0.048	(0.226)	0.043	0.005
212	17.67	0.17	0.048	(0.225)	0.043	0.005
213	17.75	0.17	0.048	(0.224)	0.043	0.005
214	17.83	0.13	0.038	(0.223)	0.035	0.004
215	17.92	0.13	0.038	(0.222)	0.035	0.004
216	18.00	0.13	0.038	(0.221)	0.035	0.004
217	18.08	0.13	0.038	(0.220)	0.035	0.004
218	18.17	0.13	0.038	(0.219)	0.035	0.004
219	18.25	0.13	0.038	(0.217)	0.035	0.004
220	18.33	0.13	0.038	(0.216)	0.035	0.004
221	18.42	0.13	0.038	(0.215)	0.035	0.004
222	18.50	0.13	0.038	(0.214)	0.035	0.004
223	18.58	0.10	0.029	(0.213)	0.026	0.003
224	18.67	0.10	0.029	(0.212)	0.026	0.003
225	18.75	0.10	0.029	(0.211)	0.026	0.003
226	18.83	0.07	0.019	(0.210)	0.017	0.002
227	18.92	0.07	0.019	(0.209)	0.017	0.002
228	19.00	0.07	0.019	(0.208)	0.017	0.002
229	19.08	0.10	0.029	(0.207)	0.026	0.003
230	19.17	0.10	0.029	(0.206)	0.026	0.003
231	19.25	0.10	0.029	(0.205)	0.026	0.003
232	19.33	0.13	0.038	(0.204)	0.035	0.004
233	19.42	0.13	0.038	(0.203)	0.035	0.004
234	19.50	0.13	0.038	(0.202)	0.035	0.004
235	19.58	0.10	0.029	(0.202)	0.026	0.003
236	19.67	0.10	0.029	(0.201)	0.026	0.003
237	19.75	0.10	0.029	(0.200)	0.026	0.003
238	19.83	0.07	0.019	(0.199)	0.017	0.002
239	19.92	0.07	0.019	(0.198)	0.017	0.002
240	20.00	0.07	0.019	(0.197)	0.017	0.002
241	20.08	0.10	0.029	(0.196)	0.026	0.003
242	20.17	0.10	0.029	(0.195)	0.026	0.003
243	20.25	0.10	0.029	(0.194)	0.026	0.003
244	20.33	0.10	0.029	(0.194)	0.026	0.003
245	20.42	0.10	0.029	(0.193)	0.026	0.003
246	20.50	0.10	0.029	(0.192)	0.026	0.003
247	20.58	0.10	0.029	(0.191)	0.026	0.003
248	20.67	0.10	0.029	(0.190)	0.026	0.003
249	20.75	0.10	0.029	(0.190)	0.026	0.003
250	20.83	0.07	0.019	(0.189)	0.017	0.002
251	20.92	0.07	0.019	(0.188)	0.017	0.002
252	21.00	0.07	0.019	(0.187)	0.017	0.002
253	21.08	0.10	0.029	(0.187)	0.026	0.003
254	21.17	0.10	0.029	(0.186)	0.026	0.003
255	21.25	0.10	0.029	(0.185)	0.026	0.003
256	21.33	0.07	0.019	(0.184)	0.017	0.002
257	21.42	0.07	0.019	(0.184)	0.017	0.002
258	21.50	0.07	0.019	(0.183)	0.017	0.002
259	21.58	0.10	0.029	(0.182)	0.026	0.003
260	21.67	0.10	0.029	(0.182)	0.026	0.003
261	21.75	0.10	0.029	(0.181)	0.026	0.003

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262  21.83     0.07      0.019       (  0.180)       0.017        0.002
263  21.92     0.07      0.019       (  0.180)       0.017        0.002
264  22.00     0.07      0.019       (  0.179)       0.017        0.002
265  22.08     0.10      0.029       (  0.179)       0.026        0.003
266  22.17     0.10      0.029       (  0.178)       0.026        0.003
267  22.25     0.10      0.029       (  0.177)       0.026        0.003
268  22.33     0.07      0.019       (  0.177)       0.017        0.002
269  22.42     0.07      0.019       (  0.176)       0.017        0.002
270  22.50     0.07      0.019       (  0.176)       0.017        0.002
271  22.58     0.07      0.019       (  0.175)       0.017        0.002
272  22.67     0.07      0.019       (  0.175)       0.017        0.002
273  22.75     0.07      0.019       (  0.174)       0.017        0.002
274  22.83     0.07      0.019       (  0.174)       0.017        0.002
275  22.92     0.07      0.019       (  0.173)       0.017        0.002
276  23.00     0.07      0.019       (  0.173)       0.017        0.002
277  23.08     0.07      0.019       (  0.173)       0.017        0.002
278  23.17     0.07      0.019       (  0.172)       0.017        0.002
279  23.25     0.07      0.019       (  0.172)       0.017        0.002
280  23.33     0.07      0.019       (  0.172)       0.017        0.002
281  23.42     0.07      0.019       (  0.171)       0.017        0.002
282  23.50     0.07      0.019       (  0.171)       0.017        0.002
283  23.58     0.07      0.019       (  0.171)       0.017        0.002
284  23.67     0.07      0.019       (  0.170)       0.017        0.002
285  23.75     0.07      0.019       (  0.170)       0.017        0.002
286  23.83     0.07      0.019       (  0.170)       0.017        0.002
287  23.92     0.07      0.019       (  0.170)       0.017        0.002
288  24.00     0.07      0.019       (  0.170)       0.017        0.002
                (Loss Rate Not Used)
    Sum =     100.0                                  Sum =     2.9
      Flood volume = Effective rainfall      0.24(In)
       times area      37.7(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
      Total soil loss =      2.16(In)
      Total soil loss =     6.784(Ac.Ft)
      Total rainfall =      2.40(In)
      Flood volume =       32896.4 Cubic Feet
      Total soil loss =      295521.8 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      1.264(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0000      0.00  Q         |         |         |         |
   0+10       0.0002      0.02  Q         |         |         |         |
   0+15       0.0005      0.05  Q         |         |         |         |
   0+20       0.0009      0.06  Q         |         |         |         |
   0+25       0.0014      0.07  Q         |         |         |         |
   0+30       0.0020      0.09  Q         |         |         |         |
   0+35       0.0027      0.10  Q         |         |         |         |
   0+40       0.0034      0.10  Q         |         |         |         |
   0+45       0.0042      0.11  Q         |         |         |         |
   0+50       0.0049      0.11  Q         |         |         |         |
   0+55       0.0057      0.12  Q         |         |         |         |
   1+ 0       0.0066      0.13  Q         |         |         |         |
   1+ 5       0.0076      0.14  Q         |         |         |         |
   1+10       0.0085      0.13  Q         |         |         |         |
   1+15       0.0093      0.12  Q         |         |         |         |
   1+20       0.0101      0.12  Q         |         |         |         |
   1+25       0.0109      0.11  Q         |         |         |         |
   1+30       0.0116      0.11  Q         |         |         |         |
   1+35       0.0124      0.11  Q         |         |         |         |
   1+40       0.0132      0.11  Q         |         |         |         |
   1+45       0.0139      0.11  Q         |         |         |         |
   1+50       0.0147      0.11  Q         |         |         |         |
   1+55       0.0155      0.12  Q         |         |         |         |
   2+ 0       0.0164      0.13  Q         |         |         |         |
   2+ 5       0.0174      0.14  Q         |         |         |         |
   2+10       0.0184      0.14  Q         |         |         |         |
   2+15       0.0193      0.14  QV        |         |         |         |
```

```
2+20       0.0203      0.14  QV        |         |         |         |
2+25       0.0213      0.15  QV        |         |         |         |
2+30       0.0223      0.15  QV        |         |         |         |
2+35       0.0233      0.15  QV        |         |         |         |
2+40       0.0244      0.16  QV        |         |         |         |
2+45       0.0256      0.17  QV        |         |         |         |
2+50       0.0268      0.17  QV        |         |         |         |
2+55       0.0280      0.18  QV        |         |         |         |
3+ 0       0.0293      0.18  QV        |         |         |         |
3+ 5       0.0305      0.18  QV        |         |         |         |
3+10       0.0317      0.18  QV        |         |         |         |
3+15       0.0330      0.18  QV        |         |         |         |
3+20       0.0343      0.18  QV        |         |         |         |
3+25       0.0355      0.18  QV        |         |         |         |
3+30       0.0368      0.18  QV        |         |         |         |
3+35       0.0380      0.18  Q V       |         |         |         |
3+40       0.0393      0.18  Q V       |         |         |         |
3+45       0.0405      0.18  Q V       |         |         |         |
3+50       0.0418      0.18  Q V       |         |         |         |
3+55       0.0431      0.19  Q V       |         |         |         |
4+ 0       0.0446      0.21  Q V       |         |         |         |
4+ 5       0.0460      0.21  Q V       |         |         |         |
4+10       0.0475      0.21  Q V       |         |         |         |
4+15       0.0490      0.22  Q V       |         |         |         |
4+20       0.0505      0.22  Q V       |         |         |         |
4+25       0.0521      0.23  Q V       |         |         |         |
4+30       0.0537      0.24  Q V       |         |         |         |
4+35       0.0554      0.25  Q V       |         |         |         |
4+40       0.0571      0.25  |Q V       |         |         |         |
4+45       0.0589      0.25  |Q V       |         |         |         |
4+50       0.0606      0.26  |Q V       |         |         |         |
4+55       0.0625      0.26  |Q V       |         |         |         |
5+ 0       0.0644      0.28  |Q V       |         |         |         |
5+ 5       0.0663      0.28  |Q V       |         |         |         |
5+10       0.0682      0.27  |Q V       |         |         |         |
5+15       0.0698      0.24  Q  V       |         |         |         |
5+20       0.0714      0.23  Q  V       |         |         |         |
5+25       0.0731      0.24  Q  V       |         |         |         |
5+30       0.0748      0.25  Q  V       |         |         |         |
5+35       0.0765      0.25  |Q  V       |         |         |         |
5+40       0.0783      0.26  |Q  V       |         |         |         |
5+45       0.0802      0.28  |Q  V       |         |         |         |
5+50       0.0822      0.28  |Q  V       |         |         |         |
5+55       0.0842      0.29  |Q  V       |         |         |         |
6+ 0       0.0862      0.29  |Q  V       |         |         |         |
6+ 5       0.0882      0.29  |Q  V       |         |         |         |
6+10       0.0902      0.30  |Q  V       |         |         |         |
6+15       0.0924      0.32  |Q  V       |         |         |         |
6+20       0.0946      0.32  |Q   V      |         |         |         |
6+25       0.0968      0.32  |Q   V      |         |         |         |
6+30       0.0991      0.33  |Q   V      |         |         |         |
6+35       0.1013      0.33  |Q   V      |         |         |         |
6+40       0.1037      0.34  |Q   V      |         |         |         |
6+45       0.1061      0.35  |Q   V      |         |         |         |
6+50       0.1085      0.36  |Q   V      |         |         |         |
6+55       0.1110      0.36  |Q   V      |         |         |         |
7+ 0       0.1135      0.36  |Q    V     |         |         |         |
7+ 5       0.1160      0.36  |Q    V     |         |         |         |
7+10       0.1185      0.36  |Q    V     |         |         |         |
7+15       0.1210      0.36  |Q    V     |         |         |         |
7+20       0.1236      0.37  |Q    V     |         |         |         |
7+25       0.1261      0.37  |Q    V     |         |         |         |
7+30       0.1288      0.39  |Q    V     |         |         |         |
7+35       0.1315      0.40  |Q    V     |         |         |         |
7+40       0.1343      0.41  |Q     V    |         |         |         |
7+45       0.1373      0.42  |Q     V    |         |         |         |
7+50       0.1402      0.43  |Q     V    |         |         |         |
7+55       0.1433      0.44  |Q     V    |         |         |         |
8+ 0       0.1464      0.46  |Q     V    |         |         |         |
8+ 5       0.1496      0.47  |Q     V    |         |         |         |
8+10       0.1530      0.49  |Q      V   |         |         |         |
8+15       0.1566      0.52  | Q     V   |         |         |         |
8+20       0.1602      0.53  | Q     V   |         |         |         |
8+25       0.1639      0.54  | Q     V   |         |         |         |
8+30       0.1677      0.54  | Q     V   |         |         |         |
```


8+35 0.1714 0.55
8+40 0.1752 0.56
8+45 0.1792 0.57
8+50 0.1831 0.58
8+55 0.1872 0.59
9+ 0 0.1914 0.60
9+ 5 0.1956 0.61
9+10 0.2000 0.64
9+15 0.2045 0.66
9+20 0.2092 0.68
9+25 0.2140 0.69
9+30 0.2189 0.71
9+35 0.2238 0.72
9+40 0.2289 0.73
9+45 0.2341 0.75
9+50 0.2393 0.76
9+55 0.2446 0.77
10+ 0 0.2500 0.79
10+ 5 0.2554 0.78
10+10 0.2604 0.73
10+15 0.2647 0.63
10+20 0.2689 0.60
10+25 0.2728 0.58
10+30 0.2767 0.57
10+35 0.2806 0.57
10+40 0.2848 0.60
10+45 0.2894 0.67
10+50 0.2942 0.69
10+55 0.2991 0.71
11+ 0 0.3040 0.72
11+ 5 0.3090 0.72
11+10 0.3139 0.72
11+15 0.3187 0.70
11+20 0.3236 0.70
11+25 0.3284 0.70
11+30 0.3332 0.70
11+35 0.3379 0.69
11+40 0.3426 0.67
11+45 0.3470 0.65
11+50 0.3514 0.64
11+55 0.3558 0.64
12+ 0 0.3603 0.65
12+ 5 0.3649 0.66
12+10 0.3698 0.72
12+15 0.3755 0.82
12+20 0.3814 0.86
12+25 0.3876 0.89
12+30 0.3939 0.92
12+35 0.4003 0.93
12+40 0.4069 0.96
12+45 0.4137 0.99
12+50 0.4206 1.00
12+55 0.4276 1.02
13+ 0 0.4348 1.04
13+ 5 0.4421 1.06
13+10 0.4497 1.10
13+15 0.4577 1.17
13+20 0.4660 1.20
13+25 0.4744 1.22
13+30 0.4830 1.25
13+35 0.4917 1.26
13+40 0.4998 1.18
13+45 0.5067 1.00
13+50 0.5131 0.93
13+55 0.5193 0.90
14+ 0 0.5253 0.87
14+ 5 0.5313 0.87
14+10 0.5374 0.89
14+15 0.5439 0.94
14+20 0.5505 0.96
14+25 0.5571 0.96
14+30 0.5637 0.95
14+35 0.5702 0.95
14+40 0.5767 0.95
14+45 0.5833 0.95

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14+50       0.5898      0.95  |  Q       |          |          |V         |
14+55       0.5963      0.94  |  Q       |          |          |V         |
15+ 0       0.6026      0.93  |  Q       |          |          |V         |
15+ 5       0.6090      0.92  |  Q       |          |          | V        |
15+10       0.6152      0.91  |  Q       |          |          | V        |
15+15       0.6213      0.89  |  Q       |          |          | V        |
15+20       0.6274      0.88  |  Q       |          |          |  V       |
15+25       0.6334      0.87  |  Q       |          |          |  V       |
15+30       0.6393      0.86  |  Q       |          |          |  V       |
15+35       0.6451      0.84  |  Q       |          |          |   V      |
15+40       0.6507      0.80  |  Q       |          |          |   V      |
15+45       0.6558      0.75  | Q        |          |          |   V      |
15+50       0.6608      0.73  | Q        |          |          |    V     |
15+55       0.6657      0.71  | Q        |          |          |    V     |
16+ 0       0.6706      0.71  | Q        |          |          |    V     |
16+ 5       0.6752      0.67  | Q        |          |          |    V     |
16+10       0.6790      0.55  | Q        |          |          |    V     |
16+15       0.6813      0.34  |Q         |          |          |     V    |
16+20       0.6831      0.26  |Q         |          |          |     V    |
16+25       0.6846      0.22  Q          |          |          |     V    |
16+30       0.6859      0.19  Q          |          |          |     V    |
16+35       0.6871      0.17  Q          |          |          |     V    |
16+40       0.6881      0.15  Q          |          |          |     V    |
16+45       0.6890      0.13  Q          |          |          |     V    |
16+50       0.6898      0.12  Q          |          |          |     V    |
16+55       0.6906      0.12  Q          |          |          |     V    |
17+ 0       0.6914      0.11  Q          |          |          |     V    |
17+ 5       0.6922      0.11  Q          |          |          |     V    |
17+10       0.6931      0.13  Q          |          |          |     V    |
17+15       0.6942      0.16  Q          |          |          |     V    |
17+20       0.6954      0.17  Q          |          |          |     V    |
17+25       0.6966      0.17  Q          |          |          |     V    |
17+30       0.6978      0.18  Q          |          |          |     V    |
17+35       0.6990      0.18  Q          |          |          |      V   |
17+40       0.7003      0.18  Q          |          |          |      V   |
17+45       0.7015      0.18  Q          |          |          |      V   |
17+50       0.7027      0.18  Q          |          |          |      V   |
17+55       0.7039      0.17  Q          |          |          |      V   |
18+ 0       0.7050      0.16  Q          |          |          |      V   |
18+ 5       0.7061      0.15  Q          |          |          |      V   |
18+10       0.7071      0.15  Q          |          |          |      V   |
18+15       0.7081      0.15  Q          |          |          |      V   |
18+20       0.7092      0.15  Q          |          |          |      V   |
18+25       0.7102      0.15  Q          |          |          |      V   |
18+30       0.7112      0.15  Q          |          |          |      V   |
18+35       0.7122      0.14  Q          |          |          |      V   |
18+40       0.7131      0.14  Q          |          |          |      V   |
18+45       0.7139      0.12  Q          |          |          |      V   |
18+50       0.7147      0.12  Q          |          |          |      V   |
18+55       0.7155      0.10  Q          |          |          |      V   |
19+ 0       0.7161      0.09  Q          |          |          |      V   |
19+ 5       0.7166      0.08  Q          |          |          |      V   |
19+10       0.7173      0.09  Q          |          |          |      V   |
19+15       0.7179      0.10  Q          |          |          |       V  |
19+20       0.7187      0.11  Q          |          |          |       V  |
19+25       0.7195      0.12  Q          |          |          |       V  |
19+30       0.7204      0.13  Q          |          |          |       V  |
19+35       0.7213      0.14  Q          |          |          |       V  |
19+40       0.7222      0.13  Q          |          |          |       V  |
19+45       0.7230      0.12  Q          |          |          |       V  |
19+50       0.7238      0.11  Q          |          |          |       V  |
19+55       0.7245      0.10  Q          |          |          |       V  |
20+ 0       0.7251      0.09  Q          |          |          |       V  |
20+ 5       0.7257      0.08  Q          |          |          |       V  |
20+10       0.7263      0.09  Q          |          |          |       V  |
20+15       0.7270      0.10  Q          |          |          |       V  |
20+20       0.7277      0.10  Q          |          |          |       V  |
20+25       0.7284      0.11  Q          |          |          |       V  |
20+30       0.7292      0.11  Q          |          |          |       V  |
20+35       0.7299      0.11  Q          |          |          |       V  |
20+40       0.7307      0.11  Q          |          |          |       V  |
20+45       0.7314      0.11  Q          |          |          |       V  |
20+50       0.7322      0.11  Q          |          |          |       V  |
20+55       0.7328      0.10  Q          |          |          |       V  |
21+ 0       0.7334      0.09  Q          |          |          |       V  |
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21+ 5	0.7340	0.08	Q	|	|	|	V |
21+10	0.7346	0.09	Q	|	|	|	V |
21+15	0.7353	0.10	Q	|	|	|	V |
21+20	0.7360	0.10	Q	|	|	|	V |
21+25	0.7366	0.10	Q	|	|	|	V|
21+30	0.7372	0.08	Q	|	|	|	V|
21+35	0.7378	0.08	Q	|	|	|	V|
21+40	0.7384	0.09	Q	|	|	|	V|
21+45	0.7391	0.10	Q	|	|	|	V|
21+50	0.7398	0.10	Q	|	|	|	V|
21+55	0.7404	0.10	Q	|	|	|	V|
22+ 0	0.7410	0.08	Q	|	|	|	V|
22+ 5	0.7416	0.08	Q	|	|	|	V|
22+10	0.7422	0.09	Q	|	|	|	V|
22+15	0.7428	0.10	Q	|	|	|	V|
22+20	0.7435	0.10	Q	|	|	|	V|
22+25	0.7442	0.10	Q	|	|	|	V|
22+30	0.7448	0.08	Q	|	|	|	V|
22+35	0.7453	0.08	Q	|	|	|	V|
22+40	0.7458	0.08	Q	|	|	|	V|
22+45	0.7464	0.08	Q	|	|	|	V|
22+50	0.7469	0.07	Q	|	|	|	V|
22+55	0.7474	0.07	Q	|	|	|	V|
23+ 0	0.7479	0.07	Q	|	|	|	V|
23+ 5	0.7484	0.07	Q	|	|	|	V|
23+10	0.7489	0.07	Q	|	|	|	V|
23+15	0.7494	0.07	Q	|	|	|	V|
23+20	0.7499	0.07	Q	|	|	|	V|
23+25	0.7504	0.07	Q	|	|	|	V|
23+30	0.7509	0.07	Q	|	|	|	V|
23+35	0.7514	0.07	Q	|	|	|	V|
23+40	0.7519	0.07	Q	|	|	|	V|
23+45	0.7524	0.07	Q	|	|	|	V|
23+50	0.7529	0.07	Q	|	|	|	V|
23+55	0.7534	0.07	Q	|	|	|	V|
24+ 0	0.7539	0.07	Q	|	|	|	V|
24+ 5	0.7544	0.07	Q	|	|	|	V|
24+10	0.7548	0.05	Q	|	|	|	V|
24+15	0.7549	0.03	Q	|	|	|	V|
24+20	0.7550	0.02	Q	|	|	|	V|
24+25	0.7551	0.01	Q	|	|	|	V|
24+30	0.7551	0.01	Q	|	|	|	V|
24+35	0.7552	0.00	Q	|	|	|	V|
24+40	0.7552	0.00	Q	|	|	|	V|
24+45	0.7552	0.00	Q	|	|	|	V|
24+50	0.7552	0.00	Q	|	|	|	V|
24+55	0.7552	0.00	Q	|	|	|	V|
25+ 0	0.7552	0.00	Q	|	|	|	V|
25+ 5	0.7552	0.00	Q	|	|	|	V

PROPOSED CONDITION UNIT HYDROGRAPHS (2-YEAR, 24-HOUR STORM)

U n i t H y d r o g r a p h A n a l y s i s

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Study date 11/23/21 File: PROP2YR4P242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 4010

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

BCCOV PARKING DEVELOPED CONDITION
2 YR 24 HR STORM EVENT
21-0034
2021-11-23 EP

Drainage Area = 9.20(Ac.) = 0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 9.20(Ac.) = 0.014 Sq. Mi.
Length along longest watercourse = 3348.00(Ft.)
Length along longest watercourse measured to centroid = 2754.00(Ft.)
Length along longest watercourse = 0.634 Mi.
Length along longest watercourse measured to centroid = 0.522 Mi.
Difference in elevation = 37.50(Ft.)
Slope along watercourse = 59.1398 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.109 Hr.
Lag time = 6.53 Min.
25% of lag time = 1.63 Min.
40% of lag time = 2.61 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.20	2.40	22.08

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
9.20	6.20	57.04

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.400(In)
Area Averaged 100-Year Rainfall = 6.200(In)

Point rain (area averaged) = 2.400(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.400(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.200	56.00	0.680

Total Area Entered = 9.20(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)

56.0	36.0	0.706	0.680	0.274	1.000	0.274
					Sum (F) =	0.274

Area averaged mean soil loss (F) (In/Hr) = 0.274
Minimum soil loss rate ((In/Hr)) = 0.137
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.350

U n i t H y d r o g r a p h
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	76.519	8.325	0.772
2	0.167	153.038	46.099	4.274
3	0.250	229.558	25.979	2.409
4	0.333	306.077	10.137	0.940
5	0.417	382.596	5.291	0.491
6	0.500	459.115	2.287	0.212
7	0.583	535.634	0.823	0.076
8	0.667	612.154	0.549	0.051
9	0.750	688.673	0.392	0.036
10	0.833	765.192	0.118	0.011
			Sum = 100.000 Sum=	9.272

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.019	(0.486)	0.007	0.012
2	0.17	0.07	0.019	(0.484)	0.007	0.012
3	0.25	0.07	0.019	(0.482)	0.007	0.012
4	0.33	0.10	0.029	(0.480)	0.010	0.019
5	0.42	0.10	0.029	(0.478)	0.010	0.019
6	0.50	0.10	0.029	(0.476)	0.010	0.019
7	0.58	0.10	0.029	(0.474)	0.010	0.019
8	0.67	0.10	0.029	(0.473)	0.010	0.019
9	0.75	0.10	0.029	(0.471)	0.010	0.019
10	0.83	0.13	0.038	(0.469)	0.013	0.025
11	0.92	0.13	0.038	(0.467)	0.013	0.025
12	1.00	0.13	0.038	(0.465)	0.013	0.025
13	1.08	0.10	0.029	(0.463)	0.010	0.019
14	1.17	0.10	0.029	(0.461)	0.010	0.019
15	1.25	0.10	0.029	(0.460)	0.010	0.019
16	1.33	0.10	0.029	(0.458)	0.010	0.019
17	1.42	0.10	0.029	(0.456)	0.010	0.019
18	1.50	0.10	0.029	(0.454)	0.010	0.019
19	1.58	0.10	0.029	(0.452)	0.010	0.019
20	1.67	0.10	0.029	(0.451)	0.010	0.019
21	1.75	0.10	0.029	(0.449)	0.010	0.019
22	1.83	0.13	0.038	(0.447)	0.013	0.025
23	1.92	0.13	0.038	(0.445)	0.013	0.025
24	2.00	0.13	0.038	(0.443)	0.013	0.025
25	2.08	0.13	0.038	(0.442)	0.013	0.025
26	2.17	0.13	0.038	(0.440)	0.013	0.025
27	2.25	0.13	0.038	(0.438)	0.013	0.025
28	2.33	0.13	0.038	(0.436)	0.013	0.025
29	2.42	0.13	0.038	(0.434)	0.013	0.025
30	2.50	0.13	0.038	(0.433)	0.013	0.025
31	2.58	0.17	0.048	(0.431)	0.017	0.031
32	2.67	0.17	0.048	(0.429)	0.017	0.031
33	2.75	0.17	0.048	(0.427)	0.017	0.031
34	2.83	0.17	0.048	(0.426)	0.017	0.031
35	2.92	0.17	0.048	(0.424)	0.017	0.031
36	3.00	0.17	0.048	(0.422)	0.017	0.031
37	3.08	0.17	0.048	(0.420)	0.017	0.031
38	3.17	0.17	0.048	(0.419)	0.017	0.031
39	3.25	0.17	0.048	(0.417)	0.017	0.031
40	3.33	0.17	0.048	(0.415)	0.017	0.031

41	3.42	0.17	0.048	(0.413)	0.017	0.031
42	3.50	0.17	0.048	(0.412)	0.017	0.031
43	3.58	0.17	0.048	(0.410)	0.017	0.031
44	3.67	0.17	0.048	(0.408)	0.017	0.031
45	3.75	0.17	0.048	(0.406)	0.017	0.031
46	3.83	0.20	0.058	(0.405)	0.020	0.037
47	3.92	0.20	0.058	(0.403)	0.020	0.037
48	4.00	0.20	0.058	(0.401)	0.020	0.037
49	4.08	0.20	0.058	(0.400)	0.020	0.037
50	4.17	0.20	0.058	(0.398)	0.020	0.037
51	4.25	0.20	0.058	(0.396)	0.020	0.037
52	4.33	0.23	0.067	(0.395)	0.024	0.044
53	4.42	0.23	0.067	(0.393)	0.024	0.044
54	4.50	0.23	0.067	(0.391)	0.024	0.044
55	4.58	0.23	0.067	(0.390)	0.024	0.044
56	4.67	0.23	0.067	(0.388)	0.024	0.044
57	4.75	0.23	0.067	(0.386)	0.024	0.044
58	4.83	0.27	0.077	(0.384)	0.027	0.050
59	4.92	0.27	0.077	(0.383)	0.027	0.050
60	5.00	0.27	0.077	(0.381)	0.027	0.050
61	5.08	0.20	0.058	(0.380)	0.020	0.037
62	5.17	0.20	0.058	(0.378)	0.020	0.037
63	5.25	0.20	0.058	(0.376)	0.020	0.037
64	5.33	0.23	0.067	(0.375)	0.024	0.044
65	5.42	0.23	0.067	(0.373)	0.024	0.044
66	5.50	0.23	0.067	(0.371)	0.024	0.044
67	5.58	0.27	0.077	(0.370)	0.027	0.050
68	5.67	0.27	0.077	(0.368)	0.027	0.050
69	5.75	0.27	0.077	(0.366)	0.027	0.050
70	5.83	0.27	0.077	(0.365)	0.027	0.050
71	5.92	0.27	0.077	(0.363)	0.027	0.050
72	6.00	0.27	0.077	(0.362)	0.027	0.050
73	6.08	0.30	0.086	(0.360)	0.030	0.056
74	6.17	0.30	0.086	(0.358)	0.030	0.056
75	6.25	0.30	0.086	(0.357)	0.030	0.056
76	6.33	0.30	0.086	(0.355)	0.030	0.056
77	6.42	0.30	0.086	(0.354)	0.030	0.056
78	6.50	0.30	0.086	(0.352)	0.030	0.056
79	6.58	0.33	0.096	(0.350)	0.034	0.062
80	6.67	0.33	0.096	(0.349)	0.034	0.062
81	6.75	0.33	0.096	(0.347)	0.034	0.062
82	6.83	0.33	0.096	(0.346)	0.034	0.062
83	6.92	0.33	0.096	(0.344)	0.034	0.062
84	7.00	0.33	0.096	(0.343)	0.034	0.062
85	7.08	0.33	0.096	(0.341)	0.034	0.062
86	7.17	0.33	0.096	(0.339)	0.034	0.062
87	7.25	0.33	0.096	(0.338)	0.034	0.062
88	7.33	0.37	0.106	(0.336)	0.037	0.069
89	7.42	0.37	0.106	(0.335)	0.037	0.069
90	7.50	0.37	0.106	(0.333)	0.037	0.069
91	7.58	0.40	0.115	(0.332)	0.040	0.075
92	7.67	0.40	0.115	(0.330)	0.040	0.075
93	7.75	0.40	0.115	(0.329)	0.040	0.075
94	7.83	0.43	0.125	(0.327)	0.044	0.081
95	7.92	0.43	0.125	(0.326)	0.044	0.081
96	8.00	0.43	0.125	(0.324)	0.044	0.081
97	8.08	0.50	0.144	(0.323)	0.050	0.094
98	8.17	0.50	0.144	(0.321)	0.050	0.094
99	8.25	0.50	0.144	(0.320)	0.050	0.094
100	8.33	0.50	0.144	(0.318)	0.050	0.094
101	8.42	0.50	0.144	(0.317)	0.050	0.094
102	8.50	0.50	0.144	(0.315)	0.050	0.094
103	8.58	0.53	0.154	(0.314)	0.054	0.100
104	8.67	0.53	0.154	(0.312)	0.054	0.100
105	8.75	0.53	0.154	(0.311)	0.054	0.100
106	8.83	0.57	0.163	(0.309)	0.057	0.106
107	8.92	0.57	0.163	(0.308)	0.057	0.106
108	9.00	0.57	0.163	(0.306)	0.057	0.106
109	9.08	0.63	0.182	(0.305)	0.064	0.119
110	9.17	0.63	0.182	(0.304)	0.064	0.119
111	9.25	0.63	0.182	(0.302)	0.064	0.119
112	9.33	0.67	0.192	(0.301)	0.067	0.125
113	9.42	0.67	0.192	(0.299)	0.067	0.125
114	9.50	0.67	0.192	(0.298)	0.067	0.125
115	9.58	0.70	0.202	(0.296)	0.071	0.131

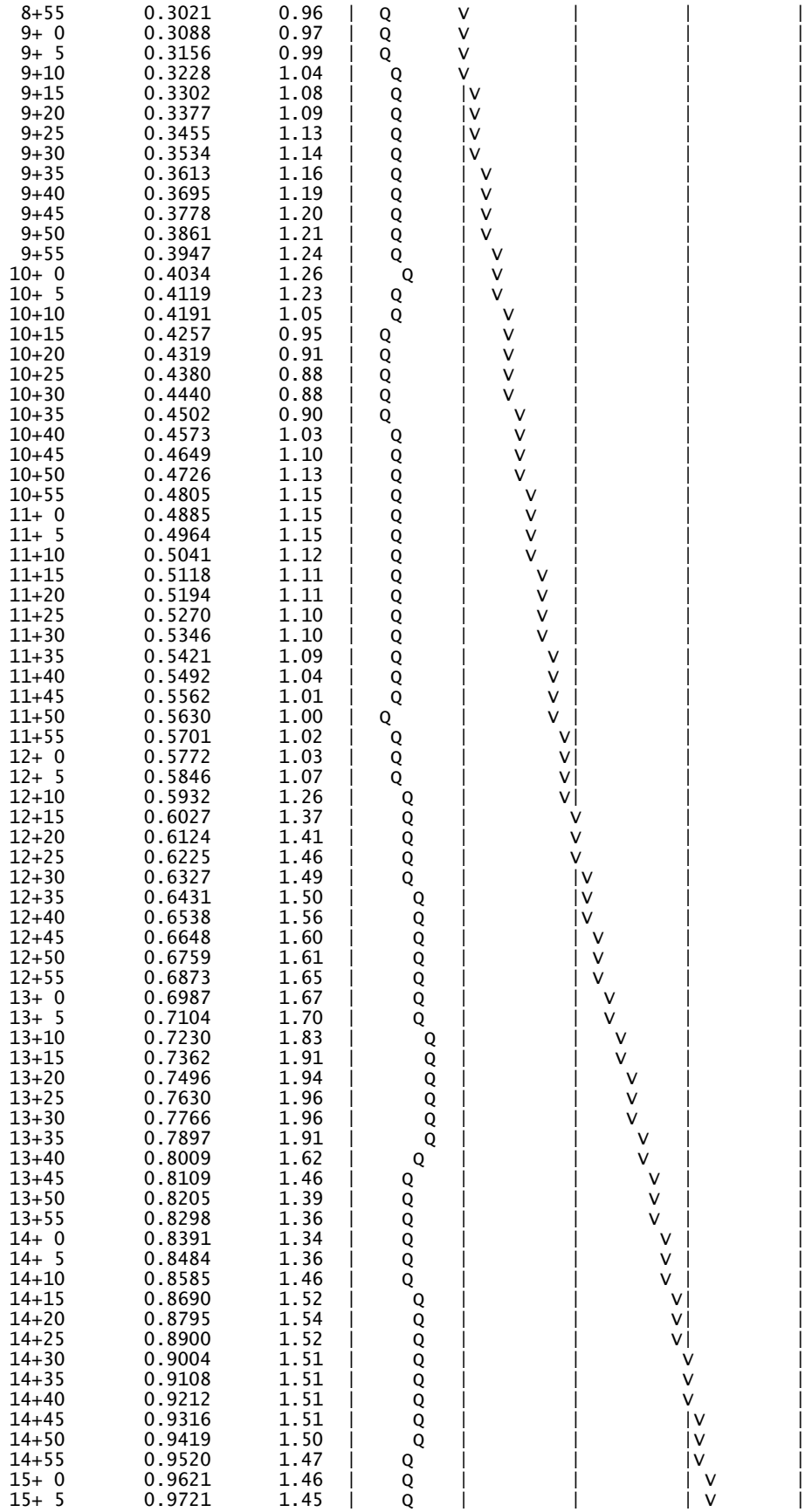
116	9.67	0.70	0.202	(0.295)	0.071	0.131
117	9.75	0.70	0.202	(0.293)	0.071	0.131
118	9.83	0.73	0.211	(0.292)	0.074	0.137
119	9.92	0.73	0.211	(0.291)	0.074	0.137
120	10.00	0.73	0.211	(0.289)	0.074	0.137
121	10.08	0.50	0.144	(0.288)	0.050	0.094
122	10.17	0.50	0.144	(0.286)	0.050	0.094
123	10.25	0.50	0.144	(0.285)	0.050	0.094
124	10.33	0.50	0.144	(0.284)	0.050	0.094
125	10.42	0.50	0.144	(0.282)	0.050	0.094
126	10.50	0.50	0.144	(0.281)	0.050	0.094
127	10.58	0.67	0.192	(0.280)	0.067	0.125
128	10.67	0.67	0.192	(0.278)	0.067	0.125
129	10.75	0.67	0.192	(0.277)	0.067	0.125
130	10.83	0.67	0.192	(0.275)	0.067	0.125
131	10.92	0.67	0.192	(0.274)	0.067	0.125
132	11.00	0.67	0.192	(0.273)	0.067	0.125
133	11.08	0.63	0.182	(0.271)	0.064	0.119
134	11.17	0.63	0.182	(0.270)	0.064	0.119
135	11.25	0.63	0.182	(0.269)	0.064	0.119
136	11.33	0.63	0.182	(0.267)	0.064	0.119
137	11.42	0.63	0.182	(0.266)	0.064	0.119
138	11.50	0.63	0.182	(0.265)	0.064	0.119
139	11.58	0.57	0.163	(0.263)	0.057	0.106
140	11.67	0.57	0.163	(0.262)	0.057	0.106
141	11.75	0.57	0.163	(0.261)	0.057	0.106
142	11.83	0.60	0.173	(0.260)	0.060	0.112
143	11.92	0.60	0.173	(0.258)	0.060	0.112
144	12.00	0.60	0.173	(0.257)	0.060	0.112
145	12.08	0.83	0.240	(0.256)	0.084	0.156
146	12.17	0.83	0.240	(0.254)	0.084	0.156
147	12.25	0.83	0.240	(0.253)	0.084	0.156
148	12.33	0.87	0.250	(0.252)	0.087	0.162
149	12.42	0.87	0.250	(0.251)	0.087	0.162
150	12.50	0.87	0.250	(0.249)	0.087	0.162
151	12.58	0.93	0.269	(0.248)	0.094	0.175
152	12.67	0.93	0.269	(0.247)	0.094	0.175
153	12.75	0.93	0.269	(0.246)	0.094	0.175
154	12.83	0.97	0.278	(0.244)	0.097	0.181
155	12.92	0.97	0.278	(0.243)	0.097	0.181
156	13.00	0.97	0.278	(0.242)	0.097	0.181
157	13.08	1.13	0.326	(0.241)	0.114	0.212
158	13.17	1.13	0.326	(0.239)	0.114	0.212
159	13.25	1.13	0.326	(0.238)	0.114	0.212
160	13.33	1.13	0.326	(0.237)	0.114	0.212
161	13.42	1.13	0.326	(0.236)	0.114	0.212
162	13.50	1.13	0.326	(0.235)	0.114	0.212
163	13.58	0.77	0.221	(0.233)	0.077	0.144
164	13.67	0.77	0.221	(0.232)	0.077	0.144
165	13.75	0.77	0.221	(0.231)	0.077	0.144
166	13.83	0.77	0.221	(0.230)	0.077	0.144
167	13.92	0.77	0.221	(0.229)	0.077	0.144
168	14.00	0.77	0.221	(0.228)	0.077	0.144
169	14.08	0.90	0.259	(0.226)	0.091	0.168
170	14.17	0.90	0.259	(0.225)	0.091	0.168
171	14.25	0.90	0.259	(0.224)	0.091	0.168
172	14.33	0.87	0.250	(0.223)	0.087	0.162
173	14.42	0.87	0.250	(0.222)	0.087	0.162
174	14.50	0.87	0.250	(0.221)	0.087	0.162
175	14.58	0.87	0.250	(0.220)	0.087	0.162
176	14.67	0.87	0.250	(0.218)	0.087	0.162
177	14.75	0.87	0.250	(0.217)	0.087	0.162
178	14.83	0.83	0.240	(0.216)	0.084	0.156
179	14.92	0.83	0.240	(0.215)	0.084	0.156
180	15.00	0.83	0.240	(0.214)	0.084	0.156
181	15.08	0.80	0.230	(0.213)	0.081	0.150
182	15.17	0.80	0.230	(0.212)	0.081	0.150
183	15.25	0.80	0.230	(0.211)	0.081	0.150
184	15.33	0.77	0.221	(0.210)	0.077	0.144
185	15.42	0.77	0.221	(0.209)	0.077	0.144
186	15.50	0.77	0.221	(0.207)	0.077	0.144
187	15.58	0.63	0.182	(0.206)	0.064	0.119
188	15.67	0.63	0.182	(0.205)	0.064	0.119
189	15.75	0.63	0.182	(0.204)	0.064	0.119
190	15.83	0.63	0.182	(0.203)	0.064	0.119

191	15.92	0.63	0.182	(0.202)	0.064	0.119
192	16.00	0.63	0.182	(0.201)	0.064	0.119
193	16.08	0.13	0.038	(0.200)	0.013	0.025
194	16.17	0.13	0.038	(0.199)	0.013	0.025
195	16.25	0.13	0.038	(0.198)	0.013	0.025
196	16.33	0.13	0.038	(0.197)	0.013	0.025
197	16.42	0.13	0.038	(0.196)	0.013	0.025
198	16.50	0.13	0.038	(0.195)	0.013	0.025
199	16.58	0.10	0.029	(0.194)	0.010	0.019
200	16.67	0.10	0.029	(0.193)	0.010	0.019
201	16.75	0.10	0.029	(0.192)	0.010	0.019
202	16.83	0.10	0.029	(0.191)	0.010	0.019
203	16.92	0.10	0.029	(0.190)	0.010	0.019
204	17.00	0.10	0.029	(0.189)	0.010	0.019
205	17.08	0.17	0.048	(0.188)	0.017	0.031
206	17.17	0.17	0.048	(0.187)	0.017	0.031
207	17.25	0.17	0.048	(0.186)	0.017	0.031
208	17.33	0.17	0.048	(0.185)	0.017	0.031
209	17.42	0.17	0.048	(0.185)	0.017	0.031
210	17.50	0.17	0.048	(0.184)	0.017	0.031
211	17.58	0.17	0.048	(0.183)	0.017	0.031
212	17.67	0.17	0.048	(0.182)	0.017	0.031
213	17.75	0.17	0.048	(0.181)	0.017	0.031
214	17.83	0.13	0.038	(0.180)	0.013	0.025
215	17.92	0.13	0.038	(0.179)	0.013	0.025
216	18.00	0.13	0.038	(0.178)	0.013	0.025
217	18.08	0.13	0.038	(0.177)	0.013	0.025
218	18.17	0.13	0.038	(0.176)	0.013	0.025
219	18.25	0.13	0.038	(0.176)	0.013	0.025
220	18.33	0.13	0.038	(0.175)	0.013	0.025
221	18.42	0.13	0.038	(0.174)	0.013	0.025
222	18.50	0.13	0.038	(0.173)	0.013	0.025
223	18.58	0.10	0.029	(0.172)	0.010	0.019
224	18.67	0.10	0.029	(0.171)	0.010	0.019
225	18.75	0.10	0.029	(0.171)	0.010	0.019
226	18.83	0.07	0.019	(0.170)	0.007	0.012
227	18.92	0.07	0.019	(0.169)	0.007	0.012
228	19.00	0.07	0.019	(0.168)	0.007	0.012
229	19.08	0.10	0.029	(0.167)	0.010	0.019
230	19.17	0.10	0.029	(0.167)	0.010	0.019
231	19.25	0.10	0.029	(0.166)	0.010	0.019
232	19.33	0.13	0.038	(0.165)	0.013	0.025
233	19.42	0.13	0.038	(0.164)	0.013	0.025
234	19.50	0.13	0.038	(0.163)	0.013	0.025
235	19.58	0.10	0.029	(0.163)	0.010	0.019
236	19.67	0.10	0.029	(0.162)	0.010	0.019
237	19.75	0.10	0.029	(0.161)	0.010	0.019
238	19.83	0.07	0.019	(0.160)	0.007	0.012
239	19.92	0.07	0.019	(0.160)	0.007	0.012
240	20.00	0.07	0.019	(0.159)	0.007	0.012
241	20.08	0.10	0.029	(0.158)	0.010	0.019
242	20.17	0.10	0.029	(0.158)	0.010	0.019
243	20.25	0.10	0.029	(0.157)	0.010	0.019
244	20.33	0.10	0.029	(0.156)	0.010	0.019
245	20.42	0.10	0.029	(0.156)	0.010	0.019
246	20.50	0.10	0.029	(0.155)	0.010	0.019
247	20.58	0.10	0.029	(0.154)	0.010	0.019
248	20.67	0.10	0.029	(0.154)	0.010	0.019
249	20.75	0.10	0.029	(0.153)	0.010	0.019
250	20.83	0.07	0.019	(0.152)	0.007	0.012
251	20.92	0.07	0.019	(0.152)	0.007	0.012
252	21.00	0.07	0.019	(0.151)	0.007	0.012
253	21.08	0.10	0.029	(0.151)	0.010	0.019
254	21.17	0.10	0.029	(0.150)	0.010	0.019
255	21.25	0.10	0.029	(0.149)	0.010	0.019
256	21.33	0.07	0.019	(0.149)	0.007	0.012
257	21.42	0.07	0.019	(0.148)	0.007	0.012
258	21.50	0.07	0.019	(0.148)	0.007	0.012
259	21.58	0.10	0.029	(0.147)	0.010	0.019
260	21.67	0.10	0.029	(0.147)	0.010	0.019
261	21.75	0.10	0.029	(0.146)	0.010	0.019
262	21.83	0.07	0.019	(0.146)	0.007	0.012
263	21.92	0.07	0.019	(0.145)	0.007	0.012
264	22.00	0.07	0.019	(0.145)	0.007	0.012
265	22.08	0.10	0.029	(0.144)	0.010	0.019

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266  22.17     0.10      0.029       (  0.144)       0.010        0.019
267  22.25     0.10      0.029       (  0.143)       0.010        0.019
268  22.33     0.07      0.019       (  0.143)       0.007        0.012
269  22.42     0.07      0.019       (  0.142)       0.007        0.012
270  22.50     0.07      0.019       (  0.142)       0.007        0.012
271  22.58     0.07      0.019       (  0.142)       0.007        0.012
272  22.67     0.07      0.019       (  0.141)       0.007        0.012
273  22.75     0.07      0.019       (  0.141)       0.007        0.012
274  22.83     0.07      0.019       (  0.140)       0.007        0.012
275  22.92     0.07      0.019       (  0.140)       0.007        0.012
276  23.00     0.07      0.019       (  0.140)       0.007        0.012
277  23.08     0.07      0.019       (  0.139)       0.007        0.012
278  23.17     0.07      0.019       (  0.139)       0.007        0.012
279  23.25     0.07      0.019       (  0.139)       0.007        0.012
280  23.33     0.07      0.019       (  0.138)       0.007        0.012
281  23.42     0.07      0.019       (  0.138)       0.007        0.012
282  23.50     0.07      0.019       (  0.138)       0.007        0.012
283  23.58     0.07      0.019       (  0.138)       0.007        0.012
284  23.67     0.07      0.019       (  0.138)       0.007        0.012
285  23.75     0.07      0.019       (  0.137)       0.007        0.012
286  23.83     0.07      0.019       (  0.137)       0.007        0.012
287  23.92     0.07      0.019       (  0.137)       0.007        0.012
288  24.00     0.07      0.019       (  0.137)       0.007        0.012
               (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    18.7
      Flood volume = Effective rainfall      1.56(In)
       times area       9.2(Ac.)/[(In)/(Ft.)] =       1.2(Ac.Ft)
      Total soil loss =      0.84(In)
      Total soil loss =     0.644(Ac.Ft)
      Total rainfall =      2.40(In)
      Flood volume =       52096.8 Cubic Feet
      Total soil loss =       28052.1 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      1.963(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0001      0.01  Q          |         |         |         |
  0+10       0.0005      0.06  Q          |         |         |         |
  0+15       0.0011      0.09  Q          |         |         |         |
  0+20       0.0019      0.11  Q          |         |         |         |
  0+25       0.0029      0.14  Q          |         |         |         |
  0+30       0.0040      0.16  Q          |         |         |         |
  0+35       0.0051      0.17  Q          |         |         |         |
  0+40       0.0063      0.17  Q          |         |         |         |
  0+45       0.0075      0.17  Q          |         |         |         |
  0+50       0.0087      0.18  Q          |         |         |         |
  0+55       0.0101      0.20  Q          |         |         |         |
  1+ 0       0.0116      0.22  Q          |         |         |         |
  1+ 5       0.0132      0.22  Q          |         |         |         |
  1+10       0.0145      0.20  Q          |         |         |         |
  1+15       0.0158      0.18  Q          |         |         |         |
  1+20       0.0170      0.18  Q          |         |         |         |
  1+25       0.0182      0.18  Q          |         |         |         |
  1+30       0.0194      0.17  Q          |         |         |         |
  1+35       0.0206      0.17  Q          |         |         |         |
  1+40       0.0218      0.17  Q          |         |         |         |
  1+45       0.0230      0.17  Q          |         |         |         |
  1+50       0.0243      0.18  Q          |         |         |         |
  1+55       0.0257      0.21  Q          |         |         |         |
  2+ 0       0.0272      0.22  Q          |         |         |         |
  2+ 5       0.0287      0.23  Q          |         |         |         |
  2+10       0.0303      0.23  QV         |         |         |         |
  2+15       0.0319      0.23  QV         |         |         |         |
  2+20       0.0335      0.23  QV         |         |         |         |
  2+25       0.0351      0.23  QV         |         |         |         |
  2+30       0.0367      0.23  QV         |         |         |         |
  2+35       0.0383      0.24  QV         |         |         |         |
```

2+40	0.0401	0.26	Q			
2+45	0.0420	0.28	Q			
2+50	0.0440	0.28	Q			
2+55	0.0460	0.29	Q			
3+ 0	0.0480	0.29	Q			
3+ 5	0.0500	0.29	Q			
3+10	0.0519	0.29	Q			
3+15	0.0539	0.29	Q			
3+20	0.0559	0.29	Q			
3+25	0.0579	0.29	Q			
3+30	0.0599	0.29	QV			
3+35	0.0619	0.29	QV			
3+40	0.0639	0.29	QV			
3+45	0.0659	0.29	QV			
3+50	0.0679	0.29	QV			
3+55	0.0701	0.32	QV			
4+ 0	0.0724	0.34	QV			
4+ 5	0.0748	0.34	QV			
4+10	0.0772	0.34	QV			
4+15	0.0796	0.35	QV			
4+20	0.0820	0.35	QV			
4+25	0.0846	0.38	QV			
4+30	0.0873	0.39	QV			
4+35	0.0901	0.40	Q V			
4+40	0.0928	0.40	Q V			
4+45	0.0956	0.40	Q V			
4+50	0.0984	0.41	Q V			
4+55	0.1014	0.44	Q V			
5+ 0	0.1045	0.45	Q V			
5+ 5	0.1076	0.45	Q V			
5+10	0.1104	0.40	Q V			
5+15	0.1129	0.37	Q V			
5+20	0.1154	0.36	Q V			
5+25	0.1180	0.38	Q V			
5+30	0.1208	0.40	Q V			
5+35	0.1236	0.41	Q V			
5+40	0.1266	0.43	Q V			
5+45	0.1297	0.45	Q V			
5+50	0.1328	0.46	Q V			
5+55	0.1360	0.46	Q V			
6+ 0	0.1392	0.46	Q V			
6+ 5	0.1424	0.47	Q V			
6+10	0.1458	0.49	Q V			
6+15	0.1493	0.51	Q V			
6+20	0.1529	0.52	Q V			
6+25	0.1564	0.52	Q V			
6+30	0.1600	0.52	Q V			
6+35	0.1636	0.53	Q V			
6+40	0.1674	0.55	Q V			
6+45	0.1713	0.57	Q V			
6+50	0.1753	0.57	Q V			
6+55	0.1792	0.58	Q V			
7+ 0	0.1832	0.58	Q V			
7+ 5	0.1872	0.58	Q V			
7+10	0.1912	0.58	Q V			
7+15	0.1952	0.58	Q V			
7+20	0.1992	0.58	Q V			
7+25	0.2034	0.61	Q V			
7+30	0.2077	0.63	Q V			
7+35	0.2121	0.64	Q V			
7+40	0.2167	0.67	Q V			
7+45	0.2214	0.68	Q V			
7+50	0.2262	0.69	Q V			
7+55	0.2311	0.72	Q V			
8+ 0	0.2362	0.74	Q V			
8+ 5	0.2414	0.76	Q V			
8+10	0.2470	0.81	Q V			
8+15	0.2529	0.84	Q V			
8+20	0.2588	0.86	Q V			
8+25	0.2647	0.86	Q V			
8+30	0.2707	0.87	Q V			
8+35	0.2767	0.87	Q V			
8+40	0.2829	0.90	Q V			
8+45	0.2892	0.91	Q V			
8+50	0.2955	0.93	Q V			



15+10	0.9818	1.42	| Q |	|	|	| V |
15+15	0.9915	1.40	| Q |	|	|	| V |
15+20	1.0011	1.39	| Q |	|	|	| V |
15+25	1.0104	1.36	| Q |	|	|	| V |
15+30	1.0197	1.34	| Q |	|	|	| V |
15+35	1.0288	1.32	| Q |	|	|	| V |
15+40	1.0371	1.21	| Q |	|	|	| V |
15+45	1.0450	1.15	| Q |	|	|	| V |
15+50	1.0527	1.12	| Q |	|	|	| V |
15+55	1.0603	1.11	| Q |	|	|	| V |
16+ 0	1.0680	1.10	| Q |	|	|	| V |
16+ 5	1.0750	1.03	| Q |	|	|	| V |
16+10	1.0794	0.63	| Q |	|	|	| V |
16+15	1.0821	0.40	|Q |	|	|	| V |
16+20	1.0843	0.31	|Q |	|	|	| V |
16+25	1.0861	0.27	|Q |	|	|	| V |
16+30	1.0879	0.25	Q |	|	|	| V |
16+35	1.0895	0.24	Q |	|	|	| V |
16+40	1.0909	0.20	Q |	|	|	| V |
16+45	1.0922	0.19	Q |	|	|	| V |
16+50	1.0934	0.18	Q |	|	|	| V |
16+55	1.0946	0.18	Q |	|	|	| V |
17+ 0	1.0958	0.17	Q |	|	|	| V |
17+ 5	1.0971	0.18	Q |	|	|	| V |
17+10	1.0987	0.24	Q |	|	|	| V |
17+15	1.1006	0.27	|Q |	|	|	| V |
17+20	1.1025	0.28	|Q |	|	|	| V |
17+25	1.1044	0.28	|Q |	|	|	| V |
17+30	1.1064	0.29	|Q |	|	|	| V |
17+35	1.1084	0.29	|Q |	|	|	| V |
17+40	1.1104	0.29	|Q |	|	|	| V |
17+45	1.1124	0.29	|Q |	|	|	| V |
17+50	1.1143	0.28	|Q |	|	|	| V |
17+55	1.1161	0.26	|Q |	|	|	| V |
18+ 0	1.1178	0.24	Q |	|	|	| V |
18+ 5	1.1194	0.24	Q |	|	|	| V |
18+10	1.1210	0.23	Q |	|	|	| V |
18+15	1.1226	0.23	Q |	|	|	| V |
18+20	1.1242	0.23	Q |	|	|	| V |
18+25	1.1258	0.23	Q |	|	|	| V |
18+30	1.1274	0.23	Q |	|	|	| V |
18+35	1.1290	0.23	Q |	|	|	| V |
18+40	1.1304	0.20	Q |	|	|	| V |
18+45	1.1316	0.18	Q |	|	|	| V |
18+50	1.1328	0.17	Q |	|	|	| V |
18+55	1.1338	0.14	Q |	|	|	| V |
19+ 0	1.1347	0.13	Q |	|	|	| V |
19+ 5	1.1356	0.13	Q |	|	|	| V |
19+10	1.1366	0.15	Q |	|	|	| V |
19+15	1.1377	0.16	Q |	|	|	| V |
19+20	1.1389	0.17	Q |	|	|	| V |
19+25	1.1403	0.20	Q |	|	|	| V |
19+30	1.1419	0.22	Q |	|	|	| V |
19+35	1.1434	0.22	Q |	|	|	| V |
19+40	1.1447	0.20	Q |	|	|	| V |
19+45	1.1460	0.18	Q |	|	|	| V |
19+50	1.1472	0.17	Q |	|	|	| V |
19+55	1.1482	0.14	Q |	|	|	| V |
20+ 0	1.1491	0.13	Q |	|	|	| V |
20+ 5	1.1499	0.13	Q |	|	|	| V |
20+10	1.1510	0.15	Q |	|	|	| V |
20+15	1.1521	0.16	Q |	|	|	| V |
20+20	1.1533	0.17	Q |	|	|	| V |
20+25	1.1544	0.17	Q |	|	|	| V |
20+30	1.1556	0.17	Q |	|	|	| V |
20+35	1.1568	0.17	Q |	|	|	| V |
20+40	1.1580	0.17	Q |	|	|	| V |
20+45	1.1592	0.17	Q |	|	|	| V |
20+50	1.1604	0.17	Q |	|	|	| V |
20+55	1.1614	0.14	Q |	|	|	| V |
21+ 0	1.1622	0.13	Q |	|	|	| V |
21+ 5	1.1631	0.13	Q |	|	|	| V |
21+10	1.1641	0.15	Q |	|	|	| V |
21+15	1.1653	0.16	Q |	|	|	| V |
21+20	1.1664	0.16	Q |	|	|	| V |

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  21+25       1.1673      0.14  Q         |         |         |         v|
  21+30       1.1682      0.13  Q         |         |         |         v|
  21+35       1.1691      0.13  Q         |         |         |         v|
  21+40       1.1701      0.15  Q         |         |         |         v|
  21+45       1.1712      0.16  Q         |         |         |         v|
  21+50       1.1724      0.16  Q         |         |         |         v|
  21+55       1.1733      0.14  Q         |         |         |         v|
  22+ 0       1.1742      0.13  Q         |         |         |         v|
  22+ 5       1.1751      0.13  Q         |         |         |         v|
  22+10       1.1761      0.15  Q         |         |         |         v|
  22+15       1.1772      0.16  Q         |         |         |         v|
  22+20       1.1783      0.16  Q         |         |         |         v|
  22+25       1.1793      0.14  Q         |         |         |         v|
  22+30       1.1802      0.13  Q         |         |         |         v|
  22+35       1.1810      0.12  Q         |         |         |         v|
  22+40       1.1818      0.12  Q         |         |         |         v|
  22+45       1.1826      0.12  Q         |         |         |         v|
  22+50       1.1834      0.12  Q         |         |         |         v|
  22+55       1.1842      0.12  Q         |         |         |         v|
  23+ 0       1.1850      0.12  Q         |         |         |         v|
  23+ 5       1.1858      0.12  Q         |         |         |         v|
  23+10       1.1866      0.12  Q         |         |         |         v|
  23+15       1.1874      0.12  Q         |         |         |         v|
  23+20       1.1882      0.12  Q         |         |         |         v|
  23+25       1.1890      0.12  Q         |         |         |         v|
  23+30       1.1898      0.12  Q         |         |         |         v|
  23+35       1.1906      0.12  Q         |         |         |         v|
  23+40       1.1914      0.12  Q         |         |         |         v|
  23+45       1.1922      0.12  Q         |         |         |         v|
  23+50       1.1930      0.12  Q         |         |         |         v|
  23+55       1.1938      0.12  Q         |         |         |         v|
  24+ 0       1.1946      0.12  Q         |         |         |         v|
  24+ 5       1.1953      0.11  Q         |         |         |         v|
  24+10       1.1957      0.05  Q         |         |         |         v|
  24+15       1.1958      0.02  Q         |         |         |         v|
  24+20       1.1959      0.01  Q         |         |         |         v|
  24+25       1.1960      0.00  Q         |         |         |         v|
  24+30       1.1960      0.00  Q         |         |         |         v|
  24+35       1.1960      0.00  Q         |         |         |         v|
  24+40       1.1960      0.00  Q         |         |         |         v|
  24+45       1.1960      0.00  Q         |         |         |         v|
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STAGE-STORAGE/OUTFLOW TABLES

PARKING LOT CMP CHAMBERS P1 - Stage/Storage/Outflow Table

W.O.# 21-0034

Basin Information: CMP CHAMBERS

$Q_{ORIFICE}$= Cd*Area*(2*G*H)$^{0.5}$

Q_{WEIR}= C*L*H$^{3/2}$

2-Year	ORIFICE
Q EXISTING	0.31
Opening (in)	1.5
# of Orifices	2
Area (sf)	0.0123
Opening (ft)	0.1250
Total Area (sf)	0.0245
G (ft/s^2)	32.2
Cd	0.66
Invert H (ft)	2.125

2-Year

#	Elevation (ft)	Depth (ft)	Storage (cf)	Storage (ac-ft)	H (ft)	Q (cfs)	Total Q (cfs)	Comments
1	2208	0	0.00	0.000			0.00	Bottom of Basin/Invert of 2-Yr Orifice
2	2208.063	**0.0625**	**150.59**	**0.003**	0			Middle of 2-Yr Orifice
3	**2208.5**	**0.5**	**1204.71**	**0.028**	**0.4375**	0.09	0.09	
4	2209	1	**3340.00**	**0.077**	**0.9375**	0.13	0.13	
5	**2209.5**	1.5	**6008.96**	**0.138**	**1.4375**	0.16	0.16	
6	2210	2	**9050.63**	**0.208**	**1.9375**	0.18	0.18	
7	**2210.5**	2.5	**12360.04**	**0.284**	**2.4375**	0.20	0.20	
8	2211	3	**15856.74**	**0.364**	**2.9375**	0.22	0.22	
9	**2211.5**	**3.5**	**19472.87**	**0.447**	**3.4375**	**0.24**	0.24	
10	2212	4	**23147.25**	**0.531**	**3.9375**	0.26	0.26	
11	**2212.5**	4.5	**26821.64**	**0.616**	**4.4375**	0.27	0.27	
12	2213	5	**30437.77**	**0.699**	**4.9375**	0.29	0.29	
13	**2213.5**	5.5	**33934.46**	**0.779**	**5.4375**	0.30	0.30	
14	2214	6	**37243.88**	**0.855**	**5.9375**	0.32	0.32	
15	**2214.5**	6.5	**40285.55**	**0.925**	**6.4375**	0.33	0.33	
16	2215	7	**42954.51**	**0.986**	**6.9375**	0.34	0.34	
17	**2215.5**	7.50	**45089.80**	**1.035**	**7.4375**	0.35	0.35	
18	2216	8	**46294.51**	**1.063**	**7.9375**	0.37	0.37	Top of chambers

BASIN ROUTING (2-YEAR, 24-HOUR STORM EVENT)

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005
Study date: 11/24/21

BCCOV PARKING LOT AREA 4
2 YR 24 HR STORM EVENT
21-0034
2021-12-02 EP

Program License Serial Number 4010

********** HYDROGRAPH INFORMATION **********

From study/file name: PROP2YR4P242.rte

**********HYDROGRAPH DATA**********

Number of intervals = 297
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 1.963 (CFS)
Total volume = 1.196 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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Process from Point/Station 100.000 to Point/Station 101.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 297
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.063	0.003	0.001	0.003	0.003
0.500	0.028	0.090	0.028	0.028
1.000	0.077	0.130	0.077	0.077
1.500	0.138	0.160	0.137	0.139
2.000	0.208	0.180	0.207	0.209
2.500	0.284	0.200	0.283	0.285
3.000	0.364	0.220	0.363	0.365
3.500	0.447	0.240	0.446	0.448
4.000	0.531	0.260	0.530	0.532
4.500	0.616	0.270	0.615	0.617
5.000	0.699	0.290	0.698	0.700
5.500	0.779	0.300	0.778	0.780
6.000	0.855	0.320	0.854	0.856
6.500	0.925	0.330	0.924	0.926
7.000	0.986	0.340	0.985	0.987
7.500	1.035	0.350	1.034	1.036
8.000	1.063	0.370	1.062	1.064

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.5	0.98	1.47	1.96	Depth (Ft.)
0.083	0.01	0.00	0.000	O	|	|	|	|	0.00
0.167	0.06	0.00	0.000	OI	|	|	|	|	0.01
0.250	0.09	0.00	0.001	OI	|	|	|	|	0.02
0.333	0.11	0.00	0.002	OI	|	|	|	|	0.03
0.417	0.14	0.00	0.002	O I	|	|	|	|	0.05
0.500	0.16	0.00	0.003	O I	|	|	|	|	0.07
0.583	0.17	0.01	0.005	O I	|	|	|	|	0.09
0.667	0.17	0.01	0.006	O I	|	|	|	|	0.11
0.750	0.17	0.01	0.007	O I	|	|	|	|	0.13
0.833	0.18	0.02	0.008	O I	|	|	|	|	0.15
0.917	0.20	0.02	0.009	O I	|	|	|	|	0.17
1.000	0.22	0.03	0.010	O I	|	|	|	|	0.19
1.083	0.22	0.03	0.012	O I	|	|	|	|	0.21
1.167	0.20	0.04	0.013	O I	|	|	|	|	0.23
1.250	0.18	0.04	0.014	O I	|	|	|	|	0.25
1.333	0.18	0.04	0.015	O I	|	|	|	|	0.27
1.417	0.18	0.05	0.016	O I	|	|	|	|	0.29
1.500	0.17	0.05	0.017	O I	|	|	|	|	0.30
1.583	0.17	0.05	0.017	O I	|	|	|	|	0.32
1.667	0.17	0.06	0.018	O I	|	|	|	|	0.33
1.750	0.17	0.06	0.019	O I	|	|	|	|	0.34
1.833	0.18	0.06	0.020	O I	|	|	|	|	0.36
1.917	0.21	0.06	0.021	|O I	|	|	|	|	0.37
2.000	0.22	0.07	0.022	|O I	|	|	|	|	0.39
2.083	0.23	0.07	0.023	|O I	|	|	|	|	0.41
2.167	0.23	0.08	0.024	|O I	|	|	|	|	0.43
2.250	0.23	0.08	0.025	|O I	|	|	|	|	0.45
2.333	0.23	0.08	0.026	|O I	|	|	|	|	0.46
2.417	0.23	0.09	0.027	|O I	|	|	|	|	0.48
2.500	0.23	0.09	0.028	|O I	|	|	|	|	0.50
2.583	0.24	0.09	0.029	|O I	|	|	|	|	0.51
2.667	0.26	0.09	0.030	|O I	|	|	|	|	0.52
2.750	0.28	0.09	0.031	|O I	|	|	|	|	0.53
2.833	0.28	0.09	0.033	|O I	|	|	|	|	0.55
2.917	0.29	0.09	0.034	|O I	|	|	|	|	0.56
3.000	0.29	0.10	0.035	|O I	|	|	|	|	0.57
3.083	0.29	0.10	0.037	|O I	|	|	|	|	0.59
3.167	0.29	0.10	0.038	|O I	|	|	|	|	0.60
3.250	0.29	0.10	0.039	|O I	|	|	|	|	0.61
3.333	0.29	0.10	0.040	|O I	|	|	|	|	0.63
3.417	0.29	0.10	0.042	|O I	|	|	|	|	0.64
3.500	0.29	0.10	0.043	|O I	|	|	|	|	0.65
3.583	0.29	0.10	0.044	|O I	|	|	|	|	0.67
3.667	0.29	0.10	0.046	|O I	|	|	|	|	0.68
3.750	0.29	0.11	0.047	|O I	|	|	|	|	0.69
3.833	0.29	0.11	0.048	|O I	|	|	|	|	0.71
3.917	0.32	0.11	0.050	|O I	|	|	|	|	0.72
4.000	0.34	0.11	0.051	|O I	|	|	|	|	0.74
4.083	0.34	0.11	0.053	|O I	|	|	|	|	0.75
4.167	0.34	0.11	0.054	|O I	|	|	|	|	0.77
4.250	0.35	0.11	0.056	|O I	|	|	|	|	0.78
4.333	0.35	0.11	0.058	|O I	|	|	|	|	0.80
4.417	0.38	0.12	0.059	|O I	|	|	|	|	0.82
4.500	0.39	0.12	0.061	|O I	|	|	|	|	0.84
4.583	0.40	0.12	0.063	|O I	|	|	|	|	0.86
4.667	0.40	0.12	0.065	|O I	|	|	|	|	0.88
4.750	0.40	0.12	0.067	|O I	|	|	|	|	0.90
4.833	0.41	0.12	0.069	| O I	|	|	|	|	0.92
4.917	0.44	0.13	0.071	| O I|	|	|	|	0.94
5.000	0.45	0.13	0.073	| O I|	|	|	|	0.96
5.083	0.45	0.13	0.075	| O I|	|	|	|	0.98
5.167	0.40	0.13	0.077	| O I |	|	|	|	1.00
5.250	0.37	0.13	0.079	| O I |	|	|	|	1.02
5.333	0.36	0.13	0.081	| O I |	|	|	|	1.03
5.417	0.38	0.13	0.082	| O I |	|	|	|	1.04
5.500	0.40	0.13	0.084	| O I |	|	|	|	1.06
5.583	0.41	0.13	0.086	| O I |	|	|	|	1.07
5.667	0.43	0.14	0.088	| O I|	|	|	|	1.09

5.750	0.45	0.14	0.090	o	I				1.11
5.833	0.46	0.14	0.092	o	I				1.12
5.917	0.46	0.14	0.094	o	I				1.14
6.000	0.46	0.14	0.097	o	I				1.16
6.083	0.47	0.14	0.099	o	I				1.18
6.167	0.49	0.14	0.101	o	I				1.20
6.250	0.51	0.14	0.104	o	I				1.22
6.333	0.52	0.14	0.106	o	I				1.24
6.417	0.52	0.15	0.109	o	I				1.26
6.500	0.52	0.15	0.111	o	I				1.28
6.583	0.53	0.15	0.114	o	I				1.30
6.667	0.55	0.15	0.117	o	I				1.32
6.750	0.57	0.15	0.119	o	I				1.35
6.833	0.57	0.15	0.122	o	I				1.37
6.917	0.58	0.15	0.125	o	I				1.40
7.000	0.58	0.16	0.128	o	I				1.42
7.083	0.58	0.16	0.131	o	I				1.44
7.167	0.58	0.16	0.134	o	I				1.47
7.250	0.58	0.16	0.137	o	I				1.49
7.333	0.58	0.16	0.140	o	I				1.51
7.417	0.61	0.16	0.143	o	I				1.53
7.500	0.63	0.16	0.146	o	I				1.56
7.583	0.64	0.16	0.149	o	I				1.58
7.667	0.67	0.16	0.152	o	I				1.60
7.750	0.68	0.17	0.156	o	I				1.63
7.833	0.69	0.17	0.160	o	I				1.65
7.917	0.72	0.17	0.163	o	I				1.68
8.000	0.74	0.17	0.167	o	I				1.71
8.083	0.76	0.17	0.171	o	I				1.74
8.167	0.81	0.17	0.175	o	I				1.77
8.250	0.84	0.17	0.180	o	I				1.80
8.333	0.86	0.17	0.185	o	I				1.83
8.417	0.86	0.17	0.189	o	I				1.87
8.500	0.87	0.18	0.194	o	I				1.90
8.583	0.87	0.18	0.199	o	I				1.93
8.667	0.90	0.18	0.204	o	I				1.97
8.750	0.91	0.18	0.209	o	I				2.00
8.833	0.93	0.18	0.214	o	I				2.04
8.917	0.96	0.18	0.219	o	I				2.07
9.000	0.97	0.18	0.224	o	I				2.11
9.083	0.99	0.19	0.230	o	I				2.14
9.167	1.04	0.19	0.236	o	I				2.18
9.250	1.08	0.19	0.242	o	I				2.22
9.333	1.09	0.19	0.248	o	I				2.26
9.417	1.13	0.19	0.254	o	I				2.30
9.500	1.14	0.19	0.261	o	I				2.35
9.583	1.16	0.20	0.267	o	I				2.39
9.667	1.19	0.20	0.274	o	I				2.43
9.750	1.20	0.20	0.281	o	I				2.48
9.833	1.21	0.20	0.288	o	I				2.52
9.917	1.24	0.20	0.295	o	I				2.57
10.000	1.26	0.20	0.302	o	I				2.61
10.083	1.23	0.21	0.309	o	I				2.66
10.167	1.05	0.21	0.316	o	I				2.70
10.250	0.95	0.21	0.321	o	I				2.73
10.333	0.91	0.21	0.326	o	I				2.76
10.417	0.88	0.21	0.331	o	I				2.79
10.500	0.88	0.21	0.335	o	I				2.82
10.583	0.90	0.21	0.340	o	I				2.85
10.667	1.03	0.22	0.345	o	I				2.88
10.750	1.10	0.22	0.351	o	I				2.92
10.833	1.13	0.22	0.357	o	I				2.96
10.917	1.15	0.22	0.363	o	I				3.00
11.000	1.15	0.22	0.370	o	I				3.04
11.083	1.15	0.22	0.376	o	I				3.07
11.167	1.12	0.22	0.383	o	I				3.11
11.250	1.11	0.23	0.389	o	I				3.15
11.333	1.11	0.23	0.395	o	I				3.19
11.417	1.10	0.23	0.401	o	I				3.22
11.500	1.10	0.23	0.407	o	I				3.26
11.583	1.09	0.23	0.413	o	I				3.29
11.667	1.04	0.23	0.418	o	I				3.33
11.750	1.01	0.23	0.424	o	I				3.36
11.833	1.00	0.24	0.429	o	I				3.39
11.917	1.02	0.24	0.434	o	I				3.42

12.000	1.03	0.24	0.440	O		I		3.46
12.083	1.07	0.24	0.446	O		I		3.49
12.167	1.26	0.24	0.452	O		I		3.53
12.250	1.37	0.24	0.459	O		I		3.57
12.333	1.41	0.24	0.467	O		I		3.62
12.417	1.46	0.25	0.475	O		I		3.67
12.500	1.49	0.25	0.484	O		I		3.72
12.583	1.50	0.25	0.492	O		I		3.77
12.667	1.56	0.25	0.501	O		I		3.82
12.750	1.60	0.26	0.510	O		I		3.88
12.833	1.61	0.26	0.520	O		I		3.93
12.917	1.65	0.26	0.529	O		I		3.99
13.000	1.67	0.26	0.539	O		I		4.05
13.083	1.70	0.26	0.548	O		I		4.10
13.167	1.83	0.26	0.559	O		I		4.16
13.250	1.91	0.26	0.570	O		I		4.23
13.333	1.94	0.27	0.581	O		I		4.30
13.417	1.96	0.27	0.593	O		I		4.36
13.500	1.96	0.27	0.605	O		I		4.43
13.583	1.91	0.27	0.616	O		I		4.50
13.667	1.62	0.27	0.626	O		I		4.56
13.750	1.46	0.27	0.635	O		I		4.61
13.833	1.39	0.28	0.643	O		I		4.66
13.917	1.36	0.28	0.651	O		I		4.71
14.000	1.34	0.28	0.658	O		I		4.75
14.083	1.36	0.28	0.665	O		I		4.80
14.167	1.46	0.28	0.673	O		I		4.84
14.250	1.52	0.29	0.681	O		I		4.89
14.333	1.54	0.29	0.690	O		I		4.94
14.417	1.52	0.29	0.698	O		I		5.00
14.500	1.51	0.29	0.707	O		I		5.05
14.583	1.51	0.29	0.715	O		I		5.10
14.667	1.51	0.29	0.724	O		I		5.15
14.750	1.51	0.29	0.732	O		I		5.21
14.833	1.50	0.30	0.740	O		I		5.26
14.917	1.47	0.30	0.748	O		I		5.31
15.000	1.46	0.30	0.757	O		I		5.36
15.083	1.45	0.30	0.765	O		I		5.41
15.167	1.42	0.30	0.772	O		I		5.46
15.250	1.40	0.30	0.780	O		I		5.51
15.333	1.39	0.30	0.788	O		I		5.56
15.417	1.36	0.30	0.795	O		I		5.60
15.500	1.34	0.31	0.802	O		I		5.65
15.583	1.32	0.31	0.809	O		I		5.70
15.667	1.21	0.31	0.816	O		I		5.74
15.750	1.15	0.31	0.822	O		I		5.78
15.833	1.12	0.31	0.827	O		I		5.82
15.917	1.11	0.31	0.833	O		I		5.85
16.000	1.10	0.32	0.838	O		I		5.89
16.083	1.03	0.32	0.844	O		I		5.92
16.167	0.63	0.32	0.847	O	I			5.95
16.250	0.40	0.32	0.848	OI				5.96
16.333	0.31	0.32	0.849	O				5.96
16.417	0.27	0.32	0.848	IO				5.96
16.500	0.25	0.32	0.848	IO				5.95
16.583	0.24	0.32	0.848	I O				5.95
16.667	0.20	0.32	0.847	I O				5.95
16.750	0.19	0.32	0.846	I O				5.94
16.833	0.18	0.32	0.845	I O				5.93
16.917	0.18	0.32	0.844	I O				5.93
17.000	0.17	0.32	0.843	I O				5.92
17.083	0.18	0.32	0.842	I O				5.92
17.167	0.24	0.32	0.841	I O				5.91
17.250	0.27	0.32	0.841	IO				5.91
17.333	0.28	0.32	0.841	IO				5.91
17.417	0.28	0.32	0.840	IO				5.90
17.500	0.29	0.32	0.840	IO				5.90
17.583	0.29	0.32	0.840	IO				5.90
17.667	0.29	0.32	0.840	IO				5.90
17.750	0.29	0.32	0.840	IO				5.90
17.833	0.28	0.32	0.840	IO				5.90
17.917	0.26	0.32	0.839	IO				5.90
18.000	0.24	0.32	0.839	I O				5.89
18.083	0.24	0.32	0.838	I O				5.89
18.167	0.23	0.32	0.838	I O				5.89

18.250	0.23	0.32	0.837	| I o |	|	|	|	5.88
18.333	0.23	0.32	0.837	| I o |	|	|	|	5.88
18.417	0.23	0.31	0.836	| I o |	|	|	|	5.87
18.500	0.23	0.31	0.835	| I o |	|	|	|	5.87
18.583	0.23	0.31	0.835	| I o |	|	|	|	5.87
18.667	0.20	0.31	0.834	| I o |	|	|	|	5.86
18.750	0.18	0.31	0.833	| I o |	|	|	|	5.86
18.833	0.17	0.31	0.832	| I o |	|	|	|	5.85
18.917	0.14	0.31	0.831	| I o |	|	|	|	5.84
19.000	0.13	0.31	0.830	| I o |	|	|	|	5.84
19.083	0.13	0.31	0.829	| I o |	|	|	|	5.83
19.167	0.15	0.31	0.828	| I o |	|	|	|	5.82
19.250	0.16	0.31	0.827	| I o |	|	|	|	5.81
19.333	0.17	0.31	0.826	| I o |	|	|	|	5.81
19.417	0.20	0.31	0.825	| I o |	|	|	|	5.80
19.500	0.22	0.31	0.824	| I o |	|	|	|	5.80
19.583	0.22	0.31	0.823	| I o |	|	|	|	5.79
19.667	0.20	0.31	0.823	| I o |	|	|	|	5.79
19.750	0.18	0.31	0.822	| I o |	|	|	|	5.78
19.833	0.17	0.31	0.821	| I o |	|	|	|	5.78
19.917	0.14	0.31	0.820	| I o |	|	|	|	5.77
20.000	0.13	0.31	0.819	| I o |	|	|	|	5.76
20.083	0.13	0.31	0.817	| I o |	|	|	|	5.75
20.167	0.15	0.31	0.816	| I o |	|	|	|	5.74
20.250	0.16	0.31	0.815	| I o |	|	|	|	5.74
20.333	0.17	0.31	0.814	| I o |	|	|	|	5.73
20.417	0.17	0.31	0.813	| I o |	|	|	|	5.73
20.500	0.17	0.31	0.812	| I o |	|	|	|	5.72
20.583	0.17	0.31	0.811	| I o |	|	|	|	5.71
20.667	0.17	0.31	0.810	| I o |	|	|	|	5.71
20.750	0.17	0.31	0.809	| I o |	|	|	|	5.70
20.833	0.17	0.31	0.809	| I o |	|	|	|	5.69
20.917	0.14	0.31	0.807	| I o |	|	|	|	5.69
21.000	0.13	0.31	0.806	| I o |	|	|	|	5.68
21.083	0.13	0.31	0.805	| I o |	|	|	|	5.67
21.167	0.15	0.31	0.804	| I o |	|	|	|	5.66
21.250	0.16	0.31	0.803	| I o |	|	|	|	5.66
21.333	0.16	0.31	0.802	| I o |	|	|	|	5.65
21.417	0.14	0.31	0.801	| I o |	|	|	|	5.64
21.500	0.13	0.31	0.800	| I o |	|	|	|	5.64
21.583	0.13	0.31	0.798	| I o |	|	|	|	5.63
21.667	0.15	0.30	0.797	| I o |	|	|	|	5.62
21.750	0.16	0.30	0.796	| I o |	|	|	|	5.61
21.833	0.16	0.30	0.795	| I o |	|	|	|	5.61
21.917	0.14	0.30	0.794	| I o |	|	|	|	5.60
22.000	0.13	0.30	0.793	| I o |	|	|	|	5.59
22.083	0.13	0.30	0.792	| I o |	|	|	|	5.58
22.167	0.15	0.30	0.791	| I o |	|	|	|	5.58
22.250	0.16	0.30	0.790	| I o |	|	|	|	5.57
22.333	0.16	0.30	0.789	| I o |	|	|	|	5.56
22.417	0.14	0.30	0.788	| I o |	|	|	|	5.56
22.500	0.13	0.30	0.786	| I o |	|	|	|	5.55
22.583	0.12	0.30	0.785	| I o |	|	|	|	5.54
22.667	0.12	0.30	0.784	| I o |	|	|	|	5.53
22.750	0.12	0.30	0.783	| I o |	|	|	|	5.52
22.833	0.12	0.30	0.781	| I o |	|	|	|	5.52
22.917	0.12	0.30	0.780	| I o |	|	|	|	5.51
23.000	0.12	0.30	0.779	| I o |	|	|	|	5.50
23.083	0.12	0.30	0.778	| I o |	|	|	|	5.49
23.167	0.12	0.30	0.776	| I o |	|	|	|	5.48
23.250	0.12	0.30	0.775	| I o |	|	|	|	5.48
23.333	0.12	0.30	0.774	| I o |	|	|	|	5.47
23.417	0.12	0.30	0.773	| I o |	|	|	|	5.46
23.500	0.12	0.30	0.771	| I o |	|	|	|	5.45
23.583	0.12	0.30	0.770	| I o |	|	|	|	5.44
23.667	0.12	0.30	0.769	| I o |	|	|	|	5.44
23.750	0.12	0.30	0.768	| I o |	|	|	|	5.43
23.833	0.12	0.30	0.766	| I o |	|	|	|	5.42
23.917	0.12	0.30	0.765	| I o |	|	|	|	5.41
24.000	0.12	0.30	0.764	| I o |	|	|	|	5.40
24.083	0.11	0.30	0.762	| I o |	|	|	|	5.40
24.167	0.05	0.30	0.761	I o	|	|	|	5.39
24.250	0.02	0.30	0.759	I o	|	|	|	5.38
24.333	0.01	0.30	0.757	I o	|	|	|	5.36
24.417	0.00	0.30	0.755	I o	|	|	|	5.35

24.500	0.00	0.30	0.753	I	O	|	|	|	|	5.34
24.583	0.00	0.30	0.751	I	O	|	|	|	|	5.33
24.667	0.00	0.30	0.749	I	O	|	|	|	|	5.31
24.750	0.00	0.30	0.747	I	O	|	|	|	|	5.30
24.833	0.00	0.30	0.745	I	O	|	|	|	|	5.29
24.917	0.00	0.30	0.743	I	O	|	|	|	|	5.28
25.000	0.00	0.30	0.741	I	O	|	|	|	|	5.26
25.083	0.00	0.30	0.739	I	O	|	|	|	|	5.25
25.167	0.00	0.29	0.737	I	O	|	|	|	|	5.24
25.250	0.00	0.29	0.735	I	O	|	|	|	|	5.22
25.333	0.00	0.29	0.733	I	O	|	|	|	|	5.21
25.417	0.00	0.29	0.731	I	O	|	|	|	|	5.20
25.500	0.00	0.29	0.729	I	O	|	|	|	|	5.19
25.583	0.00	0.29	0.727	I	O	|	|	|	|	5.17
25.667	0.00	0.29	0.725	I	O	|	|	|	|	5.16
25.750	0.00	0.29	0.723	I	O	|	|	|	|	5.15
25.833	0.00	0.29	0.721	I	O	|	|	|	|	5.14
25.917	0.00	0.29	0.719	I	O	|	|	|	|	5.12
26.000	0.00	0.29	0.717	I	O	|	|	|	|	5.11
26.083	0.00	0.29	0.715	I	O	|	|	|	|	5.10
26.167	0.00	0.29	0.713	I	O	|	|	|	|	5.09
26.250	0.00	0.29	0.711	I	O	|	|	|	|	5.07
26.333	0.00	0.29	0.709	I	O	|	|	|	|	5.06
26.417	0.00	0.29	0.707	I	O	|	|	|	|	5.05
26.500	0.00	0.29	0.705	I	O	|	|	|	|	5.04
26.583	0.00	0.29	0.703	I	O	|	|	|	|	5.02
26.667	0.00	0.29	0.701	I	O	|	|	|	|	5.01
26.750	0.00	0.29	0.699	I	O	|	|	|	|	5.00
26.833	0.00	0.29	0.697	I	O	|	|	|	|	4.99
26.917	0.00	0.29	0.695	I	O	|	|	|	|	4.97
27.000	0.00	0.29	0.693	I	O	|	|	|	|	4.96
27.083	0.00	0.29	0.691	I	O	|	|	|	|	4.95
27.167	0.00	0.29	0.689	I	O	|	|	|	|	4.94
27.250	0.00	0.29	0.687	I	O	|	|	|	|	4.93
27.333	0.00	0.29	0.685	I	O	|	|	|	|	4.91
27.417	0.00	0.29	0.683	I	O	|	|	|	|	4.90
27.500	0.00	0.29	0.681	I	O	|	|	|	|	4.89
27.583	0.00	0.29	0.679	I	O	|	|	|	|	4.88
27.667	0.00	0.28	0.677	I	O	|	|	|	|	4.87
27.750	0.00	0.28	0.675	I	O	|	|	|	|	4.86
27.833	0.00	0.28	0.673	I	O	|	|	|	|	4.84
27.917	0.00	0.28	0.671	I	O	|	|	|	|	4.83
28.000	0.00	0.28	0.669	I	O	|	|	|	|	4.82
28.083	0.00	0.28	0.667	I	O	|	|	|	|	4.81
28.167	0.00	0.28	0.665	I	O	|	|	|	|	4.80
28.250	0.00	0.28	0.663	I	O	|	|	|	|	4.79
28.333	0.00	0.28	0.661	I	O	|	|	|	|	4.77
28.417	0.00	0.28	0.659	I	O	|	|	|	|	4.76
28.500	0.00	0.28	0.658	I	O	|	|	|	|	4.75
28.583	0.00	0.28	0.656	I	O	|	|	|	|	4.74
28.667	0.00	0.28	0.654	I	O	|	|	|	|	4.73
28.750	0.00	0.28	0.652	I	O	|	|	|	|	4.72
28.833	0.00	0.28	0.650	I	O	|	|	|	|	4.70
28.917	0.00	0.28	0.648	I	O	|	|	|	|	4.69
29.000	0.00	0.28	0.646	I	O	|	|	|	|	4.68
29.083	0.00	0.28	0.644	I	O	|	|	|	|	4.67
29.167	0.00	0.28	0.642	I	O	|	|	|	|	4.66
29.250	0.00	0.28	0.640	I	O	|	|	|	|	4.65
29.333	0.00	0.28	0.638	I	O	|	|	|	|	4.63
29.417	0.00	0.27	0.636	I	O	|	|	|	|	4.62
29.500	0.00	0.27	0.635	I	O	|	|	|	|	4.61
29.583	0.00	0.27	0.633	I	O	|	|	|	|	4.60
29.667	0.00	0.27	0.631	I	O	|	|	|	|	4.59
29.750	0.00	0.27	0.629	I	O	|	|	|	|	4.58
29.833	0.00	0.27	0.627	I	O	|	|	|	|	4.57
29.917	0.00	0.27	0.625	I	O	|	|	|	|	4.56
30.000	0.00	0.27	0.623	I	O	|	|	|	|	4.54
30.083	0.00	0.27	0.621	I	O	|	|	|	|	4.53
30.167	0.00	0.27	0.620	I	O	|	|	|	|	4.52
30.250	0.00	0.27	0.618	I	O	|	|	|	|	4.51
30.333	0.00	0.27	0.616	I	O	|	|	|	|	4.50
30.417	0.00	0.27	0.614	I	O	|	|	|	|	4.49
30.500	0.00	0.27	0.612	I	O	|	|	|	|	4.48
30.583	0.00	0.27	0.610	I	O	|	|	|	|	4.47
30.667	0.00	0.27	0.608	I	O	|	|	|	|	4.46

30.750	0.00	0.27	0.607	I	O	|	|	|	|	4.44
30.833	0.00	0.27	0.605	I	O	|	|	|	|	4.43
30.917	0.00	0.27	0.603	I	O	|	|	|	|	4.42
31.000	0.00	0.27	0.601	I	O	|	|	|	|	4.41
31.083	0.00	0.27	0.599	I	O	|	|	|	|	4.40
31.167	0.00	0.27	0.597	I	O	|	|	|	|	4.39
31.250	0.00	0.27	0.595	I	O	|	|	|	|	4.38
31.333	0.00	0.27	0.594	I	O	|	|	|	|	4.37
31.417	0.00	0.27	0.592	I	O	|	|	|	|	4.36
31.500	0.00	0.27	0.590	I	O	|	|	|	|	4.35
31.583	0.00	0.27	0.588	I	O	|	|	|	|	4.34
31.667	0.00	0.27	0.586	I	O	|	|	|	|	4.33
31.750	0.00	0.27	0.584	I	O	|	|	|	|	4.31
31.833	0.00	0.27	0.583	I	O	|	|	|	|	4.30
31.917	0.00	0.27	0.581	I	O	|	|	|	|	4.29
32.000	0.00	0.27	0.579	I	O	|	|	|	|	4.28
32.083	0.00	0.27	0.577	I	O	|	|	|	|	4.27
32.167	0.00	0.27	0.575	I	O	|	|	|	|	4.26
32.250	0.00	0.26	0.573	I	O	|	|	|	|	4.25
32.333	0.00	0.26	0.572	I	O	|	|	|	|	4.24
32.417	0.00	0.26	0.570	I	O	|	|	|	|	4.23
32.500	0.00	0.26	0.568	I	O	|	|	|	|	4.22
32.583	0.00	0.26	0.566	I	O	|	|	|	|	4.21
32.667	0.00	0.26	0.564	I	O	|	|	|	|	4.20
32.750	0.00	0.26	0.563	I	O	|	|	|	|	4.19
32.833	0.00	0.26	0.561	I	O	|	|	|	|	4.17
32.917	0.00	0.26	0.559	I	O	|	|	|	|	4.16
33.000	0.00	0.26	0.557	I	O	|	|	|	|	4.15
33.083	0.00	0.26	0.555	I	O	|	|	|	|	4.14
33.167	0.00	0.26	0.553	I	O	|	|	|	|	4.13
33.250	0.00	0.26	0.552	I	O	|	|	|	|	4.12
33.333	0.00	0.26	0.550	I	O	|	|	|	|	4.11
33.417	0.00	0.26	0.548	I	O	|	|	|	|	4.10
33.500	0.00	0.26	0.546	I	O	|	|	|	|	4.09
33.583	0.00	0.26	0.544	I	O	|	|	|	|	4.08
33.667	0.00	0.26	0.543	I	O	|	|	|	|	4.07
33.750	0.00	0.26	0.541	I	O	|	|	|	|	4.06
33.833	0.00	0.26	0.539	I	O	|	|	|	|	4.05
33.917	0.00	0.26	0.537	I	O	|	|	|	|	4.04
34.000	0.00	0.26	0.535	I	O	|	|	|	|	4.03
34.083	0.00	0.26	0.534	I	O	|	|	|	|	4.02
34.167	0.00	0.26	0.532	I	O	|	|	|	|	4.01
34.250	0.00	0.26	0.530	I	O	|	|	|	|	3.99
34.333	0.00	0.26	0.528	I	O	|	|	|	|	3.98
34.417	0.00	0.26	0.527	I	O	|	|	|	|	3.97
34.500	0.00	0.26	0.525	I	O	|	|	|	|	3.96
34.583	0.00	0.26	0.523	I	O	|	|	|	|	3.95
34.667	0.00	0.26	0.521	I	O	|	|	|	|	3.94
34.750	0.00	0.26	0.519	I	O	|	|	|	|	3.93
34.833	0.00	0.26	0.518	I	O	|	|	|	|	3.92
34.917	0.00	0.26	0.516	I	O	|	|	|	|	3.91
35.000	0.00	0.26	0.514	I	O	|	|	|	|	3.90
35.083	0.00	0.26	0.512	I	O	|	|	|	|	3.89
35.167	0.00	0.26	0.511	I	O	|	|	|	|	3.88
35.250	0.00	0.25	0.509	I	O	|	|	|	|	3.87
35.333	0.00	0.25	0.507	I	O	|	|	|	|	3.86
35.417	0.00	0.25	0.505	I	O	|	|	|	|	3.85
35.500	0.00	0.25	0.504	I	O	|	|	|	|	3.84
35.583	0.00	0.25	0.502	I	O	|	|	|	|	3.83
35.667	0.00	0.25	0.500	I	O	|	|	|	|	3.82
35.750	0.00	0.25	0.498	I	O	|	|	|	|	3.81
35.833	0.00	0.25	0.497	I	O	|	|	|	|	3.80
35.917	0.00	0.25	0.495	I	O	|	|	|	|	3.79
36.000	0.00	0.25	0.493	I	O	|	|	|	|	3.77
36.083	0.00	0.25	0.491	I	O	|	|	|	|	3.76
36.167	0.00	0.25	0.490	I	O	|	|	|	|	3.75
36.250	0.00	0.25	0.488	I	O	|	|	|	|	3.74
36.333	0.00	0.25	0.486	I	O	|	|	|	|	3.73
36.417	0.00	0.25	0.485	I	O	|	|	|	|	3.72
36.500	0.00	0.25	0.483	I	O	|	|	|	|	3.71
36.583	0.00	0.25	0.481	I	O	|	|	|	|	3.70
36.667	0.00	0.25	0.479	I	O	|	|	|	|	3.69
36.750	0.00	0.25	0.478	I	O	|	|	|	|	3.68
36.833	0.00	0.25	0.476	I	O	|	|	|	|	3.67
36.917	0.00	0.25	0.474	I	O	|	|	|	|	3.66

37.000	0.00	0.25	0.473	I o	|	|	|	3.65
37.083	0.00	0.25	0.471	I o	|	|	|	3.64
37.167	0.00	0.25	0.469	I o	|	|	|	3.63
37.250	0.00	0.24	0.468	I o	|	|	|	3.62
37.333	0.00	0.24	0.466	I o	|	|	|	3.61
37.417	0.00	0.24	0.464	I o	|	|	|	3.60
37.500	0.00	0.24	0.463	I o	|	|	|	3.59
37.583	0.00	0.24	0.461	I o	|	|	|	3.58
37.667	0.00	0.24	0.459	I o	|	|	|	3.57
37.750	0.00	0.24	0.457	I o	|	|	|	3.56
37.833	0.00	0.24	0.456	I o	|	|	|	3.55
37.917	0.00	0.24	0.454	I o	|	|	|	3.54
38.000	0.00	0.24	0.452	I o	|	|	|	3.53
38.083	0.00	0.24	0.451	I o	|	|	|	3.52
38.167	0.00	0.24	0.449	I o	|	|	|	3.51
38.250	0.00	0.24	0.448	I o	|	|	|	3.50
38.333	0.00	0.24	0.446	I o	|	|	|	3.49
38.417	0.00	0.24	0.444	I o	|	|	|	3.48
38.500	0.00	0.24	0.443	I o	|	|	|	3.47
38.583	0.00	0.24	0.441	I o	|	|	|	3.46
38.667	0.00	0.24	0.439	I o	|	|	|	3.45
38.750	0.00	0.24	0.438	I o	|	|	|	3.44
38.833	0.00	0.24	0.436	I o	|	|	|	3.43
38.917	0.00	0.24	0.434	I o	|	|	|	3.42
39.000	0.00	0.24	0.433	I o	|	|	|	3.41
39.083	0.00	0.24	0.431	I o	|	|	|	3.40
39.167	0.00	0.24	0.429	I o	|	|	|	3.39
39.250	0.00	0.24	0.428	I o	|	|	|	3.38
39.333	0.00	0.24	0.426	I o	|	|	|	3.38
39.417	0.00	0.23	0.425	I o	|	|	|	3.37
39.500	0.00	0.23	0.423	I o	|	|	|	3.36
39.583	0.00	0.23	0.421	I o	|	|	|	3.35
39.667	0.00	0.23	0.420	I o	|	|	|	3.34
39.750	0.00	0.23	0.418	I o	|	|	|	3.33
39.833	0.00	0.23	0.417	I o	|	|	|	3.32
39.917	0.00	0.23	0.415	I o	|	|	|	3.31
40.000	0.00	0.23	0.413	I o	|	|	|	3.30
40.083	0.00	0.23	0.412	I o	|	|	|	3.29
40.167	0.00	0.23	0.410	I o	|	|	|	3.28
40.250	0.00	0.23	0.409	I o	|	|	|	3.27
40.333	0.00	0.23	0.407	I o	|	|	|	3.26
40.417	0.00	0.23	0.405	I o	|	|	|	3.25
40.500	0.00	0.23	0.404	I o	|	|	|	3.24
40.583	0.00	0.23	0.402	I o	|	|	|	3.23
40.667	0.00	0.23	0.401	I o	|	|	|	3.22
40.750	0.00	0.23	0.399	I o	|	|	|	3.21
40.833	0.00	0.23	0.398	I o	|	|	|	3.20
40.917	0.00	0.23	0.396	I o	|	|	|	3.19
41.000	0.00	0.23	0.394	I o	|	|	|	3.18
41.083	0.00	0.23	0.393	I o	|	|	|	3.17
41.167	0.00	0.23	0.391	I o	|	|	|	3.16
41.250	0.00	0.23	0.390	I o	|	|	|	3.15
41.333	0.00	0.23	0.388	I o	|	|	|	3.15
41.417	0.00	0.23	0.387	I o	|	|	|	3.14
41.500	0.00	0.23	0.385	I o	|	|	|	3.13
41.583	0.00	0.22	0.384	I o	|	|	|	3.12
41.667	0.00	0.22	0.382	I o	|	|	|	3.11
41.750	0.00	0.22	0.380	I o	|	|	|	3.10
41.833	0.00	0.22	0.379	I o	|	|	|	3.09
41.917	0.00	0.22	0.377	I o	|	|	|	3.08
42.000	0.00	0.22	0.376	I o	|	|	|	3.07
42.083	0.00	0.22	0.374	I o	|	|	|	3.06
42.167	0.00	0.22	0.373	I o	|	|	|	3.05
42.250	0.00	0.22	0.371	I o	|	|	|	3.04
42.333	0.00	0.22	0.370	I o	|	|	|	3.03
42.417	0.00	0.22	0.368	I o	|	|	|	3.03
42.500	0.00	0.22	0.367	I o	|	|	|	3.02
42.583	0.00	0.22	0.365	I o	|	|	|	3.01
42.667	0.00	0.22	0.364	I o	|	|	|	3.00
42.750	0.00	0.22	0.362	I o	|	|	|	2.99
42.833	0.00	0.22	0.361	I o	|	|	|	2.98
42.917	0.00	0.22	0.359	I o	|	|	|	2.97
43.000	0.00	0.22	0.358	I o	|	|	|	2.96
43.083	0.00	0.22	0.356	I o	|	|	|	2.95
43.167	0.00	0.22	0.355	I o	|	|	|	2.94

43.250	0.00	0.22	0.353	I	O	|	|	|	2.93
43.333	0.00	0.22	0.352	I	O	|	|	|	2.92
43.417	0.00	0.22	0.350	I	O	|	|	|	2.91
43.500	0.00	0.22	0.349	I	O	|	|	|	2.90
43.583	0.00	0.22	0.347	I	O	|	|	|	2.89
43.667	0.00	0.22	0.346	I	O	|	|	|	2.89
43.750	0.00	0.22	0.344	I	O	|	|	|	2.88
43.833	0.00	0.21	0.343	I	O	|	|	|	2.87
43.917	0.00	0.21	0.341	I	O	|	|	|	2.86
44.000	0.00	0.21	0.340	I	O	|	|	|	2.85
44.083	0.00	0.21	0.338	I	O	|	|	|	2.84
44.167	0.00	0.21	0.337	I	O	|	|	|	2.83
44.250	0.00	0.21	0.335	I	O	|	|	|	2.82
44.333	0.00	0.21	0.334	I	O	|	|	|	2.81
44.417	0.00	0.21	0.332	I	O	|	|	|	2.80
44.500	0.00	0.21	0.331	I	O	|	|	|	2.79
44.583	0.00	0.21	0.329	I	O	|	|	|	2.78
44.667	0.00	0.21	0.328	I	O	|	|	|	2.78
44.750	0.00	0.21	0.327	I	O	|	|	|	2.77
44.833	0.00	0.21	0.325	I	O	|	|	|	2.76
44.917	0.00	0.21	0.324	I	O	|	|	|	2.75
45.000	0.00	0.21	0.322	I	O	|	|	|	2.74
45.083	0.00	0.21	0.321	I	O	|	|	|	2.73
45.167	0.00	0.21	0.319	I	O	|	|	|	2.72
45.250	0.00	0.21	0.318	I	O	|	|	|	2.71
45.333	0.00	0.21	0.316	I	O	|	|	|	2.70
45.417	0.00	0.21	0.315	I	O	|	|	|	2.69
45.500	0.00	0.21	0.314	I	O	|	|	|	2.69
45.583	0.00	0.21	0.312	I	O	|	|	|	2.68
45.667	0.00	0.21	0.311	I	O	|	|	|	2.67
45.750	0.00	0.21	0.309	I	O	|	|	|	2.66
45.833	0.00	0.21	0.308	I	O	|	|	|	2.65
45.917	0.00	0.21	0.306	I	O	|	|	|	2.64
46.000	0.00	0.21	0.305	I	O	|	|	|	2.63
46.083	0.00	0.20	0.304	I	O	|	|	|	2.62
46.167	0.00	0.20	0.302	I	O	|	|	|	2.61
46.250	0.00	0.20	0.301	I	O	|	|	|	2.61
46.333	0.00	0.20	0.299	I	O	|	|	|	2.60
46.417	0.00	0.20	0.298	I	O	|	|	|	2.59
46.500	0.00	0.20	0.297	I	O	|	|	|	2.58
46.583	0.00	0.20	0.295	I	O	|	|	|	2.57
46.667	0.00	0.20	0.294	I	O	|	|	|	2.56
46.750	0.00	0.20	0.292	I	O	|	|	|	2.55
46.833	0.00	0.20	0.291	I	O	|	|	|	2.54
46.917	0.00	0.20	0.290	I	O	|	|	|	2.54
47.000	0.00	0.20	0.288	I	O	|	|	|	2.53
47.083	0.00	0.20	0.287	I	O	|	|	|	2.52
47.167	0.00	0.20	0.286	I	O	|	|	|	2.51
47.250	0.00	0.20	0.284	I	O	|	|	|	2.50
47.333	0.00	0.20	0.283	I	O	|	|	|	2.49
47.417	0.00	0.20	0.281	I	O	|	|	|	2.48
47.500	0.00	0.20	0.280	I	O	|	|	|	2.47
47.583	0.00	0.20	0.279	I	O	|	|	|	2.46
47.667	0.00	0.20	0.277	I	O	|	|	|	2.46
47.750	0.00	0.20	0.276	I	O	|	|	|	2.45
47.833	0.00	0.20	0.275	I	O	|	|	|	2.44
47.917	0.00	0.20	0.273	I	O	|	|	|	2.43
48.000	0.00	0.20	0.272	I	O	|	|	|	2.42
48.083	0.00	0.20	0.270	I	O	|	|	|	2.41
48.167	0.00	0.20	0.269	I	O	|	|	|	2.40
48.250	0.00	0.20	0.268	I	O	|	|	|	2.39
48.333	0.00	0.20	0.266	I	O	|	|	|	2.38
48.417	0.00	0.20	0.265	I	O	|	|	|	2.38
48.500	0.00	0.19	0.264	I	O	|	|	|	2.37
48.583	0.00	0.19	0.262	I	O	|	|	|	2.36
48.667	0.00	0.19	0.261	I	O	|	|	|	2.35
48.750	0.00	0.19	0.260	I	O	|	|	|	2.34
48.833	0.00	0.19	0.258	I	O	|	|	|	2.33
48.917	0.00	0.19	0.257	I	O	|	|	|	2.32
49.000	0.00	0.19	0.256	I	O	|	|	|	2.31
49.083	0.00	0.19	0.254	I	O	|	|	|	2.31
49.167	0.00	0.19	0.253	I	O	|	|	|	2.30
49.250	0.00	0.19	0.252	I	O	|	|	|	2.29
49.333	0.00	0.19	0.250	I	O	|	|	|	2.28
49.417	0.00	0.19	0.249	I	O	|	|	|	2.27

49.500	0.00	0.19	0.248	I o	|	|	|	2.26
49.583	0.00	0.19	0.247	I o	|	|	|	2.25
49.667	0.00	0.19	0.245	I o	|	|	|	2.24
49.750	0.00	0.19	0.244	I o	|	|	|	2.24
49.833	0.00	0.19	0.243	I o	|	|	|	2.23
49.917	0.00	0.19	0.241	I o	|	|	|	2.22
50.000	0.00	0.19	0.240	I o	|	|	|	2.21
50.083	0.00	0.19	0.239	I o	|	|	|	2.20
50.167	0.00	0.19	0.237	I o	|	|	|	2.19
50.250	0.00	0.19	0.236	I o	|	|	|	2.19
50.333	0.00	0.19	0.235	I o	|	|	|	2.18
50.417	0.00	0.19	0.234	I o	|	|	|	2.17
50.500	0.00	0.19	0.232	I o	|	|	|	2.16
50.583	0.00	0.19	0.231	I o	|	|	|	2.15
50.667	0.00	0.19	0.230	I o	|	|	|	2.14
50.750	0.00	0.19	0.228	I o	|	|	|	2.13
50.833	0.00	0.19	0.227	I o	|	|	|	2.13
50.917	0.00	0.18	0.226	I o	|	|	|	2.12
51.000	0.00	0.18	0.225	I o	|	|	|	2.11
51.083	0.00	0.18	0.223	I o	|	|	|	2.10
51.167	0.00	0.18	0.222	I o	|	|	|	2.09
51.250	0.00	0.18	0.221	I o	|	|	|	2.08
51.333	0.00	0.18	0.220	I o	|	|	|	2.08
51.417	0.00	0.18	0.218	I o	|	|	|	2.07
51.500	0.00	0.18	0.217	I o	|	|	|	2.06
51.583	0.00	0.18	0.216	I o	|	|	|	2.05
51.667	0.00	0.18	0.215	I o	|	|	|	2.04
51.750	0.00	0.18	0.213	I o	|	|	|	2.03
51.833	0.00	0.18	0.212	I o	|	|	|	2.03
51.917	0.00	0.18	0.211	I o	|	|	|	2.02
52.000	0.00	0.18	0.210	I o	|	|	|	2.01
52.083	0.00	0.18	0.208	I o	|	|	|	2.00
52.167	0.00	0.18	0.207	I o	|	|	|	1.99
52.250	0.00	0.18	0.206	I o	|	|	|	1.98
52.333	0.00	0.18	0.205	I o	|	|	|	1.98
52.417	0.00	0.18	0.203	I o	|	|	|	1.97
52.500	0.00	0.18	0.202	I o	|	|	|	1.96
52.583	0.00	0.18	0.201	I o	|	|	|	1.95
52.667	0.00	0.18	0.200	I o	|	|	|	1.94
52.750	0.00	0.18	0.198	I o	|	|	|	1.93
52.833	0.00	0.18	0.197	I o	|	|	|	1.92
52.917	0.00	0.18	0.196	I o	|	|	|	1.91
53.000	0.00	0.18	0.195	I o	|	|	|	1.91
53.083	0.00	0.18	0.194	I o	|	|	|	1.90
53.167	0.00	0.18	0.192	I o	|	|	|	1.89
53.250	0.00	0.18	0.191	I o	|	|	|	1.88
53.333	0.00	0.17	0.190	I o	|	|	|	1.87
53.417	0.00	0.17	0.189	I o	|	|	|	1.86
53.500	0.00	0.17	0.188	I o	|	|	|	1.85
53.583	0.00	0.17	0.186	I o	|	|	|	1.85
53.667	0.00	0.17	0.185	I o	|	|	|	1.84
53.750	0.00	0.17	0.184	I o	|	|	|	1.83
53.833	0.00	0.17	0.183	I o	|	|	|	1.82
53.917	0.00	0.17	0.182	I o	|	|	|	1.81
54.000	0.00	0.17	0.180	I o	|	|	|	1.80
54.083	0.00	0.17	0.179	I o	|	|	|	1.79
54.167	0.00	0.17	0.178	I o	|	|	|	1.79
54.250	0.00	0.17	0.177	I o	|	|	|	1.78
54.333	0.00	0.17	0.176	I o	|	|	|	1.77
54.417	0.00	0.17	0.175	I o	|	|	|	1.76
54.500	0.00	0.17	0.173	I o	|	|	|	1.75
54.583	0.00	0.17	0.172	I o	|	|	|	1.74
54.667	0.00	0.17	0.171	I o	|	|	|	1.74
54.750	0.00	0.17	0.170	I o	|	|	|	1.73
54.833	0.00	0.17	0.169	I o	|	|	|	1.72
54.917	0.00	0.17	0.168	I o	|	|	|	1.71
55.000	0.00	0.17	0.166	I o	|	|	|	1.70
55.083	0.00	0.17	0.165	I o	|	|	|	1.69
55.167	0.00	0.17	0.164	I o	|	|	|	1.69
55.250	0.00	0.17	0.163	I o	|	|	|	1.68
55.333	0.00	0.17	0.162	I o	|	|	|	1.67
55.417	0.00	0.17	0.161	I o	|	|	|	1.66
55.500	0.00	0.17	0.159	I o	|	|	|	1.65
55.583	0.00	0.17	0.158	I o	|	|	|	1.64
55.667	0.00	0.17	0.157	I o	|	|	|	1.64

55.750	0.00	0.17	0.156	I o	|	|	|	1.63
55.833	0.00	0.16	0.155	I o	|	|	|	1.62
55.917	0.00	0.16	0.154	I o	|	|	|	1.61
56.000	0.00	0.16	0.153	I o	|	|	|	1.60
56.083	0.00	0.16	0.151	I o	|	|	|	1.60
56.167	0.00	0.16	0.150	I o	|	|	|	1.59
56.250	0.00	0.16	0.149	I o	|	|	|	1.58
56.333	0.00	0.16	0.148	I o	|	|	|	1.57
56.417	0.00	0.16	0.147	I o	|	|	|	1.56
56.500	0.00	0.16	0.146	I o	|	|	|	1.56
56.583	0.00	0.16	0.145	I o	|	|	|	1.55
56.667	0.00	0.16	0.144	I o	|	|	|	1.54
56.750	0.00	0.16	0.143	I o	|	|	|	1.53
56.833	0.00	0.16	0.141	I o	|	|	|	1.52
56.917	0.00	0.16	0.140	I o	|	|	|	1.52
57.000	0.00	0.16	0.139	I o	|	|	|	1.51
57.083	0.00	0.16	0.138	I o	|	|	|	1.50
57.167	0.00	0.16	0.137	I o	|	|	|	1.49
57.250	0.00	0.16	0.136	I o	|	|	|	1.48
57.333	0.00	0.16	0.135	I o	|	|	|	1.47
57.417	0.00	0.16	0.134	I o	|	|	|	1.46
57.500	0.00	0.16	0.133	I o	|	|	|	1.46
57.583	0.00	0.16	0.132	I o	|	|	|	1.45
57.667	0.00	0.16	0.130	I o	|	|	|	1.44
57.750	0.00	0.16	0.129	I o	|	|	|	1.43
57.833	0.00	0.16	0.128	I o	|	|	|	1.42
57.917	0.00	0.15	0.127	I o	|	|	|	1.41
58.000	0.00	0.15	0.126	I o	|	|	|	1.40
58.083	0.00	0.15	0.125	I o	|	|	|	1.39
58.167	0.00	0.15	0.124	I o	|	|	|	1.39
58.250	0.00	0.15	0.123	I o	|	|	|	1.38
58.333	0.00	0.15	0.122	I o	|	|	|	1.37
58.417	0.00	0.15	0.121	I o	|	|	|	1.36
58.500	0.00	0.15	0.120	I o	|	|	|	1.35
58.583	0.00	0.15	0.119	I o	|	|	|	1.34
58.667	0.00	0.15	0.118	I o	|	|	|	1.33
58.750	0.00	0.15	0.117	I o	|	|	|	1.33
58.833	0.00	0.15	0.116	I o	|	|	|	1.32
58.917	0.00	0.15	0.115	I o	|	|	|	1.31
59.000	0.00	0.15	0.114	I o	|	|	|	1.30
59.083	0.00	0.15	0.113	I o	|	|	|	1.29
59.167	0.00	0.15	0.112	I o	|	|	|	1.28
59.250	0.00	0.15	0.111	I o	|	|	|	1.28
59.333	0.00	0.15	0.110	I o	|	|	|	1.27
59.417	0.00	0.15	0.109	I o	|	|	|	1.26
59.500	0.00	0.15	0.108	I o	|	|	|	1.25
59.583	0.00	0.14	0.107	I o	|	|	|	1.24
59.667	0.00	0.14	0.106	I o	|	|	|	1.23
59.750	0.00	0.14	0.105	I o	|	|	|	1.23
59.833	0.00	0.14	0.104	I o	|	|	|	1.22
59.917	0.00	0.14	0.103	I o	|	|	|	1.21
60.000	0.00	0.14	0.102	I o	|	|	|	1.20
60.083	0.00	0.14	0.101	I o	|	|	|	1.19
60.167	0.00	0.14	0.100	I o	|	|	|	1.19
60.250	0.00	0.14	0.099	I o	|	|	|	1.18
60.333	0.00	0.14	0.098	I o	|	|	|	1.17
60.417	0.00	0.14	0.097	I o	|	|	|	1.16
60.500	0.00	0.14	0.096	I o	|	|	|	1.15
60.583	0.00	0.14	0.095	I o	|	|	|	1.15
60.667	0.00	0.14	0.094	I o	|	|	|	1.14
60.750	0.00	0.14	0.093	I o	|	|	|	1.13
60.833	0.00	0.14	0.092	I o	|	|	|	1.12
60.917	0.00	0.14	0.091	I o	|	|	|	1.12
61.000	0.00	0.14	0.090	I o	|	|	|	1.11
61.083	0.00	0.14	0.089	I o	|	|	|	1.10
61.167	0.00	0.14	0.088	I o	|	|	|	1.09
61.250	0.00	0.14	0.087	I o	|	|	|	1.09
61.333	0.00	0.13	0.086	I o	|	|	|	1.08
61.417	0.00	0.13	0.086	I o	|	|	|	1.07
61.500	0.00	0.13	0.085	I o	|	|	|	1.06
61.583	0.00	0.13	0.084	I o	|	|	|	1.05
61.667	0.00	0.13	0.083	I o	|	|	|	1.05
61.750	0.00	0.13	0.082	I o	|	|	|	1.04
61.833	0.00	0.13	0.081	I o	|	|	|	1.03
61.917	0.00	0.13	0.080	I o	|	|	|	1.03

62.000	0.00	0.13	0.079	I O				1.02
62.083	0.00	0.13	0.078	I O				1.01
62.167	0.00	0.13	0.077	I O				1.00
62.250	0.00	0.13	0.076	I O				0.99
62.333	0.00	0.13	0.076	I O				0.99
62.417	0.00	0.13	0.075	I O				0.98
62.500	0.00	0.13	0.074	I O				0.97
62.583	0.00	0.13	0.073	I O				0.96
62.667	0.00	0.13	0.072	I O				0.95
62.750	0.00	0.13	0.071	I O				0.94
62.833	0.00	0.12	0.070	I O				0.93
62.917	0.00	0.12	0.069	I O				0.92
63.000	0.00	0.12	0.069	I O				0.91
63.083	0.00	0.12	0.068	IO				0.91
63.167	0.00	0.12	0.067	IO				0.90
63.250	0.00	0.12	0.066	IO				0.89
63.333	0.00	0.12	0.065	IO				0.88
63.417	0.00	0.12	0.064	IO				0.87
63.500	0.00	0.12	0.064	IO				0.86
63.583	0.00	0.12	0.063	IO				0.86
63.667	0.00	0.12	0.062	IO				0.85
63.750	0.00	0.12	0.061	IO				0.84
63.833	0.00	0.12	0.060	IO				0.83
63.917	0.00	0.12	0.060	IO				0.82
64.000	0.00	0.12	0.059	IO				0.81
64.083	0.00	0.11	0.058	IO				0.81
64.167	0.00	0.11	0.057	IO				0.80
64.250	0.00	0.11	0.056	IO				0.79
64.333	0.00	0.11	0.056	IO				0.78
64.417	0.00	0.11	0.055	IO				0.77
64.500	0.00	0.11	0.054	IO				0.77
64.583	0.00	0.11	0.053	IO				0.76
64.667	0.00	0.11	0.053	IO				0.75
64.750	0.00	0.11	0.052	IO				0.74
64.833	0.00	0.11	0.051	IO				0.74
64.917	0.00	0.11	0.050	IO				0.73
65.000	0.00	0.11	0.050	IO				0.72
65.083	0.00	0.11	0.049	IO				0.71
65.167	0.00	0.11	0.048	IO				0.71
65.250	0.00	0.11	0.047	IO				0.70
65.333	0.00	0.11	0.047	IO				0.69
65.417	0.00	0.10	0.046	IO				0.68
65.500	0.00	0.10	0.045	IO				0.68
65.583	0.00	0.10	0.044	IO				0.67
65.667	0.00	0.10	0.044	IO				0.66
65.750	0.00	0.10	0.043	IO				0.65
65.833	0.00	0.10	0.042	IO				0.65
65.917	0.00	0.10	0.042	IO				0.64
66.000	0.00	0.10	0.041	IO				0.63
66.083	0.00	0.10	0.040	IO				0.63
66.167	0.00	0.10	0.040	IO				0.62
66.250	0.00	0.10	0.039	IO				0.61
66.333	0.00	0.10	0.038	IO				0.60
66.417	0.00	0.10	0.038	IO				0.60
66.500	0.00	0.10	0.037	IO				0.59
66.583	0.00	0.10	0.036	IO				0.58
66.667	0.00	0.10	0.036	IO				0.58
66.750	0.00	0.10	0.035	IO				0.57
66.833	0.00	0.10	0.034	IO				0.56
66.917	0.00	0.09	0.034	IO				0.56
67.000	0.00	0.09	0.033	IO				0.55
67.083	0.00	0.09	0.032	IO				0.54
67.167	0.00	0.09	0.032	IO				0.54
67.250	0.00	0.09	0.031	IO				0.53
67.333	0.00	0.09	0.030	IO				0.52
67.417	0.00	0.09	0.030	IO				0.52
67.500	0.00	0.09	0.029	IO				0.51
67.583	0.00	0.09	0.028	IO				0.51
67.667	0.00	0.09	0.028	IO				0.50
67.750	0.00	0.09	0.027	IO				0.49
67.833	0.00	0.09	0.027	IO				0.48
67.917	0.00	0.08	0.026	IO				0.47
68.000	0.00	0.08	0.026	IO				0.46
68.083	0.00	0.08	0.025	IO				0.45
68.167	0.00	0.08	0.024	IO				0.44

68.250	0.00	0.08	0.024	IO					0.43
68.333	0.00	0.07	0.023	IO					0.42
68.417	0.00	0.07	0.023	IO					0.41
68.500	0.00	0.07	0.022	IO					0.40
68.583	0.00	0.07	0.022	IO					0.39
68.667	0.00	0.07	0.021	IO					0.39
68.750	0.00	0.07	0.021	IO					0.38
68.833	0.00	0.06	0.021	IO					0.37
68.917	0.00	0.06	0.020	IO					0.36
69.000	0.00	0.06	0.020	O					0.36
69.083	0.00	0.06	0.019	O					0.35
69.167	0.00	0.06	0.019	O					0.34
69.250	0.00	0.06	0.019	O					0.33
69.333	0.00	0.05	0.018	O					0.33
69.417	0.00	0.05	0.018	O					0.32
69.500	0.00	0.05	0.017	O					0.31
69.583	0.00	0.05	0.017	O					0.31
69.667	0.00	0.05	0.017	O					0.30
69.750	0.00	0.05	0.016	O					0.30
69.833	0.00	0.05	0.016	O					0.29
69.917	0.00	0.05	0.016	O					0.28
70.000	0.00	0.05	0.015	O					0.28
70.083	0.00	0.04	0.015	O					0.27
70.167	0.00	0.04	0.015	O					0.27
70.250	0.00	0.04	0.014	O					0.26
70.333	0.00	0.04	0.014	O					0.26
70.417	0.00	0.04	0.014	O					0.25
70.500	0.00	0.04	0.014	O					0.25
70.583	0.00	0.04	0.013	O					0.24
70.667	0.00	0.04	0.013	O					0.24
70.750	0.00	0.04	0.013	O					0.24
70.833	0.00	0.04	0.013	O					0.23
70.917	0.00	0.03	0.012	O					0.23
71.000	0.00	0.03	0.012	O					0.22
71.083	0.00	0.03	0.012	O					0.22
71.167	0.00	0.03	0.012	O					0.22
71.250	0.00	0.03	0.011	O					0.21
71.333	0.00	0.03	0.011	O					0.21
71.417	0.00	0.03	0.011	O					0.20
71.500	0.00	0.03	0.011	O					0.20
71.583	0.00	0.03	0.011	O					0.20
71.667	0.00	0.03	0.010	O					0.19
71.750	0.00	0.03	0.010	O					0.19
71.833	0.00	0.03	0.010	O					0.19
71.917	0.00	0.03	0.010	O					0.18
72.000	0.00	0.03	0.010	O					0.18
72.083	0.00	0.02	0.010	O					0.18
72.167	0.00	0.02	0.009	O					0.18
72.250	0.00	0.02	0.009	O					0.17
72.333	0.00	0.02	0.009	O					0.17
72.417	0.00	0.02	0.009	O					0.17
72.500	0.00	0.02	0.009	O					0.16
72.583	0.00	0.02	0.009	O					0.16
72.667	0.00	0.02	0.008	O					0.16
72.750	0.00	0.02	0.008	O					0.16
72.833	0.00	0.02	0.008	O					0.15
72.917	0.00	0.02	0.008	O					0.15
73.000	0.00	0.02	0.008	O					0.15
73.083	0.00	0.02	0.008	O					0.15
73.167	0.00	0.02	0.008	O					0.15
73.250	0.00	0.02	0.008	O					0.14
73.333	0.00	0.02	0.007	O					0.14
73.417	0.00	0.02	0.007	O					0.14
73.500	0.00	0.02	0.007	O					0.14
73.583	0.00	0.02	0.007	O					0.14
73.667	0.00	0.02	0.007	O					0.13
73.750	0.00	0.01	0.007	O					0.13
73.833	0.00	0.01	0.007	O					0.13
73.917	0.00	0.01	0.007	O					0.13
74.000	0.00	0.01	0.007	O					0.13
74.083	0.00	0.01	0.007	O					0.12
74.167	0.00	0.01	0.006	O					0.12
74.250	0.00	0.01	0.006	O					0.12
74.333	0.00	0.01	0.006	O					0.12
74.417	0.00	0.01	0.006	O					0.12

74.500	0.00	0.01	0.006	o					0.12
74.583	0.00	0.01	0.006	o					0.12
74.667	0.00	0.01	0.006	o					0.11
74.750	0.00	0.01	0.006	o					0.11
74.833	0.00	0.01	0.006	o					0.11
74.917	0.00	0.01	0.006	o					0.11
75.000	0.00	0.01	0.006	o					0.11
75.083	0.00	0.01	0.006	o					0.11
75.167	0.00	0.01	0.005	o					0.11
75.250	0.00	0.01	0.005	o					0.11
75.333	0.00	0.01	0.005	o					0.10
75.417	0.00	0.01	0.005	o					0.10
75.500	0.00	0.01	0.005	o					0.10
75.583	0.00	0.01	0.005	o					0.10
75.667	0.00	0.01	0.005	o					0.10
75.750	0.00	0.01	0.005	o					0.10
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76.333	0.00	0.01	0.005	o					0.09
76.417	0.00	0.01	0.005	o					0.09
76.500	0.00	0.01	0.005	o					0.09
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76.750	0.00	0.01	0.004	o					0.09
76.833	0.00	0.01	0.004	o					0.09
76.917	0.00	0.01	0.004	o					0.09
77.000	0.00	0.01	0.004	o					0.09
77.083	0.00	0.01	0.004	o					0.09
77.167	0.00	0.01	0.004	o					0.08
77.250	0.00	0.01	0.004	o					0.08
77.333	0.00	0.01	0.004	o					0.08
77.417	0.00	0.01	0.004	o					0.08
77.500	0.00	0.00	0.004	o					0.08
77.583	0.00	0.00	0.004	o					0.08
77.667	0.00	0.00	0.004	o					0.08
77.750	0.00	0.00	0.004	o					0.08
77.833	0.00	0.00	0.004	o					0.08
77.917	0.00	0.00	0.004	o					0.08
78.000	0.00	0.00	0.004	o					0.08
78.083	0.00	0.00	0.004	o					0.08
78.167	0.00	0.00	0.004	o					0.08
78.250	0.00	0.00	0.004	o					0.08
78.333	0.00	0.00	0.004	o					0.08
78.417	0.00	0.00	0.004	o					0.08
78.500	0.00	0.00	0.004	o					0.08
78.583	0.00	0.00	0.004	o					0.08
78.667	0.00	0.00	0.004	o					0.08
78.750	0.00	0.00	0.004	o					0.07
78.833	0.00	0.00	0.004	o					0.07
78.917	0.00	0.00	0.004	o					0.07
79.000	0.00	0.00	0.004	o					0.07
79.083	0.00	0.00	0.004	o					0.07
79.167	0.00	0.00	0.004	o					0.07
79.250	0.00	0.00	0.004	o					0.07
79.333	0.00	0.00	0.004	o					0.07
79.417	0.00	0.00	0.004	o					0.07
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79.750	0.00	0.00	0.003	o					0.07
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80.250	0.00	0.00	0.003	o					0.07
80.333	0.00	0.00	0.003	o					0.07
80.417	0.00	0.00	0.003	o					0.07
80.500	0.00	0.00	0.003	o					0.07
80.583	0.00	0.00	0.003	o					0.07
80.667	0.00	0.00	0.003	o					0.07

80.750	0.00	0.00	0.003	o	|	|	|	0.07
80.833	0.00	0.00	0.003	o	|	|	|	0.07
80.917	0.00	0.00	0.003	o	|	|	|	0.07
81.000	0.00	0.00	0.003	o	|	|	|	0.07
81.083	0.00	0.00	0.003	o	|	|	|	0.07
81.167	0.00	0.00	0.003	o	|	|	|	0.07
81.250	0.00	0.00	0.003	o	|	|	|	0.07
81.333	0.00	0.00	0.003	o	|	|	|	0.07
81.417	0.00	0.00	0.003	o	|	|	|	0.07
81.500	0.00	0.00	0.003	o	|	|	|	0.07
81.583	0.00	0.00	0.003	o	|	|	|	0.07
81.667	0.00	0.00	0.003	o	|	|	|	0.07
81.750	0.00	0.00	0.003	o	|	|	|	0.07
81.833	0.00	0.00	0.003	o	|	|	|	0.06
81.917	0.00	0.00	0.003	o	|	|	|	0.06
82.000	0.00	0.00	0.003	o	|	|	|	0.06
82.083	0.00	0.00	0.003	o	|	|	|	0.06
82.167	0.00	0.00	0.003	o	|	|	|	0.06
82.250	0.00	0.00	0.003	o	|	|	|	0.06
82.333	0.00	0.00	0.003	o	|	|	|	0.06
82.417	0.00	0.00	0.003	o	|	|	|	0.06
82.500	0.00	0.00	0.003	o	|	|	|	0.06
82.583	0.00	0.00	0.003	o	|	|	|	0.06
82.667	0.00	0.00	0.003	o	|	|	|	0.06
82.750	0.00	0.00	0.003	o	|	|	|	0.06
82.833	0.00	0.00	0.003	o	|	|	|	0.06
82.917	0.00	0.00	0.003	o	|	|	|	0.06
83.000	0.00	0.00	0.003	o	|	|	|	0.06

Remaining water in basin = 0.00 (Ac.Ft)

**********HYDROGRAPH DATA**********

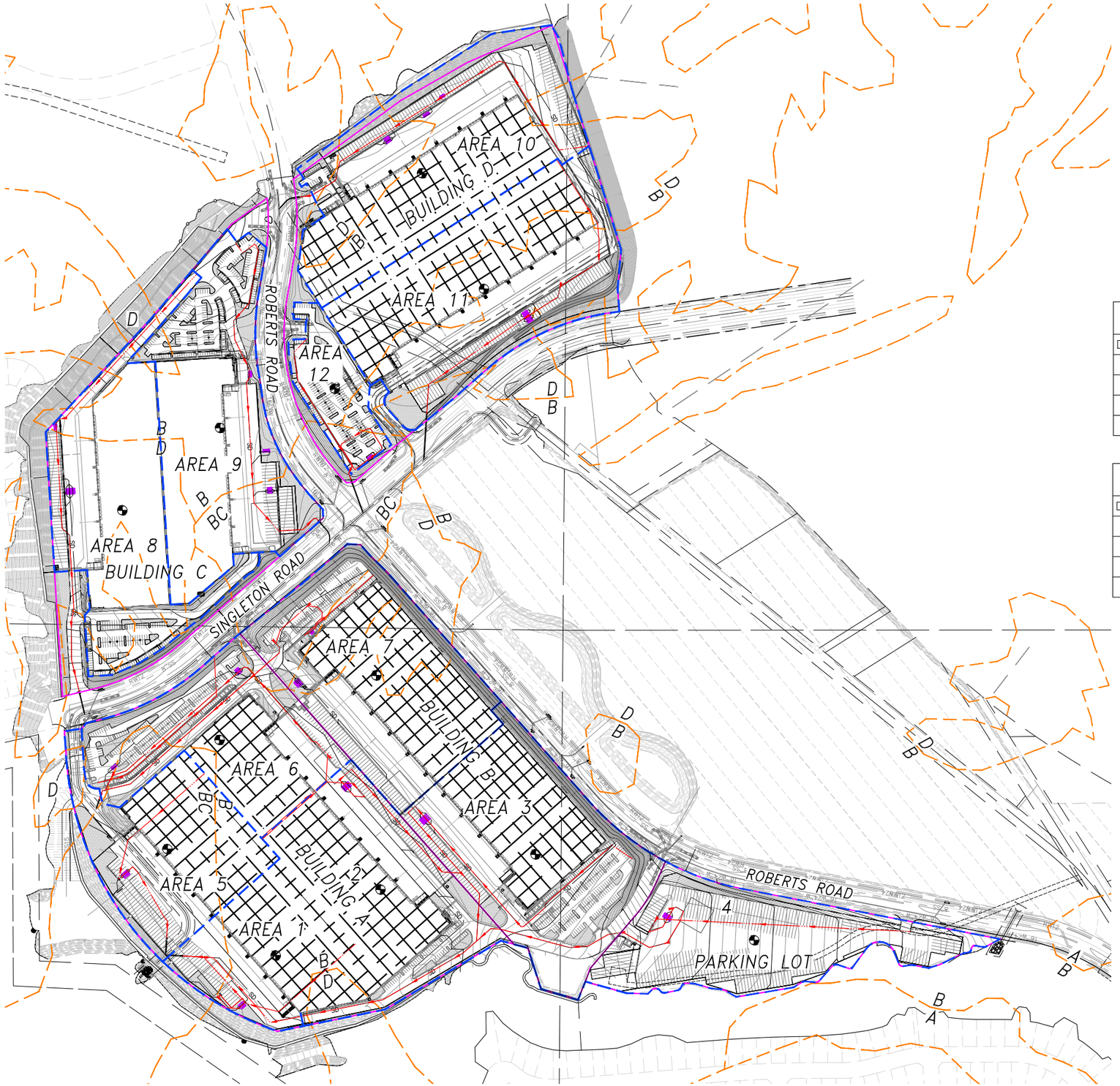
Number of intervals = 996
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.318 (CFS)
Total volume = 1.193 (Ac.Ft)

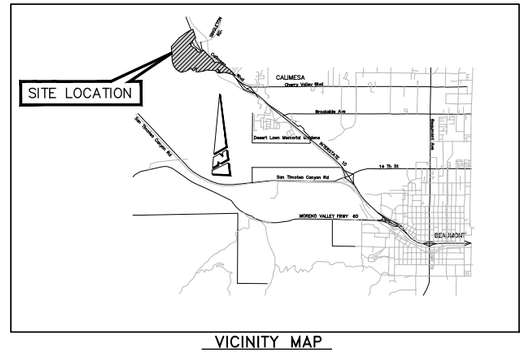
Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

UNIT HYDROGRAPH HYDROLOGY MAP





VICINITY MAP
N.T.S.
T2S, R2W, SECTION 23,24,25,26

PROPOSED AREAS						
DRAINAGE AREA	1	2	3	4	5	6
TOTAL AREA	6.8 AC	9.5 AC	12.3 AC	9.2 AC	8.1 AC	9.0 AC
L_T	1116 Ft	2462 Ft	2287 Ft	3348 Ft	899 Ft	1634 Ft
L_{CA}	860 Ft	2251 Ft	2251 Ft	2754 Ft	602 Ft	512 Ft
ΔH	6.5 Ft	6.50 Ft	9.30 Ft	37.50 Ft	6.50	3.70 Ft

PROPOSED AREAS						
DRAINAGE AREA	7	8	9	10	11	12
TOTAL AREA	12.5 AC	11.2 AC	12.1 AC	14.1 AC	14.1 AC	2.9 AC
L_T	1378 Ft	1821 Ft	1395 Ft	1473 Ft	1370 Ft	621 Ft
L_{CA}	1136 Ft	683 Ft	552 Ft	540 Ft	486 Ft	341 Ft
ΔH	3.3 Ft	29.30 Ft	18 Ft	7 Ft	2.80 Ft	9 Ft

LEGEND

- NODE / ELEV – NODE NUMBER / ELEVATION (FT)
- AC / FT – AREA (AC) / LENGTH (FT)
- DRAINAGE AREA BOUNDARY (PROPOSED)
- FLOWLINE (PROPOSED)
- PROJECT BOUNDARY
- NRCS SOIL BOUNDARY

GENERAL NOTES:

1. OVERALL BLCOV PROJECT AREA WILL BE MASS GRADED AND BACKBONE IMPROVEMENTS WILL BE CONSTRUCTED PRIOR TO ANY CONSTRUCTION COMMENCING FOR THE BUILDING A, BUILDING B, BUILDING C, BUILDING D, OR PARKING LOT PROJECTS.
2. EXISTING CONTOURS SHOWN IN EXHIBITS ARE TAKEN FROM THE MASS GRADING PLAN FOR PARCEL MAP 37862.

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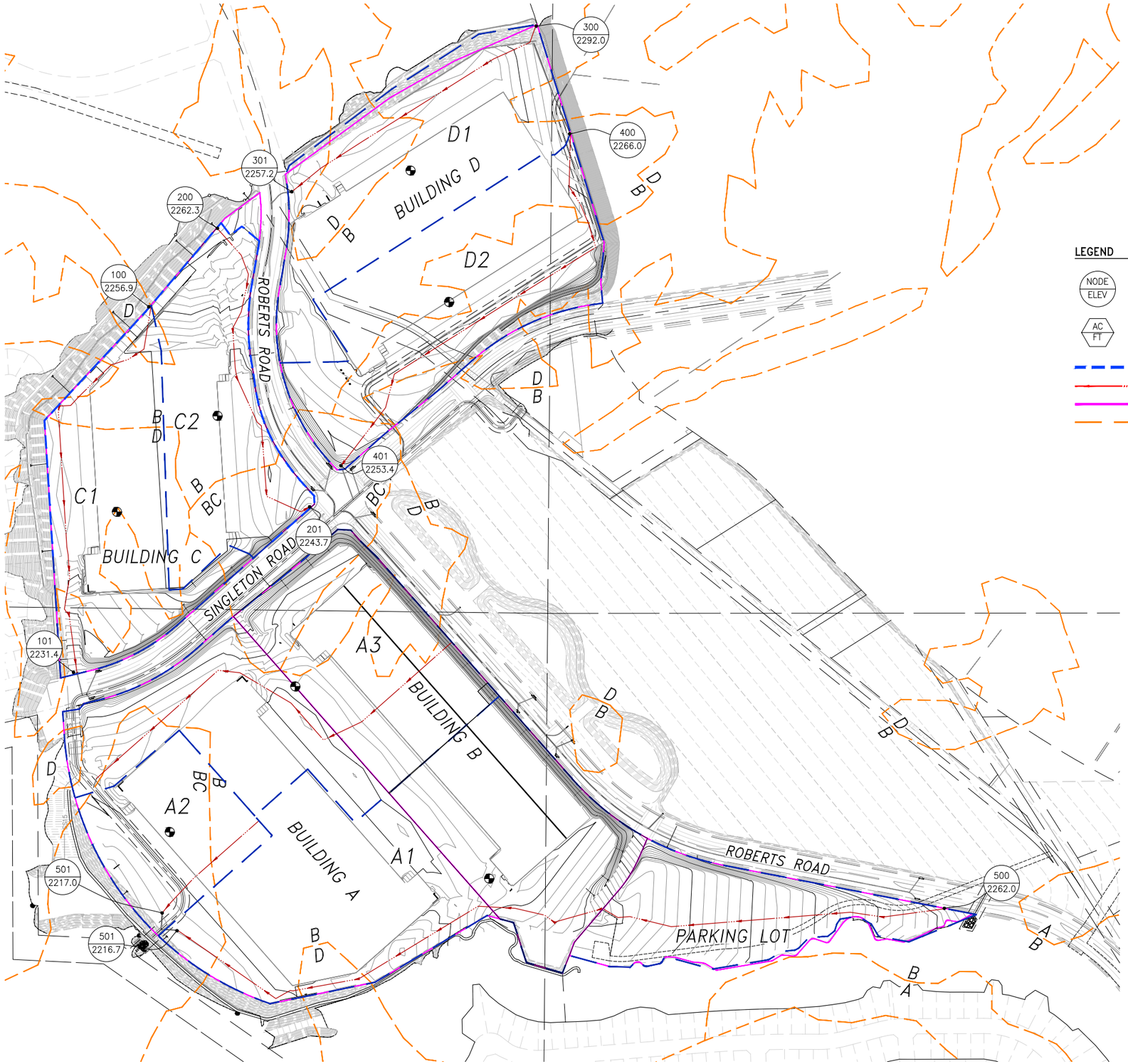
1" = 200'
200 0 200 400 600

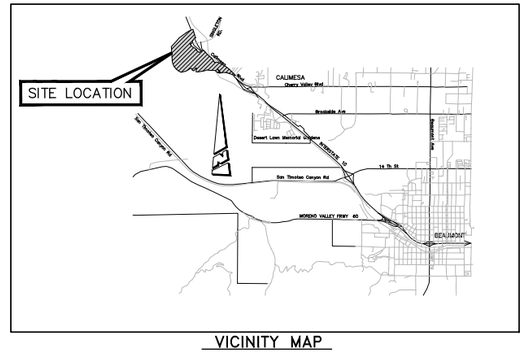
CITY OF CALIMESA, COUNTY OF RIVERSIDE
BIRTCHER COMMERCE CENTER OAK VALLEY

INDUSTRIAL DEVELOPMENT
DEVELOPED CONDITION
PRELIMINARY PROPOSED UNIT HYDROGRAPH EXHIBIT

SCALE:	1" = 200'	ALBERT A. WEBB ASSOCIATES	W.O. 21-0034
DATE:	12/14/2020	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	SHEET 1
DESIGNED:	EP		OF 1 SHEETS
CHECKED:	BJV		DWG. NO.
PLN CK REF:			
F.B.			

H:\2021\21-0034\DRAINAGE\PHYD\DWG FOLDER\21-0034 PRELIM UH MAP 2021-11-23.DWG 12/6/2021 4:30:41 PM





VICINITY MAP
N.T.S.
T2S, R2W, SECTION 23,24,25,26

LEGEND

NODE / ELEV	– NODE NUMBER – ELEVATION (FT)
AC / FT	– AREA (AC) – LENGTH (FT)
	– DRAINAGE AREA BOUNDARY
	– FLOWLINE (PROPOSED)
	– PROJECT BOUNDARY
	– NRCS SOIL BOUNDARY

EXISTING AREAS			
DRAINAGE AREA	A1	A2	A3
TOTAL AREA	37.7 AC	7.5 AC	21.7 AC
L_T	3231 Ft	526 Ft	1790 Ft
L_{CA}	1394 Ft	234 Ft	939 Ft
ΔH	45.0 Ft	7 Ft	23 Ft

EXISTING AREAS		
DRAINAGE AREA	C1	C2
TOTAL AREA	13.2 AC	11.8 AC
L_T	1645 Ft	1321 Ft
L_{CA}	629 Ft	574 Ft
ΔH	25.0 Ft	19 Ft

EXISTING AREAS		
DRAINAGE AREA	D1	D2
TOTAL AREA	15.8 AC	16.9 AC
L_T	1174 Ft	1828 Ft
L_{CA}	440 Ft	756 Ft
ΔH	35.0 Ft	13 Ft

GENERAL NOTES:

1. OVERALL BLCOV PROJECT AREA WILL BE MASS GRADED AND BACKBONE IMPROVEMENTS WILL BE CONSTRUCTED PRIOR TO ANY CONSTRUCTION COMMENCING FOR THE BUILDING A, BUILDING B, BUILDING C, BUILDING D, OR PARKING LOT PROJECTS.
2. EXISTING CONTOURS SHOWN IN EXHIBITS ARE TAKEN FROM THE MASS GRADING PLAN FOR PARCEL MAP 37862.

N
W WEBB E
S

1" = 200'
200 0 200 400 600

CITY OF CALIMESA, COUNTY OF RIVERSIDE
BIRTCHER COMMERCE CENTER OAK VALLEY

INDUSTRIAL DEVELOPMENT
DEVELOPED CONDITION
EXISTING UNIT HYDROGRAPH EXHIBIT

SCALE:	1" = 200'	ALBERT A. WEBB ASSOCIATES	W.O. 21-0034
DATE:	12/14/2020	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE, CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	SHEET 1
DESIGNED:	EP		OF 1 SHEETS
CHECKED:	BJV		DWG. NO.
PLN CK REF:			
F.B.			

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APPENDIX D - REFERENCES

RELEVANT EXCERPTS AND MAPS FROM

"HYDROLOGY AND HYDRAULICS STUDY: OAK VALLEY TOWN CENTER PARCEL MAP NO. 37862 MASS GRADING PLAN"

OAK VALLEY TOWN CENTER
HYDROLOGY AND HYDRAULICS STUDY

PARCEL MAP NO. 37862

CITY OF CALIMESA, CALIFORNIA

PREPARED FOR:

OAK VALLEY DEVELOPMENT PARTNERS
10140 ROBERTS ROAD
CALIMESA, CA 92320

PREPARED BY:

PROACTIVE ENGINEERING WEST

25109 JEFFERSON AVENUE, SUITE 200
MURRIETA, CA 92562
PHONE: 951-200-6840 ● FAX: 866-454-4478

DATE PREPARED:

July 2021

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APPENDIX E-13: CP-09
APPENDIX E-14: CP-10
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APPENDIX F: Velocity Calculations
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EXHIBITS

EXHIBIT A: Undeveloped Condition Hydrology Index Map

EXHIBIT B: Developed Condition Hydrology Index Map

EXHIBIT C: Drainage Facilities Map

I. INTRODUCTION

Oak Valley Town Center (OVTC), Parcel Map No. 37862, is a proposed development in the City of Calimesa, lying southwesterly of the Interstate 10 Freeway (I-10) off the Singleton Road exit. The project is roughly 230 acres and will develop business park and commercial land use areas, as well as the infrastructure Singleton and Roberts Road. Oak Valley Town Center is a part of the Summerwind Ranch at Oak Valley Specific Plan that proposes the development of residential, business park, commercial and open space land use areas across roughly 2,600 acres of land.

The purpose of this study is to determine the existing and proposed hydrologic conditions to properly size the necessary drainage improvements to support the construction of Oak Valley Town Center. The scope of this report will include:

- Determine peak 100-year flow rates for the construction of the project's ultimate developed condition using the Rational Method outlined in the Riverside County Flood Control and Water Conservation District
- Based on the ultimate developed condition, determine the necessary drainage improvements that will properly convey the calculated 100-year flow rates
- Summarize analyses and proposed infrastructure storm drain improvements

II. PROJECT SITE

Oak Valley Town Center is part of the Summerwind Ranch at Oak Valley Specific plan that lies within the San Timoteo sub-basin of the Santa Ana River Watershed. The project site lies within an open grassland valley that is bounded by the I-10 freeway to the east and rolling hills and ridgelines to the west and south. Most of the project is undeveloped. There are a handful of existing properties that are fairly spread apart from each other along the I-10, as well as a couple of properties within the central portion of the valley.

Large off-site tributary areas on the east side of the I-10 contribute significant drainage to the project site through multiple pipe and box culverts. Drainage from these tributary areas begin in the San Bernardino Mountain ranges and flow in a southwesterly manner, ultimately, flowing through the proposed project site until it reaches the San Timoteo Creek. The proposed storm drain system will maintain the existing drainage course and outlet on-site, as well, as intercepted off-site drainage, into the natural streambed areas leading to the San Timoteo Creek; ultimately joining the Santa Ana River. See Figures 1 and 2 for the project Vicinity Map and Site Plan, respectively.

III. HYDROLOGY

The rational design parameters and methodologies outlined in the Riverside County Flood Control and Water Conservation District's (RCFCWCD) *Hydrology Manual*[1] were used to determine the 100-year design flow rates for the project. Calculations for the rational methodology were performed using the CivilDesign computer software.

Two hydrology analyses will be performed for this project site:

- On-site hydrology
  - The rational method was used to calculate the 100-year flow rates for the on-site tributary areas. We assume the ultimate developed condition to determine the peak flow rates tributary to the proposed OVTC storm drain infrastructure. This includes the OVTC project site, as well as future Summerwind developments located north of OVTC.
- Off-site hydrology
  - The unit hydrograph method will be used to calculate the 100-year flow rates for the off-site tributary areas. Off-site refers to the large tributary areas east of the I-10, where their respective flow rates are collected via pipe and box culverts that cross the I-10 and outlet onto the OVTC project site.

On-site Hydrology

The 100-year flow rates for Areas A and B, as shown on Exhibit B, will be analyzed using the rational method.

As directed by the *Hydrology Manual*[1], Antecedent Moisture Condition II (AMC II) was used for all rational method analyses.

Soil classification for the project site is based on the Hydrologic Soils Group Map for El Casco (Plate C-1.18) of the *Hydrology Manual*[1], as shown on Appendix A-4 of this report. Hydrologic soils group (HSG) "B" and "D" are what primarily occupies the project site. There are small patches of areas within the rolling hills and ridgelines where HSG "A" and "C" are present. Soil "B" is described as soils with a moderate rate of water transmission and soil "D" is described as soils with high runoff potential.

The rainfall values and slope of intensity duration curve were obtained from the isohyetal maps in the *Hydrology Manual*[1], as shown on Appendices A-1 to A-3. Below is a summary of the design parameters used for calculation.

2-Year-1-Hour Precipitation per Plate D-4.3 (Appendix A-1)	0.54”
100-Year-1-Hour Precipitation per Plate D-4.4 (Appendix A-2)	1.33”
Slope of Intensity Duration Curve per Plate D-4.6 (Appendix A-3)	0.55

For rational method purposes, the project site was analyzed as an undeveloped area – poor cover for the undeveloped condition. Since the hydrology study is split up into two parts (On-site and Off-site) for the undeveloped condition, the flow rates calculated in each report were simply added together to compute a total Q for each drainage area. Refer to Exhibit A for the total Q and on-site drainage area delineation.

The areas tributary to storm drain Line A are designated as Drainage Area A and Areas C, D and E, as shown on Exhibit B. Areas C, D and E are off-site tributary areas, while Drainage Area A is on-site. As mentioned before, off-site tributary areas are analyzed by the unit hydrograph method, per a separate study. The off-site areas were included in the rational method calculations as a user defined entry to account for the drainage coming from existing culverts crossing the I-10. The portion of Drainage Area A, where the OVTC project site is located, consists of industrial parcels, a commercial parcel and the infrastructure Singleton and Roberts Road streets for the ultimate developed condition. See Figure 2 for the Project Site plan. For hydrology purposes, the industrial parcels were analyzed as commercial land use. Since the ultimate developed condition is assumed to determine the peak 100-year flow rates tributary to the OVTC infrastructure storm drain system, Drainage Area A includes future Summerwind developments. Per Tentative Tract Map No. 33536, planning areas E-1, E-2 and D-1, which are delineated as Garden Courts, Townhomes and Community Recreation land use, respectively, are tributary to the OVTC storm drain infrastructure and are included in the rational method analysis calculations. For hydrology purposes, the Garden Courts and Townhomes were analyzed as commercial land use and the Community Recreation as condominium land use. See Exhibit B for the on-site hydrology map.

The areas tributary to storm drain line B are designated as Drainage Area B and Areas A and B, as shown on Exhibit B. Areas A and B are off-site tributary areas, while Drainage Area B is on-site. As mentioned before, off-site tributary areas are analyzed by the unit hydrograph method, per a separate study. Like Line A, the off-site drainage was used as a user defined entry to account for the drainage coming from the existing culverts crossing the I-10. Drainage Area B only consists of a commercial parcel for the developed condition. See Exhibit B for the Drainage Area B on-site hydrology map.

Calculations for the undeveloped and developed rational method analyses can be found in Appendix B and C, respectively, of this report.

Off-site Hydrology

The 100-year flow rates for Areas A, B, C, D and E, as shown on Exhibit B, were analyzed using the unit hydrograph method. These areas are tributary to existing pipe and box culverts that cross the I-10 and outlet onto the OVTC project site. As mentioned before, the off-site hydrology analysis is presented in a separate study, *Hydraulic Analyses for Culverts Crossing I-10 TTM 37862*[2].

IV. STORM DRAIN HYDRAULICS

Storm Drain

Three mainline storm drain systems (Lines A, B and C) are proposed to support the construction of OVTC.

Line A is a proposed reinforced box culvert (RCB) that runs through the infrastructure Singleton Road. It is the main storm drain system that is responsible for most of the on-site drainage but also takes on significant off-site drainage, as shown as Drainage Area A and Areas C, D and E per Exhibit B. The existing 72" CMP culvert that currently runs under the existing Roberts Road intercepts off-site drainage coming from the 6'x8' RCB crossing the I-10. The project will remove and replace the existing 72" CMP with an 8'x8' (WxH) RCB, where Line A begins. The upstream 72" CMP survey flowline elevation of 2249.61 was maintained to begin the Line A design. As you move downstream in Line A, two sub-mainline storm drain systems, Lines A1 and A2, confluence with Line A at the major intersection of Singleton and Roberts Road. As mentioned before, most of the on-site drainage are collected and conveyed in these storm drain systems (A, A1 and A2). Storm drain lateral stub outs are provided for the commercial and business park parcels. The locations of these lateral stub outs are based on the low points of the rough grading, where it is assumed the private storm drain systems within the parcels will join the infrastructure storm drain system. CP-09 is the only storm drain lateral that collects off-site drainage. It connects to the existing 48" RCP that crosses the I-10 near the eastbound Singleton off-ramp, where it intercepts off-site drainage from Area D. Line A

discharges in the southwest corner of the project site, where it joins the existing watercourse that leads to the San Timoteo Creek.

Line B is a proposed double 6'x4' (WxH) box culvert that crosses the proposed Roberts Road. It collects off-site drainage from Areas B and E that are tributary to four existing culverts that cross the I-10, as well as on-site drainage from a portion of a commercial parcel. Drainage from the four culverts confluence at the current OVTC project boundary where the existing Roberts Road and Cooper Drive intersect. For the rough grade condition, a trapezoidal channel conveys the off-site drainage from this confluence point to the starting point of Line B. The developer of the commercial parcel will be responsible to construct storm drain that collects off-site drainage from the confluence point to the double box culvert once the site plan is finalized. The double box culvert alignment roughly starts from the northerly Roberts Road right-of-way (ROW) line and ends roughly at the southerly ROW line where the collected drainage outlets into the existing watercourse that runs along the southside of the OVTC project site.

Line C is a proposed arch culvert. Like Line B, this culvert crosses Roberts Road and outlets into the existing watercourse that runs along the southside of the OVTC project site. It serves as a by-pass line for the off-site drainage tributary to the existing double 7'x10' box culvert (Culvert A) crossing the I-10 onto the project site.

The Water Surface Profile Gradient Program (WSPG) software was used to analyze the proposed storm drain lines and laterals. The hydraulics is based on the storm drain profile design and the 100-year flow rate calculations per the studies performed for this project site. The WSPG calculations can be found in Appendix E of this report.

Velocity calculations for Drainage Areas A and B for the undeveloped condition and the point of discharge for Lines A and B were calculated using the CivilDesign computer software.The increase in velocity at the point of discharge for Lines A and B will be mitigated by properly sized riprap aprons that contain 2-ton riprap. A manning's number of 0.04 was used for the riprap apron for the developed condition and 0.025 for the undeveloped condition. Calculations for the exit velocities can be found in Appendix F.

The proposed storm drain alignments, pipe sizing and calculated flow rates can be found on the drainage facilities map, as shown on Exhibit C.

Catch Basins

Twelve catch basins are proposed to support the construction of OVTC. Of the twelve proposed catch basins, four are sump and eight are on-grade. The AutoCAD Civil3D Hydraflow Express extension was used to properly size catch basins and determine their efficiency. The curb opening design parameters used in calculation are consistent with the Riverside County Transportation Department catch basin standard details. The flow rates captured by the catch basin are used for the WSPG calculations for their respective storm drain laterals.

A summary table for the proposed catch basins is provided on the next page and the catch basin calculations can be found in Appendix D of this report.

CB #	HYDRO MAP NODE	CATCH BASIN TYPE	SIZE (FEET)	Q_{100} (CFS)	UPSTREAM Q_{BYPASS}	$Q_{TRIBUTARY}$ (CFS)	$Q_{CAPTURED}$ (CFS)	Q_{BYPASS} (CFS)	Q_{BYPASS} TO CB #
1	10.2	On-Grade	21	12.1	0	12.1	12.1	0	N/A
2	10.4	On-Grade	14	6.3	0.71	7.01	7.01	0	N/A
3	4.3	On-Grade	14	7	0	7	5.97	1.03	12
4	6.24	Sag	14	7.6	0	7.6	7.6	0	N/A
5	6.17	Sag	14	6.7	1.3	8	8	0	N/A
6	6.17	Sag	4	3.5	0.53	4.03	4.03	0	N/A
7	6.11	On-Grade	10	7.1	1.36	8.46	7.16	1.3	5
8	6.11	On-Grade	10	5.2	1.31	6.51	5.98	0.53	6
9	6.3	On-Grade	10	5.7	0	5.7	4.39	1.31	8
10	6.3	On-Grade	10	5.8	0	5.8	4.44	1.36	7
11	7.1	On-Grade	10	5.9	0	5.9	5.19	0.71	2
12	7.13	Sag	7	4.4	1.03	5.43	5.43	0	N/A

V. WATER QUALITY

The developers of the proposed industrial and commercial parcels for OVTC will be responsible for treating their runoff before joining the infrastructure storm drain systems delineated in this drainage study. Catch basin inserts will be installed in all catch basin locations for treating street runoff. Refer to the OVTC Water Quality Management Plan report for more details.

VI. SUMMARY

The developed and undeveloped hydrology conditions were analyzed in this study. All proposed storm drain systems (Line A, B & C) intercept off-site drainage crossing the I-

10 freeway onto the project site. Lines A and B also convey on-site drainage from the proposed developments. On-site drainage from the proposed developments and streets will be treated by approved BMPs prior to discharging into the storm drain systems. The increased velocities at the point of discharge for both Lines A and B will be mitigated by properly sized riprap aprons.

Below are summary tables comparing the flow rates and exit velocities at the point of discharge for Lines A and B.

Flow Rate

Storm Drain Line	A	B
Undeveloped Flow Rate (CFS)	1,593	768
Developed Flow Rate (CFS)	1,775	829
Difference (CFS)	+182	+61

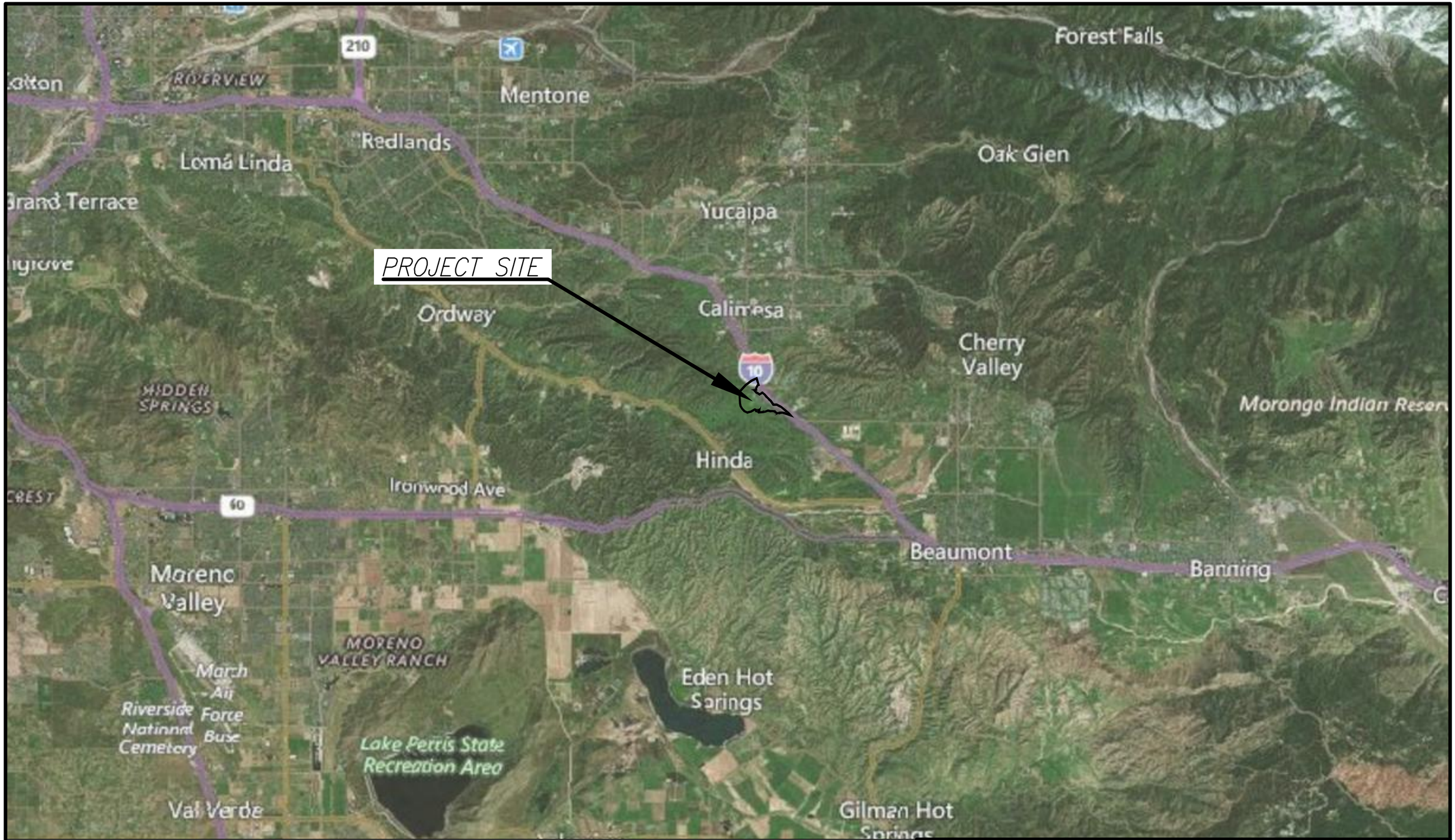
Velocity

Storm Drain Line	A	B
Undeveloped Exist Velocity (Feet per Second)	16.2	14.2
Developed Exist Velocity (Feet per Second)	8.5	6.6
Difference (Feet per Second)	-7.7	-7.6

VII. REFERENCES

1. Riverside County Flood Control and Water Conservation District Hydrology Manual, April 1978
2. JLC Engineering & Consulting, Inc. Hydraulic Analyses for Culverts Crossing I-10 TTM 37862, November 2020.

FIGURE 1: Vicinity Map



SCALE: 1"=10,000'

PROACTIVE ENGINEERING CONSULTANTS WEST
25109 JEFFERSON AVE. SUITE 200
MURRIETA, CA 92562
951-200-6840

FIGURE 1

OAK VALLEY TOWN CENTER
VICINITY MAP

Plotted: Apr 08, 2020 - 8:32am By: PEC West-DMC: C:\Users\PEC West-User\Desktop\WFH\1-Working Folder\01.168.000 Oak Valley Town Center\Hydro\Drainage\Drawings\Vicinity Map.dwg

FIGURE 2: Site Plan

FUTURE SUMMERWIND DEVELOPMENT

INTERSTATE 10 HIGHWAY

PROPOSED BUILDING PAD=262.6

SINGLETON ROAD

PROPOSED BUILDING PAD=251.9

FUTURE SUMMERWIND DEVELOPMENT

SINGLETON ROAD

OAK VALLEY TOWN CENTER

PROPOSED BUILDING PAD=226.4

COOPER DRIVE

EXISTING ROBERTS ROAD

PROPOSED BUILDING PAD=223.9

ROBERTS ROAD

INTERSTATE 10 HIGHWAY

TO SAN TIMOTEO CREEK

SUMMERWIND PHASE 1

LEGEND:

- OVTC PROJECT BOUNDARY
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- LAND USE BOUNDARY
- INDUSTRIAL PARCEL
- COMMERCIAL PARCEL

SCALE: 1"=600'

PROACTIVE ENGINEERING CONSULTANTS WEST
25109 JEFFERSON AVE. SUITE 200
MURRIETA, CA 92562
951-200-6840

PROACTIVE ENGINEERING WEST

FIGURE 2
OAK VALLEY TOWN CENTER
SITE PLAN

Plotted: Jun 14, 2021 - 8:41am By: ajboylon DWG: N:\01.169.000 Oak Valley Town Center\Hydro\Drainage - Ultimate Condition\Drawings\Site Plan.dwg

EXHIBIT A: Undeveloped Condition Hydrology Map

AREA "D"
(PER CULVERT ANALYSIS)

AREA "C"
(PER CULVERT ANALYSIS)

AREA "B"
(PER CULVERT ANALYSIS)

AREA "A"
(PER CULVERT ANALYSIS)

AREA "E"
(PER CULVERT ANALYSIS)

INTERSTATE 10 HIGHWAY

INTERSTATE 10 HIGHWAY

CULVERT D1
EX. 30" CMP
Q_{MAX}=43 CFS

CULVERT D2
EX. 36" RCP
Q_{MAX}=104 CFS

CULVERT C
EX. 6'Wx8'H RCB
Q_{MAX}=910 CFS

CULVERT E
EX. 30" RCP
Q_{MAX}=42 CFS

CULVERT B1 & B2
Q_{MAX}=586.14 CFS

CULVERT B1
EX. DBL 48" CMP

CULVERT B2
EX. 48" CMP

CULVERT B3
EX. DBL 48" RCP
Q_{MAX}=140 CFS

CULVERT A
EX. DBL 10'Wx7'H
Q_{MAX}=1905 CFS

SINGLETON ROAD

ROBERTS ROAD

ROBERTS ROAD

A

B

0.7 AC

1 / 374

2 / 372

2 / 230.1 AC

101 / 156.7 AC

100 / 0.4 AC

101 / 378

102 / 376

Q_{100}=786 CFS TOTAL; V_{AVG}=14.2 FT/S
(CULVERTS B-3, E)

SUMMERWIND PHASE 1

SUMMERWIND PHASE 1

Q_{100}=1,593 CFS TOTAL; V_{AVG}=16.2 FT/S
Q_{100}=535.6 CFS (ONSITE AREA A)
Q_{100}=1,057 CFS (CULVERTS C, D1, D2)

1 / 178

102 / 171

Q_{100}=3,016 CFS TOTAL; V_{AVG}=18.1 FT/S
Q_{100}=343 CFS (ONSITE AREA B)
Q_{100}=2,673 CFS (CULVERTS A, B-3, E)

TO SAN TIMOTEO CREEK

LEGEND:

- A — DRAINAGE AREA
- OVTC PROJECT BOUNDARY
- WATERSHED BOUNDARY
- SUBAREA BOUNDARY
- FLOW PATH
- EXISTING STORM DRAIN
- X-X / XX AC — SUBAREA NAME / ACREAGE
- XX / XXX.X / *XXX.X — NODE: FLOWLINE ELEVATION / * INVERT ELEVATION (IF SHOWN)

NOTE: CULVERT DATA PER SEPARATE STUDY. SEE TTM 37862 HYDRAULIC ANALYSES FOR CULVERTS CROSSING 1-10

250' 0 250' 500' 750'

SCALE: 1"=250'

EXHIBIT A

PROACTIVE ENGINEERING CONSULTANTS WEST
25109 Jefferson Ave, Suite 200
Murrieta, CA 92562
951-200-6840

PROACTIVE
ENGINEERING WEST

CITY OF CALIMESA

OAK VALLEY TOWN CENTER

UNDEVELOPED CONDITION
ONSITE HYDROLOGY MAP

EXHIBIT B: Developed Condition Hydrology Index Map

AREA "D"
(PER CULVERT ANALYSIS)

AREA "C"
(PER CULVERT ANALYSIS)

AREA "E"
(PER CULVERT ANALYSIS)

AREA "B"
(PER CULVERT ANALYSIS)

CULVERT D1
EX. 30" CMP
Q_{MAX}=43 CFS

CULVERT D2
EX. 36" RCP
Q_{MAX}=104 CFS

CULVERT C
EX. 6'Wx8'H RCB
Q_{MAX}=910 CFS

CULVERT E
EX. 30" RCP
Q_{MAX}=42 CFS

CULVERT B1 & B2
Q_{MAX}=586.14 CFS

CULVERT B1
EX. DBL 48" CMP

CULVERT B2
EX. 48" CMP

CULVERT B3
EX. DBL 48" RCP
Q_{MAX}=140 CFS

CULVERT A
EX. DBL 10'Wx7'H
Q_{MAX}=1905 CFS

INTERSTATE 10 HIGHWAY

SINGLETON ROAD

ROBERTS RD

FUTURE SUMMERWIND DEVELOPMENT
PLANNING AREA E-1 GARDEN COURTS PER SPECIFIC PLAN

FUTURE SUMMERWIND DEVELOPMENT
PLANNING AREA E-2 TOWNHOMES PER SPECIFIC PLAN

FUTURE SUMMERWIND DEVELOPMENT
STREET - ROBERTS ROAD

FUTURE SUMMERWIND DEVELOPMENT

FUTURE SUMMERWIND DEVELOPMENT
PLANNING AREA B-1 COMMUNITY RECREATION PER SPECIFIC PLAN

FUTURE SUMMERWIND DEVELOPMENT

EXISTING SUMMERWIND PHASE 1

LEGEND:

- A — DRAINAGE AREA
- OVTC PROJECT BOUNDARY
- WATERSHED BOUNDARY
- SUBAREA BOUNDARY
- FLOW PATH
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- X-X / XX AC — SUBAREA NAME / ACREAGE
- XX / XXX.X / *XXX.X — NODE / FLOWLINE ELEVATION / * INVERT ELEVATION (IF SHOWN)
- FUTURE SUMMERWIND DEVELOPMENT TRIBUTARY TO THE OVTC STORM DRAIN INFRASTRUCTURE

NOTE: CULVERT DATA PER SEPARATE STUDY. SEE TTM 37862 HYDRAULIC ANALYSES FOR CULVERTS CROSSING 1-10

200' 0 200' 400' 600'
SCALE: 1"=200'

EXHIBIT B

CITY OF CALIMESA

PROACTIVE ENGINEERING CONSULTANTS WEST
25109 JEFFERSON AVE. SUITE 200
MURRIETA, CA 92562
951-200-6840

PROACTIVE ENGINEERING WEST

OAK VALLEY TOWN CENTER

DEVELOPED CONDITION
ONSITE HYDROLOGY MAP

EXHIBIT C: Drainage Facilities Map

CULVERT D1
EX. 30" CMP
Q_{MAX}=43 CFS

CULVERT D2
EX. 36" RCP
Q_{MAX}=104 CFS

CULVERT C
EX. 6'Wx8'H RCB
Q_{MAX}=910 CFS

CULVERT E
EX. 30" RCP
Q_{MAX}=42 CFS

CULVERT B1 & B2
Q_{MAX}=586.14 CFS

CULVERT B1
EX. DBL 48" CMP

CULVERT B2
EX. 48" CMP

CULVERT B3
EX. DBL 48" RCP
Q_{MAX}=140 CFS

CULVERT A
EX. DBL 10'Wx7'H
Q_{MAX}=1905 CFS

INTERSTATE 10 HIGHWAY

INTERSTATE 10 HIGHWAY

SINGLETON ROAD

ROBERTS ROAD

FUTURE SUMMERWIND DEVELOPMENT

FUTURE SUMMERWIND DEVELOPMENT

FUTURE SUMMERWIND DEVELOPMENT

SUMMERWIND PHASE 1

A

A

A

A

B

CP-09 (R7)
48" RCP
Q_{100}=147 CFS

CP-09 (R1-6)
60" RCP
Q_{100}=147 CFS

30' PUBLIC SD ESMT

30' PUBLIC SD ESMT

40' PUBLIC SD ESMT

40' PUBLIC SD ESMT

50' PUBLIC SD ESMT

EXISTING CULVERT
Q_{MAX}=910 CFS

CP-22
30" RCP
Q_{100}=10.4 CFS

LINE A2
66" RCP
Q_{100}=203.2 CFS

CP-08
18" RCP
Q_{100}=10 CFS

LINE A (R17)
10x8 RCB
Q_{100}=1,053 CFS

CATCH BASIN 3
W=14'
Q_{100}=7.0 CFS

CP-07
18" RCP

CP-06
30" RCP
Q_{100}=70 CFS

LINE A2
66" RCP
Q_{100}=213.6 CFS

CATCH BASIN 12
W=14' (SAG)
Q_{100}=4.4 CFS

CP-21
18" RCP

CATCH BASIN 11
W=10'
Q_{100}=5.9 CFS

CP-20
18" RCP

LINE A2 (R1)
66" RCP
Q_{100}=222.8 CFS

CP-05
18" RCP
Q_{100}=27.9 CFS

LINE A
12x10 RCB
Q_{100}=1,474 CFS

CP-10
18" RCP
Q_{100}=6.7 CFS

LINE A
12x10 RCB
Q_{100}=1,481 CFS

CATCH BASIN 2
W=14'
Q_{100}=6.3 CFS

CP-04
18" RCP

CP-02
30" RCP
Q_{100}=27.7 CFS

LINE A
12x10 RCB
Q_{100}=1,520 CFS

CP-23
42" RCP
Q_{100}=57.1 CFS

LINE A
12x10 RCB
Q_{100}=1,497 CFS

CATCH BASIN 1
W=14'
Q_{100}=12.1 CFS

CP-03
18" RCP

LINE A
12x10 RCB
Q_{100}=1,567 CFS

CP-24
24" RCP
Q_{100}=23.9 CFS

CP-01
42" RCP
Q_{100}=101.4 CFS

LINE A
12'x10' (WxH) RCB
Q_{100}=1,675 CFS

LINE A
10x8 RCB
Q_{100}=1,045 CFS

LINE A
8x10 RCB
Q_{100}=1,058 CFS

LINE A
10x8 RCB
Q_{100}=1,128 CFS

LINE A
12x10 RCB
Q_{100}=1,128 CFS

CATCH BASIN 4
W=14' (SAG)
Q_{100}=7.6 CFS

LATERAL CP-11
18" RCP

LINE A1
66" RCP
Q_{100}=145.6 CFS

LINE A
12x10 RCB
Q_{100}=1,253 CFS

LINE A
12x10 RCB
Q_{100}=1,446 CFS

LINE A1
66" RCP
Q_{100}=140.4 CFS

CATCH BASIN 6
W=4' (SAG)
Q_{100}=3.5 CFS

CP-14
18" RCP

LINE A1
66" RCP
Q_{100}=119.2 CFS

CP-12
24" RCP
Q_{100}=21.2 CFS

LINE A1
66" RCP
Q_{100}=110.3 CFS

CATCH BASIN 5
W=14' (SAG)
Q_{100}=6.7 CFS

CP-13
18" RCP

CP-15
30" RCP
Q_{100}=31 CFS

CATCH BASIN 7
W=10'
Q_{100}=7.1 CFS

CP-16
18" RCP

CP-18
36" RCP
Q_{100}=56.1 CFS

LINE A1
48" RCP
Q_{100}=67.3 CFS

CATCH BASIN 8
W=10'
Q_{100}=5.2 CFS

CP-17
18" RCP

LINE A1
48" RCP
Q_{100}=79.4 CFS

CATCH BASIN 10
W=10'
Q_{100}=5.8 CFS

CP-19
18" RCP

LINE A1
18" RCP
Q_{100}=11.2 CFS

LINE B
DOUBLE 6x4 CULVERT
Q_{100}=828.8 CFS

CATCH BASIN 9
W=10'
Q_{100}=5.7 CFS

LINE A1
18" RCP

LINE C
ARCH CULVERTT
Q_{100}=1,905 CFS

WOB

WOB

WOB

LEGEND:

A — DRAINAGE AREA

OVTC PROJECT BOUNDARY

WATERSHED BOUNDARY

PROPOSED STORM DRAIN

EXISTING STORM DRAIN

NOTE: CULVERT DATA PER SEPARATE STUDY. SEE TTM 37862
HYDRAULIC ANALYSES FOR CULVERTS CROSSING 1-10

200' 0 200' 400' 600'

SCALE: 1"=200'

EXHIBIT C

PROACTIVE ENGINEERING CONSULTANTS WEST
25109 JEFFERSON AVE. SUITE 200
MURRIETA, CA 92562
951-200-6840

PROACTIVE ENGINEERING WEST

CITY OF CALIMESA

OAK VALLEY TOWN CENTER

PRELIMINARY DRAINAGE FACILITIES MAP