Appendix N

Preliminary Drainage Report-
Ramona Commercial

Preliminary

Drainage Report

For

Ramona Commercial
DPR __-_____

Perris, CA

September 2022

United Engineering Group - California
8885 Haven Avenue
Suite 195
Rancho Cucamonga, CA 91730

Tel: (909) 466-9240

Provided for:

Optimus Building Corp.
c/o MNA
445 S D Street
Perris, CA 92570
Contact: Mike Naggar

This report has been prepared by or under the direction of the following registered civil engineer who attests to the technical information contained herein. The registered civil engineer has also judged the qualifications of any employees that have provided data and calculations upon which the recommendations, conclusions, and decisions are based.

Christopher F. Lenz, PE 63001

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APPENDICES

1 INTRODUCTION

1.1. SITE DESCRIPTION

1.1.1. LOCATION

The project is located at the northeast corner of Ramona Expressway and Perris Boulevard in the City of Perris. Legally, it is parcels 302-130-002, -008, -018, -021, -022, -023, -024, & -027.

1.1.2. EXISTING FEATURES

The site consists of 5.7 gross acres of unsubdivided vacant land. The site drains gradually northwest to southeast with varying terrain with a flow slope of 0.3 percent. The site is bordered by vacant land and Ramona Expressway to the south. It has been graded in the past shows evidence of continued disturbance and compaction. Some seasonal grasses are present. There are no flow paths through the site. The site is within the Perris Valley MDP, with the proposed Line E regional storm drain traversing the property.

1.1.3. PROPOSED CONDITION

It is proposed that the subject property be developed to permit development of four commercial buildings per the request of the client. Primary access to the site will be from Ramona Expressway. The buildings will be surrounded by parking except along the frontage with Ramona. The site will be primarily impervious surface, with some open space and landscape areas (some used as buffers and water quality features).

1.2. PURPOSE OF REPORT

The purpose of this report is to review the regional studies prepared for this area (Perris Valley Master Drainage Plan), analyze the proposed conditions hydrology and hydraulics, and ensure design compatibility with the master plan and city code. This report will analyze the hydrology of the landscape and assess the hydraulic conditions of the subject parcel to verify consistency with the previously listed reports.

1.3. FEMA INFORMATION

The Flood Insurance Rate Maps (Panel 06065C1430H) for this subject property shows that the site falls within Zone AE. Zone AE denotes areas determined to be within the 1% annual chance floodplain, with base flood elevations identified. Refer to Appendix F for detail.

2. EXISTING DRAINAGE PATTERNS

2.1. OFFSITE

There are offsite flows impacting the subject property. Regional drainage is conveyed along Ramona Expressway. The regional area to the west of the site is identified to be collected and routed as part of the Line E system. That system is not yet in place and as such regional flows drain easterly along Ramona Expressway. Per discussions with the City, there is inundation of all intersections in the area, including Ramona and Perris.

2.2. ONSITE

The site is un-subdivided vacant land. The site drains gradually northwest to southeast with varying terrain with a flow slope of 0.3 percent. The site is bordered by vacant land and Ramona Expressway to the south. It has been graded in the past shows evidence of continued disturbance and compaction. Some seasonal grasses are present. The runoff from the site is primarily sheet flow. The ultimate outfall is the southeast corner of the site. The site is within the Perris Valley MDP, with the proposed Line E regional storm drain traversing the property.

3. PROPOSED DRAINAGE PATTERNS

3.1. OFFSITE

As the project is within the areas of the ADP, it will participate in regional facilities. Line E is proposed to be constructed north of Ramona Expressway. The project proposes to construct the portion of Line E where it crosses the subject property, per the current master plan. That culvert is preliminarily designed in the master plan as a 7.5'H x 14'W RCB. It is assumed that future projects west of the subject project will then be able to connect to the underground culvert system. The existing channel along the north side of Ramona Carries regional flows. The project proposed connection to the existing 60" Storm Drain in Ramona and connecting it to the proposed Line E facility within the site. Temporarily, remaining local flows that intersect the western property line within the existing channel will be accepted and routed to the 60" Storm Drain and Line E System.

3.2. ONSITE

The project is in the vicinity of the Airport (Zone D), and determination was made, due to threat of bird strike, that no surface basins should be allowed (Appendix G). In order to still comply with Water Quality rules, bio-swales or filtration trenches along the south side of the project have been placed, with no long term ponding. As such the project has been designed with underground storage to offset the difference in runoff hydrograph volume

between the developed and pre-developed condition for the 24 hour duration, 10 year return frequency design storm. The site soils have low to zero infiltration potential, well less than the required 1.6in/hr (Appendix E), so a system of sump pumps may be used to dewater the three underground systems. The bio-swales will pre-treat the water, which will then fill the underground systems for detention, before discharging to the line E system. In addition to the underground storage a system of storm drain is proposed to collect and route the site runoff (refer to section 5 and Figure 3 for detail).

4. HYDROLOGIC CONDITIONS

The Synthetic Unit Hydrograph and Rationale Methods have been employed to determine peak runoff amounts and volumes. The Riverside County Flood Control and Water Conservation District (RCFCD & WCD) Hydrology Manual (reference 1) was used to develop the hydrological parameters for the 1, 3, 6, and 24 hr 2, 5, and 10 year storm event. Refer to appendix A for detail.

In the existing condition, the proposed development envelope is relatively flat with an average flowline slope of 0.3 percent and is in relatively poor condition. It is proposed to be developed into four commercial buildings. The onsite runoff potential has been analyzed with the Synthetic Unit Hydrograph Method per the Riverside County Flood Control and Water Conservation District (RCFCD & WCD) Hydrology Manual (reference 1). The Following Data is used in the calculations;

Soils Group – D
Pre-development Runoff Index – 84, with 1% impervious (existing streets)
Post-development Runoff Index – 75 with 90% impervious

Rainfall Data – NOAA 14
2yr – 1hr = 0.466”
100yr – 1hr = 1.35”
2yr – 3hr = 0.819”
100yr – 3hr = 2.04”
2yr – 6hr = 1.14”
100yr – 6hr = 2.75”
2yr – 24hr = 1.97”
100yr – 24hr = 5.02”

The results of that analysis are as follows, with detailed output in Appendix A;

Ramona Commercial Pre-Development								
	Storm Duration							
	1 hour		3 hour		6 hour		24 hour	
Frequency	Q Peak	Volume	Q Peak	Volume	Q Peak	Volume	Q Peak	Volume
2 year	1.8	0.1	1.4	0.1	1.2	0.2	0.3	0.2
5 year	3.1	0.2	2.4	0.2	2.1	0.3	0.5	0.3
10 year	5.8	0.5	5.0	0.7	4.7	0.8	2.4	1.2

Ramona Commercial Post-Development								
	Storm Duration							
	1 hour		3 hour		6 hour		24 hour	
Frequency	Q Peak	Volume	Q Peak	Volume	Q Peak	Volume	Q Peak	Volume
2 year	7.7	0.3	4.9	0.4	4.5	0.6	1.7	1.0
5 year	11.4	0.4	6.9	0.6	6.3	0.8	2.3	1.4
10 year	14.6	0.5	8.7	0.7	7.9	1.0	2.9	1.7

To mitigate the increased runoff from the development, three underground storage facilities have been provided to offset the difference in runoff hydrograph volume between the developed and pre-developed condition for the 24 hour duration, 10 year return frequency design storm per the below table.

	Volume	
Ramona Commercial	[cf]	[ac-ft]
Pre Development 10yr 24hr	50,930	1.1692
Post Development 10yr 24hr	73,281	1.6823
Total Vol Required	22,351	0.51
Total Vol Provided	22,970	0.53

The facility for area A is preliminarily sized to be 5,840 cf. The facility for areas B and C is preliminarily sized to be 3,518 cf. And the facility for areas D, E, and F is preliminarily sized to be 13,612 cf. In total the 3 facilities mitigate the difference in 10 year 24 hour runoff volume from development. The footprint of the proposed systems is indicated with detail in Appendix C. At time of final design additional storage basin and outlet details will be required.

5. HYDRAULIC CONDITIONS

5.1. Existing Conditions

There is one existing storm drain facility affecting the subject site. The channel along Ramona Expressway Carries Line E Flows. A 60" storm drain outlets to the channel east of Perris Blvd and the channel carries the flows easterly to the regional channel.

5.2. Proposed Conditions

The existing channel will be replaced by the project connecting to the existing 60" pipe east of Perris Blvd, and carrying it to the new Line E culvert within the subject site.
The proposed condition for this site will be to construct a network of paved access within the site to convey storm runoff into a system of storm drain. Storm drain will be used to collect and route the runoff from the paved areas and into the underground systems. Bio-swales will treat surface runoff before entering the underground systems. Those underground systems will discharge and may be pumped into the Line E system. Preliminary line sizing is provided as shown in Figure 3. Ramona Expressway will be expanded (additional travel lane and regional trail) and a new inlet added near the project entrance.

The Bio-swales/water quality channels are planned at locations throughout the project to clean and discharge the flood water. These structures will be designed per Riverside County LID – Bio-swale standards in more detail at time of final design. Refer to Figure 4 for additional detail.

6. WATER QUALITY

The project is in the vicinity of the Airport (Zone D), and determination was made, due to threat of bird strike, that no surface basins should be allowed (Appendix G). In order to still comply with Water Quality rules, bio-swales or filtration trenches along the south side of the project have been placed, with no long term ponding. The channels are designed to treat the 2yr 24hr flows, at a maximum depth of 6", with freeboard. Detailed design of the channels, outlet structures, underdrains, and any landscaping will be prepared at final design, but must treat the flows indicated in the Project Preliminary WQMP. Final design of the channels, complete with landscaping and pipe plans will be provided with final construction plans and landscape plans.

7. MAINTENANCE

It is proposed that none of the features discussed above to handle onsite flows, will be required to be placed in flood control easements (Max line size 18"). Maintenance and ownership of the onsite facilities with be the responsibility of the property owner. At the Cities request, storm drain easements can be provided.

Internal to the site, the underground systems may require pumps to de-water the storage post storms events. It is assumed that these systems will be the responsibility of the tenant, a property association, or the Owner,

with easements being placed to allow for city access and emergency maintenance.

The new Line E storm drain across the property, will be placed within Riverside County Flood Control Easement, and is assumed to be RCFDWCD maintenance responsibility once accepted. Additionally, the 60" storm drain as it enters the site from Ramona and connects to the Line E system will also be placed within Riverside County Flood Control Easement, and is assumed to be RCFDWCD maintenance responsibility once accepted.

There are other smaller inlets, control structures, channels, and pipes where maintenance will be the responsibility of the tenant, a property association, or the Owner.

REFERENCES

1. Riverside County Flood Control and Water Conservation District Hydrology Manual, April 1978.

Figure 1

Drainage Map Existing

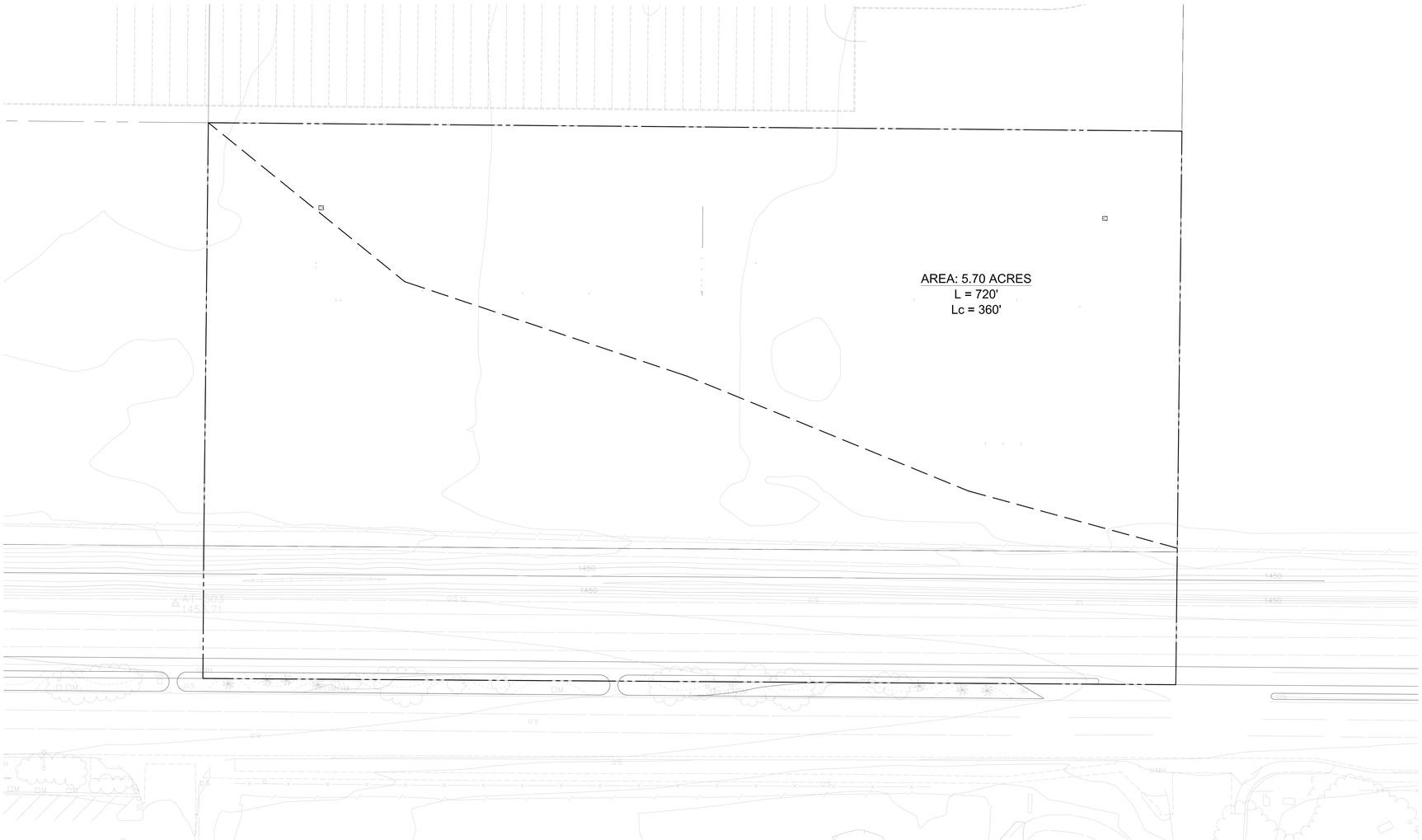
AREA: 5.70 ACRES
L = 720'
Lc = 360'
1450
1455
1460
1465
1470
1475
1480
1485
1490
1495
1500
1505
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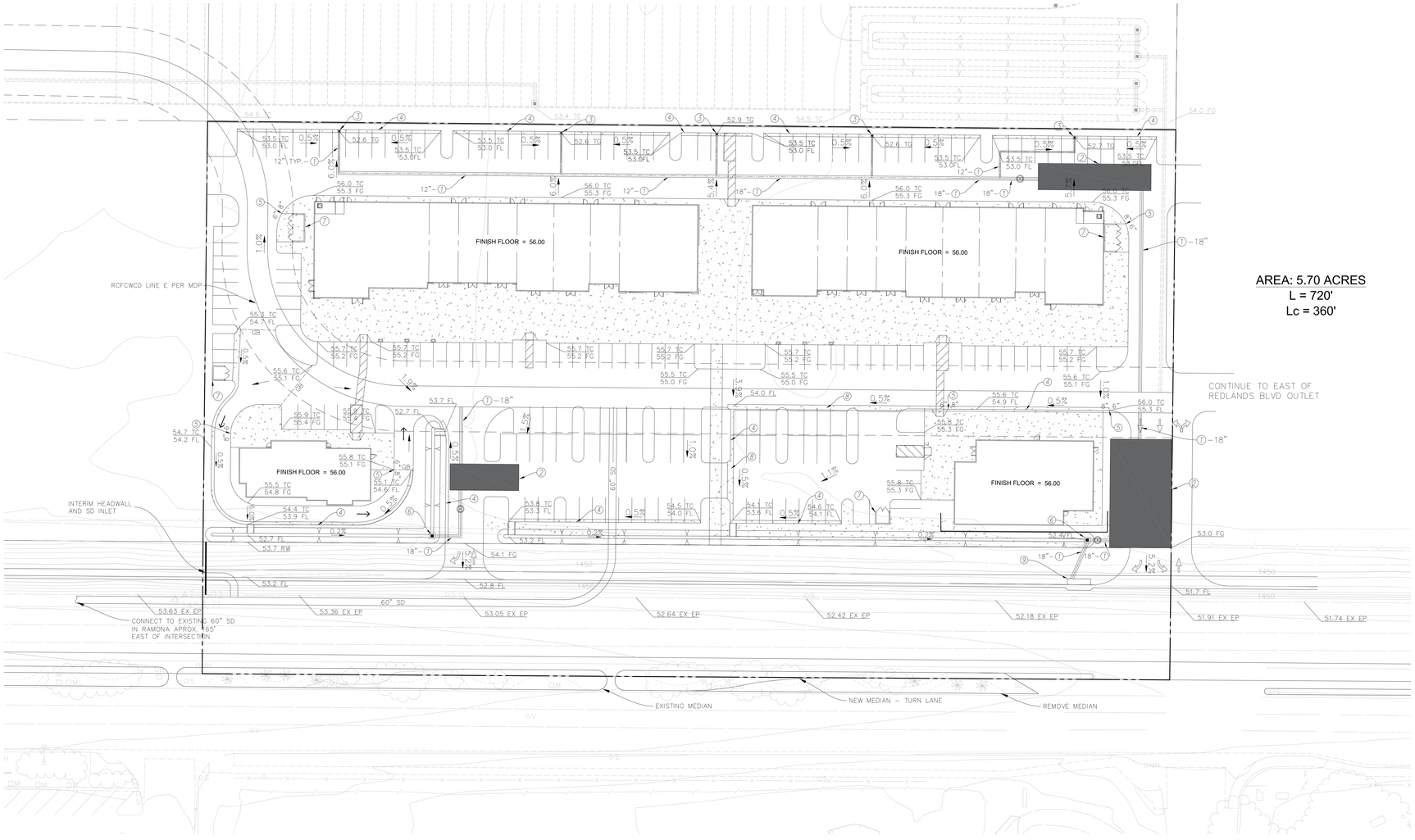
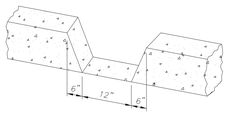
FIGURE 2

Drainage Map Proposed

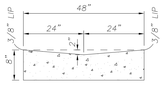


AREA: 5.70 ACRES
L = 720'
Lc = 360'

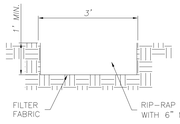
30' 15' 0' 30'
GRAPHIC SCALE: 1"=30'



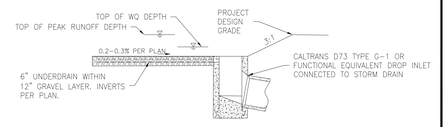
DETAIL "A" - CURB FACE OPENING
NTS



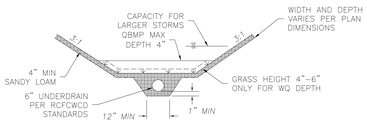
DETAIL "B" - VALLEY GUTTER
NTS



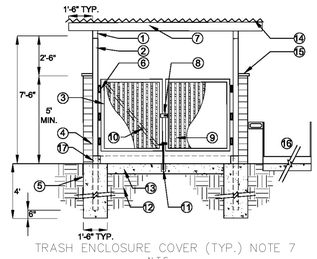
DETAIL "C" - RIP-RAP PAD
NTS



BIO-SWALE END DRAIN DETAIL
NTS



BIO-SWALE SECTION
NTS



TRASH ENCLOSURE COVER (TYP.) NOTE 7
N.T.S.

TRASH ENCLOSRE COVER NOTES:
1. 4-INCH X 6-INCH METAL BEAM POWDER COATED
2. 4-INCH X 4-INCH TUBULAR STEEL POST. SET POST FLUSH TO WALL. GROUT FILL POST SOLID. PAINT WITH 2 COATS ZINC PRIMER & 2 COATS SATIN FINISH PAINT.
3. GATE FRAME CONTINUOUS, ATTACH GATE FRAME TO STEEL POST WITH 3 HEAVY DUTY HINGES. CONTRACTOR SHALL SUPPLY SHOP DRAWINGS FOR APPROVAL PRIOR TO CONSTRUCTION.
4. CMU WALL / REFER TO STRUCTURAL ENGINEERS SPECIFICATIONS FOR REINFORCEMENT.
5. CONCRETE FOOTING / REFER TO STRUCTURAL ENGINEERS SPECIFICATIONS FOR REINFORCEMENT.
6. HEAVY DUTY HINGES.
7. METAL TRELLIS POWDER COATED (OR 2 COATS ZINC PRIMER & 2 COATS SATIN FINISH PAINT); COLOR TO BE SELECTED /REFER TO SHOP DRAWINGS FOR ROOF FRAMING.
8. 3-INCH X 8-INCH X 1/4-INCH THICK GALVANIZED STEEL SJOP PLATE AND LOCKABLE KEEPER. WELD TO GATE FRAME - AS SHOWN / CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL.
9. MINI-V-BEAM 26 GAUGE WITH ENDURA CLAD FINISH AS MANUFACTURED BY ASC PACIFIC INC. OR APPROVED EQUAL. SPOT WELD TO ANGLE FRAME (CONTRACTOR TO SUBMIT SHOP DRAWINGS).
10. 9-INCH X 1/2-INCH GALVANIZED STEEL DIAGONAL CROSS BRACE / FILLET WELD TO FRAME AND SPOT WELD TO MINI-V-BEAM (AT BACK OF GATE).
11. HEAVY DUTY DROP CRANE BOLT. ATTACH TO GATE FRAME. SET 1-6 INCHES LONG X 1-INCH O.D. GALVANIZED PIPE SLEEVE TO ACCEPT BOLT. "STANLY" CD 10009-18 INCHES OR APPROVED EQUAL.
12. COMPACTED SUBGRADE PER GEOTECHNICAL REPORT.
13. 6-INCH THICK PCC CONCRETE PAD WITH 6 X 6 X 10 WWM.
14. METAL ROOF; CORRUGATED STEEL - BERRIDGE LEAD-COPE STRAIGHT S-DECK / INSTALL PER MANUFACTURERS SPECIFICATIONS.
15. 8-INCH X 2-INCH X 16-INCH CMU CAP TO MATCH WALL COLOR.
16. DISABLED ACCESSIBLE RAMP AND HANDRAIL IF REQUIRED.
17. CONCRETE CURB

NOTES
A. CONCRETE FOOTING TO ACHIEVE 4300 PSI @ 28 DAYS.
B. TRASH BINS - SIZE AND NUMBER AS REQUIRED BY CITY.

DRAINAGE LEGEND:

- CONTRIBUTARY AREA
- PROJECT BOUNDARY
- FLOWPATH
- 0.5% — FLOW DIRECTION
- 102 / XX — NODE/CONCENTRATION POINT — FLOWLINE ELEVATION = 14XX'
- A1 / 6.8 — SUBAREA — ACRES

* NOTE:
– ELEVATIONS SHOWN ARE FOR CALCULATIONS AND MAY NOT MATCH THE ACTUAL SPOT ELEVATIONS. MANY ARE ADJUSTED TO ELIMINATE THE VERTICAL DROP OF DOWNSPOUTS AND CATCH BASINS IN ORDER TO MORE ACURATELY CALCULATE RUNOFF AND PIPE FLOW TRAVEL TIMES.

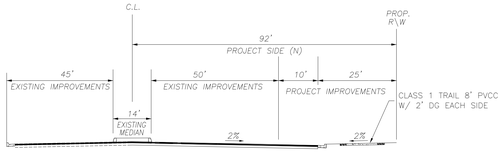
NOTES:
– REFER TO PROJECT DRAINAGE REPORT AND APPENDICES FOR DESIGN DETAILS.

LEGEND/ABBREVIATION

CF	CURB FACE	TC	TOP OF CURB
FG	FINISH GRADE	TG	TOP OF GRATE
FF	FINISHED FLOOR	SD	STORM DRAIN
FL	FLOW LINE	℄	PROPERTY LINE
GB	GRADE BREAK	PED.	PEDESTRIAN
HP	HIGH POINT	TYP.	TYPICAL
INV	INVERT		
EX EP	EXISTING EDGE OF PAVEMENT		EXISTING FIRE HYDRANT
LP	LOW POINT		WATER VALVE
R/W	RIGHT–OF–WAY		WATER METER
P=XX.X	PAD ELEVATION		STREET LIGHT
FF=XX.X	FINISH FLOOR ELEVATION		PROPOSED STORM DRAIN LINE
2%	DIRECTION OF DRAINAGE/GRADE	1425	EXISTING CONTOUR

CONSTRUCTION NOTES:

1. CONSTRUCT STORM DRAIN AND FITTINGS AT SIZES SHOWN.
2. CONSTRUCT CONTECH TYPE OR EQUIVALENT UNDERGROUND STORAGE SYSTEM PER PLAN.
3. CONSTRUCT GRATE INLET PER PLAN SIZING AND DETAIL PER GRADING PLAN
4. CONSTRUCT CURB AND GUTTER AT LOCATIONS SHOWN. SEE NOTE 5.
5. CONSTRUCT CURB TRANSITION FROM 6" TO 8" CURB AT LOCATIONS SHOWN.
6. INSTALL JENSEN PRECAST DROP INLET DI3636, WITH PEDESTRIAN GRATE.
7. INSTALL TRASH ENCLOSURE PER LANDSCAPE ARCHITECT PLAN.
8. INSTALL VALLEY GUTTER AT 0.5% SLOPE PER DETAIL B.
9. INSTALL COMBINATION CURB OPENING AND GRATE WITH WQMP FILTRATION INSERT.



RAMONA EXPRESSWAY - LOOKING WEST
N.T.S.

DIGALERT — DIAL TOLL FREE 1-800-227-2600 BEFORE YOU DIG — TWO WORKING DAYS BEFORE YOU DIG — A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

NOTE:
WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL ENCROACHMENT PERMIT AND/OR GRADING PERMIT HAS BEEN ISSUED.

THE PRIVATE ENGINEER SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY OF DESIGN AND ACCEPTABILITY OF THE WORK HEREON. IN THE EVENT OF DISCREPANCIES ARISING AFTER CITY APPROVAL OR DURING CONSTRUCTION, THE PRIVATE ENGINEER SHALL BE RESPONSIBLE DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY CITY.

MARK	BY	DATE	REVISIONS	APPR.	DATE
			ENGINEER		CITY

DESIGN BY: DRAWN BY: CHECKED BY:

CITY OF PERRIS
APPROVED BY:
CITY ENGINEER DATE

SEAL–ENGINEER
REGISTERED PROFESSIONAL ENGINEER — CHRISTOPHER F. LENZ — NO. 63001 — EXP. 6/30/24 — CIVIL — STATE OF CALIFORNIA

ueg united engineering group
8885 Haven Avenue - Suite 195
Rancho Cucamonga, CA 91730
Phone: 909.466.9240
www.unitedeng.com

PREPARED UNDER THE DIRECTION OF:
CHRISTOPHER F. LENZ 63001
DATE: _____ REGISTRATION EXPIRES 6–30–24

BENCH MARK:
METRO WATER DISTRICT SO. CALIFORNIA DISC SET ON EAST SIDE OF BASE OF STEEL TRAFFIC SIGNAL LIGHT AT THE SOUTHWEST CORNER OF INTERSECTION OF PERRIS BVLD AND RIDER STREET. RIVERSIDE COUNTY BENCHMARK NUMBER BM–432 – DX5439

ELEVATION = 1455.11' NAVD 88

SCALE 1"=60'
FIELD BOOK
DESIGN
DRAWN
CHECKED

ZONING CASE #DPR 22–00006 SPA 22–05047
PERRIS CA, 92571
COUNTY OF RIVERSIDE

PRELIMINARY GRADING & DRAINAGE PLAN OLC3 - RAMONA COMMERCIAL DRAINAGE EXHIBIT - PROPOSED SCS

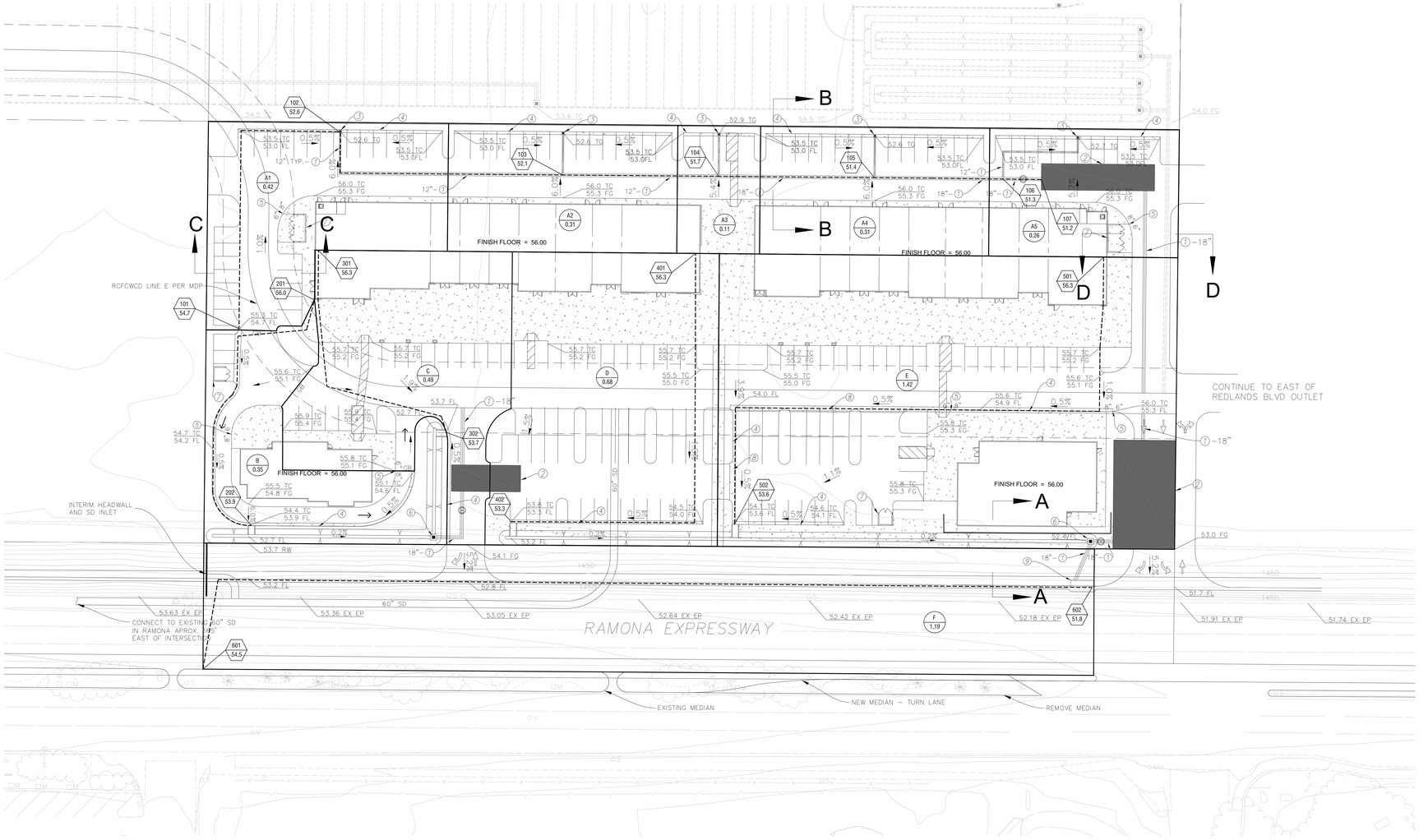
FOR: OPTIMUS BUILDING CORP. W.O. CITY FILE NO. DPR 22–00006

SHEET NO. 1 OF 1 SHEETS

BGR NO. _____ WDID:

FIGURE 3

Drainage Map Storm Drain



SECTION "A-A"

NTS

SECTION "B-B"

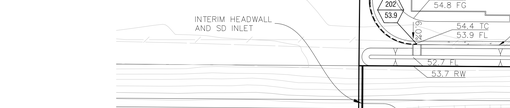
NTS

SECTION "C-C"

NTS

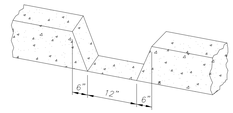
SECTION "D-D"

NTS



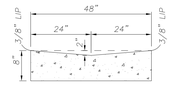
RAMONA EXPRESSWAY - LOOKING WEST

N.T.S.



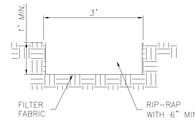
DETAIL "A" - CURB FACE OPENING

NTS



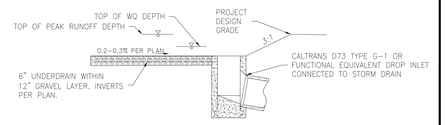
DETAIL "B" - VALLEY GUTTER

NTS



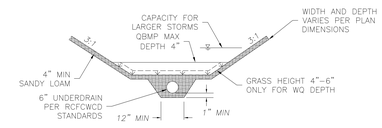
DETAIL "C" - RIP-RAP PAD

NTS



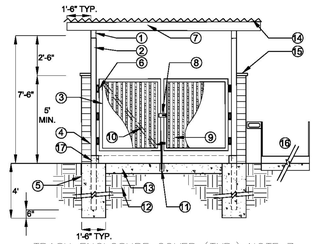
BIO-SWALE END DRAIN DETAIL

NTS



BIO-SWALE SECTION

NTS



TRASH ENCLOSURE COVER (TYP.) NOTE 7

N.T.S.

TRASH ENCLOSRE COVER NOTES:
1. 4-INCH X 6-INCH METAL BEAM POWDER COATED
2. 4-INCH X 4-INCH TUBULAR STEEL POST. SET POST FLUSH TO WALL. GROUT FILL POST SOLID. PAINT WITH 2 COATS ZINC PRIMER & 2 COATS SATIN FINISH PAINT.
3. GATE FRAME CONTINUOUS, ATTACH GATE FRAME TO STEEL POST WITH 3 HEAVY DUTY HINGES. CONTRACTOR SHALL SUPPLY SHOP DRAWINGS FOR APPROVAL PRIOR TO CONSTRUCTION.
4. CMU WALL / REFER TO STRUCTURAL ENGINEERS SPECIFICATIONS FOR REINFORCEMENT.
5. CONCRETE FOOTING / REFER TO STRUCTURAL ENGINEERS SPECIFICATIONS FOR REINFORCEMENT.
6. HEAVY DUTY HINGES.
7. METAL TRELLIS POWDER COATED (OR 2 COATS ZINC PRIMER & 2 COATS SATIN FINISH PAINT); COLOR TO BE SELECTED /REFER TO SHOP DRAWINGS FOR ROOF FRAMING.
8. 3-INCH X 8-INCH X 1/4-INCH THICK GALVANIZED STEEL SJOP PLATE AND LOCKABLE KEEPER. WELD TO GATE FRAME - AS SHOWN / CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL.
9. MINI-V-BEAM 26 GAUGE WITH ENDURA CLAD FINISH AS MANUFACTURED BY ASC PACIFIC INC, OR APPROVED EQUAL. SPOT WELD TO ANGLE FRAME (CONTRACTOR TO SUBMIT SHOP DRAWINGS).
10. 9-INCH X 1/2-INCH GALVANIZED STEEL DIAGONAL CROSS BRACE / FILLET WELD TO FRAME AND SPOT WELD TO MINI-V-BEAM (AT BACK OF GATE).
11. HEAVY DUTY DROP CRANE BOLT. ATTACH TO GATE FRAME. SET 1-6 INCHES LONG X 1-INCH O.D. GALVANIZED PIPE SLEEVE TO ACCEPT BOLT. "STANLY" CD 10009-18 INCHES OR APPROVED EQUAL.
12. COMPACTED SUBGRADE PER GEOTECHNICAL REPORT.
13. 6-INCH THICK PCC CONCRETE PAD WITH 6 X 6 X 10 WWM.
14. METAL ROOF; CORRUGATED STEEL - BERRIDGE LEAD-COPE STRAIGHT S-DECK / INSTALL PER MANUFACTURERS SPECIFICATIONS.
15. 8-INCH X 2-INCH X 16-INCH CMU CAP TO MATCH WALL COLOR.
16. DISABLED ACCESSIBLE RAMP AND HANDRAIL IF REQUIRED.
17. CONCRETE CURB

NOTES
A. CONCRETE FOOTING TO ACHIEVE 4300 PSI @ 28 DAYS.
B. TRASH BINS - SIZE AND NUMBER AS REQUIRED BY CITY.

DRAINAGE LEGEND:

- CONTRIBUTORY AREA
- PROJECT BOUNDARY
- FLOWPATH
- 0.5% FLOW DIRECTION
- 102 / XX — NODE/CONCENTRATION POINT; FLOWLINE ELEVATION * 1-XX
- A1 / 6.8 — SUBAREA; ACRES

* NOTE:
– ELEVATIONS SHOWN ARE FOR CALCULATIONS AND MAY NOT MATCH THE ACTUAL SPOT ELEVATIONS. MANY ARE ADJUSTED TO ELIMINATE THE VERTICAL DROP OF DOWNSPOUTS AND CATCH BASINS IN ORDER TO MORE ACURATELY CALCULATE RUNOFF AND PIPE FLOW TRAVEL TIMES.

NOTES:
– REFER TO PROJECT DRAINAGE REPORT AND APPENDICES FOR DESIGN DETAILS.

LEGEND/ABBREVIATION

CF	CURB FACE	TC	TOP OF CURB
FG	FINISH GRADE	TG	TOP OF GRATE
FF	FINISHED FLOOR	SD	STORM DRAIN
FL	FLOW LINE	℄	PROPERTY LINE
GB	GRADE BREAK	PED.	PEDESTRIAN
HP	HIGH POINT	TYP.	TYPICAL
INV	INVERT		EXISTING FIRE HYDRANT
EX EP	EXISTING EDGE OF PAVEMENT		WATER VALVE
LP	LOW POINT	W	WATER METER
R/W	RIGHT–OF–WAY		STREET LIGHT
P=XX.X	PAD ELEVATION		PROPOSED STORM DRAIN LINE
FF=XX.X	FINISH FLOOR ELEVATION	1425	EXISTING CONTOUR
2%	DIRECTION OF DRAINAGE/GRADE		

CONSTRUCTION NOTES:

1. CONSTRUCT STORM DRAIN AND FITTINGS AT SIZES SHOWN.
2. CONSTRUCT CONTECH TYPE OR EQUIVALENT UNDERGROUND STORAGE SYSTEM PER PLAN.
3. CONSTRUCT GRATE INLET PER PLAN SIZING AND DETAIL PER GRADING PLAN.
4. CONSTRUCT CURB AND GUTTER AT LOCATIONS SHOWN, SEE NOTE 5.
5. CONSTRUCT CURB TRANSITION FROM 6" TO 8" CURB AT LOCATIONS SHOWN.
6. INSTALL JENSEN PRECAST DROP INLET DI363636, WITH PEDESTRIAN GRATE.
7. INSTALL TRASH ENCLOSURE PER LANDSCAPE ARCHITECT PLAN.
8. INSTALL VALLEY GUTTER AT 0.5% SLOPE PER DETAIL B.
9. INSTALL COMBINATION CURB OPENING AND GRATE WITH WQMP FILTRATION INSERT.

BGR NO. _____ WDID:

DIGALERT — DIAL BEFORE YOU DIG — TOLL FREE 1–800–227–2600 — A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT — TWO WORKING DAYS BEFORE YOU DIG

NOTE:
WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL ENCROACHMENT PERMIT AND/OR GRADING PERMIT HAS BEEN ISSUED.

THE PRIVATE ENGINEER SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY OF DESIGN AND ACCEPTABILITY OF THE WORK HEREON. IN THE EVENT OF DISCREPANCIES ARISING AFTER CITY APPROVAL OR DURING CONSTRUCTION, THE PRIVATE ENGINEER SHALL BE RESPONSIBLE DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY CITY.

MARK	BY	DATE	REVISIONS	APPR.	DATE
			ENGINEER		CITY

DESIGN BY: DRAWN BY: CHECKED BY:

CITY OF PERRIS

APPROVED BY:

CITY ENGINEER DATE

SEAL–ENGINEER

REGISTERED PROFESSIONAL ENGINEER — CHRISTOPHER F. LENZ — NO. 63001 EXP. 6/30/24 CIVIL — STATE OF CALIFORNIA

ueg — united engineering group
8885 Haven Avenue - Suite 195
Rancho Cucamonga, CA 91730
Phone: 909.466.9240
www.unitedeng.com

PREPARED UNDER THE DIRECTION OF:

CHRISTOPHER F. LENZ 63001

DATE: _____ REGISTRATION EXPIRES 6–30–24

BENCH MARK:
METRO WATER DISTRICT SO. CALIFORNIA DISC SET ON EAST SIDE OF BASE OF STEEL TRAFFIC SIGNAL LIGHT AT THE SOUTHWEST CORNER OF INTERSECTION OF PERRIS BVLD AND RIDER STREET. RIVERSIDE COUNTY BENCHMARK NUMBER BM–432 – DX5439

ELEVATION = 1455.11' NAVD 88

SCALE 1"=60'
FIELD BOOK
DESIGN
DRAWN
CHECKED

ZONING CASE #DPR 22–00006 SPA 22–05047
PERRIS, CA, 92571 COUNTY OF RIVERSIDE

PRELIMINARY GRADING & DRAINAGE PLAN OLC3 - RAMONA COMMERCIAL DRAINAGE EXHIBIT - PROPOSED

FOR: OPTIMUS BUILDING CORP. W.O. CITY FILE NO. DPR 22–00006

SHEET NO. 1 OF 1 SHEETS

Appendix A

NOAA Atlas 14, Volume 6, Version 2
Location name: Perris, California, USA*
Latitude: 33.8435°, Longitude: -117.2284°
Elevation: 1459.54 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.089** (0.074-0.108)	**0.124** (0.103-0.150)	**0.171** (0.142-0.207)	**0.211** (0.174-0.258)	**0.267** (0.213-0.338)	**0.312** (0.243-0.404)	**0.359** (0.273-0.477)	**0.410** (0.302-0.561)	**0.482** (0.340-0.688)	**0.540** (0.368-0.800)
10-min	**0.128** (0.107-0.154)	**0.177** (0.148-0.215)	**0.245** (0.204-0.297)	**0.302** (0.249-0.369)	**0.382** (0.305-0.485)	**0.447** (0.348-0.579)	**0.515** (0.391-0.684)	**0.587** (0.434-0.804)	**0.690** (0.488-0.987)	**0.774** (0.528-1.15)
15-min	**0.154** (0.129-0.187)	**0.214** (0.179-0.260)	**0.296** (0.246-0.359)	**0.365** (0.301-0.447)	**0.462** (0.369-0.586)	**0.540** (0.421-0.700)	**0.623** (0.473-0.828)	**0.710** (0.524-0.972)	**0.835** (0.590-1.19)	**0.936** (0.638-1.39)
30-min	**0.252** (0.210-0.304)	**0.350** (0.292-0.423)	**0.483** (0.402-0.586)	**0.595** (0.491-0.729)	**0.754** (0.601-0.956)	**0.882** (0.687-1.14)	**1.02** (0.772-1.35)	**1.16** (0.855-1.59)	**1.36** (0.962-1.95)	**1.53** (1.04-2.26)
60-min	**0.336** (0.281-0.406)	**0.466** (0.389-0.564)	**0.644** (0.536-0.781)	**0.794** (0.655-0.971)	**1.00** (0.801-1.27)	**1.18** (0.916-1.52)	**1.35** (1.03-1.80)	**1.55** (1.14-2.11)	**1.82** (1.28-2.59)	**2.04** (1.39-3.01)
2-hr	**0.504** (0.421-0.609)	**0.670** (0.560-0.811)	**0.892** (0.743-1.08)	**1.08** (0.889-1.32)	**1.33** (1.06-1.69)	**1.53** (1.20-1.99)	**1.74** (1.32-2.31)	**1.96** (1.45-2.68)	**2.26** (1.60-3.23)	**2.50** (1.70-3.70)
3-hr	**0.624** (0.522-0.754)	**0.819** (0.684-0.991)	**1.08** (0.896-1.31)	**1.29** (1.06-1.58)	**1.58** (1.26-2.00)	**1.81** (1.41-2.34)	**2.04** (1.55-2.71)	**2.28** (1.69-3.13)	**2.62** (1.85-3.74)	**2.88** (1.96-4.26)
6-hr	**0.879** (0.735-1.06)	**1.14** (0.955-1.39)	**1.49** (1.24-1.81)	**1.77** (1.46-2.17)	**2.16** (1.72-2.74)	**2.45** (1.91-3.18)	**2.75** (2.09-3.66)	**3.06** (2.26-4.19)	**3.48** (2.46-4.98)	**3.81** (2.60-5.64)
12-hr	**1.14** (0.954-1.38)	**1.51** (1.26-1.82)	**1.98** (1.65-2.41)	**2.37** (1.95-2.90)	**2.89** (2.30-3.66)	**3.29** (2.56-4.26)	**3.69** (2.80-4.90)	**4.10** (3.02-5.61)	**4.65** (3.29-6.64)	**5.08** (3.46-7.52)
24-hr	**1.45** (1.28-1.67)	**1.97** (1.74-2.27)	**2.64** (2.32-3.05)	**3.18** (2.78-3.71)	**3.91** (3.31-4.71)	**4.46** (3.70-5.49)	**5.02** (4.07-6.32)	**5.59** (4.41-7.24)	**6.36** (4.82-8.57)	**6.96** (5.10-9.69)
2-day	**1.67** (1.48-1.92)	**2.30** (2.03-2.66)	**3.13** (2.76-3.62)	**3.80** (3.32-4.43)	**4.71** (3.99-5.68)	**5.41** (4.49-6.66)	**6.12** (4.96-7.71)	**6.86** (5.41-8.87)	**7.85** (5.94-10.6)	**8.62** (6.31-12.0)
3-day	**1.77** (1.57-2.04)	**2.46** (2.18-2.85)	**3.38** (2.98-3.91)	**4.13** (3.61-4.82)	**5.15** (4.36-6.21)	**5.94** (4.93-7.31)	**6.75** (5.47-8.50)	**7.59** (5.98-9.82)	**8.73** (6.61-11.8)	**9.63** (7.05-13.4)
4-day	**1.90** (1.68-2.19)	**2.67** (2.36-3.08)	**3.69** (3.25-4.27)	**4.52** (3.95-5.28)	**5.67** (4.80-6.83)	**6.56** (5.44-8.07)	**7.47** (6.05-9.41)	**8.42** (6.64-10.9)	**9.72** (7.36-13.1)	**10.7** (7.87-15.0)
7-day	**2.04** (1.80-2.35)	**2.90** (2.56-3.35)	**4.06** (3.58-4.70)	**5.02** (4.39-5.86)	**6.34** (5.37-7.64)	**7.37** (6.11-9.07)	**8.43** (6.83-10.6)	**9.54** (7.52-12.3)	**11.1** (8.38-14.9)	**12.3** (8.99-17.1)
10-day	**2.07** (1.83-2.38)	**2.98** (2.63-3.44)	**4.20** (3.70-4.86)	**5.22** (4.56-6.09)	**6.63** (5.62-8.00)	**7.74** (6.42-9.53)	**8.89** (7.21-11.2)	**10.1** (7.96-13.1)	**11.8** (8.91-15.9)	**13.1** (9.58-18.2)
20-day	**2.34** (2.07-2.69)	**3.41** (3.02-3.94)	**4.89** (4.31-5.66)	**6.15** (5.37-7.17)	**7.93** (6.71-9.55)	**9.35** (7.76-11.5)	**10.8** (8.79-13.7)	**12.4** (9.81-16.1)	**14.7** (11.1-19.8)	**16.5** (12.1-23.0)
30-day	**2.61** (2.31-3.01)	**3.81** (3.36-4.39)	**5.48** (4.83-6.35)	**6.93** (6.06-8.09)	**9.02** (7.63-10.9)	**10.7** (8.89-13.2)	**12.5** (10.1-15.8)	**14.4** (11.4-18.7)	**17.2** (13.0-23.2)	**19.4** (14.2-27.1)
45-day	**3.02** (2.67-3.49)	**4.36** (3.85-5.04)	**6.27** (5.53-7.26)	**7.95** (6.95-9.28)	**10.4** (8.82-12.6)	**12.5** (10.3-15.3)	**14.7** (11.9-18.5)	**17.1** (13.5-22.1)	**20.6** (15.6-27.7)	**23.5** (17.2-32.7)
60-day	**3.40** (3.00-3.92)	**4.82** (4.26-5.57)	**6.89** (6.08-7.98)	**8.74** (7.64-10.2)	**11.5** (9.74-13.9)	**13.8** (11.5-17.0)	**16.4** (13.3-20.6)	**19.2** (15.1-24.8)	**23.3** (17.7-31.4)	**26.8** (19.6-37.3)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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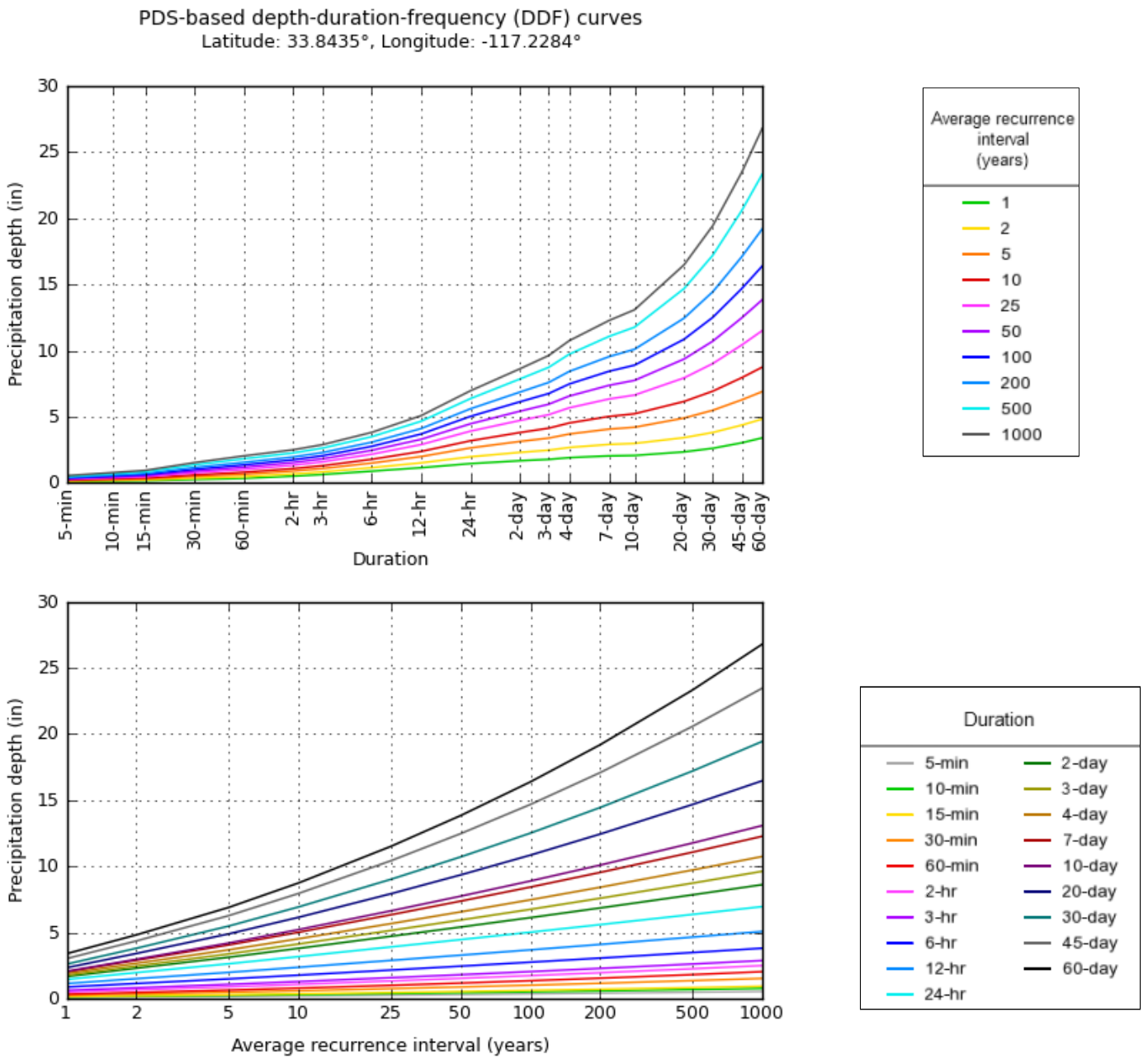
PF graphical



NOAA Atlas 14, Volume 6, Version 2

Created (GMT): Fri Oct 30 21:11:54 2020

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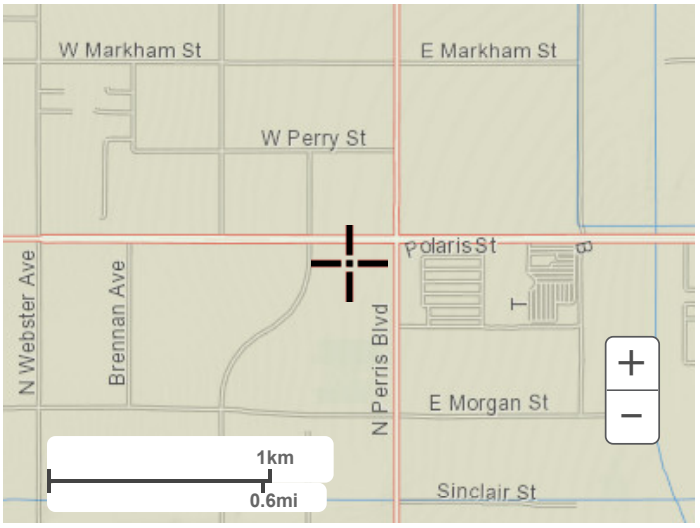
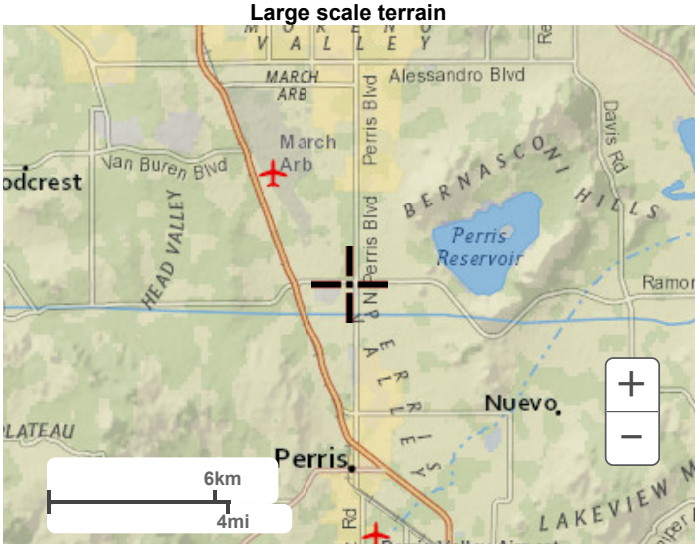
Maps & aerials

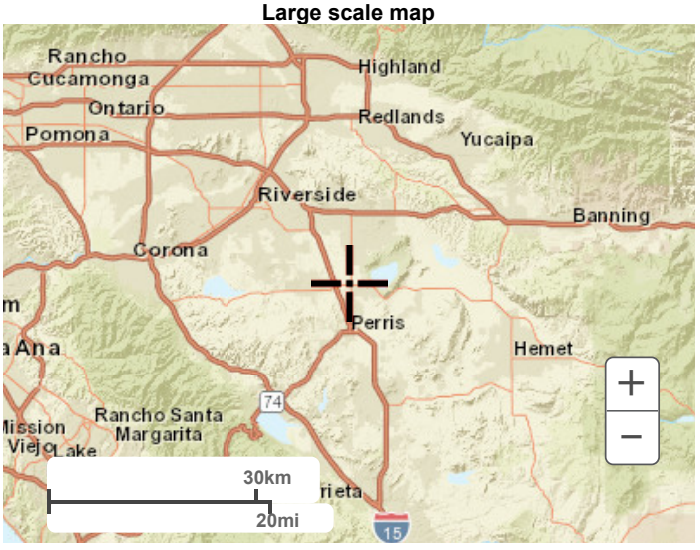
Small scale terrain



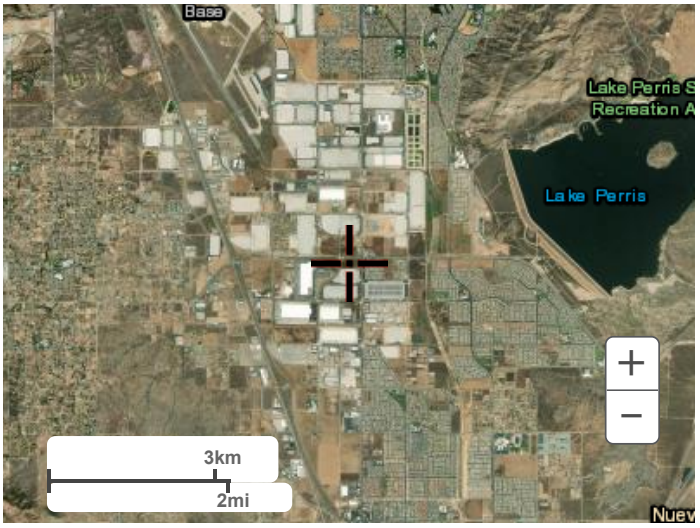
Large scale terrain



Large scale map



Large scale aerial



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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

RUNOFF INDEX NUMBERS OF HYDROLOGIC SOIL-COVER COMPLEXES FOR PERVIOUS AREAS-AMC II

Cover Type (3)	Quality of Cover (2)	Soil Group A	B	C	D
NATURAL COVERS -					
Barren (Rockland, eroded and graded land)		78	86	91	93
Chaparrel, Broadleaf (Manzonita, ceanothus and scrub oak)	Poor	53	70	80	85
	Fair	40	63	75	81
	Good	31	57	71	78
Chaparrel, Narrowleaf (Chamise and redshank)	Poor	71	82	88	91
	Fair	55	72	81	86
Grass, Annual or Perennial	Poor	67	78	86	89
	Fair	50	69	79	84
	Good	38	61	74	80
Meadows or Cienegas (Areas with seasonally high water table, principal vegetation is sod forming grass)	Poor	63	77	85	88
	Fair	51	70	80	84
	Good	30	58	72	78
Open Brush (Soft wood shrubs - buckwheat, sage, etc.)	Poor	62	76	84	88
	Fair	46	66	77	83
	Good	41	63	75	81
Woodland (Coniferous or broadleaf trees predominate. Canopy density is at least 50 percent)	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	28	55	70	77
Woodland, Grass (Coniferous or broadleaf trees with canopy density from 20 to 50 percent)	Poor	57	73	82	86
	Fair	44	65	77	82
	Good	33	58	72	79
URBAN COVERS -					
Residential or Commercial Landscaping (Lawn, shrubs, etc.)	Good	32	56	69	75
Turf (Irrigated and mowed grass)	Poor	58	74	83	87
	Fair	44	65	77	82
	Good	33	58	72	79
AGRICULTURAL COVERS -					
Fallow (Land plowed but not tilled or seeded)		76	85	90	92

RCFC & WCD
HYDROLOGY MANUAL

RUNOFF INDEX NUMBERS FOR PERVIOUS AREA

RUNOFF INDEX NUMBERS OF HYDROLOGIC SOIL-COVER COMPLEXES FOR PERVIOUS AREAS-AMC II

Cover Type (3)	Quality of Cover (2)	Soil Group A	B	C	D
AGRICULTURAL COVERS (cont.) -					
Legumes, Close Seeded (Alfalfa, sweetclover, timothy, etc.)	Poor	66	77	85	89
	Good	58	72	81	85
Orchards, Deciduous (Apples, apricots, pears, walnuts, etc.)		See Note 4			
Orchards, Evergreen (Citrus, avocados, etc.)	Poor	57	73	82	86
	Fair	44	65	77	82
	Good	33	58	72	79
Pasture, Dryland (Annual grasses)	Poor	67	78	86	89
	Fair	50	69	79	84
	Good	38	61	74	80
Pasture, Irrigated (Legumes and perennial grass)	Poor	58	74	83	87
	Fair	44	65	77	82
	Good	33	58	72	79
Row Crops (Field crops - tomatoes, sugar beets, etc.)	Poor	72	81	88	91
	Good	67	78	85	89
Small Grain (Wheat, oats, barley, etc.)	Poor	65	76	84	88
	Good	63	75	83	87
Vineyard		See Note 4			

Notes:

1. All runoff index (RI) numbers are for Antecedent Moisture Condition (AMC) II.

2. Quality of cover definitions:
   Poor-Heavily grazed or regularly burned areas. Less than 50 percent of the ground surface is protected by plant cover or brush and tree canopy.
   Fair-Moderate cover with 50 percent to 75 percent of the ground surface protected.
   Good-Heavy or dense cover with more than 75 percent of the ground surface protected.

3. See Plate C-2 for a detailed description of cover types.

4. Use runoff index numbers based on ground cover type. See discussion under "Cover Type Descriptions" on Plate C-2.

5. Reference Bibliography item 17.

ACTUAL IMPERVIOUS COVER

Land Use (1)	Range-Percent	Recommended Value For Average Conditions-Percent(2)
Natural or Agriculture	0 - 10	0
Single Family Residential: (3)		
40,000 S. F. (1 Acre) Lots	10 - 25	20
20,000 S. F. (½ Acre) Lots	30 - 45	40
7,200 - 10,000 S. F. Lots	45 - 55	50
Multiple Family Residential:		
Condominiums	45 - 70	65
Apartments	65 - 90	80
Mobile Home Park	60 - 85	75
Commercial, Downtown Business or Industrial	80 -100	90

Notes:

1. Land use should be based on ultimate development of the watershed. Long range master plans for the County and incorporated cities should be reviewed to insure reasonable land use assumptions.

2. Recommended values are based on average conditions which may not apply to a particular study area. The percentage impervious may vary greatly even on comparable sized lots due to differences in dwelling size, improvements, etc. Landscape practices should also be considered as it is common in some areas to use ornamental gravels underlain by impervious plastic materials in place of lawns and shrubs. A field investigation of a study area should always be made, and a review of aerial photos, where available may assist in estimating the percentage of impervious cover in developed areas.

3. For typical horse ranch subdivisions increase impervious area 5 percent over the values recommended in the table above.

RCFC & WCD
HYDROLOGY MANUAL

IMPERVIOUS COVER FOR DEVELOPED AREAS

PLATE D-5.6

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

Study date 09/21/22 File: ramonacompre12.out

++

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

Program License Serial Number 6232

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

English Units used in output format

Ramona Commercial
SCS Hydrograph
Existing Conditions
2yr 1hr

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 = 720.00(Ft.)
Length along longest watercourse measured to centroid = 360.00 (Ft.)
Length along longest watercourse = 0.136 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 2.00(Ft.)
Slope along watercourse = 14.6667 Ft./Mi.
Average Manning's 'N' = 0.200
Lag time = 0.487 Hr.
Lag time = 29.23 Min.
25% of lag time = 7.31 Min.
40% of lag time = 11.69 Min.
Unit time = 5.00 Min.
Duration of storm = 1 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 0.47 3.50

100 YEAR Area rainfall data:

Area(Ac.)[1] Rainfall(In)[2] Weighting[1*2]
7.50 1.35 10.13

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.466(In)
Area Averaged 100-Year Rainfall = 1.350(In)

Point rain (area averaged) = 0.466(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.466(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %
7.500 84.00 0.100
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)
84.0 | 68.6 | 0.377 | 0.100 | 0.343 | 1.000 | 0.343
Sum (F) = 0.343

Area averaged mean soil loss (F) (In/Hr) = 0.343
Minimum soil loss rate ((In/Hr)) = 0.172
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.820

Slope of intensity-duration curve for a 1 hour storm =0.5000

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	17.108	1.491	0.113
2	0.167	34.216	3.965	0.300
3	0.250	51.324	6.728	0.509
4	0.333	68.432	9.594	0.725
5	0.417	85.540	11.676	0.883
6	0.500	102.648	12.253	0.926
7	0.583	119.756	10.114	0.765
8	0.667	136.865	7.164	0.542
9	0.750	153.973	5.232	0.395
10	0.833	171.081	3.830	0.289

11	0.917	188.189	2.927	0.221
12	1.000	205.297	2.519	0.190
13	1.083	222.405	2.167	0.164
14	1.167	239.513	1.930	0.146
15	1.250	256.621	1.699	0.128
16	1.333	273.729	1.544	0.117
17	1.417	290.837	1.388	0.105
18	1.500	307.945	1.210	0.091
19	1.583	325.053	1.056	0.080
20	1.667	342.161	1.026	0.078
21	1.750	359.269	0.986	0.075
22	1.833	376.377	0.781	0.059
23	1.917	393.486	0.753	0.057
24	2.000	410.594	0.713	0.054
25	2.083	427.702	0.562	0.043
26	2.167	444.810	0.547	0.041
27	2.250	461.918	0.539	0.041
28	2.333	479.026	0.515	0.039
29	2.417	496.134	0.513	0.039
30	2.500	513.242	0.472	0.036
31	2.583	530.350	0.380	0.029
32	2.667	547.458	0.376	0.028
33	2.750	564.566	0.352	0.027
34	2.833	581.674	0.309	0.023
35	2.917	598.782	0.308	0.023
36	3.000	615.890	0.278	0.021
37	3.083	632.999	0.240	0.018
38	3.167	650.107	0.240	0.018
39	3.250	667.215	0.205	0.015
40	3.333	684.323	0.171	0.013
41	3.417	701.431	0.171	0.013
42	3.500	718.539	0.171	0.013
43	3.583	735.647	0.171	0.013
44	3.667	752.755	0.171	0.013
45	3.750	769.863	0.171	0.013
46	3.833	786.971	0.171	0.013
47	3.917	804.079	0.216	0.016
		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	4.20	0.235	(0.343)	0.193	0.042
2	0.17	4.30	0.240	(0.343)	0.197	0.043
3	0.25	5.00	0.280	(0.343)	0.229	0.050
4	0.33	5.00	0.280	(0.343)	0.229	0.050
5	0.42	5.80	0.324	(0.343)	0.266	0.058
6	0.50	6.50	0.363	(0.343)	0.298	0.065
7	0.58	7.40	0.414	(0.343)	0.339	0.074
8	0.67	8.60	0.481	0.343	(0.394)	0.138
9	0.75	12.30	0.688	0.343	(0.564)	0.345
10	0.83	29.10	1.627	0.343	(1.334)	1.284
11	0.92	6.80	0.380	(0.343)	0.312	0.068
12	1.00	5.00	0.280	(0.343)	0.229	0.050

```
            (Loss Rate Not Used)
     Sum =     100.0                                    Sum =     2.3
      Flood volume = Effective rainfall      0.19(In)
       times area       7.5(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
      Total soil loss =      0.28(In)
      Total soil loss =     0.173(Ac.Ft)
      Total rainfall =      0.47(In)
      Flood volume =        5149.0 Cubic Feet
      Total soil loss =        7537.0 Cubic Feet
      ---------------------------------------------------------------
--
       Peak flow rate of this hydrograph =      1.751(CFS)
      ---------------------------------------------------------------
--
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++
                          1 - 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      0.04  Q         |         |         |
|
    0+20       0.0009      0.07  Q         |         |         |
|
    0+25       0.0017      0.12  Q         |         |         |
|
    0+30       0.0029      0.16  Q         |         |         |
|
    0+35       0.0043      0.21  QV        |         |         |
|
    0+40       0.0061      0.26  |QV       |         |         |
|
    0+45       0.0085      0.34  |QV       |         |         |
|
    0+50       0.0125      0.58  | Q V     |         |         |
|
    0+55       0.0187      0.91  |  Q  V   |         |         |
|
    1+ 0       0.0274      1.25  |    Q   V|         |         |
|
    1+ 5       0.0382      1.57  |     Q   | V       |         |
|
    1+10       0.0502      1.75  |      Q  |     V   |         |
|
    1+15       0.0620      1.72  |     Q   |         V         |
|
    1+20       0.0717      1.40  |    Q    |         |   V     |
|
```

```
    1+25       0.0788      1.03  |   Q     |         |     V   |
|
    1+30       0.0841      0.77  |  Q      |         |       V |
|
    1+35       0.0881      0.58  | Q       |         |         V|
|
    1+40       0.0912      0.45  |Q        |         |          V
|
    1+45       0.0939      0.39  |Q        |         |          |V
|
    1+50       0.0962      0.34  |Q        |         |          | V
|
    1+55       0.0983      0.30  |Q        |         |          |  V
|
    2+ 0       0.1001      0.27  |Q        |         |          |  V
|
    2+ 5       0.1018      0.24  Q         |         |          |   V
|
    2+10       0.1033      0.22  Q         |         |          |   V
|
    2+15       0.1046      0.19  Q         |         |          |    V
|
    2+20       0.1057      0.17  Q         |         |          |    V
|
    2+25       0.1068      0.16  Q         |         |          |     V
|
    2+30       0.1079      0.15  Q         |         |          |     V
|
    2+35       0.1087      0.13  Q         |         |          |     V
|
    2+40       0.1096      0.12  Q         |         |          |      V
|
    2+45       0.1103      0.11  Q         |         |          |      V
|
    2+50       0.1110      0.09  Q         |         |          |      V
|
    2+55       0.1116      0.09  Q         |         |          |      V
|
    3+ 0       0.1122      0.09  Q         |         |          |      V
|
    3+ 5       0.1128      0.08  Q         |         |          |       V
|
    3+10       0.1133      0.08  Q         |         |          |       V
|
    3+15       0.1138      0.07  Q         |         |          |       V
|
    3+20       0.1142      0.06  Q         |         |          |       V
|
    3+25       0.1146      0.06  Q         |         |          |       V
|
    3+30       0.1150      0.06  Q         |         |          |       V
|
    3+35       0.1154      0.05  Q         |         |          |
V|
    3+40       0.1157      0.05  Q         |         |          |
V|
    3+45       0.1160      0.04  Q         |         |          |
V|
    3+50       0.1163      0.04  Q         |         |          |
V|
```

```
    3+55       0.1165      0.04  Q         |         |         |
V|
    4+ 0       0.1168      0.03  Q         |         |         |
V|
    4+ 5       0.1170      0.03  Q         |         |         |
V|
    4+10       0.1172      0.03  Q         |         |         |
V|
    4+15       0.1173      0.03  Q         |         |         |
V|
    4+20       0.1175      0.03  Q         |         |         |
V|
    4+25       0.1177      0.03  Q         |         |         |
V|
    4+30       0.1179      0.02  Q         |         |         |
V|
    4+35       0.1180      0.02  Q         |         |         |
V|
    4+40       0.1182      0.02  Q         |         |         |
V|
    4+45       0.1182      0.00  Q         |         |         |
V|
    4+50       0.1182      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

Study date 09/21/22 File: ramonacompre32.out

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

Program License Serial Number 6232

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

English Units used in output format

Ramona Commercial
SCS Hydrograph
Existing Conditions
2yr 3hr

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 = 720.00(Ft.)
Length along longest watercourse measured to centroid = 360.00 (Ft.)
Length along longest watercourse = 0.136 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 2.00(Ft.)
Slope along watercourse = 14.6667 Ft./Mi.
Average Manning's 'N' = 0.200
Lag time = 0.487 Hr.
Lag time = 29.23 Min.
25% of lag time = 7.31 Min.
40% of lag time = 11.69 Min.
Unit time = 5.00 Min.
Duration of storm = 3 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             0.82                    6.14

  100 YEAR Area rainfall data:


  Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.50              2.04                  15.30

  STORM EVENT (YEAR) =    2.00
  Area Averaged 2-Year Rainfall =    0.819(In)
  Area Averaged 100-Year Rainfall =    2.040(In)

  Point rain (area averaged) =    0.819(In)
  Areal adjustment factor =  100.00 %
  Adjusted average point rain =    0.819(In)

  Sub-Area Data:
  Area(Ac.)         Runoff Index   Impervious %
       7.500           84.00         0.100
   Total Area Entered =      7.50(Ac.)


  RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
  AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)
(In/Hr)
  84.0  68.6      0.377     0.100        0.343       1.000
0.343
                                                      Sum (F) =
0.343
  Area averaged mean soil loss (F) (In/Hr) =  0.343
  Minimum soil loss rate ((In/Hr)) =  0.172
  (for 24 hour storm duration)
  Soil low loss rate (decimal) =   0.820
  ------------------------------------------------------------------
---

              U n i t  H y d r o g r a p h
                    VALLEY S-Curve
  ------------------------------------------------------------------
--
              Unit Hydrograph Data
  ------------------------------------------------------------------
---
  Unit time period   Time % of lag   Distribution   Unit Hydrograph
      (hrs)                          Graph %           (CFS)
  ------------------------------------------------------------------
---
         1   0.083        17.108         1.491            0.113
         2   0.167        34.216         3.965            0.300
         3   0.250        51.324         6.728            0.509
         4   0.333        68.432         9.594            0.725
         5   0.417        85.540        11.676            0.883
         6   0.500       102.648        12.253            0.926
         7   0.583       119.756        10.114            0.765
         8   0.667       136.865         7.164            0.542
         9   0.750       153.973         5.232            0.395
        10   0.833       171.081         3.830            0.289
        11   0.917       188.189         2.927            0.221
        12   1.000       205.297         2.519            0.190
        13   1.083       222.405         2.167            0.164
```

14	1.167	239.513	1.930	0.146
15	1.250	256.621	1.699	0.128
16	1.333	273.729	1.544	0.117
17	1.417	290.837	1.388	0.105
18	1.500	307.945	1.210	0.091
19	1.583	325.053	1.056	0.080
20	1.667	342.161	1.026	0.078
21	1.750	359.269	0.986	0.075
22	1.833	376.377	0.781	0.059
23	1.917	393.486	0.753	0.057
24	2.000	410.594	0.713	0.054
25	2.083	427.702	0.562	0.043
26	2.167	444.810	0.547	0.041
27	2.250	461.918	0.539	0.041
28	2.333	479.026	0.515	0.039
29	2.417	496.134	0.513	0.039
30	2.500	513.242	0.472	0.036
31	2.583	530.350	0.380	0.029
32	2.667	547.458	0.376	0.028
33	2.750	564.566	0.352	0.027
34	2.833	581.674	0.309	0.023
35	2.917	598.782	0.308	0.023
36	3.000	615.890	0.278	0.021
37	3.083	632.999	0.240	0.018
38	3.167	650.107	0.240	0.018
39	3.250	667.215	0.205	0.015
40	3.333	684.323	0.171	0.013
41	3.417	701.431	0.171	0.013
42	3.500	718.539	0.171	0.013
43	3.583	735.647	0.171	0.013
44	3.667	752.755	0.171	0.013
45	3.750	769.863	0.171	0.013
46	3.833	786.971	0.171	0.013
47	3.917	804.079	0.216	0.016
			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	1.30	0.128	(0.343)	0.105	0.023
2	0.17	1.30	0.128	(0.343)	0.105	0.023
3	0.25	1.10	0.108	(0.343)	0.089	0.019
4	0.33	1.50	0.147	(0.343)	0.121	0.027
5	0.42	1.50	0.147	(0.343)	0.121	0.027
6	0.50	1.80	0.177	(0.343)	0.145	0.032
7	0.58	1.50	0.147	(0.343)	0.121	0.027
8	0.67	1.80	0.177	(0.343)	0.145	0.032
9	0.75	1.80	0.177	(0.343)	0.145	0.032
10	0.83	1.50	0.147	(0.343)	0.121	0.027
11	0.92	1.60	0.157	(0.343)	0.129	0.028
12	1.00	1.80	0.177	(0.343)	0.145	0.032
13	1.08	2.20	0.216	(0.343)	0.177	0.039
14	1.17	2.20	0.216	(0.343)	0.177	0.039
15	1.25	2.20	0.216	(0.343)	0.177	0.039

```
 16   1.33     2.00      0.197       (  0.343)       0.161        0.035
 17   1.42     2.60      0.256       (  0.343)       0.210        0.046
 18   1.50     2.70      0.265       (  0.343)       0.218        0.048
 19   1.58     2.40      0.236       (  0.343)       0.193        0.042
 20   1.67     2.70      0.265       (  0.343)       0.218        0.048
 21   1.75     3.30      0.324       (  0.343)       0.266        0.058
 22   1.83     3.10      0.305       (  0.343)       0.250        0.055
 23   1.92     2.90      0.285       (  0.343)       0.234        0.051
 24   2.00     3.00      0.295       (  0.343)       0.242        0.053
 25   2.08     3.10      0.305       (  0.343)       0.250        0.055
 26   2.17     4.20      0.413       (  0.343)       0.338        0.074
 27   2.25     5.00      0.491          0.343    (  0.403)       0.148
 28   2.33     3.50      0.344       (  0.343)       0.282        0.062
 29   2.42     6.80      0.668          0.343    (  0.548)       0.325
 30   2.50     7.30      0.717          0.343    (  0.588)       0.374
 31   2.58     8.20      0.806          0.343    (  0.661)       0.463
 32   2.67     5.90      0.580          0.343    (  0.475)       0.237
 33   2.75     2.00      0.197       (  0.343)       0.161        0.035
 34   2.83     1.80      0.177       (  0.343)       0.145        0.032
 35   2.92     1.80      0.177       (  0.343)       0.145        0.032
 36   3.00     0.60      0.059       (  0.343)       0.048        0.011
            (Loss Rate Not Used)
    Sum =     100.0                                   Sum =     2.7
     Flood volume = Effective rainfall      0.23(In)
      times area       7.5(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
     Total soil loss =      0.59(In)
     Total soil loss =     0.370(Ac.Ft)
     Total rainfall =      0.82(In)
     Flood volume =        6190.4 Cubic Feet
     Total soil loss =       16106.1 Cubic Feet
     ------------------------------------------------------------------
--
      Peak flow rate of this hydrograph =      1.407(CFS)
     ------------------------------------------------------------------
--
     ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++
                        3 - 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      0.01  Q         |         |         |
|
    0+15       0.0002      0.02  Q         |         |         |
|
    0+20       0.0005      0.04  Q         |         |         |
|
    0+25       0.0009      0.06  Q         |         |         |
|
    0+30       0.0014      0.08  Q         |         |         |
```

0+35	0.0021	0.10	Q			
0+40	0.0030	0.12	Q			
0+45	0.0039	0.13	QV			
0+50	0.0049	0.15	QV			
0+55	0.0060	0.16	QV			
1+ 0	0.0071	0.17	Q V			
1+ 5	0.0083	0.17	Q V			
1+10	0.0096	0.18	Q V			
1+15	0.0109	0.19	Q V			
1+20	0.0123	0.20	Q V			
1+25	0.0137	0.21	Q V			
1+30	0.0153	0.23	Q V			
1+35	0.0169	0.24	Q V			
1+40	0.0187	0.25	|Q V			
1+45	0.0205	0.26	|Q V			
1+50	0.0224	0.28	|Q V			
1+55	0.0244	0.29	|Q V			
2+ 0	0.0266	0.31	|Q V			
2+ 5	0.0288	0.32	|Q V			
2+10	0.0311	0.34	|Q V			
2+15	0.0336	0.36	|Q V|			
2+20	0.0363	0.39	|Q V			
2+25	0.0394	0.45	|Q |V			
2+30	0.0433	0.57	| Q | V			
2+35	0.0485	0.75	| Q | V			
2+40	0.0553	0.98	| Q | V			
2+45	0.0635	1.20	| Q | V			
2+50	0.0729	1.36	| Q | V			
2+55	0.0826	1.41	| Q | V			
3+ 0	0.0916	1.31	| Q | V			

3+ 5	0.0993	1.11	| Q |	|	| V |		
3+10	0.1053	0.88	| Q |	|	| V|		
3+15	0.1101	0.69	| Q |	|	| V		
3+20	0.1138	0.55	| Q |	|	| | V		
3+25	0.1169	0.44	|Q |	|	| | V		
3+30	0.1195	0.37	|Q |	|	| | V		
3+35	0.1217	0.32	|Q |	|	| | V		
3+40	0.1236	0.28	|Q |	|	| | V		
3+45	0.1253	0.25	|Q |	|	| | V		
3+50	0.1269	0.22	Q |	|	| | V		
3+55	0.1283	0.20	Q |	|	| | V		
4+ 0	0.1295	0.18	Q |	|	| | V		
4+ 5	0.1306	0.16	Q |	|	| | V		
4+10	0.1317	0.15	Q |	|	| | V		
4+15	0.1326	0.14	Q |	|	| | V		
4+20	0.1335	0.12	Q |	|	| | V		
4+25	0.1342	0.11	Q |	|	| | V		
4+30	0.1349	0.10	Q |	|	| | V		
4+35	0.1356	0.09	Q |	|	| | V		
4+40	0.1362	0.09	Q |	|	| | V		
4+45	0.1367	0.08	Q |	|	| | V		
4+50	0.1373	0.08	Q |	|	| | V		
4+55	0.1378	0.07	Q |	|	| | V		
5+ 0	0.1382	0.07	Q |	|	| | V		
5+ 5	0.1386	0.06	Q |	|	|		V|
5+10	0.1390	0.05	Q |	|	|		V|
5+15	0.1394	0.05	Q |	|	|		V|
5+20	0.1397	0.05	Q |	|	|		V|
5+25	0.1400	0.04	Q |	|	|		V|
5+30	0.1402	0.04	Q |	|	|		

5+35	0.1405	0.04	Q			
5+40	0.1407	0.03	Q			
5+45	0.1409	0.03	Q			
5+50	0.1411	0.03	Q			
5+55	0.1413	0.02	Q			
6+ 0	0.1414	0.02	Q			
6+ 5	0.1416	0.02	Q			
6+10	0.1417	0.02	Q			
6+15	0.1419	0.02	Q			
6+20	0.1420	0.02	Q			
6+25	0.1421	0.01	Q			
6+30	0.1421	0.01	Q			
6+35	0.1421	0.00	Q			
6+40	0.1421	0.00	Q			
6+45	0.1421	0.00	Q			
6+50	0.1421	0.00	Q			

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

Study date 09/21/22 File: ramonacompre62.out

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

Program License Serial Number 6232

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

English Units used in output format

Ramona Commercial
SCS Hydrograph
Existing Conditions
2yr 6hr

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 = 720.00(Ft.)
Length along longest watercourse measured to centroid = 360.00 (Ft.)
Length along longest watercourse = 0.136 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 2.00(Ft.)
Slope along watercourse = 14.6667 Ft./Mi.
Average Manning's 'N' = 0.200
Lag time = 0.487 Hr.
Lag time = 29.23 Min.
25% of lag time = 7.31 Min.
40% of lag time = 11.69 Min.
Unit time = 5.00 Min.
Duration of storm = 6 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             1.14                    8.55

  100 YEAR Area rainfall data:


  Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.50              2.75                  20.63

  STORM EVENT (YEAR) =    2.00
  Area Averaged 2-Year Rainfall =    1.140(In)
  Area Averaged 100-Year Rainfall =    2.750(In)

  Point rain (area averaged) =    1.140(In)
  Areal adjustment factor =  100.00 %
  Adjusted average point rain =    1.140(In)

  Sub-Area Data:
  Area(Ac.)         Runoff Index   Impervious %
       7.500           84.00          0.100
   Total Area Entered =      7.50(Ac.)


  RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
  AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)
(In/Hr)
  84.0  68.6      0.377     0.100        0.343       1.000
0.343
                                                      Sum (F) =
0.343
  Area averaged mean soil loss (F) (In/Hr) =  0.343
  Minimum soil loss rate ((In/Hr)) =  0.172
  (for 24 hour storm duration)
  Soil low loss rate (decimal) =   0.820
  ------------------------------------------------------------------
---

              U n i t  H y d r o g r a p h
                    VALLEY S-Curve
  ------------------------------------------------------------------
--
              Unit Hydrograph Data
  ------------------------------------------------------------------
---
  Unit time period   Time % of lag   Distribution   Unit Hydrograph
      (hrs)                          Graph %           (CFS)
  ------------------------------------------------------------------
---
         1   0.083        17.108         1.491             0.113
         2   0.167        34.216         3.965             0.300
         3   0.250        51.324         6.728             0.509
         4   0.333        68.432         9.594             0.725
         5   0.417        85.540        11.676             0.883
         6   0.500       102.648        12.253             0.926
         7   0.583       119.756        10.114             0.765
         8   0.667       136.865         7.164             0.542
         9   0.750       153.973         5.232             0.395
        10   0.833       171.081         3.830             0.289
        11   0.917       188.189         2.927             0.221
        12   1.000       205.297         2.519             0.190
        13   1.083       222.405         2.167             0.164
```

14	1.167	239.513	1.930	0.146
15	1.250	256.621	1.699	0.128
16	1.333	273.729	1.544	0.117
17	1.417	290.837	1.388	0.105
18	1.500	307.945	1.210	0.091
19	1.583	325.053	1.056	0.080
20	1.667	342.161	1.026	0.078
21	1.750	359.269	0.986	0.075
22	1.833	376.377	0.781	0.059
23	1.917	393.486	0.753	0.057
24	2.000	410.594	0.713	0.054
25	2.083	427.702	0.562	0.043
26	2.167	444.810	0.547	0.041
27	2.250	461.918	0.539	0.041
28	2.333	479.026	0.515	0.039
29	2.417	496.134	0.513	0.039
30	2.500	513.242	0.472	0.036
31	2.583	530.350	0.380	0.029
32	2.667	547.458	0.376	0.028
33	2.750	564.566	0.352	0.027
34	2.833	581.674	0.309	0.023
35	2.917	598.782	0.308	0.023
36	3.000	615.890	0.278	0.021
37	3.083	632.999	0.240	0.018
38	3.167	650.107	0.240	0.018
39	3.250	667.215	0.205	0.015
40	3.333	684.323	0.171	0.013
41	3.417	701.431	0.171	0.013
42	3.500	718.539	0.171	0.013
43	3.583	735.647	0.171	0.013
44	3.667	752.755	0.171	0.013
45	3.750	769.863	0.171	0.013
46	3.833	786.971	0.171	0.013
47	3.917	804.079	0.216	0.016
			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	0.50	0.068	(0.343)	0.056	0.012
2	0.17	0.60	0.082	(0.343)	0.067	0.015
3	0.25	0.60	0.082	(0.343)	0.067	0.015
4	0.33	0.60	0.082	(0.343)	0.067	0.015
5	0.42	0.60	0.082	(0.343)	0.067	0.015
6	0.50	0.70	0.096	(0.343)	0.079	0.017
7	0.58	0.70	0.096	(0.343)	0.079	0.017
8	0.67	0.70	0.096	(0.343)	0.079	0.017
9	0.75	0.70	0.096	(0.343)	0.079	0.017
10	0.83	0.70	0.096	(0.343)	0.079	0.017
11	0.92	0.70	0.096	(0.343)	0.079	0.017
12	1.00	0.80	0.109	(0.343)	0.090	0.020
13	1.08	0.80	0.109	(0.343)	0.090	0.020
14	1.17	0.80	0.109	(0.343)	0.090	0.020
15	1.25	0.80	0.109	(0.343)	0.090	0.020

16	1.33	0.80	0.109	(0.343)	0.090	0.020
17	1.42	0.80	0.109	(0.343)	0.090	0.020
18	1.50	0.80	0.109	(0.343)	0.090	0.020
19	1.58	0.80	0.109	(0.343)	0.090	0.020
20	1.67	0.80	0.109	(0.343)	0.090	0.020
21	1.75	0.80	0.109	(0.343)	0.090	0.020
22	1.83	0.80	0.109	(0.343)	0.090	0.020
23	1.92	0.80	0.109	(0.343)	0.090	0.020
24	2.00	0.90	0.123	(0.343)	0.101	0.022
25	2.08	0.80	0.109	(0.343)	0.090	0.020
26	2.17	0.90	0.123	(0.343)	0.101	0.022
27	2.25	0.90	0.123	(0.343)	0.101	0.022
28	2.33	0.90	0.123	(0.343)	0.101	0.022
29	2.42	0.90	0.123	(0.343)	0.101	0.022
30	2.50	0.90	0.123	(0.343)	0.101	0.022
31	2.58	0.90	0.123	(0.343)	0.101	0.022
32	2.67	0.90	0.123	(0.343)	0.101	0.022
33	2.75	1.00	0.137	(0.343)	0.112	0.025
34	2.83	1.00	0.137	(0.343)	0.112	0.025
35	2.92	1.00	0.137	(0.343)	0.112	0.025
36	3.00	1.00	0.137	(0.343)	0.112	0.025
37	3.08	1.00	0.137	(0.343)	0.112	0.025
38	3.17	1.10	0.150	(0.343)	0.123	0.027
39	3.25	1.10	0.150	(0.343)	0.123	0.027
40	3.33	1.10	0.150	(0.343)	0.123	0.027
41	3.42	1.20	0.164	(0.343)	0.135	0.030
42	3.50	1.30	0.178	(0.343)	0.146	0.032
43	3.58	1.40	0.192	(0.343)	0.157	0.034
44	3.67	1.40	0.192	(0.343)	0.157	0.034
45	3.75	1.50	0.205	(0.343)	0.168	0.037
46	3.83	1.50	0.205	(0.343)	0.168	0.037
47	3.92	1.60	0.219	(0.343)	0.179	0.039
48	4.00	1.60	0.219	(0.343)	0.179	0.039
49	4.08	1.70	0.233	(0.343)	0.191	0.042
50	4.17	1.80	0.246	(0.343)	0.202	0.044
51	4.25	1.90	0.260	(0.343)	0.213	0.047
52	4.33	2.00	0.274	(0.343)	0.224	0.049
53	4.42	2.10	0.287	(0.343)	0.236	0.052
54	4.50	2.10	0.287	(0.343)	0.236	0.052
55	4.58	2.20	0.301	(0.343)	0.247	0.054
56	4.67	2.30	0.315	(0.343)	0.258	0.057
57	4.75	2.40	0.328	(0.343)	0.269	0.059
58	4.83	2.40	0.328	(0.343)	0.269	0.059
59	4.92	2.50	0.342	(0.343)	0.280	0.062
60	5.00	2.60	0.356	(0.343)	0.292	0.064
61	5.08	3.10	0.424	0.343	(0.348)	0.081
62	5.17	3.60	0.492	0.343	(0.404)	0.149
63	5.25	3.90	0.534	0.343	(0.437)	0.190
64	5.33	4.20	0.575	0.343	(0.471)	0.231
65	5.42	4.70	0.643	0.343	(0.527)	0.300
66	5.50	5.60	0.766	0.343	(0.628)	0.423
67	5.58	1.90	0.260	(0.343)	0.213	0.047
68	5.67	0.90	0.123	(0.343)	0.101	0.022
69	5.75	0.60	0.082	(0.343)	0.067	0.015
70	5.83	0.50	0.068	(0.343)	0.056	0.012
71	5.92	0.30	0.041	(0.343)	0.034	0.007
72	6.00	0.20	0.027	(0.343)	0.022	0.005

(Loss Rate Not Used)

Sum = 100.0 Sum = 3.2

Flood volume = Effective rainfall 0.27(In)

```
       times area       7.5(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
      Total soil loss =      0.87(In)
      Total soil loss =     0.545(Ac.Ft)
      Total rainfall =      1.14(In)
      Flood volume =        7302.7 Cubic Feet
      Total soil loss =       23733.0 Cubic Feet
      ------------------------------------------------------------------
--
       Peak flow rate of this hydrograph =      1.193(CFS)
      ------------------------------------------------------------------
--
      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++
                          6 - 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       0.0000      0.01  Q         |         |         |
|
    0+15       0.0001      0.01  Q         |         |         |
|
    0+20       0.0003      0.02  Q         |         |         |
|
    0+25       0.0005      0.04  Q         |         |         |
|
    0+30       0.0009      0.05  Q         |         |         |
|
    0+35       0.0013      0.06  Q         |         |         |
|
    0+40       0.0018      0.07  Q         |         |         |
|
    0+45       0.0023      0.08  Q         |         |         |
|
    0+50       0.0029      0.09  Q         |         |         |
|
    0+55       0.0036      0.09  Q         |         |         |
|
    1+ 0       0.0042      0.10  QV        |         |         |
|
    1+ 5       0.0049      0.10  QV        |         |         |
|
    1+10       0.0056      0.11  QV        |         |         |
|
    1+15       0.0064      0.11  QV        |         |         |
|
    1+20       0.0072      0.11  QV        |         |         |
|
    1+25       0.0080      0.12  QV        |         |         |
|
    1+30       0.0089      0.12  Q V       |         |         |
```

1+35	0.0097	0.13	Q V	|	|	|
1+40	0.0106	0.13	Q V	|	|	|
1+45	0.0115	0.13	Q V	|	|	|
1+50	0.0124	0.13	Q V	|	|	|
1+55	0.0133	0.13	Q V	|	|	|
2+ 0	0.0143	0.14	Q V	|	|	|
2+ 5	0.0152	0.14	Q V	|	|	|
2+10	0.0162	0.14	Q V	|	|	|
2+15	0.0171	0.14	Q V	|	|	|
2+20	0.0181	0.14	Q V	|	|	|
2+25	0.0191	0.15	Q V	|	|	|
2+30	0.0202	0.15	Q V	|	|	|
2+35	0.0212	0.15	Q V	|	|	|
2+40	0.0223	0.15	Q V	|	|	|
2+45	0.0233	0.16	Q V	|	|	|
2+50	0.0244	0.16	Q V	|	|	|
2+55	0.0255	0.16	Q V	|	|	|
3+ 0	0.0266	0.16	Q V	|	|	|
3+ 5	0.0278	0.17	Q V	|	|	|
3+10	0.0290	0.17	Q V	|	|	|
3+15	0.0301	0.17	Q V	|	|	|
3+20	0.0314	0.18	Q V	|	|	|
3+25	0.0326	0.18	Q V	|	|	|
3+30	0.0339	0.18	Q V	|	|	|
3+35	0.0352	0.19	Q V	|	|	|
3+40	0.0365	0.20	Q V	|	|	|
3+45	0.0379	0.20	Q V	|	|	|
3+50	0.0394	0.21	Q V	|	|	|
3+55	0.0409	0.22	Q V	|	|	|
4+ 0	0.0425	0.23	Q V	|	|	|

4+ 5	0.0442	0.24	Q	V	|	|
4+10	0.0459	0.25	Q	V	|	|
4+15	0.0477	0.26	|Q	|V	|	|
4+20	0.0495	0.27	|Q	|V	|	|
4+25	0.0514	0.28	|Q	| V	|	|
4+30	0.0534	0.29	|Q	| V	|	|
4+35	0.0555	0.30	|Q	| V	|	|
4+40	0.0577	0.32	|Q	| V	|	|
4+45	0.0600	0.33	|Q	| V	|	|
4+50	0.0624	0.34	|Q	| V	|	|
4+55	0.0648	0.36	|Q	| V	|	|
5+ 0	0.0673	0.37	|Q	| V	|	|
5+ 5	0.0700	0.38	|Q	| V	|	|
5+10	0.0728	0.41	|Q	| V	|	|
5+15	0.0759	0.45	|Q	| V	|	|
5+20	0.0796	0.53	| Q	| V	|	|
5+25	0.0840	0.64	| Q	| V	|	|
5+30	0.0896	0.81	| Q	| |V	|	|
5+35	0.0964	0.99	| Q	| | V	|	|
5+40	0.1041	1.13	| Q	| | V	|	|
5+45	0.1123	1.19	| Q	| | V	|	|
5+50	0.1204	1.17	| Q	| | V	|	|
5+55	0.1276	1.04	| Q	| | V	|	|
6+ 0	0.1334	0.84	| Q	| | V	|	|
6+ 5	0.1379	0.66	| Q	| | V	|	|
6+10	0.1415	0.52	| Q	| | V	|	|
6+15	0.1443	0.42	|Q	| | V	|	|
6+20	0.1468	0.35	|Q	| | V	|	|
6+25	0.1488	0.30	|Q	| | V	|	|
6+30	0.1507	0.26	|Q	| | V	|	|

6+35	0.1523	0.23	Q				V
6+40	0.1537	0.21	Q				V
6+45	0.1550	0.19	Q				V
6+50	0.1561	0.17	Q				V
6+55	0.1572	0.15	Q				V
7+ 0	0.1581	0.14	Q				V
7+ 5	0.1590	0.13	Q				V
7+10	0.1598	0.11	Q				V
7+15	0.1605	0.10	Q				V
7+20	0.1611	0.09	Q				V
7+25	0.1617	0.09	Q				V
7+30	0.1623	0.08	Q				V
7+35	0.1628	0.07	Q				V
7+40	0.1633	0.07	Q				V
7+45	0.1637	0.07	Q				V
7+50	0.1641	0.06	Q				V
7+55	0.1645	0.05	Q				V
8+ 0	0.1648	0.05	Q				V
8+ 5	0.1652	0.05	Q				V
8+10	0.1654	0.04	Q				V
8+15	0.1657	0.04	Q				V
8+20	0.1660	0.04	Q				V
8+25	0.1662	0.03	Q				V
8+30	0.1664	0.03	Q				V
8+35	0.1665	0.03	Q				V
8+40	0.1667	0.02	Q				V
8+45	0.1669	0.02	Q				V
8+50	0.1670	0.02	Q				V
8+55	0.1671	0.02	Q				V
9+ 0	0.1673	0.02	Q				

9+ 5	0.1674	0.02	Q			
9+10	0.1675	0.01	Q			
9+15	0.1676	0.01	Q			
9+20	0.1676	0.01	Q			
9+25	0.1676	0.00	Q			
9+30	0.1676	0.00	Q			
9+35	0.1676	0.00	Q			
9+40	0.1676	0.00	Q			
9+45	0.1676	0.00	Q			
9+50	0.1676	0.00	Q			

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

Study date 09/21/22 File: ramonacompre242.out

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

Program License Serial Number 6232

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

English Units used in output format

Ramona Commercial
SCS Hydrograph
Existing Conditions
2yr 24hr

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Drainage Area for Depth-Area Areal Adjustment = 7.50(Ac.) = 0.012 Sq. Mi.
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Length along longest watercourse measured to centroid = 360.00 (Ft.)
Length along longest watercourse = 0.136 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 2.00(Ft.)
Slope along watercourse = 14.6667 Ft./Mi.
Average Manning's 'N' = 0.200
Lag time = 0.487 Hr.
Lag time = 29.23 Min.
25% of lag time = 7.31 Min.
40% of lag time = 11.69 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             1.97                   14.78

  100 YEAR Area rainfall data:


  Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.50              5.02                  37.65

  STORM EVENT (YEAR) =    2.00
  Area Averaged 2-Year Rainfall =    1.970(In)
  Area Averaged 100-Year Rainfall =    5.020(In)

  Point rain (area averaged) =    1.970(In)
  Areal adjustment factor =  100.00 %
  Adjusted average point rain =    1.970(In)

  Sub-Area Data:
  Area(Ac.)         Runoff Index   Impervious %
       7.500           84.00         0.100
   Total Area Entered =      7.50(Ac.)


  RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
  AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)
(In/Hr)
  84.0  68.6      0.377     0.100        0.343       1.000
0.343
                                                      Sum (F) =
0.343
  Area averaged mean soil loss (F) (In/Hr) =  0.343
  Minimum soil loss rate ((In/Hr)) =  0.172
  (for 24 hour storm duration)
  Soil low loss rate (decimal) =   0.820
  ------------------------------------------------------------------
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              U n i t  H y d r o g r a p h
                    VALLEY S-Curve
  ------------------------------------------------------------------
--
              Unit Hydrograph Data
  ------------------------------------------------------------------
---
  Unit time period   Time % of lag   Distribution   Unit Hydrograph
      (hrs)                          Graph %           (CFS)
  ------------------------------------------------------------------
---
        1   0.083        17.108         1.491             0.113
        2   0.167        34.216         3.965             0.300
        3   0.250        51.324         6.728             0.509
        4   0.333        68.432         9.594             0.725
        5   0.417        85.540        11.676             0.883
        6   0.500       102.648        12.253             0.926
        7   0.583       119.756        10.114             0.765
        8   0.667       136.865         7.164             0.542
        9   0.750       153.973         5.232             0.395
       10   0.833       171.081         3.830             0.289
       11   0.917       188.189         2.927             0.221
       12   1.000       205.297         2.519             0.190
       13   1.083       222.405         2.167             0.164
```

14	1.167	239.513	1.930	0.146
15	1.250	256.621	1.699	0.128
16	1.333	273.729	1.544	0.117
17	1.417	290.837	1.388	0.105
18	1.500	307.945	1.210	0.091
19	1.583	325.053	1.056	0.080
20	1.667	342.161	1.026	0.078
21	1.750	359.269	0.986	0.075
22	1.833	376.377	0.781	0.059
23	1.917	393.486	0.753	0.057
24	2.000	410.594	0.713	0.054
25	2.083	427.702	0.562	0.043
26	2.167	444.810	0.547	0.041
27	2.250	461.918	0.539	0.041
28	2.333	479.026	0.515	0.039
29	2.417	496.134	0.513	0.039
30	2.500	513.242	0.472	0.036
31	2.583	530.350	0.380	0.029
32	2.667	547.458	0.376	0.028
33	2.750	564.566	0.352	0.027
34	2.833	581.674	0.309	0.023
35	2.917	598.782	0.308	0.023
36	3.000	615.890	0.278	0.021
37	3.083	632.999	0.240	0.018
38	3.167	650.107	0.240	0.018
39	3.250	667.215	0.205	0.015
40	3.333	684.323	0.171	0.013
41	3.417	701.431	0.171	0.013
42	3.500	718.539	0.171	0.013
43	3.583	735.647	0.171	0.013
44	3.667	752.755	0.171	0.013
45	3.750	769.863	0.171	0.013
46	3.833	786.971	0.171	0.013
47	3.917	804.079	0.216	0.016
			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	0.016	(0.608)	0.013	0.003
2	0.17	0.07	0.016	(0.606)	0.013	0.003
3	0.25	0.07	0.016	(0.604)	0.013	0.003
4	0.33	0.10	0.024	(0.601)	0.019	0.004
5	0.42	0.10	0.024	(0.599)	0.019	0.004
6	0.50	0.10	0.024	(0.597)	0.019	0.004
7	0.58	0.10	0.024	(0.594)	0.019	0.004
8	0.67	0.10	0.024	(0.592)	0.019	0.004
9	0.75	0.10	0.024	(0.590)	0.019	0.004
10	0.83	0.13	0.032	(0.587)	0.026	0.006
11	0.92	0.13	0.032	(0.585)	0.026	0.006
12	1.00	0.13	0.032	(0.583)	0.026	0.006
13	1.08	0.10	0.024	(0.580)	0.019	0.004
14	1.17	0.10	0.024	(0.578)	0.019	0.004
15	1.25	0.10	0.024	(0.576)	0.019	0.004

16	1.33	0.10	0.024	(0.574)	0.019	0.004
17	1.42	0.10	0.024	(0.571)	0.019	0.004
18	1.50	0.10	0.024	(0.569)	0.019	0.004
19	1.58	0.10	0.024	(0.567)	0.019	0.004
20	1.67	0.10	0.024	(0.564)	0.019	0.004
21	1.75	0.10	0.024	(0.562)	0.019	0.004
22	1.83	0.13	0.032	(0.560)	0.026	0.006
23	1.92	0.13	0.032	(0.558)	0.026	0.006
24	2.00	0.13	0.032	(0.555)	0.026	0.006
25	2.08	0.13	0.032	(0.553)	0.026	0.006
26	2.17	0.13	0.032	(0.551)	0.026	0.006
27	2.25	0.13	0.032	(0.549)	0.026	0.006
28	2.33	0.13	0.032	(0.546)	0.026	0.006
29	2.42	0.13	0.032	(0.544)	0.026	0.006
30	2.50	0.13	0.032	(0.542)	0.026	0.006
31	2.58	0.17	0.039	(0.540)	0.032	0.007
32	2.67	0.17	0.039	(0.538)	0.032	0.007
33	2.75	0.17	0.039	(0.535)	0.032	0.007
34	2.83	0.17	0.039	(0.533)	0.032	0.007
35	2.92	0.17	0.039	(0.531)	0.032	0.007
36	3.00	0.17	0.039	(0.529)	0.032	0.007
37	3.08	0.17	0.039	(0.527)	0.032	0.007
38	3.17	0.17	0.039	(0.524)	0.032	0.007
39	3.25	0.17	0.039	(0.522)	0.032	0.007
40	3.33	0.17	0.039	(0.520)	0.032	0.007
41	3.42	0.17	0.039	(0.518)	0.032	0.007
42	3.50	0.17	0.039	(0.516)	0.032	0.007
43	3.58	0.17	0.039	(0.514)	0.032	0.007
44	3.67	0.17	0.039	(0.511)	0.032	0.007
45	3.75	0.17	0.039	(0.509)	0.032	0.007
46	3.83	0.20	0.047	(0.507)	0.039	0.009
47	3.92	0.20	0.047	(0.505)	0.039	0.009
48	4.00	0.20	0.047	(0.503)	0.039	0.009
49	4.08	0.20	0.047	(0.501)	0.039	0.009
50	4.17	0.20	0.047	(0.499)	0.039	0.009
51	4.25	0.20	0.047	(0.496)	0.039	0.009
52	4.33	0.23	0.055	(0.494)	0.045	0.010
53	4.42	0.23	0.055	(0.492)	0.045	0.010
54	4.50	0.23	0.055	(0.490)	0.045	0.010
55	4.58	0.23	0.055	(0.488)	0.045	0.010
56	4.67	0.23	0.055	(0.486)	0.045	0.010
57	4.75	0.23	0.055	(0.484)	0.045	0.010
58	4.83	0.27	0.063	(0.482)	0.052	0.011
59	4.92	0.27	0.063	(0.480)	0.052	0.011
60	5.00	0.27	0.063	(0.478)	0.052	0.011
61	5.08	0.20	0.047	(0.475)	0.039	0.009
62	5.17	0.20	0.047	(0.473)	0.039	0.009
63	5.25	0.20	0.047	(0.471)	0.039	0.009
64	5.33	0.23	0.055	(0.469)	0.045	0.010
65	5.42	0.23	0.055	(0.467)	0.045	0.010
66	5.50	0.23	0.055	(0.465)	0.045	0.010
67	5.58	0.27	0.063	(0.463)	0.052	0.011
68	5.67	0.27	0.063	(0.461)	0.052	0.011
69	5.75	0.27	0.063	(0.459)	0.052	0.011
70	5.83	0.27	0.063	(0.457)	0.052	0.011
71	5.92	0.27	0.063	(0.455)	0.052	0.011
72	6.00	0.27	0.063	(0.453)	0.052	0.011
73	6.08	0.30	0.071	(0.451)	0.058	0.013
74	6.17	0.30	0.071	(0.449)	0.058	0.013
75	6.25	0.30	0.071	(0.447)	0.058	0.013

76	6.33	0.30	0.071	(0.445)	0.058	0.013
77	6.42	0.30	0.071	(0.443)	0.058	0.013
78	6.50	0.30	0.071	(0.441)	0.058	0.013
79	6.58	0.33	0.079	(0.439)	0.065	0.014
80	6.67	0.33	0.079	(0.437)	0.065	0.014
81	6.75	0.33	0.079	(0.435)	0.065	0.014
82	6.83	0.33	0.079	(0.433)	0.065	0.014
83	6.92	0.33	0.079	(0.431)	0.065	0.014
84	7.00	0.33	0.079	(0.429)	0.065	0.014
85	7.08	0.33	0.079	(0.427)	0.065	0.014
86	7.17	0.33	0.079	(0.425)	0.065	0.014
87	7.25	0.33	0.079	(0.423)	0.065	0.014
88	7.33	0.37	0.087	(0.421)	0.071	0.016
89	7.42	0.37	0.087	(0.419)	0.071	0.016
90	7.50	0.37	0.087	(0.418)	0.071	0.016
91	7.58	0.40	0.095	(0.416)	0.078	0.017
92	7.67	0.40	0.095	(0.414)	0.078	0.017
93	7.75	0.40	0.095	(0.412)	0.078	0.017
94	7.83	0.43	0.102	(0.410)	0.084	0.018
95	7.92	0.43	0.102	(0.408)	0.084	0.018
96	8.00	0.43	0.102	(0.406)	0.084	0.018
97	8.08	0.50	0.118	(0.404)	0.097	0.021
98	8.17	0.50	0.118	(0.402)	0.097	0.021
99	8.25	0.50	0.118	(0.400)	0.097	0.021
100	8.33	0.50	0.118	(0.399)	0.097	0.021
101	8.42	0.50	0.118	(0.397)	0.097	0.021
102	8.50	0.50	0.118	(0.395)	0.097	0.021
103	8.58	0.53	0.126	(0.393)	0.103	0.023
104	8.67	0.53	0.126	(0.391)	0.103	0.023
105	8.75	0.53	0.126	(0.389)	0.103	0.023
106	8.83	0.57	0.134	(0.388)	0.110	0.024
107	8.92	0.57	0.134	(0.386)	0.110	0.024
108	9.00	0.57	0.134	(0.384)	0.110	0.024
109	9.08	0.63	0.150	(0.382)	0.123	0.027
110	9.17	0.63	0.150	(0.380)	0.123	0.027
111	9.25	0.63	0.150	(0.378)	0.123	0.027
112	9.33	0.67	0.158	(0.377)	0.129	0.028
113	9.42	0.67	0.158	(0.375)	0.129	0.028
114	9.50	0.67	0.158	(0.373)	0.129	0.028
115	9.58	0.70	0.165	(0.371)	0.136	0.030
116	9.67	0.70	0.165	(0.369)	0.136	0.030
117	9.75	0.70	0.165	(0.368)	0.136	0.030
118	9.83	0.73	0.173	(0.366)	0.142	0.031
119	9.92	0.73	0.173	(0.364)	0.142	0.031
120	10.00	0.73	0.173	(0.362)	0.142	0.031
121	10.08	0.50	0.118	(0.361)	0.097	0.021
122	10.17	0.50	0.118	(0.359)	0.097	0.021
123	10.25	0.50	0.118	(0.357)	0.097	0.021
124	10.33	0.50	0.118	(0.355)	0.097	0.021
125	10.42	0.50	0.118	(0.354)	0.097	0.021
126	10.50	0.50	0.118	(0.352)	0.097	0.021
127	10.58	0.67	0.158	(0.350)	0.129	0.028
128	10.67	0.67	0.158	(0.349)	0.129	0.028
129	10.75	0.67	0.158	(0.347)	0.129	0.028
130	10.83	0.67	0.158	(0.345)	0.129	0.028
131	10.92	0.67	0.158	(0.343)	0.129	0.028
132	11.00	0.67	0.158	(0.342)	0.129	0.028
133	11.08	0.63	0.150	(0.340)	0.123	0.027
134	11.17	0.63	0.150	(0.338)	0.123	0.027
135	11.25	0.63	0.150	(0.337)	0.123	0.027

136	11.33	0.63	0.150	(0.335)	0.123	0.027
137	11.42	0.63	0.150	(0.333)	0.123	0.027
138	11.50	0.63	0.150	(0.332)	0.123	0.027
139	11.58	0.57	0.134	(0.330)	0.110	0.024
140	11.67	0.57	0.134	(0.328)	0.110	0.024
141	11.75	0.57	0.134	(0.327)	0.110	0.024
142	11.83	0.60	0.142	(0.325)	0.116	0.026
143	11.92	0.60	0.142	(0.324)	0.116	0.026
144	12.00	0.60	0.142	(0.322)	0.116	0.026
145	12.08	0.83	0.197	(0.320)	0.162	0.035
146	12.17	0.83	0.197	(0.319)	0.162	0.035
147	12.25	0.83	0.197	(0.317)	0.162	0.035
148	12.33	0.87	0.205	(0.316)	0.168	0.037
149	12.42	0.87	0.205	(0.314)	0.168	0.037
150	12.50	0.87	0.205	(0.312)	0.168	0.037
151	12.58	0.93	0.221	(0.311)	0.181	0.040
152	12.67	0.93	0.221	(0.309)	0.181	0.040
153	12.75	0.93	0.221	(0.308)	0.181	0.040
154	12.83	0.97	0.229	(0.306)	0.187	0.041
155	12.92	0.97	0.229	(0.305)	0.187	0.041
156	13.00	0.97	0.229	(0.303)	0.187	0.041
157	13.08	1.13	0.268	(0.302)	0.220	0.048
158	13.17	1.13	0.268	(0.300)	0.220	0.048
159	13.25	1.13	0.268	(0.298)	0.220	0.048
160	13.33	1.13	0.268	(0.297)	0.220	0.048
161	13.42	1.13	0.268	(0.295)	0.220	0.048
162	13.50	1.13	0.268	(0.294)	0.220	0.048
163	13.58	0.77	0.181	(0.292)	0.149	0.033
164	13.67	0.77	0.181	(0.291)	0.149	0.033
165	13.75	0.77	0.181	(0.289)	0.149	0.033
166	13.83	0.77	0.181	(0.288)	0.149	0.033
167	13.92	0.77	0.181	(0.287)	0.149	0.033
168	14.00	0.77	0.181	(0.285)	0.149	0.033
169	14.08	0.90	0.213	(0.284)	0.174	0.038
170	14.17	0.90	0.213	(0.282)	0.174	0.038
171	14.25	0.90	0.213	(0.281)	0.174	0.038
172	14.33	0.87	0.205	(0.279)	0.168	0.037
173	14.42	0.87	0.205	(0.278)	0.168	0.037
174	14.50	0.87	0.205	(0.276)	0.168	0.037
175	14.58	0.87	0.205	(0.275)	0.168	0.037
176	14.67	0.87	0.205	(0.274)	0.168	0.037
177	14.75	0.87	0.205	(0.272)	0.168	0.037
178	14.83	0.83	0.197	(0.271)	0.162	0.035
179	14.92	0.83	0.197	(0.269)	0.162	0.035
180	15.00	0.83	0.197	(0.268)	0.162	0.035
181	15.08	0.80	0.189	(0.267)	0.155	0.034
182	15.17	0.80	0.189	(0.265)	0.155	0.034
183	15.25	0.80	0.189	(0.264)	0.155	0.034
184	15.33	0.77	0.181	(0.263)	0.149	0.033
185	15.42	0.77	0.181	(0.261)	0.149	0.033
186	15.50	0.77	0.181	(0.260)	0.149	0.033
187	15.58	0.63	0.150	(0.259)	0.123	0.027
188	15.67	0.63	0.150	(0.257)	0.123	0.027
189	15.75	0.63	0.150	(0.256)	0.123	0.027
190	15.83	0.63	0.150	(0.255)	0.123	0.027
191	15.92	0.63	0.150	(0.253)	0.123	0.027
192	16.00	0.63	0.150	(0.252)	0.123	0.027
193	16.08	0.13	0.032	(0.251)	0.026	0.006
194	16.17	0.13	0.032	(0.249)	0.026	0.006
195	16.25	0.13	0.032	(0.248)	0.026	0.006

196	16.33	0.13	0.032	(0.247)	0.026	0.006
197	16.42	0.13	0.032	(0.246)	0.026	0.006
198	16.50	0.13	0.032	(0.244)	0.026	0.006
199	16.58	0.10	0.024	(0.243)	0.019	0.004
200	16.67	0.10	0.024	(0.242)	0.019	0.004
201	16.75	0.10	0.024	(0.241)	0.019	0.004
202	16.83	0.10	0.024	(0.239)	0.019	0.004
203	16.92	0.10	0.024	(0.238)	0.019	0.004
204	17.00	0.10	0.024	(0.237)	0.019	0.004
205	17.08	0.17	0.039	(0.236)	0.032	0.007
206	17.17	0.17	0.039	(0.235)	0.032	0.007
207	17.25	0.17	0.039	(0.233)	0.032	0.007
208	17.33	0.17	0.039	(0.232)	0.032	0.007
209	17.42	0.17	0.039	(0.231)	0.032	0.007
210	17.50	0.17	0.039	(0.230)	0.032	0.007
211	17.58	0.17	0.039	(0.229)	0.032	0.007
212	17.67	0.17	0.039	(0.228)	0.032	0.007
213	17.75	0.17	0.039	(0.227)	0.032	0.007
214	17.83	0.13	0.032	(0.225)	0.026	0.006
215	17.92	0.13	0.032	(0.224)	0.026	0.006
216	18.00	0.13	0.032	(0.223)	0.026	0.006
217	18.08	0.13	0.032	(0.222)	0.026	0.006
218	18.17	0.13	0.032	(0.221)	0.026	0.006
219	18.25	0.13	0.032	(0.220)	0.026	0.006
220	18.33	0.13	0.032	(0.219)	0.026	0.006
221	18.42	0.13	0.032	(0.218)	0.026	0.006
222	18.50	0.13	0.032	(0.217)	0.026	0.006
223	18.58	0.10	0.024	(0.216)	0.019	0.004
224	18.67	0.10	0.024	(0.215)	0.019	0.004
225	18.75	0.10	0.024	(0.214)	0.019	0.004
226	18.83	0.07	0.016	(0.213)	0.013	0.003
227	18.92	0.07	0.016	(0.212)	0.013	0.003
228	19.00	0.07	0.016	(0.211)	0.013	0.003
229	19.08	0.10	0.024	(0.210)	0.019	0.004
230	19.17	0.10	0.024	(0.209)	0.019	0.004
231	19.25	0.10	0.024	(0.208)	0.019	0.004
232	19.33	0.13	0.032	(0.207)	0.026	0.006
233	19.42	0.13	0.032	(0.206)	0.026	0.006
234	19.50	0.13	0.032	(0.205)	0.026	0.006
235	19.58	0.10	0.024	(0.204)	0.019	0.004
236	19.67	0.10	0.024	(0.203)	0.019	0.004
237	19.75	0.10	0.024	(0.202)	0.019	0.004
238	19.83	0.07	0.016	(0.201)	0.013	0.003
239	19.92	0.07	0.016	(0.200)	0.013	0.003
240	20.00	0.07	0.016	(0.199)	0.013	0.003
241	20.08	0.10	0.024	(0.198)	0.019	0.004
242	20.17	0.10	0.024	(0.198)	0.019	0.004
243	20.25	0.10	0.024	(0.197)	0.019	0.004
244	20.33	0.10	0.024	(0.196)	0.019	0.004
245	20.42	0.10	0.024	(0.195)	0.019	0.004
246	20.50	0.10	0.024	(0.194)	0.019	0.004
247	20.58	0.10	0.024	(0.193)	0.019	0.004
248	20.67	0.10	0.024	(0.193)	0.019	0.004
249	20.75	0.10	0.024	(0.192)	0.019	0.004
250	20.83	0.07	0.016	(0.191)	0.013	0.003
251	20.92	0.07	0.016	(0.190)	0.013	0.003
252	21.00	0.07	0.016	(0.189)	0.013	0.003
253	21.08	0.10	0.024	(0.189)	0.019	0.004
254	21.17	0.10	0.024	(0.188)	0.019	0.004
255	21.25	0.10	0.024	(0.187)	0.019	0.004

```
 256  21.33     0.07      0.016       (  0.186)       0.013        0.003
 257  21.42     0.07      0.016       (  0.186)       0.013        0.003
 258  21.50     0.07      0.016       (  0.185)       0.013        0.003
 259  21.58     0.10      0.024       (  0.184)       0.019        0.004
 260  21.67     0.10      0.024       (  0.184)       0.019        0.004
 261  21.75     0.10      0.024       (  0.183)       0.019        0.004
 262  21.83     0.07      0.016       (  0.182)       0.013        0.003
 263  21.92     0.07      0.016       (  0.182)       0.013        0.003
 264  22.00     0.07      0.016       (  0.181)       0.013        0.003
 265  22.08     0.10      0.024       (  0.181)       0.019        0.004
 266  22.17     0.10      0.024       (  0.180)       0.019        0.004
 267  22.25     0.10      0.024       (  0.179)       0.019        0.004
 268  22.33     0.07      0.016       (  0.179)       0.013        0.003
 269  22.42     0.07      0.016       (  0.178)       0.013        0.003
 270  22.50     0.07      0.016       (  0.178)       0.013        0.003
 271  22.58     0.07      0.016       (  0.177)       0.013        0.003
 272  22.67     0.07      0.016       (  0.177)       0.013        0.003
 273  22.75     0.07      0.016       (  0.176)       0.013        0.003
 274  22.83     0.07      0.016       (  0.176)       0.013        0.003
 275  22.92     0.07      0.016       (  0.175)       0.013        0.003
 276  23.00     0.07      0.016       (  0.175)       0.013        0.003
 277  23.08     0.07      0.016       (  0.175)       0.013        0.003
 278  23.17     0.07      0.016       (  0.174)       0.013        0.003
 279  23.25     0.07      0.016       (  0.174)       0.013        0.003
 280  23.33     0.07      0.016       (  0.173)       0.013        0.003
 281  23.42     0.07      0.016       (  0.173)       0.013        0.003
 282  23.50     0.07      0.016       (  0.173)       0.013        0.003
 283  23.58     0.07      0.016       (  0.173)       0.013        0.003
 284  23.67     0.07      0.016       (  0.172)       0.013        0.003
 285  23.75     0.07      0.016       (  0.172)       0.013        0.003
 286  23.83     0.07      0.016       (  0.172)       0.013        0.003
 287  23.92     0.07      0.016       (  0.172)       0.013        0.003
 288  24.00     0.07      0.016       (  0.172)       0.013        0.003
            (Loss Rate Not Used)
     Sum =     100.0                                   Sum =     4.3
      Flood volume = Effective rainfall      0.35(In)
       times area       7.5(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
      Total soil loss =      1.62(In)
      Total soil loss =     1.010(Ac.Ft)
      Total rainfall =      1.97(In)
      Flood volume =        9653.8 Cubic Feet
      Total soil loss =       43978.6 Cubic Feet
      ---------------------------------------------------------------
--
       Peak flow rate of this hydrograph =      0.323(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	0.0000	0.00	Q			
0+15	0.0000	0.00	Q			
0+20	0.0001	0.00	Q			
0+25	0.0001	0.01	Q			
0+30	0.0002	0.01	Q			
0+35	0.0003	0.01	Q			
0+40	0.0004	0.02	Q			
0+45	0.0005	0.02	Q			
0+50	0.0007	0.02	Q			
0+55	0.0009	0.02	Q			
1+ 0	0.0010	0.03	Q			
1+ 5	0.0012	0.03	Q			
1+10	0.0014	0.03	Q			
1+15	0.0016	0.03	Q			
1+20	0.0018	0.03	Q			
1+25	0.0020	0.03	Q			
1+30	0.0022	0.03	Q			
1+35	0.0024	0.03	Q			
1+40	0.0027	0.03	Q			
1+45	0.0029	0.03	Q			
1+50	0.0031	0.03	Q			
1+55	0.0033	0.03	Q			
2+ 0	0.0035	0.03	Q			
2+ 5	0.0037	0.03	Q			
2+10	0.0040	0.03	Q			
2+15	0.0042	0.04	Q			
2+20	0.0044	0.04	Q			
2+25	0.0047	0.04	Q			
2+30	0.0050	0.04	Q			

2+35	0.0052	0.04	Q			
2+40	0.0055	0.04	Q			
2+45	0.0058	0.04	QV			
2+50	0.0061	0.04	QV			
2+55	0.0064	0.04	QV			
3+ 0	0.0067	0.05	QV			
3+ 5	0.0070	0.05	QV			
3+10	0.0074	0.05	QV			
3+15	0.0077	0.05	QV			
3+20	0.0080	0.05	QV			
3+25	0.0084	0.05	QV			
3+30	0.0087	0.05	QV			
3+35	0.0091	0.05	QV			
3+40	0.0094	0.05	QV			
3+45	0.0098	0.05	QV			
3+50	0.0101	0.05	QV			
3+55	0.0105	0.05	QV			
4+ 0	0.0108	0.05	QV			
4+ 5	0.0112	0.05	Q V			
4+10	0.0116	0.06	Q V			
4+15	0.0120	0.06	Q V			
4+20	0.0124	0.06	Q V			
4+25	0.0128	0.06	Q V			
4+30	0.0132	0.06	Q V			
4+35	0.0137	0.06	Q V			
4+40	0.0141	0.06	Q V			
4+45	0.0146	0.07	Q V			
4+50	0.0150	0.07	Q V			
4+55	0.0155	0.07	Q V			
5+ 0	0.0160	0.07	Q V			

5+ 5	0.0165	0.07	Q V	|	|	|
5+10	0.0170	0.07	Q V	|	|	|
5+15	0.0175	0.07	Q V	|	|	|
5+20	0.0180	0.07	Q V	|	|	|
5+25	0.0185	0.07	Q V	|	|	|
5+30	0.0190	0.07	Q V	|	|	|
5+35	0.0195	0.07	Q V	|	|	|
5+40	0.0199	0.07	Q V	|	|	|
5+45	0.0204	0.07	Q V	|	|	|
5+50	0.0210	0.07	Q V	|	|	|
5+55	0.0215	0.08	Q V	|	|	|
6+ 0	0.0220	0.08	Q V	|	|	|
6+ 5	0.0226	0.08	Q V	|	|	|
6+10	0.0231	0.08	Q V	|	|	|
6+15	0.0237	0.08	Q V	|	|	|
6+20	0.0243	0.08	Q V	|	|	|
6+25	0.0249	0.09	Q V	|	|	|
6+30	0.0255	0.09	Q V	|	|	|
6+35	0.0261	0.09	Q V	|	|	|
6+40	0.0267	0.09	Q V	|	|	|
6+45	0.0273	0.09	Q V	|	|	|
6+50	0.0280	0.09	Q V	|	|	|
6+55	0.0286	0.10	Q V	|	|	|
7+ 0	0.0293	0.10	Q V	|	|	|
7+ 5	0.0300	0.10	Q V	|	|	|
7+10	0.0307	0.10	Q V	|	|	|
7+15	0.0314	0.10	Q V	|	|	|
7+20	0.0321	0.10	Q V	|	|	|
7+25	0.0328	0.10	Q V	|	|	|
7+30	0.0335	0.10	Q V	|	|	|

7+35	0.0342	0.11	Q	V			
7+40	0.0349	0.11	Q	V			
7+45	0.0357	0.11	Q	V			
7+50	0.0365	0.11	Q	V			
7+55	0.0373	0.12	Q	V			
8+ 0	0.0381	0.12	Q	V			
8+ 5	0.0389	0.12	Q	V			
8+10	0.0398	0.12	Q	V			
8+15	0.0407	0.13	Q	V			
8+20	0.0416	0.13	Q	V			
8+25	0.0425	0.14	Q	V			
8+30	0.0435	0.14	Q	V			
8+35	0.0445	0.14	Q	V			
8+40	0.0455	0.15	Q	V			
8+45	0.0465	0.15	Q	V			
8+50	0.0475	0.15	Q	V			
8+55	0.0486	0.15	Q	V			
9+ 0	0.0497	0.16	Q	V			
9+ 5	0.0508	0.16	Q	V			
9+10	0.0519	0.16	Q	V			
9+15	0.0531	0.17	Q	V			
9+20	0.0543	0.17	Q	V			
9+25	0.0555	0.18	Q	V			
9+30	0.0568	0.18	Q	V			
9+35	0.0580	0.19	Q	V			
9+40	0.0594	0.19	Q	V			
9+45	0.0607	0.19	Q	V			
9+50	0.0621	0.20	Q	V			
9+55	0.0635	0.20	Q	V			
10+ 0	0.0649	0.21	Q	V			

10+ 5	0.0663	0.21	Q	|V |	|
10+10	0.0678	0.21	Q	| V |	|
10+15	0.0692	0.21	Q	| V |	|
10+20	0.0706	0.20	Q	| V |	|
10+25	0.0719	0.20	Q	| V |	|
10+30	0.0732	0.19	Q	| V |	|
10+35	0.0745	0.18	Q	| V |	|
10+40	0.0757	0.18	Q	| V |	|
10+45	0.0770	0.18	Q	| V |	|
10+50	0.0782	0.18	Q	| V |	|
10+55	0.0795	0.19	Q	| V |	|
11+ 0	0.0809	0.19	Q	| V |	|
11+ 5	0.0823	0.20	Q	| V |	|
11+10	0.0836	0.20	Q	| V |	|
11+15	0.0850	0.20	Q	| V |	|
11+20	0.0864	0.20	Q	| V |	|
11+25	0.0878	0.20	Q	| V |	|
11+30	0.0892	0.20	Q	| V |	|
11+35	0.0906	0.20	Q	| V |	|
11+40	0.0920	0.20	Q	| V |	|
11+45	0.0934	0.20	Q	| V |	|
11+50	0.0948	0.20	Q	| V |	|
11+55	0.0961	0.20	Q	| V |	|
12+ 0	0.0975	0.19	Q	| V |	|
12+ 5	0.0988	0.19	Q	| V |	|
12+10	0.1001	0.20	Q	| V |	|
12+15	0.1015	0.20	Q	| V |	|
12+20	0.1030	0.21	Q	| V |	|
12+25	0.1045	0.22	Q	| V |	|
12+30	0.1061	0.23	Q	| V|	|

12+35	0.1077	0.24	Q	V	
12+40	0.1094	0.25	Q	V	
12+45	0.1112	0.25	Q	V	
12+50	0.1130	0.26	Q	V	
12+55	0.1148	0.26	Q	V	
13+ 0	0.1166	0.27	Q	V	
13+ 5	0.1185	0.28	Q	V	
13+10	0.1205	0.28	Q	V	
13+15	0.1225	0.29	Q	V	
13+20	0.1246	0.30	Q	V	
13+25	0.1267	0.31	Q	V	
13+30	0.1289	0.32	Q	V	
13+35	0.1311	0.32	Q	V	
13+40	0.1333	0.32	Q	V	
13+45	0.1355	0.32	Q	V	
13+50	0.1376	0.31	Q	V	
13+55	0.1397	0.30	Q	V	
14+ 0	0.1417	0.29	Q	V	
14+ 5	0.1436	0.28	Q	V	
14+10	0.1455	0.27	Q	V	
14+15	0.1474	0.27	Q	V	
14+20	0.1492	0.27	Q	V	
14+25	0.1511	0.28	Q	V	
14+30	0.1531	0.28	Q	V	
14+35	0.1550	0.28	Q	V	
14+40	0.1569	0.28	Q	V	
14+45	0.1589	0.28	Q	V	
14+50	0.1608	0.28	Q	V	
14+55	0.1627	0.28	Q	V	
15+ 0	0.1646	0.28	Q	V	

15+ 5	0.1666	0.28	|Q	|	|	V
15+10	0.1685	0.28	|Q	|	|	V
15+15	0.1703	0.27	|Q	|	|	V
15+20	0.1722	0.27	|Q	|	|	|V
15+25	0.1741	0.27	|Q	|	|	|V
15+30	0.1759	0.27	|Q	|	|	|V
15+35	0.1777	0.26	|Q	|	|	| V
15+40	0.1795	0.26	|Q	|	|	| V
15+45	0.1813	0.25	|Q	|	|	| V
15+50	0.1830	0.25	Q	|	|	| V
15+55	0.1846	0.24	Q	|	|	| V
16+ 0	0.1863	0.24	Q	|	|	| V
16+ 5	0.1878	0.23	Q	|	|	| V
16+10	0.1893	0.22	Q	|	|	| V
16+15	0.1907	0.20	Q	|	|	| V
16+20	0.1920	0.19	Q	|	|	| V
16+25	0.1932	0.17	Q	|	|	| V
16+30	0.1942	0.14	Q	|	|	| V
16+35	0.1950	0.13	Q	|	|	| V
16+40	0.1958	0.11	Q	|	|	| V
16+45	0.1965	0.10	Q	|	|	| V
16+50	0.1972	0.10	Q	|	|	| V
16+55	0.1978	0.09	Q	|	|	| V
17+ 0	0.1984	0.08	Q	|	|	| V
17+ 5	0.1989	0.08	Q	|	|	| V
17+10	0.1994	0.07	Q	|	|	| V
17+15	0.1999	0.07	Q	|	|	| V
17+20	0.2004	0.07	Q	|	|	| V
17+25	0.2009	0.07	Q	|	|	| V
17+30	0.2013	0.07	Q	|	|	| V

17+35	0.2018	0.07	Q				V
17+40	0.2023	0.07	Q				V
17+45	0.2027	0.07	Q				V
17+50	0.2032	0.07	Q				V
17+55	0.2036	0.06	Q				V
18+ 0	0.2041	0.06	Q				V
18+ 5	0.2045	0.06	Q				V
18+10	0.2049	0.06	Q				V
18+15	0.2053	0.06	Q				V
18+20	0.2057	0.06	Q				V
18+25	0.2060	0.05	Q				V
18+30	0.2064	0.05	Q				V
18+35	0.2068	0.05	Q				V
18+40	0.2071	0.05	Q				V
18+45	0.2074	0.05	Q				V
18+50	0.2078	0.05	Q				V
18+55	0.2081	0.04	Q				V
19+ 0	0.2083	0.04	Q				V
19+ 5	0.2086	0.04	Q				V
19+10	0.2089	0.04	Q				V
19+15	0.2091	0.03	Q				V
19+20	0.2093	0.03	Q				V
19+25	0.2096	0.03	Q				V
19+30	0.2098	0.04	Q				V
19+35	0.2101	0.04	Q				V
19+40	0.2103	0.04	Q				V
19+45	0.2106	0.04	Q				V
19+50	0.2108	0.04	Q				V
19+55	0.2111	0.04	Q				V
20+ 0	0.2113	0.03	Q				V

|
| 20+ 5 | 0.2115 | 0.03 | Q | | | | V |
|
| 20+10 | 0.2118 | 0.03 | Q | | | | V |
|
| 20+15 | 0.2120 | 0.03 | Q | | | | V |
|
| 20+20 | 0.2122 | 0.03 | Q | | | | V |
|
| 20+25 | 0.2124 | 0.03 | Q | | | | V |
|
| 20+30 | 0.2126 | 0.03 | Q | | | | V |
|
| 20+35 | 0.2128 | 0.03 | Q | | | | V |
|
| 20+40 | 0.2130 | 0.03 | Q | | | | V |
|
| 20+45 | 0.2132 | 0.03 | Q | | | | V |
|
| 20+50 | 0.2135 | 0.03 | Q | | | | V |
|
| 20+55 | 0.2137 | 0.03 | Q | | | | V |
|
| 21+ 0 | 0.2139 | 0.03 | Q | | | | V |
|
| 21+ 5 | 0.2141 | 0.03 | Q | | | | V |
|
| 21+10 | 0.2143 | 0.03 | Q | | | | V |
|
| 21+15 | 0.2145 | 0.03 | Q | | | | V |
|
| 21+20 | 0.2147 | 0.03 | Q | | | | V |
|
| 21+25 | 0.2149 | 0.03 | Q | | | | V |
|
| 21+30 | 0.2151 | 0.03 | Q | | | | V |
|
| 21+35 | 0.2153 | 0.03 | Q | | | | V |
|
| 21+40 | 0.2155 | 0.03 | Q | | | | V |
|
| 21+45 | 0.2157 | 0.03 | Q | | | | V |
|
| 21+50 | 0.2159 | 0.03 | Q | | | | V |
|
| 21+55 | 0.2161 | 0.03 | Q | | | | V |
|
| 22+ 0 | 0.2162 | 0.03 | Q | | | |
V|
| 22+ 5 | 0.2164 | 0.03 | Q | | | |
V|
| 22+10 | 0.2166 | 0.03 | Q | | | |
V|
| 22+15 | 0.2168 | 0.03 | Q | | | |
V|
| 22+20 | 0.2170 | 0.03 | Q | | | |
V|
| 22+25 | 0.2172 | 0.03 | Q | | | |
V|
| 22+30 | 0.2174 | 0.03 | Q | | | |

22+35	0.2176	0.03	Q			
22+40	0.2177	0.03	Q			
22+45	0.2179	0.03	Q			
22+50	0.2181	0.02	Q			
22+55	0.2183	0.02	Q			
23+ 0	0.2184	0.02	Q			
23+ 5	0.2186	0.02	Q			
23+10	0.2187	0.02	Q			
23+15	0.2189	0.02	Q			
23+20	0.2191	0.02	Q			
23+25	0.2192	0.02	Q			
23+30	0.2194	0.02	Q			
23+35	0.2195	0.02	Q			
23+40	0.2197	0.02	Q			
23+45	0.2198	0.02	Q			
23+50	0.2200	0.02	Q			
23+55	0.2201	0.02	Q			
24+ 0	0.2203	0.02	Q			
24+ 5	0.2204	0.02	Q			
24+10	0.2206	0.02	Q			
24+15	0.2207	0.02	Q			
24+20	0.2208	0.02	Q			
24+25	0.2209	0.01	Q			
24+30	0.2210	0.01	Q			
24+35	0.2211	0.01	Q			
24+40	0.2211	0.01	Q			
24+45	0.2212	0.01	Q			
24+50	0.2212	0.01	Q			
24+55	0.2213	0.01	Q			
25+ 0	0.2213	0.01	Q			

25+ 5	0.2213	0.00	Q			
25+10	0.2214	0.00	Q			
25+15	0.2214	0.00	Q			
25+20	0.2214	0.00	Q			
25+25	0.2214	0.00	Q			
25+30	0.2214	0.00	Q			
25+35	0.2215	0.00	Q			
25+40	0.2215	0.00	Q			
25+45	0.2215	0.00	Q			
25+50	0.2215	0.00	Q			
25+55	0.2215	0.00	Q			
26+ 0	0.2215	0.00	Q			
26+ 5	0.2215	0.00	Q			
26+10	0.2216	0.00	Q			
26+15	0.2216	0.00	Q			
26+20	0.2216	0.00	Q			
26+25	0.2216	0.00	Q			
26+30	0.2216	0.00	Q			
26+35	0.2216	0.00	Q			
26+40	0.2216	0.00	Q			
26+45	0.2216	0.00	Q			
26+50	0.2216	0.00	Q			
26+55	0.2216	0.00	Q			
27+ 0	0.2216	0.00	Q			
27+ 5	0.2216	0.00	Q			
27+10	0.2216	0.00	Q			
27+15	0.2216	0.00	Q			
27+20	0.2216	0.00	Q			
27+25	0.2216	0.00	Q			
27+30	0.2216	0.00	Q			

27+35	0.2216	0.00	Q			
27+40	0.2216	0.00	Q			
27+45	0.2216	0.00	Q			
27+50	0.2216	0.00	Q			

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

Study date 09/21/22 File: ramonacompre15.out

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

Program License Serial Number 6232

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

English Units used in output format

Ramona Commercial
SCS Hydrograph
Existing Conditions
5yr 1hr

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 = 720.00(Ft.)
Length along longest watercourse measured to centroid = 360.00 (Ft.)
Length along longest watercourse = 0.136 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 2.00(Ft.)
Slope along watercourse = 14.6667 Ft./Mi.
Average Manning's 'N' = 0.200
Lag time = 0.487 Hr.
Lag time = 29.23 Min.
25% of lag time = 7.31 Min.
40% of lag time = 11.69 Min.
Unit time = 5.00 Min.
Duration of storm = 1 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             0.47                    3.50

  100 YEAR Area rainfall data:


  Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.50              1.35                  10.13

  STORM EVENT (YEAR) =    5.00
  Area Averaged 2-Year Rainfall =    0.466(In)
  Area Averaged 100-Year Rainfall =    1.350(In)

  Point rain (area averaged) =    0.673(In)
  Areal adjustment factor =   99.99 %
  Adjusted average point rain =    0.673(In)

  Sub-Area Data:
  Area(Ac.)         Runoff Index   Impervious %
       7.500           84.00         0.100
   Total Area Entered =      7.50(Ac.)


  RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
  AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)
(In/Hr)
  84.0  68.6      0.377     0.100        0.343       1.000
0.343
                                                      Sum (F) =
0.343
  Area averaged mean soil loss (F) (In/Hr) =  0.343
  Minimum soil loss rate ((In/Hr)) =  0.172
  (for 24 hour storm duration)
  Soil low loss rate (decimal) =   0.820
  ------------------------------------------------------------------
---
  Slope of intensity-duration curve for a 1 hour storm =0.5000
  ------------------------------------------------------------------
----

              U n i t  H y d r o g r a p h
                    VALLEY S-Curve
  ------------------------------------------------------------------
--
              Unit Hydrograph Data
  ------------------------------------------------------------------
---
  Unit time period   Time % of lag   Distribution   Unit Hydrograph
      (hrs)                          Graph %           (CFS)
  ------------------------------------------------------------------
---
         1   0.083        17.108         1.491             0.113
         2   0.167        34.216         3.965             0.300
         3   0.250        51.324         6.728             0.509
         4   0.333        68.432         9.594             0.725
         5   0.417        85.540        11.676             0.883
         6   0.500       102.648        12.253             0.926
         7   0.583       119.756        10.114             0.765
         8   0.667       136.865         7.164             0.542
         9   0.750       153.973         5.232             0.395
        10   0.833       171.081         3.830             0.289
```

11	0.917	188.189	2.927	0.221
12	1.000	205.297	2.519	0.190
13	1.083	222.405	2.167	0.164
14	1.167	239.513	1.930	0.146
15	1.250	256.621	1.699	0.128
16	1.333	273.729	1.544	0.117
17	1.417	290.837	1.388	0.105
18	1.500	307.945	1.210	0.091
19	1.583	325.053	1.056	0.080
20	1.667	342.161	1.026	0.078
21	1.750	359.269	0.986	0.075
22	1.833	376.377	0.781	0.059
23	1.917	393.486	0.753	0.057
24	2.000	410.594	0.713	0.054
25	2.083	427.702	0.562	0.043
26	2.167	444.810	0.547	0.041
27	2.250	461.918	0.539	0.041
28	2.333	479.026	0.515	0.039
29	2.417	496.134	0.513	0.039
30	2.500	513.242	0.472	0.036
31	2.583	530.350	0.380	0.029
32	2.667	547.458	0.376	0.028
33	2.750	564.566	0.352	0.027
34	2.833	581.674	0.309	0.023
35	2.917	598.782	0.308	0.023
36	3.000	615.890	0.278	0.021
37	3.083	632.999	0.240	0.018
38	3.167	650.107	0.240	0.018
39	3.250	667.215	0.205	0.015
40	3.333	684.323	0.171	0.013
41	3.417	701.431	0.171	0.013
42	3.500	718.539	0.171	0.013
43	3.583	735.647	0.171	0.013
44	3.667	752.755	0.171	0.013
45	3.750	769.863	0.171	0.013
46	3.833	786.971	0.171	0.013
47	3.917	804.079	0.216	0.016
			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	4.20	0.339	(0.343)	0.278	0.061
2	0.17	4.30	0.347	(0.343)	0.285	0.063
3	0.25	5.00	0.404	(0.343)	0.331	0.073
4	0.33	5.00	0.404	(0.343)	0.331	0.073
5	0.42	5.80	0.468	0.343	(0.384)	0.125
6	0.50	6.50	0.525	0.343	(0.430)	0.182
7	0.58	7.40	0.598	0.343	(0.490)	0.254
8	0.67	8.60	0.695	0.343	(0.570)	0.351
9	0.75	12.30	0.993	0.343	(0.815)	0.650
10	0.83	29.10	2.350	0.343	(1.927)	2.007
11	0.92	6.80	0.549	0.343	(0.450)	0.206
12	1.00	5.00	0.404	(0.343)	0.331	0.073

```
            (Loss Rate Not Used)
     Sum =     100.0                                    Sum =     4.1
      Flood volume = Effective rainfall      0.34(In)
       times area       7.5(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
      Total soil loss =      0.33(In)
      Total soil loss =     0.206(Ac.Ft)
      Total rainfall =      0.67(In)
      Flood volume =        9341.8 Cubic Feet
      Total soil loss =        8980.9 Cubic Feet
      ---------------------------------------------------------------------
--
       Peak flow rate of this hydrograph =      3.125(CFS)
      ---------------------------------------------------------------------
--
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++
                          1 - 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       0.0002      0.03  Q         |         |         |
|
    0+15       0.0006      0.06  Q         |         |         |
|
    0+20       0.0014      0.11  Q         |         |         |
|
    0+25       0.0025      0.17  Q         |         |         |
|
    0+30       0.0043      0.26  VQ        |         |         |
|
    0+35       0.0069      0.37  |Q        |         |         |
|
    0+40       0.0104      0.51  |VQ       |         |         |
|
    0+45       0.0154      0.73  | Q       |         |         |
|
    0+50       0.0237      1.20  |   Q     |         |         |
|
    0+55       0.0361      1.80  |     VQ  |         |         |
|
    1+ 0       0.0525      2.39  |        Q|         |         |
|
    1+ 5       0.0724      2.88  |         |Q V      |         |
|
    1+10       0.0939      3.13  |         | Q    V  |         |
|
    1+15       0.1146      3.01  |         | Q       |V        |
|
    1+20       0.1316      2.46  |        Q|         |   V     |
|
```

1+25	0.1441	1.82	| Q |	|	| V |	|
1+30	0.1534	1.35	| Q |	|	| V |	|
1+35	0.1604	1.02	| Q |	|	| V|	|
1+40	0.1660	0.81	| Q |	|	| V	|
1+45	0.1708	0.70	| Q |	|	| |V	|
1+50	0.1750	0.60	| Q |	|	| | V	|
1+55	0.1787	0.54	| Q |	|	| | V	|
2+ 0	0.1820	0.48	|Q |	|	| | V	|
2+ 5	0.1849	0.43	|Q |	|	| | V	|
2+10	0.1876	0.39	|Q |	|	| | V	|
2+15	0.1899	0.34	|Q |	|	| | V	|
2+20	0.1921	0.31	|Q |	|	| | V	|
2+25	0.1940	0.29	|Q |	|	| | V	|
2+30	0.1959	0.27	|Q |	|	| | V	|
2+35	0.1975	0.23	Q |	|	| | V	|
2+40	0.1989	0.21	Q |	|	| | V	|
2+45	0.2003	0.20	Q |	|	| | V	|
2+50	0.2015	0.17	Q |	|	| | V	|
2+55	0.2026	0.16	Q |	|	| | V	|
3+ 0	0.2037	0.16	Q |	|	| | V	|
3+ 5	0.2047	0.15	Q |	|	| | V	|
3+10	0.2057	0.14	Q |	|	| | V	|
3+15	0.2066	0.13	Q |	|	| | V	|
3+20	0.2073	0.11	Q |	|	| | V	|
3+25	0.2081	0.11	Q |	|	| | V	|
3+30	0.2088	0.10	Q |	|	| | V	|
3+35	0.2094	0.09	Q |	|	| |	V|
3+40	0.2100	0.09	Q |	|	| |	V|
3+45	0.2105	0.08	Q |	|	| |	V|
3+50	0.2110	0.07	Q |	|	| |	V|

3+55	0.2115	0.07	Q	|	|	| V|
4+ 0	0.2119	0.06	Q	|	|	| V|
4+ 5	0.2122	0.05	Q	|	|	| V|
4+10	0.2126	0.05	Q	|	|	| V|
4+15	0.2129	0.05	Q	|	|	| V|
4+20	0.2133	0.05	Q	|	|	| V|
4+25	0.2136	0.05	Q	|	|	| V|
4+30	0.2139	0.04	Q	|	|	| V|
4+35	0.2142	0.04	Q	|	|	| V|
4+40	0.2144	0.04	Q	|	|	| V|
4+45	0.2144	0.00	Q	|	|	| V|
4+50	0.2145	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

Study date 09/21/22 File: ramonacompre35.out

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

Program License Serial Number 6232

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

English Units used in output format

Ramona Commercial
SCS Hydrograph
Existing Conditions
5yr 3hr

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 = 720.00(Ft.)
Length along longest watercourse measured to centroid = 360.00 (Ft.)
Length along longest watercourse = 0.136 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 2.00(Ft.)
Slope along watercourse = 14.6667 Ft./Mi.
Average Manning's 'N' = 0.200
Lag time = 0.487 Hr.
Lag time = 29.23 Min.
25% of lag time = 7.31 Min.
40% of lag time = 11.69 Min.
Unit time = 5.00 Min.
Duration of storm = 3 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             0.82                    6.14

  100 YEAR Area rainfall data:


  Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.50              2.04                   15.30

  STORM EVENT (YEAR) =    5.00
  Area Averaged 2-Year Rainfall =    0.819(In)
  Area Averaged 100-Year Rainfall =    2.040(In)

  Point rain (area averaged) =    1.105(In)
  Areal adjustment factor =  100.00 %
  Adjusted average point rain =    1.105(In)

  Sub-Area Data:
  Area(Ac.)         Runoff Index   Impervious %
       7.500           84.00          0.100
   Total Area Entered =      7.50(Ac.)


  RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
  AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)
(In/Hr)
  84.0  68.6      0.377     0.100        0.343       1.000
0.343
                                                      Sum (F) =
0.343
  Area averaged mean soil loss (F) (In/Hr) =  0.343
  Minimum soil loss rate ((In/Hr)) =  0.172
  (for 24 hour storm duration)
  Soil low loss rate (decimal) =   0.820
  ------------------------------------------------------------------
---

              U n i t  H y d r o g r a p h
                    VALLEY S-Curve
  ------------------------------------------------------------------
--
              Unit Hydrograph Data
  ------------------------------------------------------------------
---
  Unit time period   Time % of lag   Distribution   Unit Hydrograph
      (hrs)                          Graph %           (CFS)
  ------------------------------------------------------------------
---
         1   0.083        17.108         1.491             0.113
         2   0.167        34.216         3.965             0.300
         3   0.250        51.324         6.728             0.509
         4   0.333        68.432         9.594             0.725
         5   0.417        85.540        11.676             0.883
         6   0.500       102.648        12.253             0.926
         7   0.583       119.756        10.114             0.765
         8   0.667       136.865         7.164             0.542
         9   0.750       153.973         5.232             0.395
        10   0.833       171.081         3.830             0.289
        11   0.917       188.189         2.927             0.221
        12   1.000       205.297         2.519             0.190
        13   1.083       222.405         2.167             0.164
```

14	1.167	239.513	1.930	0.146
15	1.250	256.621	1.699	0.128
16	1.333	273.729	1.544	0.117
17	1.417	290.837	1.388	0.105
18	1.500	307.945	1.210	0.091
19	1.583	325.053	1.056	0.080
20	1.667	342.161	1.026	0.078
21	1.750	359.269	0.986	0.075
22	1.833	376.377	0.781	0.059
23	1.917	393.486	0.753	0.057
24	2.000	410.594	0.713	0.054
25	2.083	427.702	0.562	0.043
26	2.167	444.810	0.547	0.041
27	2.250	461.918	0.539	0.041
28	2.333	479.026	0.515	0.039
29	2.417	496.134	0.513	0.039
30	2.500	513.242	0.472	0.036
31	2.583	530.350	0.380	0.029
32	2.667	547.458	0.376	0.028
33	2.750	564.566	0.352	0.027
34	2.833	581.674	0.309	0.023
35	2.917	598.782	0.308	0.023
36	3.000	615.890	0.278	0.021
37	3.083	632.999	0.240	0.018
38	3.167	650.107	0.240	0.018
39	3.250	667.215	0.205	0.015
40	3.333	684.323	0.171	0.013
41	3.417	701.431	0.171	0.013
42	3.500	718.539	0.171	0.013
43	3.583	735.647	0.171	0.013
44	3.667	752.755	0.171	0.013
45	3.750	769.863	0.171	0.013
46	3.833	786.971	0.171	0.013
47	3.917	804.079	0.216	0.016
			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

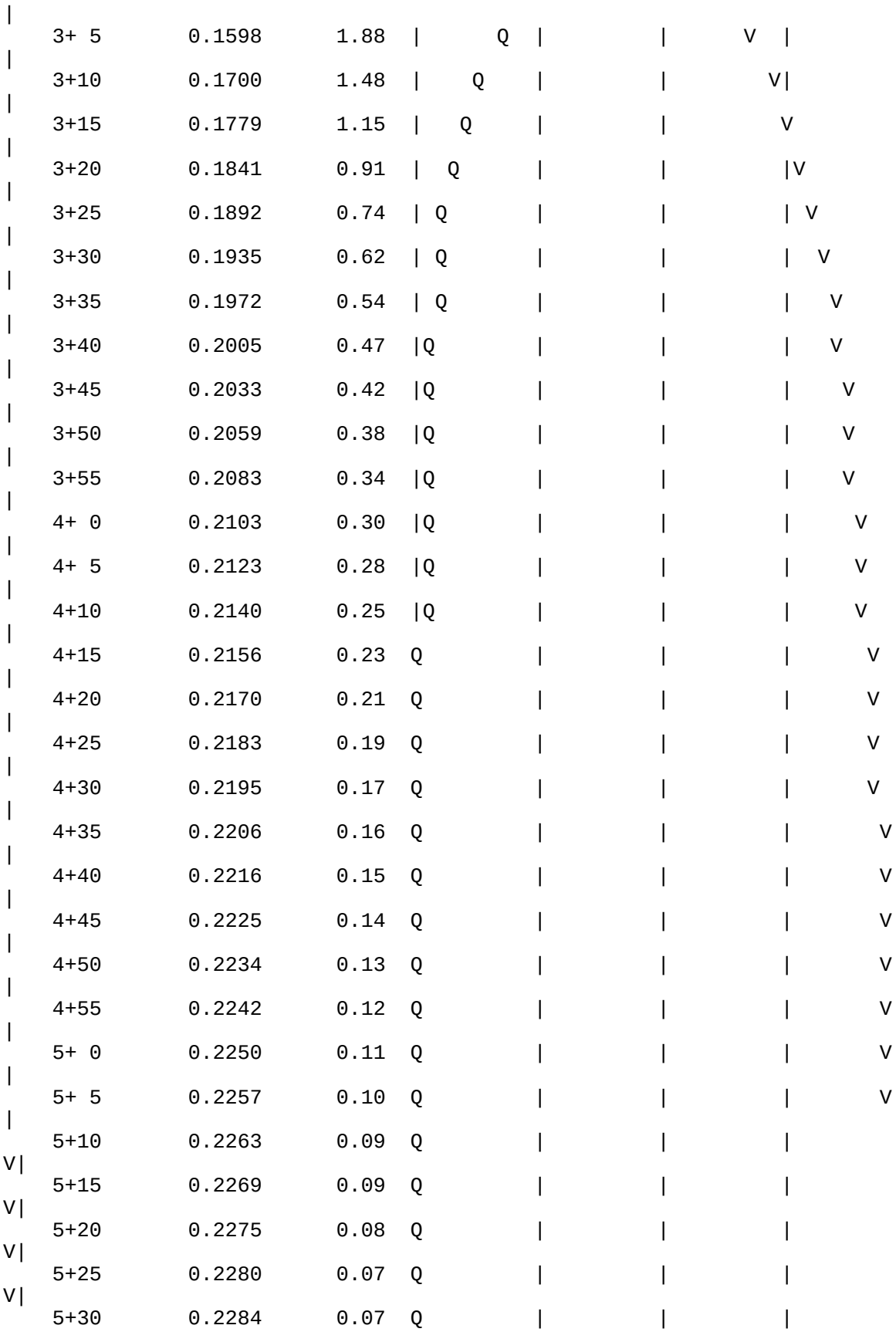
Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.172	(0.343)	0.141	0.031
2	0.17	1.30	0.172	(0.343)	0.141	0.031
3	0.25	1.10	0.146	(0.343)	0.120	0.026
4	0.33	1.50	0.199	(0.343)	0.163	0.036
5	0.42	1.50	0.199	(0.343)	0.163	0.036
6	0.50	1.80	0.239	(0.343)	0.196	0.043
7	0.58	1.50	0.199	(0.343)	0.163	0.036
8	0.67	1.80	0.239	(0.343)	0.196	0.043
9	0.75	1.80	0.239	(0.343)	0.196	0.043
10	0.83	1.50	0.199	(0.343)	0.163	0.036
11	0.92	1.60	0.212	(0.343)	0.174	0.038
12	1.00	1.80	0.239	(0.343)	0.196	0.043
13	1.08	2.20	0.292	(0.343)	0.239	0.053
14	1.17	2.20	0.292	(0.343)	0.239	0.053
15	1.25	2.20	0.292	(0.343)	0.239	0.053

```
 16   1.33     2.00      0.265       (  0.343)       0.217        0.048
 17   1.42     2.60      0.345       (  0.343)       0.283        0.062
 18   1.50     2.70      0.358       (  0.343)       0.294        0.064
 19   1.58     2.40      0.318       (  0.343)       0.261        0.057
 20   1.67     2.70      0.358       (  0.343)       0.294        0.064
 21   1.75     3.30      0.438          0.343    (  0.359)       0.094
 22   1.83     3.10      0.411       (  0.343)       0.337        0.074
 23   1.92     2.90      0.385       (  0.343)       0.315        0.069
 24   2.00     3.00      0.398       (  0.343)       0.326        0.072
 25   2.08     3.10      0.411       (  0.343)       0.337        0.074
 26   2.17     4.20      0.557          0.343    (  0.457)       0.214
 27   2.25     5.00      0.663          0.343    (  0.544)       0.320
 28   2.33     3.50      0.464          0.343    (  0.381)       0.121
 29   2.42     6.80      0.902          0.343    (  0.739)       0.558
 30   2.50     7.30      0.968          0.343    (  0.794)       0.625
 31   2.58     8.20      1.087          0.343    (  0.892)       0.744
 32   2.67     5.90      0.782          0.343    (  0.641)       0.439
 33   2.75     2.00      0.265       (  0.343)       0.217        0.048
 34   2.83     1.80      0.239       (  0.343)       0.196        0.043
 35   2.92     1.80      0.239       (  0.343)       0.196        0.043
 36   3.00     0.60      0.080       (  0.343)       0.065        0.014
            (Loss Rate Not Used)
    Sum =     100.0                                   Sum =     4.4
     Flood volume = Effective rainfall      0.37(In)
      times area       7.5(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
     Total soil loss =      0.73(In)
     Total soil loss =     0.459(Ac.Ft)
     Total rainfall =      1.10(In)
     Flood volume =       10089.1 Cubic Feet
     Total soil loss =       19993.2 Cubic Feet
     ------------------------------------------------------------------
--
      Peak flow rate of this hydrograph =      2.396(CFS)
     ------------------------------------------------------------------
--
     ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++
                         3 - 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      0.01  Q         |         |         |
|
    0+15       0.0003      0.03  Q         |         |         |
|
    0+20       0.0007      0.05  Q         |         |         |
|
    0+25       0.0012      0.08  Q         |         |         |
|
    0+30       0.0019      0.11  Q         |         |         |
```

0+35	0.0029	0.14	Q			
0+40	0.0040	0.16	Q			
0+45	0.0052	0.18	Q			
0+50	0.0066	0.20	QV			
0+55	0.0081	0.21	QV			
1+ 0	0.0096	0.22	QV			
1+ 5	0.0112	0.23	QV			
1+10	0.0129	0.24	Q V			
1+15	0.0147	0.26	|QV			
1+20	0.0165	0.27	|QV			
1+25	0.0185	0.29	|Q V			
1+30	0.0206	0.31	|Q V			
1+35	0.0228	0.32	|Q V			
1+40	0.0252	0.34	|Q V			
1+45	0.0276	0.36	|Q V			
1+50	0.0303	0.38	|Q V			
1+55	0.0331	0.41	|Q V			
2+ 0	0.0360	0.43	|Q V			
2+ 5	0.0391	0.45	|Q V			
2+10	0.0424	0.48	|Q V			
2+15	0.0462	0.55	| Q V			
2+20	0.0505	0.63	| Q V |			
2+25	0.0559	0.78	| Q V|			
2+30	0.0630	1.03	| Q V			
2+35	0.0725	1.37	| Q | V			
2+40	0.0846	1.76	| Q | V			
2+45	0.0990	2.10	| Q | V |			
2+50	0.1151	2.34	| Q| V|			
2+55	0.1316	2.40	| Q| | V			
3+ 0	0.1469	2.22	| Q | | V |			



5+35	0.2288	0.06	Q			
5+40	0.2292	0.05	Q			
5+45	0.2296	0.05	Q			
5+50	0.2299	0.05	Q			
5+55	0.2302	0.04	Q			
6+ 0	0.2304	0.04	Q			
6+ 5	0.2307	0.04	Q			
6+10	0.2310	0.03	Q			
6+15	0.2312	0.03	Q			
6+20	0.2314	0.03	Q			
6+25	0.2315	0.02	Q			
6+30	0.2316	0.01	Q			
6+35	0.2316	0.00	Q			
6+40	0.2316	0.00	Q			
6+45	0.2316	0.00	Q			
6+50	0.2316	0.00	Q			

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

Study date 09/21/22 File: ramonacompre65.out

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

Program License Serial Number 6232

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

English Units used in output format

Ramona Commercial
SCS Hydrograph
Existing Conditions
5yr 6hr

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 = 720.00(Ft.)
Length along longest watercourse measured to centroid = 360.00 (Ft.)
Length along longest watercourse = 0.136 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 2.00(Ft.)
Slope along watercourse = 14.6667 Ft./Mi.
Average Manning's 'N' = 0.200
Lag time = 0.487 Hr.
Lag time = 29.23 Min.
25% of lag time = 7.31 Min.
40% of lag time = 11.69 Min.
Unit time = 5.00 Min.
Duration of storm = 6 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             1.14                    8.55

  100 YEAR Area rainfall data:


  Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.50              2.75                  20.63

  STORM EVENT (YEAR) =    5.00
  Area Averaged 2-Year Rainfall =    1.140(In)
  Area Averaged 100-Year Rainfall =    2.750(In)

  Point rain (area averaged) =    1.517(In)
  Areal adjustment factor =  100.00 %
  Adjusted average point rain =    1.517(In)

  Sub-Area Data:
  Area(Ac.)         Runoff Index   Impervious %
       7.500           84.00          0.100
   Total Area Entered =      7.50(Ac.)


  RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
  AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)
(In/Hr)
  84.0  68.6      0.377     0.100        0.343       1.000
0.343
                                                      Sum (F) =
0.343
  Area averaged mean soil loss (F) (In/Hr) =  0.343
  Minimum soil loss rate ((In/Hr)) =  0.172
  (for 24 hour storm duration)
  Soil low loss rate (decimal) =   0.820
  ------------------------------------------------------------------
---

              U n i t  H y d r o g r a p h
                    VALLEY S-Curve
  ------------------------------------------------------------------
--
              Unit Hydrograph Data
  ------------------------------------------------------------------
---
  Unit time period   Time % of lag   Distribution   Unit Hydrograph
      (hrs)                          Graph %           (CFS)
  ------------------------------------------------------------------
---
         1   0.083        17.108         1.491            0.113
         2   0.167        34.216         3.965            0.300
         3   0.250        51.324         6.728            0.509
         4   0.333        68.432         9.594            0.725
         5   0.417        85.540        11.676            0.883
         6   0.500       102.648        12.253            0.926
         7   0.583       119.756        10.114            0.765
         8   0.667       136.865         7.164            0.542
         9   0.750       153.973         5.232            0.395
        10   0.833       171.081         3.830            0.289
        11   0.917       188.189         2.927            0.221
        12   1.000       205.297         2.519            0.190
        13   1.083       222.405         2.167            0.164
```

14	1.167	239.513	1.930	0.146
15	1.250	256.621	1.699	0.128
16	1.333	273.729	1.544	0.117
17	1.417	290.837	1.388	0.105
18	1.500	307.945	1.210	0.091
19	1.583	325.053	1.056	0.080
20	1.667	342.161	1.026	0.078
21	1.750	359.269	0.986	0.075
22	1.833	376.377	0.781	0.059
23	1.917	393.486	0.753	0.057
24	2.000	410.594	0.713	0.054
25	2.083	427.702	0.562	0.043
26	2.167	444.810	0.547	0.041
27	2.250	461.918	0.539	0.041
28	2.333	479.026	0.515	0.039
29	2.417	496.134	0.513	0.039
30	2.500	513.242	0.472	0.036
31	2.583	530.350	0.380	0.029
32	2.667	547.458	0.376	0.028
33	2.750	564.566	0.352	0.027
34	2.833	581.674	0.309	0.023
35	2.917	598.782	0.308	0.023
36	3.000	615.890	0.278	0.021
37	3.083	632.999	0.240	0.018
38	3.167	650.107	0.240	0.018
39	3.250	667.215	0.205	0.015
40	3.333	684.323	0.171	0.013
41	3.417	701.431	0.171	0.013
42	3.500	718.539	0.171	0.013
43	3.583	735.647	0.171	0.013
44	3.667	752.755	0.171	0.013
45	3.750	769.863	0.171	0.013
46	3.833	786.971	0.171	0.013
47	3.917	804.079	0.216	0.016
			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	0.50	0.091	(0.343)	0.075	0.016
2	0.17	0.60	0.109	(0.343)	0.090	0.020
3	0.25	0.60	0.109	(0.343)	0.090	0.020
4	0.33	0.60	0.109	(0.343)	0.090	0.020
5	0.42	0.60	0.109	(0.343)	0.090	0.020
6	0.50	0.70	0.127	(0.343)	0.104	0.023
7	0.58	0.70	0.127	(0.343)	0.104	0.023
8	0.67	0.70	0.127	(0.343)	0.104	0.023
9	0.75	0.70	0.127	(0.343)	0.104	0.023
10	0.83	0.70	0.127	(0.343)	0.104	0.023
11	0.92	0.70	0.127	(0.343)	0.104	0.023
12	1.00	0.80	0.146	(0.343)	0.119	0.026
13	1.08	0.80	0.146	(0.343)	0.119	0.026
14	1.17	0.80	0.146	(0.343)	0.119	0.026
15	1.25	0.80	0.146	(0.343)	0.119	0.026

16	1.33	0.80	0.146	(0.343)	0.119	0.026
17	1.42	0.80	0.146	(0.343)	0.119	0.026
18	1.50	0.80	0.146	(0.343)	0.119	0.026
19	1.58	0.80	0.146	(0.343)	0.119	0.026
20	1.67	0.80	0.146	(0.343)	0.119	0.026
21	1.75	0.80	0.146	(0.343)	0.119	0.026
22	1.83	0.80	0.146	(0.343)	0.119	0.026
23	1.92	0.80	0.146	(0.343)	0.119	0.026
24	2.00	0.90	0.164	(0.343)	0.134	0.029
25	2.08	0.80	0.146	(0.343)	0.119	0.026
26	2.17	0.90	0.164	(0.343)	0.134	0.029
27	2.25	0.90	0.164	(0.343)	0.134	0.029
28	2.33	0.90	0.164	(0.343)	0.134	0.029
29	2.42	0.90	0.164	(0.343)	0.134	0.029
30	2.50	0.90	0.164	(0.343)	0.134	0.029
31	2.58	0.90	0.164	(0.343)	0.134	0.029
32	2.67	0.90	0.164	(0.343)	0.134	0.029
33	2.75	1.00	0.182	(0.343)	0.149	0.033
34	2.83	1.00	0.182	(0.343)	0.149	0.033
35	2.92	1.00	0.182	(0.343)	0.149	0.033
36	3.00	1.00	0.182	(0.343)	0.149	0.033
37	3.08	1.00	0.182	(0.343)	0.149	0.033
38	3.17	1.10	0.200	(0.343)	0.164	0.036
39	3.25	1.10	0.200	(0.343)	0.164	0.036
40	3.33	1.10	0.200	(0.343)	0.164	0.036
41	3.42	1.20	0.218	(0.343)	0.179	0.039
42	3.50	1.30	0.237	(0.343)	0.194	0.043
43	3.58	1.40	0.255	(0.343)	0.209	0.046
44	3.67	1.40	0.255	(0.343)	0.209	0.046
45	3.75	1.50	0.273	(0.343)	0.224	0.049
46	3.83	1.50	0.273	(0.343)	0.224	0.049
47	3.92	1.60	0.291	(0.343)	0.239	0.052
48	4.00	1.60	0.291	(0.343)	0.239	0.052
49	4.08	1.70	0.309	(0.343)	0.254	0.056
50	4.17	1.80	0.328	(0.343)	0.269	0.059
51	4.25	1.90	0.346	(0.343)	0.284	0.062
52	4.33	2.00	0.364	(0.343)	0.299	0.066
53	4.42	2.10	0.382	(0.343)	0.313	0.069
54	4.50	2.10	0.382	(0.343)	0.313	0.069
55	4.58	2.20	0.401	(0.343)	0.328	0.072
56	4.67	2.30	0.419	0.343	(0.343)	0.076
57	4.75	2.40	0.437	0.343	(0.358)	0.094
58	4.83	2.40	0.437	0.343	(0.358)	0.094
59	4.92	2.50	0.455	0.343	(0.373)	0.112
60	5.00	2.60	0.473	0.343	(0.388)	0.130
61	5.08	3.10	0.564	0.343	(0.463)	0.221
62	5.17	3.60	0.655	0.343	(0.537)	0.312
63	5.25	3.90	0.710	0.343	(0.582)	0.367
64	5.33	4.20	0.765	0.343	(0.627)	0.421
65	5.42	4.70	0.856	0.343	(0.702)	0.512
66	5.50	5.60	1.019	0.343	(0.836)	0.676
67	5.58	1.90	0.346	(0.343)	0.284	0.062
68	5.67	0.90	0.164	(0.343)	0.134	0.029
69	5.75	0.60	0.109	(0.343)	0.090	0.020
70	5.83	0.50	0.091	(0.343)	0.075	0.016
71	5.92	0.30	0.055	(0.343)	0.045	0.010
72	6.00	0.20	0.036	(0.343)	0.030	0.007

(Loss Rate Not Used)

Sum = 100.0 Sum = 5.1

Flood volume = Effective rainfall 0.42(In)

```
       times area       7.5(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
      Total soil loss =      1.09(In)
      Total soil loss =     0.684(Ac.Ft)
      Total rainfall =      1.52(In)
      Flood volume =       11502.5 Cubic Feet
      Total soil loss =       29799.5 Cubic Feet
      ---------------------------------------------------------------
--
       Peak flow rate of this hydrograph =      2.093(CFS)
      ---------------------------------------------------------------
--
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++
                          6 - 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      0.01  Q         |         |         |
|
    0+15       0.0002      0.02  Q         |         |         |
|
    0+20       0.0004      0.03  Q         |         |         |
|
    0+25       0.0007      0.05  Q         |         |         |
|
    0+30       0.0012      0.07  Q         |         |         |
|
    0+35       0.0017      0.08  Q         |         |         |
|
    0+40       0.0024      0.09  Q         |         |         |
|
    0+45       0.0031      0.11  Q         |         |         |
|
    0+50       0.0039      0.11  Q         |         |         |
|
    0+55       0.0047      0.12  Q         |         |         |
|
    1+ 0       0.0056      0.13  Q         |         |         |
|
    1+ 5       0.0065      0.13  Q         |         |         |
|
    1+10       0.0075      0.14  QV        |         |         |
|
    1+15       0.0085      0.15  QV        |         |         |
|
    1+20       0.0096      0.15  QV        |         |         |
|
    1+25       0.0107      0.16  QV        |         |         |
|
    1+30       0.0118      0.16  QV        |         |         |
```

1+35	0.0129	0.17	QV	|	|	|
1+40	0.0141	0.17	Q V	|	|	|
1+45	0.0153	0.17	Q V	|	|	|
1+50	0.0165	0.18	Q V	|	|	|
1+55	0.0177	0.18	Q V	|	|	|
2+ 0	0.0190	0.18	Q V	|	|	|
2+ 5	0.0202	0.18	Q V	|	|	|
2+10	0.0215	0.18	Q V	|	|	|
2+15	0.0228	0.19	Q V	|	|	|
2+20	0.0241	0.19	Q V	|	|	|
2+25	0.0255	0.19	Q V	|	|	|
2+30	0.0268	0.20	Q V	|	|	|
2+35	0.0282	0.20	Q V	|	|	|
2+40	0.0296	0.20	Q V	|	|	|
2+45	0.0310	0.21	Q V	|	|	|
2+50	0.0325	0.21	Q V	|	|	|
2+55	0.0340	0.21	Q V	|	|	|
3+ 0	0.0355	0.22	Q V	|	|	|
3+ 5	0.0370	0.22	Q V	|	|	|
3+10	0.0385	0.23	Q V	|	|	|
3+15	0.0401	0.23	Q V	|	|	|
3+20	0.0417	0.23	Q V	|	|	|
3+25	0.0434	0.24	Q V	|	|	|
3+30	0.0451	0.24	Q V	|	|	|
3+35	0.0468	0.25	|Q V	|	|	|
3+40	0.0486	0.26	|Q V	|	|	|
3+45	0.0505	0.27	|Q V	|	|	|
3+50	0.0524	0.28	|Q V	|	|	|
3+55	0.0545	0.30	|Q V	|	|	|
4+ 0	0.0566	0.31	|Q V	|	|	|

4+ 5	0.0588	0.32	Q V			
4+10	0.0611	0.33	Q V			
4+15	0.0634	0.34	Q V			
4+20	0.0659	0.36	Q V			
4+25	0.0684	0.37	Q V			
4+30	0.0711	0.39	Q V			
4+35	0.0739	0.40	Q V			
4+40	0.0768	0.42	Q V			
4+45	0.0798	0.44	Q V			
4+50	0.0830	0.46	Q V			
4+55	0.0864	0.49	Q V			
5+ 0	0.0900	0.52	Q V			
5+ 5	0.0940	0.58	Q V			
5+10	0.0985	0.66	Q V			
5+15	0.1040	0.79	Q V			
5+20	0.1107	0.98	Q V			
5+25	0.1191	1.22	Q V			
5+30	0.1297	1.53	Q V			
5+35	0.1423	1.83	Q V			
5+40	0.1562	2.02	Q V			
5+45	0.1706	2.09	Q V			
5+50	0.1844	2.00	Q V			
5+55	0.1966	1.76	Q V			
6+ 0	0.2063	1.41	Q V			
6+ 5	0.2138	1.09	Q V			
6+10	0.2197	0.86	Q V			
6+15	0.2245	0.70	Q V			
6+20	0.2286	0.59	Q V			
6+25	0.2321	0.51	Q V			
6+30	0.2351	0.44	Q V			

6+35	0.2379	0.39	|Q	|	|	|	V |
6+40	0.2403	0.35	|Q	|	|	|	V |
6+45	0.2424	0.32	|Q	|	|	|	V |
6+50	0.2444	0.28	|Q	|	|	|	V |
6+55	0.2462	0.26	|Q	|	|	|	V |
7+ 0	0.2478	0.23	Q	|	|	|	V |
7+ 5	0.2492	0.21	Q	|	|	|	V |
7+10	0.2506	0.19	Q	|	|	|	V |
7+15	0.2518	0.17	Q	|	|	|	V |
7+20	0.2529	0.16	Q	|	|	|	V |
7+25	0.2539	0.15	Q	|	|	|	V |
7+30	0.2548	0.13	Q	|	|	|	V |
7+35	0.2557	0.13	Q	|	|	|	V |
7+40	0.2565	0.12	Q	|	|	|	V |
7+45	0.2573	0.11	Q	|	|	|	V |
7+50	0.2580	0.10	Q	|	|	|	V|
7+55	0.2586	0.09	Q	|	|	|	V|
8+ 0	0.2592	0.08	Q	|	|	|	V|
8+ 5	0.2598	0.08	Q	|	|	|	V|
8+10	0.2603	0.07	Q	|	|	|	V|
8+15	0.2607	0.07	Q	|	|	|	V|
8+20	0.2611	0.06	Q	|	|	|	V|
8+25	0.2615	0.06	Q	|	|	|	V|
8+30	0.2619	0.05	Q	|	|	|	V|
8+35	0.2622	0.05	Q	|	|	|	V|
8+40	0.2625	0.04	Q	|	|	|	V|
8+45	0.2627	0.04	Q	|	|	|	V|
8+50	0.2630	0.04	Q	|	|	|	V|
8+55	0.2632	0.04	Q	|	|	|	V|
9+ 0	0.2634	0.03	Q	|	|	|	

9+ 5	0.2636	0.03	Q			
9+10	0.2638	0.02	Q			
9+15	0.2639	0.02	Q			
9+20	0.2640	0.01	Q			
9+25	0.2640	0.00	Q			
9+30	0.2641	0.00	Q			
9+35	0.2641	0.00	Q			
9+40	0.2641	0.00	Q			
9+45	0.2641	0.00	Q			
9+50	0.2641	0.00	Q			

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

Study date 09/21/22 File: ramonacompre245.out

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

Program License Serial Number 6232

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SCS Hydrograph
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5yr 24hr

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40% of lag time = 11.69 Min.
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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             1.97                   14.78

  100 YEAR Area rainfall data:


  Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.50              5.02                  37.65

  STORM EVENT (YEAR) =    5.00
  Area Averaged 2-Year Rainfall =    1.970(In)
  Area Averaged 100-Year Rainfall =    5.020(In)

  Point rain (area averaged) =    2.684(In)
  Areal adjustment factor =  100.00 %
  Adjusted average point rain =    2.684(In)

  Sub-Area Data:
  Area(Ac.)         Runoff Index   Impervious %
       7.500           84.00          0.100
   Total Area Entered =      7.50(Ac.)


  RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
  AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)
(In/Hr)
  84.0  68.6      0.377     0.100        0.343       1.000
0.343
                                                      Sum (F) =
0.343
  Area averaged mean soil loss (F) (In/Hr) =  0.343
  Minimum soil loss rate ((In/Hr)) =  0.172
  (for 24 hour storm duration)
  Soil low loss rate (decimal) =   0.820
  ------------------------------------------------------------------
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              U n i t  H y d r o g r a p h
                    VALLEY S-Curve
  ------------------------------------------------------------------
--
              Unit Hydrograph Data
  ------------------------------------------------------------------
---
  Unit time period   Time % of lag   Distribution   Unit Hydrograph
      (hrs)                          Graph %           (CFS)
  ------------------------------------------------------------------
---
         1   0.083        17.108         1.491             0.113
         2   0.167        34.216         3.965             0.300
         3   0.250        51.324         6.728             0.509
         4   0.333        68.432         9.594             0.725
         5   0.417        85.540        11.676             0.883
         6   0.500       102.648        12.253             0.926
         7   0.583       119.756        10.114             0.765
         8   0.667       136.865         7.164             0.542
         9   0.750       153.973         5.232             0.395
        10   0.833       171.081         3.830             0.289
        11   0.917       188.189         2.927             0.221
        12   1.000       205.297         2.519             0.190
        13   1.083       222.405         2.167             0.164
```

14	1.167	239.513	1.930	0.146
15	1.250	256.621	1.699	0.128
16	1.333	273.729	1.544	0.117
17	1.417	290.837	1.388	0.105
18	1.500	307.945	1.210	0.091
19	1.583	325.053	1.056	0.080
20	1.667	342.161	1.026	0.078
21	1.750	359.269	0.986	0.075
22	1.833	376.377	0.781	0.059
23	1.917	393.486	0.753	0.057
24	2.000	410.594	0.713	0.054
25	2.083	427.702	0.562	0.043
26	2.167	444.810	0.547	0.041
27	2.250	461.918	0.539	0.041
28	2.333	479.026	0.515	0.039
29	2.417	496.134	0.513	0.039
30	2.500	513.242	0.472	0.036
31	2.583	530.350	0.380	0.029
32	2.667	547.458	0.376	0.028
33	2.750	564.566	0.352	0.027
34	2.833	581.674	0.309	0.023
35	2.917	598.782	0.308	0.023
36	3.000	615.890	0.278	0.021
37	3.083	632.999	0.240	0.018
38	3.167	650.107	0.240	0.018
39	3.250	667.215	0.205	0.015
40	3.333	684.323	0.171	0.013
41	3.417	701.431	0.171	0.013
42	3.500	718.539	0.171	0.013
43	3.583	735.647	0.171	0.013
44	3.667	752.755	0.171	0.013
45	3.750	769.863	0.171	0.013
46	3.833	786.971	0.171	0.013
47	3.917	804.079	0.216	0.016
			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	0.021	(0.608)	0.018	0.004
2	0.17	0.07	0.021	(0.606)	0.018	0.004
3	0.25	0.07	0.021	(0.604)	0.018	0.004
4	0.33	0.10	0.032	(0.601)	0.026	0.006
5	0.42	0.10	0.032	(0.599)	0.026	0.006
6	0.50	0.10	0.032	(0.597)	0.026	0.006
7	0.58	0.10	0.032	(0.594)	0.026	0.006
8	0.67	0.10	0.032	(0.592)	0.026	0.006
9	0.75	0.10	0.032	(0.590)	0.026	0.006
10	0.83	0.13	0.043	(0.587)	0.035	0.008
11	0.92	0.13	0.043	(0.585)	0.035	0.008
12	1.00	0.13	0.043	(0.583)	0.035	0.008
13	1.08	0.10	0.032	(0.580)	0.026	0.006
14	1.17	0.10	0.032	(0.578)	0.026	0.006
15	1.25	0.10	0.032	(0.576)	0.026	0.006

16	1.33	0.10	0.032	(0.574)	0.026	0.006
17	1.42	0.10	0.032	(0.571)	0.026	0.006
18	1.50	0.10	0.032	(0.569)	0.026	0.006
19	1.58	0.10	0.032	(0.567)	0.026	0.006
20	1.67	0.10	0.032	(0.564)	0.026	0.006
21	1.75	0.10	0.032	(0.562)	0.026	0.006
22	1.83	0.13	0.043	(0.560)	0.035	0.008
23	1.92	0.13	0.043	(0.558)	0.035	0.008
24	2.00	0.13	0.043	(0.555)	0.035	0.008
25	2.08	0.13	0.043	(0.553)	0.035	0.008
26	2.17	0.13	0.043	(0.551)	0.035	0.008
27	2.25	0.13	0.043	(0.549)	0.035	0.008
28	2.33	0.13	0.043	(0.546)	0.035	0.008
29	2.42	0.13	0.043	(0.544)	0.035	0.008
30	2.50	0.13	0.043	(0.542)	0.035	0.008
31	2.58	0.17	0.054	(0.540)	0.044	0.010
32	2.67	0.17	0.054	(0.538)	0.044	0.010
33	2.75	0.17	0.054	(0.535)	0.044	0.010
34	2.83	0.17	0.054	(0.533)	0.044	0.010
35	2.92	0.17	0.054	(0.531)	0.044	0.010
36	3.00	0.17	0.054	(0.529)	0.044	0.010
37	3.08	0.17	0.054	(0.527)	0.044	0.010
38	3.17	0.17	0.054	(0.524)	0.044	0.010
39	3.25	0.17	0.054	(0.522)	0.044	0.010
40	3.33	0.17	0.054	(0.520)	0.044	0.010
41	3.42	0.17	0.054	(0.518)	0.044	0.010
42	3.50	0.17	0.054	(0.516)	0.044	0.010
43	3.58	0.17	0.054	(0.514)	0.044	0.010
44	3.67	0.17	0.054	(0.511)	0.044	0.010
45	3.75	0.17	0.054	(0.509)	0.044	0.010
46	3.83	0.20	0.064	(0.507)	0.053	0.012
47	3.92	0.20	0.064	(0.505)	0.053	0.012
48	4.00	0.20	0.064	(0.503)	0.053	0.012
49	4.08	0.20	0.064	(0.501)	0.053	0.012
50	4.17	0.20	0.064	(0.499)	0.053	0.012
51	4.25	0.20	0.064	(0.496)	0.053	0.012
52	4.33	0.23	0.075	(0.494)	0.062	0.014
53	4.42	0.23	0.075	(0.492)	0.062	0.014
54	4.50	0.23	0.075	(0.490)	0.062	0.014
55	4.58	0.23	0.075	(0.488)	0.062	0.014
56	4.67	0.23	0.075	(0.486)	0.062	0.014
57	4.75	0.23	0.075	(0.484)	0.062	0.014
58	4.83	0.27	0.086	(0.482)	0.070	0.015
59	4.92	0.27	0.086	(0.480)	0.070	0.015
60	5.00	0.27	0.086	(0.478)	0.070	0.015
61	5.08	0.20	0.064	(0.475)	0.053	0.012
62	5.17	0.20	0.064	(0.473)	0.053	0.012
63	5.25	0.20	0.064	(0.471)	0.053	0.012
64	5.33	0.23	0.075	(0.469)	0.062	0.014
65	5.42	0.23	0.075	(0.467)	0.062	0.014
66	5.50	0.23	0.075	(0.465)	0.062	0.014
67	5.58	0.27	0.086	(0.463)	0.070	0.015
68	5.67	0.27	0.086	(0.461)	0.070	0.015
69	5.75	0.27	0.086	(0.459)	0.070	0.015
70	5.83	0.27	0.086	(0.457)	0.070	0.015
71	5.92	0.27	0.086	(0.455)	0.070	0.015
72	6.00	0.27	0.086	(0.453)	0.070	0.015
73	6.08	0.30	0.097	(0.451)	0.079	0.017
74	6.17	0.30	0.097	(0.449)	0.079	0.017
75	6.25	0.30	0.097	(0.447)	0.079	0.017

76	6.33	0.30	0.097	(0.445)	0.079	0.017
77	6.42	0.30	0.097	(0.443)	0.079	0.017
78	6.50	0.30	0.097	(0.441)	0.079	0.017
79	6.58	0.33	0.107	(0.439)	0.088	0.019
80	6.67	0.33	0.107	(0.437)	0.088	0.019
81	6.75	0.33	0.107	(0.435)	0.088	0.019
82	6.83	0.33	0.107	(0.433)	0.088	0.019
83	6.92	0.33	0.107	(0.431)	0.088	0.019
84	7.00	0.33	0.107	(0.429)	0.088	0.019
85	7.08	0.33	0.107	(0.427)	0.088	0.019
86	7.17	0.33	0.107	(0.425)	0.088	0.019
87	7.25	0.33	0.107	(0.423)	0.088	0.019
88	7.33	0.37	0.118	(0.421)	0.097	0.021
89	7.42	0.37	0.118	(0.419)	0.097	0.021
90	7.50	0.37	0.118	(0.418)	0.097	0.021
91	7.58	0.40	0.129	(0.416)	0.106	0.023
92	7.67	0.40	0.129	(0.414)	0.106	0.023
93	7.75	0.40	0.129	(0.412)	0.106	0.023
94	7.83	0.43	0.140	(0.410)	0.114	0.025
95	7.92	0.43	0.140	(0.408)	0.114	0.025
96	8.00	0.43	0.140	(0.406)	0.114	0.025
97	8.08	0.50	0.161	(0.404)	0.132	0.029
98	8.17	0.50	0.161	(0.402)	0.132	0.029
99	8.25	0.50	0.161	(0.400)	0.132	0.029
100	8.33	0.50	0.161	(0.399)	0.132	0.029
101	8.42	0.50	0.161	(0.397)	0.132	0.029
102	8.50	0.50	0.161	(0.395)	0.132	0.029
103	8.58	0.53	0.172	(0.393)	0.141	0.031
104	8.67	0.53	0.172	(0.391)	0.141	0.031
105	8.75	0.53	0.172	(0.389)	0.141	0.031
106	8.83	0.57	0.183	(0.388)	0.150	0.033
107	8.92	0.57	0.183	(0.386)	0.150	0.033
108	9.00	0.57	0.183	(0.384)	0.150	0.033
109	9.08	0.63	0.204	(0.382)	0.167	0.037
110	9.17	0.63	0.204	(0.380)	0.167	0.037
111	9.25	0.63	0.204	(0.378)	0.167	0.037
112	9.33	0.67	0.215	(0.377)	0.176	0.039
113	9.42	0.67	0.215	(0.375)	0.176	0.039
114	9.50	0.67	0.215	(0.373)	0.176	0.039
115	9.58	0.70	0.225	(0.371)	0.185	0.041
116	9.67	0.70	0.225	(0.369)	0.185	0.041
117	9.75	0.70	0.225	(0.368)	0.185	0.041
118	9.83	0.73	0.236	(0.366)	0.194	0.043
119	9.92	0.73	0.236	(0.364)	0.194	0.043
120	10.00	0.73	0.236	(0.362)	0.194	0.043
121	10.08	0.50	0.161	(0.361)	0.132	0.029
122	10.17	0.50	0.161	(0.359)	0.132	0.029
123	10.25	0.50	0.161	(0.357)	0.132	0.029
124	10.33	0.50	0.161	(0.355)	0.132	0.029
125	10.42	0.50	0.161	(0.354)	0.132	0.029
126	10.50	0.50	0.161	(0.352)	0.132	0.029
127	10.58	0.67	0.215	(0.350)	0.176	0.039
128	10.67	0.67	0.215	(0.349)	0.176	0.039
129	10.75	0.67	0.215	(0.347)	0.176	0.039
130	10.83	0.67	0.215	(0.345)	0.176	0.039
131	10.92	0.67	0.215	(0.343)	0.176	0.039
132	11.00	0.67	0.215	(0.342)	0.176	0.039
133	11.08	0.63	0.204	(0.340)	0.167	0.037
134	11.17	0.63	0.204	(0.338)	0.167	0.037
135	11.25	0.63	0.204	(0.337)	0.167	0.037

136	11.33	0.63	0.204	(0.335)	0.167	0.037
137	11.42	0.63	0.204	(0.333)	0.167	0.037
138	11.50	0.63	0.204	(0.332)	0.167	0.037
139	11.58	0.57	0.183	(0.330)	0.150	0.033
140	11.67	0.57	0.183	(0.328)	0.150	0.033
141	11.75	0.57	0.183	(0.327)	0.150	0.033
142	11.83	0.60	0.193	(0.325)	0.158	0.035
143	11.92	0.60	0.193	(0.324)	0.158	0.035
144	12.00	0.60	0.193	(0.322)	0.158	0.035
145	12.08	0.83	0.268	(0.320)	0.220	0.048
146	12.17	0.83	0.268	(0.319)	0.220	0.048
147	12.25	0.83	0.268	(0.317)	0.220	0.048
148	12.33	0.87	0.279	(0.316)	0.229	0.050
149	12.42	0.87	0.279	(0.314)	0.229	0.050
150	12.50	0.87	0.279	(0.312)	0.229	0.050
151	12.58	0.93	0.301	(0.311)	0.247	0.054
152	12.67	0.93	0.301	(0.309)	0.247	0.054
153	12.75	0.93	0.301	(0.308)	0.247	0.054
154	12.83	0.97	0.311	(0.306)	0.255	0.056
155	12.92	0.97	0.311	(0.305)	0.255	0.056
156	13.00	0.97	0.311	(0.303)	0.255	0.056
157	13.08	1.13	0.365	(0.302)	0.299	0.066
158	13.17	1.13	0.365	(0.300)	0.299	0.066
159	13.25	1.13	0.365	0.298	(0.299)	0.067
160	13.33	1.13	0.365	0.297	(0.299)	0.068
161	13.42	1.13	0.365	0.295	(0.299)	0.070
162	13.50	1.13	0.365	0.294	(0.299)	0.071
163	13.58	0.77	0.247	(0.292)	0.203	0.044
164	13.67	0.77	0.247	(0.291)	0.203	0.044
165	13.75	0.77	0.247	(0.289)	0.203	0.044
166	13.83	0.77	0.247	(0.288)	0.203	0.044
167	13.92	0.77	0.247	(0.287)	0.203	0.044
168	14.00	0.77	0.247	(0.285)	0.203	0.044
169	14.08	0.90	0.290	(0.284)	0.238	0.052
170	14.17	0.90	0.290	(0.282)	0.238	0.052
171	14.25	0.90	0.290	(0.281)	0.238	0.052
172	14.33	0.87	0.279	(0.279)	0.229	0.050
173	14.42	0.87	0.279	(0.278)	0.229	0.050
174	14.50	0.87	0.279	(0.276)	0.229	0.050
175	14.58	0.87	0.279	(0.275)	0.229	0.050
176	14.67	0.87	0.279	(0.274)	0.229	0.050
177	14.75	0.87	0.279	(0.272)	0.229	0.050
178	14.83	0.83	0.268	(0.271)	0.220	0.048
179	14.92	0.83	0.268	(0.269)	0.220	0.048
180	15.00	0.83	0.268	(0.268)	0.220	0.048
181	15.08	0.80	0.258	(0.267)	0.211	0.046
182	15.17	0.80	0.258	(0.265)	0.211	0.046
183	15.25	0.80	0.258	(0.264)	0.211	0.046
184	15.33	0.77	0.247	(0.263)	0.203	0.044
185	15.42	0.77	0.247	(0.261)	0.203	0.044
186	15.50	0.77	0.247	(0.260)	0.203	0.044
187	15.58	0.63	0.204	(0.259)	0.167	0.037
188	15.67	0.63	0.204	(0.257)	0.167	0.037
189	15.75	0.63	0.204	(0.256)	0.167	0.037
190	15.83	0.63	0.204	(0.255)	0.167	0.037
191	15.92	0.63	0.204	(0.253)	0.167	0.037
192	16.00	0.63	0.204	(0.252)	0.167	0.037
193	16.08	0.13	0.043	(0.251)	0.035	0.008
194	16.17	0.13	0.043	(0.249)	0.035	0.008
195	16.25	0.13	0.043	(0.248)	0.035	0.008

196	16.33	0.13	0.043	(0.247)	0.035	0.008
197	16.42	0.13	0.043	(0.246)	0.035	0.008
198	16.50	0.13	0.043	(0.244)	0.035	0.008
199	16.58	0.10	0.032	(0.243)	0.026	0.006
200	16.67	0.10	0.032	(0.242)	0.026	0.006
201	16.75	0.10	0.032	(0.241)	0.026	0.006
202	16.83	0.10	0.032	(0.239)	0.026	0.006
203	16.92	0.10	0.032	(0.238)	0.026	0.006
204	17.00	0.10	0.032	(0.237)	0.026	0.006
205	17.08	0.17	0.054	(0.236)	0.044	0.010
206	17.17	0.17	0.054	(0.235)	0.044	0.010
207	17.25	0.17	0.054	(0.233)	0.044	0.010
208	17.33	0.17	0.054	(0.232)	0.044	0.010
209	17.42	0.17	0.054	(0.231)	0.044	0.010
210	17.50	0.17	0.054	(0.230)	0.044	0.010
211	17.58	0.17	0.054	(0.229)	0.044	0.010
212	17.67	0.17	0.054	(0.228)	0.044	0.010
213	17.75	0.17	0.054	(0.227)	0.044	0.010
214	17.83	0.13	0.043	(0.225)	0.035	0.008
215	17.92	0.13	0.043	(0.224)	0.035	0.008
216	18.00	0.13	0.043	(0.223)	0.035	0.008
217	18.08	0.13	0.043	(0.222)	0.035	0.008
218	18.17	0.13	0.043	(0.221)	0.035	0.008
219	18.25	0.13	0.043	(0.220)	0.035	0.008
220	18.33	0.13	0.043	(0.219)	0.035	0.008
221	18.42	0.13	0.043	(0.218)	0.035	0.008
222	18.50	0.13	0.043	(0.217)	0.035	0.008
223	18.58	0.10	0.032	(0.216)	0.026	0.006
224	18.67	0.10	0.032	(0.215)	0.026	0.006
225	18.75	0.10	0.032	(0.214)	0.026	0.006
226	18.83	0.07	0.021	(0.213)	0.018	0.004
227	18.92	0.07	0.021	(0.212)	0.018	0.004
228	19.00	0.07	0.021	(0.211)	0.018	0.004
229	19.08	0.10	0.032	(0.210)	0.026	0.006
230	19.17	0.10	0.032	(0.209)	0.026	0.006
231	19.25	0.10	0.032	(0.208)	0.026	0.006
232	19.33	0.13	0.043	(0.207)	0.035	0.008
233	19.42	0.13	0.043	(0.206)	0.035	0.008
234	19.50	0.13	0.043	(0.205)	0.035	0.008
235	19.58	0.10	0.032	(0.204)	0.026	0.006
236	19.67	0.10	0.032	(0.203)	0.026	0.006
237	19.75	0.10	0.032	(0.202)	0.026	0.006
238	19.83	0.07	0.021	(0.201)	0.018	0.004
239	19.92	0.07	0.021	(0.200)	0.018	0.004
240	20.00	0.07	0.021	(0.199)	0.018	0.004
241	20.08	0.10	0.032	(0.198)	0.026	0.006
242	20.17	0.10	0.032	(0.198)	0.026	0.006
243	20.25	0.10	0.032	(0.197)	0.026	0.006
244	20.33	0.10	0.032	(0.196)	0.026	0.006
245	20.42	0.10	0.032	(0.195)	0.026	0.006
246	20.50	0.10	0.032	(0.194)	0.026	0.006
247	20.58	0.10	0.032	(0.193)	0.026	0.006
248	20.67	0.10	0.032	(0.193)	0.026	0.006
249	20.75	0.10	0.032	(0.192)	0.026	0.006
250	20.83	0.07	0.021	(0.191)	0.018	0.004
251	20.92	0.07	0.021	(0.190)	0.018	0.004
252	21.00	0.07	0.021	(0.189)	0.018	0.004
253	21.08	0.10	0.032	(0.189)	0.026	0.006
254	21.17	0.10	0.032	(0.188)	0.026	0.006
255	21.25	0.10	0.032	(0.187)	0.026	0.006

```
 256  21.33     0.07      0.021       (  0.186)       0.018         0.004
 257  21.42     0.07      0.021       (  0.186)       0.018         0.004
 258  21.50     0.07      0.021       (  0.185)       0.018         0.004
 259  21.58     0.10      0.032       (  0.184)       0.026         0.006
 260  21.67     0.10      0.032       (  0.184)       0.026         0.006
 261  21.75     0.10      0.032       (  0.183)       0.026         0.006
 262  21.83     0.07      0.021       (  0.182)       0.018         0.004
 263  21.92     0.07      0.021       (  0.182)       0.018         0.004
 264  22.00     0.07      0.021       (  0.181)       0.018         0.004
 265  22.08     0.10      0.032       (  0.181)       0.026         0.006
 266  22.17     0.10      0.032       (  0.180)       0.026         0.006
 267  22.25     0.10      0.032       (  0.179)       0.026         0.006
 268  22.33     0.07      0.021       (  0.179)       0.018         0.004
 269  22.42     0.07      0.021       (  0.178)       0.018         0.004
 270  22.50     0.07      0.021       (  0.178)       0.018         0.004
 271  22.58     0.07      0.021       (  0.177)       0.018         0.004
 272  22.67     0.07      0.021       (  0.177)       0.018         0.004
 273  22.75     0.07      0.021       (  0.176)       0.018         0.004
 274  22.83     0.07      0.021       (  0.176)       0.018         0.004
 275  22.92     0.07      0.021       (  0.175)       0.018         0.004
 276  23.00     0.07      0.021       (  0.175)       0.018         0.004
 277  23.08     0.07      0.021       (  0.175)       0.018         0.004
 278  23.17     0.07      0.021       (  0.174)       0.018         0.004
 279  23.25     0.07      0.021       (  0.174)       0.018         0.004
 280  23.33     0.07      0.021       (  0.173)       0.018         0.004
 281  23.42     0.07      0.021       (  0.173)       0.018         0.004
 282  23.50     0.07      0.021       (  0.173)       0.018         0.004
 283  23.58     0.07      0.021       (  0.173)       0.018         0.004
 284  23.67     0.07      0.021       (  0.172)       0.018         0.004
 285  23.75     0.07      0.021       (  0.172)       0.018         0.004
 286  23.83     0.07      0.021       (  0.172)       0.018         0.004
 287  23.92     0.07      0.021       (  0.172)       0.018         0.004
 288  24.00     0.07      0.021       (  0.172)       0.018         0.004
            (Loss Rate Not Used)
     Sum =     100.0                                    Sum =     5.8
      Flood volume = Effective rainfall      0.48(In)
       times area       7.5(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
      Total soil loss =      2.20(In)
      Total soil loss =     1.375(Ac.Ft)
      Total rainfall =      2.68(In)
      Flood volume =       13183.3 Cubic Feet
      Total soil loss =       59898.0 Cubic Feet
      ---------------------------------------------------------------------
--
       Peak flow rate of this hydrograph =      0.448(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	0.0000	0.00	Q			
0+15	0.0000	0.00	Q			
0+20	0.0001	0.01	Q			
0+25	0.0002	0.01	Q			
0+30	0.0003	0.02	Q			
0+35	0.0004	0.02	Q			
0+40	0.0006	0.02	Q			
0+45	0.0007	0.03	Q			
0+50	0.0009	0.03	Q			
0+55	0.0012	0.03	Q			
1+ 0	0.0014	0.03	Q			
1+ 5	0.0017	0.04	Q			
1+10	0.0019	0.04	Q			
1+15	0.0022	0.04	Q			
1+20	0.0025	0.04	Q			
1+25	0.0028	0.04	Q			
1+30	0.0031	0.04	Q			
1+35	0.0033	0.04	Q			
1+40	0.0036	0.04	Q			
1+45	0.0039	0.04	Q			
1+50	0.0042	0.04	Q			
1+55	0.0045	0.04	Q			
2+ 0	0.0048	0.04	Q			
2+ 5	0.0051	0.04	Q			
2+10	0.0054	0.05	Q			
2+15	0.0057	0.05	Q			
2+20	0.0061	0.05	Q			
2+25	0.0064	0.05	Q			
2+30	0.0068	0.05	Q			

2+35	0.0071	0.05	Q			
2+40	0.0075	0.05	Q			
2+45	0.0079	0.06	QV			
2+50	0.0083	0.06	QV			
2+55	0.0087	0.06	QV			
3+ 0	0.0091	0.06	QV			
3+ 5	0.0096	0.06	QV			
3+10	0.0100	0.07	QV			
3+15	0.0105	0.07	QV			
3+20	0.0109	0.07	QV			
3+25	0.0114	0.07	QV			
3+30	0.0119	0.07	QV			
3+35	0.0123	0.07	QV			
3+40	0.0128	0.07	QV			
3+45	0.0133	0.07	QV			
3+50	0.0138	0.07	QV			
3+55	0.0143	0.07	QV			
4+ 0	0.0148	0.07	QV			
4+ 5	0.0153	0.07	Q V			
4+10	0.0158	0.08	Q V			
4+15	0.0163	0.08	Q V			
4+20	0.0169	0.08	Q V			
4+25	0.0174	0.08	Q V			
4+30	0.0180	0.08	Q V			
4+35	0.0186	0.09	Q V			
4+40	0.0192	0.09	Q V			
4+45	0.0198	0.09	Q V			
4+50	0.0205	0.09	Q V			
4+55	0.0211	0.09	Q V			
5+ 0	0.0218	0.10	Q V			

5+ 5	0.0225	0.10	Q V	|	|	|
5+10	0.0231	0.10	Q V	|	|	|
5+15	0.0238	0.10	Q V	|	|	|
5+20	0.0245	0.10	Q V	|	|	|
5+25	0.0252	0.10	Q V	|	|	|
5+30	0.0258	0.10	Q V	|	|	|
5+35	0.0265	0.10	Q V	|	|	|
5+40	0.0272	0.10	Q V	|	|	|
5+45	0.0279	0.10	Q V	|	|	|
5+50	0.0286	0.10	Q V	|	|	|
5+55	0.0293	0.10	Q V	|	|	|
6+ 0	0.0300	0.11	Q V	|	|	|
6+ 5	0.0307	0.11	Q V	|	|	|
6+10	0.0315	0.11	Q V	|	|	|
6+15	0.0323	0.11	Q V	|	|	|
6+20	0.0331	0.11	Q V	|	|	|
6+25	0.0339	0.12	Q V	|	|	|
6+30	0.0347	0.12	Q V	|	|	|
6+35	0.0355	0.12	Q V	|	|	|
6+40	0.0364	0.12	Q V	|	|	|
6+45	0.0372	0.13	Q V	|	|	|
6+50	0.0381	0.13	Q V	|	|	|
6+55	0.0390	0.13	Q V	|	|	|
7+ 0	0.0399	0.13	Q V	|	|	|
7+ 5	0.0408	0.13	Q V	|	|	|
7+10	0.0418	0.14	Q V	|	|	|
7+15	0.0427	0.14	Q V	|	|	|
7+20	0.0437	0.14	Q V	|	|	|
7+25	0.0446	0.14	Q V	|	|	|
7+30	0.0456	0.14	Q V	|	|	|

7+35	0.0466	0.14	Q	V	|	|	|
7+40	0.0476	0.15	Q	V	|	|	|
7+45	0.0486	0.15	Q	V	|	|	|
7+50	0.0497	0.15	Q	V	|	|	|
7+55	0.0508	0.16	Q	V	|	|	|
8+ 0	0.0519	0.16	Q	V	|	|	|
8+ 5	0.0530	0.17	Q	V	|	|	|
8+10	0.0542	0.17	Q	V	|	|	|
8+15	0.0554	0.18	Q	V	|	|	|
8+20	0.0566	0.18	Q	V	|	|	|
8+25	0.0579	0.19	Q	V	|	|	|
8+30	0.0592	0.19	Q	V	|	|	|
8+35	0.0606	0.20	Q	V	|	|	|
8+40	0.0620	0.20	Q	V	|	|	|
8+45	0.0634	0.20	Q	V	|	|	|
8+50	0.0648	0.21	Q	V	|	|	|
8+55	0.0662	0.21	Q	V	|	|	|
9+ 0	0.0677	0.21	Q	V	|	|	|
9+ 5	0.0692	0.22	Q	V	|	|	|
9+10	0.0708	0.22	Q	V	|	|	|
9+15	0.0723	0.23	Q	V	|	|	|
9+20	0.0740	0.24	Q	V	|	|	|
9+25	0.0756	0.24	Q	V	|	|	|
9+30	0.0773	0.25	Q	V		|	|
9+35	0.0791	0.25	|Q	V		|	|
9+40	0.0809	0.26	|Q	V		|	|
9+45	0.0827	0.27	|Q	V		|	|
9+50	0.0846	0.27	|Q	|V		|	|
9+55	0.0865	0.28	|Q	|V		|	|
10+ 0	0.0884	0.28	|Q	|V		|	|

10+ 5	0.0904	0.28	|Q	|V	|	|
10+10	0.0923	0.28	|Q	| V	|	|
10+15	0.0943	0.28	|Q	| V	|	|
10+20	0.0962	0.28	|Q	| V	|	|
10+25	0.0980	0.27	|Q	| V	|	|
10+30	0.0998	0.26	|Q	| V	|	|
10+35	0.1015	0.25	Q	| V	|	|
10+40	0.1032	0.25	Q	| V	|	|
10+45	0.1049	0.25	Q	| V	|	|
10+50	0.1066	0.25	|Q	| V	|	|
10+55	0.1084	0.26	|Q	| V	|	|
11+ 0	0.1102	0.27	|Q	| V	|	|
11+ 5	0.1121	0.27	|Q	| V	|	|
11+10	0.1140	0.27	|Q	| V	|	|
11+15	0.1159	0.28	|Q	| V	|	|
11+20	0.1178	0.28	|Q	| V	|	|
11+25	0.1197	0.28	|Q	| V	|	|
11+30	0.1216	0.28	|Q	| V	|	|
11+35	0.1235	0.28	|Q	| V	|	|
11+40	0.1254	0.27	|Q	| V	|	|
11+45	0.1273	0.27	|Q	| V	|	|
11+50	0.1291	0.27	|Q	| V	|	|
11+55	0.1310	0.27	|Q	| V	|	|
12+ 0	0.1328	0.26	|Q	| V	|	|
12+ 5	0.1346	0.26	|Q	| V	|	|
12+10	0.1365	0.27	|Q	| V	|	|
12+15	0.1384	0.28	|Q	| V	|	|
12+20	0.1403	0.29	|Q	| V	|	|
12+25	0.1424	0.30	|Q	| V	|	|
12+30	0.1446	0.31	|Q	| V	|	|

12+35	0.1468	0.33	Q	V	
12+40	0.1491	0.34	Q	V	
12+45	0.1515	0.34	Q	V	
12+50	0.1539	0.35	Q	V	
12+55	0.1564	0.36	Q	V	
13+ 0	0.1589	0.37	Q	V	
13+ 5	0.1615	0.38	Q	V	
13+10	0.1642	0.39	Q	V	
13+15	0.1669	0.40	Q	V	
13+20	0.1697	0.41	Q	V	
13+25	0.1726	0.42	Q	V	
13+30	0.1756	0.44	Q	V	
13+35	0.1787	0.44	Q	V	
13+40	0.1818	0.45	Q	V	
13+45	0.1848	0.45	Q	V	
13+50	0.1878	0.43	Q	V	
13+55	0.1907	0.42	Q	V	
14+ 0	0.1935	0.40	Q	V	
14+ 5	0.1961	0.38	Q	V	
14+10	0.1987	0.38	Q	V	
14+15	0.2013	0.37	Q	V	
14+20	0.2039	0.37	Q	V	
14+25	0.2065	0.38	Q	V	
14+30	0.2091	0.38	Q	V	
14+35	0.2117	0.38	Q	V	
14+40	0.2144	0.38	Q	V	
14+45	0.2170	0.38	Q	V	
14+50	0.2197	0.38	Q	V	
14+55	0.2223	0.38	Q	V	
15+ 0	0.2249	0.38	Q	V	

15+ 5	0.2276	0.38	|Q	|	|	V
15+10	0.2301	0.38	|Q	|	|	V
15+15	0.2327	0.37	|Q	|	|	V
15+20	0.2353	0.37	|Q	|	|	|V
15+25	0.2378	0.37	|Q	|	|	|V
15+30	0.2403	0.36	|Q	|	|	|V
15+35	0.2428	0.36	|Q	|	|	| V
15+40	0.2452	0.35	|Q	|	|	| V
15+45	0.2476	0.35	|Q	|	|	| V
15+50	0.2499	0.34	|Q	|	|	| V
15+55	0.2522	0.33	|Q	|	|	| V
16+ 0	0.2544	0.32	|Q	|	|	| V
16+ 5	0.2566	0.31	|Q	|	|	| V
16+10	0.2586	0.30	|Q	|	|	| V
16+15	0.2606	0.28	|Q	|	|	| V
16+20	0.2623	0.25	|Q	|	|	| V
16+25	0.2639	0.23	Q	|	|	| V
16+30	0.2652	0.20	Q	|	|	| V
16+35	0.2664	0.17	Q	|	|	| V
16+40	0.2675	0.16	Q	|	|	| V
16+45	0.2685	0.14	Q	|	|	| V
16+50	0.2694	0.13	Q	|	|	| V
16+55	0.2702	0.12	Q	|	|	| V
17+ 0	0.2710	0.11	Q	|	|	| V
17+ 5	0.2717	0.11	Q	|	|	| V
17+10	0.2724	0.10	Q	|	|	| V
17+15	0.2731	0.10	Q	|	|	| V
17+20	0.2737	0.09	Q	|	|	| V
17+25	0.2744	0.09	Q	|	|	| V
17+30	0.2750	0.09	Q	|	|	| V

17+35	0.2757	0.09	Q				V
17+40	0.2763	0.09	Q				V
17+45	0.2769	0.09	Q				V
17+50	0.2775	0.09	Q				V
17+55	0.2782	0.09	Q				V
18+ 0	0.2787	0.09	Q				V
18+ 5	0.2793	0.08	Q				V
18+10	0.2799	0.08	Q				V
18+15	0.2804	0.08	Q				V
18+20	0.2809	0.08	Q				V
18+25	0.2814	0.07	Q				V
18+30	0.2819	0.07	Q				V
18+35	0.2824	0.07	Q				V
18+40	0.2829	0.07	Q				V
18+45	0.2833	0.07	Q				V
18+50	0.2837	0.06	Q				V
18+55	0.2842	0.06	Q				V
19+ 0	0.2845	0.06	Q				V
19+ 5	0.2849	0.05	Q				V
19+10	0.2853	0.05	Q				V
19+15	0.2856	0.05	Q				V
19+20	0.2859	0.05	Q				V
19+25	0.2862	0.05	Q				V
19+30	0.2866	0.05	Q				V
19+35	0.2869	0.05	Q				V
19+40	0.2872	0.05	Q				V
19+45	0.2876	0.05	Q				V
19+50	0.2879	0.05	Q				V
19+55	0.2883	0.05	Q				V
20+ 0	0.2886	0.05	Q				V

|
| 20+ 5 | 0.2889 | 0.04 | Q | | | | V |
|
| 20+10 | 0.2892 | 0.04 | Q | | | | V |
|
| 20+15 | 0.2895 | 0.04 | Q | | | | V |
|
| 20+20 | 0.2898 | 0.04 | Q | | | | V |
|
| 20+25 | 0.2901 | 0.04 | Q | | | | V |
|
| 20+30 | 0.2903 | 0.04 | Q | | | | V |
|
| 20+35 | 0.2906 | 0.04 | Q | | | | V |
|
| 20+40 | 0.2909 | 0.04 | Q | | | | V |
|
| 20+45 | 0.2912 | 0.04 | Q | | | | V |
|
| 20+50 | 0.2915 | 0.04 | Q | | | | V |
|
| 20+55 | 0.2918 | 0.04 | Q | | | | V |
|
| 21+ 0 | 0.2921 | 0.04 | Q | | | | V |
|
| 21+ 5 | 0.2924 | 0.04 | Q | | | | V |
|
| 21+10 | 0.2927 | 0.04 | Q | | | | V |
|
| 21+15 | 0.2930 | 0.04 | Q | | | | V |
|
| 21+20 | 0.2932 | 0.04 | Q | | | | V |
|
| 21+25 | 0.2935 | 0.04 | Q | | | | V |
|
| 21+30 | 0.2938 | 0.04 | Q | | | | V |
|
| 21+35 | 0.2940 | 0.04 | Q | | | | V |
|
| 21+40 | 0.2943 | 0.04 | Q | | | | V |
|
| 21+45 | 0.2945 | 0.04 | Q | | | | V |
|
| 21+50 | 0.2948 | 0.04 | Q | | | | V |
|
| 21+55 | 0.2951 | 0.04 | Q | | | | V |
|
| 22+ 0 | 0.2953 | 0.04 | Q | | | |
V|
| 22+ 5 | 0.2956 | 0.04 | Q | | | |
V|
| 22+10 | 0.2958 | 0.04 | Q | | | |
V|
| 22+15 | 0.2961 | 0.04 | Q | | | |
V|
| 22+20 | 0.2963 | 0.04 | Q | | | |
V|
| 22+25 | 0.2966 | 0.04 | Q | | | |
V|
| 22+30 | 0.2969 | 0.04 | Q | | | |

22+35	0.2971	0.04	Q			
22+40	0.2974	0.04	Q			
22+45	0.2976	0.03	Q			
22+50	0.2978	0.03	Q			
22+55	0.2981	0.03	Q			
23+ 0	0.2983	0.03	Q			
23+ 5	0.2985	0.03	Q			
23+10	0.2987	0.03	Q			
23+15	0.2989	0.03	Q			
23+20	0.2991	0.03	Q			
23+25	0.2994	0.03	Q			
23+30	0.2996	0.03	Q			
23+35	0.2998	0.03	Q			
23+40	0.3000	0.03	Q			
23+45	0.3002	0.03	Q			
23+50	0.3004	0.03	Q			
23+55	0.3006	0.03	Q			
24+ 0	0.3008	0.03	Q			
24+ 5	0.3010	0.03	Q			
24+10	0.3012	0.03	Q			
24+15	0.3014	0.03	Q			
24+20	0.3016	0.02	Q			
24+25	0.3017	0.02	Q			
24+30	0.3018	0.02	Q			
24+35	0.3019	0.01	Q			
24+40	0.3020	0.01	Q			
24+45	0.3021	0.01	Q			
24+50	0.3021	0.01	Q			
24+55	0.3022	0.01	Q			
25+ 0	0.3022	0.01	Q			

25+ 5	0.3023	0.01	Q			
25+10	0.3023	0.01	Q			
25+15	0.3023	0.01	Q			
25+20	0.3024	0.00	Q			
25+25	0.3024	0.00	Q			
25+30	0.3024	0.00	Q			
25+35	0.3024	0.00	Q			
25+40	0.3025	0.00	Q			
25+45	0.3025	0.00	Q			
25+50	0.3025	0.00	Q			
25+55	0.3025	0.00	Q			
26+ 0	0.3025	0.00	Q			
26+ 5	0.3025	0.00	Q			
26+10	0.3026	0.00	Q			
26+15	0.3026	0.00	Q			
26+20	0.3026	0.00	Q			
26+25	0.3026	0.00	Q			
26+30	0.3026	0.00	Q			
26+35	0.3026	0.00	Q			
26+40	0.3026	0.00	Q			
26+45	0.3026	0.00	Q			
26+50	0.3026	0.00	Q			
26+55	0.3026	0.00	Q			
27+ 0	0.3026	0.00	Q			
27+ 5	0.3026	0.00	Q			
27+10	0.3026	0.00	Q			
27+15	0.3026	0.00	Q			
27+20	0.3026	0.00	Q			
27+25	0.3026	0.00	Q			
27+30	0.3026	0.00	Q			

```
V|
   27+35       0.3026      0.00  Q         |         |         |
V|
   27+40       0.3026      0.00  Q         |         |         |
V|
   27+45       0.3026      0.00  Q         |         |         |
V|
   27+50       0.3026      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

Study date 09/21/22 File: ramonacompre110.out

++

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

Program License Serial Number 6232

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

English Units used in output format

Ramona Commercial
SCS Hydrograph
Existing Conditions
10yr 1hr

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 = 720.00(Ft.)
Length along longest watercourse measured to centroid = 360.00 (Ft.)
Length along longest watercourse = 0.136 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 2.00(Ft.)
Slope along watercourse = 14.6667 Ft./Mi.
Average Manning's 'N' = 0.200
Lag time = 0.487 Hr.
Lag time = 29.23 Min.
25% of lag time = 7.31 Min.
40% of lag time = 11.69 Min.
Unit time = 5.00 Min.
Duration of storm = 1 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 0.47 3.50

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
7.50	1.35	10.13

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.466(In)
Area Averaged 100-Year Rainfall = 1.350(In)

Point rain (area averaged) = 0.830(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.830(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
7.500	84.00	0.100

Total Area Entered = 7.50(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
84.0	93.4	0.086	0.100	0.078	1.000	0.078
					Sum (F) =	0.078

Area averaged mean soil loss (F) (In/Hr) = 0.078
Minimum soil loss rate ((In/Hr)) = 0.039
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.820

Slope of intensity-duration curve for a 1 hour storm =0.5000

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

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	17.108	1.491	0.113
2	0.167	34.216	3.965	0.300
3	0.250	51.324	6.728	0.509
4	0.333	68.432	9.594	0.725
5	0.417	85.540	11.676	0.883
6	0.500	102.648	12.253	0.926
7	0.583	119.756	10.114	0.765
8	0.667	136.865	7.164	0.542
9	0.750	153.973	5.232	0.395
10	0.833	171.081	3.830	0.289

11	0.917	188.189	2.927	0.221
12	1.000	205.297	2.519	0.190
13	1.083	222.405	2.167	0.164
14	1.167	239.513	1.930	0.146
15	1.250	256.621	1.699	0.128
16	1.333	273.729	1.544	0.117
17	1.417	290.837	1.388	0.105
18	1.500	307.945	1.210	0.091
19	1.583	325.053	1.056	0.080
20	1.667	342.161	1.026	0.078
21	1.750	359.269	0.986	0.075
22	1.833	376.377	0.781	0.059
23	1.917	393.486	0.753	0.057
24	2.000	410.594	0.713	0.054
25	2.083	427.702	0.562	0.043
26	2.167	444.810	0.547	0.041
27	2.250	461.918	0.539	0.041
28	2.333	479.026	0.515	0.039
29	2.417	496.134	0.513	0.039
30	2.500	513.242	0.472	0.036
31	2.583	530.350	0.380	0.029
32	2.667	547.458	0.376	0.028
33	2.750	564.566	0.352	0.027
34	2.833	581.674	0.309	0.023
35	2.917	598.782	0.308	0.023
36	3.000	615.890	0.278	0.021
37	3.083	632.999	0.240	0.018
38	3.167	650.107	0.240	0.018
39	3.250	667.215	0.205	0.015
40	3.333	684.323	0.171	0.013
41	3.417	701.431	0.171	0.013
42	3.500	718.539	0.171	0.013
43	3.583	735.647	0.171	0.013
44	3.667	752.755	0.171	0.013
45	3.750	769.863	0.171	0.013
46	3.833	786.971	0.171	0.013
47	3.917	804.079	0.216	0.016
		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	4.20	0.418	0.078	(0.343)	0.340
2	0.17	4.30	0.428	0.078	(0.351)	0.350
3	0.25	5.00	0.498	0.078	(0.408)	0.420
4	0.33	5.00	0.498	0.078	(0.408)	0.420
5	0.42	5.80	0.577	0.078	(0.473)	0.499
6	0.50	6.50	0.647	0.078	(0.531)	0.569
7	0.58	7.40	0.737	0.078	(0.604)	0.659
8	0.67	8.60	0.856	0.078	(0.702)	0.778
9	0.75	12.30	1.225	0.078	(1.004)	1.146
10	0.83	29.10	2.897	0.078	(2.376)	2.819
11	0.92	6.80	0.677	0.078	(0.555)	0.599
12	1.00	5.00	0.498	0.078	(0.408)	0.420

```
          (Loss Rate Not Used)
     Sum =     100.0                                    Sum =     9.0
      Flood volume = Effective rainfall      0.75(In)
       times area       7.5(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
      Total soil loss =      0.08(In)
      Total soil loss =     0.049(Ac.Ft)
      Total rainfall =      0.83(In)
      Flood volume =       20461.0 Cubic Feet
      Total soil loss =        2125.7 Cubic Feet
      ---------------------------------------------------------------
--
       Peak flow rate of this hydrograph =      5.801(CFS)
      ---------------------------------------------------------------
--
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++
                          1 - 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      0.04  Q         |         |         |
|
    0+10       0.0012      0.14  Q         |         |         |
|
    0+15       0.0035      0.33  VQ        |         |         |
|
    0+20       0.0076      0.60  V Q       |         |         |
|
    0+25       0.0141      0.95  |V Q      |         |         |
|
    0+30       0.0235      1.36  |V   Q    |         |         |
|
    0+35       0.0356      1.76  |  V   Q  |         |         |
|
    0+40       0.0504      2.15  |   V   Q |         |         |
|
    0+45       0.0682      2.59  |    V    Q         |         |
|
    0+50       0.0908      3.29  |      V  |  Q      |         |
|
    0+55       0.1192      4.12  |         V     Q   |         |
|
    1+ 0       0.1531      4.93  |         |  V     Q|         |
|
    1+ 5       0.1914      5.56  |         |     V   | Q       |
|
    1+10       0.2314      5.80  |         |        V|  Q      |
|
    1+15       0.2694      5.52  |         |         | Q       |
|
    1+20       0.3013      4.64  |         |       Q |    V    |
|
```

```
    1+25       0.3260      3.58  |         |   Q     |      V  |
|
    1+30       0.3448      2.73  |         Q         |        V|
|
    1+35       0.3592      2.09  |       Q |         |         V
|
    1+40       0.3707      1.67  |     Q   |         |         |V
|
    1+45       0.3805      1.42  |    Q    |         |         | V
|
    1+50       0.3890      1.23  |   Q     |         |         |  V
|
    1+55       0.3965      1.09  |   Q     |         |         |  V
|
    2+ 0       0.4032      0.97  |  Q      |         |         |   V
|
    2+ 5       0.4092      0.88  |  Q      |         |         |   V
|
    2+10       0.4146      0.79  |  Q      |         |         |    V
|
    2+15       0.4195      0.70  | Q       |         |         |    V
|
    2+20       0.4238      0.63  | Q       |         |         |     V
|
    2+25       0.4279      0.59  | Q       |         |         |     V
|
    2+30       0.4316      0.54  | Q       |         |         |     V
|
    2+35       0.4349      0.48  |Q        |         |         |      V
|
    2+40       0.4379      0.44  |Q        |         |         |      V
|
    2+45       0.4407      0.41  |Q        |         |         |      V
|
    2+50       0.4432      0.36  |Q        |         |         |      V
|
    2+55       0.4456      0.34  |Q        |         |         |      V
|
    3+ 0       0.4478      0.32  |Q        |         |         |       V
|
    3+ 5       0.4499      0.31  |Q        |         |         |       V
|
    3+10       0.4519      0.29  |Q        |         |         |       V
|
    3+15       0.4537      0.27  |Q        |         |         |       V
|
    3+20       0.4554      0.24  Q         |         |         |       V
|
    3+25       0.4569      0.22  Q         |         |         |       V
|
    3+30       0.4583      0.20  Q         |         |         |
V|
    3+35       0.4596      0.19  Q         |         |         |
V|
    3+40       0.4608      0.18  Q         |         |         |
V|
    3+45       0.4619      0.16  Q         |         |         |
V|
    3+50       0.4629      0.15  Q         |         |         |
V|
```

```
    3+55       0.4639      0.14  Q         |          |          |
V|
    4+ 0       0.4648      0.13  Q         |          |          |
V|
    4+ 5       0.4655      0.11  Q         |          |          |
V|
    4+10       0.4663      0.10  Q         |          |          |
V|
    4+15       0.4669      0.10  Q         |          |          |
V|
    4+20       0.4676      0.09  Q         |          |          |
V|
    4+25       0.4682      0.09  Q         |          |          |
V|
    4+30       0.4687      0.08  Q         |          |          |
V|
    4+35       0.4692      0.07  Q         |          |          |
V|
    4+40       0.4696      0.06  Q         |          |          |
V|
    4+45       0.4697      0.02  Q         |          |          |
V|
    4+50       0.4697      0.01  Q         |          |          |
V|
-------------------------------------------------------------------------
```

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

Study date 09/21/22 File: ramonacompre310.out

++

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

Program License Serial Number 6232

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

English Units used in output format

Ramona Commercial
SCS Hydrograph
Existing Conditions
10yr 3hr

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 = 720.00(Ft.)
Length along longest watercourse measured to centroid = 360.00 (Ft.)
Length along longest watercourse = 0.136 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 2.00(Ft.)
Slope along watercourse = 14.6667 Ft./Mi.
Average Manning's 'N' = 0.200
Lag time = 0.487 Hr.
Lag time = 29.23 Min.
25% of lag time = 7.31 Min.
40% of lag time = 11.69 Min.
Unit time = 5.00 Min.
Duration of storm = 3 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             0.82                    6.14

  100 YEAR Area rainfall data:


  Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.50              2.04                   15.30

  STORM EVENT (YEAR) =   10.00
  Area Averaged 2-Year Rainfall =    0.819(In)
  Area Averaged 100-Year Rainfall =    2.040(In)

  Point rain (area averaged) =    1.321(In)
  Areal adjustment factor =  100.00 %
  Adjusted average point rain =    1.321(In)

  Sub-Area Data:
  Area(Ac.)         Runoff Index   Impervious %
       7.500           84.00          0.100
   Total Area Entered =      7.50(Ac.)


  RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
  AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)
(In/Hr)
  84.0  93.4      0.086     0.100        0.078       1.000
0.078
                                                      Sum (F) =
0.078
  Area averaged mean soil loss (F) (In/Hr) =  0.078
  Minimum soil loss rate ((In/Hr)) =  0.039
  (for 24 hour storm duration)
  Soil low loss rate (decimal) =   0.820
  ------------------------------------------------------------------
---

              U n i t  H y d r o g r a p h
                    VALLEY S-Curve
  ------------------------------------------------------------------
--
              Unit Hydrograph Data
  ------------------------------------------------------------------
---
  Unit time period   Time % of lag   Distribution   Unit Hydrograph
      (hrs)                          Graph %           (CFS)
  ------------------------------------------------------------------
---
        1   0.083        17.108         1.491             0.113
        2   0.167        34.216         3.965             0.300
        3   0.250        51.324         6.728             0.509
        4   0.333        68.432         9.594             0.725
        5   0.417        85.540        11.676             0.883
        6   0.500       102.648        12.253             0.926
        7   0.583       119.756        10.114             0.765
        8   0.667       136.865         7.164             0.542
        9   0.750       153.973         5.232             0.395
       10   0.833       171.081         3.830             0.289
       11   0.917       188.189         2.927             0.221
       12   1.000       205.297         2.519             0.190
       13   1.083       222.405         2.167             0.164
```

14	1.167	239.513	1.930	0.146
15	1.250	256.621	1.699	0.128
16	1.333	273.729	1.544	0.117
17	1.417	290.837	1.388	0.105
18	1.500	307.945	1.210	0.091
19	1.583	325.053	1.056	0.080
20	1.667	342.161	1.026	0.078
21	1.750	359.269	0.986	0.075
22	1.833	376.377	0.781	0.059
23	1.917	393.486	0.753	0.057
24	2.000	410.594	0.713	0.054
25	2.083	427.702	0.562	0.043
26	2.167	444.810	0.547	0.041
27	2.250	461.918	0.539	0.041
28	2.333	479.026	0.515	0.039
29	2.417	496.134	0.513	0.039
30	2.500	513.242	0.472	0.036
31	2.583	530.350	0.380	0.029
32	2.667	547.458	0.376	0.028
33	2.750	564.566	0.352	0.027
34	2.833	581.674	0.309	0.023
35	2.917	598.782	0.308	0.023
36	3.000	615.890	0.278	0.021
37	3.083	632.999	0.240	0.018
38	3.167	650.107	0.240	0.018
39	3.250	667.215	0.205	0.015
40	3.333	684.323	0.171	0.013
41	3.417	701.431	0.171	0.013
42	3.500	718.539	0.171	0.013
43	3.583	735.647	0.171	0.013
44	3.667	752.755	0.171	0.013
45	3.750	769.863	0.171	0.013
46	3.833	786.971	0.171	0.013
47	3.917	804.079	0.216	0.016
			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

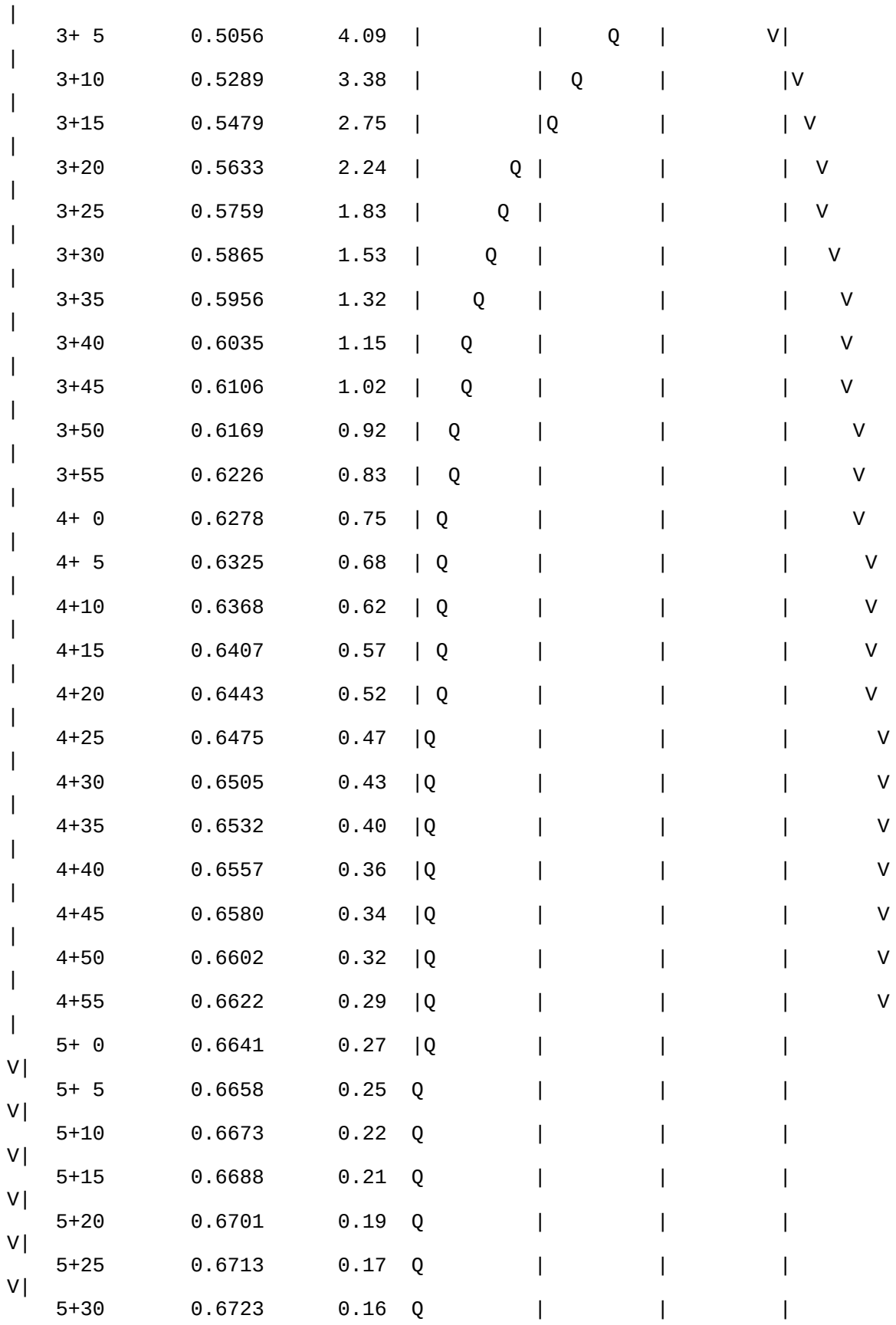
Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.206	0.078	(0.169)	0.128
2	0.17	1.30	0.206	0.078	(0.169)	0.128
3	0.25	1.10	0.174	0.078	(0.143)	0.096
4	0.33	1.50	0.238	0.078	(0.195)	0.160
5	0.42	1.50	0.238	0.078	(0.195)	0.160
6	0.50	1.80	0.285	0.078	(0.234)	0.207
7	0.58	1.50	0.238	0.078	(0.195)	0.160
8	0.67	1.80	0.285	0.078	(0.234)	0.207
9	0.75	1.80	0.285	0.078	(0.234)	0.207
10	0.83	1.50	0.238	0.078	(0.195)	0.160
11	0.92	1.60	0.254	0.078	(0.208)	0.176
12	1.00	1.80	0.285	0.078	(0.234)	0.207
13	1.08	2.20	0.349	0.078	(0.286)	0.271
14	1.17	2.20	0.349	0.078	(0.286)	0.271
15	1.25	2.20	0.349	0.078	(0.286)	0.271

```
 16   1.33     2.00      0.317          0.078    (  0.260)        0.239
 17   1.42     2.60      0.412          0.078    (  0.338)        0.334
 18   1.50     2.70      0.428          0.078    (  0.351)        0.350
 19   1.58     2.40      0.381          0.078    (  0.312)        0.302
 20   1.67     2.70      0.428          0.078    (  0.351)        0.350
 21   1.75     3.30      0.523          0.078    (  0.429)        0.445
 22   1.83     3.10      0.492          0.078    (  0.403)        0.413
 23   1.92     2.90      0.460          0.078    (  0.377)        0.382
 24   2.00     3.00      0.476          0.078    (  0.390)        0.398
 25   2.08     3.10      0.492          0.078    (  0.403)        0.413
 26   2.17     4.20      0.666          0.078    (  0.546)        0.588
 27   2.25     5.00      0.793          0.078    (  0.650)        0.715
 28   2.33     3.50      0.555          0.078    (  0.455)        0.477
 29   2.42     6.80      1.078          0.078    (  0.884)        1.000
 30   2.50     7.30      1.157          0.078    (  0.949)        1.079
 31   2.58     8.20      1.300          0.078    (  1.066)        1.222
 32   2.67     5.90      0.935          0.078    (  0.767)        0.857
 33   2.75     2.00      0.317          0.078    (  0.260)        0.239
 34   2.83     1.80      0.285          0.078    (  0.234)        0.207
 35   2.92     1.80      0.285          0.078    (  0.234)        0.207
 36   3.00     0.60      0.095       (  0.078)       0.078        0.017
            (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    13.0
     Flood volume = Effective rainfall      1.09(In)
      times area       7.5(Ac.)/[(In)/(Ft.)] =       0.7(Ac.Ft)
     Total soil loss =      0.23(In)
     Total soil loss =     0.146(Ac.Ft)
     Total rainfall =      1.32(In)
     Flood volume =       29595.1 Cubic Feet
     Total soil loss =        6376.9 Cubic Feet
     ---------------------------------------------------------------------
--
      Peak flow rate of this hydrograph =      5.007(CFS)
     ---------------------------------------------------------------------
--
     +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++
                        3 - 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      0.05  Q         |         |         |
|
    0+15       0.0013      0.11  Q         |         |         |
|
    0+20       0.0027      0.20  Q         |         |         |
|
    0+25       0.0049      0.32  VQ        |         |         |
|
    0+30       0.0080      0.45  VQ        |         |         |
```

0+35	0.0120	0.58	V Q			
0+40	0.0167	0.69	V Q			
0+45	0.0223	0.80	|V Q			
0+50	0.0284	0.89	|V Q			
0+55	0.0351	0.97	| VQ			
1+ 0	0.0422	1.03	| V Q			
1+ 5	0.0496	1.08	| V Q			
1+10	0.0575	1.14	| VQ			
1+15	0.0659	1.21	| VQ			
1+20	0.0748	1.30	| VQ			
1+25	0.0845	1.40	| VQ			
1+30	0.0949	1.52	| VQ			
1+35	0.1061	1.62	| Q			
1+40	0.1179	1.72	| Q			
1+45	0.1306	1.84	| Q			
1+50	0.1441	1.97	| QV			
1+55	0.1586	2.09	| QV|			
2+ 0	0.1738	2.22	| Q V			
2+ 5	0.1899	2.34	| Q|V			
2+10	0.2069	2.46	| Q| V			
2+15	0.2249	2.61	| Q V			
2+20	0.2440	2.77	| |Q V			
2+25	0.2647	3.01	| | Q V			
2+30	0.2878	3.36	| | Q V			
2+35	0.3141	3.81	| | Q V |			
2+40	0.3438	4.31	| | Q V			
2+45	0.3763	4.73	| | Q | V			
2+50	0.4107	5.00	| | Q| V			
2+55	0.4452	5.01	| | Q V			
3+ 0	0.4775	4.68	| | Q | V |			



5+35	0.6733	0.14	Q			
5+40	0.6742	0.13	Q			
5+45	0.6750	0.12	Q			
5+50	0.6757	0.10	Q			
5+55	0.6764	0.10	Q			
6+ 0	0.6770	0.09	Q			
6+ 5	0.6775	0.08	Q			
6+10	0.6780	0.07	Q			
6+15	0.6785	0.07	Q			
6+20	0.6788	0.05	Q			
6+25	0.6791	0.04	Q			
6+30	0.6793	0.02	Q			
6+35	0.6793	0.01	Q			
6+40	0.6794	0.01	Q			
6+45	0.6794	0.00	Q			
6+50	0.6794	0.00	Q			

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

Study date 09/21/22 File: ramonacompre610.out

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

Program License Serial Number 6232

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

English Units used in output format

Ramona Commercial
SCS Hydrograph
Existing Conditions
10yr 6hr

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 = 720.00(Ft.)
Length along longest watercourse measured to centroid = 360.00 (Ft.)
Length along longest watercourse = 0.136 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 2.00(Ft.)
Slope along watercourse = 14.6667 Ft./Mi.
Average Manning's 'N' = 0.200
Lag time = 0.487 Hr.
Lag time = 29.23 Min.
25% of lag time = 7.31 Min.
40% of lag time = 11.69 Min.
Unit time = 5.00 Min.
Duration of storm = 6 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 1.14 8.55

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
7.50	2.75	20.63

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.140(In)
Area Averaged 100-Year Rainfall = 2.750(In)

Point rain (area averaged) = 1.802(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.802(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
7.500	84.00	0.100

Total Area Entered = 7.50(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
84.0	93.4	0.086	0.100	0.078	1.000	0.078
					Sum (F) =	0.078

Area averaged mean soil loss (F) (In/Hr) = 0.078
Minimum soil loss rate ((In/Hr)) = 0.039
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.820

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	17.108	1.491	0.113
2	0.167	34.216	3.965	0.300
3	0.250	51.324	6.728	0.509
4	0.333	68.432	9.594	0.725
5	0.417	85.540	11.676	0.883
6	0.500	102.648	12.253	0.926
7	0.583	119.756	10.114	0.765
8	0.667	136.865	7.164	0.542
9	0.750	153.973	5.232	0.395
10	0.833	171.081	3.830	0.289
11	0.917	188.189	2.927	0.221
12	1.000	205.297	2.519	0.190
13	1.083	222.405	2.167	0.164

14	1.167	239.513	1.930	0.146
15	1.250	256.621	1.699	0.128
16	1.333	273.729	1.544	0.117
17	1.417	290.837	1.388	0.105
18	1.500	307.945	1.210	0.091
19	1.583	325.053	1.056	0.080
20	1.667	342.161	1.026	0.078
21	1.750	359.269	0.986	0.075
22	1.833	376.377	0.781	0.059
23	1.917	393.486	0.753	0.057
24	2.000	410.594	0.713	0.054
25	2.083	427.702	0.562	0.043
26	2.167	444.810	0.547	0.041
27	2.250	461.918	0.539	0.041
28	2.333	479.026	0.515	0.039
29	2.417	496.134	0.513	0.039
30	2.500	513.242	0.472	0.036
31	2.583	530.350	0.380	0.029
32	2.667	547.458	0.376	0.028
33	2.750	564.566	0.352	0.027
34	2.833	581.674	0.309	0.023
35	2.917	598.782	0.308	0.023
36	3.000	615.890	0.278	0.021
37	3.083	632.999	0.240	0.018
38	3.167	650.107	0.240	0.018
39	3.250	667.215	0.205	0.015
40	3.333	684.323	0.171	0.013
41	3.417	701.431	0.171	0.013
42	3.500	718.539	0.171	0.013
43	3.583	735.647	0.171	0.013
44	3.667	752.755	0.171	0.013
45	3.750	769.863	0.171	0.013
46	3.833	786.971	0.171	0.013
47	3.917	804.079	0.216	0.016
			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	0.50	0.108	0.078	(0.089)	0.030
2	0.17	0.60	0.130	0.078	(0.106)	0.052
3	0.25	0.60	0.130	0.078	(0.106)	0.052
4	0.33	0.60	0.130	0.078	(0.106)	0.052
5	0.42	0.60	0.130	0.078	(0.106)	0.052
6	0.50	0.70	0.151	0.078	(0.124)	0.073
7	0.58	0.70	0.151	0.078	(0.124)	0.073
8	0.67	0.70	0.151	0.078	(0.124)	0.073
9	0.75	0.70	0.151	0.078	(0.124)	0.073
10	0.83	0.70	0.151	0.078	(0.124)	0.073
11	0.92	0.70	0.151	0.078	(0.124)	0.073
12	1.00	0.80	0.173	0.078	(0.142)	0.095
13	1.08	0.80	0.173	0.078	(0.142)	0.095
14	1.17	0.80	0.173	0.078	(0.142)	0.095
15	1.25	0.80	0.173	0.078	(0.142)	0.095

16	1.33	0.80	0.173	0.078	(0.142)	0.095
17	1.42	0.80	0.173	0.078	(0.142)	0.095
18	1.50	0.80	0.173	0.078	(0.142)	0.095
19	1.58	0.80	0.173	0.078	(0.142)	0.095
20	1.67	0.80	0.173	0.078	(0.142)	0.095
21	1.75	0.80	0.173	0.078	(0.142)	0.095
22	1.83	0.80	0.173	0.078	(0.142)	0.095
23	1.92	0.80	0.173	0.078	(0.142)	0.095
24	2.00	0.90	0.195	0.078	(0.160)	0.117
25	2.08	0.80	0.173	0.078	(0.142)	0.095
26	2.17	0.90	0.195	0.078	(0.160)	0.117
27	2.25	0.90	0.195	0.078	(0.160)	0.117
28	2.33	0.90	0.195	0.078	(0.160)	0.117
29	2.42	0.90	0.195	0.078	(0.160)	0.117
30	2.50	0.90	0.195	0.078	(0.160)	0.117
31	2.58	0.90	0.195	0.078	(0.160)	0.117
32	2.67	0.90	0.195	0.078	(0.160)	0.117
33	2.75	1.00	0.216	0.078	(0.177)	0.138
34	2.83	1.00	0.216	0.078	(0.177)	0.138
35	2.92	1.00	0.216	0.078	(0.177)	0.138
36	3.00	1.00	0.216	0.078	(0.177)	0.138
37	3.08	1.00	0.216	0.078	(0.177)	0.138
38	3.17	1.10	0.238	0.078	(0.195)	0.160
39	3.25	1.10	0.238	0.078	(0.195)	0.160
40	3.33	1.10	0.238	0.078	(0.195)	0.160
41	3.42	1.20	0.260	0.078	(0.213)	0.181
42	3.50	1.30	0.281	0.078	(0.231)	0.203
43	3.58	1.40	0.303	0.078	(0.248)	0.225
44	3.67	1.40	0.303	0.078	(0.248)	0.225
45	3.75	1.50	0.324	0.078	(0.266)	0.246
46	3.83	1.50	0.324	0.078	(0.266)	0.246
47	3.92	1.60	0.346	0.078	(0.284)	0.268
48	4.00	1.60	0.346	0.078	(0.284)	0.268
49	4.08	1.70	0.368	0.078	(0.301)	0.290
50	4.17	1.80	0.389	0.078	(0.319)	0.311
51	4.25	1.90	0.411	0.078	(0.337)	0.333
52	4.33	2.00	0.433	0.078	(0.355)	0.354
53	4.42	2.10	0.454	0.078	(0.372)	0.376
54	4.50	2.10	0.454	0.078	(0.372)	0.376
55	4.58	2.20	0.476	0.078	(0.390)	0.398
56	4.67	2.30	0.497	0.078	(0.408)	0.419
57	4.75	2.40	0.519	0.078	(0.426)	0.441
58	4.83	2.40	0.519	0.078	(0.426)	0.441
59	4.92	2.50	0.541	0.078	(0.443)	0.463
60	5.00	2.60	0.562	0.078	(0.461)	0.484
61	5.08	3.10	0.670	0.078	(0.550)	0.592
62	5.17	3.60	0.779	0.078	(0.638)	0.701
63	5.25	3.90	0.843	0.078	(0.692)	0.765
64	5.33	4.20	0.908	0.078	(0.745)	0.830
65	5.42	4.70	1.017	0.078	(0.834)	0.938
66	5.50	5.60	1.211	0.078	(0.993)	1.133
67	5.58	1.90	0.411	0.078	(0.337)	0.333
68	5.67	0.90	0.195	0.078	(0.160)	0.117
69	5.75	0.60	0.130	0.078	(0.106)	0.052
70	5.83	0.50	0.108	0.078	(0.089)	0.030
71	5.92	0.30	0.065	(0.078)	0.053	0.012
72	6.00	0.20	0.043	(0.078)	0.035	0.008

(Loss Rate Not Used)

Sum = 100.0 Sum = 16.1

Flood volume = Effective rainfall 1.34(In)

```
       times area       7.5(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
      Total soil loss =      0.46(In)
      Total soil loss =     0.289(Ac.Ft)
      Total rainfall =      1.80(In)
      Flood volume =       36467.2 Cubic Feet
      Total soil loss =       12600.9 Cubic Feet
      ---------------------------------------------------------------
--
       Peak flow rate of this hydrograph =      4.664(CFS)
      ---------------------------------------------------------------
--
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++
                          6 - 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      0.01  Q         |         |         |
|
    0+15       0.0004      0.04  Q         |         |         |
|
    0+20       0.0009      0.07  Q         |         |         |
|
    0+25       0.0016      0.11  Q         |         |         |
|
    0+30       0.0027      0.16  Q         |         |         |
|
    0+35       0.0042      0.21  Q         |         |         |
|
    0+40       0.0059      0.25  VQ        |         |         |
|
    0+45       0.0080      0.29  VQ        |         |         |
|
    0+50       0.0102      0.33  VQ        |         |         |
|
    0+55       0.0127      0.36  VQ        |         |         |
|
    1+ 0       0.0154      0.39  VQ        |         |         |
|
    1+ 5       0.0183      0.42  VQ        |         |         |
|
    1+10       0.0214      0.45  |Q        |         |         |
|
    1+15       0.0247      0.48  |Q        |         |         |
|
    1+20       0.0282      0.51  |VQ       |         |         |
|
    1+25       0.0319      0.54  |VQ       |         |         |
|
    1+30       0.0357      0.56  |VQ       |         |         |
```

1+35	0.0397	0.58	VQ		
1+40	0.0438	0.60	Q		
1+45	0.0480	0.61	Q		
1+50	0.0523	0.62	Q		
1+55	0.0566	0.63	Q		
2+ 0	0.0610	0.64	Q		
2+ 5	0.0655	0.65	QV		
2+10	0.0701	0.66	QV		
2+15	0.0748	0.68	QV		
2+20	0.0796	0.70	QV		
2+25	0.0846	0.72	Q V		
2+30	0.0897	0.74	Q V		
2+35	0.0949	0.76	QV		
2+40	0.1003	0.78	QV		
2+45	0.1058	0.79	Q V		
2+50	0.1114	0.81	Q V		
2+55	0.1171	0.83	Q V		
3+ 0	0.1230	0.85	Q V		
3+ 5	0.1290	0.88	Q V		
3+10	0.1353	0.91	Q V		
3+15	0.1417	0.94	Q V		
3+20	0.1484	0.96	Q V		
3+25	0.1552	0.99	Q V		
3+30	0.1623	1.03	Q V		
3+35	0.1697	1.08	Q V		
3+40	0.1776	1.14	Q V		
3+45	0.1859	1.20	Q V		
3+50	0.1947	1.28	Q V		
3+55	0.2040	1.36	Q V		
4+ 0	0.2140	1.44	Q V		

4+ 5	0.2244	1.52	Q V			
4+10	0.2354	1.60	Q |V			
4+15	0.2470	1.68	Q |V			
4+20	0.2591	1.77	Q | V			
4+25	0.2720	1.86	Q | V			
4+30	0.2855	1.97	Q | V			
4+35	0.2999	2.08	Q | V			
4+40	0.3150	2.20	Q | V			
4+45	0.3309	2.31	Q| V			
4+50	0.3476	2.42	Q| V			
4+55	0.3651	2.54	Q V			
5+ 0	0.3833	2.65	Q V |			
5+ 5	0.4024	2.77	|Q V|			
5+10	0.4226	2.93	|Q V			
5+15	0.4441	3.12	| Q |V			
5+20	0.4673	3.37	| Q | V			
5+25	0.4927	3.69	| Q | V			
5+30	0.5208	4.08	| Q | V			
5+35	0.5514	4.45	| Q | V			
5+40	0.5835	4.66	| Q | V			
5+45	0.6156	4.66	| Q | V|			
5+50	0.6460	4.41	| Q | V			
5+55	0.6730	3.92	| Q | | V			
6+ 0	0.6953	3.24	| Q | | V			
6+ 5	0.7131	2.59	Q | | V			
6+10	0.7274	2.08	Q | | V			
6+15	0.7392	1.70	Q | | V			
6+20	0.7490	1.44	Q | | V			
6+25	0.7576	1.25	Q | | V			
6+30	0.7652	1.10	Q | | V			

|
| 6+35 | 0.7719 | 0.98 | Q | | | V |
|
| 6+40 | 0.7780 | 0.88 | Q | | | V |
|
| 6+45 | 0.7834 | 0.79 | Q | | | V |
|
| 6+50 | 0.7883 | 0.72 | Q | | | V |
|
| 6+55 | 0.7928 | 0.65 | Q | | | V |
|
| 7+ 0 | 0.7968 | 0.59 | Q | | | V |
|
| 7+ 5 | 0.8006 | 0.54 | Q | | | V |
|
| 7+10 | 0.8040 | 0.49 | Q | | | V |
|
| 7+15 | 0.8071 | 0.45 | Q | | | V |
|
| 7+20 | 0.8099 | 0.41 | Q | | | V |
|
| 7+25 | 0.8125 | 0.38 | Q | | | V |
|
| 7+30 | 0.8149 | 0.35 | Q | | | V |
|
| 7+35 | 0.8171 | 0.32 | Q | | | |
V|
| 7+40 | 0.8192 | 0.30 | Q | | | |
V|
| 7+45 | 0.8211 | 0.28 | Q | | | |
V|
| 7+50 | 0.8229 | 0.26 | Q | | | |
V|
| 7+55 | 0.8245 | 0.23 | Q | | | |
V|
| 8+ 0 | 0.8259 | 0.21 | Q | | | |
V|
| 8+ 5 | 0.8273 | 0.20 | Q | | | |
V|
| 8+10 | 0.8285 | 0.18 | Q | | | |
V|
| 8+15 | 0.8296 | 0.16 | Q | | | |
V|
| 8+20 | 0.8306 | 0.15 | Q | | | |
V|
| 8+25 | 0.8316 | 0.13 | Q | | | |
V|
| 8+30 | 0.8324 | 0.12 | Q | | | |
V|
| 8+35 | 0.8331 | 0.11 | Q | | | |
V|
| 8+40 | 0.8338 | 0.10 | Q | | | |
V|
| 8+45 | 0.8344 | 0.09 | Q | | | |
V|
| 8+50 | 0.8350 | 0.08 | Q | | | |
V|
| 8+55 | 0.8355 | 0.07 | Q | | | |
V|
| 9+ 0 | 0.8359 | 0.07 | Q | | | |

9+ 5	0.8363	0.06	Q			
9+10	0.8366	0.05	Q			
9+15	0.8369	0.04	Q			
9+20	0.8371	0.03	Q			
9+25	0.8371	0.01	Q			
9+30	0.8372	0.00	Q			
9+35	0.8372	0.00	Q			
9+40	0.8372	0.00	Q			
9+45	0.8372	0.00	Q			
9+50	0.8372	0.00	Q			

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

Study date 09/21/22 File: ramonacompre2410.out

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

Program License Serial Number 6232

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

English Units used in output format

Ramona Commercial
SCS Hydrograph
Existing Conditions
10yr 24hr

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 = 720.00(Ft.)
Length along longest watercourse measured to centroid = 360.00 (Ft.)
Length along longest watercourse = 0.136 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 2.00(Ft.)
Slope along watercourse = 14.6667 Ft./Mi.
Average Manning's 'N' = 0.200
Lag time = 0.487 Hr.
Lag time = 29.23 Min.
25% of lag time = 7.31 Min.
40% of lag time = 11.69 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             1.97                  14.78

  100 YEAR Area rainfall data:


  Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.50              5.02                  37.65

  STORM EVENT (YEAR) =   10.00
  Area Averaged 2-Year Rainfall =    1.970(In)
  Area Averaged 100-Year Rainfall =    5.020(In)

  Point rain (area averaged) =    3.225(In)
  Areal adjustment factor =  100.00 %
  Adjusted average point rain =    3.225(In)

  Sub-Area Data:
  Area(Ac.)         Runoff Index   Impervious %
       7.500           84.00          0.100
   Total Area Entered =      7.50(Ac.)


  RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
  AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)
(In/Hr)
  84.0  93.4      0.086     0.100        0.078       1.000
0.078
                                                      Sum (F) =
0.078
  Area averaged mean soil loss (F) (In/Hr) =  0.078
  Minimum soil loss rate ((In/Hr)) =  0.039
  (for 24 hour storm duration)
  Soil low loss rate (decimal) =   0.820
  ------------------------------------------------------------------
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              U n i t  H y d r o g r a p h
                    VALLEY S-Curve
  ------------------------------------------------------------------
--
              Unit Hydrograph Data
  ------------------------------------------------------------------
---
  Unit time period   Time % of lag   Distribution   Unit Hydrograph
      (hrs)                          Graph %           (CFS)
  ------------------------------------------------------------------
---
         1   0.083        17.108         1.491             0.113
         2   0.167        34.216         3.965             0.300
         3   0.250        51.324         6.728             0.509
         4   0.333        68.432         9.594             0.725
         5   0.417        85.540        11.676             0.883
         6   0.500       102.648        12.253             0.926
         7   0.583       119.756        10.114             0.765
         8   0.667       136.865         7.164             0.542
         9   0.750       153.973         5.232             0.395
        10   0.833       171.081         3.830             0.289
        11   0.917       188.189         2.927             0.221
        12   1.000       205.297         2.519             0.190
        13   1.083       222.405         2.167             0.164
```

14	1.167	239.513	1.930	0.146
15	1.250	256.621	1.699	0.128
16	1.333	273.729	1.544	0.117
17	1.417	290.837	1.388	0.105
18	1.500	307.945	1.210	0.091
19	1.583	325.053	1.056	0.080
20	1.667	342.161	1.026	0.078
21	1.750	359.269	0.986	0.075
22	1.833	376.377	0.781	0.059
23	1.917	393.486	0.753	0.057
24	2.000	410.594	0.713	0.054
25	2.083	427.702	0.562	0.043
26	2.167	444.810	0.547	0.041
27	2.250	461.918	0.539	0.041
28	2.333	479.026	0.515	0.039
29	2.417	496.134	0.513	0.039
30	2.500	513.242	0.472	0.036
31	2.583	530.350	0.380	0.029
32	2.667	547.458	0.376	0.028
33	2.750	564.566	0.352	0.027
34	2.833	581.674	0.309	0.023
35	2.917	598.782	0.308	0.023
36	3.000	615.890	0.278	0.021
37	3.083	632.999	0.240	0.018
38	3.167	650.107	0.240	0.018
39	3.250	667.215	0.205	0.015
40	3.333	684.323	0.171	0.013
41	3.417	701.431	0.171	0.013
42	3.500	718.539	0.171	0.013
43	3.583	735.647	0.171	0.013
44	3.667	752.755	0.171	0.013
45	3.750	769.863	0.171	0.013
46	3.833	786.971	0.171	0.013
47	3.917	804.079	0.216	0.016
			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	0.026	(0.138)	0.021	0.005
2	0.17	0.07	0.026	(0.138)	0.021	0.005
3	0.25	0.07	0.026	(0.137)	0.021	0.005
4	0.33	0.10	0.039	(0.137)	0.032	0.007
5	0.42	0.10	0.039	(0.136)	0.032	0.007
6	0.50	0.10	0.039	(0.136)	0.032	0.007
7	0.58	0.10	0.039	(0.135)	0.032	0.007
8	0.67	0.10	0.039	(0.135)	0.032	0.007
9	0.75	0.10	0.039	(0.134)	0.032	0.007
10	0.83	0.13	0.052	(0.134)	0.042	0.009
11	0.92	0.13	0.052	(0.133)	0.042	0.009
12	1.00	0.13	0.052	(0.133)	0.042	0.009
13	1.08	0.10	0.039	(0.132)	0.032	0.007
14	1.17	0.10	0.039	(0.132)	0.032	0.007
15	1.25	0.10	0.039	(0.131)	0.032	0.007

16	1.33	0.10	0.039	(0.130)	0.032	0.007
17	1.42	0.10	0.039	(0.130)	0.032	0.007
18	1.50	0.10	0.039	(0.129)	0.032	0.007
19	1.58	0.10	0.039	(0.129)	0.032	0.007
20	1.67	0.10	0.039	(0.128)	0.032	0.007
21	1.75	0.10	0.039	(0.128)	0.032	0.007
22	1.83	0.13	0.052	(0.127)	0.042	0.009
23	1.92	0.13	0.052	(0.127)	0.042	0.009
24	2.00	0.13	0.052	(0.126)	0.042	0.009
25	2.08	0.13	0.052	(0.126)	0.042	0.009
26	2.17	0.13	0.052	(0.125)	0.042	0.009
27	2.25	0.13	0.052	(0.125)	0.042	0.009
28	2.33	0.13	0.052	(0.124)	0.042	0.009
29	2.42	0.13	0.052	(0.124)	0.042	0.009
30	2.50	0.13	0.052	(0.123)	0.042	0.009
31	2.58	0.17	0.064	(0.123)	0.053	0.012
32	2.67	0.17	0.064	(0.122)	0.053	0.012
33	2.75	0.17	0.064	(0.122)	0.053	0.012
34	2.83	0.17	0.064	(0.121)	0.053	0.012
35	2.92	0.17	0.064	(0.121)	0.053	0.012
36	3.00	0.17	0.064	(0.120)	0.053	0.012
37	3.08	0.17	0.064	(0.120)	0.053	0.012
38	3.17	0.17	0.064	(0.119)	0.053	0.012
39	3.25	0.17	0.064	(0.119)	0.053	0.012
40	3.33	0.17	0.064	(0.118)	0.053	0.012
41	3.42	0.17	0.064	(0.118)	0.053	0.012
42	3.50	0.17	0.064	(0.117)	0.053	0.012
43	3.58	0.17	0.064	(0.117)	0.053	0.012
44	3.67	0.17	0.064	(0.116)	0.053	0.012
45	3.75	0.17	0.064	(0.116)	0.053	0.012
46	3.83	0.20	0.077	(0.115)	0.063	0.014
47	3.92	0.20	0.077	(0.115)	0.063	0.014
48	4.00	0.20	0.077	(0.114)	0.063	0.014
49	4.08	0.20	0.077	(0.114)	0.063	0.014
50	4.17	0.20	0.077	(0.113)	0.063	0.014
51	4.25	0.20	0.077	(0.113)	0.063	0.014
52	4.33	0.23	0.090	(0.112)	0.074	0.016
53	4.42	0.23	0.090	(0.112)	0.074	0.016
54	4.50	0.23	0.090	(0.111)	0.074	0.016
55	4.58	0.23	0.090	(0.111)	0.074	0.016
56	4.67	0.23	0.090	(0.111)	0.074	0.016
57	4.75	0.23	0.090	(0.110)	0.074	0.016
58	4.83	0.27	0.103	(0.110)	0.085	0.019
59	4.92	0.27	0.103	(0.109)	0.085	0.019
60	5.00	0.27	0.103	(0.109)	0.085	0.019
61	5.08	0.20	0.077	(0.108)	0.063	0.014
62	5.17	0.20	0.077	(0.108)	0.063	0.014
63	5.25	0.20	0.077	(0.107)	0.063	0.014
64	5.33	0.23	0.090	(0.107)	0.074	0.016
65	5.42	0.23	0.090	(0.106)	0.074	0.016
66	5.50	0.23	0.090	(0.106)	0.074	0.016
67	5.58	0.27	0.103	(0.105)	0.085	0.019
68	5.67	0.27	0.103	(0.105)	0.085	0.019
69	5.75	0.27	0.103	(0.104)	0.085	0.019
70	5.83	0.27	0.103	(0.104)	0.085	0.019
71	5.92	0.27	0.103	(0.104)	0.085	0.019
72	6.00	0.27	0.103	(0.103)	0.085	0.019
73	6.08	0.30	0.116	(0.103)	0.095	0.021
74	6.17	0.30	0.116	(0.102)	0.095	0.021
75	6.25	0.30	0.116	(0.102)	0.095	0.021

76	6.33	0.30	0.116	(0.101)	0.095	0.021
77	6.42	0.30	0.116	(0.101)	0.095	0.021
78	6.50	0.30	0.116	(0.100)	0.095	0.021
79	6.58	0.33	0.129	0.100	(0.106)	0.029
80	6.67	0.33	0.129	0.099	(0.106)	0.030
81	6.75	0.33	0.129	0.099	(0.106)	0.030
82	6.83	0.33	0.129	0.099	(0.106)	0.030
83	6.92	0.33	0.129	0.098	(0.106)	0.031
84	7.00	0.33	0.129	0.098	(0.106)	0.031
85	7.08	0.33	0.129	0.097	(0.106)	0.032
86	7.17	0.33	0.129	0.097	(0.106)	0.032
87	7.25	0.33	0.129	0.096	(0.106)	0.033
88	7.33	0.37	0.142	0.096	(0.116)	0.046
89	7.42	0.37	0.142	0.095	(0.116)	0.046
90	7.50	0.37	0.142	0.095	(0.116)	0.047
91	7.58	0.40	0.155	0.095	(0.127)	0.060
92	7.67	0.40	0.155	0.094	(0.127)	0.061
93	7.75	0.40	0.155	0.094	(0.127)	0.061
94	7.83	0.43	0.168	0.093	(0.138)	0.074
95	7.92	0.43	0.168	0.093	(0.138)	0.075
96	8.00	0.43	0.168	0.092	(0.138)	0.075
97	8.08	0.50	0.193	0.092	(0.159)	0.102
98	8.17	0.50	0.193	0.092	(0.159)	0.102
99	8.25	0.50	0.193	0.091	(0.159)	0.102
100	8.33	0.50	0.193	0.091	(0.159)	0.103
101	8.42	0.50	0.193	0.090	(0.159)	0.103
102	8.50	0.50	0.193	0.090	(0.159)	0.104
103	8.58	0.53	0.206	0.089	(0.169)	0.117
104	8.67	0.53	0.206	0.089	(0.169)	0.117
105	8.75	0.53	0.206	0.089	(0.169)	0.118
106	8.83	0.57	0.219	0.088	(0.180)	0.131
107	8.92	0.57	0.219	0.088	(0.180)	0.132
108	9.00	0.57	0.219	0.087	(0.180)	0.132
109	9.08	0.63	0.245	0.087	(0.201)	0.158
110	9.17	0.63	0.245	0.087	(0.201)	0.159
111	9.25	0.63	0.245	0.086	(0.201)	0.159
112	9.33	0.67	0.258	0.086	(0.212)	0.172
113	9.42	0.67	0.258	0.085	(0.212)	0.173
114	9.50	0.67	0.258	0.085	(0.212)	0.173
115	9.58	0.70	0.271	0.084	(0.222)	0.186
116	9.67	0.70	0.271	0.084	(0.222)	0.187
117	9.75	0.70	0.271	0.084	(0.222)	0.187
118	9.83	0.73	0.284	0.083	(0.233)	0.201
119	9.92	0.73	0.284	0.083	(0.233)	0.201
120	10.00	0.73	0.284	0.082	(0.233)	0.201
121	10.08	0.50	0.193	0.082	(0.159)	0.111
122	10.17	0.50	0.193	0.082	(0.159)	0.112
123	10.25	0.50	0.193	0.081	(0.159)	0.112
124	10.33	0.50	0.193	0.081	(0.159)	0.113
125	10.42	0.50	0.193	0.080	(0.159)	0.113
126	10.50	0.50	0.193	0.080	(0.159)	0.113
127	10.58	0.67	0.258	0.080	(0.212)	0.178
128	10.67	0.67	0.258	0.079	(0.212)	0.179
129	10.75	0.67	0.258	0.079	(0.212)	0.179
130	10.83	0.67	0.258	0.079	(0.212)	0.179
131	10.92	0.67	0.258	0.078	(0.212)	0.180
132	11.00	0.67	0.258	0.078	(0.212)	0.180
133	11.08	0.63	0.245	0.077	(0.201)	0.168
134	11.17	0.63	0.245	0.077	(0.201)	0.168
135	11.25	0.63	0.245	0.077	(0.201)	0.168

136	11.33	0.63	0.245	0.076	(0.201)	0.169
137	11.42	0.63	0.245	0.076	(0.201)	0.169
138	11.50	0.63	0.245	0.075	(0.201)	0.170
139	11.58	0.57	0.219	0.075	(0.180)	0.144
140	11.67	0.57	0.219	0.075	(0.180)	0.145
141	11.75	0.57	0.219	0.074	(0.180)	0.145
142	11.83	0.60	0.232	0.074	(0.190)	0.158
143	11.92	0.60	0.232	0.074	(0.190)	0.159
144	12.00	0.60	0.232	0.073	(0.190)	0.159
145	12.08	0.83	0.322	0.073	(0.264)	0.250
146	12.17	0.83	0.322	0.073	(0.264)	0.250
147	12.25	0.83	0.322	0.072	(0.264)	0.250
148	12.33	0.87	0.335	0.072	(0.275)	0.264
149	12.42	0.87	0.335	0.071	(0.275)	0.264
150	12.50	0.87	0.335	0.071	(0.275)	0.264
151	12.58	0.93	0.361	0.071	(0.296)	0.290
152	12.67	0.93	0.361	0.070	(0.296)	0.291
153	12.75	0.93	0.361	0.070	(0.296)	0.291
154	12.83	0.97	0.374	0.070	(0.307)	0.304
155	12.92	0.97	0.374	0.069	(0.307)	0.305
156	13.00	0.97	0.374	0.069	(0.307)	0.305
157	13.08	1.13	0.439	0.069	(0.360)	0.370
158	13.17	1.13	0.439	0.068	(0.360)	0.370
159	13.25	1.13	0.439	0.068	(0.360)	0.371
160	13.33	1.13	0.439	0.068	(0.360)	0.371
161	13.42	1.13	0.439	0.067	(0.360)	0.371
162	13.50	1.13	0.439	0.067	(0.360)	0.372
163	13.58	0.77	0.297	0.067	(0.243)	0.230
164	13.67	0.77	0.297	0.066	(0.243)	0.230
165	13.75	0.77	0.297	0.066	(0.243)	0.231
166	13.83	0.77	0.297	0.066	(0.243)	0.231
167	13.92	0.77	0.297	0.065	(0.243)	0.231
168	14.00	0.77	0.297	0.065	(0.243)	0.232
169	14.08	0.90	0.348	0.065	(0.286)	0.284
170	14.17	0.90	0.348	0.064	(0.286)	0.284
171	14.25	0.90	0.348	0.064	(0.286)	0.284
172	14.33	0.87	0.335	0.064	(0.275)	0.272
173	14.42	0.87	0.335	0.063	(0.275)	0.272
174	14.50	0.87	0.335	0.063	(0.275)	0.272
175	14.58	0.87	0.335	0.063	(0.275)	0.273
176	14.67	0.87	0.335	0.062	(0.275)	0.273
177	14.75	0.87	0.335	0.062	(0.275)	0.273
178	14.83	0.83	0.322	0.062	(0.264)	0.261
179	14.92	0.83	0.322	0.061	(0.264)	0.261
180	15.00	0.83	0.322	0.061	(0.264)	0.261
181	15.08	0.80	0.310	0.061	(0.254)	0.249
182	15.17	0.80	0.310	0.060	(0.254)	0.249
183	15.25	0.80	0.310	0.060	(0.254)	0.250
184	15.33	0.77	0.297	0.060	(0.243)	0.237
185	15.42	0.77	0.297	0.059	(0.243)	0.237
186	15.50	0.77	0.297	0.059	(0.243)	0.238
187	15.58	0.63	0.245	0.059	(0.201)	0.186
188	15.67	0.63	0.245	0.059	(0.201)	0.187
189	15.75	0.63	0.245	0.058	(0.201)	0.187
190	15.83	0.63	0.245	0.058	(0.201)	0.187
191	15.92	0.63	0.245	0.058	(0.201)	0.187
192	16.00	0.63	0.245	0.057	(0.201)	0.188
193	16.08	0.13	0.052	(0.057)	0.042	0.009
194	16.17	0.13	0.052	(0.057)	0.042	0.009
195	16.25	0.13	0.052	(0.056)	0.042	0.009

196	16.33	0.13	0.052	(0.056)	0.042	0.009
197	16.42	0.13	0.052	(0.056)	0.042	0.009
198	16.50	0.13	0.052	(0.056)	0.042	0.009
199	16.58	0.10	0.039	(0.055)	0.032	0.007
200	16.67	0.10	0.039	(0.055)	0.032	0.007
201	16.75	0.10	0.039	(0.055)	0.032	0.007
202	16.83	0.10	0.039	(0.054)	0.032	0.007
203	16.92	0.10	0.039	(0.054)	0.032	0.007
204	17.00	0.10	0.039	(0.054)	0.032	0.007
205	17.08	0.17	0.064	(0.054)	0.053	0.012
206	17.17	0.17	0.064	(0.053)	0.053	0.012
207	17.25	0.17	0.064	(0.053)	0.053	0.012
208	17.33	0.17	0.064	0.053	(0.053)	0.012
209	17.42	0.17	0.064	0.053	(0.053)	0.012
210	17.50	0.17	0.064	0.052	(0.053)	0.012
211	17.58	0.17	0.064	0.052	(0.053)	0.012
212	17.67	0.17	0.064	0.052	(0.053)	0.013
213	17.75	0.17	0.064	0.052	(0.053)	0.013
214	17.83	0.13	0.052	(0.051)	0.042	0.009
215	17.92	0.13	0.052	(0.051)	0.042	0.009
216	18.00	0.13	0.052	(0.051)	0.042	0.009
217	18.08	0.13	0.052	(0.051)	0.042	0.009
218	18.17	0.13	0.052	(0.050)	0.042	0.009
219	18.25	0.13	0.052	(0.050)	0.042	0.009
220	18.33	0.13	0.052	(0.050)	0.042	0.009
221	18.42	0.13	0.052	(0.050)	0.042	0.009
222	18.50	0.13	0.052	(0.049)	0.042	0.009
223	18.58	0.10	0.039	(0.049)	0.032	0.007
224	18.67	0.10	0.039	(0.049)	0.032	0.007
225	18.75	0.10	0.039	(0.049)	0.032	0.007
226	18.83	0.07	0.026	(0.048)	0.021	0.005
227	18.92	0.07	0.026	(0.048)	0.021	0.005
228	19.00	0.07	0.026	(0.048)	0.021	0.005
229	19.08	0.10	0.039	(0.048)	0.032	0.007
230	19.17	0.10	0.039	(0.047)	0.032	0.007
231	19.25	0.10	0.039	(0.047)	0.032	0.007
232	19.33	0.13	0.052	(0.047)	0.042	0.009
233	19.42	0.13	0.052	(0.047)	0.042	0.009
234	19.50	0.13	0.052	(0.047)	0.042	0.009
235	19.58	0.10	0.039	(0.046)	0.032	0.007
236	19.67	0.10	0.039	(0.046)	0.032	0.007
237	19.75	0.10	0.039	(0.046)	0.032	0.007
238	19.83	0.07	0.026	(0.046)	0.021	0.005
239	19.92	0.07	0.026	(0.046)	0.021	0.005
240	20.00	0.07	0.026	(0.045)	0.021	0.005
241	20.08	0.10	0.039	(0.045)	0.032	0.007
242	20.17	0.10	0.039	(0.045)	0.032	0.007
243	20.25	0.10	0.039	(0.045)	0.032	0.007
244	20.33	0.10	0.039	(0.045)	0.032	0.007
245	20.42	0.10	0.039	(0.044)	0.032	0.007
246	20.50	0.10	0.039	(0.044)	0.032	0.007
247	20.58	0.10	0.039	(0.044)	0.032	0.007
248	20.67	0.10	0.039	(0.044)	0.032	0.007
249	20.75	0.10	0.039	(0.044)	0.032	0.007
250	20.83	0.07	0.026	(0.043)	0.021	0.005
251	20.92	0.07	0.026	(0.043)	0.021	0.005
252	21.00	0.07	0.026	(0.043)	0.021	0.005
253	21.08	0.10	0.039	(0.043)	0.032	0.007
254	21.17	0.10	0.039	(0.043)	0.032	0.007
255	21.25	0.10	0.039	(0.043)	0.032	0.007

```
 256  21.33     0.07      0.026       (  0.042)       0.021        0.005
 257  21.42     0.07      0.026       (  0.042)       0.021        0.005
 258  21.50     0.07      0.026       (  0.042)       0.021        0.005
 259  21.58     0.10      0.039       (  0.042)       0.032        0.007
 260  21.67     0.10      0.039       (  0.042)       0.032        0.007
 261  21.75     0.10      0.039       (  0.042)       0.032        0.007
 262  21.83     0.07      0.026       (  0.042)       0.021        0.005
 263  21.92     0.07      0.026       (  0.041)       0.021        0.005
 264  22.00     0.07      0.026       (  0.041)       0.021        0.005
 265  22.08     0.10      0.039       (  0.041)       0.032        0.007
 266  22.17     0.10      0.039       (  0.041)       0.032        0.007
 267  22.25     0.10      0.039       (  0.041)       0.032        0.007
 268  22.33     0.07      0.026       (  0.041)       0.021        0.005
 269  22.42     0.07      0.026       (  0.041)       0.021        0.005
 270  22.50     0.07      0.026       (  0.040)       0.021        0.005
 271  22.58     0.07      0.026       (  0.040)       0.021        0.005
 272  22.67     0.07      0.026       (  0.040)       0.021        0.005
 273  22.75     0.07      0.026       (  0.040)       0.021        0.005
 274  22.83     0.07      0.026       (  0.040)       0.021        0.005
 275  22.92     0.07      0.026       (  0.040)       0.021        0.005
 276  23.00     0.07      0.026       (  0.040)       0.021        0.005
 277  23.08     0.07      0.026       (  0.040)       0.021        0.005
 278  23.17     0.07      0.026       (  0.040)       0.021        0.005
 279  23.25     0.07      0.026       (  0.040)       0.021        0.005
 280  23.33     0.07      0.026       (  0.039)       0.021        0.005
 281  23.42     0.07      0.026       (  0.039)       0.021        0.005
 282  23.50     0.07      0.026       (  0.039)       0.021        0.005
 283  23.58     0.07      0.026       (  0.039)       0.021        0.005
 284  23.67     0.07      0.026       (  0.039)       0.021        0.005
 285  23.75     0.07      0.026       (  0.039)       0.021        0.005
 286  23.83     0.07      0.026       (  0.039)       0.021        0.005
 287  23.92     0.07      0.026       (  0.039)       0.021        0.005
 288  24.00     0.07      0.026       (  0.039)       0.021        0.005
            (Loss Rate Not Used)
     Sum =     100.0                                   Sum =    22.4
      Flood volume = Effective rainfall      1.87(In)
       times area       7.5(Ac.)/[(In)/(Ft.)] =       1.2(Ac.Ft)
      Total soil loss =      1.35(In)
      Total soil loss =     0.846(Ac.Ft)
      Total rainfall =      3.22(In)
      Flood volume =       50928.8 Cubic Feet
      Total soil loss =       36865.0 Cubic Feet
      ---------------------------------------------------------------
--
       Peak flow rate of this hydrograph =      2.412(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	0.0000	0.00	Q			
0+15	0.0000	0.00	Q			
0+20	0.0001	0.01	Q			
0+25	0.0002	0.01	Q			
0+30	0.0003	0.02	Q			
0+35	0.0005	0.02	Q			
0+40	0.0007	0.03	Q			
0+45	0.0009	0.03	Q			
0+50	0.0011	0.04	Q			
0+55	0.0014	0.04	Q			
1+ 0	0.0017	0.04	Q			
1+ 5	0.0020	0.04	Q			
1+10	0.0023	0.05	Q			
1+15	0.0026	0.05	Q			
1+20	0.0030	0.05	Q			
1+25	0.0033	0.05	Q			
1+30	0.0037	0.05	Q			
1+35	0.0040	0.05	Q			
1+40	0.0043	0.05	Q			
1+45	0.0047	0.05	Q			
1+50	0.0050	0.05	Q			
1+55	0.0054	0.05	Q			
2+ 0	0.0057	0.05	Q			
2+ 5	0.0061	0.05	Q			
2+10	0.0065	0.06	Q			
2+15	0.0069	0.06	Q			
2+20	0.0073	0.06	Q			
2+25	0.0077	0.06	Q			
2+30	0.0081	0.06	Q			

2+35	0.0086	0.06	Q			
2+40	0.0090	0.07	Q			
2+45	0.0095	0.07	Q			
2+50	0.0100	0.07	Q			
2+55	0.0105	0.07	Q			
3+ 0	0.0110	0.07	Q			
3+ 5	0.0115	0.08	Q			
3+10	0.0120	0.08	Q			
3+15	0.0126	0.08	Q			
3+20	0.0131	0.08	Q			
3+25	0.0137	0.08	Q			
3+30	0.0143	0.08	Q			
3+35	0.0148	0.08	Q			
3+40	0.0154	0.08	Q			
3+45	0.0160	0.08	Q			
3+50	0.0166	0.08	Q			
3+55	0.0171	0.09	Q			
4+ 0	0.0177	0.09	Q			
4+ 5	0.0184	0.09	Q			
4+10	0.0190	0.09	Q			
4+15	0.0196	0.09	Q			
4+20	0.0203	0.10	Q			
4+25	0.0210	0.10	Q			
4+30	0.0216	0.10	Q			
4+35	0.0224	0.10	Q			
4+40	0.0231	0.11	Q			
4+45	0.0238	0.11	Q			
4+50	0.0246	0.11	Q			
4+55	0.0254	0.11	Q			
5+ 0	0.0262	0.12	Q			

5+ 5	0.0270	0.12	Q			
5+10	0.0278	0.12	Q			
5+15	0.0286	0.12	Q			
5+20	0.0294	0.12	QV			
5+25	0.0302	0.12	QV			
5+30	0.0310	0.12	QV			
5+35	0.0318	0.12	QV			
5+40	0.0326	0.12	QV			
5+45	0.0335	0.12	QV			
5+50	0.0343	0.12	QV			
5+55	0.0352	0.12	QV			
6+ 0	0.0360	0.13	QV			
6+ 5	0.0369	0.13	QV			
6+10	0.0378	0.13	QV			
6+15	0.0388	0.13	QV			
6+20	0.0397	0.14	QV			
6+25	0.0407	0.14	QV			
6+30	0.0417	0.14	QV			
6+35	0.0427	0.15	QV			
6+40	0.0437	0.15	QV			
6+45	0.0448	0.16	QV			
6+50	0.0459	0.16	QV			
6+55	0.0471	0.17	QV			
7+ 0	0.0484	0.18	QV			
7+ 5	0.0497	0.19	QV			
7+10	0.0510	0.20	QV			
7+15	0.0524	0.20	QV			
7+20	0.0539	0.21	QV			
7+25	0.0554	0.22	QV			
7+30	0.0570	0.23	QV			

7+35	0.0586	0.24	Q V			
7+40	0.0605	0.26	QV			
7+45	0.0624	0.29	QV			
7+50	0.0646	0.31	QV			
7+55	0.0669	0.34	QV			
8+ 0	0.0694	0.36	QV			
8+ 5	0.0721	0.39	QV			
8+10	0.0751	0.43	QV			
8+15	0.0783	0.46	QV			
8+20	0.0817	0.50	Q			
8+25	0.0854	0.54	Q			
8+30	0.0894	0.58	QV			
8+35	0.0936	0.61	QV			
8+40	0.0980	0.64	QV			
8+45	0.1025	0.66	QV			
8+50	0.1073	0.69	QV			
8+55	0.1122	0.72	QV			
9+ 0	0.1174	0.75	Q V			
9+ 5	0.1227	0.78	QV			
9+10	0.1284	0.82	QV			
9+15	0.1343	0.86	QV			
9+20	0.1404	0.90	QV			
9+25	0.1469	0.94	Q V			
9+30	0.1538	0.99	Q V			
9+35	0.1609	1.03	QV			
9+40	0.1683	1.07	QV			
9+45	0.1759	1.11	Q V			
9+50	0.1839	1.15	Q V			
9+55	0.1921	1.19	Q V			
10+ 0	0.2005	1.23	Q V			

10+ 5	0.2091	1.25	Q V			
10+10	0.2178	1.26	Q V			
10+15	0.2263	1.24	Q V			
10+20	0.2346	1.20	Q V			
10+25	0.2425	1.14	Q V			
10+30	0.2499	1.08	Q V			
10+35	0.2570	1.03	Q V			
10+40	0.2640	1.01	Q V			
10+45	0.2710	1.02	Q V			
10+50	0.2783	1.06	Q V			
10+55	0.2859	1.10	Q V			
11+ 0	0.2939	1.16	Q V			
11+ 5	0.3021	1.20	Q V			
11+10	0.3106	1.23	Q V			
11+15	0.3191	1.24	Q V			
11+20	0.3277	1.25	Q V			
11+25	0.3364	1.25	Q V			
11+30	0.3450	1.25	Q V			
11+35	0.3535	1.25	Q V			
11+40	0.3621	1.24	Q V			
11+45	0.3706	1.23	Q V			
11+50	0.3789	1.22	Q V			
11+55	0.3872	1.20	Q V			
12+ 0	0.3954	1.19	Q V			
12+ 5	0.4036	1.19	Q V			
12+10	0.4120	1.22	Q V			
12+15	0.4208	1.27	Q V			
12+20	0.4300	1.35	Q V			
12+25	0.4399	1.43	Q V			
12+30	0.4504	1.53	Q V			

12+35	0.4615	1.61	Q	V		
12+40	0.4731	1.68	Q	V		
12+45	0.4851	1.74	Q	V		
12+50	0.4975	1.80	Q	V		
12+55	0.5103	1.86	Q	V		
13+ 0	0.5235	1.91	Q	V		
13+ 5	0.5371	1.97	Q	V		
13+10	0.5511	2.03	Q	V		
13+15	0.5656	2.11	Q	V		
13+20	0.5807	2.18	Q	V		
13+25	0.5963	2.27	Q	V		
13+30	0.6125	2.35	Q	V		
13+35	0.6290	2.40	Q	V		
13+40	0.6456	2.41	Q	V		
13+45	0.6620	2.38	Q	V		
13+50	0.6779	2.31	Q	V		
13+55	0.6931	2.21	Q	V		
14+ 0	0.7076	2.10	Q	V		
14+ 5	0.7216	2.02	Q	V		
14+10	0.7352	1.98	Q	V		
14+15	0.7488	1.97	Q	V		
14+20	0.7624	1.98	Q	V		
14+25	0.7763	2.01	Q	V		
14+30	0.7903	2.04	Q	V		
14+35	0.8045	2.06	Q	V		
14+40	0.8187	2.06	Q	V		
14+45	0.8329	2.07	Q	V		
14+50	0.8471	2.06	Q	V		
14+55	0.8613	2.06	Q	V		
15+ 0	0.8754	2.05	Q	V		

15+ 5	0.8895	2.04	Q		V	
15+10	0.9035	2.03	Q		V	
15+15	0.9174	2.01	Q		V	
15+20	0.9311	2.00	Q		V	
15+25	0.9447	1.98	Q		V	
15+30	0.9582	1.96	Q		V	
15+35	0.9715	1.93	Q		V	
15+40	0.9846	1.90	Q		V	
15+45	0.9973	1.85	Q		V	
15+50	1.0097	1.80	Q		V	
15+55	1.0218	1.75	Q		V	
16+ 0	1.0334	1.69	Q		V	
16+ 5	1.0446	1.63	Q		V	
16+10	1.0552	1.54	Q		V	
16+15	1.0650	1.42	Q		V	
16+20	1.0738	1.28	Q		V	
16+25	1.0814	1.10	Q		V	
16+30	1.0878	0.93	Q		V	
16+35	1.0932	0.78	Q		V	
16+40	1.0978	0.67	Q		V	
16+45	1.1019	0.59	Q		V	
16+50	1.1055	0.53	Q		V	
16+55	1.1088	0.48	Q		V	
17+ 0	1.1118	0.44	Q		V	
17+ 5	1.1146	0.40	Q		V	
17+10	1.1171	0.37	Q		V	
17+15	1.1194	0.34	Q		V	
17+20	1.1216	0.32	Q		V	
17+25	1.1236	0.29	Q		V	
17+30	1.1255	0.28	Q		V	

|
17+35	1.1274	0.26	|Q				V
17+40	1.1291	0.25	|Q				V
17+45	1.1307	0.24	Q				V
17+50	1.1323	0.23	Q				V
17+55	1.1338	0.21	Q				V
18+ 0	1.1352	0.20	Q				V
18+ 5	1.1365	0.19	Q				V
18+10	1.1377	0.18	Q				V
18+15	1.1389	0.17	Q				V
18+20	1.1400	0.16	Q				
18+25	1.1410	0.15	Q				
18+30	1.1419	0.14	Q				
18+35	1.1428	0.13	Q				
18+40	1.1437	0.12	Q				
18+45	1.1445	0.12	Q				
18+50	1.1453	0.11	Q				
18+55	1.1460	0.10	Q				
19+ 0	1.1466	0.09	Q				
19+ 5	1.1472	0.09	Q				
19+10	1.1477	0.08	Q				
19+15	1.1483	0.07	Q				
19+20	1.1487	0.07	Q				
19+25	1.1492	0.07	Q				
19+30	1.1497	0.07	Q				
19+35	1.1501	0.07	Q				
19+40	1.1506	0.07	Q				
19+45	1.1511	0.07	Q				
19+50	1.1515	0.06	Q				
19+55	1.1519	0.06	Q				
20+ 0	1.1523	0.06	Q				

20+ 5	1.1526	0.05	Q			
20+10	1.1530	0.05	Q			
20+15	1.1533	0.05	Q			
20+20	1.1537	0.05	Q			
20+25	1.1540	0.05	Q			
20+30	1.1544	0.05	Q			
20+35	1.1547	0.05	Q			
20+40	1.1551	0.05	Q			
20+45	1.1555	0.05	Q			
20+50	1.1558	0.05	Q			
20+55	1.1562	0.05	Q			
21+ 0	1.1565	0.05	Q			
21+ 5	1.1569	0.05	Q			
21+10	1.1572	0.05	Q			
21+15	1.1575	0.05	Q			
21+20	1.1578	0.05	Q			
21+25	1.1582	0.05	Q			
21+30	1.1585	0.05	Q			
21+35	1.1588	0.05	Q			
21+40	1.1591	0.05	Q			
21+45	1.1594	0.05	Q			
21+50	1.1597	0.05	Q			
21+55	1.1600	0.05	Q			
22+ 0	1.1604	0.05	Q			
22+ 5	1.1607	0.05	Q			
22+10	1.1610	0.04	Q			
22+15	1.1613	0.04	Q			
22+20	1.1616	0.04	Q			
22+25	1.1619	0.04	Q			
22+30	1.1622	0.04	Q			

22+35	1.1625	0.04	Q			
22+40	1.1628	0.04	Q			
22+45	1.1631	0.04	Q			
22+50	1.1634	0.04	Q			
22+55	1.1636	0.04	Q			
23+ 0	1.1639	0.04	Q			
23+ 5	1.1642	0.04	Q			
23+10	1.1644	0.04	Q			
23+15	1.1647	0.04	Q			
23+20	1.1650	0.04	Q			
23+25	1.1652	0.04	Q			
23+30	1.1655	0.04	Q			
23+35	1.1657	0.04	Q			
23+40	1.1660	0.04	Q			
23+45	1.1662	0.04	Q			
23+50	1.1665	0.04	Q			
23+55	1.1667	0.04	Q			
24+ 0	1.1670	0.04	Q			
24+ 5	1.1672	0.04	Q			
24+10	1.1675	0.03	Q			
24+15	1.1677	0.03	Q			
24+20	1.1679	0.03	Q			
24+25	1.1680	0.02	Q			
24+30	1.1682	0.02	Q			
24+35	1.1683	0.02	Q			
24+40	1.1684	0.01	Q			
24+45	1.1684	0.01	Q			
24+50	1.1685	0.01	Q			
24+55	1.1686	0.01	Q			
25+ 0	1.1686	0.01	Q			

25+ 5	1.1687	0.01	Q			
25+10	1.1687	0.01	Q			
25+15	1.1688	0.01	Q			
25+20	1.1688	0.01	Q			
25+25	1.1689	0.01	Q			
25+30	1.1689	0.00	Q			
25+35	1.1689	0.00	Q			
25+40	1.1689	0.00	Q			
25+45	1.1690	0.00	Q			
25+50	1.1690	0.00	Q			
25+55	1.1690	0.00	Q			
26+ 0	1.1690	0.00	Q			
26+ 5	1.1690	0.00	Q			
26+10	1.1691	0.00	Q			
26+15	1.1691	0.00	Q			
26+20	1.1691	0.00	Q			
26+25	1.1691	0.00	Q			
26+30	1.1691	0.00	Q			
26+35	1.1691	0.00	Q			
26+40	1.1691	0.00	Q			
26+45	1.1691	0.00	Q			
26+50	1.1691	0.00	Q			
26+55	1.1691	0.00	Q			
27+ 0	1.1691	0.00	Q			
27+ 5	1.1691	0.00	Q			
27+10	1.1691	0.00	Q			
27+15	1.1692	0.00	Q			
27+20	1.1692	0.00	Q			
27+25	1.1692	0.00	Q			
27+30	1.1692	0.00	Q			

```
V|
   27+35       1.1692      0.00  Q         |         |         |
V|
   27+40       1.1692      0.00  Q         |         |         |
V|
   27+45       1.1692      0.00  Q         |         |         |
V|
   27+50       1.1692      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

Study date 09/21/22 File: ramonacompost12.out

++

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

Program License Serial Number 6232

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

English Units used in output format

Ramona Commercial
SCS Hydrograph
Developed Condition
2yr 1hr

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 = 720.00(Ft.)
Length along longest watercourse measured to centroid = 360.00 (Ft.)
Length along longest watercourse = 0.136 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 2.00(Ft.)
Slope along watercourse = 14.6667 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.037 Hr.
Lag time = 2.19 Min.
25% of lag time = 0.55 Min.
40% of lag time = 0.88 Min.
Unit time = 5.00 Min.
Duration of storm = 1 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             0.47                    3.50

  100 YEAR Area rainfall data:


  Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.50              1.35                  10.13

  STORM EVENT (YEAR) =    2.00
  Area Averaged 2-Year Rainfall =    0.466(In)
  Area Averaged 100-Year Rainfall =    1.350(In)

  Point rain (area averaged) =    0.466(In)
  Areal adjustment factor =   99.99 %
  Adjusted average point rain =    0.466(In)

  Sub-Area Data:
  Area(Ac.)         Runoff Index   Impervious %
       7.500           75.00          0.900
   Total Area Entered =      7.50(Ac.)


  RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
  AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)
(In/Hr)
  75.0  57.0      0.501     0.900        0.095       1.000
0.095
                                                      Sum (F) =
0.095
  Area averaged mean soil loss (F) (In/Hr) =  0.095
  Minimum soil loss rate ((In/Hr)) =  0.048
  (for 24 hour storm duration)
  Soil low loss rate (decimal) =   0.180
  ------------------------------------------------------------------
---
  Slope of intensity-duration curve for a 1 hour storm =0.5000
  ------------------------------------------------------------------
----

              U n i t  H y d r o g r a p h
                    VALLEY S-Curve
  ------------------------------------------------------------------
--
              Unit Hydrograph Data
  ------------------------------------------------------------------
---
  Unit time period   Time % of lag   Distribution   Unit Hydrograph
      (hrs)                          Graph %           (CFS)
  ------------------------------------------------------------------
---
        1   0.083        228.108         47.872             3.618
        2   0.167        456.215         41.453             3.133
        3   0.250        684.323          7.756             0.586
        4   0.333        912.430          2.919             0.221
                                 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	4.20	0.235	(0.095)	0.042	0.193
2	0.17	4.30	0.240	(0.095)	0.043	0.197
3	0.25	5.00	0.280	(0.095)	0.050	0.229
4	0.33	5.00	0.280	(0.095)	0.050	0.229
5	0.42	5.80	0.324	(0.095)	0.058	0.266
6	0.50	6.50	0.363	(0.095)	0.065	0.298
7	0.58	7.40	0.414	(0.095)	0.074	0.339
8	0.67	8.60	0.481	(0.095)	0.087	0.394
9	0.75	12.30	0.688	0.095	(0.124)	0.593
10	0.83	29.10	1.627	0.095	(0.293)	1.532
11	0.92	6.80	0.380	(0.095)	0.068	0.312
12	1.00	5.00	0.280	(0.095)	0.050	0.229
	(Loss Rate Not Used)					
Sum =		100.0			Sum =	4.8

Flood volume = Effective rainfall 0.40(In)
times area 7.5(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.07(In)
Total soil loss = 0.041(Ac.Ft)
Total rainfall = 0.47(In)
Flood volume = 10916.3 Cubic Feet
Total soil loss = 1769.7 Cubic Feet

Peak flow rate of this hydrograph = 7.711(CFS)

++

1 - 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	0.0048	0.70	V Q
0+10	0.0139	1.32	| V Q
0+15	0.0246	1.56	| V Q |
0+20	0.0364	1.71	| VQ |
0+25	0.0492	1.86	| Q |
0+30	0.0636	2.10	| Q V |
0+35	0.0800	2.37	| Q| V |
0+40	0.0987	2.72	| Q V |

```
|
    0+45       0.1238      3.65  |         |   Q    V|         |
|
    0+50       0.1769      7.71  |         |         |       V Q
|
    0+55       0.2208      6.37  |         |         |    Q    |    V
|
    1+ 0       0.2403      2.84  |         |Q        |         |       V
|
    1+ 5       0.2489      1.24  |   Q     |         |         |
V|
    1+10       0.2503      0.20  Q         |         |         |
V|
    1+15       0.2506      0.05  Q         |         |         |
V
---------------------------------------------------------------------
```

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

Study date 09/21/22 File: ramonacompost32.out

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

Program License Serial Number 6232

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

English Units used in output format

Ramona Commercial
SCS Hydrograph
Developed Condition
2yr 3hr

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 = 720.00(Ft.)
Length along longest watercourse measured to centroid = 360.00 (Ft.)
Length along longest watercourse = 0.136 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 2.00(Ft.)
Slope along watercourse = 14.6667 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.037 Hr.
Lag time = 2.19 Min.
25% of lag time = 0.55 Min.
40% of lag time = 0.88 Min.
Unit time = 5.00 Min.
Duration of storm = 3 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             0.82                    6.14

  100 YEAR Area rainfall data:


  Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.50              2.04                  15.30

  STORM EVENT (YEAR) =    2.00
  Area Averaged 2-Year Rainfall =    0.819(In)
  Area Averaged 100-Year Rainfall =    2.040(In)

  Point rain (area averaged) =    0.819(In)
  Areal adjustment factor =  100.00 %
  Adjusted average point rain =    0.819(In)

  Sub-Area Data:
  Area(Ac.)         Runoff Index   Impervious %
       7.500           75.00          0.900
   Total Area Entered =      7.50(Ac.)


  RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
  AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)
(In/Hr)
  75.0  57.0      0.501     0.900        0.095       1.000
0.095
                                                      Sum (F) =
0.095
  Area averaged mean soil loss (F) (In/Hr) =  0.095
  Minimum soil loss rate ((In/Hr)) =  0.048
  (for 24 hour storm duration)
  Soil low loss rate (decimal) =   0.180
  ------------------------------------------------------------------
---

              U n i t  H y d r o g r a p h
                    VALLEY S-Curve
  ------------------------------------------------------------------
--
              Unit Hydrograph Data
  ------------------------------------------------------------------
---
  Unit time period   Time % of lag   Distribution   Unit Hydrograph
      (hrs)                          Graph %            (CFS)
  ------------------------------------------------------------------
---
       1   0.083        228.108         47.872              3.618
       2   0.167        456.215         41.453              3.133
       3   0.250        684.323          7.756              0.586
       4   0.333        912.430          2.919              0.221
                                 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	1.30	0.128	(0.095)	0.023	0.105
2	0.17	1.30	0.128	(0.095)	0.023	0.105
3	0.25	1.10	0.108	(0.095)	0.019	0.089
4	0.33	1.50	0.147	(0.095)	0.027	0.121
5	0.42	1.50	0.147	(0.095)	0.027	0.121
6	0.50	1.80	0.177	(0.095)	0.032	0.145
7	0.58	1.50	0.147	(0.095)	0.027	0.121
8	0.67	1.80	0.177	(0.095)	0.032	0.145
9	0.75	1.80	0.177	(0.095)	0.032	0.145
10	0.83	1.50	0.147	(0.095)	0.027	0.121
11	0.92	1.60	0.157	(0.095)	0.028	0.129
12	1.00	1.80	0.177	(0.095)	0.032	0.145
13	1.08	2.20	0.216	(0.095)	0.039	0.177
14	1.17	2.20	0.216	(0.095)	0.039	0.177
15	1.25	2.20	0.216	(0.095)	0.039	0.177
16	1.33	2.00	0.197	(0.095)	0.035	0.161
17	1.42	2.60	0.256	(0.095)	0.046	0.210
18	1.50	2.70	0.265	(0.095)	0.048	0.218
19	1.58	2.40	0.236	(0.095)	0.042	0.193
20	1.67	2.70	0.265	(0.095)	0.048	0.218
21	1.75	3.30	0.324	(0.095)	0.058	0.266
22	1.83	3.10	0.305	(0.095)	0.055	0.250
23	1.92	2.90	0.285	(0.095)	0.051	0.234
24	2.00	3.00	0.295	(0.095)	0.053	0.242
25	2.08	3.10	0.305	(0.095)	0.055	0.250
26	2.17	4.20	0.413	(0.095)	0.074	0.338
27	2.25	5.00	0.491	(0.095)	0.088	0.403
28	2.33	3.50	0.344	(0.095)	0.062	0.282
29	2.42	6.80	0.668	0.095	(0.120)	0.573
30	2.50	7.30	0.717	0.095	(0.129)	0.622
31	2.58	8.20	0.806	0.095	(0.145)	0.711
32	2.67	5.90	0.580	0.095	(0.104)	0.485
33	2.75	2.00	0.197	(0.095)	0.035	0.161
34	2.83	1.80	0.177	(0.095)	0.032	0.145
35	2.92	1.80	0.177	(0.095)	0.032	0.145
36	3.00	0.60	0.059	(0.095)	0.011	0.048

(Loss Rate Not Used)

Sum = 100.0 Sum = 8.2

Flood volume = Effective rainfall 0.68(In)
times area 7.5(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.14(In)
Total soil loss = 0.086(Ac.Ft)
Total rainfall = 0.82(In)
Flood volume = 18551.8 Cubic Feet
Total soil loss = 3744.8 Cubic Feet

Peak flow rate of this hydrograph = 4.922(CFS)

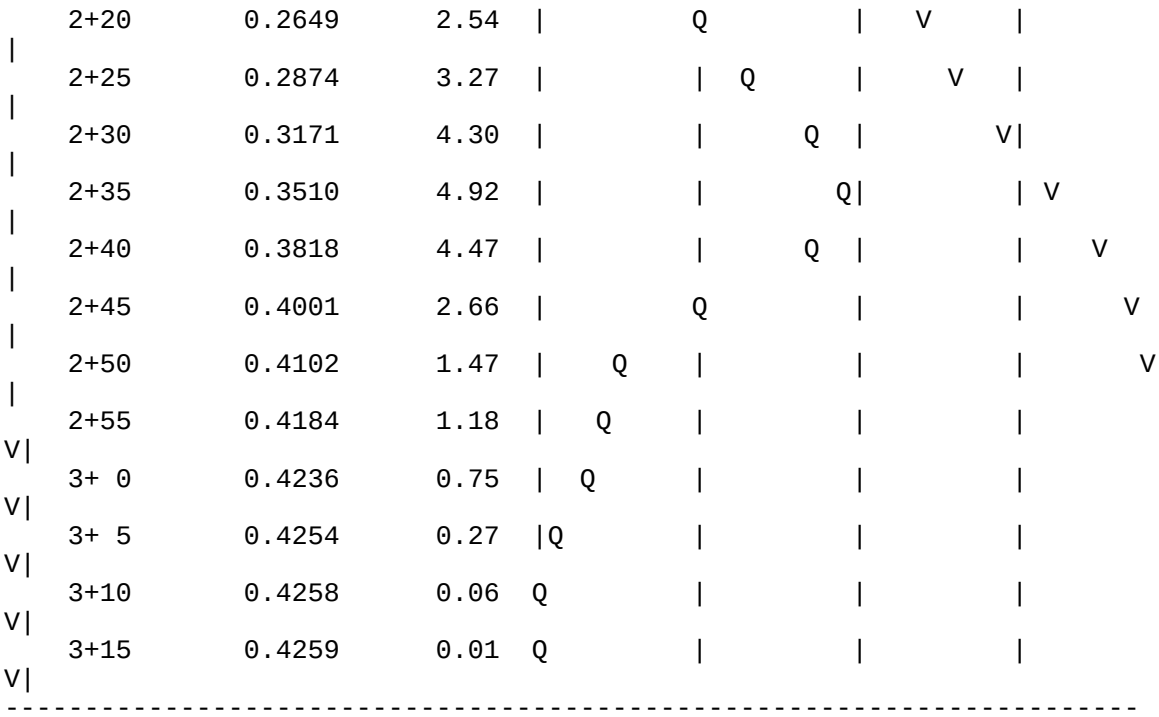
++

3 - 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       0.0026      0.38  VQ        |         |         |
|
    0+10       0.0075      0.71  V Q       |         |         |
|
    0+15       0.0124      0.71  |VQ       |         |         |
|
    0+20       0.0179      0.80  |V Q      |         |         |
|
    0+25       0.0240      0.89  | VQ      |         |         |
|
    0+30       0.0309      0.99  | VQ      |         |         |
|
    0+35       0.0377      0.99  |  Q      |         |         |
|
    0+40       0.0447      1.02  |   Q     |         |         |
|
    0+45       0.0522      1.08  |   Q     |         |         |
|
    0+50       0.0591      1.00  |   QV    |         |         |
|
    0+55       0.0657      0.96  |  Q  V   |         |         |
|
    1+ 0       0.0728      1.03  |   Q V   |         |         |
|
    1+ 5       0.0811      1.20  |   Q  V  |         |         |
|
    1+10       0.0901      1.31  |    Q  V |         |         |
|
    1+15       0.0993      1.33  |    Q   V|         |         |
|
    1+20       0.1081      1.28  |    Q    V         |         |
|
    1+25       0.1178      1.41  |    Q    |V        |         |
|
    1+30       0.1287      1.58  |     Q   | V       |         |
|
    1+35       0.1393      1.54  |     Q   |  V      |         |
|
    1+40       0.1501      1.57  |     Q   |   V     |         |
|
    1+45       0.1625      1.81  |      Q  |    V    |         |
|
    1+50       0.1757      1.91  |      Q  |     V   |         |
|
    1+55       0.1883      1.83  |      Q  |      V  |         |
|
    2+ 0       0.2008      1.81  |      Q  |       V |         |
|
    2+ 5       0.2136      1.85  |      Q  |         V         |
|
    2+10       0.2287      2.20  |       Q |         |V        |
|
    2+15       0.2474      2.72  |         Q         |  V      |
|
```


2+20 0.2649 2.54
2+25 0.2874 3.27
2+30 0.3171 4.30
2+35 0.3510 4.92
2+40 0.3818 4.47
2+45 0.4001 2.66
2+50 0.4102 1.47
2+55 0.4184 1.18
3+ 0 0.4236 0.75
3+ 5 0.4254 0.27
3+10 0.4258 0.06
3+15 0.4259 0.01

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

Study date 09/21/22 File: ramonacompost62.out

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

Program License Serial Number 6232

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

English Units used in output format

Ramona Commercial
SCS Hydrograph
Developed Condition
2yr 6hr

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 = 720.00(Ft.)
Length along longest watercourse measured to centroid = 360.00 (Ft.)
Length along longest watercourse = 0.136 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 2.00(Ft.)
Slope along watercourse = 14.6667 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.037 Hr.
Lag time = 2.19 Min.
25% of lag time = 0.55 Min.
40% of lag time = 0.88 Min.
Unit time = 5.00 Min.
Duration of storm = 6 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             1.14                    8.55

  100 YEAR Area rainfall data:


  Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.50              2.75                  20.63

  STORM EVENT (YEAR) =    2.00
  Area Averaged 2-Year Rainfall =    1.140(In)
  Area Averaged 100-Year Rainfall =    2.750(In)

  Point rain (area averaged) =    1.140(In)
  Areal adjustment factor =  100.00 %
  Adjusted average point rain =    1.140(In)

  Sub-Area Data:
  Area(Ac.)         Runoff Index   Impervious %
       7.500           75.00          0.900
   Total Area Entered =      7.50(Ac.)


  RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
  AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)
(In/Hr)
  75.0  57.0      0.501     0.900        0.095       1.000
0.095
                                                      Sum (F) =
0.095
  Area averaged mean soil loss (F) (In/Hr) =  0.095
  Minimum soil loss rate ((In/Hr)) =  0.048
  (for 24 hour storm duration)
  Soil low loss rate (decimal) =   0.180
  ------------------------------------------------------------------
---

              U n i t  H y d r o g r a p h
                    VALLEY S-Curve
  ------------------------------------------------------------------
--
              Unit Hydrograph Data
  ------------------------------------------------------------------
---
  Unit time period   Time % of lag   Distribution   Unit Hydrograph
      (hrs)                          Graph %            (CFS)
  ------------------------------------------------------------------
---
       1   0.083        228.108         47.872              3.618
       2   0.167        456.215         41.453              3.133
       3   0.250        684.323          7.756              0.586
       4   0.333        912.430          2.919              0.221
                                 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	0.50	0.068	(0.095)	0.012	0.056
2	0.17	0.60	0.082	(0.095)	0.015	0.067
3	0.25	0.60	0.082	(0.095)	0.015	0.067
4	0.33	0.60	0.082	(0.095)	0.015	0.067
5	0.42	0.60	0.082	(0.095)	0.015	0.067
6	0.50	0.70	0.096	(0.095)	0.017	0.079
7	0.58	0.70	0.096	(0.095)	0.017	0.079
8	0.67	0.70	0.096	(0.095)	0.017	0.079
9	0.75	0.70	0.096	(0.095)	0.017	0.079
10	0.83	0.70	0.096	(0.095)	0.017	0.079
11	0.92	0.70	0.096	(0.095)	0.017	0.079
12	1.00	0.80	0.109	(0.095)	0.020	0.090
13	1.08	0.80	0.109	(0.095)	0.020	0.090
14	1.17	0.80	0.109	(0.095)	0.020	0.090
15	1.25	0.80	0.109	(0.095)	0.020	0.090
16	1.33	0.80	0.109	(0.095)	0.020	0.090
17	1.42	0.80	0.109	(0.095)	0.020	0.090
18	1.50	0.80	0.109	(0.095)	0.020	0.090
19	1.58	0.80	0.109	(0.095)	0.020	0.090
20	1.67	0.80	0.109	(0.095)	0.020	0.090
21	1.75	0.80	0.109	(0.095)	0.020	0.090
22	1.83	0.80	0.109	(0.095)	0.020	0.090
23	1.92	0.80	0.109	(0.095)	0.020	0.090
24	2.00	0.90	0.123	(0.095)	0.022	0.101
25	2.08	0.80	0.109	(0.095)	0.020	0.090
26	2.17	0.90	0.123	(0.095)	0.022	0.101
27	2.25	0.90	0.123	(0.095)	0.022	0.101
28	2.33	0.90	0.123	(0.095)	0.022	0.101
29	2.42	0.90	0.123	(0.095)	0.022	0.101
30	2.50	0.90	0.123	(0.095)	0.022	0.101
31	2.58	0.90	0.123	(0.095)	0.022	0.101
32	2.67	0.90	0.123	(0.095)	0.022	0.101
33	2.75	1.00	0.137	(0.095)	0.025	0.112
34	2.83	1.00	0.137	(0.095)	0.025	0.112
35	2.92	1.00	0.137	(0.095)	0.025	0.112
36	3.00	1.00	0.137	(0.095)	0.025	0.112
37	3.08	1.00	0.137	(0.095)	0.025	0.112
38	3.17	1.10	0.150	(0.095)	0.027	0.123
39	3.25	1.10	0.150	(0.095)	0.027	0.123
40	3.33	1.10	0.150	(0.095)	0.027	0.123
41	3.42	1.20	0.164	(0.095)	0.030	0.135
42	3.50	1.30	0.178	(0.095)	0.032	0.146
43	3.58	1.40	0.192	(0.095)	0.034	0.157
44	3.67	1.40	0.192	(0.095)	0.034	0.157
45	3.75	1.50	0.205	(0.095)	0.037	0.168
46	3.83	1.50	0.205	(0.095)	0.037	0.168
47	3.92	1.60	0.219	(0.095)	0.039	0.179
48	4.00	1.60	0.219	(0.095)	0.039	0.179
49	4.08	1.70	0.233	(0.095)	0.042	0.191
50	4.17	1.80	0.246	(0.095)	0.044	0.202
51	4.25	1.90	0.260	(0.095)	0.047	0.213
52	4.33	2.00	0.274	(0.095)	0.049	0.224
53	4.42	2.10	0.287	(0.095)	0.052	0.236
54	4.50	2.10	0.287	(0.095)	0.052	0.236
55	4.58	2.20	0.301	(0.095)	0.054	0.247
56	4.67	2.30	0.315	(0.095)	0.057	0.258
57	4.75	2.40	0.328	(0.095)	0.059	0.269
58	4.83	2.40	0.328	(0.095)	0.059	0.269

```
  59   4.92     2.50      0.342       (  0.095)       0.062        0.280
  60   5.00     2.60      0.356       (  0.095)       0.064        0.292
  61   5.08     3.10      0.424       (  0.095)       0.076        0.348
  62   5.17     3.60      0.492       (  0.095)       0.089        0.404
  63   5.25     3.90      0.534          0.095    (  0.096)       0.438
  64   5.33     4.20      0.575          0.095    (  0.103)       0.479
  65   5.42     4.70      0.643          0.095    (  0.116)       0.548
  66   5.50     5.60      0.766          0.095    (  0.138)       0.671
  67   5.58     1.90      0.260       (  0.095)       0.047        0.213
  68   5.67     0.90      0.123       (  0.095)       0.022        0.101
  69   5.75     0.60      0.082       (  0.095)       0.015        0.067
  70   5.83     0.50      0.068       (  0.095)       0.012        0.056
  71   5.92     0.30      0.041       (  0.095)       0.007        0.034
  72   6.00     0.20      0.027       (  0.095)       0.005        0.022
            (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    11.3
     Flood volume = Effective rainfall      0.94(In)
      times area       7.5(Ac.)/[(In)/(Ft.)] =       0.6(Ac.Ft)
     Total soil loss =      0.20(In)
     Total soil loss =     0.124(Ac.Ft)
     Total rainfall =      1.14(In)
     Flood volume =       25614.0 Cubic Feet
     Total soil loss =        5421.7 Cubic Feet
     ------------------------------------------------------------------
--
      Peak flow rate of this hydrograph =      4.524(CFS)
     ------------------------------------------------------------------
--
     ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++
                         6 - 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       0.0014      0.20  Q         |         |         |
|
    0+10       0.0043      0.42  VQ        |         |         |
|
    0+15       0.0076      0.49  VQ        |         |         |
|
    0+20       0.0111      0.51  V Q       |         |         |
|
    0+25       0.0146      0.51  V Q       |         |         |
|
    0+30       0.0184      0.55  |VQ       |         |         |
|
    0+35       0.0225      0.58  |VQ       |         |         |
|
    0+40       0.0265      0.59  |VQ       |         |         |
|
    0+45       0.0306      0.59  | Q       |         |         |
|
```

0+50	0.0347	0.59	Q			
0+55	0.0388	0.59	Q			
1+ 0	0.0432	0.63	Q			
1+ 5	0.0478	0.67	QV			
1+10	0.0524	0.68	QV			
1+15	0.0571	0.68	QV			
1+20	0.0618	0.68	Q V			
1+25	0.0665	0.68	Q V			
1+30	0.0711	0.68	Q V			
1+35	0.0758	0.68	Q V			
1+40	0.0805	0.68	Q V			
1+45	0.0851	0.68	Q V			
1+50	0.0898	0.68	Q V			
1+55	0.0945	0.68	Q V			
2+ 0	0.0994	0.72	Q V			
2+ 5	0.1044	0.71	Q V			
2+10	0.1094	0.73	Q V			
2+15	0.1146	0.76	Q V			
2+20	0.1198	0.76	Q V			
2+25	0.1251	0.76	Q V			
2+30	0.1303	0.76	Q V			
2+35	0.1356	0.76	Q V			
2+40	0.1409	0.76	Q V			
2+45	0.1464	0.80	Q V			
2+50	0.1522	0.84	Q V			
2+55	0.1580	0.85	Q V			
3+ 0	0.1638	0.85	Q V			
3+ 5	0.1697	0.85	Q V			
3+10	0.1758	0.89	Q V			
3+15	0.1822	0.92	Q V			

```
    3+20       0.1886      0.93  |  Q      | V       |         |
|
    3+25       0.1953      0.97  |  Q      |  V      |         |
|
    3+30       0.2025      1.05  |   Q     |  V      |         |
|
    3+35       0.2103      1.13  |   Q     |   V     |         |
|
    3+40       0.2184      1.18  |   Q     |   V     |         |
|
    3+45       0.2268      1.23  |   Q     |    V    |         |
|
    3+50       0.2355      1.26  |    Q    |     V   |         |
|
    3+55       0.2446      1.31  |    Q    |     V   |         |
|
    4+ 0       0.2539      1.35  |    Q    |      V  |         |
|
    4+ 5       0.2635      1.40  |    Q    |      V  |         |
|
    4+10       0.2736      1.47  |    Q    |       V |         |
|
    4+15       0.2843      1.56  |     Q   |        V|         |
|
    4+20       0.2956      1.64  |     Q   |         V         |
|
    4+25       0.3075      1.73  |     Q   |         V         |
|
    4+30       0.3197      1.77  |      Q  |         |V        |
|
    4+35       0.3322      1.82  |      Q  |         | V       |
|
    4+40       0.3453      1.90  |      Q  |         |  V      |
|
    4+45       0.3589      1.98  |      Q  |         |   V     |
|
    4+50       0.3729      2.02  |       Q |         |    V    |
|
    4+55       0.3872      2.07  |       Q |         |     V   |
|
    5+ 0       0.4020      2.15  |       Q |         |      V  |
|
    5+ 5       0.4185      2.40  |        Q|         |       V |
|
    5+10       0.4377      2.79  |         |Q        |        V|
|
    5+15       0.4592      3.12  |         | Q       |         |V
|
    5+20       0.4828      3.42  |         |  Q      |         | V
|
    5+25       0.5092      3.83  |         |    Q    |         |   V
|
    5+30       0.5403      4.52  |         |       Q |         |     V
|
    5+35       0.5631      3.30  |         |  Q      |         |       V
|
    5+40       0.5737      1.55  |     Q   |         |         |
V|
    5+45       0.5795      0.83  |  Q      |         |         |
V|
```

```
    5+50       0.5830      0.52  | Q       |         |         |
V|
    5+55       0.5855      0.36  |Q        |         |         |
V|
    6+ 0       0.5871      0.23  Q         |         |         |
V|
    6+ 5       0.5878      0.10  Q         |         |         |
V|
    6+10       0.5880      0.02  Q         |         |         |
V|
    6+15       0.5880      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

Study date 09/21/22 File: ramonacompost242.out

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

Program License Serial Number 6232

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

English Units used in output format

Ramona Commercial
SCS Hydrograph
Developed Condition
2yr 24hr

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 = 720.00(Ft.)
Length along longest watercourse measured to centroid = 360.00 (Ft.)
Length along longest watercourse = 0.136 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 2.00(Ft.)
Slope along watercourse = 14.6667 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.037 Hr.
Lag time = 2.19 Min.
25% of lag time = 0.55 Min.
40% of lag time = 0.88 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             1.97                   14.78

  100 YEAR Area rainfall data:


  Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.50              5.02                   37.65

  STORM EVENT (YEAR) =    2.00
  Area Averaged 2-Year Rainfall =    1.970(In)
  Area Averaged 100-Year Rainfall =    5.020(In)

  Point rain (area averaged) =    1.970(In)
  Areal adjustment factor =  100.00 %
  Adjusted average point rain =    1.970(In)

  Sub-Area Data:
  Area(Ac.)         Runoff Index   Impervious %
       7.500           75.00          0.900
   Total Area Entered =      7.50(Ac.)


  RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
  AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)
(In/Hr)
  75.0  57.0      0.501     0.900        0.095       1.000
0.095
                                                      Sum (F) =
0.095
  Area averaged mean soil loss (F) (In/Hr) =  0.095
  Minimum soil loss rate ((In/Hr)) =  0.048
  (for 24 hour storm duration)
  Soil low loss rate (decimal) =   0.180
  ------------------------------------------------------------------
---

              U n i t  H y d r o g r a p h
                    VALLEY S-Curve
  ------------------------------------------------------------------
--
              Unit Hydrograph Data
  ------------------------------------------------------------------
---
  Unit time period   Time % of lag   Distribution   Unit Hydrograph
      (hrs)                          Graph %            (CFS)
  ------------------------------------------------------------------
---
       1   0.083        228.108         47.872              3.618
       2   0.167        456.215         41.453              3.133
       3   0.250        684.323          7.756              0.586
       4   0.333        912.430          2.919              0.221
                                 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	0.016	(0.169)	0.003	0.013
2	0.17	0.07	0.016	(0.168)	0.003	0.013
3	0.25	0.07	0.016	(0.167)	0.003	0.013
4	0.33	0.10	0.024	(0.167)	0.004	0.019
5	0.42	0.10	0.024	(0.166)	0.004	0.019
6	0.50	0.10	0.024	(0.165)	0.004	0.019
7	0.58	0.10	0.024	(0.165)	0.004	0.019
8	0.67	0.10	0.024	(0.164)	0.004	0.019
9	0.75	0.10	0.024	(0.163)	0.004	0.019
10	0.83	0.13	0.032	(0.163)	0.006	0.026
11	0.92	0.13	0.032	(0.162)	0.006	0.026
12	1.00	0.13	0.032	(0.162)	0.006	0.026
13	1.08	0.10	0.024	(0.161)	0.004	0.019
14	1.17	0.10	0.024	(0.160)	0.004	0.019
15	1.25	0.10	0.024	(0.160)	0.004	0.019
16	1.33	0.10	0.024	(0.159)	0.004	0.019
17	1.42	0.10	0.024	(0.158)	0.004	0.019
18	1.50	0.10	0.024	(0.158)	0.004	0.019
19	1.58	0.10	0.024	(0.157)	0.004	0.019
20	1.67	0.10	0.024	(0.156)	0.004	0.019
21	1.75	0.10	0.024	(0.156)	0.004	0.019
22	1.83	0.13	0.032	(0.155)	0.006	0.026
23	1.92	0.13	0.032	(0.155)	0.006	0.026
24	2.00	0.13	0.032	(0.154)	0.006	0.026
25	2.08	0.13	0.032	(0.153)	0.006	0.026
26	2.17	0.13	0.032	(0.153)	0.006	0.026
27	2.25	0.13	0.032	(0.152)	0.006	0.026
28	2.33	0.13	0.032	(0.151)	0.006	0.026
29	2.42	0.13	0.032	(0.151)	0.006	0.026
30	2.50	0.13	0.032	(0.150)	0.006	0.026
31	2.58	0.17	0.039	(0.150)	0.007	0.032
32	2.67	0.17	0.039	(0.149)	0.007	0.032
33	2.75	0.17	0.039	(0.148)	0.007	0.032
34	2.83	0.17	0.039	(0.148)	0.007	0.032
35	2.92	0.17	0.039	(0.147)	0.007	0.032
36	3.00	0.17	0.039	(0.147)	0.007	0.032
37	3.08	0.17	0.039	(0.146)	0.007	0.032
38	3.17	0.17	0.039	(0.145)	0.007	0.032
39	3.25	0.17	0.039	(0.145)	0.007	0.032
40	3.33	0.17	0.039	(0.144)	0.007	0.032
41	3.42	0.17	0.039	(0.144)	0.007	0.032
42	3.50	0.17	0.039	(0.143)	0.007	0.032
43	3.58	0.17	0.039	(0.142)	0.007	0.032
44	3.67	0.17	0.039	(0.142)	0.007	0.032
45	3.75	0.17	0.039	(0.141)	0.007	0.032
46	3.83	0.20	0.047	(0.141)	0.009	0.039
47	3.92	0.20	0.047	(0.140)	0.009	0.039
48	4.00	0.20	0.047	(0.139)	0.009	0.039
49	4.08	0.20	0.047	(0.139)	0.009	0.039
50	4.17	0.20	0.047	(0.138)	0.009	0.039
51	4.25	0.20	0.047	(0.138)	0.009	0.039
52	4.33	0.23	0.055	(0.137)	0.010	0.045
53	4.42	0.23	0.055	(0.136)	0.010	0.045
54	4.50	0.23	0.055	(0.136)	0.010	0.045
55	4.58	0.23	0.055	(0.135)	0.010	0.045
56	4.67	0.23	0.055	(0.135)	0.010	0.045
57	4.75	0.23	0.055	(0.134)	0.010	0.045
58	4.83	0.27	0.063	(0.134)	0.011	0.052

59	4.92	0.27	0.063	(0.133)	0.011	0.052
60	5.00	0.27	0.063	(0.132)	0.011	0.052
61	5.08	0.20	0.047	(0.132)	0.009	0.039
62	5.17	0.20	0.047	(0.131)	0.009	0.039
63	5.25	0.20	0.047	(0.131)	0.009	0.039
64	5.33	0.23	0.055	(0.130)	0.010	0.045
65	5.42	0.23	0.055	(0.129)	0.010	0.045
66	5.50	0.23	0.055	(0.129)	0.010	0.045
67	5.58	0.27	0.063	(0.128)	0.011	0.052
68	5.67	0.27	0.063	(0.128)	0.011	0.052
69	5.75	0.27	0.063	(0.127)	0.011	0.052
70	5.83	0.27	0.063	(0.127)	0.011	0.052
71	5.92	0.27	0.063	(0.126)	0.011	0.052
72	6.00	0.27	0.063	(0.126)	0.011	0.052
73	6.08	0.30	0.071	(0.125)	0.013	0.058
74	6.17	0.30	0.071	(0.124)	0.013	0.058
75	6.25	0.30	0.071	(0.124)	0.013	0.058
76	6.33	0.30	0.071	(0.123)	0.013	0.058
77	6.42	0.30	0.071	(0.123)	0.013	0.058
78	6.50	0.30	0.071	(0.122)	0.013	0.058
79	6.58	0.33	0.079	(0.122)	0.014	0.065
80	6.67	0.33	0.079	(0.121)	0.014	0.065
81	6.75	0.33	0.079	(0.121)	0.014	0.065
82	6.83	0.33	0.079	(0.120)	0.014	0.065
83	6.92	0.33	0.079	(0.119)	0.014	0.065
84	7.00	0.33	0.079	(0.119)	0.014	0.065
85	7.08	0.33	0.079	(0.118)	0.014	0.065
86	7.17	0.33	0.079	(0.118)	0.014	0.065
87	7.25	0.33	0.079	(0.117)	0.014	0.065
88	7.33	0.37	0.087	(0.117)	0.016	0.071
89	7.42	0.37	0.087	(0.116)	0.016	0.071
90	7.50	0.37	0.087	(0.116)	0.016	0.071
91	7.58	0.40	0.095	(0.115)	0.017	0.078
92	7.67	0.40	0.095	(0.115)	0.017	0.078
93	7.75	0.40	0.095	(0.114)	0.017	0.078
94	7.83	0.43	0.102	(0.114)	0.018	0.084
95	7.92	0.43	0.102	(0.113)	0.018	0.084
96	8.00	0.43	0.102	(0.113)	0.018	0.084
97	8.08	0.50	0.118	(0.112)	0.021	0.097
98	8.17	0.50	0.118	(0.112)	0.021	0.097
99	8.25	0.50	0.118	(0.111)	0.021	0.097
100	8.33	0.50	0.118	(0.110)	0.021	0.097
101	8.42	0.50	0.118	(0.110)	0.021	0.097
102	8.50	0.50	0.118	(0.109)	0.021	0.097
103	8.58	0.53	0.126	(0.109)	0.023	0.103
104	8.67	0.53	0.126	(0.108)	0.023	0.103
105	8.75	0.53	0.126	(0.108)	0.023	0.103
106	8.83	0.57	0.134	(0.107)	0.024	0.110
107	8.92	0.57	0.134	(0.107)	0.024	0.110
108	9.00	0.57	0.134	(0.106)	0.024	0.110
109	9.08	0.63	0.150	(0.106)	0.027	0.123
110	9.17	0.63	0.150	(0.105)	0.027	0.123
111	9.25	0.63	0.150	(0.105)	0.027	0.123
112	9.33	0.67	0.158	(0.104)	0.028	0.129
113	9.42	0.67	0.158	(0.104)	0.028	0.129
114	9.50	0.67	0.158	(0.103)	0.028	0.129
115	9.58	0.70	0.165	(0.103)	0.030	0.136
116	9.67	0.70	0.165	(0.102)	0.030	0.136
117	9.75	0.70	0.165	(0.102)	0.030	0.136
118	9.83	0.73	0.173	(0.101)	0.031	0.142

119	9.92	0.73	0.173	(0.101)	0.031	0.142
120	10.00	0.73	0.173	(0.100)	0.031	0.142
121	10.08	0.50	0.118	(0.100)	0.021	0.097
122	10.17	0.50	0.118	(0.099)	0.021	0.097
123	10.25	0.50	0.118	(0.099)	0.021	0.097
124	10.33	0.50	0.118	(0.099)	0.021	0.097
125	10.42	0.50	0.118	(0.098)	0.021	0.097
126	10.50	0.50	0.118	(0.098)	0.021	0.097
127	10.58	0.67	0.158	(0.097)	0.028	0.129
128	10.67	0.67	0.158	(0.097)	0.028	0.129
129	10.75	0.67	0.158	(0.096)	0.028	0.129
130	10.83	0.67	0.158	(0.096)	0.028	0.129
131	10.92	0.67	0.158	(0.095)	0.028	0.129
132	11.00	0.67	0.158	(0.095)	0.028	0.129
133	11.08	0.63	0.150	(0.094)	0.027	0.123
134	11.17	0.63	0.150	(0.094)	0.027	0.123
135	11.25	0.63	0.150	(0.093)	0.027	0.123
136	11.33	0.63	0.150	(0.093)	0.027	0.123
137	11.42	0.63	0.150	(0.092)	0.027	0.123
138	11.50	0.63	0.150	(0.092)	0.027	0.123
139	11.58	0.57	0.134	(0.091)	0.024	0.110
140	11.67	0.57	0.134	(0.091)	0.024	0.110
141	11.75	0.57	0.134	(0.091)	0.024	0.110
142	11.83	0.60	0.142	(0.090)	0.026	0.116
143	11.92	0.60	0.142	(0.090)	0.026	0.116
144	12.00	0.60	0.142	(0.089)	0.026	0.116
145	12.08	0.83	0.197	(0.089)	0.035	0.162
146	12.17	0.83	0.197	(0.088)	0.035	0.162
147	12.25	0.83	0.197	(0.088)	0.035	0.162
148	12.33	0.87	0.205	(0.087)	0.037	0.168
149	12.42	0.87	0.205	(0.087)	0.037	0.168
150	12.50	0.87	0.205	(0.087)	0.037	0.168
151	12.58	0.93	0.221	(0.086)	0.040	0.181
152	12.67	0.93	0.221	(0.086)	0.040	0.181
153	12.75	0.93	0.221	(0.085)	0.040	0.181
154	12.83	0.97	0.229	(0.085)	0.041	0.187
155	12.92	0.97	0.229	(0.084)	0.041	0.187
156	13.00	0.97	0.229	(0.084)	0.041	0.187
157	13.08	1.13	0.268	(0.084)	0.048	0.220
158	13.17	1.13	0.268	(0.083)	0.048	0.220
159	13.25	1.13	0.268	(0.083)	0.048	0.220
160	13.33	1.13	0.268	(0.082)	0.048	0.220
161	13.42	1.13	0.268	(0.082)	0.048	0.220
162	13.50	1.13	0.268	(0.081)	0.048	0.220
163	13.58	0.77	0.181	(0.081)	0.033	0.149
164	13.67	0.77	0.181	(0.081)	0.033	0.149
165	13.75	0.77	0.181	(0.080)	0.033	0.149
166	13.83	0.77	0.181	(0.080)	0.033	0.149
167	13.92	0.77	0.181	(0.079)	0.033	0.149
168	14.00	0.77	0.181	(0.079)	0.033	0.149
169	14.08	0.90	0.213	(0.079)	0.038	0.174
170	14.17	0.90	0.213	(0.078)	0.038	0.174
171	14.25	0.90	0.213	(0.078)	0.038	0.174
172	14.33	0.87	0.205	(0.077)	0.037	0.168
173	14.42	0.87	0.205	(0.077)	0.037	0.168
174	14.50	0.87	0.205	(0.077)	0.037	0.168
175	14.58	0.87	0.205	(0.076)	0.037	0.168
176	14.67	0.87	0.205	(0.076)	0.037	0.168
177	14.75	0.87	0.205	(0.075)	0.037	0.168
178	14.83	0.83	0.197	(0.075)	0.035	0.162

179	14.92	0.83	0.197	(0.075)	0.035	0.162
180	15.00	0.83	0.197	(0.074)	0.035	0.162
181	15.08	0.80	0.189	(0.074)	0.034	0.155
182	15.17	0.80	0.189	(0.074)	0.034	0.155
183	15.25	0.80	0.189	(0.073)	0.034	0.155
184	15.33	0.77	0.181	(0.073)	0.033	0.149
185	15.42	0.77	0.181	(0.072)	0.033	0.149
186	15.50	0.77	0.181	(0.072)	0.033	0.149
187	15.58	0.63	0.150	(0.072)	0.027	0.123
188	15.67	0.63	0.150	(0.071)	0.027	0.123
189	15.75	0.63	0.150	(0.071)	0.027	0.123
190	15.83	0.63	0.150	(0.071)	0.027	0.123
191	15.92	0.63	0.150	(0.070)	0.027	0.123
192	16.00	0.63	0.150	(0.070)	0.027	0.123
193	16.08	0.13	0.032	(0.069)	0.006	0.026
194	16.17	0.13	0.032	(0.069)	0.006	0.026
195	16.25	0.13	0.032	(0.069)	0.006	0.026
196	16.33	0.13	0.032	(0.068)	0.006	0.026
197	16.42	0.13	0.032	(0.068)	0.006	0.026
198	16.50	0.13	0.032	(0.068)	0.006	0.026
199	16.58	0.10	0.024	(0.067)	0.004	0.019
200	16.67	0.10	0.024	(0.067)	0.004	0.019
201	16.75	0.10	0.024	(0.067)	0.004	0.019
202	16.83	0.10	0.024	(0.066)	0.004	0.019
203	16.92	0.10	0.024	(0.066)	0.004	0.019
204	17.00	0.10	0.024	(0.066)	0.004	0.019
205	17.08	0.17	0.039	(0.065)	0.007	0.032
206	17.17	0.17	0.039	(0.065)	0.007	0.032
207	17.25	0.17	0.039	(0.065)	0.007	0.032
208	17.33	0.17	0.039	(0.064)	0.007	0.032
209	17.42	0.17	0.039	(0.064)	0.007	0.032
210	17.50	0.17	0.039	(0.064)	0.007	0.032
211	17.58	0.17	0.039	(0.063)	0.007	0.032
212	17.67	0.17	0.039	(0.063)	0.007	0.032
213	17.75	0.17	0.039	(0.063)	0.007	0.032
214	17.83	0.13	0.032	(0.062)	0.006	0.026
215	17.92	0.13	0.032	(0.062)	0.006	0.026
216	18.00	0.13	0.032	(0.062)	0.006	0.026
217	18.08	0.13	0.032	(0.062)	0.006	0.026
218	18.17	0.13	0.032	(0.061)	0.006	0.026
219	18.25	0.13	0.032	(0.061)	0.006	0.026
220	18.33	0.13	0.032	(0.061)	0.006	0.026
221	18.42	0.13	0.032	(0.060)	0.006	0.026
222	18.50	0.13	0.032	(0.060)	0.006	0.026
223	18.58	0.10	0.024	(0.060)	0.004	0.019
224	18.67	0.10	0.024	(0.059)	0.004	0.019
225	18.75	0.10	0.024	(0.059)	0.004	0.019
226	18.83	0.07	0.016	(0.059)	0.003	0.013
227	18.92	0.07	0.016	(0.059)	0.003	0.013
228	19.00	0.07	0.016	(0.058)	0.003	0.013
229	19.08	0.10	0.024	(0.058)	0.004	0.019
230	19.17	0.10	0.024	(0.058)	0.004	0.019
231	19.25	0.10	0.024	(0.058)	0.004	0.019
232	19.33	0.13	0.032	(0.057)	0.006	0.026
233	19.42	0.13	0.032	(0.057)	0.006	0.026
234	19.50	0.13	0.032	(0.057)	0.006	0.026
235	19.58	0.10	0.024	(0.056)	0.004	0.019
236	19.67	0.10	0.024	(0.056)	0.004	0.019
237	19.75	0.10	0.024	(0.056)	0.004	0.019
238	19.83	0.07	0.016	(0.056)	0.003	0.013

239	19.92	0.07	0.016	(0.055)	0.003	0.013
240	20.00	0.07	0.016	(0.055)	0.003	0.013
241	20.08	0.10	0.024	(0.055)	0.004	0.019
242	20.17	0.10	0.024	(0.055)	0.004	0.019
243	20.25	0.10	0.024	(0.055)	0.004	0.019
244	20.33	0.10	0.024	(0.054)	0.004	0.019
245	20.42	0.10	0.024	(0.054)	0.004	0.019
246	20.50	0.10	0.024	(0.054)	0.004	0.019
247	20.58	0.10	0.024	(0.054)	0.004	0.019
248	20.67	0.10	0.024	(0.053)	0.004	0.019
249	20.75	0.10	0.024	(0.053)	0.004	0.019
250	20.83	0.07	0.016	(0.053)	0.003	0.013
251	20.92	0.07	0.016	(0.053)	0.003	0.013
252	21.00	0.07	0.016	(0.052)	0.003	0.013
253	21.08	0.10	0.024	(0.052)	0.004	0.019
254	21.17	0.10	0.024	(0.052)	0.004	0.019
255	21.25	0.10	0.024	(0.052)	0.004	0.019
256	21.33	0.07	0.016	(0.052)	0.003	0.013
257	21.42	0.07	0.016	(0.051)	0.003	0.013
258	21.50	0.07	0.016	(0.051)	0.003	0.013
259	21.58	0.10	0.024	(0.051)	0.004	0.019
260	21.67	0.10	0.024	(0.051)	0.004	0.019
261	21.75	0.10	0.024	(0.051)	0.004	0.019
262	21.83	0.07	0.016	(0.051)	0.003	0.013
263	21.92	0.07	0.016	(0.050)	0.003	0.013
264	22.00	0.07	0.016	(0.050)	0.003	0.013
265	22.08	0.10	0.024	(0.050)	0.004	0.019
266	22.17	0.10	0.024	(0.050)	0.004	0.019
267	22.25	0.10	0.024	(0.050)	0.004	0.019
268	22.33	0.07	0.016	(0.050)	0.003	0.013
269	22.42	0.07	0.016	(0.049)	0.003	0.013
270	22.50	0.07	0.016	(0.049)	0.003	0.013
271	22.58	0.07	0.016	(0.049)	0.003	0.013
272	22.67	0.07	0.016	(0.049)	0.003	0.013
273	22.75	0.07	0.016	(0.049)	0.003	0.013
274	22.83	0.07	0.016	(0.049)	0.003	0.013
275	22.92	0.07	0.016	(0.049)	0.003	0.013
276	23.00	0.07	0.016	(0.048)	0.003	0.013
277	23.08	0.07	0.016	(0.048)	0.003	0.013
278	23.17	0.07	0.016	(0.048)	0.003	0.013
279	23.25	0.07	0.016	(0.048)	0.003	0.013
280	23.33	0.07	0.016	(0.048)	0.003	0.013
281	23.42	0.07	0.016	(0.048)	0.003	0.013
282	23.50	0.07	0.016	(0.048)	0.003	0.013
283	23.58	0.07	0.016	(0.048)	0.003	0.013
284	23.67	0.07	0.016	(0.048)	0.003	0.013
285	23.75	0.07	0.016	(0.048)	0.003	0.013
286	23.83	0.07	0.016	(0.048)	0.003	0.013
287	23.92	0.07	0.016	(0.048)	0.003	0.013
288	24.00	0.07	0.016	(0.048)	0.003	0.013

(Loss Rate Not Used)

Sum = 100.0 Sum = 19.4

Flood volume = Effective rainfall 1.62(In)
times area 7.5(Ac.)/[(In)/(Ft.)] = 1.0(Ac.Ft)
Total soil loss = 0.35(In)
Total soil loss = 0.222(Ac.Ft)
Total rainfall = 1.97(In)
Flood volume = 43978.6 Cubic Feet
Total soil loss = 9653.8 Cubic Feet

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--
       Peak flow rate of this hydrograph =      1.661(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       0.0009      0.09  Q         |         |         |
|
    0+15       0.0016      0.09  Q         |         |         |
|
    0+20       0.0024      0.12  Q         |         |         |
|
    0+25       0.0034      0.14  Q         |         |         |
|
    0+30       0.0044      0.15  Q         |         |         |
|
    0+35       0.0054      0.15  Q         |         |         |
|
    0+40       0.0064      0.15  Q         |         |         |
|
    0+45       0.0074      0.15  Q         |         |         |
|
    0+50       0.0086      0.17  Q         |         |         |
|
    0+55       0.0099      0.19  Q         |         |         |
|
    1+ 0       0.0112      0.19  Q         |         |         |
|
    1+ 5       0.0124      0.17  Q         |         |         |
|
    1+10       0.0135      0.15  Q         |         |         |
|
    1+15       0.0145      0.15  Q         |         |         |
|
    1+20       0.0155      0.15  Q         |         |         |
|
    1+25       0.0165      0.15  Q         |         |         |
|
    1+30       0.0175      0.15  Q         |         |         |
|
    1+35       0.0185      0.15  Q         |         |         |
|
    1+40       0.0195      0.15  Q         |         |         |
|
    1+45       0.0205      0.15  Q         |         |         |
|
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1+50	0.0217	0.17	Q			
1+55	0.0230	0.19	Q			
2+ 0	0.0244	0.19	Q			
2+ 5	0.0257	0.20	QV			
2+10	0.0270	0.20	QV			
2+15	0.0284	0.20	QV			
2+20	0.0297	0.20	QV			
2+25	0.0311	0.20	QV			
2+30	0.0324	0.20	QV			
2+35	0.0339	0.22	QV			
2+40	0.0356	0.24	QV			
2+45	0.0373	0.24	QV			
2+50	0.0389	0.24	QV			
2+55	0.0406	0.24	QV			
3+ 0	0.0423	0.24	QV			
3+ 5	0.0440	0.24	QV			
3+10	0.0457	0.24	QV			
3+15	0.0474	0.24	QV			
3+20	0.0490	0.24	QV			
3+25	0.0507	0.24	Q V			
3+30	0.0524	0.24	Q V			
3+35	0.0541	0.24	Q V			
3+40	0.0558	0.24	Q V			
3+45	0.0575	0.24	Q V			
3+50	0.0593	0.27	|QV			
3+55	0.0613	0.29	|QV			
4+ 0	0.0633	0.29	|QV			
4+ 5	0.0653	0.29	|QV			
4+10	0.0673	0.29	|QV			
4+15	0.0693	0.29	|QV			

4+20	0.0715	0.32	|QV	|	|	|
4+25	0.0738	0.34	|QV	|	|	|
4+30	0.0762	0.34	|Q V	|	|	|
4+35	0.0785	0.34	|Q V	|	|	|
4+40	0.0809	0.34	|Q V	|	|	|
4+45	0.0833	0.34	|Q V	|	|	|
4+50	0.0858	0.37	|Q V	|	|	|
4+55	0.0884	0.39	|Q V	|	|	|
5+ 0	0.0911	0.39	|Q V	|	|	|
5+ 5	0.0935	0.34	|Q V	|	|	|
5+10	0.0956	0.30	|Q V	|	|	|
5+15	0.0976	0.30	|Q V	|	|	|
5+20	0.0998	0.32	|Q V	|	|	|
5+25	0.1021	0.34	|Q V	|	|	|
5+30	0.1045	0.34	|Q V	|	|	|
5+35	0.1070	0.37	|Q V	|	|	|
5+40	0.1096	0.39	|Q V	|	|	|
5+45	0.1123	0.39	|Q V	|	|	|
5+50	0.1150	0.39	|Q V	|	|	|
5+55	0.1177	0.39	|Q V	|	|	|
6+ 0	0.1204	0.39	|Q V	|	|	|
6+ 5	0.1232	0.41	|Q V	|	|	|
6+10	0.1262	0.43	|Q V	|	|	|
6+15	0.1293	0.44	|Q V	|	|	|
6+20	0.1323	0.44	|Q V	|	|	|
6+25	0.1353	0.44	|Q V	|	|	|
6+30	0.1383	0.44	|Q V	|	|	|
6+35	0.1415	0.46	|Q V	|	|	|
6+40	0.1449	0.48	|Q V	|	|	|
6+45	0.1482	0.49	|Q V	|	|	|

6+50	0.1516	0.49	|Q V |	|	|
6+55	0.1550	0.49	|Q V |	|	|
7+ 0	0.1583	0.49	|Q V |	|	|
7+ 5	0.1617	0.49	|Q V |	|	|
7+10	0.1650	0.49	|Q V |	|	|
7+15	0.1684	0.49	|Q V |	|	|
7+20	0.1719	0.51	| Q V |	|	|
7+25	0.1756	0.53	| Q V |	|	|
7+30	0.1793	0.54	| Q V |	|	|
7+35	0.1832	0.56	| Q V |	|	|
7+40	0.1872	0.58	| Q V |	|	|
7+45	0.1912	0.58	| Q V |	|	|
7+50	0.1954	0.61	| Q V |	|	|
7+55	0.1997	0.63	| Q V |	|	|
8+ 0	0.2041	0.63	| Q V |	|	|
8+ 5	0.2088	0.68	| Q V |	|	|
8+10	0.2138	0.72	| Q V |	|	|
8+15	0.2188	0.73	| Q V |	|	|
8+20	0.2238	0.73	| Q V |	|	|
8+25	0.2289	0.73	| Q V|	|	|
8+30	0.2339	0.73	| Q V|	|	|
8+35	0.2391	0.76	| Q V|	|	|
8+40	0.2445	0.78	| Q V|	|	|
8+45	0.2499	0.78	| Q V|	|	|
8+50	0.2554	0.81	| Q V	|	|
8+55	0.2611	0.83	| Q V	|	|
9+ 0	0.2668	0.83	| Q V	|	|
9+ 5	0.2729	0.88	| Q V	|	|
9+10	0.2792	0.92	| Q |V	|	|
9+15	0.2856	0.93	| Q |V	|	|

9+20	0.2921	0.95	Q	V		
9+25	0.2988	0.97	Q	V		
9+30	0.3055	0.98	Q	V		
9+35	0.3124	1.00	Q	V		
9+40	0.3194	1.02	Q	V		
9+45	0.3265	1.02	Q	V		
9+50	0.3337	1.05	Q	V		
9+55	0.3411	1.07	Q	V		
10+ 0	0.3485	1.07	Q	V		
10+ 5	0.3548	0.91	Q	V		
10+10	0.3601	0.77	Q	V		
10+15	0.3652	0.74	Q	V		
10+20	0.3702	0.73	Q	V		
10+25	0.3753	0.73	Q	V		
10+30	0.3803	0.73	Q	V		
10+35	0.3862	0.85	Q	V		
10+40	0.3927	0.95	Q	V		
10+45	0.3994	0.97	Q	V		
10+50	0.4062	0.98	Q	V		
10+55	0.4129	0.98	Q	V		
11+ 0	0.4196	0.98	Q	V		
11+ 5	0.4262	0.95	Q	V		
11+10	0.4326	0.93	Q	V		
11+15	0.4390	0.93	Q	V		
11+20	0.4454	0.93	Q	V		
11+25	0.4518	0.93	Q	V		
11+30	0.4582	0.93	Q	V		
11+35	0.4643	0.88	Q	V		
11+40	0.4701	0.84	Q	V		
11+45	0.4758	0.83	Q	V		

11+50	0.4817	0.85	Q	V		
11+55	0.4877	0.87	Q	V		
12+ 0	0.4938	0.88	Q	V		
12+ 5	0.5009	1.04	Q	V		
12+10	0.5091	1.19	Q	V		
12+15	0.5174	1.21	Q	V		
12+20	0.5260	1.25	Q	V		
12+25	0.5347	1.27	Q	V		
12+30	0.5435	1.27	Q	V		
12+35	0.5525	1.32	Q	V		
12+40	0.5619	1.36	Q	V		
12+45	0.5713	1.37	Q	V		
12+50	0.5809	1.39	Q	V		
12+55	0.5906	1.41	Q	V		
13+ 0	0.6004	1.42	Q	V		
13+ 5	0.6109	1.53	Q	V		
13+10	0.6222	1.64	Q	V		
13+15	0.6336	1.65	Q	V		
13+20	0.6450	1.66	Q	V		
13+25	0.6565	1.66	Q	V		
13+30	0.6679	1.66	Q	V		
13+35	0.6776	1.40	Q	V		
13+40	0.6857	1.18	Q	V		
13+45	0.6936	1.14	Q	V		
13+50	0.7013	1.12	Q	V		
13+55	0.7090	1.12	Q	V		
14+ 0	0.7168	1.12	Q	V		
14+ 5	0.7252	1.22	Q	V		
14+10	0.7341	1.30	Q	V		
14+15	0.7432	1.31	Q	V		

14+20	0.7521	1.30	Q			V
14+25	0.7609	1.28	Q			V
14+30	0.7696	1.27	Q			V
14+35	0.7784	1.27	Q			V
14+40	0.7871	1.27	Q			V
14+45	0.7959	1.27	Q			V
14+50	0.8045	1.25	Q			V
14+55	0.8129	1.23	Q			V
15+ 0	0.8213	1.22	Q			V
15+ 5	0.8296	1.20	Q			V
15+10	0.8377	1.18	Q			V
15+15	0.8458	1.17	Q			V
15+20	0.8537	1.15	Q			V
15+25	0.8615	1.13	Q			V
15+30	0.8692	1.13	Q			V
15+35	0.8763	1.03	Q			V
15+40	0.8829	0.95	Q			V
15+45	0.8893	0.93	Q			V
15+50	0.8957	0.93	Q			V
15+55	0.9021	0.93	Q			V
16+ 0	0.9085	0.93	Q			V
16+ 5	0.9125	0.58	Q			V
16+10	0.9143	0.27	Q			V
16+15	0.9158	0.22	Q			V
16+20	0.9172	0.20	Q			V
16+25	0.9185	0.20	Q			V
16+30	0.9199	0.20	Q			V
16+35	0.9211	0.17	Q			V
16+40	0.9221	0.15	Q			V
16+45	0.9231	0.15	Q			V

16+50	0.9241	0.15	Q	|	|	|	V |
16+55	0.9251	0.15	Q	|	|	|	V |
17+ 0	0.9262	0.15	Q	|	|	|	V |
17+ 5	0.9275	0.19	Q	|	|	|	V |
17+10	0.9291	0.23	Q	|	|	|	V |
17+15	0.9308	0.24	Q	|	|	|	V |
17+20	0.9324	0.24	Q	|	|	|	V |
17+25	0.9341	0.24	Q	|	|	|	V |
17+30	0.9358	0.24	Q	|	|	|	V |
17+35	0.9375	0.24	Q	|	|	|	V |
17+40	0.9392	0.24	Q	|	|	|	V |
17+45	0.9409	0.24	Q	|	|	|	V |
17+50	0.9424	0.22	Q	|	|	|	V |
17+55	0.9438	0.20	Q	|	|	|	V |
18+ 0	0.9451	0.20	Q	|	|	|	V |
18+ 5	0.9465	0.20	Q	|	|	|	V |
18+10	0.9478	0.20	Q	|	|	|	V |
18+15	0.9492	0.20	Q	|	|	|	V |
18+20	0.9505	0.20	Q	|	|	|	V |
18+25	0.9519	0.20	Q	|	|	|	V |
18+30	0.9532	0.20	Q	|	|	|	V |
18+35	0.9544	0.17	Q	|	|	|	V |
18+40	0.9554	0.15	Q	|	|	|	V |
18+45	0.9564	0.15	Q	|	|	|	V |
18+50	0.9573	0.12	Q	|	|	|	V |
18+55	0.9580	0.10	Q	|	|	|	V |
19+ 0	0.9587	0.10	Q	|	|	|	V |
19+ 5	0.9595	0.12	Q	|	|	|	V |
19+10	0.9605	0.14	Q	|	|	|	V |
19+15	0.9615	0.15	Q	|	|	|	V |

19+20	0.9627	0.17	Q				V
19+25	0.9640	0.19	Q				V
19+30	0.9653	0.19	Q				V
19+35	0.9665	0.17	Q				V
19+40	0.9675	0.15	Q				V
19+45	0.9686	0.15	Q				V
19+50	0.9694	0.12	Q				V
19+55	0.9701	0.10	Q				V
20+ 0	0.9708	0.10	Q				V
20+ 5	0.9716	0.12	Q				V
20+10	0.9726	0.14	Q				V
20+15	0.9736	0.15	Q				V
20+20	0.9746	0.15	Q				V
20+25	0.9756	0.15	Q				V
20+30	0.9766	0.15	Q				V
20+35	0.9776	0.15	Q				V
20+40	0.9787	0.15	Q				V
20+45	0.9797	0.15	Q				V
20+50	0.9805	0.12	Q				V
20+55	0.9812	0.10	Q				V
21+ 0	0.9819	0.10	Q				V
21+ 5	0.9827	0.12	Q				V
21+10	0.9837	0.14	Q				V
21+15	0.9847	0.15	Q				
21+20	0.9856	0.12	Q				
21+25	0.9863	0.10	Q				
21+30	0.9870	0.10	Q				
21+35	0.9878	0.12	Q				
21+40	0.9888	0.14	Q				
21+45	0.9898	0.15	Q				

21+50	0.9906	0.12	Q			
21+55	0.9913	0.10	Q			
22+ 0	0.9920	0.10	Q			
22+ 5	0.9928	0.12	Q			
22+10	0.9938	0.14	Q			
22+15	0.9948	0.15	Q			
22+20	0.9957	0.12	Q			
22+25	0.9964	0.10	Q			
22+30	0.9971	0.10	Q			
22+35	0.9977	0.10	Q			
22+40	0.9984	0.10	Q			
22+45	0.9991	0.10	Q			
22+50	0.9997	0.10	Q			
22+55	1.0004	0.10	Q			
23+ 0	1.0011	0.10	Q			
23+ 5	1.0018	0.10	Q			
23+10	1.0024	0.10	Q			
23+15	1.0031	0.10	Q			
23+20	1.0038	0.10	Q			
23+25	1.0045	0.10	Q			
23+30	1.0051	0.10	Q			
23+35	1.0058	0.10	Q			
23+40	1.0065	0.10	Q			
23+45	1.0071	0.10	Q			
23+50	1.0078	0.10	Q			
23+55	1.0085	0.10	Q			
24+ 0	1.0092	0.10	Q			
24+ 5	1.0095	0.05	Q			
24+10	1.0096	0.01	Q			
24+15	1.0096	0.00	Q			

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

Study date 09/21/22 File: ramonacompost15.out

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

Program License Serial Number 6232

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

English Units used in output format

Ramona Commercial
SCS Hydrograph
Developed Condition
5yr 1hr

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 = 720.00(Ft.)
Length along longest watercourse measured to centroid = 360.00 (Ft.)
Length along longest watercourse = 0.136 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 2.00(Ft.)
Slope along watercourse = 14.6667 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.037 Hr.
Lag time = 2.19 Min.
25% of lag time = 0.55 Min.
40% of lag time = 0.88 Min.
Unit time = 5.00 Min.
Duration of storm = 1 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             0.47                    3.50

  100 YEAR Area rainfall data:


  Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.50              1.35                  10.13

  STORM EVENT (YEAR) =    5.00
  Area Averaged 2-Year Rainfall =    0.466(In)
  Area Averaged 100-Year Rainfall =    1.350(In)

  Point rain (area averaged) =    0.673(In)
  Areal adjustment factor =   99.99 %
  Adjusted average point rain =    0.673(In)

  Sub-Area Data:
  Area(Ac.)         Runoff Index   Impervious %
       7.500           75.00          0.900
   Total Area Entered =      7.50(Ac.)


  RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
  AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)
(In/Hr)
  75.0  57.0      0.501     0.900        0.095       1.000
0.095
                                                      Sum (F) =
0.095
  Area averaged mean soil loss (F) (In/Hr) =  0.095
  Minimum soil loss rate ((In/Hr)) =  0.048
  (for 24 hour storm duration)
  Soil low loss rate (decimal) =   0.180
  ------------------------------------------------------------------
---
  Slope of intensity-duration curve for a 1 hour storm =0.5000
  ------------------------------------------------------------------
----

              U n i t  H y d r o g r a p h
                    VALLEY S-Curve
  ------------------------------------------------------------------
--
              Unit Hydrograph Data
  ------------------------------------------------------------------
---
  Unit time period   Time % of lag   Distribution   Unit Hydrograph
      (hrs)                          Graph %           (CFS)
  ------------------------------------------------------------------
---
       1   0.083        228.108         47.872             3.618
       2   0.167        456.215         41.453             3.133
       3   0.250        684.323          7.756             0.586
       4   0.333        912.430          2.919             0.221
                                 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	4.20	0.339	(0.095)	0.061	0.278
2	0.17	4.30	0.347	(0.095)	0.063	0.285
3	0.25	5.00	0.404	(0.095)	0.073	0.331
4	0.33	5.00	0.404	(0.095)	0.073	0.331
5	0.42	5.80	0.468	(0.095)	0.084	0.384
6	0.50	6.50	0.525	(0.095)	0.094	0.430
7	0.58	7.40	0.598	0.095	(0.108)	0.503
8	0.67	8.60	0.695	0.095	(0.125)	0.599
9	0.75	12.30	0.993	0.095	(0.179)	0.898
10	0.83	29.10	2.350	0.095	(0.423)	2.255
11	0.92	6.80	0.549	0.095	(0.099)	0.454
12	1.00	5.00	0.404	(0.095)	0.073	0.331
	(Loss Rate Not Used)					
Sum =		100.0			Sum =	7.1

Flood volume = Effective rainfall 0.59(In)
times area 7.5(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.08(In)
Total soil loss = 0.052(Ac.Ft)
Total rainfall = 0.67(In)
Flood volume = 16063.0 Cubic Feet
Total soil loss = 2259.7 Cubic Feet

Peak flow rate of this hydrograph = 11.442(CFS)

++

1 - 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 5.0 10.0 15.0 20.0
0+ 5	0.0069	1.01	V Q
0+10	0.0200	1.90	| VQ
0+15	0.0356	2.25	| VQ
0+20	0.0525	2.47	| QV
0+25	0.0710	2.69	| Q V
0+30	0.0919	3.03	| Q V|
0+35	0.1158	3.47	| Q | V
0+40	0.1439	4.08	| Q | V |

```
|
    0+45       0.1819      5.52  |          |Q       V|          |
|
    0+50       0.2607     11.44  |          |          | Q     V |
|
    0+55       0.3253      9.37  |          |       Q  |          |    V
|
    1+ 0       0.3538      4.14  |       Q  |          |          |       V
|
    1+ 5       0.3662      1.80  |  Q       |          |          |
V|
    1+10       0.3683      0.29  Q          |          |          |
V|
    1+15       0.3688      0.07  Q          |          |          |
V
-------------------------------------------------------------------------
```

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

Study date 09/21/22 File: ramonacompost35.out

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

Program License Serial Number 6232

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

English Units used in output format

Ramona Commercial
SCS Hydrograph
Developed Condition
5yr 3hr

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 = 720.00(Ft.)
Length along longest watercourse measured to centroid = 360.00 (Ft.)
Length along longest watercourse = 0.136 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 2.00(Ft.)
Slope along watercourse = 14.6667 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.037 Hr.
Lag time = 2.19 Min.
25% of lag time = 0.55 Min.
40% of lag time = 0.88 Min.
Unit time = 5.00 Min.
Duration of storm = 3 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             0.82                    6.14

  100 YEAR Area rainfall data:


  Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.50              2.04                  15.30

  STORM EVENT (YEAR) =    5.00
  Area Averaged 2-Year Rainfall =    0.819(In)
  Area Averaged 100-Year Rainfall =    2.040(In)

  Point rain (area averaged) =    1.105(In)
  Areal adjustment factor =  100.00 %
  Adjusted average point rain =    1.105(In)

  Sub-Area Data:
  Area(Ac.)         Runoff Index   Impervious %
       7.500           75.00          0.900
   Total Area Entered =      7.50(Ac.)


  RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
  AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)
(In/Hr)
  75.0  57.0      0.501     0.900        0.095       1.000
0.095
                                                      Sum (F) =
0.095
  Area averaged mean soil loss (F) (In/Hr) =  0.095
  Minimum soil loss rate ((In/Hr)) =  0.048
  (for 24 hour storm duration)
  Soil low loss rate (decimal) =   0.180
  ------------------------------------------------------------------
---

              U n i t  H y d r o g r a p h
                    VALLEY S-Curve
  ------------------------------------------------------------------
--
              Unit Hydrograph Data
  ------------------------------------------------------------------
---
  Unit time period   Time % of lag   Distribution   Unit Hydrograph
      (hrs)                          Graph %            (CFS)
  ------------------------------------------------------------------
---
       1   0.083        228.108         47.872              3.618
       2   0.167        456.215         41.453              3.133
       3   0.250        684.323          7.756              0.586
       4   0.333        912.430          2.919              0.221
                                 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	1.30	0.172	(0.095)		0.031	0.141
2	0.17	1.30	0.172	(0.095)		0.031	0.141
3	0.25	1.10	0.146	(0.095)		0.026	0.120
4	0.33	1.50	0.199	(0.095)		0.036	0.163
5	0.42	1.50	0.199	(0.095)		0.036	0.163
6	0.50	1.80	0.239	(0.095)		0.043	0.196
7	0.58	1.50	0.199	(0.095)		0.036	0.163
8	0.67	1.80	0.239	(0.095)		0.043	0.196
9	0.75	1.80	0.239	(0.095)		0.043	0.196
10	0.83	1.50	0.199	(0.095)		0.036	0.163
11	0.92	1.60	0.212	(0.095)		0.038	0.174
12	1.00	1.80	0.239	(0.095)		0.043	0.196
13	1.08	2.20	0.292	(0.095)		0.053	0.239
14	1.17	2.20	0.292	(0.095)		0.053	0.239
15	1.25	2.20	0.292	(0.095)		0.053	0.239
16	1.33	2.00	0.265	(0.095)		0.048	0.217
17	1.42	2.60	0.345	(0.095)		0.062	0.283
18	1.50	2.70	0.358	(0.095)		0.064	0.294
19	1.58	2.40	0.318	(0.095)		0.057	0.261
20	1.67	2.70	0.358	(0.095)		0.064	0.294
21	1.75	3.30	0.438	(0.095)		0.079	0.359
22	1.83	3.10	0.411	(0.095)		0.074	0.337
23	1.92	2.90	0.385	(0.095)		0.069	0.315
24	2.00	3.00	0.398	(0.095)		0.072	0.326
25	2.08	3.10	0.411	(0.095)		0.074	0.337
26	2.17	4.20	0.557	0.095	(	0.100)	0.462
27	2.25	5.00	0.663	0.095	(	0.119)	0.568
28	2.33	3.50	0.464	(0.095)		0.084	0.381
29	2.42	6.80	0.902	0.095	(	0.162)	0.807
30	2.50	7.30	0.968	0.095	(	0.174)	0.873
31	2.58	8.20	1.087	0.095	(	0.196)	0.992
32	2.67	5.90	0.782	0.095	(	0.141)	0.687
33	2.75	2.00	0.265	(0.095)		0.048	0.217
34	2.83	1.80	0.239	(0.095)		0.043	0.196
35	2.92	1.80	0.239	(0.095)		0.043	0.196
36	3.00	0.60	0.080	(0.095)		0.014	0.065

(Loss Rate Not Used)

Sum = 100.0 Sum = 11.2

Flood volume = Effective rainfall 0.93(In)
times area 7.5(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 0.17(In)
Total soil loss = 0.108(Ac.Ft)
Total rainfall = 1.10(In)
Flood volume = 25397.9 Cubic Feet
Total soil loss = 4684.4 Cubic Feet

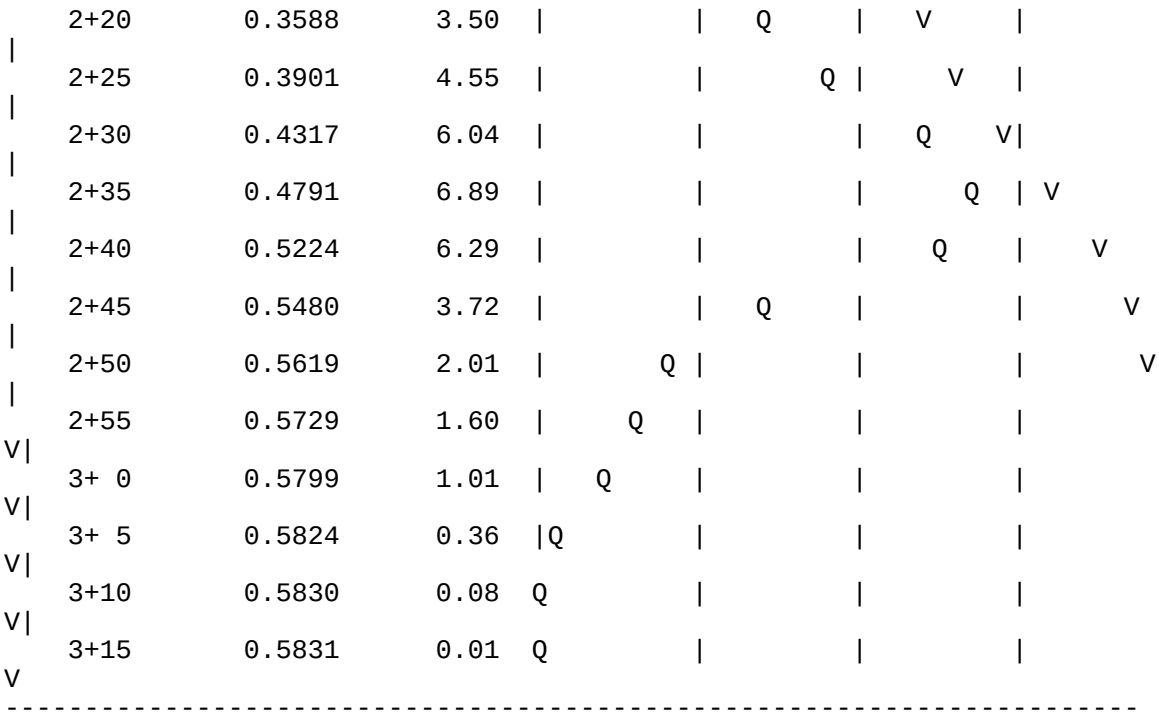
Peak flow rate of this hydrograph = 6.885(CFS)

++

3 - 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	0.0035	0.51	V Q				
0+10	0.0101	0.95	V Q				
0+15	0.0167	0.96	V Q				
0+20	0.0241	1.08	V Q				
0+25	0.0324	1.20	V Q				
0+30	0.0417	1.34	V Q				
0+35	0.0509	1.34	V Q				
0+40	0.0603	1.37	VQ				
0+45	0.0704	1.46	VQ				
0+50	0.0797	1.35	Q				
0+55	0.0886	1.30	QV				
1+ 0	0.0982	1.39	QV				
1+ 5	0.1094	1.62	QV				
1+10	0.1216	1.77	QV				
1+15	0.1340	1.80	Q V				
1+20	0.1459	1.73	Q V				
1+25	0.1589	1.90	Q V				
1+30	0.1736	2.13	Q V				
1+35	0.1879	2.08	Q V				
1+40	0.2025	2.12	Q V				
1+45	0.2193	2.44	Q V				
1+50	0.2370	2.57	Q V				
1+55	0.2540	2.47	Q V				
2+ 0	0.2709	2.45	Q V				
2+ 5	0.2881	2.50	Q V				
2+10	0.3087	2.99	Q V				
2+15	0.3347	3.77	Q V				


2+20 0.3588 3.50
2+25 0.3901 4.55
2+30 0.4317 6.04
2+35 0.4791 6.89
2+40 0.5224 6.29
2+45 0.5480 3.72
2+50 0.5619 2.01
2+55 0.5729 1.60
3+ 0 0.5799 1.01
3+ 5 0.5824 0.36
3+10 0.5830 0.08
3+15 0.5831 0.01

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

Study date 09/21/22 File: ramonacompost65.out

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

Program License Serial Number 6232

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

English Units used in output format

Ramona Commercial
SCS Hydrograph
Developed Condition
5yr 6hr

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 = 720.00(Ft.)
Length along longest watercourse measured to centroid = 360.00 (Ft.)
Length along longest watercourse = 0.136 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 2.00(Ft.)
Slope along watercourse = 14.6667 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.037 Hr.
Lag time = 2.19 Min.
25% of lag time = 0.55 Min.
40% of lag time = 0.88 Min.
Unit time = 5.00 Min.
Duration of storm = 6 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             1.14                    8.55

  100 YEAR Area rainfall data:


  Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.50              2.75                  20.63

  STORM EVENT (YEAR) =    5.00
  Area Averaged 2-Year Rainfall =    1.140(In)
  Area Averaged 100-Year Rainfall =    2.750(In)

  Point rain (area averaged) =    1.517(In)
  Areal adjustment factor =  100.00 %
  Adjusted average point rain =    1.517(In)

  Sub-Area Data:
  Area(Ac.)         Runoff Index   Impervious %
       7.500           75.00          0.900
   Total Area Entered =      7.50(Ac.)


  RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
  AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)
(In/Hr)
  75.0  57.0      0.501     0.900        0.095       1.000
0.095
                                                      Sum (F) =
0.095
  Area averaged mean soil loss (F) (In/Hr) =  0.095
  Minimum soil loss rate ((In/Hr)) =  0.048
  (for 24 hour storm duration)
  Soil low loss rate (decimal) =   0.180
  ------------------------------------------------------------------
---

              U n i t  H y d r o g r a p h
                    VALLEY S-Curve
  ------------------------------------------------------------------
--
              Unit Hydrograph Data
  ------------------------------------------------------------------
---
  Unit time period   Time % of lag   Distribution   Unit Hydrograph
      (hrs)                          Graph %            (CFS)
  ------------------------------------------------------------------
---
       1   0.083        228.108         47.872              3.618
       2   0.167        456.215         41.453              3.133
       3   0.250        684.323          7.756              0.586
       4   0.333        912.430          2.919              0.221
                                 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	0.50	0.091	(0.095)	0.016	0.075
2	0.17	0.60	0.109	(0.095)	0.020	0.090
3	0.25	0.60	0.109	(0.095)	0.020	0.090
4	0.33	0.60	0.109	(0.095)	0.020	0.090
5	0.42	0.60	0.109	(0.095)	0.020	0.090
6	0.50	0.70	0.127	(0.095)	0.023	0.104
7	0.58	0.70	0.127	(0.095)	0.023	0.104
8	0.67	0.70	0.127	(0.095)	0.023	0.104
9	0.75	0.70	0.127	(0.095)	0.023	0.104
10	0.83	0.70	0.127	(0.095)	0.023	0.104
11	0.92	0.70	0.127	(0.095)	0.023	0.104
12	1.00	0.80	0.146	(0.095)	0.026	0.119
13	1.08	0.80	0.146	(0.095)	0.026	0.119
14	1.17	0.80	0.146	(0.095)	0.026	0.119
15	1.25	0.80	0.146	(0.095)	0.026	0.119
16	1.33	0.80	0.146	(0.095)	0.026	0.119
17	1.42	0.80	0.146	(0.095)	0.026	0.119
18	1.50	0.80	0.146	(0.095)	0.026	0.119
19	1.58	0.80	0.146	(0.095)	0.026	0.119
20	1.67	0.80	0.146	(0.095)	0.026	0.119
21	1.75	0.80	0.146	(0.095)	0.026	0.119
22	1.83	0.80	0.146	(0.095)	0.026	0.119
23	1.92	0.80	0.146	(0.095)	0.026	0.119
24	2.00	0.90	0.164	(0.095)	0.029	0.134
25	2.08	0.80	0.146	(0.095)	0.026	0.119
26	2.17	0.90	0.164	(0.095)	0.029	0.134
27	2.25	0.90	0.164	(0.095)	0.029	0.134
28	2.33	0.90	0.164	(0.095)	0.029	0.134
29	2.42	0.90	0.164	(0.095)	0.029	0.134
30	2.50	0.90	0.164	(0.095)	0.029	0.134
31	2.58	0.90	0.164	(0.095)	0.029	0.134
32	2.67	0.90	0.164	(0.095)	0.029	0.134
33	2.75	1.00	0.182	(0.095)	0.033	0.149
34	2.83	1.00	0.182	(0.095)	0.033	0.149
35	2.92	1.00	0.182	(0.095)	0.033	0.149
36	3.00	1.00	0.182	(0.095)	0.033	0.149
37	3.08	1.00	0.182	(0.095)	0.033	0.149
38	3.17	1.10	0.200	(0.095)	0.036	0.164
39	3.25	1.10	0.200	(0.095)	0.036	0.164
40	3.33	1.10	0.200	(0.095)	0.036	0.164
41	3.42	1.20	0.218	(0.095)	0.039	0.179
42	3.50	1.30	0.237	(0.095)	0.043	0.194
43	3.58	1.40	0.255	(0.095)	0.046	0.209
44	3.67	1.40	0.255	(0.095)	0.046	0.209
45	3.75	1.50	0.273	(0.095)	0.049	0.224
46	3.83	1.50	0.273	(0.095)	0.049	0.224
47	3.92	1.60	0.291	(0.095)	0.052	0.239
48	4.00	1.60	0.291	(0.095)	0.052	0.239
49	4.08	1.70	0.309	(0.095)	0.056	0.254
50	4.17	1.80	0.328	(0.095)	0.059	0.269
51	4.25	1.90	0.346	(0.095)	0.062	0.284
52	4.33	2.00	0.364	(0.095)	0.066	0.299
53	4.42	2.10	0.382	(0.095)	0.069	0.313
54	4.50	2.10	0.382	(0.095)	0.069	0.313
55	4.58	2.20	0.401	(0.095)	0.072	0.328
56	4.67	2.30	0.419	(0.095)	0.075	0.343
57	4.75	2.40	0.437	(0.095)	0.079	0.358
58	4.83	2.40	0.437	(0.095)	0.079	0.358

```
  59   4.92     2.50      0.455       (  0.095)       0.082        0.373
  60   5.00     2.60      0.473       (  0.095)       0.085        0.388
  61   5.08     3.10      0.564          0.095    (  0.102)        0.469
  62   5.17     3.60      0.655          0.095    (  0.118)        0.560
  63   5.25     3.90      0.710          0.095    (  0.128)        0.615
  64   5.33     4.20      0.765          0.095    (  0.138)        0.669
  65   5.42     4.70      0.856          0.095    (  0.154)        0.761
  66   5.50     5.60      1.019          0.095    (  0.184)        0.924
  67   5.58     1.90      0.346       (  0.095)       0.062        0.284
  68   5.67     0.90      0.164       (  0.095)       0.029        0.134
  69   5.75     0.60      0.109       (  0.095)       0.020        0.090
  70   5.83     0.50      0.091       (  0.095)       0.016        0.075
  71   5.92     0.30      0.055       (  0.095)       0.010        0.045
  72   6.00     0.20      0.036       (  0.095)       0.007        0.030
            (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    15.2
     Flood volume = Effective rainfall      1.26(In)
      times area       7.5(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
     Total soil loss =      0.25(In)
     Total soil loss =     0.158(Ac.Ft)
     Total rainfall =      1.52(In)
     Flood volume =       34438.9 Cubic Feet
     Total soil loss =        6863.1 Cubic Feet
     ------------------------------------------------------------------
--
      Peak flow rate of this hydrograph =      6.259(CFS)
     ------------------------------------------------------------------
--
     ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++
                         6 - 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       0.0019      0.27  VQ        |         |         |
|
    0+10       0.0057      0.56  V Q       |         |         |
|
    0+15       0.0102      0.65  V Q       |         |         |
|
    0+20       0.0148      0.67  V Q       |         |         |
|
    0+25       0.0195      0.68  V Q       |         |         |
|
    0+30       0.0245      0.73  |VQ       |         |         |
|
    0+35       0.0299      0.78  |V Q      |         |         |
|
    0+40       0.0353      0.79  |V Q      |         |         |
|
    0+45       0.0407      0.79  | VQ      |         |         |
|
```

0+50	0.0462	0.79	VQ			
0+55	0.0516	0.79	VQ			
1+ 0	0.0574	0.84	VQ			
1+ 5	0.0636	0.89	Q			
1+10	0.0698	0.90	Q			
1+15	0.0760	0.90	Q			
1+20	0.0822	0.90	QV			
1+25	0.0884	0.90	QV			
1+30	0.0947	0.90	QV			
1+35	0.1009	0.90	Q V			
1+40	0.1071	0.90	Q V			
1+45	0.1133	0.90	Q V			
1+50	0.1195	0.90	Q V			
1+55	0.1258	0.90	Q V			
2+ 0	0.1323	0.96	Q V			
2+ 5	0.1389	0.95	Q V			
2+10	0.1455	0.97	Q V			
2+15	0.1525	1.01	Q V			
2+20	0.1595	1.01	Q V			
2+25	0.1664	1.02	Q V			
2+30	0.1734	1.02	Q V			
2+35	0.1804	1.02	Q V			
2+40	0.1874	1.02	Q V			
2+45	0.1948	1.07	Q V			
2+50	0.2025	1.12	Q V			
2+55	0.2103	1.13	Q V			
3+ 0	0.2180	1.13	Q V			
3+ 5	0.2258	1.13	Q V			
3+10	0.2340	1.18	Q V			
3+15	0.2424	1.23	Q V			

3+20	0.2510	1.24	Q	V			
3+25	0.2599	1.30	Q	V			
3+30	0.2695	1.40	Q	V			
3+35	0.2799	1.51	Q	V			
3+40	0.2906	1.57	Q	V			
3+45	0.3019	1.63	Q	V			
3+50	0.3135	1.68	Q	V			
3+55	0.3255	1.74	Q	V			
4+ 0	0.3378	1.79	Q	V			
4+ 5	0.3506	1.86	Q	V			
4+10	0.3641	1.96	Q	V			
4+15	0.3784	2.07	Q	V			
4+20	0.3934	2.18	Q	V			
4+25	0.4092	2.30	Q	V			
4+30	0.4255	2.36	Q	V			
4+35	0.4421	2.42	Q	V			
4+40	0.4595	2.53	Q	V			
4+45	0.4777	2.64	Q	V			
4+50	0.4962	2.69	Q	V			
4+55	0.5152	2.76	Q	V			
5+ 0	0.5350	2.86	Q	V			
5+ 5	0.5571	3.21	Q	V			
5+10	0.5833	3.81	Q	V			
5+15	0.6133	4.34	Q	V			
5+20	0.6462	4.78	Q	V			
5+25	0.6830	5.34	Q	V			
5+30	0.7261	6.26	Q	V			
5+35	0.7572	4.52	Q	V			
5+40	0.7715	2.09	Q	V			
5+45	0.7792	1.12	Q	V			

```
    5+50       0.7840      0.69  | Q       |         |         |
V|
    5+55       0.7873      0.48  |Q        |         |         |
V|
    6+ 0       0.7894      0.31  |Q        |         |         |
V|
    6+ 5       0.7904      0.14  Q         |         |         |
V|
    6+10       0.7906      0.03  Q         |         |         |
V|
    6+15       0.7906      0.01  Q         |         |         |
V|
-------------------------------------------------------------------------
```

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

Study date 09/21/22 File: ramonacompost245.out

++

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

Program License Serial Number 6232

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

English Units used in output format

Ramona Commercial
SCS Hydrograph
Developed Condition
5yr 24hr

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 = 720.00(Ft.)
Length along longest watercourse measured to centroid = 360.00 (Ft.)
Length along longest watercourse = 0.136 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 2.00(Ft.)
Slope along watercourse = 14.6667 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.037 Hr.
Lag time = 2.19 Min.
25% of lag time = 0.55 Min.
40% of lag time = 0.88 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             1.97                   14.78

  100 YEAR Area rainfall data:


  Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.50              5.02                   37.65

  STORM EVENT (YEAR) =    5.00
  Area Averaged 2-Year Rainfall =    1.970(In)
  Area Averaged 100-Year Rainfall =    5.020(In)

  Point rain (area averaged) =    2.684(In)
  Areal adjustment factor =  100.00 %
  Adjusted average point rain =    2.684(In)

  Sub-Area Data:
  Area(Ac.)         Runoff Index   Impervious %
       7.500           75.00          0.900
   Total Area Entered =      7.50(Ac.)


  RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
  AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)
(In/Hr)
  75.0  57.0      0.501     0.900        0.095       1.000
0.095
                                                      Sum (F) =
0.095
  Area averaged mean soil loss (F) (In/Hr) =  0.095
  Minimum soil loss rate ((In/Hr)) =  0.048
  (for 24 hour storm duration)
  Soil low loss rate (decimal) =   0.180
  ------------------------------------------------------------------
---

              U n i t  H y d r o g r a p h
                    VALLEY S-Curve
  ------------------------------------------------------------------
--
              Unit Hydrograph Data
  ------------------------------------------------------------------
---
  Unit time period   Time % of lag   Distribution   Unit Hydrograph
      (hrs)                          Graph %            (CFS)
  ------------------------------------------------------------------
---
       1   0.083        228.108         47.872              3.618
       2   0.167        456.215         41.453              3.133
       3   0.250        684.323          7.756              0.586
       4   0.333        912.430          2.919              0.221
                                 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	0.021	(0.169)	0.004	0.018
2	0.17	0.07	0.021	(0.168)	0.004	0.018
3	0.25	0.07	0.021	(0.167)	0.004	0.018
4	0.33	0.10	0.032	(0.167)	0.006	0.026
5	0.42	0.10	0.032	(0.166)	0.006	0.026
6	0.50	0.10	0.032	(0.165)	0.006	0.026
7	0.58	0.10	0.032	(0.165)	0.006	0.026
8	0.67	0.10	0.032	(0.164)	0.006	0.026
9	0.75	0.10	0.032	(0.163)	0.006	0.026
10	0.83	0.13	0.043	(0.163)	0.008	0.035
11	0.92	0.13	0.043	(0.162)	0.008	0.035
12	1.00	0.13	0.043	(0.162)	0.008	0.035
13	1.08	0.10	0.032	(0.161)	0.006	0.026
14	1.17	0.10	0.032	(0.160)	0.006	0.026
15	1.25	0.10	0.032	(0.160)	0.006	0.026
16	1.33	0.10	0.032	(0.159)	0.006	0.026
17	1.42	0.10	0.032	(0.158)	0.006	0.026
18	1.50	0.10	0.032	(0.158)	0.006	0.026
19	1.58	0.10	0.032	(0.157)	0.006	0.026
20	1.67	0.10	0.032	(0.156)	0.006	0.026
21	1.75	0.10	0.032	(0.156)	0.006	0.026
22	1.83	0.13	0.043	(0.155)	0.008	0.035
23	1.92	0.13	0.043	(0.155)	0.008	0.035
24	2.00	0.13	0.043	(0.154)	0.008	0.035
25	2.08	0.13	0.043	(0.153)	0.008	0.035
26	2.17	0.13	0.043	(0.153)	0.008	0.035
27	2.25	0.13	0.043	(0.152)	0.008	0.035
28	2.33	0.13	0.043	(0.151)	0.008	0.035
29	2.42	0.13	0.043	(0.151)	0.008	0.035
30	2.50	0.13	0.043	(0.150)	0.008	0.035
31	2.58	0.17	0.054	(0.150)	0.010	0.044
32	2.67	0.17	0.054	(0.149)	0.010	0.044
33	2.75	0.17	0.054	(0.148)	0.010	0.044
34	2.83	0.17	0.054	(0.148)	0.010	0.044
35	2.92	0.17	0.054	(0.147)	0.010	0.044
36	3.00	0.17	0.054	(0.147)	0.010	0.044
37	3.08	0.17	0.054	(0.146)	0.010	0.044
38	3.17	0.17	0.054	(0.145)	0.010	0.044
39	3.25	0.17	0.054	(0.145)	0.010	0.044
40	3.33	0.17	0.054	(0.144)	0.010	0.044
41	3.42	0.17	0.054	(0.144)	0.010	0.044
42	3.50	0.17	0.054	(0.143)	0.010	0.044
43	3.58	0.17	0.054	(0.142)	0.010	0.044
44	3.67	0.17	0.054	(0.142)	0.010	0.044
45	3.75	0.17	0.054	(0.141)	0.010	0.044
46	3.83	0.20	0.064	(0.141)	0.012	0.053
47	3.92	0.20	0.064	(0.140)	0.012	0.053
48	4.00	0.20	0.064	(0.139)	0.012	0.053
49	4.08	0.20	0.064	(0.139)	0.012	0.053
50	4.17	0.20	0.064	(0.138)	0.012	0.053
51	4.25	0.20	0.064	(0.138)	0.012	0.053
52	4.33	0.23	0.075	(0.137)	0.014	0.062
53	4.42	0.23	0.075	(0.136)	0.014	0.062
54	4.50	0.23	0.075	(0.136)	0.014	0.062
55	4.58	0.23	0.075	(0.135)	0.014	0.062
56	4.67	0.23	0.075	(0.135)	0.014	0.062
57	4.75	0.23	0.075	(0.134)	0.014	0.062
58	4.83	0.27	0.086	(0.134)	0.015	0.070

59	4.92	0.27	0.086	(0.133)	0.015	0.070
60	5.00	0.27	0.086	(0.132)	0.015	0.070
61	5.08	0.20	0.064	(0.132)	0.012	0.053
62	5.17	0.20	0.064	(0.131)	0.012	0.053
63	5.25	0.20	0.064	(0.131)	0.012	0.053
64	5.33	0.23	0.075	(0.130)	0.014	0.062
65	5.42	0.23	0.075	(0.129)	0.014	0.062
66	5.50	0.23	0.075	(0.129)	0.014	0.062
67	5.58	0.27	0.086	(0.128)	0.015	0.070
68	5.67	0.27	0.086	(0.128)	0.015	0.070
69	5.75	0.27	0.086	(0.127)	0.015	0.070
70	5.83	0.27	0.086	(0.127)	0.015	0.070
71	5.92	0.27	0.086	(0.126)	0.015	0.070
72	6.00	0.27	0.086	(0.126)	0.015	0.070
73	6.08	0.30	0.097	(0.125)	0.017	0.079
74	6.17	0.30	0.097	(0.124)	0.017	0.079
75	6.25	0.30	0.097	(0.124)	0.017	0.079
76	6.33	0.30	0.097	(0.123)	0.017	0.079
77	6.42	0.30	0.097	(0.123)	0.017	0.079
78	6.50	0.30	0.097	(0.122)	0.017	0.079
79	6.58	0.33	0.107	(0.122)	0.019	0.088
80	6.67	0.33	0.107	(0.121)	0.019	0.088
81	6.75	0.33	0.107	(0.121)	0.019	0.088
82	6.83	0.33	0.107	(0.120)	0.019	0.088
83	6.92	0.33	0.107	(0.119)	0.019	0.088
84	7.00	0.33	0.107	(0.119)	0.019	0.088
85	7.08	0.33	0.107	(0.118)	0.019	0.088
86	7.17	0.33	0.107	(0.118)	0.019	0.088
87	7.25	0.33	0.107	(0.117)	0.019	0.088
88	7.33	0.37	0.118	(0.117)	0.021	0.097
89	7.42	0.37	0.118	(0.116)	0.021	0.097
90	7.50	0.37	0.118	(0.116)	0.021	0.097
91	7.58	0.40	0.129	(0.115)	0.023	0.106
92	7.67	0.40	0.129	(0.115)	0.023	0.106
93	7.75	0.40	0.129	(0.114)	0.023	0.106
94	7.83	0.43	0.140	(0.114)	0.025	0.114
95	7.92	0.43	0.140	(0.113)	0.025	0.114
96	8.00	0.43	0.140	(0.113)	0.025	0.114
97	8.08	0.50	0.161	(0.112)	0.029	0.132
98	8.17	0.50	0.161	(0.112)	0.029	0.132
99	8.25	0.50	0.161	(0.111)	0.029	0.132
100	8.33	0.50	0.161	(0.110)	0.029	0.132
101	8.42	0.50	0.161	(0.110)	0.029	0.132
102	8.50	0.50	0.161	(0.109)	0.029	0.132
103	8.58	0.53	0.172	(0.109)	0.031	0.141
104	8.67	0.53	0.172	(0.108)	0.031	0.141
105	8.75	0.53	0.172	(0.108)	0.031	0.141
106	8.83	0.57	0.183	(0.107)	0.033	0.150
107	8.92	0.57	0.183	(0.107)	0.033	0.150
108	9.00	0.57	0.183	(0.106)	0.033	0.150
109	9.08	0.63	0.204	(0.106)	0.037	0.167
110	9.17	0.63	0.204	(0.105)	0.037	0.167
111	9.25	0.63	0.204	(0.105)	0.037	0.167
112	9.33	0.67	0.215	(0.104)	0.039	0.176
113	9.42	0.67	0.215	(0.104)	0.039	0.176
114	9.50	0.67	0.215	(0.103)	0.039	0.176
115	9.58	0.70	0.225	(0.103)	0.041	0.185
116	9.67	0.70	0.225	(0.102)	0.041	0.185
117	9.75	0.70	0.225	(0.102)	0.041	0.185
118	9.83	0.73	0.236	(0.101)	0.043	0.194

119	9.92	0.73	0.236	(0.101)	0.043	0.194
120	10.00	0.73	0.236	(0.100)	0.043	0.194
121	10.08	0.50	0.161	(0.100)	0.029	0.132
122	10.17	0.50	0.161	(0.099)	0.029	0.132
123	10.25	0.50	0.161	(0.099)	0.029	0.132
124	10.33	0.50	0.161	(0.099)	0.029	0.132
125	10.42	0.50	0.161	(0.098)	0.029	0.132
126	10.50	0.50	0.161	(0.098)	0.029	0.132
127	10.58	0.67	0.215	(0.097)	0.039	0.176
128	10.67	0.67	0.215	(0.097)	0.039	0.176
129	10.75	0.67	0.215	(0.096)	0.039	0.176
130	10.83	0.67	0.215	(0.096)	0.039	0.176
131	10.92	0.67	0.215	(0.095)	0.039	0.176
132	11.00	0.67	0.215	(0.095)	0.039	0.176
133	11.08	0.63	0.204	(0.094)	0.037	0.167
134	11.17	0.63	0.204	(0.094)	0.037	0.167
135	11.25	0.63	0.204	(0.093)	0.037	0.167
136	11.33	0.63	0.204	(0.093)	0.037	0.167
137	11.42	0.63	0.204	(0.092)	0.037	0.167
138	11.50	0.63	0.204	(0.092)	0.037	0.167
139	11.58	0.57	0.183	(0.091)	0.033	0.150
140	11.67	0.57	0.183	(0.091)	0.033	0.150
141	11.75	0.57	0.183	(0.091)	0.033	0.150
142	11.83	0.60	0.193	(0.090)	0.035	0.158
143	11.92	0.60	0.193	(0.090)	0.035	0.158
144	12.00	0.60	0.193	(0.089)	0.035	0.158
145	12.08	0.83	0.268	(0.089)	0.048	0.220
146	12.17	0.83	0.268	(0.088)	0.048	0.220
147	12.25	0.83	0.268	(0.088)	0.048	0.220
148	12.33	0.87	0.279	(0.087)	0.050	0.229
149	12.42	0.87	0.279	(0.087)	0.050	0.229
150	12.50	0.87	0.279	(0.087)	0.050	0.229
151	12.58	0.93	0.301	(0.086)	0.054	0.247
152	12.67	0.93	0.301	(0.086)	0.054	0.247
153	12.75	0.93	0.301	(0.085)	0.054	0.247
154	12.83	0.97	0.311	(0.085)	0.056	0.255
155	12.92	0.97	0.311	(0.084)	0.056	0.255
156	13.00	0.97	0.311	(0.084)	0.056	0.255
157	13.08	1.13	0.365	(0.084)	0.066	0.299
158	13.17	1.13	0.365	(0.083)	0.066	0.299
159	13.25	1.13	0.365	(0.083)	0.066	0.299
160	13.33	1.13	0.365	(0.082)	0.066	0.299
161	13.42	1.13	0.365	(0.082)	0.066	0.299
162	13.50	1.13	0.365	(0.081)	0.066	0.299
163	13.58	0.77	0.247	(0.081)	0.044	0.203
164	13.67	0.77	0.247	(0.081)	0.044	0.203
165	13.75	0.77	0.247	(0.080)	0.044	0.203
166	13.83	0.77	0.247	(0.080)	0.044	0.203
167	13.92	0.77	0.247	(0.079)	0.044	0.203
168	14.00	0.77	0.247	(0.079)	0.044	0.203
169	14.08	0.90	0.290	(0.079)	0.052	0.238
170	14.17	0.90	0.290	(0.078)	0.052	0.238
171	14.25	0.90	0.290	(0.078)	0.052	0.238
172	14.33	0.87	0.279	(0.077)	0.050	0.229
173	14.42	0.87	0.279	(0.077)	0.050	0.229
174	14.50	0.87	0.279	(0.077)	0.050	0.229
175	14.58	0.87	0.279	(0.076)	0.050	0.229
176	14.67	0.87	0.279	(0.076)	0.050	0.229
177	14.75	0.87	0.279	(0.075)	0.050	0.229
178	14.83	0.83	0.268	(0.075)	0.048	0.220

179	14.92	0.83	0.268	(0.075)	0.048	0.220
180	15.00	0.83	0.268	(0.074)	0.048	0.220
181	15.08	0.80	0.258	(0.074)	0.046	0.211
182	15.17	0.80	0.258	(0.074)	0.046	0.211
183	15.25	0.80	0.258	(0.073)	0.046	0.211
184	15.33	0.77	0.247	(0.073)	0.044	0.203
185	15.42	0.77	0.247	(0.072)	0.044	0.203
186	15.50	0.77	0.247	(0.072)	0.044	0.203
187	15.58	0.63	0.204	(0.072)	0.037	0.167
188	15.67	0.63	0.204	(0.071)	0.037	0.167
189	15.75	0.63	0.204	(0.071)	0.037	0.167
190	15.83	0.63	0.204	(0.071)	0.037	0.167
191	15.92	0.63	0.204	(0.070)	0.037	0.167
192	16.00	0.63	0.204	(0.070)	0.037	0.167
193	16.08	0.13	0.043	(0.069)	0.008	0.035
194	16.17	0.13	0.043	(0.069)	0.008	0.035
195	16.25	0.13	0.043	(0.069)	0.008	0.035
196	16.33	0.13	0.043	(0.068)	0.008	0.035
197	16.42	0.13	0.043	(0.068)	0.008	0.035
198	16.50	0.13	0.043	(0.068)	0.008	0.035
199	16.58	0.10	0.032	(0.067)	0.006	0.026
200	16.67	0.10	0.032	(0.067)	0.006	0.026
201	16.75	0.10	0.032	(0.067)	0.006	0.026
202	16.83	0.10	0.032	(0.066)	0.006	0.026
203	16.92	0.10	0.032	(0.066)	0.006	0.026
204	17.00	0.10	0.032	(0.066)	0.006	0.026
205	17.08	0.17	0.054	(0.065)	0.010	0.044
206	17.17	0.17	0.054	(0.065)	0.010	0.044
207	17.25	0.17	0.054	(0.065)	0.010	0.044
208	17.33	0.17	0.054	(0.064)	0.010	0.044
209	17.42	0.17	0.054	(0.064)	0.010	0.044
210	17.50	0.17	0.054	(0.064)	0.010	0.044
211	17.58	0.17	0.054	(0.063)	0.010	0.044
212	17.67	0.17	0.054	(0.063)	0.010	0.044
213	17.75	0.17	0.054	(0.063)	0.010	0.044
214	17.83	0.13	0.043	(0.062)	0.008	0.035
215	17.92	0.13	0.043	(0.062)	0.008	0.035
216	18.00	0.13	0.043	(0.062)	0.008	0.035
217	18.08	0.13	0.043	(0.062)	0.008	0.035
218	18.17	0.13	0.043	(0.061)	0.008	0.035
219	18.25	0.13	0.043	(0.061)	0.008	0.035
220	18.33	0.13	0.043	(0.061)	0.008	0.035
221	18.42	0.13	0.043	(0.060)	0.008	0.035
222	18.50	0.13	0.043	(0.060)	0.008	0.035
223	18.58	0.10	0.032	(0.060)	0.006	0.026
224	18.67	0.10	0.032	(0.059)	0.006	0.026
225	18.75	0.10	0.032	(0.059)	0.006	0.026
226	18.83	0.07	0.021	(0.059)	0.004	0.018
227	18.92	0.07	0.021	(0.059)	0.004	0.018
228	19.00	0.07	0.021	(0.058)	0.004	0.018
229	19.08	0.10	0.032	(0.058)	0.006	0.026
230	19.17	0.10	0.032	(0.058)	0.006	0.026
231	19.25	0.10	0.032	(0.058)	0.006	0.026
232	19.33	0.13	0.043	(0.057)	0.008	0.035
233	19.42	0.13	0.043	(0.057)	0.008	0.035
234	19.50	0.13	0.043	(0.057)	0.008	0.035
235	19.58	0.10	0.032	(0.056)	0.006	0.026
236	19.67	0.10	0.032	(0.056)	0.006	0.026
237	19.75	0.10	0.032	(0.056)	0.006	0.026
238	19.83	0.07	0.021	(0.056)	0.004	0.018

239	19.92	0.07	0.021	(0.055)	0.004	0.018
240	20.00	0.07	0.021	(0.055)	0.004	0.018
241	20.08	0.10	0.032	(0.055)	0.006	0.026
242	20.17	0.10	0.032	(0.055)	0.006	0.026
243	20.25	0.10	0.032	(0.055)	0.006	0.026
244	20.33	0.10	0.032	(0.054)	0.006	0.026
245	20.42	0.10	0.032	(0.054)	0.006	0.026
246	20.50	0.10	0.032	(0.054)	0.006	0.026
247	20.58	0.10	0.032	(0.054)	0.006	0.026
248	20.67	0.10	0.032	(0.053)	0.006	0.026
249	20.75	0.10	0.032	(0.053)	0.006	0.026
250	20.83	0.07	0.021	(0.053)	0.004	0.018
251	20.92	0.07	0.021	(0.053)	0.004	0.018
252	21.00	0.07	0.021	(0.052)	0.004	0.018
253	21.08	0.10	0.032	(0.052)	0.006	0.026
254	21.17	0.10	0.032	(0.052)	0.006	0.026
255	21.25	0.10	0.032	(0.052)	0.006	0.026
256	21.33	0.07	0.021	(0.052)	0.004	0.018
257	21.42	0.07	0.021	(0.051)	0.004	0.018
258	21.50	0.07	0.021	(0.051)	0.004	0.018
259	21.58	0.10	0.032	(0.051)	0.006	0.026
260	21.67	0.10	0.032	(0.051)	0.006	0.026
261	21.75	0.10	0.032	(0.051)	0.006	0.026
262	21.83	0.07	0.021	(0.051)	0.004	0.018
263	21.92	0.07	0.021	(0.050)	0.004	0.018
264	22.00	0.07	0.021	(0.050)	0.004	0.018
265	22.08	0.10	0.032	(0.050)	0.006	0.026
266	22.17	0.10	0.032	(0.050)	0.006	0.026
267	22.25	0.10	0.032	(0.050)	0.006	0.026
268	22.33	0.07	0.021	(0.050)	0.004	0.018
269	22.42	0.07	0.021	(0.049)	0.004	0.018
270	22.50	0.07	0.021	(0.049)	0.004	0.018
271	22.58	0.07	0.021	(0.049)	0.004	0.018
272	22.67	0.07	0.021	(0.049)	0.004	0.018
273	22.75	0.07	0.021	(0.049)	0.004	0.018
274	22.83	0.07	0.021	(0.049)	0.004	0.018
275	22.92	0.07	0.021	(0.049)	0.004	0.018
276	23.00	0.07	0.021	(0.048)	0.004	0.018
277	23.08	0.07	0.021	(0.048)	0.004	0.018
278	23.17	0.07	0.021	(0.048)	0.004	0.018
279	23.25	0.07	0.021	(0.048)	0.004	0.018
280	23.33	0.07	0.021	(0.048)	0.004	0.018
281	23.42	0.07	0.021	(0.048)	0.004	0.018
282	23.50	0.07	0.021	(0.048)	0.004	0.018
283	23.58	0.07	0.021	(0.048)	0.004	0.018
284	23.67	0.07	0.021	(0.048)	0.004	0.018
285	23.75	0.07	0.021	(0.048)	0.004	0.018
286	23.83	0.07	0.021	(0.048)	0.004	0.018
287	23.92	0.07	0.021	(0.048)	0.004	0.018
288	24.00	0.07	0.021	(0.048)	0.004	0.018

(Loss Rate Not Used)

Sum = 100.0 Sum = 26.4

Flood volume = Effective rainfall 2.20(In)
times area 7.5(Ac.)/[(In)/(Ft.)] = 1.4(Ac.Ft)
Total soil loss = 0.48(In)
Total soil loss = 0.302(Ac.Ft)
Total rainfall = 2.68(In)
Flood volume = 59926.7 Cubic Feet
Total soil loss = 13154.6 Cubic Feet

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       Peak flow rate of this hydrograph =      2.264(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       0.0004      0.06  Q         |         |         |
|
    0+10       0.0013      0.12  Q         |         |         |
|
    0+15       0.0021      0.13  Q         |         |         |
|
    0+20       0.0033      0.17  Q         |         |         |
|
    0+25       0.0046      0.19  Q         |         |         |
|
    0+30       0.0060      0.20  Q         |         |         |
|
    0+35       0.0074      0.20  Q         |         |         |
|
    0+40       0.0087      0.20  Q         |         |         |
|
    0+45       0.0101      0.20  Q         |         |         |
|
    0+50       0.0117      0.23  Q         |         |         |
|
    0+55       0.0135      0.26  VQ        |         |         |
|
    1+ 0       0.0153      0.26  VQ        |         |         |
|
    1+ 5       0.0169      0.23  Q         |         |         |
|
    1+10       0.0183      0.21  Q         |         |         |
|
    1+15       0.0197      0.20  Q         |         |         |
|
    1+20       0.0211      0.20  Q         |         |         |
|
    1+25       0.0225      0.20  Q         |         |         |
|
    1+30       0.0239      0.20  Q         |         |         |
|
    1+35       0.0252      0.20  Q         |         |         |
|
    1+40       0.0266      0.20  Q         |         |         |
|
    1+45       0.0280      0.20  Q         |         |         |
|
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1+50	0.0296	0.23	Q			
1+55	0.0314	0.26	VQ			
2+ 0	0.0332	0.26	VQ			
2+ 5	0.0350	0.27	|Q			
2+10	0.0369	0.27	|Q			
2+15	0.0387	0.27	|Q			
2+20	0.0405	0.27	|Q			
2+25	0.0424	0.27	|Q			
2+30	0.0442	0.27	|Q			
2+35	0.0462	0.30	|Q			
2+40	0.0485	0.33	|Q			
2+45	0.0508	0.33	|Q			
2+50	0.0531	0.33	|Q			
2+55	0.0554	0.33	|Q			
3+ 0	0.0576	0.33	|Q			
3+ 5	0.0599	0.33	|Q			
3+10	0.0622	0.33	|Q			
3+15	0.0645	0.33	|Q			
3+20	0.0668	0.33	|Q			
3+25	0.0691	0.33	|QV			
3+30	0.0714	0.33	|QV			
3+35	0.0737	0.33	|QV			
3+40	0.0760	0.33	|QV			
3+45	0.0783	0.33	|QV			
3+50	0.0808	0.36	|QV			
3+55	0.0835	0.39	|QV			
4+ 0	0.0862	0.40	|QV			
4+ 5	0.0890	0.40	|QV			
4+10	0.0917	0.40	|QV			
4+15	0.0945	0.40	|QV			

4+20	0.0975	0.43	|QV	|	|	|
4+25	0.1006	0.46	|QV	|	|	|
4+30	0.1038	0.46	|Q V	|	|	|
4+35	0.1070	0.47	|Q V	|	|	|
4+40	0.1102	0.47	|Q V	|	|	|
4+45	0.1135	0.47	|Q V	|	|	|
4+50	0.1169	0.50	|Q V	|	|	|
4+55	0.1205	0.53	| QV	|	|	|
5+ 0	0.1242	0.53	| QV	|	|	|
5+ 5	0.1274	0.47	|Q V	|	|	|
5+10	0.1302	0.41	|Q V	|	|	|
5+15	0.1330	0.40	|Q V	|	|	|
5+20	0.1360	0.43	|Q V	|	|	|
5+25	0.1391	0.46	|Q V	|	|	|
5+30	0.1423	0.46	|Q V	|	|	|
5+35	0.1458	0.50	|Q V	|	|	|
5+40	0.1494	0.53	| Q V	|	|	|
5+45	0.1530	0.53	| Q V	|	|	|
5+50	0.1567	0.53	| Q V	|	|	|
5+55	0.1604	0.53	| Q V	|	|	|
6+ 0	0.1641	0.53	| Q V	|	|	|
6+ 5	0.1679	0.56	| Q V	|	|	|
6+10	0.1720	0.59	| Q V	|	|	|
6+15	0.1761	0.60	| Q V	|	|	|
6+20	0.1803	0.60	| Q V	|	|	|
6+25	0.1844	0.60	| Q V	|	|	|
6+30	0.1885	0.60	| Q V	|	|	|
6+35	0.1929	0.63	| Q V	|	|	|
6+40	0.1974	0.66	| Q V	|	|	|
6+45	0.2020	0.66	| Q V	|	|	|

6+50	0.2066	0.67	Q V		
6+55	0.2111	0.67	Q V		
7+ 0	0.2157	0.67	Q V		
7+ 5	0.2203	0.67	Q V		
7+10	0.2249	0.67	Q V		
7+15	0.2295	0.67	Q V		
7+20	0.2343	0.70	Q V		
7+25	0.2393	0.73	Q V		
7+30	0.2443	0.73	Q V		
7+35	0.2496	0.76	Q V		
7+40	0.2550	0.79	Q V		
7+45	0.2605	0.80	Q V		
7+50	0.2662	0.83	Q V		
7+55	0.2722	0.86	Q V		
8+ 0	0.2781	0.86	Q V		
8+ 5	0.2845	0.93	Q V		
8+10	0.2913	0.98	Q V		
8+15	0.2981	0.99	Q V		
8+20	0.3050	1.00	Q V		
8+25	0.3119	1.00	Q V		
8+30	0.3188	1.00	Q V		
8+35	0.3259	1.03	Q V		
8+40	0.3332	1.06	Q V		
8+45	0.3405	1.06	Q V		
8+50	0.3480	1.10	Q V		
8+55	0.3558	1.12	Q V		
9+ 0	0.3636	1.13	Q V		
9+ 5	0.3718	1.20	Q V		
9+10	0.3804	1.25	Q V		
9+15	0.3891	1.26	Q V		

9+20	0.3980	1.30	Q	V		
9+25	0.4072	1.32	Q	V		
9+30	0.4163	1.33	Q	V		
9+35	0.4257	1.36	Q	V		
9+40	0.4353	1.39	Q	V		
9+45	0.4449	1.40	Q	V		
9+50	0.4548	1.43	Q	V		
9+55	0.4648	1.46	Q	V		
10+ 0	0.4749	1.46	Q	V		
10+ 5	0.4834	1.24	Q	V		
10+10	0.4906	1.05	Q	V		
10+15	0.4976	1.01	Q	V		
10+20	0.5045	1.00	Q	V		
10+25	0.5114	1.00	Q	V		
10+30	0.5183	1.00	Q	V		
10+35	0.5262	1.16	Q	V		
10+40	0.5352	1.30	Q	V		
10+45	0.5443	1.32	Q	V		
10+50	0.5534	1.33	Q	V		
10+55	0.5626	1.33	Q	V		
11+ 0	0.5718	1.33	Q	V		
11+ 5	0.5807	1.30	Q	V		
11+10	0.5895	1.27	Q	V		
11+15	0.5982	1.27	Q	V		
11+20	0.6069	1.27	Q	V		
11+25	0.6156	1.27	Q	V		
11+30	0.6244	1.27	Q	V		
11+35	0.6326	1.20	Q	V		
11+40	0.6405	1.15	Q	V		
11+45	0.6483	1.14	Q	V		

11+50	0.6564	1.16	Q		V	
11+55	0.6646	1.19	Q		V	
12+ 0	0.6728	1.20	Q		V	
12+ 5	0.6826	1.42	Q		V	
12+10	0.6937	1.61	Q		V	
12+15	0.7051	1.65	Q		V	
12+20	0.7168	1.70	Q		V	
12+25	0.7286	1.72	Q		V	
12+30	0.7406	1.73	Q		V	
12+35	0.7529	1.79	Q		V	
12+40	0.7657	1.85	Q		V	
12+45	0.7785	1.86	Q		V	
12+50	0.7915	1.90	Q		V	
12+55	0.8048	1.92	Q		V	
13+ 0	0.8181	1.93	Q		V	
13+ 5	0.8325	2.09	Q		V	
13+10	0.8478	2.23	Q		V	
13+15	0.8633	2.25	Q		V	
13+20	0.8789	2.26	Q		V	
13+25	0.8945	2.26	Q		V	
13+30	0.9101	2.26	Q		V	
13+35	0.9233	1.91	Q		V	
13+40	0.9344	1.61	Q		V	
13+45	0.9451	1.55	Q		V	
13+50	0.9556	1.53	Q		V	
13+55	0.9662	1.53	Q		V	
14+ 0	0.9767	1.53	Q		V	
14+ 5	0.9881	1.66	Q		V	
14+10	1.0003	1.77	Q		V	
14+15	1.0127	1.79	Q		V	

14+20	1.0248	1.77	| Q |	|	| V|
14+25	1.0368	1.74	| Q |	|	| V
14+30	1.0487	1.73	| Q |	|	| V
14+35	1.0606	1.73	| Q |	|	| V
14+40	1.0726	1.73	| Q |	|	| |V
14+45	1.0845	1.73	| Q |	|	| |V
14+50	1.0962	1.70	| Q |	|	| |V
14+55	1.1077	1.67	| Q |	|	| | V
15+ 0	1.1192	1.67	| Q |	|	| | V
15+ 5	1.1304	1.63	| Q |	|	| | V
15+10	1.1415	1.61	| Q |	|	| | V
15+15	1.1525	1.60	| Q |	|	| | V
15+20	1.1633	1.57	| Q |	|	| | V
15+25	1.1739	1.54	| Q |	|	| | V
15+30	1.1844	1.53	| Q |	|	| | V
15+35	1.1941	1.40	| Q |	|	| | V
15+40	1.2030	1.29	| Q |	|	| | V
15+45	1.2118	1.27	| Q |	|	| | V
15+50	1.2205	1.27	| Q |	|	| | V
15+55	1.2292	1.27	| Q |	|	| | V
16+ 0	1.2379	1.27	| Q |	|	| | V
16+ 5	1.2434	0.79	| Q |	|	| | V
16+10	1.2459	0.37	|Q |	|	| | V
16+15	1.2480	0.30	|Q |	|	| | V
16+20	1.2498	0.27	|Q |	|	| | V
16+25	1.2516	0.27	|Q |	|	| | V
16+30	1.2535	0.27	|Q |	|	| | V
16+35	1.2551	0.23	Q |	|	| | V
16+40	1.2565	0.21	Q |	|	| | V
16+45	1.2579	0.20	Q |	|	| | V

16+50	1.2593	0.20	Q	|	|	|	V |
16+55	1.2606	0.20	Q	|	|	|	V |
17+ 0	1.2620	0.20	Q	|	|	|	V |
17+ 5	1.2638	0.26	|Q	|	|	|	V |
17+10	1.2660	0.32	|Q	|	|	|	V |
17+15	1.2683	0.33	|Q	|	|	|	V |
17+20	1.2706	0.33	|Q	|	|	|	V |
17+25	1.2729	0.33	|Q	|	|	|	V |
17+30	1.2752	0.33	|Q	|	|	|	V |
17+35	1.2775	0.33	|Q	|	|	|	V |
17+40	1.2798	0.33	|Q	|	|	|	V |
17+45	1.2820	0.33	|Q	|	|	|	V |
17+50	1.2841	0.30	|Q	|	|	|	V |
17+55	1.2860	0.27	|Q	|	|	|	V |
18+ 0	1.2879	0.27	|Q	|	|	|	V |
18+ 5	1.2897	0.27	|Q	|	|	|	V |
18+10	1.2915	0.27	|Q	|	|	|	V |
18+15	1.2934	0.27	|Q	|	|	|	V |
18+20	1.2952	0.27	|Q	|	|	|	V |
18+25	1.2970	0.27	|Q	|	|	|	V |
18+30	1.2989	0.27	|Q	|	|	|	V |
18+35	1.3005	0.23	Q	|	|	|	V |
18+40	1.3019	0.21	Q	|	|	|	V |
18+45	1.3033	0.20	Q	|	|	|	V |
18+50	1.3044	0.17	Q	|	|	|	V |
18+55	1.3054	0.14	Q	|	|	|	V |
19+ 0	1.3063	0.14	Q	|	|	|	V |
19+ 5	1.3075	0.17	Q	|	|	|	V |
19+10	1.3088	0.19	Q	|	|	|	V |
19+15	1.3102	0.20	Q	|	|	|	V |

19+20	1.3118	0.23	Q	|	|	|	V |
19+25	1.3135	0.26	|Q	|	|	|	V |
19+30	1.3154	0.26	|Q	|	|	|	V |
19+35	1.3170	0.23	Q	|	|	|	V |
19+40	1.3184	0.21	Q	|	|	|	V |
19+45	1.3198	0.20	Q	|	|	|	V |
19+50	1.3209	0.17	Q	|	|	|	V |
19+55	1.3219	0.14	Q	|	|	|	V |
20+ 0	1.3228	0.14	Q	|	|	|	V |
20+ 5	1.3240	0.17	Q	|	|	|	V |
20+10	1.3253	0.19	Q	|	|	|	V |
20+15	1.3267	0.20	Q	|	|	|	V |
20+20	1.3280	0.20	Q	|	|	|	V |
20+25	1.3294	0.20	Q	|	|	|	V |
20+30	1.3308	0.20	Q	|	|	|	V |
20+35	1.3322	0.20	Q	|	|	|	V |
20+40	1.3336	0.20	Q	|	|	|	V |
20+45	1.3349	0.20	Q	|	|	|	V |
20+50	1.3361	0.17	Q	|	|	|	V |
20+55	1.3370	0.14	Q	|	|	|	V |
21+ 0	1.3380	0.14	Q	|	|	|	V |
21+ 5	1.3391	0.17	Q	|	|	|	V |
21+10	1.3404	0.19	Q	|	|	|	V |
21+15	1.3418	0.20	Q	|	|	|	V|
21+20	1.3430	0.17	Q	|	|	|	V|
21+25	1.3439	0.14	Q	|	|	|	V|
21+30	1.3449	0.14	Q	|	|	|	V|
21+35	1.3460	0.17	Q	|	|	|	V|
21+40	1.3473	0.19	Q	|	|	|	V|
21+45	1.3487	0.20	Q	|	|	|	V|

```
   21+50       1.3498      0.17  Q         |         |         |
V|
   21+55       1.3508      0.14  Q         |         |         |
V|
   22+ 0       1.3517      0.14  Q         |         |         |
V|
   22+ 5       1.3529      0.17  Q         |         |         |
V|
   22+10       1.3542      0.19  Q         |         |         |
V|
   22+15       1.3556      0.20  Q         |         |         |
V|
   22+20       1.3567      0.17  Q         |         |         |
V|
   22+25       1.3577      0.14  Q         |         |         |
V|
   22+30       1.3586      0.14  Q         |         |         |
V|
   22+35       1.3595      0.13  Q         |         |         |
V|
   22+40       1.3604      0.13  Q         |         |         |
V|
   22+45       1.3614      0.13  Q         |         |         |
V|
   22+50       1.3623      0.13  Q         |         |         |
V|
   22+55       1.3632      0.13  Q         |         |         |
V|
   23+ 0       1.3641      0.13  Q         |         |         |
V|
   23+ 5       1.3650      0.13  Q         |         |         |
V|
   23+10       1.3660      0.13  Q         |         |         |
V|
   23+15       1.3669      0.13  Q         |         |         |
V|
   23+20       1.3678      0.13  Q         |         |         |
V|
   23+25       1.3687      0.13  Q         |         |         |
V|
   23+30       1.3696      0.13  Q         |         |         |
V|
   23+35       1.3705      0.13  Q         |         |         |
V|
   23+40       1.3715      0.13  Q         |         |         |
V|
   23+45       1.3724      0.13  Q         |         |         |
V|
   23+50       1.3733      0.13  Q         |         |         |
V|
   23+55       1.3742      0.13  Q         |         |         |
V|
   24+ 0       1.3751      0.13  Q         |         |         |
V|
   24+ 5       1.3756      0.07  Q         |         |         |
V|
   24+10       1.3757      0.01  Q         |         |         |
V|
   24+15       1.3757      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

Study date 09/21/22 File: ramonacompost110.out

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

Program License Serial Number 6232

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

English Units used in output format

Ramona Commercial
SCS Hydrograph
Developed Condition
10yr 1hr

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 = 720.00(Ft.)
Length along longest watercourse measured to centroid = 360.00 (Ft.)
Length along longest watercourse = 0.136 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 2.00(Ft.)
Slope along watercourse = 14.6667 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.037 Hr.
Lag time = 2.19 Min.
25% of lag time = 0.55 Min.
40% of lag time = 0.88 Min.
Unit time = 5.00 Min.
Duration of storm = 1 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             0.47                    3.50

  100 YEAR Area rainfall data:


  Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.50              1.35                  10.13

  STORM EVENT (YEAR) =   10.00
  Area Averaged 2-Year Rainfall =    0.466(In)
  Area Averaged 100-Year Rainfall =    1.350(In)

  Point rain (area averaged) =    0.830(In)
  Areal adjustment factor =   99.99 %
  Adjusted average point rain =    0.830(In)

  Sub-Area Data:
  Area(Ac.)         Runoff Index   Impervious %
       7.500           75.00          0.900
   Total Area Entered =      7.50(Ac.)


  RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
  AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)
(In/Hr)
  75.0  75.0      0.303     0.900        0.058       1.000
0.058
                                                      Sum (F) =
0.058
  Area averaged mean soil loss (F) (In/Hr) =  0.058
  Minimum soil loss rate ((In/Hr)) =  0.029
  (for 24 hour storm duration)
  Soil low loss rate (decimal) =   0.180
  ------------------------------------------------------------------
---
  Slope of intensity-duration curve for a 1 hour storm =0.5000
  ------------------------------------------------------------------
----

              U n i t  H y d r o g r a p h
                    VALLEY S-Curve
  ------------------------------------------------------------------
--
              Unit Hydrograph Data
  ------------------------------------------------------------------
---
  Unit time period   Time % of lag   Distribution   Unit Hydrograph
      (hrs)                          Graph %           (CFS)
  ------------------------------------------------------------------
---
       1   0.083        228.108         47.872             3.618
       2   0.167        456.215         41.453             3.133
       3   0.250        684.323          7.756             0.586
       4   0.333        912.430          2.919             0.221
                                 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	4.20	0.418	0.058	(0.075)	0.361
2	0.17	4.30	0.428	0.058	(0.077)	0.371
3	0.25	5.00	0.498	0.058	(0.090)	0.440
4	0.33	5.00	0.498	0.058	(0.090)	0.440
5	0.42	5.80	0.577	0.058	(0.104)	0.520
6	0.50	6.50	0.647	0.058	(0.116)	0.590
7	0.58	7.40	0.737	0.058	(0.133)	0.679
8	0.67	8.60	0.856	0.058	(0.154)	0.799
9	0.75	12.30	1.225	0.058	(0.220)	1.167
10	0.83	29.10	2.897	0.058	(0.521)	2.839
11	0.92	6.80	0.677	0.058	(0.122)	0.619
12	1.00	5.00	0.498	0.058	(0.090)	0.440
	(Loss Rate Not Used)					
	Sum =	100.0			Sum =	9.3

Flood volume = Effective rainfall 0.77(In)
times area 7.5(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 0.06(In)
Total soil loss = 0.036(Ac.Ft)
Total rainfall = 0.83(In)
Flood volume = 21019.3 Cubic Feet
Total soil loss = 1567.3 Cubic Feet

Peak flow rate of this hydrograph = 14.556(CFS)

++

1 - 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 5.0 10.0 15.0 20.0
0+ 5	0.0090	1.31	V Q | | |
0+10	0.0260	2.47	| V Q | | |
0+15	0.0464	2.97	| V Q | | |
0+20	0.0690	3.27	| VQ | | |
0+25	0.0938	3.60	| Q | | |
0+30	0.1221	4.12	| Q V | |
0+35	0.1546	4.71	| Q| V | |
0+40	0.1923	5.48	| Q V | |

```
|
    0+45       0.2423      7.26  |         |   Q     V         |
|
    0+50       0.3426     14.56  |         |         |       VQ|
|
    0+55       0.4252     12.00  |         |         |   Q     |    V
|
    1+ 0       0.4628      5.46  |         Q         |         |       V
|
    1+ 5       0.4791      2.37  |   Q     |         |         |
V|
    1+10       0.4819      0.39  Q         |         |         |
V|
    1+15       0.4825      0.10  Q         |         |         |
V
-------------------------------------------------------------------------
```

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

Study date 09/21/22 File: ramonacompost310.out

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

Program License Serial Number 6232

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

English Units used in output format

Ramona Commercial
SCS Hydrograph
Developed Condition
10yr 3hr

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 = 720.00(Ft.)
Length along longest watercourse measured to centroid = 360.00 (Ft.)
Length along longest watercourse = 0.136 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 2.00(Ft.)
Slope along watercourse = 14.6667 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.037 Hr.
Lag time = 2.19 Min.
25% of lag time = 0.55 Min.
40% of lag time = 0.88 Min.
Unit time = 5.00 Min.
Duration of storm = 3 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             0.82                    6.14

  100 YEAR Area rainfall data:


  Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.50              2.04                   15.30

  STORM EVENT (YEAR) =   10.00
  Area Averaged 2-Year Rainfall =    0.819(In)
  Area Averaged 100-Year Rainfall =    2.040(In)

  Point rain (area averaged) =    1.321(In)
  Areal adjustment factor =  100.00 %
  Adjusted average point rain =    1.321(In)

  Sub-Area Data:
  Area(Ac.)         Runoff Index   Impervious %
       7.500           75.00          0.900
   Total Area Entered =      7.50(Ac.)


  RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
  AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)
(In/Hr)
  75.0  75.0      0.303     0.900        0.058       1.000
0.058
                                                      Sum (F) =
0.058
  Area averaged mean soil loss (F) (In/Hr) =  0.058
  Minimum soil loss rate ((In/Hr)) =  0.029
  (for 24 hour storm duration)
  Soil low loss rate (decimal) =   0.180
  ------------------------------------------------------------------
---

              U n i t  H y d r o g r a p h
                    VALLEY S-Curve
  ------------------------------------------------------------------
--
              Unit Hydrograph Data
  ------------------------------------------------------------------
---
  Unit time period   Time % of lag   Distribution   Unit Hydrograph
      (hrs)                          Graph %            (CFS)
  ------------------------------------------------------------------
---
       1   0.083        228.108         47.872              3.618
       2   0.167        456.215         41.453              3.133
       3   0.250        684.323          7.756              0.586
       4   0.333        912.430          2.919              0.221
                               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	1.30	0.206	(0.058)	0.037	0.169
2	0.17	1.30	0.206	(0.058)	0.037	0.169
3	0.25	1.10	0.174	(0.058)	0.031	0.143
4	0.33	1.50	0.238	(0.058)	0.043	0.195
5	0.42	1.50	0.238	(0.058)	0.043	0.195
6	0.50	1.80	0.285	(0.058)	0.051	0.234
7	0.58	1.50	0.238	(0.058)	0.043	0.195
8	0.67	1.80	0.285	(0.058)	0.051	0.234
9	0.75	1.80	0.285	(0.058)	0.051	0.234
10	0.83	1.50	0.238	(0.058)	0.043	0.195
11	0.92	1.60	0.254	(0.058)	0.046	0.208
12	1.00	1.80	0.285	(0.058)	0.051	0.234
13	1.08	2.20	0.349	0.058	(0.063)	0.291
14	1.17	2.20	0.349	0.058	(0.063)	0.291
15	1.25	2.20	0.349	0.058	(0.063)	0.291
16	1.33	2.00	0.317	(0.058)	0.057	0.260
17	1.42	2.60	0.412	0.058	(0.074)	0.355
18	1.50	2.70	0.428	0.058	(0.077)	0.371
19	1.58	2.40	0.381	0.058	(0.068)	0.323
20	1.67	2.70	0.428	0.058	(0.077)	0.371
21	1.75	3.30	0.523	0.058	(0.094)	0.466
22	1.83	3.10	0.492	0.058	(0.088)	0.434
23	1.92	2.90	0.460	0.058	(0.083)	0.402
24	2.00	3.00	0.476	0.058	(0.086)	0.418
25	2.08	3.10	0.492	0.058	(0.088)	0.434
26	2.17	4.20	0.666	0.058	(0.120)	0.608
27	2.25	5.00	0.793	0.058	(0.143)	0.735
28	2.33	3.50	0.555	0.058	(0.100)	0.497
29	2.42	6.80	1.078	0.058	(0.194)	1.021
30	2.50	7.30	1.157	0.058	(0.208)	1.100
31	2.58	8.20	1.300	0.058	(0.234)	1.243
32	2.67	5.90	0.935	0.058	(0.168)	0.878
33	2.75	2.00	0.317	(0.058)	0.057	0.260
34	2.83	1.80	0.285	(0.058)	0.051	0.234
35	2.92	1.80	0.285	(0.058)	0.051	0.234
36	3.00	0.60	0.095	(0.058)	0.017	0.078
	(Loss Rate Not Used)					
Sum =		100.0			Sum =	14.0

Flood volume = Effective rainfall 1.17(In)
times area 7.5(Ac.)/[(In)/(Ft.)] = 0.7(Ac.Ft)
Total soil loss = 0.15(In)
Total soil loss = 0.097(Ac.Ft)
Total rainfall = 1.32(In)
Flood volume = 31761.6 Cubic Feet
Total soil loss = 4210.4 Cubic Feet

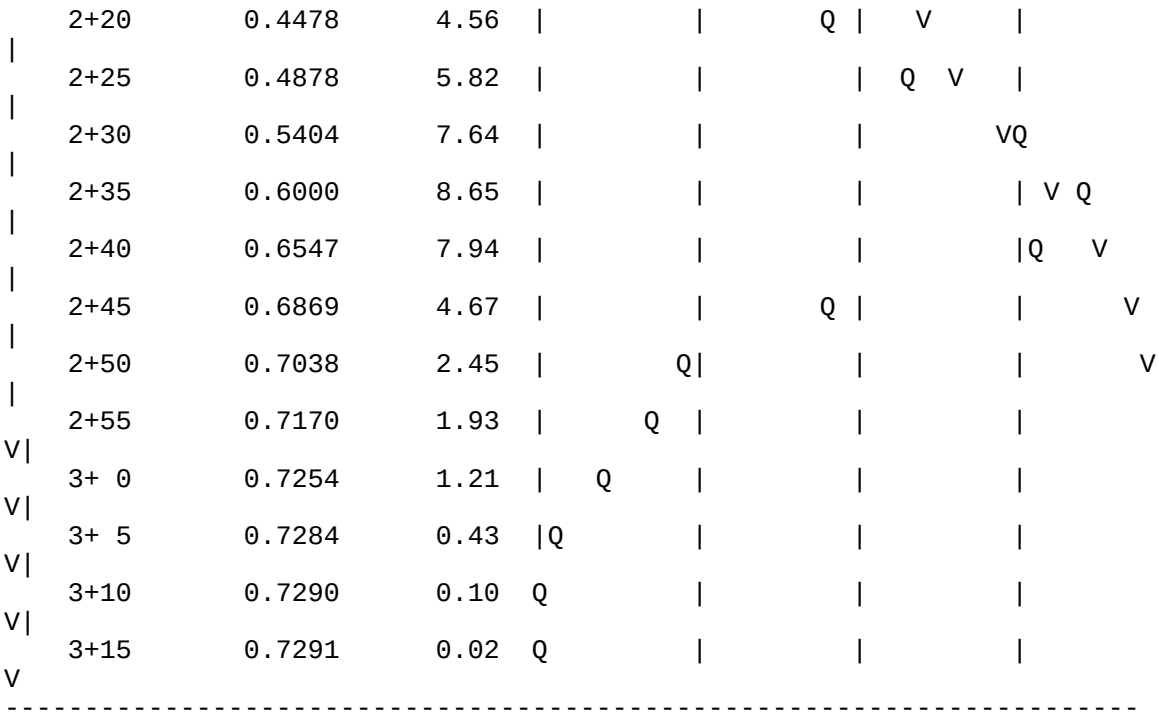
Peak flow rate of this hydrograph = 8.655(CFS)

++

3 - 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	0.0042	0.61	V Q				
0+10	0.0121	1.14	V Q				
0+15	0.0200	1.15	V Q				
0+20	0.0289	1.29	V Q				
0+25	0.0388	1.44	V Q				
0+30	0.0498	1.60	V Q				
0+35	0.0608	1.60	V Q				
0+40	0.0721	1.64	V Q				
0+45	0.0841	1.75	V Q				
0+50	0.0953	1.62	VQ				
0+55	0.1060	1.55	VQ				
1+ 0	0.1175	1.67	Q				
1+ 5	0.1309	1.95	Q				
1+10	0.1457	2.15	VQ				
1+15	0.1608	2.19	Q				
1+20	0.1752	2.09	QV				
1+25	0.1913	2.33	QV				
1+30	0.2097	2.67	QV				
1+35	0.2275	2.60	Q V				
1+40	0.2458	2.65	Q V				
1+45	0.2673	3.12	Q V				
1+50	0.2901	3.32	Q V				
1+55	0.3120	3.17	Q V				
2+ 0	0.3335	3.13	Q V				
2+ 5	0.3557	3.21	Q V				
2+10	0.3825	3.90	Q V				
2+15	0.4164	4.92	Q V				


2+20 0.4478 4.56
2+25 0.4878 5.82
2+30 0.5404 7.64
2+35 0.6000 8.65
2+40 0.6547 7.94
2+45 0.6869 4.67
2+50 0.7038 2.45
2+55 0.7170 1.93
3+ 0 0.7254 1.21
3+ 5 0.7284 0.43
3+10 0.7290 0.10
3+15 0.7291 0.02

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

Study date 09/21/22 File: ramonacompost610.out

++

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

Program License Serial Number 6232

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

English Units used in output format

Ramona Commercial
SCS Hydrograph
Developed Condition
10yr 6hr

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 = 720.00(Ft.)
Length along longest watercourse measured to centroid = 360.00 (Ft.)
Length along longest watercourse = 0.136 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 2.00(Ft.)
Slope along watercourse = 14.6667 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.037 Hr.
Lag time = 2.19 Min.
25% of lag time = 0.55 Min.
40% of lag time = 0.88 Min.
Unit time = 5.00 Min.
Duration of storm = 6 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             1.14                    8.55

  100 YEAR Area rainfall data:


  Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.50              2.75                  20.63

  STORM EVENT (YEAR) =   10.00
  Area Averaged 2-Year Rainfall =    1.140(In)
  Area Averaged 100-Year Rainfall =    2.750(In)

  Point rain (area averaged) =    1.802(In)
  Areal adjustment factor =  100.00 %
  Adjusted average point rain =    1.802(In)

  Sub-Area Data:
  Area(Ac.)         Runoff Index   Impervious %
       7.500           75.00          0.900
   Total Area Entered =      7.50(Ac.)


  RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
  AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)
(In/Hr)
  75.0  75.0      0.303     0.900        0.058       1.000
0.058
                                                      Sum (F) =
0.058
  Area averaged mean soil loss (F) (In/Hr) =  0.058
  Minimum soil loss rate ((In/Hr)) =  0.029
  (for 24 hour storm duration)
  Soil low loss rate (decimal) =   0.180
  ------------------------------------------------------------------
---

              U n i t  H y d r o g r a p h
                    VALLEY S-Curve
  ------------------------------------------------------------------
--
              Unit Hydrograph Data
  ------------------------------------------------------------------
---
  Unit time period   Time % of lag   Distribution   Unit Hydrograph
      (hrs)                          Graph %            (CFS)
  ------------------------------------------------------------------
---
       1   0.083        228.108         47.872              3.618
       2   0.167        456.215         41.453              3.133
       3   0.250        684.323          7.756              0.586
       4   0.333        912.430          2.919              0.221
                               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	0.50	0.108	(0.058)		0.019	0.089
2	0.17	0.60	0.130	(0.058)		0.023	0.106
3	0.25	0.60	0.130	(0.058)		0.023	0.106
4	0.33	0.60	0.130	(0.058)		0.023	0.106
5	0.42	0.60	0.130	(0.058)		0.023	0.106
6	0.50	0.70	0.151	(0.058)		0.027	0.124
7	0.58	0.70	0.151	(0.058)		0.027	0.124
8	0.67	0.70	0.151	(0.058)		0.027	0.124
9	0.75	0.70	0.151	(0.058)		0.027	0.124
10	0.83	0.70	0.151	(0.058)		0.027	0.124
11	0.92	0.70	0.151	(0.058)		0.027	0.124
12	1.00	0.80	0.173	(0.058)		0.031	0.142
13	1.08	0.80	0.173	(0.058)		0.031	0.142
14	1.17	0.80	0.173	(0.058)		0.031	0.142
15	1.25	0.80	0.173	(0.058)		0.031	0.142
16	1.33	0.80	0.173	(0.058)		0.031	0.142
17	1.42	0.80	0.173	(0.058)		0.031	0.142
18	1.50	0.80	0.173	(0.058)		0.031	0.142
19	1.58	0.80	0.173	(0.058)		0.031	0.142
20	1.67	0.80	0.173	(0.058)		0.031	0.142
21	1.75	0.80	0.173	(0.058)		0.031	0.142
22	1.83	0.80	0.173	(0.058)		0.031	0.142
23	1.92	0.80	0.173	(0.058)		0.031	0.142
24	2.00	0.90	0.195	(0.058)		0.035	0.160
25	2.08	0.80	0.173	(0.058)		0.031	0.142
26	2.17	0.90	0.195	(0.058)		0.035	0.160
27	2.25	0.90	0.195	(0.058)		0.035	0.160
28	2.33	0.90	0.195	(0.058)		0.035	0.160
29	2.42	0.90	0.195	(0.058)		0.035	0.160
30	2.50	0.90	0.195	(0.058)		0.035	0.160
31	2.58	0.90	0.195	(0.058)		0.035	0.160
32	2.67	0.90	0.195	(0.058)		0.035	0.160
33	2.75	1.00	0.216	(0.058)		0.039	0.177
34	2.83	1.00	0.216	(0.058)		0.039	0.177
35	2.92	1.00	0.216	(0.058)		0.039	0.177
36	3.00	1.00	0.216	(0.058)		0.039	0.177
37	3.08	1.00	0.216	(0.058)		0.039	0.177
38	3.17	1.10	0.238	(0.058)		0.043	0.195
39	3.25	1.10	0.238	(0.058)		0.043	0.195
40	3.33	1.10	0.238	(0.058)		0.043	0.195
41	3.42	1.20	0.260	(0.058)		0.047	0.213
42	3.50	1.30	0.281	(0.058)		0.051	0.231
43	3.58	1.40	0.303	(0.058)		0.055	0.248
44	3.67	1.40	0.303	(0.058)		0.055	0.248
45	3.75	1.50	0.324	0.058	(	0.058)	0.267
46	3.83	1.50	0.324	0.058	(	0.058)	0.267
47	3.92	1.60	0.346	0.058	(	0.062)	0.288
48	4.00	1.60	0.346	0.058	(	0.062)	0.288
49	4.08	1.70	0.368	0.058	(	0.066)	0.310
50	4.17	1.80	0.389	0.058	(	0.070)	0.332
51	4.25	1.90	0.411	0.058	(	0.074)	0.353
52	4.33	2.00	0.433	0.058	(	0.078)	0.375
53	4.42	2.10	0.454	0.058	(	0.082)	0.397
54	4.50	2.10	0.454	0.058	(	0.082)	0.397
55	4.58	2.20	0.476	0.058	(	0.086)	0.418
56	4.67	2.30	0.497	0.058	(	0.090)	0.440
57	4.75	2.40	0.519	0.058	(	0.093)	0.461
58	4.83	2.40	0.519	0.058	(	0.093)	0.461

```
 59   4.92     2.50      0.541          0.058    (  0.097)        0.483
 60   5.00     2.60      0.562          0.058    (  0.101)        0.505
 61   5.08     3.10      0.670          0.058    (  0.121)        0.613
 62   5.17     3.60      0.779          0.058    (  0.140)        0.721
 63   5.25     3.90      0.843          0.058    (  0.152)        0.786
 64   5.33     4.20      0.908          0.058    (  0.164)        0.851
 65   5.42     4.70      1.017          0.058    (  0.183)        0.959
 66   5.50     5.60      1.211          0.058    (  0.218)        1.154
 67   5.58     1.90      0.411          0.058    (  0.074)        0.353
 68   5.67     0.90      0.195       (  0.058)       0.035        0.160
 69   5.75     0.60      0.130       (  0.058)       0.023        0.106
 70   5.83     0.50      0.108       (  0.058)       0.019        0.089
 71   5.92     0.30      0.065       (  0.058)       0.012        0.053
 72   6.00     0.20      0.043       (  0.058)       0.008        0.035
           (Loss Rate Not Used)
    Sum =     100.0                                   Sum =    18.7
     Flood volume = Effective rainfall      1.56(In)
      times area       7.5(Ac.)/[(In)/(Ft.)] =       1.0(Ac.Ft)
     Total soil loss =      0.24(In)
     Total soil loss =     0.152(Ac.Ft)
     Total rainfall =      1.80(In)
     Flood volume =       42460.5 Cubic Feet
     Total soil loss =        6607.6 Cubic Feet
     ------------------------------------------------------------------
--
      Peak flow rate of this hydrograph =      7.855(CFS)
     ------------------------------------------------------------------
--
     ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++
                         6 - 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       0.0022      0.32  VQ        |         |         |
|
    0+10       0.0068      0.66  V Q       |         |         |
|
    0+15       0.0121      0.77  V  Q      |         |         |
|
    0+20       0.0176      0.80  V  Q      |         |         |
|
    0+25       0.0231      0.80  V  Q      |         |         |
|
    0+30       0.0291      0.87  |V Q      |         |         |
|
    0+35       0.0355      0.92  |V Q      |         |         |
|
    0+40       0.0419      0.93  |V Q      |         |         |
|
    0+45       0.0484      0.94  |V Q      |         |         |
|
```

0+50	0.0549	0.94	VQ			
0+55	0.0613	0.94	VQ			
1+ 0	0.0682	1.00	V Q			
1+ 5	0.0755	1.06	VQ			
1+10	0.0829	1.07	VQ			
1+15	0.0903	1.07	VQ			
1+20	0.0977	1.07	Q			
1+25	0.1051	1.07	Q			
1+30	0.1125	1.07	Q			
1+35	0.1198	1.07	Q			
1+40	0.1272	1.07	QV			
1+45	0.1346	1.07	QV			
1+50	0.1420	1.07	QV			
1+55	0.1494	1.07	Q V			
2+ 0	0.1572	1.14	Q V			
2+ 5	0.1650	1.13	Q V			
2+10	0.1729	1.15	Q V			
2+15	0.1811	1.20	Q V			
2+20	0.1894	1.20	Q V			
2+25	0.1977	1.21	Q V			
2+30	0.2061	1.21	Q V			
2+35	0.2144	1.21	Q V			
2+40	0.2227	1.21	Q V			
2+45	0.2314	1.27	Q V			
2+50	0.2406	1.33	Q V			
2+55	0.2498	1.34	Q V			
3+ 0	0.2590	1.34	Q V			
3+ 5	0.2683	1.34	Q V			
3+10	0.2779	1.41	Q V			
3+15	0.2880	1.46	Q V			

3+20	0.2981	1.47	Q	V			
3+25	0.3087	1.54	Q	V			
3+30	0.3202	1.66	Q	V			
3+35	0.3325	1.79	Q	V			
3+40	0.3453	1.86	Q	V			
3+45	0.3587	1.94	Q	V			
3+50	0.3725	2.00	Q	V			
3+55	0.3869	2.09	Q	V			
4+ 0	0.4018	2.16	Q	V			
4+ 5	0.4173	2.26	Q	V			
4+10	0.4339	2.41	Q	V			
4+15	0.4515	2.56	Q	V			
4+20	0.4703	2.73	Q	V			
4+25	0.4902	2.89	Q	V			
4+30	0.5108	2.98	Q	V			
4+35	0.5319	3.07	Q	V			
4+40	0.5541	3.22	Q	V			
4+45	0.5774	3.38	Q	V			
4+50	0.6013	3.47	Q	V			
4+55	0.6258	3.56	Q	V			
5+ 0	0.6514	3.71	Q	V			
5+ 5	0.6803	4.19	Q	V			
5+10	0.7142	4.93	Q	V			
5+15	0.7526	5.58	Q	V			
5+20	0.7947	6.10	Q	V			
5+25	0.8412	6.76	Q	V			
5+30	0.8953	7.86	Q	V			
5+35	0.9342	5.65	Q	V			
5+40	0.9519	2.57	Q	V			
5+45	0.9612	1.35	Q	V			

```
    5+50       0.9669      0.83  |  Q      |         |         |
V|
    5+55       0.9708      0.57  | Q       |         |         |
V|
    6+ 0       0.9734      0.37  |Q        |         |         |
V|
    6+ 5       0.9745      0.16  Q         |         |         |
V|
    6+10       0.9747      0.03  Q         |         |         |
V|
    6+15       0.9748      0.01  Q         |         |         |
V
-------------------------------------------------------------------------
```

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

Study date 09/21/22 File: ramonacompost2410.out

++

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

Program License Serial Number 6232

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

English Units used in output format

Ramona Commercial
SCS Hydrograph
Developed Condition
10yr 24hr

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 = 720.00(Ft.)
Length along longest watercourse measured to centroid = 360.00 (Ft.)
Length along longest watercourse = 0.136 Mi.
Length along longest watercourse measured to centroid = 0.068 Mi.
Difference in elevation = 2.00(Ft.)
Slope along watercourse = 14.6667 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.037 Hr.
Lag time = 2.19 Min.
25% of lag time = 0.55 Min.
40% of lag time = 0.88 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             1.97                   14.78

  100 YEAR Area rainfall data:


  Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.50              5.02                   37.65

  STORM EVENT (YEAR) =   10.00
  Area Averaged 2-Year Rainfall =    1.970(In)
  Area Averaged 100-Year Rainfall =    5.020(In)

  Point rain (area averaged) =    3.225(In)
  Areal adjustment factor =  100.00 %
  Adjusted average point rain =    3.225(In)

  Sub-Area Data:
  Area(Ac.)         Runoff Index   Impervious %
       7.500           75.00          0.900
   Total Area Entered =      7.50(Ac.)


  RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
  AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)
(In/Hr)
  75.0  75.0      0.303     0.900        0.058       1.000
0.058
                                                      Sum (F) =
0.058
  Area averaged mean soil loss (F) (In/Hr) =  0.058
  Minimum soil loss rate ((In/Hr)) =  0.029
  (for 24 hour storm duration)
  Soil low loss rate (decimal) =   0.180
  ------------------------------------------------------------------
---

              U n i t  H y d r o g r a p h
                    VALLEY S-Curve
  ------------------------------------------------------------------
--
              Unit Hydrograph Data
  ------------------------------------------------------------------
---
  Unit time period   Time % of lag   Distribution   Unit Hydrograph
      (hrs)                          Graph %            (CFS)
  ------------------------------------------------------------------
---
       1   0.083        228.108         47.872              3.618
       2   0.167        456.215         41.453              3.133
       3   0.250        684.323          7.756              0.586
       4   0.333        912.430          2.919              0.221
                               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	0.026	(0.102)	0.005	0.021
2	0.17	0.07	0.026	(0.102)	0.005	0.021
3	0.25	0.07	0.026	(0.101)	0.005	0.021
4	0.33	0.10	0.039	(0.101)	0.007	0.032
5	0.42	0.10	0.039	(0.100)	0.007	0.032
6	0.50	0.10	0.039	(0.100)	0.007	0.032
7	0.58	0.10	0.039	(0.100)	0.007	0.032
8	0.67	0.10	0.039	(0.099)	0.007	0.032
9	0.75	0.10	0.039	(0.099)	0.007	0.032
10	0.83	0.13	0.052	(0.099)	0.009	0.042
11	0.92	0.13	0.052	(0.098)	0.009	0.042
12	1.00	0.13	0.052	(0.098)	0.009	0.042
13	1.08	0.10	0.039	(0.097)	0.007	0.032
14	1.17	0.10	0.039	(0.097)	0.007	0.032
15	1.25	0.10	0.039	(0.097)	0.007	0.032
16	1.33	0.10	0.039	(0.096)	0.007	0.032
17	1.42	0.10	0.039	(0.096)	0.007	0.032
18	1.50	0.10	0.039	(0.095)	0.007	0.032
19	1.58	0.10	0.039	(0.095)	0.007	0.032
20	1.67	0.10	0.039	(0.095)	0.007	0.032
21	1.75	0.10	0.039	(0.094)	0.007	0.032
22	1.83	0.13	0.052	(0.094)	0.009	0.042
23	1.92	0.13	0.052	(0.094)	0.009	0.042
24	2.00	0.13	0.052	(0.093)	0.009	0.042
25	2.08	0.13	0.052	(0.093)	0.009	0.042
26	2.17	0.13	0.052	(0.092)	0.009	0.042
27	2.25	0.13	0.052	(0.092)	0.009	0.042
28	2.33	0.13	0.052	(0.092)	0.009	0.042
29	2.42	0.13	0.052	(0.091)	0.009	0.042
30	2.50	0.13	0.052	(0.091)	0.009	0.042
31	2.58	0.17	0.064	(0.091)	0.012	0.053
32	2.67	0.17	0.064	(0.090)	0.012	0.053
33	2.75	0.17	0.064	(0.090)	0.012	0.053
34	2.83	0.17	0.064	(0.089)	0.012	0.053
35	2.92	0.17	0.064	(0.089)	0.012	0.053
36	3.00	0.17	0.064	(0.089)	0.012	0.053
37	3.08	0.17	0.064	(0.088)	0.012	0.053
38	3.17	0.17	0.064	(0.088)	0.012	0.053
39	3.25	0.17	0.064	(0.088)	0.012	0.053
40	3.33	0.17	0.064	(0.087)	0.012	0.053
41	3.42	0.17	0.064	(0.087)	0.012	0.053
42	3.50	0.17	0.064	(0.087)	0.012	0.053
43	3.58	0.17	0.064	(0.086)	0.012	0.053
44	3.67	0.17	0.064	(0.086)	0.012	0.053
45	3.75	0.17	0.064	(0.085)	0.012	0.053
46	3.83	0.20	0.077	(0.085)	0.014	0.063
47	3.92	0.20	0.077	(0.085)	0.014	0.063
48	4.00	0.20	0.077	(0.084)	0.014	0.063
49	4.08	0.20	0.077	(0.084)	0.014	0.063
50	4.17	0.20	0.077	(0.084)	0.014	0.063
51	4.25	0.20	0.077	(0.083)	0.014	0.063
52	4.33	0.23	0.090	(0.083)	0.016	0.074
53	4.42	0.23	0.090	(0.083)	0.016	0.074
54	4.50	0.23	0.090	(0.082)	0.016	0.074
55	4.58	0.23	0.090	(0.082)	0.016	0.074
56	4.67	0.23	0.090	(0.082)	0.016	0.074
57	4.75	0.23	0.090	(0.081)	0.016	0.074
58	4.83	0.27	0.103	(0.081)	0.019	0.085

59	4.92	0.27	0.103	(0.080)	0.019	0.085
60	5.00	0.27	0.103	(0.080)	0.019	0.085
61	5.08	0.20	0.077	(0.080)	0.014	0.063
62	5.17	0.20	0.077	(0.079)	0.014	0.063
63	5.25	0.20	0.077	(0.079)	0.014	0.063
64	5.33	0.23	0.090	(0.079)	0.016	0.074
65	5.42	0.23	0.090	(0.078)	0.016	0.074
66	5.50	0.23	0.090	(0.078)	0.016	0.074
67	5.58	0.27	0.103	(0.078)	0.019	0.085
68	5.67	0.27	0.103	(0.077)	0.019	0.085
69	5.75	0.27	0.103	(0.077)	0.019	0.085
70	5.83	0.27	0.103	(0.077)	0.019	0.085
71	5.92	0.27	0.103	(0.076)	0.019	0.085
72	6.00	0.27	0.103	(0.076)	0.019	0.085
73	6.08	0.30	0.116	(0.076)	0.021	0.095
74	6.17	0.30	0.116	(0.075)	0.021	0.095
75	6.25	0.30	0.116	(0.075)	0.021	0.095
76	6.33	0.30	0.116	(0.075)	0.021	0.095
77	6.42	0.30	0.116	(0.074)	0.021	0.095
78	6.50	0.30	0.116	(0.074)	0.021	0.095
79	6.58	0.33	0.129	(0.074)	0.023	0.106
80	6.67	0.33	0.129	(0.073)	0.023	0.106
81	6.75	0.33	0.129	(0.073)	0.023	0.106
82	6.83	0.33	0.129	(0.073)	0.023	0.106
83	6.92	0.33	0.129	(0.072)	0.023	0.106
84	7.00	0.33	0.129	(0.072)	0.023	0.106
85	7.08	0.33	0.129	(0.072)	0.023	0.106
86	7.17	0.33	0.129	(0.071)	0.023	0.106
87	7.25	0.33	0.129	(0.071)	0.023	0.106
88	7.33	0.37	0.142	(0.071)	0.026	0.116
89	7.42	0.37	0.142	(0.070)	0.026	0.116
90	7.50	0.37	0.142	(0.070)	0.026	0.116
91	7.58	0.40	0.155	(0.070)	0.028	0.127
92	7.67	0.40	0.155	(0.069)	0.028	0.127
93	7.75	0.40	0.155	(0.069)	0.028	0.127
94	7.83	0.43	0.168	(0.069)	0.030	0.138
95	7.92	0.43	0.168	(0.068)	0.030	0.138
96	8.00	0.43	0.168	(0.068)	0.030	0.138
97	8.08	0.50	0.193	(0.068)	0.035	0.159
98	8.17	0.50	0.193	(0.067)	0.035	0.159
99	8.25	0.50	0.193	(0.067)	0.035	0.159
100	8.33	0.50	0.193	(0.067)	0.035	0.159
101	8.42	0.50	0.193	(0.067)	0.035	0.159
102	8.50	0.50	0.193	(0.066)	0.035	0.159
103	8.58	0.53	0.206	(0.066)	0.037	0.169
104	8.67	0.53	0.206	(0.066)	0.037	0.169
105	8.75	0.53	0.206	(0.065)	0.037	0.169
106	8.83	0.57	0.219	(0.065)	0.039	0.180
107	8.92	0.57	0.219	(0.065)	0.039	0.180
108	9.00	0.57	0.219	(0.064)	0.039	0.180
109	9.08	0.63	0.245	(0.064)	0.044	0.201
110	9.17	0.63	0.245	(0.064)	0.044	0.201
111	9.25	0.63	0.245	(0.063)	0.044	0.201
112	9.33	0.67	0.258	(0.063)	0.046	0.212
113	9.42	0.67	0.258	(0.063)	0.046	0.212
114	9.50	0.67	0.258	(0.063)	0.046	0.212
115	9.58	0.70	0.271	(0.062)	0.049	0.222
116	9.67	0.70	0.271	(0.062)	0.049	0.222
117	9.75	0.70	0.271	(0.062)	0.049	0.222
118	9.83	0.73	0.284	(0.061)	0.051	0.233

119	9.92	0.73	0.284	(0.061)	0.051	0.233
120	10.00	0.73	0.284	(0.061)	0.051	0.233
121	10.08	0.50	0.193	(0.060)	0.035	0.159
122	10.17	0.50	0.193	(0.060)	0.035	0.159
123	10.25	0.50	0.193	(0.060)	0.035	0.159
124	10.33	0.50	0.193	(0.060)	0.035	0.159
125	10.42	0.50	0.193	(0.059)	0.035	0.159
126	10.50	0.50	0.193	(0.059)	0.035	0.159
127	10.58	0.67	0.258	(0.059)	0.046	0.212
128	10.67	0.67	0.258	(0.058)	0.046	0.212
129	10.75	0.67	0.258	(0.058)	0.046	0.212
130	10.83	0.67	0.258	(0.058)	0.046	0.212
131	10.92	0.67	0.258	(0.058)	0.046	0.212
132	11.00	0.67	0.258	(0.057)	0.046	0.212
133	11.08	0.63	0.245	(0.057)	0.044	0.201
134	11.17	0.63	0.245	(0.057)	0.044	0.201
135	11.25	0.63	0.245	(0.056)	0.044	0.201
136	11.33	0.63	0.245	(0.056)	0.044	0.201
137	11.42	0.63	0.245	(0.056)	0.044	0.201
138	11.50	0.63	0.245	(0.056)	0.044	0.201
139	11.58	0.57	0.219	(0.055)	0.039	0.180
140	11.67	0.57	0.219	(0.055)	0.039	0.180
141	11.75	0.57	0.219	(0.055)	0.039	0.180
142	11.83	0.60	0.232	(0.055)	0.042	0.190
143	11.92	0.60	0.232	(0.054)	0.042	0.190
144	12.00	0.60	0.232	(0.054)	0.042	0.190
145	12.08	0.83	0.322	0.054	(0.058)	0.269
146	12.17	0.83	0.322	0.053	(0.058)	0.269
147	12.25	0.83	0.322	0.053	(0.058)	0.269
148	12.33	0.87	0.335	0.053	(0.060)	0.282
149	12.42	0.87	0.335	0.053	(0.060)	0.283
150	12.50	0.87	0.335	0.052	(0.060)	0.283
151	12.58	0.93	0.361	0.052	(0.065)	0.309
152	12.67	0.93	0.361	0.052	(0.065)	0.309
153	12.75	0.93	0.361	0.052	(0.065)	0.310
154	12.83	0.97	0.374	0.051	(0.067)	0.323
155	12.92	0.97	0.374	0.051	(0.067)	0.323
156	13.00	0.97	0.374	0.051	(0.067)	0.323
157	13.08	1.13	0.439	0.051	(0.079)	0.388
158	13.17	1.13	0.439	0.050	(0.079)	0.388
159	13.25	1.13	0.439	0.050	(0.079)	0.388
160	13.33	1.13	0.439	0.050	(0.079)	0.389
161	13.42	1.13	0.439	0.050	(0.079)	0.389
162	13.50	1.13	0.439	0.049	(0.079)	0.389
163	13.58	0.77	0.297	0.049	(0.053)	0.248
164	13.67	0.77	0.297	0.049	(0.053)	0.248
165	13.75	0.77	0.297	0.049	(0.053)	0.248
166	13.83	0.77	0.297	0.048	(0.053)	0.248
167	13.92	0.77	0.297	0.048	(0.053)	0.249
168	14.00	0.77	0.297	0.048	(0.053)	0.249
169	14.08	0.90	0.348	0.048	(0.063)	0.301
170	14.17	0.90	0.348	0.047	(0.063)	0.301
171	14.25	0.90	0.348	0.047	(0.063)	0.301
172	14.33	0.87	0.335	0.047	(0.060)	0.289
173	14.42	0.87	0.335	0.047	(0.060)	0.289
174	14.50	0.87	0.335	0.046	(0.060)	0.289
175	14.58	0.87	0.335	0.046	(0.060)	0.289
176	14.67	0.87	0.335	0.046	(0.060)	0.289
177	14.75	0.87	0.335	0.046	(0.060)	0.290
178	14.83	0.83	0.322	0.045	(0.058)	0.277

179	14.92	0.83	0.322	0.045	(0.058)	0.277
180	15.00	0.83	0.322	0.045	(0.058)	0.278
181	15.08	0.80	0.310	0.045	(0.056)	0.265
182	15.17	0.80	0.310	0.045	(0.056)	0.265
183	15.25	0.80	0.310	0.044	(0.056)	0.265
184	15.33	0.77	0.297	0.044	(0.053)	0.253
185	15.42	0.77	0.297	0.044	(0.053)	0.253
186	15.50	0.77	0.297	0.044	(0.053)	0.253
187	15.58	0.63	0.245	0.043	(0.044)	0.202
188	15.67	0.63	0.245	0.043	(0.044)	0.202
189	15.75	0.63	0.245	0.043	(0.044)	0.202
190	15.83	0.63	0.245	0.043	(0.044)	0.202
191	15.92	0.63	0.245	0.042	(0.044)	0.203
192	16.00	0.63	0.245	0.042	(0.044)	0.203
193	16.08	0.13	0.052	(0.042)	0.009	0.042
194	16.17	0.13	0.052	(0.042)	0.009	0.042
195	16.25	0.13	0.052	(0.042)	0.009	0.042
196	16.33	0.13	0.052	(0.041)	0.009	0.042
197	16.42	0.13	0.052	(0.041)	0.009	0.042
198	16.50	0.13	0.052	(0.041)	0.009	0.042
199	16.58	0.10	0.039	(0.041)	0.007	0.032
200	16.67	0.10	0.039	(0.041)	0.007	0.032
201	16.75	0.10	0.039	(0.040)	0.007	0.032
202	16.83	0.10	0.039	(0.040)	0.007	0.032
203	16.92	0.10	0.039	(0.040)	0.007	0.032
204	17.00	0.10	0.039	(0.040)	0.007	0.032
205	17.08	0.17	0.064	(0.040)	0.012	0.053
206	17.17	0.17	0.064	(0.039)	0.012	0.053
207	17.25	0.17	0.064	(0.039)	0.012	0.053
208	17.33	0.17	0.064	(0.039)	0.012	0.053
209	17.42	0.17	0.064	(0.039)	0.012	0.053
210	17.50	0.17	0.064	(0.039)	0.012	0.053
211	17.58	0.17	0.064	(0.038)	0.012	0.053
212	17.67	0.17	0.064	(0.038)	0.012	0.053
213	17.75	0.17	0.064	(0.038)	0.012	0.053
214	17.83	0.13	0.052	(0.038)	0.009	0.042
215	17.92	0.13	0.052	(0.038)	0.009	0.042
216	18.00	0.13	0.052	(0.037)	0.009	0.042
217	18.08	0.13	0.052	(0.037)	0.009	0.042
218	18.17	0.13	0.052	(0.037)	0.009	0.042
219	18.25	0.13	0.052	(0.037)	0.009	0.042
220	18.33	0.13	0.052	(0.037)	0.009	0.042
221	18.42	0.13	0.052	(0.037)	0.009	0.042
222	18.50	0.13	0.052	(0.036)	0.009	0.042
223	18.58	0.10	0.039	(0.036)	0.007	0.032
224	18.67	0.10	0.039	(0.036)	0.007	0.032
225	18.75	0.10	0.039	(0.036)	0.007	0.032
226	18.83	0.07	0.026	(0.036)	0.005	0.021
227	18.92	0.07	0.026	(0.035)	0.005	0.021
228	19.00	0.07	0.026	(0.035)	0.005	0.021
229	19.08	0.10	0.039	(0.035)	0.007	0.032
230	19.17	0.10	0.039	(0.035)	0.007	0.032
231	19.25	0.10	0.039	(0.035)	0.007	0.032
232	19.33	0.13	0.052	(0.035)	0.009	0.042
233	19.42	0.13	0.052	(0.035)	0.009	0.042
234	19.50	0.13	0.052	(0.034)	0.009	0.042
235	19.58	0.10	0.039	(0.034)	0.007	0.032
236	19.67	0.10	0.039	(0.034)	0.007	0.032
237	19.75	0.10	0.039	(0.034)	0.007	0.032
238	19.83	0.07	0.026	(0.034)	0.005	0.021

239	19.92	0.07	0.026	(0.034)	0.005	0.021
240	20.00	0.07	0.026	(0.033)	0.005	0.021
241	20.08	0.10	0.039	(0.033)	0.007	0.032
242	20.17	0.10	0.039	(0.033)	0.007	0.032
243	20.25	0.10	0.039	(0.033)	0.007	0.032
244	20.33	0.10	0.039	(0.033)	0.007	0.032
245	20.42	0.10	0.039	(0.033)	0.007	0.032
246	20.50	0.10	0.039	(0.033)	0.007	0.032
247	20.58	0.10	0.039	(0.032)	0.007	0.032
248	20.67	0.10	0.039	(0.032)	0.007	0.032
249	20.75	0.10	0.039	(0.032)	0.007	0.032
250	20.83	0.07	0.026	(0.032)	0.005	0.021
251	20.92	0.07	0.026	(0.032)	0.005	0.021
252	21.00	0.07	0.026	(0.032)	0.005	0.021
253	21.08	0.10	0.039	(0.032)	0.007	0.032
254	21.17	0.10	0.039	(0.032)	0.007	0.032
255	21.25	0.10	0.039	(0.031)	0.007	0.032
256	21.33	0.07	0.026	(0.031)	0.005	0.021
257	21.42	0.07	0.026	(0.031)	0.005	0.021
258	21.50	0.07	0.026	(0.031)	0.005	0.021
259	21.58	0.10	0.039	(0.031)	0.007	0.032
260	21.67	0.10	0.039	(0.031)	0.007	0.032
261	21.75	0.10	0.039	(0.031)	0.007	0.032
262	21.83	0.07	0.026	(0.031)	0.005	0.021
263	21.92	0.07	0.026	(0.030)	0.005	0.021
264	22.00	0.07	0.026	(0.030)	0.005	0.021
265	22.08	0.10	0.039	(0.030)	0.007	0.032
266	22.17	0.10	0.039	(0.030)	0.007	0.032
267	22.25	0.10	0.039	(0.030)	0.007	0.032
268	22.33	0.07	0.026	(0.030)	0.005	0.021
269	22.42	0.07	0.026	(0.030)	0.005	0.021
270	22.50	0.07	0.026	(0.030)	0.005	0.021
271	22.58	0.07	0.026	(0.030)	0.005	0.021
272	22.67	0.07	0.026	(0.030)	0.005	0.021
273	22.75	0.07	0.026	(0.030)	0.005	0.021
274	22.83	0.07	0.026	(0.029)	0.005	0.021
275	22.92	0.07	0.026	(0.029)	0.005	0.021
276	23.00	0.07	0.026	(0.029)	0.005	0.021
277	23.08	0.07	0.026	(0.029)	0.005	0.021
278	23.17	0.07	0.026	(0.029)	0.005	0.021
279	23.25	0.07	0.026	(0.029)	0.005	0.021
280	23.33	0.07	0.026	(0.029)	0.005	0.021
281	23.42	0.07	0.026	(0.029)	0.005	0.021
282	23.50	0.07	0.026	(0.029)	0.005	0.021
283	23.58	0.07	0.026	(0.029)	0.005	0.021
284	23.67	0.07	0.026	(0.029)	0.005	0.021
285	23.75	0.07	0.026	(0.029)	0.005	0.021
286	23.83	0.07	0.026	(0.029)	0.005	0.021
287	23.92	0.07	0.026	(0.029)	0.005	0.021
288	24.00	0.07	0.026	(0.029)	0.005	0.021

(Loss Rate Not Used)

Sum = 100.0 Sum = 32.3

Flood volume = Effective rainfall 2.69(In)
times area 7.5(Ac.)/[(In)/(Ft.)] = 1.7(Ac.Ft)
Total soil loss = 0.53(In)
Total soil loss = 0.333(Ac.Ft)
Total rainfall = 3.22(In)
Flood volume = 73279.8 Cubic Feet
Total soil loss = 14514.0 Cubic Feet

--

Peak flow rate of this hydrograph = 2.942(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	0.08	Q				
0+10	0.0015	0.14	Q				
0+15	0.0026	0.16	Q				
0+20	0.0039	0.20	Q				
0+25	0.0055	0.23	Q				
0+30	0.0072	0.24	Q				
0+35	0.0088	0.24	Q				
0+40	0.0105	0.24	Q				
0+45	0.0121	0.24	Q				
0+50	0.0141	0.28	VQ				
0+55	0.0162	0.31	VQ				
1+ 0	0.0184	0.32	VQ				
1+ 5	0.0203	0.28	VQ				
1+10	0.0220	0.25	Q				
1+15	0.0237	0.24	Q				
1+20	0.0254	0.24	Q				
1+25	0.0270	0.24	Q				
1+30	0.0287	0.24	Q				
1+35	0.0303	0.24	Q				
1+40	0.0320	0.24	Q				
1+45	0.0336	0.24	Q				

1+50	0.0355	0.28	VQ	|	|	|
1+55	0.0377	0.31	VQ	|	|	|
2+ 0	0.0399	0.32	VQ	|	|	|
2+ 5	0.0421	0.32	|Q	|	|	|
2+10	0.0443	0.32	|Q	|	|	|
2+15	0.0465	0.32	|Q	|	|	|
2+20	0.0487	0.32	|Q	|	|	|
2+25	0.0509	0.32	|Q	|	|	|
2+30	0.0531	0.32	|Q	|	|	|
2+35	0.0556	0.36	|Q	|	|	|
2+40	0.0583	0.39	|Q	|	|	|
2+45	0.0610	0.40	|Q	|	|	|
2+50	0.0637	0.40	|Q	|	|	|
2+55	0.0665	0.40	|Q	|	|	|
3+ 0	0.0693	0.40	|Q	|	|	|
3+ 5	0.0720	0.40	|Q	|	|	|
3+10	0.0748	0.40	|Q	|	|	|
3+15	0.0775	0.40	|Q	|	|	|
3+20	0.0803	0.40	|Q	|	|	|
3+25	0.0830	0.40	|Q	|	|	|
3+30	0.0858	0.40	|QV	|	|	|
3+35	0.0885	0.40	|QV	|	|	|
3+40	0.0913	0.40	|QV	|	|	|
3+45	0.0940	0.40	|QV	|	|	|
3+50	0.0971	0.44	|QV	|	|	|
3+55	0.1003	0.47	|QV	|	|	|
4+ 0	0.1036	0.48	|QV	|	|	|
4+ 5	0.1069	0.48	|QV	|	|	|
4+10	0.1102	0.48	|QV	|	|	|
4+15	0.1135	0.48	|QV	|	|	|

4+20	0.1171	0.52	Q			
4+25	0.1209	0.55	Q			
4+30	0.1247	0.56	Q			
4+35	0.1286	0.56	QV			
4+40	0.1324	0.56	QV			
4+45	0.1363	0.56	QV			
4+50	0.1404	0.60	QV			
4+55	0.1448	0.63	QV			
5+ 0	0.1492	0.64	QV			
5+ 5	0.1530	0.56	QV			
5+10	0.1565	0.50	Q V			
5+15	0.1598	0.48	Q V			
5+20	0.1634	0.52	QV			
5+25	0.1672	0.55	QV			
5+30	0.1710	0.56	Q V			
5+35	0.1751	0.60	Q V			
5+40	0.1795	0.63	Q V			
5+45	0.1839	0.64	Q V			
5+50	0.1883	0.64	Q V			
5+55	0.1927	0.64	Q V			
6+ 0	0.1971	0.64	Q V			
6+ 5	0.2017	0.68	Q V			
6+10	0.2066	0.71	Q V			
6+15	0.2116	0.72	Q V			
6+20	0.2165	0.72	Q V			
6+25	0.2215	0.72	Q V			
6+30	0.2265	0.72	Q V			
6+35	0.2317	0.76	Q V			
6+40	0.2371	0.79	Q V			
6+45	0.2426	0.80	Q V			

6+50	0.2481	0.80	| Q V |	|	|
6+55	0.2536	0.80	| Q V |	|	|
7+ 0	0.2592	0.80	| Q V |	|	|
7+ 5	0.2647	0.80	| Q V |	|	|
7+10	0.2702	0.80	| Q V |	|	|
7+15	0.2757	0.80	| Q V |	|	|
7+20	0.2815	0.84	| Q V |	|	|
7+25	0.2875	0.87	| Q V |	|	|
7+30	0.2935	0.88	| Q V |	|	|
7+35	0.2998	0.92	| Q V |	|	|
7+40	0.3064	0.95	| Q V |	|	|
7+45	0.3130	0.96	| Q V |	|	|
7+50	0.3198	1.00	| Q V |	|	|
7+55	0.3269	1.03	| Q V |	|	|
8+ 0	0.3341	1.04	| Q V |	|	|
8+ 5	0.3418	1.12	| Q V |	|	|
8+10	0.3499	1.18	| Q V |	|	|
8+15	0.3582	1.20	| Q V |	|	|
8+20	0.3664	1.20	| Q V |	|	|
8+25	0.3747	1.20	| Q V |	|	|
8+30	0.3829	1.20	| Q V|	|	|
8+35	0.3915	1.24	| Q V|	|	|
8+40	0.4002	1.27	| Q V|	|	|
8+45	0.4090	1.28	| Q V|	|	|
8+50	0.4181	1.32	| Q V|	|	|
8+55	0.4274	1.35	| Q V	|	|
9+ 0	0.4368	1.36	| Q V	|	|
9+ 5	0.4467	1.44	| Q V	|	|
9+10	0.4570	1.50	| Q V	|	|
9+15	0.4674	1.52	| Q |V	|	|

9+20	0.4782	1.56	Q	V		
9+25	0.4891	1.59	Q	V		
9+30	0.5001	1.60	Q	V		
9+35	0.5114	1.64	Q	V		
9+40	0.5229	1.67	Q	V		
9+45	0.5345	1.68	Q	V		
9+50	0.5463	1.72	Q	V		
9+55	0.5584	1.75	Q	V		
10+ 0	0.5705	1.76	Q	V		
10+ 5	0.5807	1.49	Q	V		
10+10	0.5894	1.26	Q	V		
10+15	0.5978	1.22	Q	V		
10+20	0.6061	1.20	Q	V		
10+25	0.6143	1.20	Q	V		
10+30	0.6226	1.20	Q	V		
10+35	0.6322	1.39	Q	V		
10+40	0.6429	1.56	Q	V		
10+45	0.6538	1.59	Q	V		
10+50	0.6648	1.60	Q	V		
10+55	0.6759	1.60	Q	V		
11+ 0	0.6869	1.60	Q	V		
11+ 5	0.6976	1.56	Q	V		
11+10	0.7082	1.53	Q	V		
11+15	0.7186	1.52	Q	V		
11+20	0.7291	1.52	Q	V		
11+25	0.7396	1.52	Q	V		
11+30	0.7500	1.52	Q	V		
11+35	0.7600	1.44	Q	V		
11+40	0.7695	1.38	Q	V		
11+45	0.7789	1.36	Q	V		

11+50	0.7885	1.40	Q	V		
11+55	0.7984	1.43	Q	V		
12+ 0	0.8083	1.44	Q	V		
12+ 5	0.8201	1.72	Q	V		
12+10	0.8337	1.97	Q	V		
12+15	0.8476	2.02	Q	V		
12+20	0.8619	2.08	Q	V		
12+25	0.8766	2.13	Q	V		
12+30	0.8913	2.14	Q	V		
12+35	0.9067	2.23	Q	V		
12+40	0.9226	2.32	Q	V		
12+45	0.9387	2.33	Q	V		
12+50	0.9552	2.39	Q	V		
12+55	0.9719	2.43	Q	V		
13+ 0	0.9887	2.44	Q	V		
13+ 5	1.0072	2.68	Q	V		
13+10	1.0270	2.88	Q	V		
13+15	1.0471	2.92	Q	V		
13+20	1.0674	2.94	Q	V		
13+25	1.0876	2.94	Q	V		
13+30	1.1079	2.94	Q	V		
13+35	1.1246	2.43	Q	V		
13+40	1.1383	1.99	Q	V		
13+45	1.1515	1.91	Q	V		
13+50	1.1644	1.88	Q	V		
13+55	1.1773	1.88	Q	V		
14+ 0	1.1903	1.88	Q	V		
14+ 5	1.2045	2.07	Q	V		
14+10	1.2199	2.23	Q	V		
14+15	1.2355	2.27	Q	V		

14+20	1.2509	2.23	Q			V
14+25	1.2660	2.19	Q			V
14+30	1.2810	2.19	Q			V
14+35	1.2961	2.19	Q			V
14+40	1.3112	2.19	Q			V
14+45	1.3262	2.19	Q			V
14+50	1.3410	2.14	Q			V
14+55	1.3555	2.11	Q			V
15+ 0	1.3700	2.10	Q			V
15+ 5	1.3841	2.05	Q			V
15+10	1.3980	2.01	Q			V
15+15	1.4118	2.01	Q			V
15+20	1.4253	1.96	Q			V
15+25	1.4386	1.92	Q			V
15+30	1.4517	1.92	Q			V
15+35	1.4636	1.73	Q			V
15+40	1.4744	1.57	Q			V
15+45	1.4850	1.54	Q			V
15+50	1.4956	1.53	Q			V
15+55	1.5061	1.53	Q			V
16+ 0	1.5167	1.53	Q			V
16+ 5	1.5232	0.95	Q			V
16+10	1.5263	0.45	Q			V
16+15	1.5288	0.36	Q			V
16+20	1.5310	0.32	Q			V
16+25	1.5332	0.32	Q			V
16+30	1.5354	0.32	Q			V
16+35	1.5373	0.28	Q			V
16+40	1.5390	0.25	Q			V
16+45	1.5407	0.24	Q			V

16+50	1.5424	0.24	Q	|	|	|	V |
16+55	1.5440	0.24	Q	|	|	|	V |
17+ 0	1.5457	0.24	Q	|	|	|	V |
17+ 5	1.5478	0.32	|Q	|	|	|	V |
17+10	1.5505	0.38	|Q	|	|	|	V |
17+15	1.5532	0.40	|Q	|	|	|	V |
17+20	1.5560	0.40	|Q	|	|	|	V |
17+25	1.5587	0.40	|Q	|	|	|	V |
17+30	1.5615	0.40	|Q	|	|	|	V |
17+35	1.5642	0.40	|Q	|	|	|	V |
17+40	1.5670	0.40	|Q	|	|	|	V |
17+45	1.5697	0.40	|Q	|	|	|	V |
17+50	1.5722	0.36	|Q	|	|	|	V |
17+55	1.5745	0.33	|Q	|	|	|	V |
18+ 0	1.5767	0.32	|Q	|	|	|	V |
18+ 5	1.5789	0.32	|Q	|	|	|	V |
18+10	1.5811	0.32	|Q	|	|	|	V |
18+15	1.5833	0.32	|Q	|	|	|	V |
18+20	1.5855	0.32	|Q	|	|	|	V |
18+25	1.5877	0.32	|Q	|	|	|	V |
18+30	1.5899	0.32	|Q	|	|	|	V |
18+35	1.5919	0.28	|Q	|	|	|	V |
18+40	1.5936	0.25	Q	|	|	|	V |
18+45	1.5952	0.24	Q	|	|	|	V |
18+50	1.5966	0.20	Q	|	|	|	V |
18+55	1.5978	0.17	Q	|	|	|	V |
19+ 0	1.5989	0.16	Q	|	|	|	V |
19+ 5	1.6003	0.20	Q	|	|	|	V |
19+10	1.6019	0.23	Q	|	|	|	V |
19+15	1.6035	0.24	Q	|	|	|	V |

19+20	1.6054	0.28	|Q	|	|	|	V |
19+25	1.6076	0.31	|Q	|	|	|	V |
19+30	1.6098	0.32	|Q	|	|	|	V |
19+35	1.6117	0.28	|Q	|	|	|	V |
19+40	1.6134	0.25	Q	|	|	|	V |
19+45	1.6151	0.24	Q	|	|	|	V |
19+50	1.6165	0.20	Q	|	|	|	V |
19+55	1.6176	0.17	Q	|	|	|	V |
20+ 0	1.6187	0.16	Q	|	|	|	V |
20+ 5	1.6201	0.20	Q	|	|	|	V |
20+10	1.6217	0.23	Q	|	|	|	V |
20+15	1.6233	0.24	Q	|	|	|	V |
20+20	1.6250	0.24	Q	|	|	|	V |
20+25	1.6266	0.24	Q	|	|	|	V |
20+30	1.6283	0.24	Q	|	|	|	V |
20+35	1.6300	0.24	Q	|	|	|	V |
20+40	1.6316	0.24	Q	|	|	|	V |
20+45	1.6333	0.24	Q	|	|	|	V |
20+50	1.6346	0.20	Q	|	|	|	V |
20+55	1.6358	0.17	Q	|	|	|	V |
21+ 0	1.6369	0.16	Q	|	|	|	V |
21+ 5	1.6383	0.20	Q	|	|	|	V |
21+10	1.6399	0.23	Q	|	|	|	V |
21+15	1.6415	0.24	Q	|	|	|	V |
21+20	1.6429	0.20	Q	|	|	|	V |
21+25	1.6441	0.17	Q	|	|	|	V |
21+30	1.6452	0.16	Q	|	|	|	V |
21+35	1.6466	0.20	Q	|	|	|	V |
21+40	1.6481	0.23	Q	|	|	|	V |
21+45	1.6498	0.24	Q	|	|	|	V |

21+50	1.6512	0.20	Q			
21+55	1.6523	0.17	Q			
22+ 0	1.6535	0.16	Q			
22+ 5	1.6548	0.20	Q			
22+10	1.6564	0.23	Q			
22+15	1.6580	0.24	Q			
22+20	1.6594	0.20	Q			
22+25	1.6606	0.17	Q			
22+30	1.6617	0.16	Q			
22+35	1.6628	0.16	Q			
22+40	1.6639	0.16	Q			
22+45	1.6650	0.16	Q			
22+50	1.6661	0.16	Q			
22+55	1.6672	0.16	Q			
23+ 0	1.6683	0.16	Q			
23+ 5	1.6694	0.16	Q			
23+10	1.6705	0.16	Q			
23+15	1.6716	0.16	Q			
23+20	1.6727	0.16	Q			
23+25	1.6738	0.16	Q			
23+30	1.6749	0.16	Q			
23+35	1.6760	0.16	Q			
23+40	1.6771	0.16	Q			
23+45	1.6782	0.16	Q			
23+50	1.6793	0.16	Q			
23+55	1.6804	0.16	Q			
24+ 0	1.6815	0.16	Q			
24+ 5	1.6821	0.08	Q			
24+10	1.6822	0.02	Q			
24+15	1.6823	0.00	Q			

Appendix B

```
                Riverside County Rational Hydrology Program

     CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2012 Version
8.0
           Rational Hydrology Study        Date: 09/21/22
File:RAMONACOMA.out
     ------------------------------------------------------------------
------
     Ramona Commercial
     Ratonal Method
     100yr Peak Runoff
     Area A SD System
     ------------------------------------------------------------------
------
      *********   Hydrology Study Control Information **********

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

     ------------------------------------------------------------------
------


     Program License Serial Number 6232

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

     Storm event (year) =  100.00 Antecedent Moisture Condition = 3

     Standard intensity-duration curves data (Plate D-4.1)
     For the [ Perris Valley ] area used.
     10 year storm 10 minute intensity =  1.880(In/Hr)
     10 year storm 60 minute intensity =  0.780(In/Hr)
     100 year storm 10 minute intensity =  2.690(In/Hr)
     100 year storm 60 minute intensity =  1.120(In/Hr)

     Storm event year = 100.0
     Calculated rainfall intensity data:
     1 hour intensity =  1.120(In/Hr)
     Slope of intensity duration curve = 0.4900




     ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++
     Process from Point/Station      101.000 to Point/Station
102.000
     **** INITIAL AREA EVALUATION ****
     ___________________________________________________________________
____
     Initial area flow distance =   190.000(Ft.)
     Top (of initial area) elevation =    54.700(Ft.)
     Bottom (of initial area) elevation =    52.600(Ft.)
     Difference in elevation =     2.100(Ft.)
```

```
      Slope =    0.01105  s(percent)=       1.11
      TC = k(0.300)*[(length^3)/(elevation change)]^0.2
      Initial area time of concentration =    6.025 min.
      Rainfall intensity =      3.454(In/Hr) for a   100.0 year storm
      COMMERCIAL subarea type
      Runoff Coefficient = 0.895
      Decimal fraction soil group A = 0.000
      Decimal fraction soil group B = 0.000
      Decimal fraction soil group C = 0.000
      Decimal fraction soil group D = 1.000
      RI index for soil(AMC 3)  =  88.00
      Pervious area fraction =  0.100; Impervious fraction =  0.900
      Initial subarea runoff =      1.299(CFS)
      Total initial stream area =        0.420(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 =    52.600(Ft.)
      Downstream point/station elevation =    52.100(Ft.)
      Pipe length  =   179.00(Ft.)   Manning's N = 0.013
      No. of pipes = 1  Required pipe flow  =     1.299(CFS)
      Nearest computed pipe diameter  =     12.00(In.)
      Calculated individual pipe flow  =     1.299(CFS)
      Normal flow depth in pipe =    7.32(In.)
      Flow top width inside pipe =   11.70(In.)
      Critical Depth =    5.78(In.)
      Pipe flow velocity =      2.59(Ft/s)
      Travel time through pipe =    1.15 min.
      Time of concentration (TC) =     7.18 min.


      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++
      Process from Point/Station      102.000 to Point/Station
103.000
      **** SUBAREA FLOW ADDITION ****
      ------------------------------------------------------------------------
____
      COMMERCIAL subarea type
      Runoff Coefficient = 0.895
      Decimal fraction soil group A = 0.000
      Decimal fraction soil group B = 0.000
      Decimal fraction soil group C = 0.000
      Decimal fraction soil group D = 1.000
      RI index for soil(AMC 3)  =  88.00
      Pervious area fraction =  0.100; Impervious fraction =  0.900
      Time of concentration =     7.18 min.
      Rainfall intensity =      3.170(In/Hr) for a   100.0 year storm
      Subarea runoff =      0.880(CFS) for      0.310(Ac.)
      Total runoff =      2.179(CFS)      Total area =       0.730(Ac.)


      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
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++++
      Process from Point/Station      103.000 to Point/Station
104.000
      **** PIPEFLOW TRAVEL TIME (Program estimated size) ****
      ------------------------------------------------------------------------
____
      Upstream point/station elevation =    52.100(Ft.)
      Downstream point/station elevation =    51.700(Ft.)
      Pipe length  =   106.00(Ft.)   Manning's N = 0.013
      No. of pipes = 1  Required pipe flow  =     2.179(CFS)
      Nearest computed pipe diameter  =     12.00(In.)
      Calculated individual pipe flow  =     2.179(CFS)
      Normal flow depth in pipe =    9.80(In.)
      Flow top width inside pipe =    9.29(In.)
      Critical Depth =    7.57(In.)
      Pipe flow velocity =      3.18(Ft/s)
      Travel time through pipe =    0.56 min.
      Time of concentration (TC) =     7.73 min.


      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++
      Process from Point/Station      103.000 to Point/Station
104.000
      **** SUBAREA FLOW ADDITION ****
      ------------------------------------------------------------------------
____
      COMMERCIAL subarea type
      Runoff Coefficient = 0.895
      Decimal fraction soil group A = 0.000
      Decimal fraction soil group B = 0.000
      Decimal fraction soil group C = 0.000
      Decimal fraction soil group D = 1.000
      RI index for soil(AMC 3)  =  88.00
      Pervious area fraction =  0.100; Impervious fraction =  0.900
      Time of concentration =     7.73 min.
      Rainfall intensity =      3.056(In/Hr) for a   100.0 year storm
      Subarea runoff =      0.301(CFS) for      0.110(Ac.)
      Total runoff =      2.480(CFS)      Total area =       0.840(Ac.)


      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++
      Process from Point/Station      104.000 to Point/Station
105.000
      **** PIPEFLOW TRAVEL TIME (Program estimated size) ****
      ------------------------------------------------------------------------
____
      Upstream point/station elevation =    51.700(Ft.)
      Downstream point/station elevation =    51.400(Ft.)
      Pipe length  =   106.00(Ft.)   Manning's N = 0.013
      No. of pipes = 1  Required pipe flow  =     2.480(CFS)
      Nearest computed pipe diameter  =     15.00(In.)
      Calculated individual pipe flow  =     2.480(CFS)
      Normal flow depth in pipe =    9.43(In.)
      Flow top width inside pipe =   14.49(In.)
      Critical Depth =    7.56(In.)
      Pipe flow velocity =      3.05(Ft/s)
      Travel time through pipe =    0.58 min.
      Time of concentration (TC) =     8.31 min.
```

```
      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++
      Process from Point/Station      104.000 to Point/Station
105.000
      **** SUBAREA FLOW ADDITION ****
      ------------------------------------------------------------------------
____
      COMMERCIAL subarea type
      Runoff Coefficient = 0.895
      Decimal fraction soil group A = 0.000
      Decimal fraction soil group B = 0.000
      Decimal fraction soil group C = 0.000
      Decimal fraction soil group D = 1.000
      RI index for soil(AMC 3)  =  88.00
      Pervious area fraction =  0.100; Impervious fraction =  0.900
      Time of concentration =     8.31 min.
      Rainfall intensity =      2.950(In/Hr) for a   100.0 year storm
      Subarea runoff =      0.818(CFS) for      0.310(Ac.)
      Total runoff =      3.298(CFS)      Total area =       1.150(Ac.)


      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++
      Process from Point/Station      105.000 to Point/Station
106.000
      **** PIPEFLOW TRAVEL TIME (Program estimated size) ****
      ------------------------------------------------------------------------
____
      Upstream point/station elevation =    51.400(Ft.)
      Downstream point/station elevation =    51.300(Ft.)
      Pipe length  =    39.00(Ft.)   Manning's N = 0.013
      No. of pipes = 1  Required pipe flow  =     3.298(CFS)
      Nearest computed pipe diameter  =     18.00(In.)
      Calculated individual pipe flow  =     3.298(CFS)
      Normal flow depth in pipe =   10.25(In.)
      Flow top width inside pipe =   17.82(In.)
      Critical Depth =    8.30(In.)
      Pipe flow velocity =      3.17(Ft/s)
      Travel time through pipe =    0.21 min.
      Time of concentration (TC) =     8.52 min.


      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++
      Process from Point/Station      105.000 to Point/Station
106.000
      **** SUBAREA FLOW ADDITION ****
      ------------------------------------------------------------------------
____
      COMMERCIAL subarea type
      Runoff Coefficient = 0.895
      Decimal fraction soil group A = 0.000
      Decimal fraction soil group B = 0.000
      Decimal fraction soil group C = 0.000
      Decimal fraction soil group D = 1.000
      RI index for soil(AMC 3)  =  88.00
      Pervious area fraction =  0.100; Impervious fraction =  0.900
      Time of concentration =     8.52 min.
```

```
      Rainfall intensity =      2.915(In/Hr) for a   100.0 year storm
      Subarea runoff =      0.678(CFS) for      0.260(Ac.)
      Total runoff =      3.976(CFS)      Total area =       1.410(Ac.)


      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++
      Process from Point/Station      106.000 to Point/Station
107.000
      **** PIPEFLOW TRAVEL TIME (Program estimated size) ****
      ------------------------------------------------------------------------
____
      Upstream point/station elevation =    51.300(Ft.)
      Downstream point/station elevation =    51.200(Ft.)
      Pipe length  =    24.00(Ft.)   Manning's N = 0.013
      No. of pipes = 1  Required pipe flow  =     3.976(CFS)
      Nearest computed pipe diameter  =     15.00(In.)
      Calculated individual pipe flow  =     3.976(CFS)
      Normal flow depth in pipe =   11.72(In.)
      Flow top width inside pipe =   12.40(In.)
      Critical Depth =    9.68(In.)
      Pipe flow velocity =      3.87(Ft/s)
      Travel time through pipe =    0.10 min.
      Time of concentration (TC) =     8.62 min.
      End of computations, total study area =            1.41 (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 =  75.0
```

```
                Riverside County Rational Hydrology Program

     CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2012 Version
8.0
           Rational Hydrology Study        Date: 09/21/22
File:ramonacombf.out
     ---------------------------------------------------------------
------
     Ramona Commercial
     Rational Method
     100 year Peak Runoff
     Area B
     ---------------------------------------------------------------
------
      *********   Hydrology Study Control Information **********

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

     ---------------------------------------------------------------
------


     Program License Serial Number 6232

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

     Storm event (year) =  100.00 Antecedent Moisture Condition = 3

     Standard intensity-duration curves data (Plate D-4.1)
     For the [ Perris Valley ] area used.
     10 year storm 10 minute intensity =  1.880(In/Hr)
     10 year storm 60 minute intensity =  0.780(In/Hr)
     100 year storm 10 minute intensity =  2.690(In/Hr)
     100 year storm 60 minute intensity =  1.120(In/Hr)

     Storm event year = 100.0
     Calculated rainfall intensity data:
     1 hour intensity =  1.120(In/Hr)
     Slope of intensity duration curve = 0.4900




     ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++
     Process from Point/Station      201.000 to Point/Station
202.000
     **** INITIAL AREA EVALUATION ****
     ____________________________________________________________________
____
     Initial area flow distance =   217.000(Ft.)
     Top (of initial area) elevation =    56.000(Ft.)
     Bottom (of initial area) elevation =    53.900(Ft.)
     Difference in elevation =     2.100(Ft.)
```

```
Slope =    0.00968  s(percent)=       0.97
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    6.525 min.
Rainfall intensity =      3.322(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.895
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3)  =  88.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      1.041(CFS)
Total initial stream area =        0.350(Ac.)
Pervious area fraction = 0.100
End of computations, total study area =            0.35 (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 =  75.0
```

```
                Riverside County Rational Hydrology Program

     CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2012 Version
8.0
           Rational Hydrology Study        Date: 09/21/22
File:ramonacombf.out
     ---------------------------------------------------------------
------
     Ramona Commercial
     Rational Method
     100 year Peak Runoff
     Area C
     ---------------------------------------------------------------
------
      *********   Hydrology Study Control Information **********

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

     ---------------------------------------------------------------
------


     Program License Serial Number 6232

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

     Storm event (year) =  100.00 Antecedent Moisture Condition = 3

     Standard intensity-duration curves data (Plate D-4.1)
     For the [ Perris Valley ] area used.
     10 year storm 10 minute intensity =  1.880(In/Hr)
     10 year storm 60 minute intensity =  0.780(In/Hr)
     100 year storm 10 minute intensity =  2.690(In/Hr)
     100 year storm 60 minute intensity =  1.120(In/Hr)

     Storm event year = 100.0
     Calculated rainfall intensity data:
     1 hour intensity =  1.120(In/Hr)
     Slope of intensity duration curve = 0.4900




     ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++
     Process from Point/Station      301.000 to Point/Station
302.000
     **** INITIAL AREA EVALUATION ****
     ____________________________________________________________________
____
     Initial area flow distance =   185.000(Ft.)
     Top (of initial area) elevation =    56.300(Ft.)
     Bottom (of initial area) elevation =    53.700(Ft.)
     Difference in elevation =     2.600(Ft.)
```

```
Slope =    0.01405  s(percent)=       1.41
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    5.681 min.
Rainfall intensity =      3.555(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.896
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3)  =  88.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      1.560(CFS)
Total initial stream area =        0.490(Ac.)
Pervious area fraction = 0.100
End of computations, total study area =            0.49 (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 =  75.0
```

```
                Riverside County Rational Hydrology Program

     CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2012 Version
8.0
           Rational Hydrology Study        Date: 09/21/22
File:ramonacombf.out
     ---------------------------------------------------------------
------
     Ramona Commercial
     Rational Method
     100 year Peak Runoff
     Area D
     ---------------------------------------------------------------
------
      *********   Hydrology Study Control Information **********

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

     ---------------------------------------------------------------
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     Program License Serial Number 6232

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

     Storm event (year) =  100.00 Antecedent Moisture Condition = 3

     Standard intensity-duration curves data (Plate D-4.1)
     For the [ Perris Valley ] area used.
     10 year storm 10 minute intensity =  1.880(In/Hr)
     10 year storm 60 minute intensity =  0.780(In/Hr)
     100 year storm 10 minute intensity =  2.690(In/Hr)
     100 year storm 60 minute intensity =  1.120(In/Hr)

     Storm event year = 100.0
     Calculated rainfall intensity data:
     1 hour intensity =  1.120(In/Hr)
     Slope of intensity duration curve = 0.4900




     ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++
     Process from Point/Station      401.000 to Point/Station
402.000
     **** INITIAL AREA EVALUATION ****
     ____________________________________________________________________
____
     Initial area flow distance =   308.000(Ft.)
     Top (of initial area) elevation =    56.300(Ft.)
     Bottom (of initial area) elevation =    53.300(Ft.)
     Difference in elevation =     3.000(Ft.)
```

```
Slope =    0.00974  s(percent)=       0.97
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    7.496 min.
Rainfall intensity =      3.103(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.895
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3)  =  88.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      1.889(CFS)
Total initial stream area =        0.680(Ac.)
Pervious area fraction = 0.100
End of computations, total study area =            0.68 (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 =  75.0
```

```
                Riverside County Rational Hydrology Program

     CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2012 Version
8.0
           Rational Hydrology Study        Date: 09/21/22
File:ramonacombf.out
     ---------------------------------------------------------------
------
     Ramona Commercial
     Rational Method
     100 year Peak Runoff
     Area E
     ---------------------------------------------------------------
------
      *********   Hydrology Study Control Information **********

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

     ---------------------------------------------------------------
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     Program License Serial Number 6232

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

     Storm event (year) =  100.00 Antecedent Moisture Condition = 3

     Standard intensity-duration curves data (Plate D-4.1)
     For the [ Perris Valley ] area used.
     10 year storm 10 minute intensity =  1.880(In/Hr)
     10 year storm 60 minute intensity =  0.780(In/Hr)
     100 year storm 10 minute intensity =  2.690(In/Hr)
     100 year storm 60 minute intensity =  1.120(In/Hr)

     Storm event year = 100.0
     Calculated rainfall intensity data:
     1 hour intensity =  1.120(In/Hr)
     Slope of intensity duration curve = 0.4900




     ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++
     Process from Point/Station      501.000 to Point/Station
502.000
     **** INITIAL AREA EVALUATION ****
     ____________________________________________________________________
____
     Initial area flow distance =   432.000(Ft.)
     Top (of initial area) elevation =    56.300(Ft.)
     Bottom (of initial area) elevation =    53.600(Ft.)
     Difference in elevation =     2.700(Ft.)
```

```
Slope =    0.00625  s(percent)=       0.62
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    9.379 min.
Rainfall intensity =      2.781(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.894
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3)  =  88.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      3.532(CFS)
Total initial stream area =        1.420(Ac.)
Pervious area fraction = 0.100
End of computations, total study area =            1.42 (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 =  75.0
```

```
                Riverside County Rational Hydrology Program

     CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2012 Version
8.0
           Rational Hydrology Study        Date: 09/21/22
File:ramonacombf.out
     ---------------------------------------------------------------
------
     Ramona Commercial
     Rational Method
     100 year Peak Runoff
     Area F
     ---------------------------------------------------------------
------
      *********   Hydrology Study Control Information **********

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

     ---------------------------------------------------------------
------


     Program License Serial Number 6232

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

     Storm event (year) =  100.00 Antecedent Moisture Condition = 3

     Standard intensity-duration curves data (Plate D-4.1)
     For the [ Perris Valley ] area used.
     10 year storm 10 minute intensity =  1.880(In/Hr)
     10 year storm 60 minute intensity =  0.780(In/Hr)
     100 year storm 10 minute intensity =  2.690(In/Hr)
     100 year storm 60 minute intensity =  1.120(In/Hr)

     Storm event year = 100.0
     Calculated rainfall intensity data:
     1 hour intensity =  1.120(In/Hr)
     Slope of intensity duration curve = 0.4900




     ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++
     Process from Point/Station      601.000 to Point/Station
602.000
     **** INITIAL AREA EVALUATION ****
     ____________________________________________________________________
____
     Initial area flow distance =   656.000(Ft.)
     Top (of initial area) elevation =    54.500(Ft.)
     Bottom (of initial area) elevation =    51.800(Ft.)
     Difference in elevation =     2.700(Ft.)
```

```
Slope =    0.00412  s(percent)=       0.41
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   12.050 min.
Rainfall intensity =      2.459(In/Hr) for a   100.0 year storm
COMMERCIAL subarea type
Runoff Coefficient = 0.894
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 3)  =  88.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      2.616(CFS)
Total initial stream area =        1.190(Ac.)
Pervious area fraction = 0.100
End of computations, total study area =            1.19 (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 =  75.0
```

Appendix C

DYODS™
Design Your Own Detention System

CONTECH CMP DETENTION SYSTEMS

CONTECH STORMWATER SOLUTIONS INC.

For design assistance, drawings,
and pricing send completed worksheet to:
dyods@contech-cpi.com

Project Summary

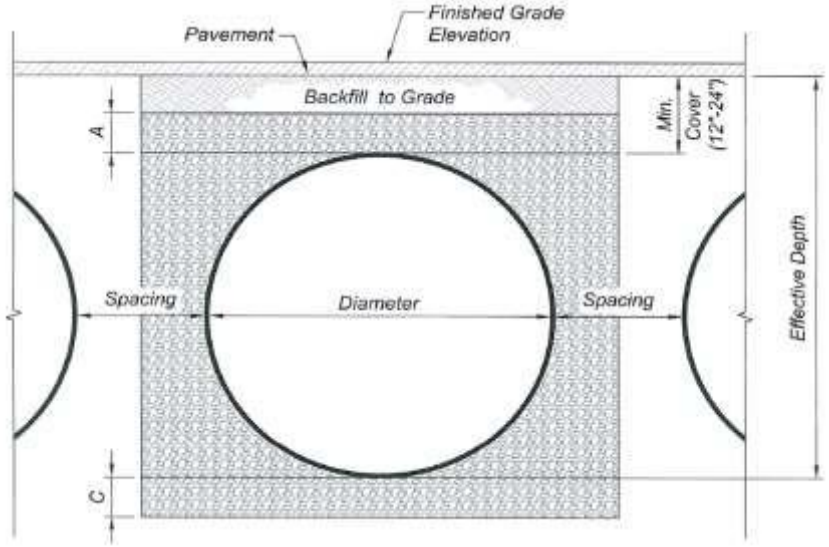
Date:	9/21/2022
Project Name:	Ramona Commercial
City / County:	Perris
State:	CA
Designed By:	CM
Company:	United Engineering
Telephone:	

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	5,689
Limiting Width (ft):	24.00
Invert Depth Below Asphalt (ft):	8.00
Solid or Perforated Pipe:	Perforated
Shape Or Diameter (in):	72
Number Of Headers:	1
Spacing between Barrels (ft):	2.00
Stone Width Around Perimeter of System (ft):	2
Depth A: Porous Stone Above Pipe (in):	6
Depth C: Porous Stone Below Pipe (in):	6
Stone Porosity (0 to 40%):	30

28.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	4,185	cf	
Porous Stone Storage:	1,655	cf	
Total Storage Provided:	5,840	cf	102.7% Of Required Storage
Number of Barrels:	2	barrels	
Length per Barrel:	67.0	ft	
Length Per Header:	14.0	ft	
Rectangular Footprint (W x L):	18. ft x 77. ft		

CONTECH Materials

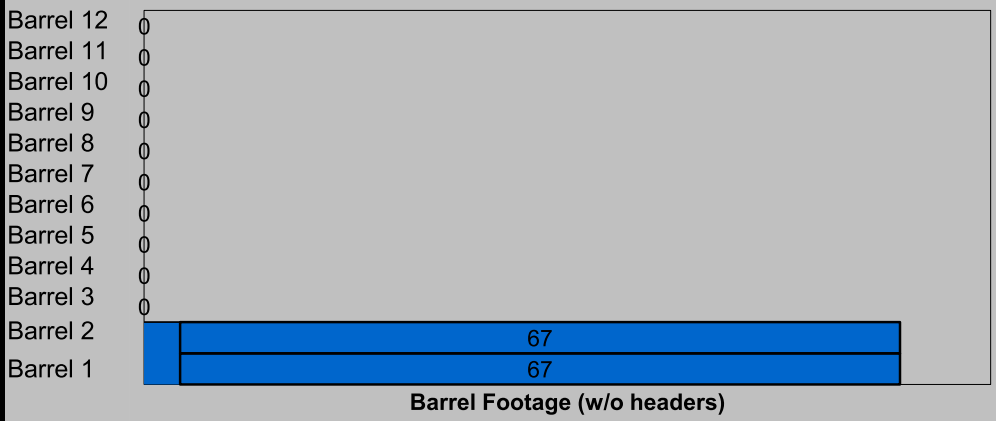
Total CMP Footage:	148	ft
Approximate Total Pieces:	7	pcs
Approximate Coupling Bands:	6	bands
Approximate Truckloads:	4	trucks

Construction Quantities**

Total Excavation:	411	cy
Porous Stone Backfill For Storage:	204	cy stone
Backfill to Grade Excluding Stone:	52	cy fill

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

System Layout



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Design Your Own Detention System

CONTECH CMP DETENTION SYSTEMS

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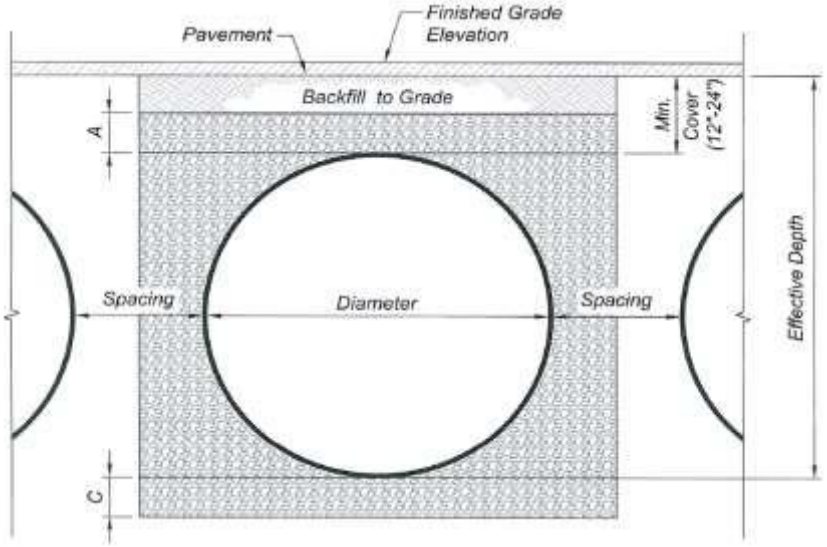
Project Summary

Date:	9/21/2022
Project Name:	Ramona Commercial
City / County:	Perris
State:	CA
Designed By:	CM
Company:	United Engineering
Telephone:	

Enter Information in Blue Cells



Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	3,389
Limiting Width (ft):	24.00
Invert Depth Below Asphalt (ft):	8.00
Solid or Perforated Pipe:	Perforated
Shape Or Diameter (in):	72
Number Of Headers:	1
Spacing between Barrels (ft):	2.00
Stone Width Around Perimeter of System (ft):	2
Depth A: Porous Stone Above Pipe (in):	6
Depth C: Porous Stone Below Pipe (in):	6
Stone Porosity (0 to 40%):	30

28.27 ft^2 Pipe Area

System Sizing

Pipe Storage:	2,488	cf	
Porous Stone Storage:	1,030	cf	
Total Storage Provided:	3,518	cf	103.8% Of Required Storage
Number of Barrels:	2	barrels	
Length per Barrel:	37.0	ft	
Length Per Header:	14.0	ft	
Rectangular Footprint (W x L):	18. ft x 47. ft		

CONTECH Materials

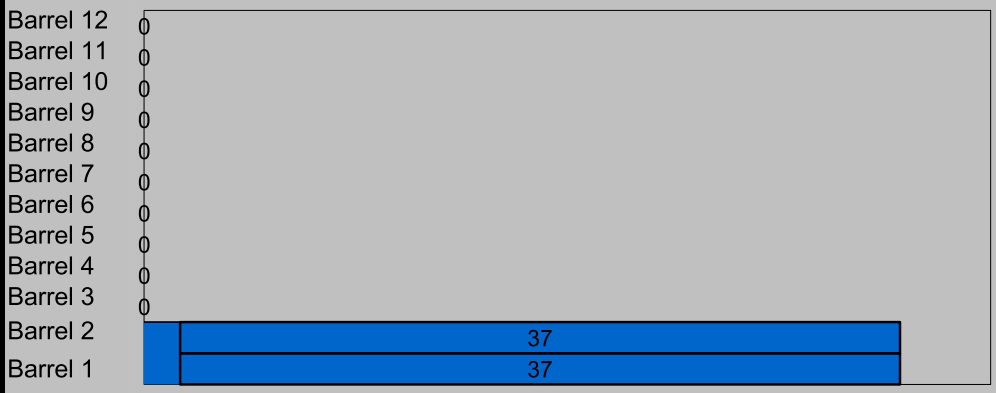
Total CMP Footage:	88	ft
Approximate Total Pieces:	5	pcs
Approximate Coupling Bands:	4	bands
Approximate Truckloads:	3	trucks

Construction Quantities**

Total Excavation:	251	cy
Porous Stone Backfill For Storage:	127	cy stone
Backfill to Grade Excluding Stone:	32	cy fill

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

System Layout

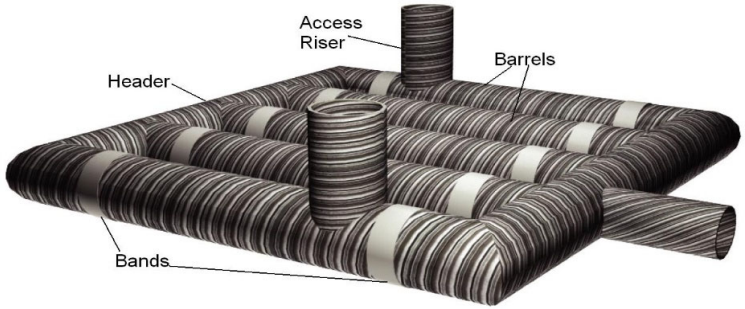


DYODS™
Design Your Own Detention System

CONTECH CMP DETENTION SYSTEMS

CONTECH STORMWATER SOLUTIONS INC.

For design assistance, drawings, and pricing send completed worksheet to:
dyods@contech-cpi.com

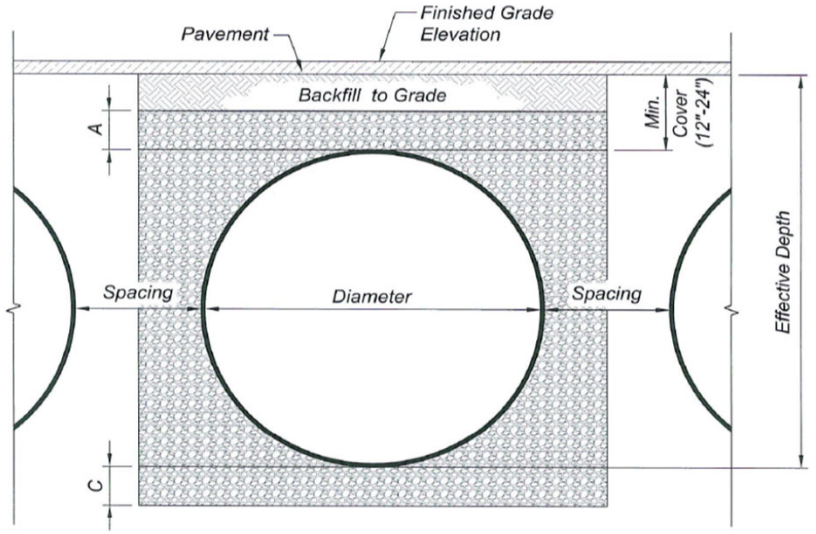


Project Summary

Date:	9/21/2022	
Project Name:	Ramona Commercial	
City / County:	Perris	
State:	CA	
Designed By:	CM	
Company:	United Engineering	**Enter Information in Blue Cells**
Telephone:		

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	13,273	
Limiting Width (ft):	45.00	
Invert Depth Below Asphalt (ft):	8.00	
Solid or Perforated Pipe:	Perforated	
Shape Or Diameter (in):	72	28.27 ft^2 Pipe Area
Number Of Headers:	1	
Spacing between Barrels (ft):	2.00	
Stone Width Around Perimeter of System (ft):	2	
Depth A: Porous Stone Above Pipe (in):	6	
Depth C: Porous Stone Below Pipe (in):	6	
Stone Porosity (0 to 40%):	30	



System Sizing

Pipe Storage:	10,122	cf	
Porous Stone Storage:	3,490	cf	
Total Storage Provided:	13,612	cf	102.6% Of Required Storage
Number of Barrels:	5	barrels	
Length per Barrel:	64.0	ft	
Length Per Header:	38.0	ft	
Rectangular Footprint (W x L):	42. ft x 74. ft		

CONTECH Materials

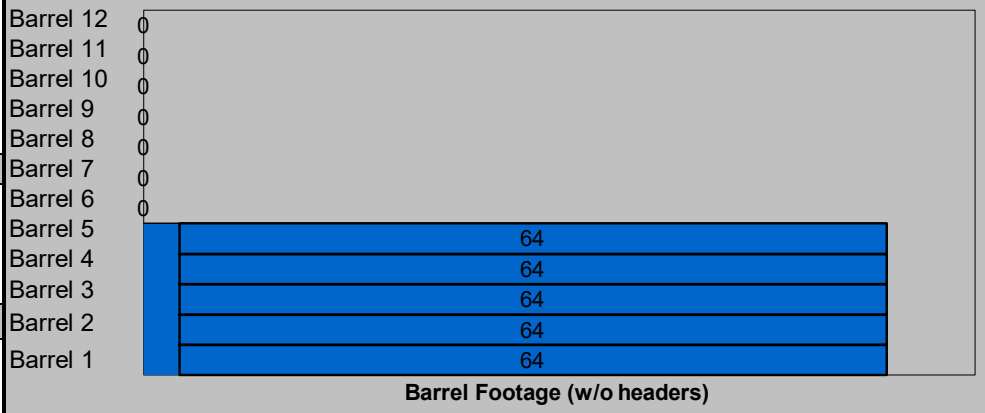
Total CMP Footage:	358	ft
Approximate Total Pieces:	17	pcs
Approximate Coupling Bands:	16	bands
Approximate Truckloads:	9	trucks

Construction Quantities**

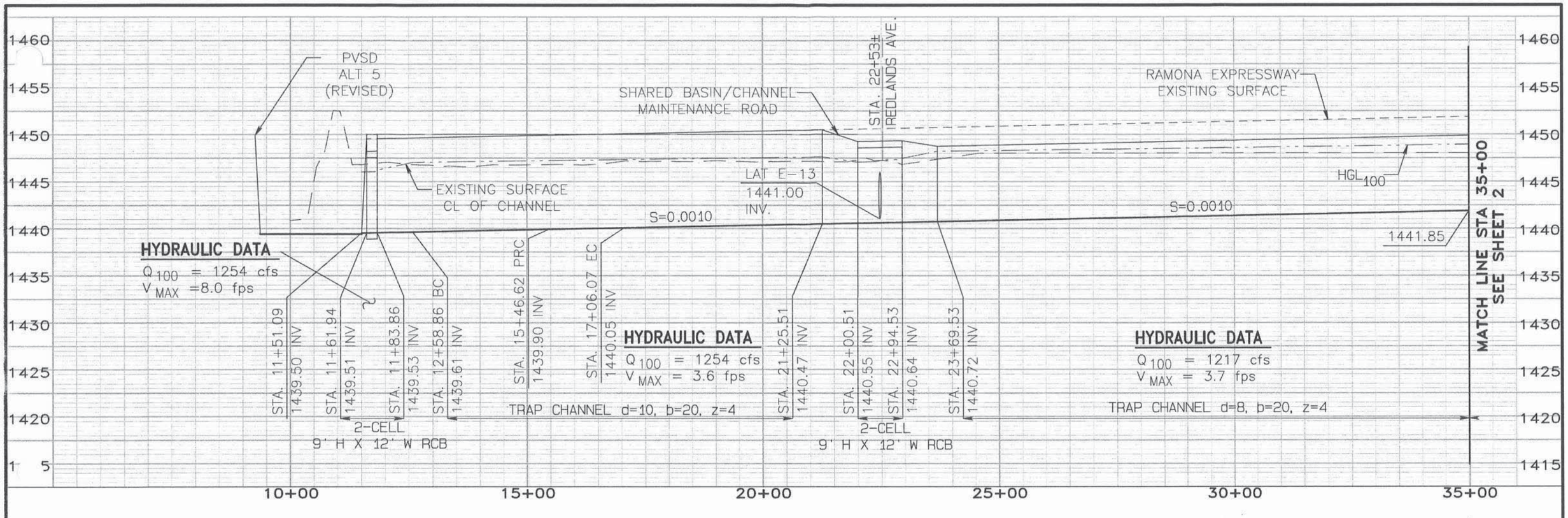
Total Excavation:	921	cy
Porous Stone Backfill For Storage:	431	cy stone
Backfill to Grade Excluding Stone:	115	cy fill

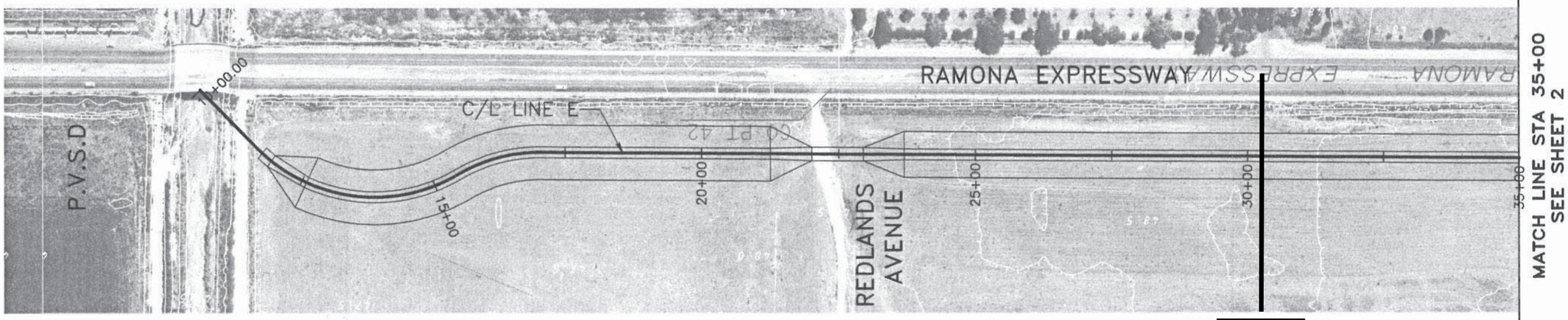
***Construction quantities are approximate and should be verified upon final design*

System Layout



Appendix D





PROFILE
HORIZ 1" =200'
VERT 1" = 10'
PLAN 1" = 200'

LEGEND

= 800-180-000

GRAPHIC SCALE 1"=200'

0 200 400

VERTICAL DATUM: NGVD 29

UNDERGROUND SERVICE ALERT
CALL: TOLL FREE
1-800
227-2600
TWO WORKING DAYS BEFORE YOU DIG

PERRIS VALLEY COMMERCIAL CENTER SPECIFIC PLAN

SEAL
REGISTERED PROFESSIONAL ENGINEER
SCOTT R. HILGENBERG
NO. C44762
CIVIL
STATE OF CALIFORNIA

ALBERT A. WEBB ASSOCIATES
ENGINEERING CONSULTANTS
3788 McCRAY STREET, RIVERSIDE, CA 92506
PH. (951) 686-1070 FAX (951) 788-1256

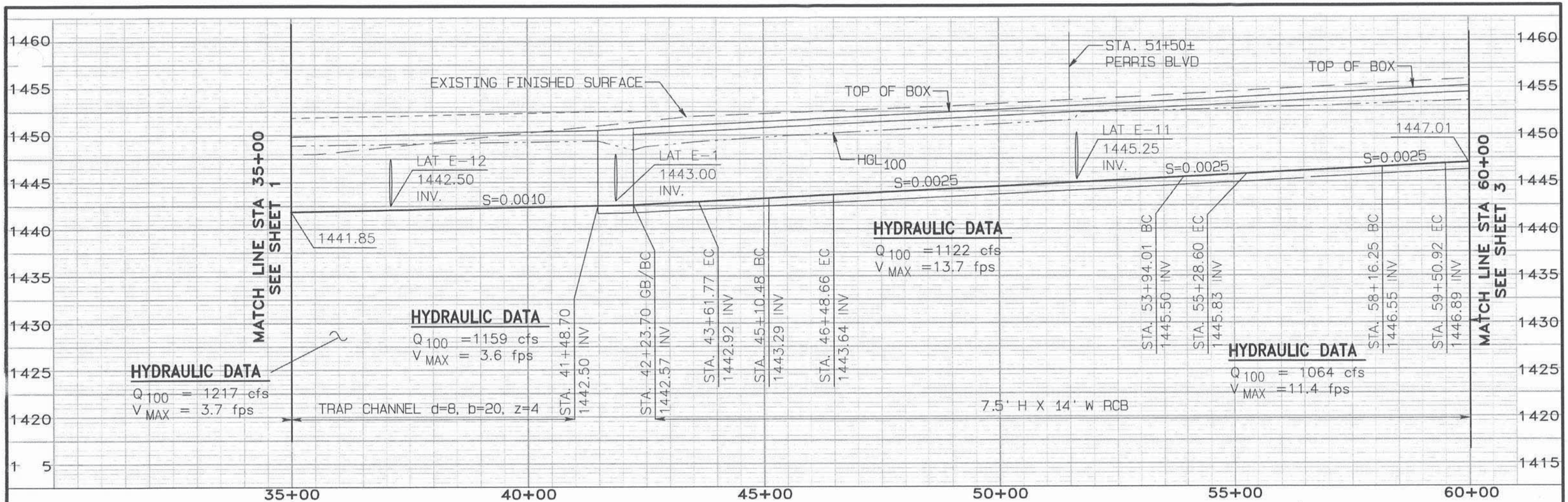
APPROVED BY: _____ DATE: _____
R.C.E. NO. C44762 EXP. DATE: 3/12/2014

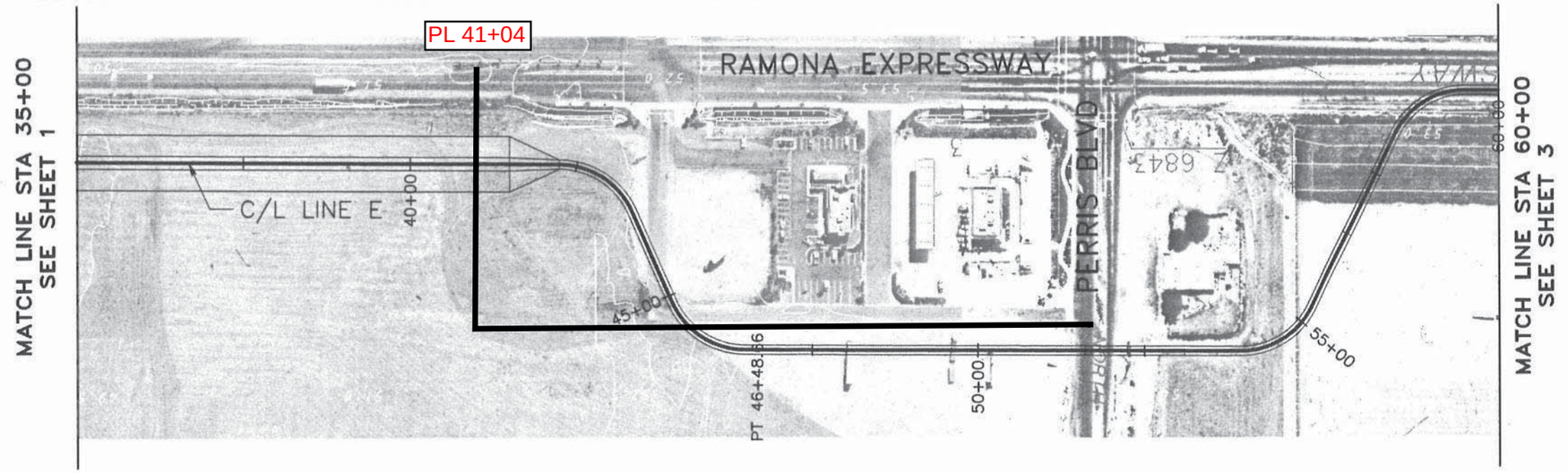
DESIGNED BY: JCC
DRAWN BY: MLA
CHECKED BY: SRH

REF.	REVISIONS	APPR.	DATE

PRELIMINARY PROFILE
PERRIS VALLEY
MASTER
DRAINAGE PLAN
LINE E
STA 10+00.00 to STA 35+00.00

PROJECT NO.
DRAWING NO.
SHEET NO. 1 OF 5





PROFILE
HORIZ 1" =200'
VERT 1" = 10'

PLAN 1" = 200'

LEGEND

GRAPHIC SCALE 1"=200'

0 200 400

VERTICAL DATUM: NGVD 29

UNDERGROUND SERVICE ALERT
CALL: TOLL FREE
1-800
227-2600
TWO WORKING DAYS BEFORE YOU DIG

PERRIS VALLEY COMMERCIAL CENTER SPECIFIC PLAN

SEAL
REGISTERED PROFESSIONAL ENGINEER
SCOTT R. HILDEBRANDT
NO. C44762
CIVIL
STATE OF CALIFORNIA

ALBERT A. WEBB ASSOCIATES
ENGINEERING CONSULTANTS
3788 McCRAY STREET, RIVERSIDE, CA 92506
PH. (951) 686-1070 FAX (951) 788-1256

APPROVED BY: _____ DATE: _____
R.C.E. NO. C44762 EXP. DATE: 3/12/2014

DESIGNED BY: JCC
DRAWN BY: MLA
CHECKED BY: SRH

REF.	REVISIONS	APPR.	DATE

PRELIMINARY PROFILE
PERRIS VALLEY
MASTER
DRAINAGE PLAN
LINE E
STA 35+00.00 to STA 60+00.00

PROJECT NO.
DRAWING NO.
SHEET NO. 2 OF 5

CITY OF PERRIS, CALIFORNIA
RAMONA EXPRESSWAY STREET WIDENING AND SIGNING AND STRIPING PLANS (P8-924)

GENERAL NOTES

1. ALL WORK TO BE PERFORMED PER CITY OF PERRIS, RIVERSIDE COUNTY TRANSPORTATION, RIVERSIDE COUNTY FLOOD CONTROL, E.M.W.D. AND CALTRANS STANDARDS. IN THE EVENT OF CONFLICT BETWEEN STANDARDS AND/OR PLANS & STANDARDS, THE MOST STRINGENT IN OPINION OF CITY ENGINEER SHALL APPLY.
2. CONTRACTOR IS REQUIRED TO LOCATE AND ADJUST TO GRADE ALL EXISTING MANHOLES AND VALVE COVERS FOR WATER, SEWER, TELEPHONE, ELECTRIC, CABLE TV AND OTHER FACILITIES AS REQUIRED.
3. CONTRACTOR IS REQUIRED TO INSTALL BLUE REFLECTIVE PAVEMENT MARKERS AT ALL FIRE HYDRANT LOCATIONS IN THE WORK AREA.
4. THE CONTRACTOR IS REQUIRED TO REMOVE ALL CONFLICTING STRIPING AND LEGENDS BY WET SANDBLASTING.
5. ALL STRIPING & LEGENDS SHALL BE REPLACED IN-KIND EXCEPT WHERE NOTED OTHERWISE. ALL STRIPING TO BE PAINT (TWO COATS) AND ALL MARKINGS (INCLUDING CROSSWALKS) TO BE THERMOPLASTIC. ALL STRIPING AND PAVEMENT MARKINGS TO BE PER CALTRANS STANDARDS.
6. ALL DIRT SHOULDERS SHALL BE COMPACTED AND BROUGHT LEVEL WITH THE EDGE OF PAVEMENT.
7. CITY TO MARK ALL CONCRETE REMOVALS PRIOR TO CONSTRUCTION. ALL CONCRETE TO BE SAW-CUT PRIOR TO BEING REMOVED.
8. **ON ALL DAYS WHERE MORE THAN 400 TONS OF ASPHALT IS SCHEDULED TO BE PLACED, THE CONTRACTOR SHALL PROVIDE AT LEAST TWO PEOPLE, TRAINED AS FLAGMEN, WHOSE SOLE RESPONSIBILITY IS TRAFFIC CONTROL.**
9. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT THE NEW WORK FROM VANDALISM UNTIL THE IMPROVEMENTS HAVE BEEN ACCEPTED BY THE CITY AND A NOTICE OF COMPLETION HAS BEEN FILED.
10. ALL ASPHALT REMOVALS TO BE MARKED BY CITY PRIOR TO CONTRACTOR BEGINNING WORK ON THAT PARTICULAR STREET SEGMENT.
11. CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA AND OTHER UTILITY COMPANIES AS NEEDED TO COORDINATE FOR PROTECTION AND/OR ADJUSTMENTS OF UTILITIES, AS REQUIRED.
12. CONTRACTOR TO VISIT THE SITE(S) AND FAMILIARIZE HIMSELF WITH THE WORK AND AREA PRIOR TO BIDDING.
13. ALL DIMENSIONS ARE APPROXIMATE. CONTRACTOR TO VERIFY IN FIELD.
14. CONTRACTOR IS RESPONSIBLE TO PROVIDE FOR TRAFFIC CONTROL DEVICES AS NEEDED AND PROVIDE TWO WAY ACCESS AT ALL TIMES. EXCEPT IF STATED OTHERWISE ON THE PLANS OR IN THE SPECIFICATIONS. THE CONTRACTOR SHALL MAINTAIN THESE DEVICES AT ALL TIMES INCLUDING HOLIDAYS, WEEKENDS, ETC. IF PERMITTED BY CITY FLAGMEN SHALL BE UTILIZED TO PROVIDE TWO WAY TRAFFIC DURING CONSTRUCTION. ACCESS TO SCHOOL, BUSINESS INDIVIDUAL HOMES AND AT INTERSECTIONS SHALL BE PROVIDED DURING & AFTER CONSTRUCTION.
15. THE CONTRACTOR IS RESPONSIBLE FOR CLEARING AND GRUBBING THE PROPOSED WORK AREA AND SHALL RELOCATE OR CAUSE TO BE RELOCATED EXISTING CONFLICTING UTILITIES.
16. THE CONTRACTOR SHALL APPLY TO, AND BE ISSUED A NO FEE ENCROACHMENT PERMIT BY THE CITY OF PERRIS BEFORE BEGINNING ANY WORK WITHIN AN EXISTING, CITY MAINTAINED PUBLIC STREET AND FOR UTILITY WORK WITHIN OFFERS OF DEDICATION FOR PUBLIC USE.
17. EXISTING PUBLIC STREETS, SHALL REMAIN OPEN TO THE PUBLIC DURING CONSTRUCTION AND BE MAINTAINED BY THE CONTRACTOR, UNLESS OTHERWISE PROVIDED IN THE PLANS AND SPECIFICATIONS. PUBLIC INCONVENIENCE WILL BE MINIMIZED AT ALL TIMES AND SUCH STREETS SHALL BE LEFT FREE OF DIRT AND DEBRIS AT THE END OF EACH WORKING DAY UNLESS PERMISSION IS OTHERWISE GRANTED BY THE CITY ENGINEER.
18. NINETY FIVE PERCENT (95%) RELATIVE COMPACTION OF THE BASE AND NINETY FIVE (95%) RELATIVE COMPACTION OF THE TOP 8" OF THE SUBGRADE IS REQUIRED PER TESTING PROCEDURES REQUIRED IN THE RIVERSIDE COUNTY ROAD DEPARTMENT SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE TO BRING CLEAN FILL IF REQUIRED OR EXPORT TO CONSTRUCT THE ROAD AS SHOWN HEREIN. OVERLAY JOINTS AND NEW PAVEMENT JOINTS SHALL BE CONSTRUCTED IN A MANNER TO MATCH NEW AND EXISTING PAVEMENT AND TO PROVIDE A SMOOTH TRANSITION.
19. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL IN COMPLIANCE WITH WATCH MANUAL, CALTRANS AND OTHER APPLICABLE STANDARDS.
20. ANY DEVIATION FROM THESE PLANS IF PROPOSED BY THE CONTRACTOR MUST MEET CITY'S APPROVAL. THE CONTRACTOR IS RESPONSIBLE TO REIMBURSE THE CITY FOR ANY RELATED COST TO THE CITY ASSOCIATED WITH SUCH CHANGE. IN THIS EVENT, NO INCREASE IN CONTRACTOR'S COST WILL BE ACCEPTABLE.
21. ANY STOCKPILE OR STORAGE YARD ON PRIVATE PROPERTY MUST HAVE OWNERS APPROVAL.
22. PROTECT IN PLACE EXISTING MONUMENTS OR RECORD & RESET SURVEY MONUMENTS BY A QUALIFIED REGISTERED SURVEYOR.
21. VIDEO OR DVD OF ALL STORM DRAINS SHALL BE SUBMITTED TO THE CITY ENGINEER PRIOR TO BACKFILL / FINAL INSPECTION.

GENERAL NOTES CONTINUED

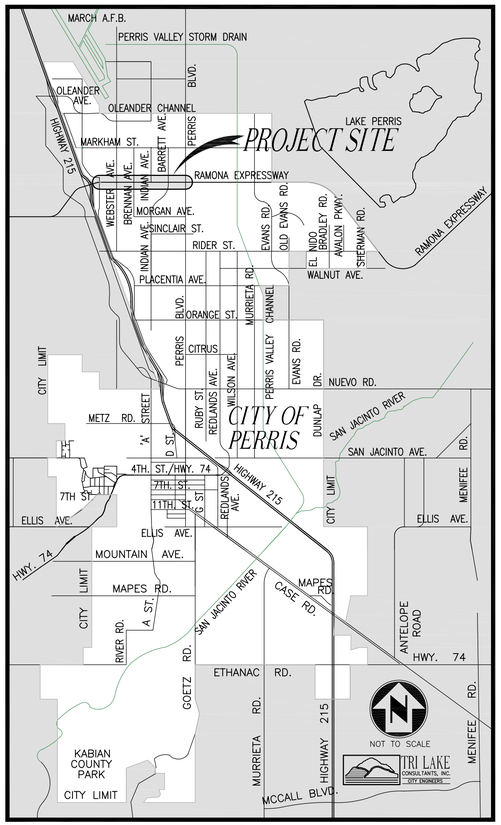
23. ALL EXISTING A.C. AND CONCRETE TO BE SAW-CUT WHERE WIDENING IS TO TAKE PLACE OR ADJACENT TO WHERE CONCRETE IS TO BE CONSTRUCTED.
24. CONTRACTOR TO ADJUST TO GRADE, EXISTING ELECTRICAL BOX, VALVE COVERS, MANHOLE, COVERS AND UTILITY BOXES AS NECESSARY. (THIS WORK INCLUDES ADJUSTING THE MATERIAL AND EQUIPMENT BELOW THE COVER).
25. CONTRACTORS CONSTRUCTION HOURS ARE BETWEEN 7AM AND 5PM, MONDAY THRU FRIDAY. PAVING SHALL BE ALLOWED BETWEEN THE HOURS OF 8 A.M. AND 5 P.M. CONTRACTOR TO REIMBURSE CITY FOR INSPECTION OF WEEKEND WORK ALLOWED BY CITY.
26. GRINDING MATERIALS APPROVED SIZE OF 3" OR LESS AS DETERMINED BY CITY ENGINEER SHALL BE TRANSPORTED TO PUBLIC WORKS YARD OR USED FOR SHOULDER GRADING WITHIN 3 MILES OF ANY STREET RECEIVING PAVEMENT REHABILITATION AS DIRECTED BY CITY ENGINEER.

○ CONSTRUCTION NOTES

1. PROTECT IN PLACE.
2. REMOVE & RELOCATE ±4' TO ±5' FROM EDGE OF NEW PAVEMENT. UNLESS OTHERWISE SPECIFIED.
3. SAW CUT 1' FROM EDGE OF EXIST. PVM'T. TO PROVIDE FOR A SMOOTH JOINT. SEE PAVEMENT JOINT DETAIL SHEET 2.
4. CONSTRUCT 5.5" A.C. OVER 18" CLASS II AB.
5. CONSTRUCT 2' X 2' SHOULDER AND REPLACE PULL BOXES, RELOCATE EXISTING CONDUIT AND REPLACE ANY DAMAGED/NEEDED DETECTOR LOOPS AS REQUIRED IN KIND.
6. CLEAN OUT AND EXTEND EXISTING PIPE AS REQUIRED TO NEW DRAINAGE SWALE
7. CONSTRUCT 8" CURB PER RIVERSIDE COUNTY STD. 201.
8. CONSTRUCT CONCRETE LINED TRAPEZOIDAL CHANNEL PER MODIFIED R.C.F.C. & W.C.D. STANDARD DRAWING NO. CH326, CH327 AND CH329. SEE CHANNEL DETAIL SHEET 3.
9. ADJUST TO GRADE AND/OR PROTECT IN PLACE AS NEEDED.
10. CONSTRUCT 8" THICK CONCRETE ROADWAY OVER 16" CLASS II AGGREGATE BASE.
11. RELOCATE OUTLET STRUCTURE AND RECONSTRUCT WINGWALLS TO MATCH PROPOSED CHANNEL LOCATION.
12. CONSTRUCT 5' WIDE CURB OPENING. SEE DETAIL A ON SHEET 3.
13. CONSTRUCT 8" ASPHALT CONCRETE DIKE PER COUNTY OF RIVERSIDE STD. NO 212
14. RELOCATE 2-6" DIA. CLASS 53 DUCTILE IRON FORCE MAINS (12"± SEPARATION) WITH FULLY RESTRAINED JOINTS. CONTRACTOR SHALL POTHOLE ALL EXISTING FACILITIES AND SHALL REINSTALL FORCE MAINS AS REQUIRED WITH ALL FITTINGS (ELBOWS) NECESSARY TO AVOID SAID EXISTING FACILITIES.
15. CONSTRUCT 4" AC OVER 95% COMPACTED NATIVE.

☐ STRIPING NOTES

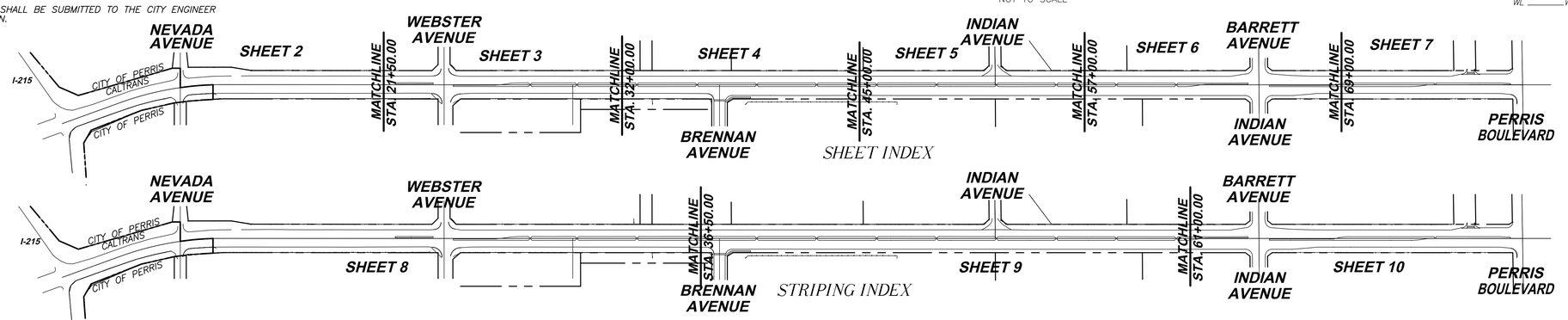
1. INSTALL 4" WHITE LANELINE PER CALTRANS STD. A20A, DETAIL 9 (DASHED W/R.P.M.).
2. INSTALL 4" WHITE SOLID LANELINE. (50 L.F. UNLESS OTHERWISE NOTED.)
3. INSTALL THERMOPLASTIC PAVEMENT MARKINGS AS SHOWN PER CALTRANS STD.
4. INSTALL 12" "WHITE" THERMOPLASTIC CROSSWALK/LIMIT LINE PER CALTRANS STD. A24E.
5. INSTALL 8" WHITE CHANNELING LINE PER CALTRANS STD. A20D, DETAIL 38A
6. INSTALL 4" DOUBLE YELLOW LINE PER CALTRANS STD. PLAN A20A, DETAIL 21.
7. INSTALL 4" DOUBLE YELLOW MEDIAN ISLAND PER CALTRANS STD. A20B, DETAIL 28
8. INSTALL 4" WHITE EDGELINE PER CALTRANS STD. A20B, DETAIL 27B.
9. INSTALL 8" WHITE LANE DROP STRIPING PER CALTRANS STD. A20C, DETAIL 37B.
10. PROTECT IN PLACE EXISTING STRIPING.
11. SANDBLAST CONFLICTING STRIPING AND/OR REMOVE REFLECTIVE PAVEMENT MARKERS.



THOMAS GUIDE: 807-H3

LOCATION MAP

NOT TO SCALE



SHEET INDEX

STRIPING INDEX

NOTIFICATIONS

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES & AGENCIES AT LEAST 48 HOURS PRIOR TO COMENCING CONSTRUCTION

EASTERN MUNICIPAL WATER DISTRICT	(951) 928-3777 EXT. 4830
CITY OF PERRIS	(951) 943-6504
UNDERGROUND SERVICE ALERT	(800) 227-2600
SOUTHERN CALIFORNIA EDISON COMPANY	(800) 227-2600
SOUTHERN CALIFORNIA GAS COMPANY	(800) 277-2600
GENERAL TELEPHONE COMPANY	(800) 227-2600
TCI CABLEVISION	(800) 227-2600

BENCHMARK

BM 40-Y
ELEV. 1493.832
1.45 MILES WEST ALONG MARTIN STREET FROM POST OFFICE AT LAKEVIEW WAY THEN 0.9 MILES SOUTHWEST ALONG PAVED ROAD FORMERLY MARTIN STREET. THENCE 0.85 MILES SOUTH ALONG POZOS AVENUE. THEN 2.1 MILES WEST ALONG WALNUT AVENUE. 0.25 MILES EAST OF JUNCTION OF EL NIDO AVENUE IN TOP OF ROCK OUTCROP IN CULTIVATED FIELD. 55 FEET SOUTH OF CENTER LINE OF WALNUT AVENUE. 178 FEET WEST SOUTHWEST OF FENCE CORNER. 35 FEET SOUTH OF FENCE ABOUT 3 FEET GROUND AND 8 FEET HIGHER THAN WALNUT AVENUE.

UNDERGROUND STRUCTURES

AT THE TIME OF THE PREPARATION OF THESE PLANS EXISTING UTILITY RECORDS WERE STILL BEING INVESTIGATED. THE CONTRACTOR SHALL CHECK WITH THE CITY ENGINEER FOR ANY ADDITIONAL UTILITY RECORD DRAWINGS THEY MAY HAVE. THE CONTRACTOR BY ACCEPTING THESE PLANS OR PROCEEDING WITH IMPROVEMENTS PURSUANT THERE TO ASSUME LIABILITY AND TO HOLD UNDERSIGNED HARMLESS FOR ANY DAMAGE RESULTING FROM THE EXISTENCE OF UNDERGROUND UTILITIES OR STRUCTURES NOT REPORTED TO THE UNDERSIGNED OR NOT INDICATED ON THE PUBLIC RECORDS EXAMINED, LOCATED AT VARIANCE WITH THAT REPORTED OR SHOWN ON RECORDS EXAMINED. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES OR STRUCTURES SHOWN AND ANY OTHER UTILITIES OR STRUCTURES FOUND AT THE SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS OF THE UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK.

PRIVATE ENGINEERING NOTE:

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT TO BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.

ABBREVIATIONS

AB — AGGREGATE BASE	G — GAS
AC — ASPHALT CONCRETE	GAS — GAS VALVE
BEG — BEGIN	GB — GRADE BREAK
BK — BACK	INV — INVERT
BO — BLOW OFF	MH — MANHOLE
CF — CURB FACE	PP — POWER POLE
CL — CENTER LINE	R&R — REMOVE AND REPLACE
CMP — CORRUGATED METAL PIPE	ROW — RIGHT OF WAY
CONC. — CONCRETE	S — SLOPE
E — ELECTRIC	SP — SIGN POST
EL — ELEVATION	SS — SANITARY SEWER
EOC — EDGE OF CHANNEL	STA — STATION
EP — EDGE OF PAVEMENT	T — TELEPHONE
EXIST. — EXISTING	TW — TOP OF WALL
FH — FIRE HYDRANT	TYP — TYPICAL
FL — FLOW LINE	TS — TOP OF SLOPE
	UE — UNDERGROUND ELECTRIC
	WL — WATER LINE

AS-BUILT

DIG ALERT
DIAL TOLL FREE
1-800-227-2600
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

DATE	BY	MARK	REVISIONS	APPR.	DATE
08/31/09	E.B	1	AS-BUILT	E.B	08/31/09

ENGINEER — CITY

DESIGNED BY: J.B. DRAWN BY: JE/R.G.L. CHECKED BY:

SEAL — REGISTERED PROFESSIONAL ENGINEER — HAMID MOTLAGH — No. 35163 Exp. 9-30-09 — CIVIL — STATE OF CALIFORNIA

APPROVED BY: _____ CITY ENGINEER DATE 01/29/09
R.C.E. NO. 35163 EXP. DATE 9-30-09

PREPARED BY: _____ CIVIL ENGINEER DATE _____
R.C.E. NO. _____ EXP. DATE _____

TRI LAKE CONSULTANTS, INC. CITY ENGINEER
170 WILKERSON AVENUE SUITE D
PERRIS CA 92570
(951) 943-6504

SCALE AS SHOWN
DATE MAY 2008

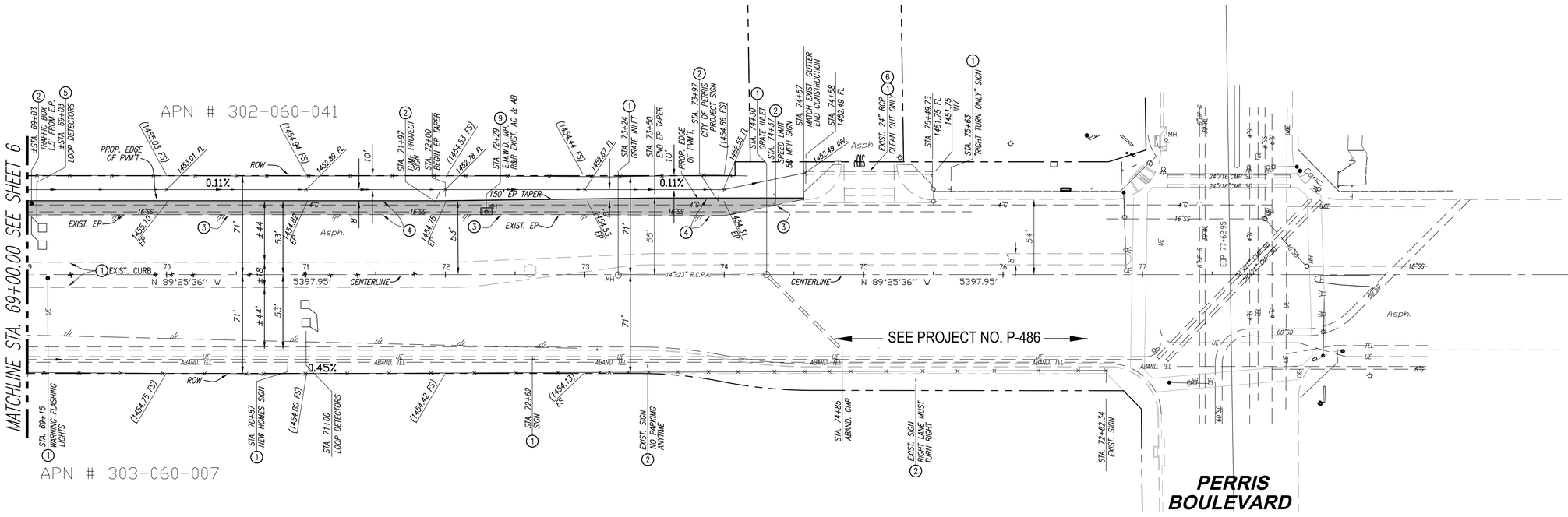
BENCHMARK
SEE ABOVE

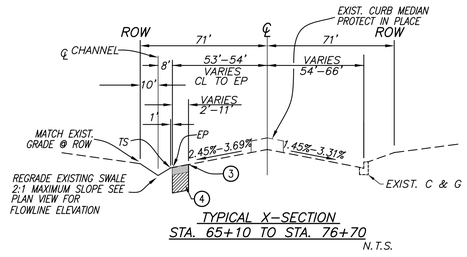
CITY OF PERRIS, CALIFORNIA
TITLE SHEET
RAMONA EXPRESSWAY STREET WIDENING AND SIGNING AND STRIPING PLANS

FOR CITY OF PERRIS W.O. P8-924

SHEET NO. 1 OF 10 SHEETS

FILE NO. finalSTREET RAMONA_215_PERRIS





TYPICAL X-SECTION
STA. 65+10 TO STA. 76+70
N.T.S.

LEGEND:

- 5.5" A.C. OVER 18" CLASS II AB
- REMOVE & REPLACE EXISTING AC AS SHOWN ON PLAN
- GRIND & OVERLAY MIN. 0.12'

CONSTRUCTION NOTES

1. PROTECT IN PLACE.
2. REMOVE & RELOCATE ±4' TO ±5' FROM EDGE OF NEW PAVEMENT. UNLESS OTHERWISE SPECIFIED.
3. SAW CUT 1' FROM EDGE OF EXIST. PVM'T. TO PROVIDE FOR A SMOOTH JOINT. SEE PAVEMENT JOINT DETAIL SHEET 2.
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15. CONSTRUCT 4" AC OVER 95% COMPACTED NATIVE.

AS-BUILT

SCALE 1"=40'
40 0 40 80 120

DIG ALERT
DIAL TOLL FREE
1-800-227-2600
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

DATE	BY	MARK	REVISIONS	APPR.	DATE
08/31/09	E.B	1	AS-BUILT	E.B	08/31/09

ENGINEER CITY
DESIGNED BY: J.B. DRAWN BY: JE/R.G.L. CHECKED BY:

SEAL
REGISTERED PROFESSIONAL ENGINEER HABIB MOTLAGH No. 35163 Exp. 9-30-09 CIVIL STATE OF CALIFORNIA

APPROVED BY: DATE 01/29/09
CITY ENGINEER
R.C.E. NO. 35163 EXP. DATE 9-30-09
PREPARED BY: DATE
CIVIL ENGINEER
R.C.E. NO. EXP. DATE

SCALE HORZ: 1"=40'
DATE MAY 2008

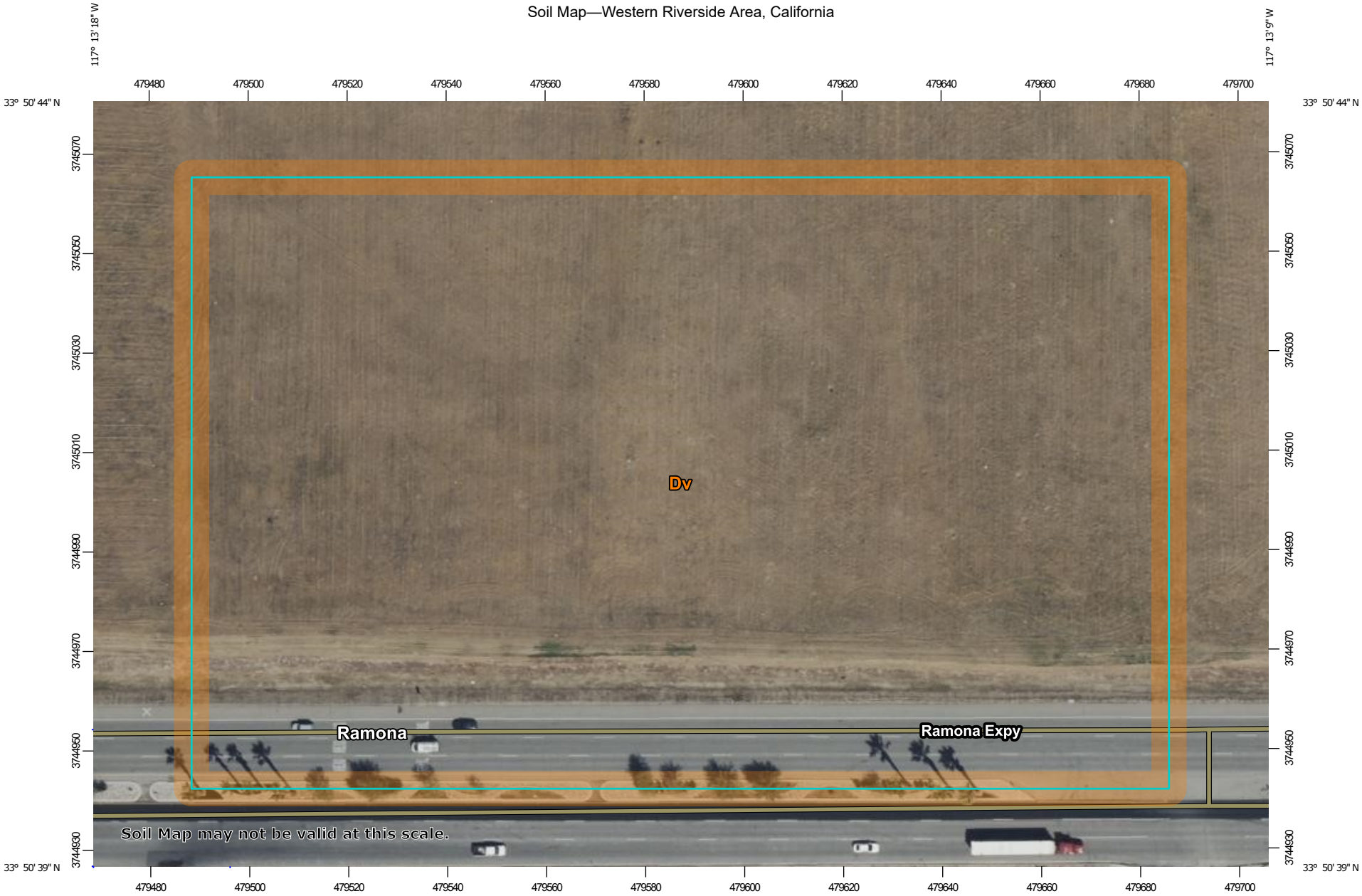
TRI LAKE CONSULTANTS, INC.
CITY ENGINEER
170 WILKERSON AVENUE SUITE D
PERRIS CA 92570
(951) 943-6504

BENCHMARK
SEE SHEET 1

CITY OF PERRIS
RAMONA EXPRESSWAY STREET IMPROVEMENTS I-215 TO PERRIS BLVD.
FOR CITY OF PERRIS W.O. P8-924

SHEET NO. 7 OF 10 SHEETS
FILE NO. finalSTREET RAMONA_215_PERRIS

Appendix E



Map Scale: 1:1,090 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Western Riverside Area, California
Survey Area Data: Version 14, Sep 13, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 14, 2022—Mar 17, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Dv	Domino silt loam, saline-alkali	6.0	100.0%
Totals for Area of Interest		**6.0**	**100.0%**

Western Riverside Area, California

Dv—Domino silt loam, saline-alkali

Map Unit Setting

National map unit symbol: hct8
Elevation: 1,000 to 1,800 feet
Mean annual precipitation: 12 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 230 to 280 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Domino and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Domino

Setting

Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 14 inches: silt loam
H2 - 14 to 27 inches: silt loam
H3 - 27 to 36 inches: cemented
H4 - 36 to 63 inches: loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 20 to 40 inches to duripan
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Moderately saline to strongly saline (8.0 to 16.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: D

Ecological site: R019XD068CA - SILTY BASIN
Hydric soil rating: No

Minor Components

Chino
Percent of map unit: 10 percent
Hydric soil rating: No

Willows
Percent of map unit: 4 percent
Hydric soil rating: No

Unnamed
Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

Data Source Information

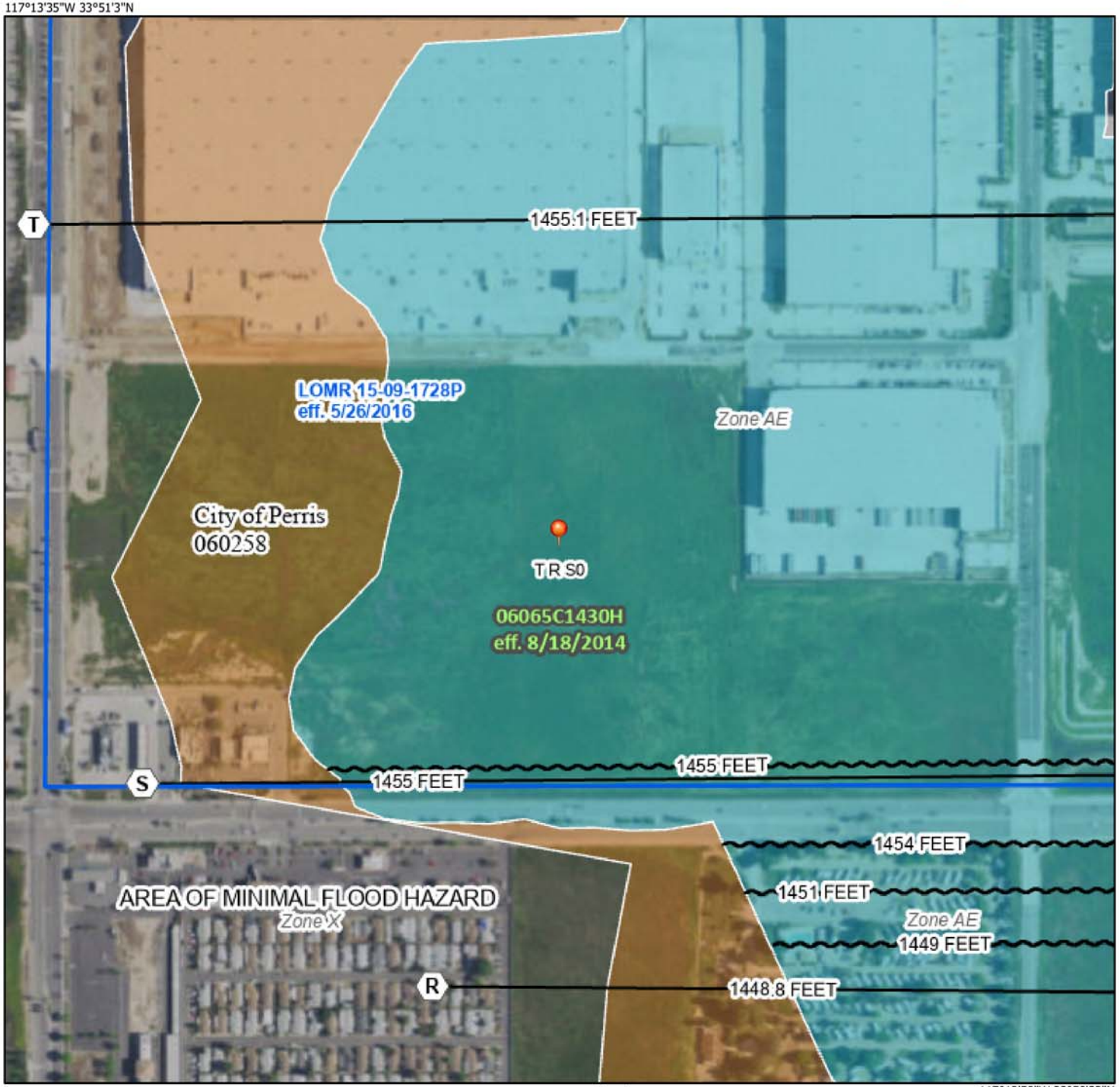
Soil Survey Area: Western Riverside Area, California
Survey Area Data: Version 14, Sep 13, 2021

Appendix F

National Flood Hazard Layer FIRMette

FEMA

117°13'35"W 33°51'3"N



117°12'58"W 33°50'33"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/6/2022 at 12:33 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Appendix G

Low-Impact Development. In recent years, Riverside County has focused on Low-Impact Development (LID), which includes techniques to filter, store and retain runoff on-site. LID BMPs retain runoff to optimize infiltration/recharge, and many promote the use of vegetation to provide for the uptake of pollutants. Although LID BMPs can provide environmental, economic and community benefits, they can retain
attract hazardous wildlife
aircraft operations and must be considered with caution within the AIA.

Aviation-Specific Stor
edges that project-related
factors, such as soil types
structability, etc. United S
and FAA have identified
be considered during BMP design and incorporated to make most BMPs less attractive to wildlife (Table 2).

ADAPTIVE MEASURES

When open water detention ponds must be used within the AIA, the ponds may be equipped with bird balls, floating covers, nets, or overhead wires to cover open water and discourage use by hazardous wildlife. For example, concrete basins are unlikely to attract wildlife, and pond liners can prevent the development of hydrophytic vegetation. These technologies must be used with caution and only in areas

Infiltration trenches detain water for brief periods. This trench at Seattle-Tacoma Airport includes vegetation appropriate for an airport environment.

Bioretention facilities can provide food and shelter for potentially hazardous wildlife, but may be suitable with modification.

Table 1. Structural Best Management Practices (BMPs) and Compatibility in an Airport Influence Area (AIA)

BMP	Compatibility within the AIA
Infiltration trenches Recommended	■ Suitable because water accumulates below ground surface. ■ Vegetation must be selected and reviewed by a FAA-qualified Airport Wildlife Hazard Biologist (qualified biologist) to discourage wildlife.
Permeable Pavement Recommended	Does not include water storage. Appropriate for parking lots and other paved surfaces that are not high-traffic areas.
Harvest and Use (RWH) Recommended	Suitable as long as water is stored in enclosed areas.
Sand Filter Basins Recommended	Desirable because standing water is treated through an underdrain system.
Vegetated Filter Strips and Vegetated Swales Recommended	Desirable because neither BMP involves ponded water. However, vegetation must be selected to discourage hazardous wildlife and reviewed by a qualified biologist.
Water Quality Inlets Recommended	Desirable because they do not provide ponded water. Associated vegetation must be selected to discourage hazardous wildlife and reviewed by a qualified biologist.
Infiltration Basins Not recommended without Modification. Suitable only if design addresses wildlife hazards	■ Unsuitable in ALUCP Compatibility Zone A. ■ Suitable in Zones B and C with appropriate modifications, such as: Drawdown within 48 hours or manufactured cover to prevent view and availability of open water; and absence of landscape or landscaping approved by a qualified biologist. ■ Steep slopes (steeper than 3:1).
Bioretention Facilities Not Recommended without Modification (also known as rain gardens bioretention basins, infiltration basins, landscaped filter basins)	Although bioretention can mask open water, BMP is not recommended for airports based on its potential to provide food, water, and shelter for hazardous wildlife. ■ Unsuitable in Compatibility Zone A. ■ Potentially suitable in Zones B and C only when small in size (e.g., parking islands, site entrances, planter boxes, etc.) and when vegetation is selected to discourage hazardous wildlife and reviewed by a qualified biologist. ■ Potentially suitable in Zones D and E when basin is less than 30 feet in length/width; and vegetation is selected to discourage hazardous wildlife and reviewed by a qualified biologist.
Extended Detention Basin Not Recommended	■ Unsuitable in Zones A through C. ■ Should be avoided in Zones D and E. If necessary, modify detention period to provide no visible water within 48 hours, provide steep slopes (1:1), provide hardscape for walls and sides; and do not provide vegetation within or adjacent to the pond.

N/A - site infiltration too low

N/A - site infiltration too low

N/A - no demand

N/A - site infiltration too low

N/A - site infiltration too low

Small bioretention facilities that provide sparse vegetation may be suitable in an aviation environment.

Extended detention basins are frequently used to serve both water quality management and to provide amenities. These basins hold water and would not be appropriate within an AIA because of the open water.

Sand filter at the base of the bioswale promotes infiltration.

Porous pavements allow water to infiltrate to a soil layer below the surface.

Adaptive measures such as liners, a concrete basin, and overhead wire grid can make extended detention strategies less attractive to hazardous wildlife.

Infiltration basins with rock bottoms are less attractive to birds because they mask water and do not provide vegetation.

Vegetated bioswales improve water quality and prevent water accumulation. However, dense and tall vegetation may be attractive to hazardous wildlife.

STORMWATER BEST MANAGEMENT PRACTICES

Riverside County and its incorporated cities require water quality/stormwater management controls for development and redevelopment projects. The Riverside Conservation District has prepared a separate Water Quality Management Plan for each watershed in the County that identifies treatment control Best Management Practices (BMPs) for improving water quality and managing stormwater volumes/flows following the design storm (i.e., 24-hour storm). Structural BMPs identified in Riverside County guidance and their compatibility within the AIA are summarized in Table 1.

ADDITIONAL RESOURCES/MORE INFORMATION:

- Riverside County Flood Control and Water Conservation District, Water Quality Management Webpage. Available at: http://rcflood.org/npdes.
- FAA Advisory Circular 150/5200-33, "Wildlife Hazard Attractants On and Near Airports": https://www.faa.gov/documentLibrary/media/advisory_circular/150-5200-33B/150_5200_33b.pdf.
- Airport Cooperative Research Program, Balancing Airport Stormwater and Bird Hazard Management: https://www.nap.edu/login.php?action=guest&record_id=22216.

Mead & Hunt

Table 2. Recommended Measures to Reduce Wildlife Attraction Associated with Stormwater BMPs

BMP Characteristic	Recommended Design Measure
Exposed Surface Water • Especially attractive to waterfowl, shorebirds, and flocking birds. • Provides source for drinking and nest building. • More attractive when constructed near other open water features or ponds.	• Reduce availability by providing 48-hour drawdown following a design storm (i.e., 24-hour storm). • Cover using bird balls. • Consider earth-bottom culverts, French drains, trench covers, and underground storage options. • Avoid within 8 km (5 miles) of other open water features or facilities.
Vegetation and Landscaping • Provides food. • Tall vegetation provides shelter and nesting opportunities. • Diverse vegetation attracts more diverse wildlife.	• Eliminate vegetation (concrete banks, steep slopes, etc.). • If necessary, provide a monoculture or decreased diversity. • Never use species that provide a food source (seeds, berries, nuts, and drupes). • Provide regular maintenance to prevent seeding and shelter.
Aspect/Geometry • Slopes can provide opportunities for nesting and loafing.	Avoid or reduce available shoreline: • Implement narrow, linear trenches rather than open water or regular circles as pond shapes. • Create steep slopes (<3:1). • Avoid irregular shapes for basins. • Avoid vegetation.

WHAT YOU CAN DO:

Airport operators, developers and communities must work together to manage stormwater in the airport vicinity to reduce hazards to air travelers and the public while addressing site-specific challenges.

- Identify whether your project is near an airport and in an AIA or critical area. (http://www.rcaluc.org/Plans/New-Compatibility-Plan).
- Work with the airport operator, ALUC, and city/county staff to identify an acceptable water quality management strategy.
- Contact the applicable airport to review your stormwater plans or request plan review by a FAA-qualified wildlife biologist. The form is available at: http://www.rcaluc.org/Portals/0/PDFGeneral/form/Wildlife%20Attractants%20-%20FAA%20Review.pdf.

AIRPORTS, WILDLIFE AND STORMWATER MANAGEMENT

GUIDANCE FOR PROPOSED PROJECTS IN AN AIRPORT INFLUENCE AREA

Riverside County includes diverse topography and is home to three watersheds and a portion of the Salton Sea, an important stop along the Pacific Flyway for migrating bird species. The County's arid climate makes water quality management and water conservation paramount.

The County is also the home to Palm Springs International Airport, 12 public use general aviation airports, and the March Air Reserve Base, whose operations can be challenged by the presence of hazardous wildlife such as raptors, water-fowl, doves/pigeons, gulls, flocking birds, and mammals (coyote and deer). Since 1990, more than 150 wildlife strikes with aircraft have occurred in Riverside County, some of which have led to substantial aircraft damage. Most strikes occur at low altitude (less than 3,500 feet above runway height). Much of the geographic area associated with these altitudes coincides with an Airport Influence Area (AIA) as defined in the Riverside County Airport Land Use Compatibility Plan (ALUCP).

AIRPORTS, WILDLIFE AND STORMWATER MANAGEMENT

The Federal Aviation Administration (FAA) identifies stormwater management facilities on and near airports as one of the greatest attractants to hazardous wildlife. Many species are attracted to open water features and associated vegetation that offers water, food, and shelter. The FAA warns against the construction of new open water bodies or mitigation sites within 10,000 feet of aircraft movement areas and within 5 miles of approach/departure surfaces (FAA Advisory Circular 150/5200-33B).

Remains of an owl ingested by an aircraft engine.

Riverside County
Airport Land Use Commission