

PROJECT SUMMARY

CALCULATION DETAILS

- LOADING = HS20/HS25
- APPROX. LINEAR FOOTAGE = 189 LF

STORAGE SUMMARY

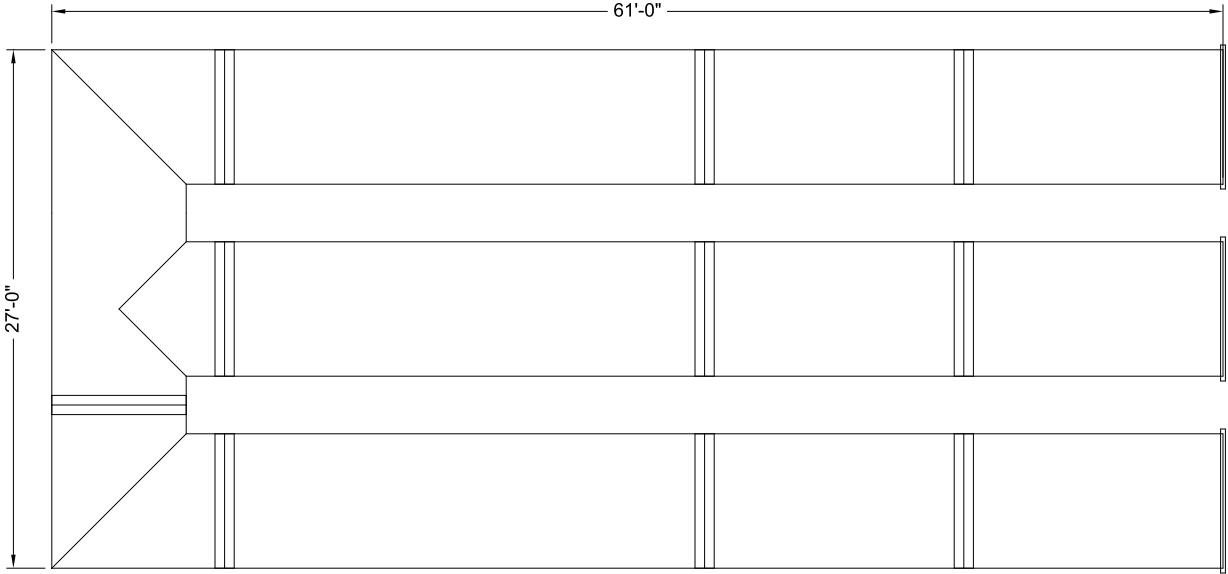
- STORAGE VOLUME REQUIRED = 10,795 CF
- PIPE STORAGE VOLUME = 7,274 CF
- BACKFILL STORAGE VOLUME = 3,668 CF
- TOTAL STORAGE PROVIDED = 10,941 CF
- STONE VOID = 40%

PIPE DETAILS

- DIAMETER = 84"
- CORRUGATION = 5x1
- GAGE = 16
- COATING = ALT2
- WALL TYPE = PERFORATED
- BARREL SPACING = 36"

BACKFILL DETAILS

- WIDTH AT ENDS = 12"
- ABOVE PIPE = 12"
- WIDTH AT SIDES = 12"
- BELOW PIPE = 12"



NOTES

- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE. ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD PRIOR TO RELEASING FOR FABRICATION.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A998.
- ALL RISERS AND STUBS ARE 22⁄3" x 1⁄2" CORRUGATION AND 16 GAGE UNLESS OTHERWISE NOTED.
- RISERS TO BE FIELD TRIMMED TO GRADE.
- QUANTITY OF PIPE SHOWN DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING PIPE OR DRAINAGE STRUCTURES. OUR SYSTEM AS DETAILED PROVIDES NOMINAL INLET AND/OR OUTLET PIPE STUB FOR CONNECTION TO EXISTING DRAINAGE FACILITIES. IF ADDITIONAL PIPE IS NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- BAND TYPE TO BE DETERMINED UPON FINAL DESIGN.
- THE PROJECT SUMMARY IS REFLECTIVE OF THE DYODS DESIGN, QUANTITIES ARE APPROX. AND SHOULD BE VERIFIED UPON FINAL DESIGN AND APPROVAL. FOR EXAMPLE, TOTAL EXCAVATION DOES NOT CONSIDER ALL VARIABLES SUCH AS SHORING AND ONLY ACCOUNTS FOR MATERIAL WITHIN THE ESTIMATED EXCAVATION FOOTPRINT.
- THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.

ASSEMBLY
SCALE: 1" = 10'

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DATE	REVISION DESCRIPTION	BY



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CMP DETENTION SYSTEMS

CONTECH
DYODS
DRAWING

DY055739 Riverside Community Hospital Parking Garage
BMP 1
Riverside, CA
DETENTION SYSTEM

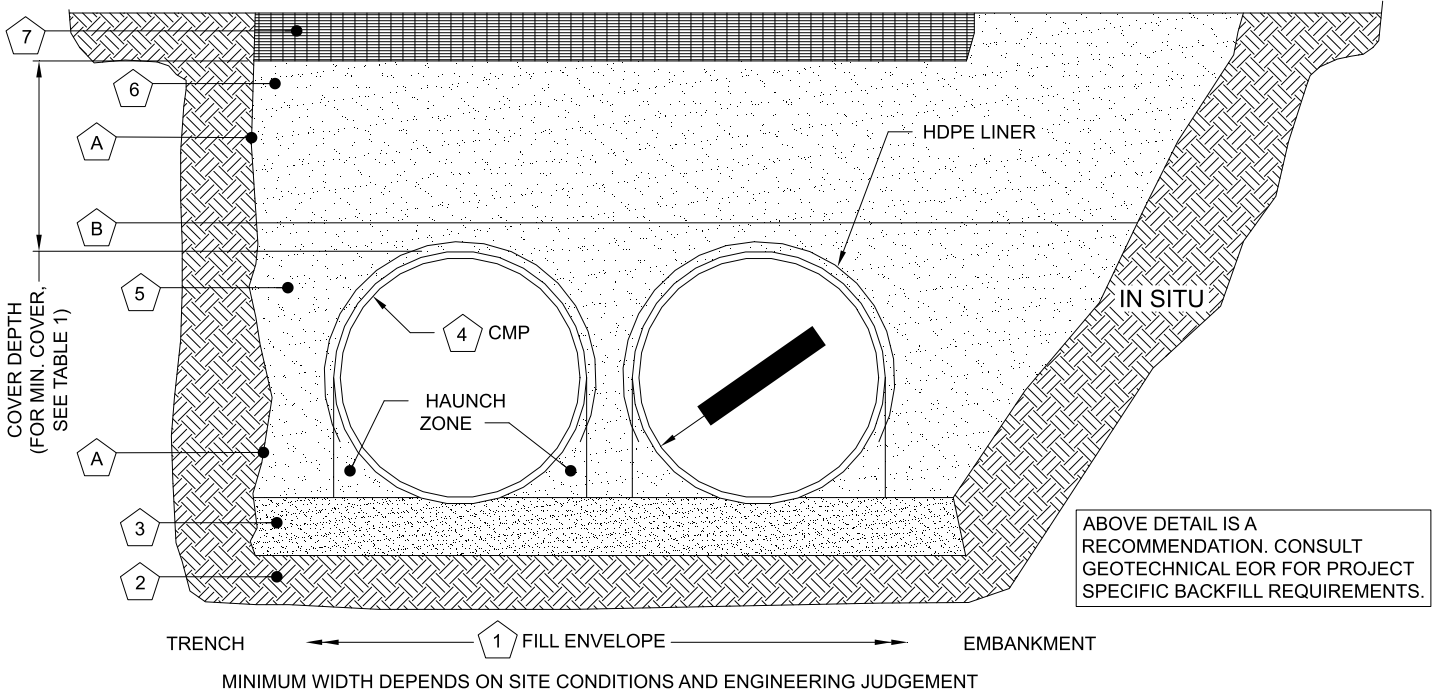
PROJECT No.: 39082	SEQ. No.: 55739	DATE: 10/7/2024
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.:		1

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TABLE 1:

DIAMETER, D	MIN. COVER	CORR. PROFILE
6"-10"	12"	1 1/2" x 1/4"
12"-48"	12"	2 2/3" x 1/2"
>48"-96"	12"	3" x 1", 5" x 1"
>96"	D/8	3" x 1", 5" x 1"

- STRUCTURAL BACKFILL MUST EXTEND TO LIMITS OF THE TABLE
- TOTAL HEIGHT OF COMPACTED COVER FOR CONVENTIONAL HIGHWAY LOADS IS MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TOP OF RIGID PAVEMENT.



INSTALLATION NOTES

- WHEN PLACING THE FIRST LIFTS OF BACKFILL IT IS IMPORTANT TO MAKE SURE THAT THE BACKFILL IS PROPERLY COMPACTED UNDER AND AROUND THE PIPE HAUNCHES.
- OTHER ALTERNATE BACKFILL MATERIAL MAY BE ALLOWED DEPENDING ON SITE SPECIFIC CONDITIONS, AS APPROVED BY SITE ENGINEER.
- AN HDPE MEMBRANE LINER WILL BE PLACED ON THE CROWN OF EACH PIPE TO PROVIDE AN IMPERMEABLE BARRIER AGAINST ENVIRONMENTAL CHANGES THAT MAY ADVERSELY AFFECT THE SYSTEM OVER TIME. PLEASE REFER TO THE CORRUGATED METAL PIPE DETENTION DESIGN GUIDE FOR ADDITIONAL TECHNICAL DETAILS.

TABLE 2: PERFORATED STANDARD

CMP RETENTION STANDARD BACKFILL SPECIFICATIONS			
MATERIAL LOCATION		MATERIAL SPECIFICATION	DESCRIPTION
1	FILL ENVELOPE WIDTH	PER ENGINEER OF RECORD	MINIMUM TRENCH WIDTH MUST ALLOW ROOM FOR PROPER COMPACTION OF HAUNCH MATERIALS UNDER THE PIPE. THE SUGGESTED MINIMUM TRENCH WIDTH, OR EOR RECOMMENDATION: PIPE ≤ 12": D + 16" PIPE > 12": 1.5D + 12"
2	FOUNDATION	AASHTO 26.5.2 - PER ENGINEER OF RECORD	PRIOR TO PLACING THE BEDDING, THE FOUNDATION MUST BE CONSTRUCTED TO A UNIFORM AND STABLE GRADE. IN THE EVENT THAT UNSUITABLE FOUNDATION MATERIALS ARE ENCOUNTERED DURING EXCAVATION, THEY SHALL BE REMOVED AND FOUNDATION BROUGHT BACK TO GRADE WITH A FILL MATERIAL APPROVED BY THE ENGINEER OF RECORD.
3	BEDDING	AASHTO M 43: 3, 357, 4, 467, 5, 56, 57	ENGINEER OF RECORD TO DETERMINE IF BEDDING IS REQUIRED. PIPE MAY BE PLACED ON THE TRENCH BOTTOM OF A RELATIVELY LOOSE, NATIVE SUITABLE WELL GRADED GRANULAR MATERIAL THAT IS ROUGHLY SHAPED TO FIT THE BOTTOM OF THE PIPE, 2" MIN DEPTH. THE BEDDING MATERIAL MAY BE SUITABLE OPEN GRADED GRANULAR BEDDING CONFORMING TO AASHTO SOIL CLASSIFICATIONS A1, A2, OR A3 WITH MAXIMUM PARTICLE SIZE OF 3" PER AASHTO 26.3.8.1
4	CORRUGATED METAL PIPE		
5	BACKFILL	FREE-DRAINING, ANGULAR, NATURALLY OCCURRING WASHED-STONE PER AASHTO M 43: 3, 357, 4, 467, 5, 56, 57 OR APPROVED EQUAL *	HAUNCH ZONE MATERIAL SHALL BE HAND SHOVELED OR SHOVEL SLICED INTO PLACE TO ALLOW FOR PROPER COMPACTION WITHOUT SOFT SPOTS. BACKFILL SHALL BE PLACED IN 8" +/- LOOSE LIFTS AND COMPACTED TO 90% STANDARD PROCTOR PER AASHTO T 99. BACKFILL SHALL BE PLACED SUCH THAT THERE IS NO MORE THAN A TWO LIFT (16") DIFFERENTIAL BETWEEN ANY OF THE PIPES AT ANY TIME DURING THE BACKFILL PROCESS. THE BACKFILL SHOULD BE ADVANCED ALONG THE LENGTH OF THE SYSTEM TO AVOID DIFFERENTIAL LOADING. WHERE CONVENTIONAL COMPACTION TESTING IS NOT PRACTICAL, THE MATERIAL SHALL BE MECHANICALLY COMPACTED UNTIL NO FURTHER YIELDING OF MATERIAL IS OBSERVED UNDER THE COMPACTOR. AREAS WITH HIGH WATER TABLE FLUCTUATIONS THAT INTERACT WITH THE PIPE ZONE, CONSIDER INSTALLING A GEOTEXTILE SEPARATION LAYER TO PREVENT SOIL MIGRATION.
6	COVER MATERIAL	UP TO MIN. COVER - AASHTO M 145: A-1, A-2, A-3 ABOVE MIN. COVER - PER ENGINEER OF RECORD	COVER MATERIAL MAY INCLUDE NON-BITUMINOUS, GRANULAR ROADBASE MATERIAL WITHIN MIN COVER LIMITS
7	RIGID OR FLEXIBLE PAVEMENT (IF APPLICABLE)	PER ENGINEER OF RECORD	FLEXIBLE PAVEMENT SHOULD NOT BE COUNTED AS PART OF THE FILL HEIGHT OVER THE CMP. FINAL BACKFILL MATERIAL SELECTION AND COMPACTION REQUIREMENTS SHALL FOLLOW THE PROJECT PLANS AND SPECIFICATIONS PER THE ENGINEER OF RECORD.
A	OPTIONAL SIDE GEOTEXTILE	NONE	GEOTEXTILE LAYER IS RECOMMENDED ON SIDES OF EXCAVATION TO PREVENT SOIL MIGRATION.
B	GEOTEXTILE BETWEEN LAYERS	NONE	IF SOIL TYPES DIFFER AT ANY POINT ABOVE PIPE INVERT, A GEOTEXTILE LAYER IS RECOMMENDED TO BE PLACED BETWEEN THE LAYERS TO PREVENT SOIL MIGRATION.

NOTES:

- FOR MULTIPLE BARREL INSTALLATIONS, THE RECOMMENDED STANDARD SPACING BETWEEN PARALLEL PIPE RUNS SHALL BE THE PIPE DIAMETER /2 BUT NO LESS THAN 12" FOR DIAMETERS <72". FOR 72" AND LARGER DIAMETERS, THE MINIMUM SPACING IS 36". CONTACT YOUR CONTECH REPRESENTATIVE FOR NONSTANDARD SPACING.
- * APPROVED REGIONAL EQUIVALENTS FOR SECTION 5 INCLUDE CA-7, MIDOT 6AA, 6A, OR 5G, PROVIDED THEY MEET THE PARTICLE SIZES INDICATED.

MANUFACTURER RECOMMENDED BACKFILL

NOT TO SCALE

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CONTECH

CMP DETENTION SYSTEMS

CONTECH
DYODS
DRAWING

DYO55739 Riverside Community Hospital Parking Garage

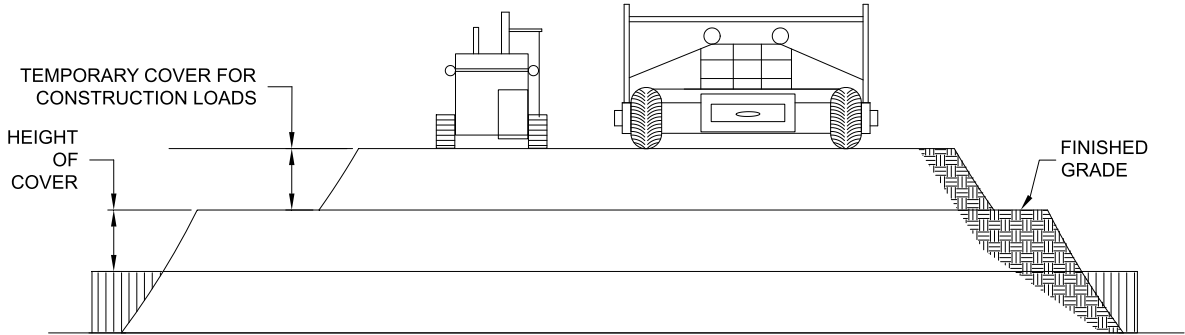
BMP 1

Riverside, CA

DETENTION SYSTEM

PROJECT No.: 39082	SEQ. No.: 55739	DATE: 10/7/2024
DESIGNED: DYO	DRAWN: DYO	
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CONSTRUCTION LOADS

FOR TEMPORARY CONSTRUCTION VEHICLE LOADS, AN EXTRA AMOUNT OF COMPACTED COVER MAY BE REQUIRED OVER THE TOP OF THE PIPE. THE HEIGHT-OF-COVER SHALL MEET THE MINIMUM REQUIREMENTS SHOWN IN THE TABLE BELOW. THE USE OF HEAVY CONSTRUCTION EQUIPMENT NECESSITATES GREATER PROTECTION FOR THE PIPE THAN FINISHED GRADE COVER MINIMUMS FOR NORMAL HIGHWAY TRAFFIC.

PIPE SPAN, INCHES	AXLE LOADS (kips)			
	18-50	50-75	75-110	110-150
MINIMUM COVER (FT)				
12-42	2.0	2.5	3.0	3.0
48-72	3.0	3.0	3.5	4.0
78-120	3.0	3.5	4.0	4.0
126-144	3.5	4.0	4.5	4.5

*MINIMUM COVER MAY VARY, DEPENDING ON LOCAL CONDITIONS. THE CONTRACTOR MUST PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE.

CONSTRUCTION LOADING DIAGRAM

SCALE: N.T.S.

SPECIFICATION FOR DESIGNED DETENTION SYSTEM:

SCOPE

THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE DESIGNED DETENTION SYSTEM DETAILED IN THE PROJECT PLANS.

MATERIAL

THE MATERIAL SHALL CONFORM TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2 STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-274 OR ASTM A-92.

THE GALVANIZED STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-218 OR ASTM A-929.

THE POLYMER COATED STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-246 OR ASTM A-742.

THE ALUMINUM COILS SHALL CONFORM TO THE APPLICABLE OF AASHTO M-197 OR ASTM B-744.

CONSTRUCTION LOADS

CONSTRUCTION LOADS MAY BE HIGHER THAN FINAL LOADS. FOLLOW THE MANUFACTURER'S OR NCSPA GUIDELINES.

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PIPE

THE PIPE SHALL BE MANUFACTURED IN ACCORDANCE TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2: AASHTO M-36 OR ASTM A-760

GALVANIZED: AASHTO M-36 OR ASTM A-760

POLYMER COATED: AASHTO M-245 OR ASTM A-762

ALUMINUM: AASHTO M-196 OR ASTM B-745

APPLICABLE

HANDLING AND ASSEMBLY

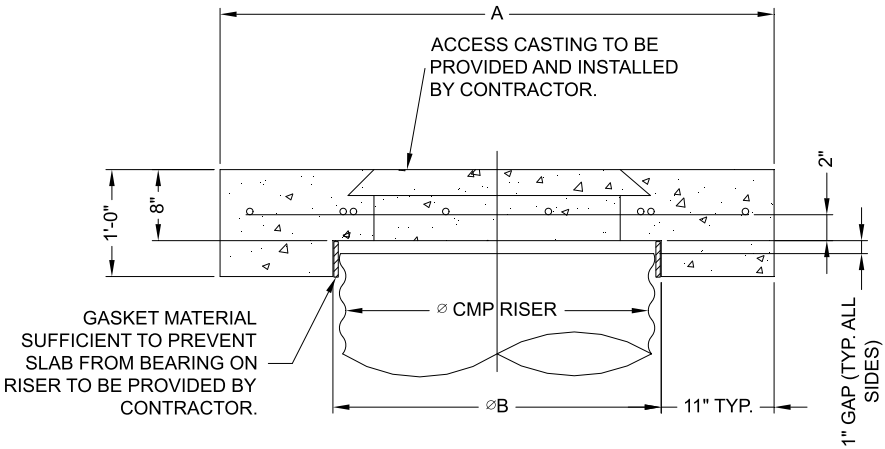
SHALL BE IN ACCORDANCE WITH NCSP'S (NATIONAL CORRUGATED STEEL PIPE ASSOCIATION) FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL. SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR ALUMINUM PIPE.

REQUIREMENTS

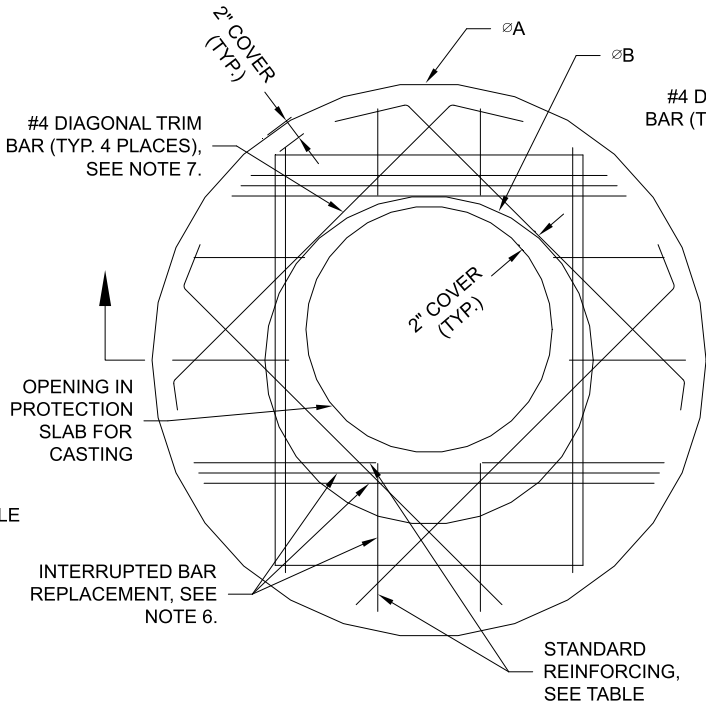
INSTALLATION

SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 26, DIVISION II DIVISION II OR ASTM A-798 (FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL) OR ASTM B-788 (FOR ALUMINUM PIPE) AND IN CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. IF THERE ARE ANY INCONSISTENCIES OR CONFLICTS THE CONTRACTOR SHOULD DISCUSS AND RESOLVE WITH THE SITE ENGINEER.

IT IS ALWAYS THE RESPONSIBILITY OF THE CONTRACTOR TO FOLLOW OSHA GUIDELINES FOR SAFE PRACTICES.



SECTION VIEW



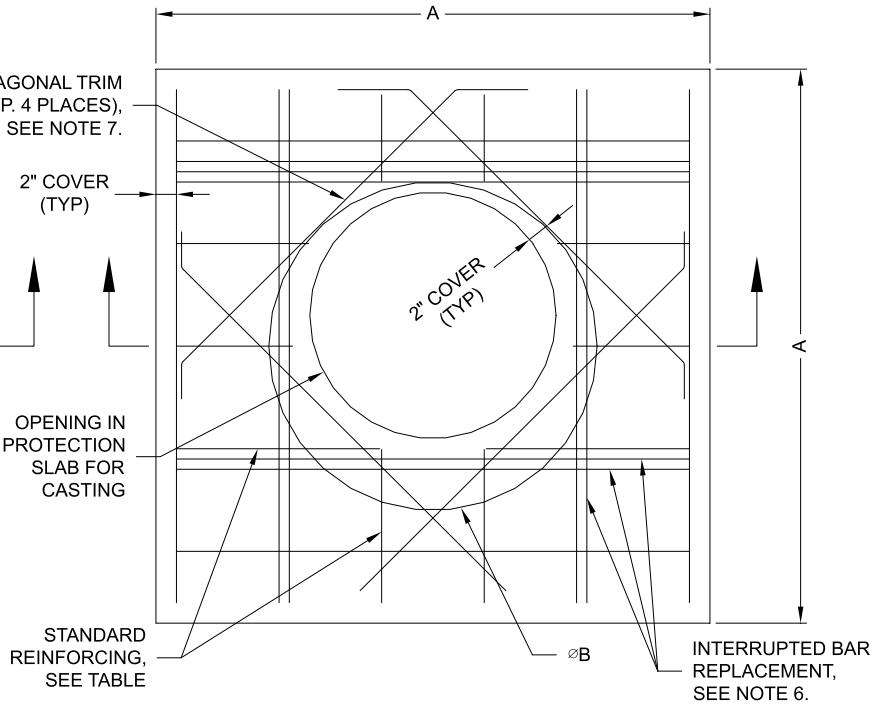
ROUND OPTION PLAN VIEW

NOTES:

- DESIGN IN ACCORDANCE WITH AASHTO, 17th EDITION.
- DESIGN LOAD HS25.
- EARTH COVER = 1' MAX.
- CONCRETE STRENGTH = 3,500 psi
- REINFORCING STEEL = ASTM A615, GRADE 60.
- PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS EQUAL TO THE BARS INTERRUPTED, HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.

REINFORCING TABLE				
Ø CMP RISER	A	Ø B	REINFORCING	**BEARING PRESSURE (PSF)
24"	Ø 4' 4'X4'	26"	#5 @ 12" OCEW #5 @ 12" OCEW	2,410 1,780
30"	Ø 4'-6" 4'-6" X 4'-6"	32"	#5 @ 12" OCEW #5 @ 12" OCEW	2,120 1,530
36"	Ø 5' X 5'	38"	#5 @ 10" OCEW #5 @ 10" OCEW	1,890 1,350
42"	Ø 5'-6" 5'-6" X 5'-6"	44"	#5 @ 10" OCEW #5 @ 9" OCEW	1,720 1,210
48"	Ø 6' X 6'	50"	#5 @ 9" OCEW #5 @ 8" OCEW	1,600 1,100

** ASSUMED SOIL BEARING CAPACITY



SQUARE OPTION PLAN VIEW

- TRIM OPENING WITH DIAGONAL #4 BARS, EXTEND BARS A MINIMUM OF 12" BEYOND OPENING, BEND BARS AS REQUIRED TO MAINTAIN BAR COVER.
- PROTECTION SLAB AND ALL MATERIALS TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
- DETAIL DESIGN BY DELTA ENGINEERING, BINGHAMTON, NY.

MANHOLE CAP DETAIL

SCALE: N.T.S.

DYO55739 Riverside Community Hospital Parking Garage
BMP 1
Riverside, CA
DETENTION SYSTEM

PROJECT No.: 39082	SEQ. No.: 55739	DATE: 10/7/2024
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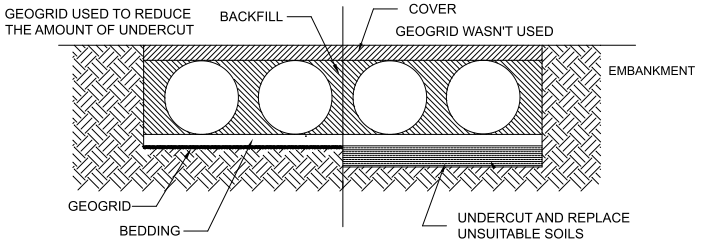
CMP DETENTION INSTALLATION GUIDE

PROPER INSTALLATION OF A FLEXIBLE UNDERGROUND DETENTION SYSTEM WILL ENSURE LONG-TERM PERFORMANCE. THE CONFIGURATION OF THESE SYSTEMS OFTEN REQUIRES SPECIAL CONSTRUCTION PRACTICES THAT DIFFER FROM CONVENTIONAL FLEXIBLE PIPE CONSTRUCTION. CONTECH ENGINEERED SOLUTIONS STRONGLY SUGGESTS SCHEDULING A PRE-CONSTRUCTION MEETING WITH YOUR LOCAL SALES ENGINEER TO DETERMINE IF ADDITIONAL MEASURES, NOT COVERED IN THIS GUIDE, ARE APPROPRIATE FOR YOUR SITE.

FOUNDATION

CONSTRUCT A FOUNDATION THAT CAN SUPPORT THE DESIGN LOADING APPLIED BY THE PIPE AND ADJACENT BACKFILL WEIGHT AS WELL AS MAINTAIN ITS INTEGRITY DURING CONSTRUCTION.

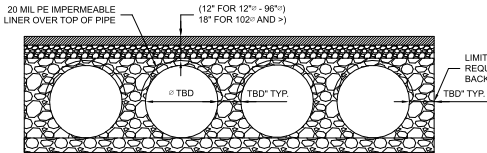
IF SOFT OR UNSUITABLE SOILS ARE ENCOUNTERED, REMOVE THE POOR SOILS DOWN TO A SUITABLE DEPTH AND THEN BUILD UP TO THE APPROPRIATE ELEVATION WITH A COMPETENT BACKFILL MATERIAL. THE STRUCTURAL FILL MATERIAL GRADATION SHOULD NOT ALLOW THE MIGRATION OF FINES, WHICH CAN CAUSE SETTLEMENT OF THE DETENTION SYSTEM OR PAVEMENT ABOVE. IF THE STRUCTURAL FILL MATERIAL IS NOT COMPATIBLE WITH THE UNDERLYING SOILS AN ENGINEERING FABRIC SHOULD BE USED AS A SEPARATOR. IN SOME CASES, USING A STIFF REINFORCING GEOGRID REDUCES OVER EXCAVATION AND REPLACEMENT FILL QUANTITIES.



GRADE THE FOUNDATION SUBGRADE TO A UNIFORM OR SLIGHTLY SLOPING GRADE. IF THE SUBGRADE IS CLAY OR RELATIVELY NON-POROUS AND THE CONSTRUCTION SEQUENCE WILL LAST FOR AN EXTENDED PERIOD OF TIME, IT IS BEST TO SLOPE THE GRADE TO ONE END OF THE SYSTEM. THIS WILL ALLOW EXCESS WATER TO DRAIN QUICKLY, PREVENTING SATURATION OF THE SUBGRADE.

GEOMEMBRANE BARRIER

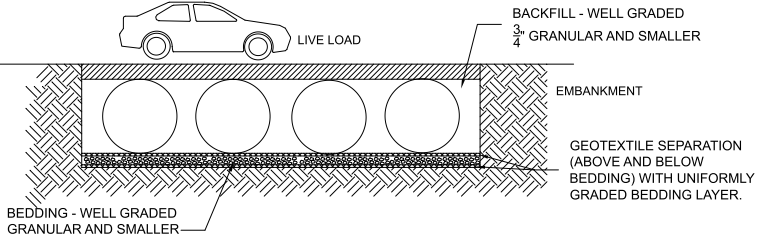
THE RESISTIVITY OF A PROJECT SITE MAY CHANGE OVER TIME DUE TO THE USE OF VARIOUS SALTING, DE-ICING, AND AGRICULTURAL AGENTS APPLIED ON OR NEAR THE AREA. TO MITIGATE THE POTENTIAL IMPACT OF THESE AGENTS, AN HDPE MEMBRANE LINER WILL BE INSTALLED ON THE CROWN OF EACH PIPE, CREATING AN IMPERMEABLE BARRIER. THIS MEASURE IS DESIGNED TO PROTECT THE SYSTEM FROM ENVIRONMENTAL CHANGES THAT COULD LEAD TO PREMATURE CORROSION AND REDUCE THE OVERALL SERVICE LIFE.



IN-SITU TRENCH WALL

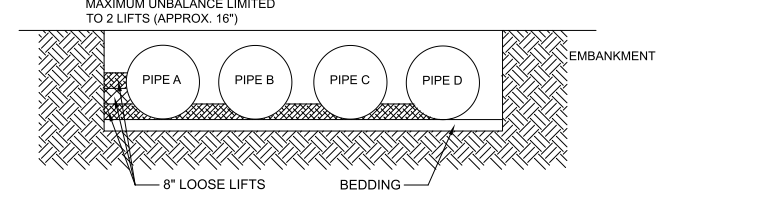
IF EXCAVATION IS REQUIRED, THE TRENCH WALL NEEDS TO BE CAPABLE OF SUPPORTING THE LOAD THAT THE PIPE SHEDS AS THE SYSTEM IS LOADED. IF SOILS ARE NOT CAPABLE OF SUPPORTING THESE LOADS, THE PIPE CAN DEFLECT. PERFORM A SIMPLE SOIL PRESSURE CHECK USING THE APPLIED LOADS TO DETERMINE THE LIMITS OF EXCAVATION BEYOND THE SPRING LINE OF THE OUTER MOST PIPES.

IN MOST CASES THE REQUIREMENTS FOR A SAFE WORK ENVIRONMENT AND PROPER BACKFILL PLACEMENT AND COMPACTION TAKE CARE OF THIS CONCERN.



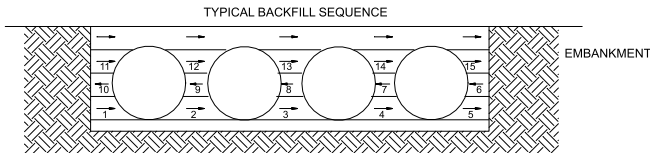
BACKFILL PLACEMENT

MATERIAL SHALL BE WORKED INTO THE PIPE HAUNCHES BY MEANS OF SHOVEL-SLICING, RODDING, AIR TAMPER, VIBRATORY ROD, OR OTHER EFFECTIVE METHODS.

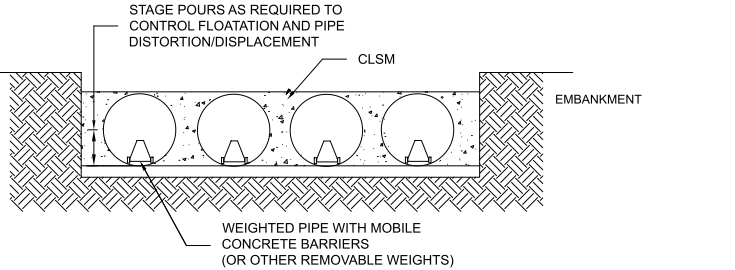


IF AASHTO T99 PROCEDURES ARE DETERMINED INFEASIBLE BY THE GEOTECHNICAL ENGINEER OF RECORD, COMPACTION IS CONSIDERED ADEQUATE WHEN NO FURTHER YIELDING OF THE MATERIAL IS OBSERVED UNDER THE COMPACTOR, OR UNDER FOOT, AND THE GEOTECHNICAL ENGINEER OF RECORD (OR REPRESENTATIVE THEREOF) IS SATISFIED WITH THE LEVEL OF COMPACTION.

FOR LARGE SYSTEMS, CONVEYOR SYSTEMS, BACKHOES WITH LONG REACHES OR DRAGLINES WITH STONE BUCKETS MAY BE USED TO PLACE BACKFILL. ONCE MINIMUM COVER FOR CONSTRUCTION LOADING ACROSS THE ENTIRE WIDTH OF THE SYSTEM IS REACHED, ADVANCE THE EQUIPMENT TO THE END OF THE RECENTLY PLACED FILL, AND BEGIN THE SEQUENCE AGAIN UNTIL THE SYSTEM IS COMPLETELY BACKFILLED. THIS TYPE OF CONSTRUCTION SEQUENCE PROVIDES ROOM FOR STOCKPILED BACKFILL DIRECTLY BEHIND THE BACKHOE, AS WELL AS THE MOVEMENT OF CONSTRUCTION TRAFFIC. MATERIAL STOCKPILES ON TOP OF THE BACKFILLED DETENTION SYSTEM SHOULD BE LIMITED TO 8- TO 10- FEET HIGH AND MUST PROVIDE BALANCED LOADING ACROSS ALL BARRELS. TO DETERMINE THE PROPER COVER OVER THE PIPES TO ALLOW THE MOVEMENT OF CONSTRUCTION EQUIPMENT SEE TABLE 1, OR CONTACT YOUR LOCAL CONTECH SALES ENGINEER.



WHEN FLOWABLE FILL IS USED, YOU MUST PREVENT PIPE FLOATATION. TYPICALLY, SMALL LIFTS ARE PLACED BETWEEN THE PIPES AND THEN ALLOWED TO SET-UP PRIOR TO THE PLACEMENT OF THE NEXT LIFT. THE ALLOWABLE THICKNESS OF THE CLSM LIFT IS A FUNCTION OF A PROPER BALANCE BETWEEN THE UPLIFT FORCE OF THE CLSM, THE OPPOSING WEIGHT OF THE PIPE, AND THE EFFECT OF OTHER RESTRAINING MEASURES. THE PIPE CAN CARRY LIMITED FLUID PRESSURE WITHOUT PIPE DISTORTION OR DISPLACEMENT, WHICH ALSO AFFECTS THE CLSM LIFT THICKNESS. YOUR LOCAL CONTECH SALES ENGINEER CAN HELP DETERMINE THE PROPER LIFT THICKNESS.

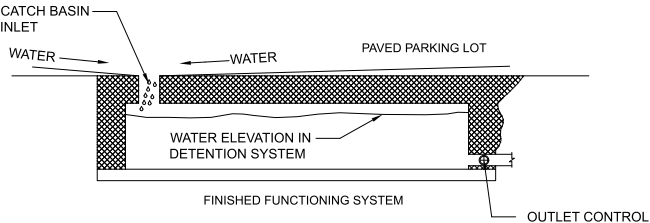


CONSTRUCTION LOADING

TYPICALLY, THE MINIMUM COVER SPECIFIED FOR A PROJECT ASSUMES H-20 LIVE LOAD. BECAUSE CONSTRUCTION LOADS OFTEN EXCEED DESIGN LIVE LOADS, INCREASED TEMPORARY MINIMUM COVER REQUIREMENTS ARE NECESSARY. SINCE CONSTRUCTION EQUIPMENT VARIES FROM JOB TO JOB, IT IS BEST TO ADDRESS EQUIPMENT SPECIFIC MINIMUM COVER REQUIREMENTS WITH YOUR LOCAL CONTECH SALES ENGINEER DURING YOUR PRE-CONSTRUCTION MEETING.

ADDITIONAL CONSIDERATIONS

BECAUSE MOST SYSTEMS ARE CONSTRUCTED BELOW-GRADE, RAINFALL CAN RAPIDLY FILL THE EXCAVATION; POTENTIALLY CAUSING FLOATATION AND MOVEMENT OF THE PREVIOUSLY PLACED PIPES. TO HELP MITIGATE POTENTIAL PROBLEMS, IT IS BEST TO START THE INSTALLATION AT THE DOWNSTREAM END WITH THE OUTLET ALREADY CONSTRUCTED TO ALLOW A ROUTE FOR THE WATER TO ESCAPE. TEMPORARY DIVERSION MEASURES MAY BE REQUIRED FOR HIGH FLOWS DUE TO THE RESTRICTED NATURE OF THE OUTLET PIPE.



CMP DETENTION SYSTEM INSPECTION AND MAINTENANCE

UNDERGROUND STORMWATER DETENTION AND INFILTRATION SYSTEMS MUST BE INSPECTED AND MAINTAINED AT REGULAR INTERVALS FOR PURPOSES OF PERFORMANCE AND LONGEVITY.

INSPECTION

INSPECTION IS THE KEY TO EFFECTIVE MAINTENANCE OF CMP DETENTION SYSTEMS AND IS EASILY PERFORMED. CONTECH RECOMMENDS ONGOING, ANNUAL INSPECTIONS. SITES WITH HIGH TRASH LOAD OR SMALL OUTLET CONTROL ORIFICES MAY NEED MORE FREQUENT INSPECTIONS. THE RATE AT WHICH THE SYSTEM COLLECTS POLLUTANTS WILL DEPEND MORE ON SITE SPECIFIC ACTIVITIES RATHER THAN THE SIZE OR CONFIGURATION OF THE SYSTEM.

INSPECTIONS SHOULD BE PERFORMED MORE OFTEN IN EQUIPMENT WASHDOWN AREAS, IN CLIMATES WHERE SANDING AND/OR SALTING OPERATIONS TAKE PLACE, AND IN OTHER VARIOUS INSTANCES IN WHICH ONE WOULD EXPECT HIGHER ACCUMULATIONS OF SEDIMENT OR ABRASIVE/ CORROSIVE CONDITIONS. A RECORD OF EACH INSPECTION IS TO BE MAINTAINED FOR THE LIFE OF THE SYSTEM

MAINTENANCE

CMP DETENTION SYSTEMS SHOULD BE CLEANED WHEN AN INSPECTION REVEALS ACCUMULATED SEDIMENT OR TRASH IS CLOGGING THE DISCHARGE ORIFICE.

ACCUMULATED SEDIMENT AND TRASH CAN TYPICALLY BE EVACUATED THROUGH THE MANHOLE OVER THE OUTLET ORIFICE. IF MAINTENANCE IS NOT PERFORMED AS RECOMMENDED, SEDIMENT AND TRASH MAY ACCUMULATE IN FRONT OF THE OUTLET ORIFICE. MANHOLE COVERS SHOULD BE SECURELY SEATED FOLLOWING CLEANING ACTIVITIES. CONTECH SUGGESTS THAT ALL SYSTEMS BE DESIGNED WITH AN ACCESS/INSPECTION MANHOLE SITUATED AT OR NEAR THE INLET AND THE OUTLET ORIFICE. SHOULD IT BE NECESSARY TO GET INSIDE THE SYSTEM TO PERFORM MAINTENANCE ACTIVITIES, ALL APPROPRIATE PRECAUTIONS REGARDING CONFINED SPACE ENTRY AND OSHA REGULATIONS SHOULD BE FOLLOWED.

ANNUAL INSPECTIONS ARE BEST PRACTICE FOR ALL UNDERGROUND SYSTEMS. DURING THIS INSPECTION, IF EVIDENCE OF SALTING/DE-ICING AGENTS IS OBSERVED WITHIN THE SYSTEM, IT IS BEST PRACTICE FOR THE SYSTEM TO BE RINSED, INCLUDING ABOVE THE SPRING LINE SOON AFTER THE SPRING THAW AS PART OF THE MAINTENANCE PROGRAM FOR THE SYSTEM.

MAINTAINING AN UNDERGROUND DETENTION OR INFILTRATION SYSTEM IS EASIEST WHEN THERE IS NO FLOW ENTERING THE SYSTEM. FOR THIS REASON, IT IS A GOOD IDEA TO SCHEDULE THE CLEANOUT DURING DRY WEATHER.

THE FOREGOING INSPECTION AND MAINTENANCE EFFORTS HELP ENSURE UNDERGROUND PIPE SYSTEMS USED FOR STORMWATER STORAGE CONTINUE TO FUNCTION AS INTENDED BY IDENTIFYING RECOMMENDED REGULAR INSPECTION AND MAINTENANCE PRACTICES. INSPECTION AND MAINTENANCE RELATED TO THE STRUCTURAL INTEGRITY OF THE PIPE OR THE SOUNDNESS OF PIPE JOINT CONNECTIONS IS BEYOND THE SCOPE OF THIS GUIDE.

C:\EXPORT\TEMPLATES\CMP_V10.DWG 10/18/2019 10:02 AM

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www.ContechES.com

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800-338-1122 513-645-7000 513-645-7993 FAX



CMP DETENTION SYSTEMS

CONTECH
DYODS
DRAWING

DYO55739 Riverside Community Hospital Parking Garage

BMP 1

Riverside, CA

DETENTION SYSTEM

PROJECT No.: 39082	SEQ. No.: 55739	DATE: 10/7/2024
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.:		1

Appendix G - Rational Method Analysis

RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
(RCFC&WCD) 1978 HYDROLOGY MANUAL
(c) Copyright 1982-2016 Advanced Engineering Software (aes)
(Rational Tabling Version 23.0)
Release Date: 07/01/2016 License ID 1499

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* Riverside Community Hospital *
* 10 yr Existing Condition *
* Kimley-Horn *

FILE NAME: RCHG10E.DAT
TIME/DATE OF STUDY: 22:24 07/17/2024

USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:

USER SPECIFIED STORM EVENT(YEAR) = 10.00
SPECIFIED MINIMUM PIPE SIZE(INCH) = 6.00
SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
10-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) = 1.550
10-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) = 0.649
100-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) = 2.510
100-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) = 1.060
SLOPE OF 10-YEAR INTENSITY-DURATION CURVE = 0.4858784
SLOPE OF 100-YEAR INTENSITY-DURATION CURVE = 0.4810990
COMPUTED RAINFALL INTENSITY DATA:

STORM EVENT = 10.00 1-HOUR INTENSITY(INCH/HOUR) = 0.655
SLOPE OF INTENSITY DURATION CURVE = 0.4859

RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD

NOTE: COMPUTE CONFLUENCE VALUES ACCORDING TO RCFC&WCD HYDROLOGY MANUAL
AND IGNORE OTHER CONFLUENCE COMBINATIONS FOR DOWNSTREAM ANALYSES

USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL

NO.	HALF- WIDTH (FT)	CROWN TO CROSSFALL (FT)	STREET-CROSSFALL: IN- / OUT- / PARK- SIDE / SIDE/ WAY	CURB HEIGHT (FT)	GUTTER-GEOMETRIES: WIDTH LIP HIKE (FT) (FT) (FT)	MANNING FACTOR (n)
1	30.0	20.0	0.018/0.018/0.020	0.67	2.00 0.0313 0.167	0.0150

GLOBAL STREET FLOW-DEPTH CONSTRAINTS:

1. Relative Flow-Depth = 0.00 FEET

as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
2. (Depth)*(Velocity) Constraint = 6.0 (FT*FT/S)
*SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

FLOW PROCESS FROM NODE 10.00 TO NODE 11.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<

=====

ASSUMED INITIAL SUBAREA UNIFORM
DEVELOPMENT IS MOBILE HOME PARK
TC = $K * [(LENGTH^{**3}) / (ELEVATION\ CHANGE)]^{**.2}$
INITIAL SUBAREA FLOW-LENGTH(FEET) = 581.00
UPSTREAM ELEVATION(FEET) = 809.20
DOWNSTREAM ELEVATION(FEET) = 792.70
ELEVATION DIFFERENCE(FEET) = 16.50
TC = $0.336 * [(581.00^{**3}) / (16.50)]^{**.2} = 8.734$
10 YEAR RAINFALL INTENSITY(INCH/HOUR) = 1.672
MOBILE HOME PARK DEVELOPMENT RUNOFF COEFFICIENT = .8133
SOIL CLASSIFICATION IS "B"
SUBAREA RUNOFF(CFS) = 3.09
TOTAL AREA(ACRES) = 2.27 TOTAL RUNOFF(CFS) = 3.09

FLOW PROCESS FROM NODE 20.00 TO NODE 21.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<

=====

ASSUMED INITIAL SUBAREA UNIFORM
DEVELOPMENT IS MOBILE HOME PARK
TC = $K * [(LENGTH^{**3}) / (ELEVATION\ CHANGE)]^{**.2}$
INITIAL SUBAREA FLOW-LENGTH(FEET) = 165.00
UPSTREAM ELEVATION(FEET) = 793.40
DOWNSTREAM ELEVATION(FEET) = 793.00
ELEVATION DIFFERENCE(FEET) = 0.40
TC = $0.336 * [(165.00^{**3}) / (0.40)]^{**.2} = 8.635$
10 YEAR RAINFALL INTENSITY(INCH/HOUR) = 1.681
MOBILE HOME PARK DEVELOPMENT RUNOFF COEFFICIENT = .8136
SOIL CLASSIFICATION IS "B"
SUBAREA RUNOFF(CFS) = 1.38
TOTAL AREA(ACRES) = 1.01 TOTAL RUNOFF(CFS) = 1.38

=====

END OF STUDY SUMMARY:

TOTAL AREA(ACRES) = 1.0 TC(MIN.) = 8.64
PEAK FLOW RATE(CFS) = 1.38

=====

END OF RATIONAL METHOD ANALYSIS

▲

RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
(RCFC&WCD) 1978 HYDROLOGY MANUAL
(c) Copyright 1982-2016 Advanced Engineering Software (aes)
(Rational Tabling Version 23.0)
Release Date: 07/01/2016 License ID 1499

Analysis prepared by:

***** DESCRIPTION OF STUDY *****
* Riverside Community Hospital *
* 100 yr Existing Garage *
* Kimley-Horn *

FILE NAME: RCHG100E.DAT
TIME/DATE OF STUDY: 22:26 07/17/2024

USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:

USER SPECIFIED STORM EVENT(YEAR) = 100.00
SPECIFIED MINIMUM PIPE SIZE(INCH) = 6.00
SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
10-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) = 1.550
10-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) = 0.649
100-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) = 2.510
100-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) = 1.060
SLOPE OF 10-YEAR INTENSITY-DURATION CURVE = 0.4858784
SLOPE OF 100-YEAR INTENSITY-DURATION CURVE = 0.4810990
COMPUTED RAINFALL INTENSITY DATA:

STORM EVENT = 100.00 1-HOUR INTENSITY(INCH/HOUR) = 1.060
SLOPE OF INTENSITY DURATION CURVE = 0.4811

RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD

NOTE: COMPUTE CONFLUENCE VALUES ACCORDING TO RCFC&WCD HYDROLOGY MANUAL
AND IGNORE OTHER CONFLUENCE COMBINATIONS FOR DOWNSTREAM ANALYSES

USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL

NO.	HALF- WIDTH (FT)	CROWN TO CROSSFALL (FT)	STREET-CROSSFALL: IN- / OUT- / PARK- SIDE / SIDE/ WAY	CURB HEIGHT (FT)	GUTTER-GEOMETRIES: WIDTH LIP HIKE (FT) (FT) (FT)	MANNING FACTOR (n)
1	30.0	20.0	0.018/0.018/0.020	0.67	2.00 0.0313 0.167	0.0150

GLOBAL STREET FLOW-DEPTH CONSTRAINTS:

1. Relative Flow-Depth = 0.00 FEET

as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
 2. (Depth)*(Velocity) Constraint = 6.0 (FT*FT/S)
 *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
 OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

FLOW PROCESS FROM NODE 10.00 TO NODE 11.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<

=====

ASSUMED INITIAL SUBAREA UNIFORM
 DEVELOPMENT IS MOBILE HOME PARK
 $TC = K * [(LENGTH^{**3}) / (ELEVATION\ CHANGE)]^{**.2}$
 INITIAL SUBAREA FLOW-LENGTH(FEET) = 581.00
 UPSTREAM ELEVATION(FEET) = 809.20
 DOWNSTREAM ELEVATION(FEET) = 792.70
 ELEVATION DIFFERENCE(FEET) = 16.50
 $TC = 0.336 * [(581.00^{**3}) / (16.50)]^{**.2} = 8.734$
 100 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.679
 MOBILE HOME PARK DEVELOPMENT RUNOFF COEFFICIENT = .8367
 SOIL CLASSIFICATION IS "B"
 SUBAREA RUNOFF(CFS) = 5.09
 TOTAL AREA(ACRES) = 2.27 TOTAL RUNOFF(CFS) = 5.09

FLOW PROCESS FROM NODE 20.00 TO NODE 21.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<

=====

ASSUMED INITIAL SUBAREA UNIFORM
 DEVELOPMENT IS MOBILE HOME PARK
 $TC = K * [(LENGTH^{**3}) / (ELEVATION\ CHANGE)]^{**.2}$
 INITIAL SUBAREA FLOW-LENGTH(FEET) = 1.01
 UPSTREAM ELEVATION(FEET) = 793.40
 DOWNSTREAM ELEVATION(FEET) = 793.00
 ELEVATION DIFFERENCE(FEET) = 0.40
 $TC = 0.336 * [(1.01^{**3}) / (0.40)]^{**.2} = 0.406$
 COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
 100 YEAR RAINFALL INTENSITY(INCH/HOUR) = 3.503
 MOBILE HOME PARK DEVELOPMENT RUNOFF COEFFICIENT = .8482
 SOIL CLASSIFICATION IS "B"
 SUBAREA RUNOFF(CFS) = 3.00
 TOTAL AREA(ACRES) = 1.01 TOTAL RUNOFF(CFS) = 3.00

=====

END OF STUDY SUMMARY:

TOTAL AREA(ACRES) = 1.0 TC(MIN.) = 5.00
 PEAK FLOW RATE(CFS) = 3.00

=====

END OF RATIONAL METHOD ANALYSIS



RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
(RCFC&WCD) 1978 HYDROLOGY MANUAL
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(Rational Tabling Version 23.0)
Release Date: 07/01/2016 License ID 1499

Analysis prepared by:

***** DESCRIPTION OF STUDY *****

* RCH PHASE 1 *
* 10 YR PROPOSED *
* KIMLEY-HORN *

FILE NAME: P1RCH10.DAT
TIME/DATE OF STUDY: 18:28 10/03/2024

USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:

USER SPECIFIED STORM EVENT(YEAR) = 10.00
SPECIFIED MINIMUM PIPE SIZE(INCH) = 6.00
SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
10-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) = 1.550
10-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) = 0.649
100-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) = 2.510
100-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) = 1.060
SLOPE OF 10-YEAR INTENSITY-DURATION CURVE = 0.4858784
SLOPE OF 100-YEAR INTENSITY-DURATION CURVE = 0.4810990
COMPUTED RAINFALL INTENSITY DATA:

STORM EVENT = 10.00 1-HOUR INTENSITY(INCH/HOUR) = 0.655

SLOPE OF INTENSITY DURATION CURVE = 0.4859

RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD

NOTE: COMPUTE CONFLUENCE VALUES ACCORDING TO RCFC&WCD HYDROLOGY MANUAL
AND IGNORE OTHER CONFLUENCE COMBINATIONS FOR DOWNSTREAM ANALYSES

USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL

NO.	WIDTH (FT)	CROWN TO CROSSFALL (FT)	STREET-CROSSFALL: IN- / OUT-/PARK- SIDE / SIDE/ WAY	CURB HEIGHT (FT)	GUTTER-GEOMETRIES: WIDTH (FT)	LIP (FT)	HIKE (FT)	MANNING FACTOR (n)
1	30.0	20.0	0.018/0.018/0.020	0.67	2.00	0.0313	0.167	0.0150

GLOBAL STREET FLOW-DEPTH CONSTRAINTS:

1. Relative Flow-Depth = 0.00 FEET
as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
2. (Depth)*(Velocity) Constraint = 6.0 (FT*FT/S)

*SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

FLOW PROCESS FROM NODE 10.00 TO NODE 11.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<

=====

ASSUMED INITIAL SUBAREA UNIFORM

```

      DEVELOPMENT IS COMMERCIAL
TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
INITIAL SUBAREA FLOW-LENGTH(FEET) = 95.00
UPSTREAM ELEVATION(FEET) = 804.00
DOWNSTREAM ELEVATION(FEET) = 797.90
ELEVATION DIFFERENCE(FEET) = 6.10
TC = 0.303*[( 95.00**3)/( 6.10)]**.2 = 3.245
COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
10 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.192
COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8709
SOIL CLASSIFICATION IS "B"
SUBAREA RUNOFF(CFS) = 0.15
TOTAL AREA(ACRES) = 0.08 TOTAL RUNOFF(CFS) = 0.15

*****
FLOW PROCESS FROM NODE 20.00 TO NODE 21.00 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
INITIAL SUBAREA FLOW-LENGTH(FEET) = 400.00
UPSTREAM ELEVATION(FEET) = 803.10
DOWNSTREAM ELEVATION(FEET) = 794.30
ELEVATION DIFFERENCE(FEET) = 8.80
TC = 0.303*[( 400.00**3)/( 8.80)]**.2 = 7.144
10 YEAR RAINFALL INTENSITY(INCH/HOUR) = 1.843
COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8674
SOIL CLASSIFICATION IS "B"
SUBAREA RUNOFF(CFS) = 0.34
TOTAL AREA(ACRES) = 0.21 TOTAL RUNOFF(CFS) = 0.34

*****
FLOW PROCESS FROM NODE 30.00 TO NODE 31.00 IS CODE = 22
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
USER SPECIFIED Tc(MIN.) = 5.000
10 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.192
COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8709
SOIL CLASSIFICATION IS "B"
SUBAREA RUNOFF(CFS) = 1.89
TOTAL AREA(ACRES) = 0.99 TOTAL RUNOFF(CFS) = 1.89

*****
FLOW PROCESS FROM NODE 40.00 TO NODE 41.00 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
INITIAL SUBAREA FLOW-LENGTH(FEET) = 17.00
UPSTREAM ELEVATION(FEET) = 795.00
DOWNSTREAM ELEVATION(FEET) = 794.70
ELEVATION DIFFERENCE(FEET) = 0.30
TC = 0.303*[( 17.00**3)/( 0.30)]**.2 = 2.111
COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
10 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.192

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COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8709
SOIL CLASSIFICATION IS "B"
SUBAREA RUNOFF(CFS) = 0.02
TOTAL AREA(ACRES) = 0.01 TOTAL RUNOFF(CFS) = 0.02

*****
FLOW PROCESS FROM NODE 60.00 TO NODE 61.00 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
      TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
      INITIAL SUBAREA FLOW-LENGTH(FEET) = 109.00
      UPSTREAM ELEVATION(FEET) = 796.70
      DOWNSTREAM ELEVATION(FEET) = 795.10
      ELEVATION DIFFERENCE(FEET) = 1.60
      TC = 0.303*[( 109.00**3)/( 1.60)]**.2 = 4.605
      COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
      10 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.192
      COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8709
      SOIL CLASSIFICATION IS "B"
      SUBAREA RUNOFF(CFS) = 0.10
      TOTAL AREA(ACRES) = 0.05 TOTAL RUNOFF(CFS) = 0.10

*****
FLOW PROCESS FROM NODE 70.00 TO NODE 71.00 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
      TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
      INITIAL SUBAREA FLOW-LENGTH(FEET) = 49.00
      UPSTREAM ELEVATION(FEET) = 797.90
      DOWNSTREAM ELEVATION(FEET) = 797.20
      ELEVATION DIFFERENCE(FEET) = 0.70
      TC = 0.303*[( 49.00**3)/( 0.70)]**.2 = 3.363
      COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
      10 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.192
      COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8709
      SOIL CLASSIFICATION IS "B"
      SUBAREA RUNOFF(CFS) = 0.08
      TOTAL AREA(ACRES) = 0.04 TOTAL RUNOFF(CFS) = 0.08

*****
FLOW PROCESS FROM NODE 80.00 TO NODE 81.00 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
      TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
      INITIAL SUBAREA FLOW-LENGTH(FEET) = 109.00
      UPSTREAM ELEVATION(FEET) = 795.00
      DOWNSTREAM ELEVATION(FEET) = 793.60
      ELEVATION DIFFERENCE(FEET) = 1.40
      TC = 0.303*[( 109.00**3)/( 1.40)]**.2 = 4.729
      COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
      10 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.192
      COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8709
      SOIL CLASSIFICATION IS "B"

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SUBAREA RUNOFF(CFS) =      1.11
TOTAL AREA(ACRES) =      0.58   TOTAL RUNOFF(CFS) =      1.11

*****
FLOW PROCESS FROM NODE      90.00 TO NODE      91.00 IS CODE =  21
-----
>>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
      TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
      INITIAL SUBAREA FLOW-LENGTH(FEET) =  574.00
      UPSTREAM ELEVATION(FEET) =      809.00
      DOWNSTREAM ELEVATION(FEET) =      792.50
      ELEVATION DIFFERENCE(FEET) =      16.50
      TC = 0.303*[( 574.00**3)/( 16.50)]**.2 =      7.824
      10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.764
      COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8665
      SOIL CLASSIFICATION IS "B"
      SUBAREA RUNOFF(CFS) =      1.99
      TOTAL AREA(ACRES) =      1.30   TOTAL RUNOFF(CFS) =      1.99

*****
FLOW PROCESS FROM NODE      100.00 TO NODE      101.00 IS CODE =  22
-----
>>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
      USER SPECIFIED Tc(MIN.) =      5.000
      10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.192
      COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8709
      SOIL CLASSIFICATION IS "B"
      SUBAREA RUNOFF(CFS) =      0.04
      TOTAL AREA(ACRES) =      0.02   TOTAL RUNOFF(CFS) =      0.04
=====
      END OF STUDY SUMMARY:
      TOTAL AREA(ACRES)      =      0.0   TC(MIN.) =      5.00
      PEAK FLOW RATE(CFS)    =      0.04
=====
      END OF RATIONAL METHOD ANALYSIS

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RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
(RCFC&WCD) 1978 HYDROLOGY MANUAL
(c) Copyright 1982-2016 Advanced Engineering Software (aes)
(Rational Tabling Version 23.0)
Release Date: 07/01/2016 License ID 1499

Analysis prepared by:

***** DESCRIPTION OF STUDY *****

* RCH PHASE 1 *
* 100 YR PROPOSED *
* KIMLEY-HORN *

FILE NAME: P1RCH10.DAT
TIME/DATE OF STUDY: 18:29 10/03/2024

USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:

USER SPECIFIED STORM EVENT(YEAR) = 100.00
SPECIFIED MINIMUM PIPE SIZE(INCH) = 6.00
SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
10-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) = 1.550
10-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) = 0.649
100-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) = 2.510
100-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) = 1.060
SLOPE OF 10-YEAR INTENSITY-DURATION CURVE = 0.4858784
SLOPE OF 100-YEAR INTENSITY-DURATION CURVE = 0.4810990
COMPUTED RAINFALL INTENSITY DATA:

STORM EVENT = 100.00 1-HOUR INTENSITY(INCH/HOUR) = 1.060

SLOPE OF INTENSITY DURATION CURVE = 0.4811

RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD

NOTE: COMPUTE CONFLUENCE VALUES ACCORDING TO RCFC&WCD HYDROLOGY MANUAL
AND IGNORE OTHER CONFLUENCE COMBINATIONS FOR DOWNSTREAM ANALYSES

USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL

NO.	WIDTH (FT)	CROWN TO CROSSFALL (FT)	STREET-CROSSFALL: IN- / OUT-/PARK- SIDE / SIDE/ WAY	CURB HEIGHT (FT)	GUTTER-GEOMETRIES: WIDTH (FT)	LIP (FT)	HIKE (FT)	MANNING FACTOR (n)
1	30.0	20.0	0.018/0.018/0.020	0.67	2.00	0.0313	0.167	0.0150

GLOBAL STREET FLOW-DEPTH CONSTRAINTS:

1. Relative Flow-Depth = 0.00 FEET
as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)

2. (Depth)*(Velocity) Constraint = 6.0 (FT*FT/S)

*SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

FLOW PROCESS FROM NODE 10.00 TO NODE 11.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====

ASSUMED INITIAL SUBAREA UNIFORM

```

      DEVELOPMENT IS COMMERCIAL
TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
INITIAL SUBAREA FLOW-LENGTH(FEET) = 95.00
UPSTREAM ELEVATION(FEET) = 804.00
DOWNSTREAM ELEVATION(FEET) = 797.90
ELEVATION DIFFERENCE(FEET) = 6.10
TC = 0.303*[( 95.00**3)/( 6.10)]**.2 = 3.245
COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
100 YEAR RAINFALL INTENSITY(INCH/HOUR) = 3.503
COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8793
SOIL CLASSIFICATION IS "B"
SUBAREA RUNOFF(CFS) = 0.25
TOTAL AREA(ACRES) = 0.08 TOTAL RUNOFF(CFS) = 0.25

*****
FLOW PROCESS FROM NODE 20.00 TO NODE 21.00 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
INITIAL SUBAREA FLOW-LENGTH(FEET) = 400.00
UPSTREAM ELEVATION(FEET) = 803.10
DOWNSTREAM ELEVATION(FEET) = 794.30
ELEVATION DIFFERENCE(FEET) = 8.80
TC = 0.303*[( 400.00**3)/( 8.80)]**.2 = 7.144
100 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.951
COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8764
SOIL CLASSIFICATION IS "B"
SUBAREA RUNOFF(CFS) = 0.54
TOTAL AREA(ACRES) = 0.21 TOTAL RUNOFF(CFS) = 0.54

*****
FLOW PROCESS FROM NODE 30.00 TO NODE 31.00 IS CODE = 22
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
USER SPECIFIED Tc(MIN.) = 5.000
100 YEAR RAINFALL INTENSITY(INCH/HOUR) = 3.503
COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8793
SOIL CLASSIFICATION IS "B"
SUBAREA RUNOFF(CFS) = 3.05
TOTAL AREA(ACRES) = 0.99 TOTAL RUNOFF(CFS) = 3.05

*****
FLOW PROCESS FROM NODE 40.00 TO NODE 41.00 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
INITIAL SUBAREA FLOW-LENGTH(FEET) = 17.00
UPSTREAM ELEVATION(FEET) = 795.00
DOWNSTREAM ELEVATION(FEET) = 794.70
ELEVATION DIFFERENCE(FEET) = 0.30
TC = 0.303*[( 17.00**3)/( 0.30)]**.2 = 2.111
COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
100 YEAR RAINFALL INTENSITY(INCH/HOUR) = 3.503

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COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8793
SOIL CLASSIFICATION IS "B"
SUBAREA RUNOFF(CFS) = 0.03
TOTAL AREA(ACRES) = 0.01 TOTAL RUNOFF(CFS) = 0.03

*****
FLOW PROCESS FROM NODE 60.00 TO NODE 61.00 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
      TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
      INITIAL SUBAREA FLOW-LENGTH(FEET) = 109.00
      UPSTREAM ELEVATION(FEET) = 796.70
      DOWNSTREAM ELEVATION(FEET) = 795.10
      ELEVATION DIFFERENCE(FEET) = 1.60
      TC = 0.303*[( 109.00**3)/( 1.60)]**.2 = 4.605
      COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
      100 YEAR RAINFALL INTENSITY(INCH/HOUR) = 3.503
      COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8793
      SOIL CLASSIFICATION IS "B"
      SUBAREA RUNOFF(CFS) = 0.15
      TOTAL AREA(ACRES) = 0.05 TOTAL RUNOFF(CFS) = 0.15

*****
FLOW PROCESS FROM NODE 70.00 TO NODE 71.00 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
      TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
      INITIAL SUBAREA FLOW-LENGTH(FEET) = 49.00
      UPSTREAM ELEVATION(FEET) = 797.90
      DOWNSTREAM ELEVATION(FEET) = 797.20
      ELEVATION DIFFERENCE(FEET) = 0.70
      TC = 0.303*[( 49.00**3)/( 0.70)]**.2 = 3.363
      COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
      100 YEAR RAINFALL INTENSITY(INCH/HOUR) = 3.503
      COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8793
      SOIL CLASSIFICATION IS "B"
      SUBAREA RUNOFF(CFS) = 0.12
      TOTAL AREA(ACRES) = 0.04 TOTAL RUNOFF(CFS) = 0.12

*****
FLOW PROCESS FROM NODE 80.00 TO NODE 81.00 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
      TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
      INITIAL SUBAREA FLOW-LENGTH(FEET) = 109.00
      UPSTREAM ELEVATION(FEET) = 795.00
      DOWNSTREAM ELEVATION(FEET) = 793.60
      ELEVATION DIFFERENCE(FEET) = 1.40
      TC = 0.303*[( 109.00**3)/( 1.40)]**.2 = 4.729
      COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
      100 YEAR RAINFALL INTENSITY(INCH/HOUR) = 3.503
      COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8793
      SOIL CLASSIFICATION IS "B"

```

SUBAREA RUNOFF(CFS) = 1.79
TOTAL AREA(ACRES) = 0.58 TOTAL RUNOFF(CFS) = 1.79

FLOW PROCESS FROM NODE 90.00 TO NODE 91.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<

=====

ASSUMED INITIAL SUBAREA UNIFORM
DEVELOPMENT IS COMMERCIAL
TC = $K * [(LENGTH^{**3}) / (ELEVATION\ CHANGE)]^{**.2}$
INITIAL SUBAREA FLOW-LENGTH(FEET) = 574.00
UPSTREAM ELEVATION(FEET) = 809.00
DOWNSTREAM ELEVATION(FEET) = 792.50
ELEVATION DIFFERENCE(FEET) = 16.50
TC = $0.303 * [(574.00^{**3}) / (16.50)]^{**.2}$ = 7.824
100 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.824
COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8757
SOIL CLASSIFICATION IS "B"
SUBAREA RUNOFF(CFS) = 3.22
TOTAL AREA(ACRES) = 1.30 TOTAL RUNOFF(CFS) = 3.22

FLOW PROCESS FROM NODE 100.00 TO NODE 101.00 IS CODE = 22

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<

=====

ASSUMED INITIAL SUBAREA UNIFORM
DEVELOPMENT IS COMMERCIAL
USER SPECIFIED Tc(MIN.) = 5.000
100 YEAR RAINFALL INTENSITY(INCH/HOUR) = 3.503
COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8793
SOIL CLASSIFICATION IS "B"
SUBAREA RUNOFF(CFS) = 0.06
TOTAL AREA(ACRES) = 0.02 TOTAL RUNOFF(CFS) = 0.06

=====

END OF STUDY SUMMARY:
TOTAL AREA(ACRES) = 0.0 TC(MIN.) = 5.00
PEAK FLOW RATE(CFS) = 0.06

=====

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END OF RATIONAL METHOD ANALYSIS

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RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
(RCFC&WCD) 1978 HYDROLOGY MANUAL
(c) Copyright 1982-2016 Advanced Engineering Software (aes)
(Rational Tabling Version 23.0)
Release Date: 07/01/2016 License ID 1499

Analysis prepared by:

***** DESCRIPTION OF STUDY *****

* RCH Phase 2 *
* 10 yr Proposed *
* Kimley-Horn *

FILE NAME: P2RCH10.DAT
TIME/DATE OF STUDY: 18:39 10/03/2024

USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:

USER SPECIFIED STORM EVENT(YEAR) = 10.00
SPECIFIED MINIMUM PIPE SIZE(INCH) = 6.00
SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
10-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) = 1.550
10-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) = 0.649
100-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) = 2.510
100-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) = 1.060
SLOPE OF 10-YEAR INTENSITY-DURATION CURVE = 0.4858784
SLOPE OF 100-YEAR INTENSITY-DURATION CURVE = 0.4810990
COMPUTED RAINFALL INTENSITY DATA:

STORM EVENT = 10.00 1-HOUR INTENSITY(INCH/HOUR) = 0.655

SLOPE OF INTENSITY DURATION CURVE = 0.4859

RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD

NOTE: COMPUTE CONFLUENCE VALUES ACCORDING TO RCFC&WCD HYDROLOGY MANUAL
AND IGNORE OTHER CONFLUENCE COMBINATIONS FOR DOWNSTREAM ANALYSES

USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL

NO.	WIDTH (FT)	CROWN TO CROSSFALL (FT)	STREET-CROSSFALL: IN- / OUT-/PARK- SIDE / SIDE/ WAY	CURB HEIGHT (FT)	GUTTER-GEOMETRIES: WIDTH (FT)	LIP (FT)	HIKE (FT)	MANNING FACTOR (n)
1	30.0	20.0	0.018/0.018/0.020	0.67	2.00	0.0313	0.167	0.0150

GLOBAL STREET FLOW-DEPTH CONSTRAINTS:

1. Relative Flow-Depth = 0.00 FEET
as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
2. (Depth)*(Velocity) Constraint = 6.0 (FT*FT/S)

*SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

FLOW PROCESS FROM NODE 10.00 TO NODE 11.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<

=====

ASSUMED INITIAL SUBAREA UNIFORM

```

      DEVELOPMENT IS COMMERCIAL
TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
INITIAL SUBAREA FLOW-LENGTH(FEET) = 95.00
UPSTREAM ELEVATION(FEET) = 804.00
DOWNSTREAM ELEVATION(FEET) = 797.90
ELEVATION DIFFERENCE(FEET) = 6.10
TC = 0.303*[( 95.00**3)/( 6.10)]**.2 = 3.245
COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
10 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.192
COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8709
SOIL CLASSIFICATION IS "B"
SUBAREA RUNOFF(CFS) = 0.15
TOTAL AREA(ACRES) = 0.08 TOTAL RUNOFF(CFS) = 0.15

*****
FLOW PROCESS FROM NODE 20.00 TO NODE 21.00 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
INITIAL SUBAREA FLOW-LENGTH(FEET) = 400.00
UPSTREAM ELEVATION(FEET) = 803.10
DOWNSTREAM ELEVATION(FEET) = 794.30
ELEVATION DIFFERENCE(FEET) = 8.80
TC = 0.303*[( 400.00**3)/( 8.80)]**.2 = 7.144
10 YEAR RAINFALL INTENSITY(INCH/HOUR) = 1.843
COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8674
SOIL CLASSIFICATION IS "B"
SUBAREA RUNOFF(CFS) = 0.34
TOTAL AREA(ACRES) = 0.21 TOTAL RUNOFF(CFS) = 0.34

*****
FLOW PROCESS FROM NODE 30.00 TO NODE 31.00 IS CODE = 22
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
USER SPECIFIED Tc(MIN.) = 5.000
10 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.192
COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8709
SOIL CLASSIFICATION IS "B"
SUBAREA RUNOFF(CFS) = 1.89
TOTAL AREA(ACRES) = 0.99 TOTAL RUNOFF(CFS) = 1.89

*****
FLOW PROCESS FROM NODE 40.00 TO NODE 41.00 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
INITIAL SUBAREA FLOW-LENGTH(FEET) = 17.00
UPSTREAM ELEVATION(FEET) = 795.00
DOWNSTREAM ELEVATION(FEET) = 794.70
ELEVATION DIFFERENCE(FEET) = 0.30
TC = 0.303*[( 17.00**3)/( 0.30)]**.2 = 2.111
COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
10 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.192

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COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8709
SOIL CLASSIFICATION IS "B"
SUBAREA RUNOFF(CFS) = 0.02
TOTAL AREA(ACRES) = 0.01 TOTAL RUNOFF(CFS) = 0.02

*****
FLOW PROCESS FROM NODE 60.00 TO NODE 61.00 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
      TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
      INITIAL SUBAREA FLOW-LENGTH(FEET) = 109.00
      UPSTREAM ELEVATION(FEET) = 796.60
      DOWNSTREAM ELEVATION(FEET) = 795.00
      ELEVATION DIFFERENCE(FEET) = 1.60
      TC = 0.303*[( 109.00**3)/( 1.60)]**.2 = 4.605
      COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
      10 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.192
      COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8709
      SOIL CLASSIFICATION IS "B"
      SUBAREA RUNOFF(CFS) = 0.10
      TOTAL AREA(ACRES) = 0.05 TOTAL RUNOFF(CFS) = 0.10

*****
FLOW PROCESS FROM NODE 70.00 TO NODE 71.00 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
      TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
      INITIAL SUBAREA FLOW-LENGTH(FEET) = 49.00
      UPSTREAM ELEVATION(FEET) = 797.90
      DOWNSTREAM ELEVATION(FEET) = 796.40
      ELEVATION DIFFERENCE(FEET) = 1.50
      TC = 0.303*[( 49.00**3)/( 1.50)]**.2 = 2.887
      COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
      10 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.192
      COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8709
      SOIL CLASSIFICATION IS "B"
      SUBAREA RUNOFF(CFS) = 0.08
      TOTAL AREA(ACRES) = 0.04 TOTAL RUNOFF(CFS) = 0.08

*****
FLOW PROCESS FROM NODE 80.00 TO NODE 81.00 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
      TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
      INITIAL SUBAREA FLOW-LENGTH(FEET) = 230.00
      UPSTREAM ELEVATION(FEET) = 794.70
      DOWNSTREAM ELEVATION(FEET) = 791.00
      ELEVATION DIFFERENCE(FEET) = 3.70
      TC = 0.303*[( 230.00**3)/( 3.70)]**.2 = 6.095
      10 YEAR RAINFALL INTENSITY(INCH/HOUR) = 1.991
      COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8690
      SOIL CLASSIFICATION IS "B"
      SUBAREA RUNOFF(CFS) = 0.93

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TOTAL AREA(ACRES) =      0.54   TOTAL RUNOFF(CFS) =      0.93

*****
FLOW PROCESS FROM NODE      90.00 TO NODE      91.00 IS CODE =  21
-----
>>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
      TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
      INITIAL SUBAREA FLOW-LENGTH(FEET) =  574.00
      UPSTREAM ELEVATION(FEET) =      809.00
      DOWNSTREAM ELEVATION(FEET) =      792.50
      ELEVATION DIFFERENCE(FEET) =      16.50
      TC = 0.303*[( 574.00**3)/( 16.50)]**.2 =      7.824
      10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.764
      COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8665
      SOIL CLASSIFICATION IS "B"
      SUBAREA RUNOFF(CFS) =      2.05
      TOTAL AREA(ACRES) =      1.34   TOTAL RUNOFF(CFS) =      2.05

*****
FLOW PROCESS FROM NODE      100.00 TO NODE      101.00 IS CODE =  22
-----
>>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
      USER SPECIFIED Tc(MIN.) =      5.000
      10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.192
      COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8709
      SOIL CLASSIFICATION IS "B"
      SUBAREA RUNOFF(CFS) =      0.04
      TOTAL AREA(ACRES) =      0.02   TOTAL RUNOFF(CFS) =      0.04
=====
      END OF STUDY SUMMARY:
      TOTAL AREA(ACRES)      =      0.0   TC(MIN.) =      5.00
      PEAK FLOW RATE(CFS)    =      0.04
=====
      END OF RATIONAL METHOD ANALYSIS

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RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
(RCFC&WCD) 1978 HYDROLOGY MANUAL
(c) Copyright 1982-2016 Advanced Engineering Software (aes)
(Rational Tabling Version 23.0)
Release Date: 07/01/2016 License ID 1499

Analysis prepared by:

***** DESCRIPTION OF STUDY *****

* RCH Phase 2 *
* 100 YR PROPOSED *
* Kimley-Horn *

FILE NAME: P2RCH10.DAT
TIME/DATE OF STUDY: 18:40 10/03/2024

USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:

USER SPECIFIED STORM EVENT(YEAR) = 100.00
SPECIFIED MINIMUM PIPE SIZE(INCH) = 6.00
SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
10-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) = 1.550
10-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) = 0.649
100-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) = 2.510
100-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) = 1.060
SLOPE OF 10-YEAR INTENSITY-DURATION CURVE = 0.4858784
SLOPE OF 100-YEAR INTENSITY-DURATION CURVE = 0.4810990
COMPUTED RAINFALL INTENSITY DATA:

STORM EVENT = 100.00 1-HOUR INTENSITY(INCH/HOUR) = 1.060

SLOPE OF INTENSITY DURATION CURVE = 0.4811

RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD

NOTE: COMPUTE CONFLUENCE VALUES ACCORDING TO RCFC&WCD HYDROLOGY MANUAL
AND IGNORE OTHER CONFLUENCE COMBINATIONS FOR DOWNSTREAM ANALYSES

USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL

NO.	WIDTH (FT)	CROWN TO CROSSFALL (FT)	STREET-CROSSFALL: IN- / OUT-/PARK- SIDE / SIDE/ WAY	CURB HEIGHT (FT)	GUTTER-GEOMETRIES: WIDTH (FT)	LIP (FT)	HIKE (FT)	MANNING FACTOR (n)
1	30.0	20.0	0.018/0.018/0.020	0.67	2.00	0.0313	0.167	0.0150

GLOBAL STREET FLOW-DEPTH CONSTRAINTS:

1. Relative Flow-Depth = 0.00 FEET
as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
2. (Depth)*(Velocity) Constraint = 6.0 (FT*FT/S)

*SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

FLOW PROCESS FROM NODE 10.00 TO NODE 11.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====

ASSUMED INITIAL SUBAREA UNIFORM

```

      DEVELOPMENT IS COMMERCIAL
TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
INITIAL SUBAREA FLOW-LENGTH(FEET) = 95.00
UPSTREAM ELEVATION(FEET) = 804.00
DOWNSTREAM ELEVATION(FEET) = 797.90
ELEVATION DIFFERENCE(FEET) = 6.10
TC = 0.303*[( 95.00**3)/( 6.10)]**.2 = 3.245
COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
100 YEAR RAINFALL INTENSITY(INCH/HOUR) = 3.503
COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8793
SOIL CLASSIFICATION IS "B"
SUBAREA RUNOFF(CFS) = 0.25
TOTAL AREA(ACRES) = 0.08 TOTAL RUNOFF(CFS) = 0.25

*****
FLOW PROCESS FROM NODE 20.00 TO NODE 21.00 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
INITIAL SUBAREA FLOW-LENGTH(FEET) = 400.00
UPSTREAM ELEVATION(FEET) = 803.10
DOWNSTREAM ELEVATION(FEET) = 794.30
ELEVATION DIFFERENCE(FEET) = 8.80
TC = 0.303*[( 400.00**3)/( 8.80)]**.2 = 7.144
100 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.951
COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8764
SOIL CLASSIFICATION IS "B"
SUBAREA RUNOFF(CFS) = 0.54
TOTAL AREA(ACRES) = 0.21 TOTAL RUNOFF(CFS) = 0.54

*****
FLOW PROCESS FROM NODE 30.00 TO NODE 31.00 IS CODE = 22
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
USER SPECIFIED Tc(MIN.) = 5.000
100 YEAR RAINFALL INTENSITY(INCH/HOUR) = 3.503
COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8793
SOIL CLASSIFICATION IS "B"
SUBAREA RUNOFF(CFS) = 3.05
TOTAL AREA(ACRES) = 0.99 TOTAL RUNOFF(CFS) = 3.05

*****
FLOW PROCESS FROM NODE 40.00 TO NODE 41.00 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
INITIAL SUBAREA FLOW-LENGTH(FEET) = 17.00
UPSTREAM ELEVATION(FEET) = 795.00
DOWNSTREAM ELEVATION(FEET) = 794.70
ELEVATION DIFFERENCE(FEET) = 0.30
TC = 0.303*[( 17.00**3)/( 0.30)]**.2 = 2.111
COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
100 YEAR RAINFALL INTENSITY(INCH/HOUR) = 3.503

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COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8793
SOIL CLASSIFICATION IS "B"
SUBAREA RUNOFF(CFS) =      0.03
TOTAL AREA(ACRES) =      0.01   TOTAL RUNOFF(CFS) =      0.03

*****
FLOW PROCESS FROM NODE      60.00 TO NODE      61.00 IS CODE =  21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
      TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
      INITIAL SUBAREA FLOW-LENGTH(FEET) =   109.00
      UPSTREAM ELEVATION(FEET) =    796.60
      DOWNSTREAM ELEVATION(FEET) =    795.00
      ELEVATION DIFFERENCE(FEET) =     1.60
      TC = 0.303*[( 109.00**3)/( 1.60)]**.2 =    4.605
      COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
      100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.503
      COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8793
      SOIL CLASSIFICATION IS "B"
      SUBAREA RUNOFF(CFS) =      0.15
      TOTAL AREA(ACRES) =      0.05   TOTAL RUNOFF(CFS) =      0.15

*****
FLOW PROCESS FROM NODE      70.00 TO NODE      71.00 IS CODE =  21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
      TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
      INITIAL SUBAREA FLOW-LENGTH(FEET) =    49.00
      UPSTREAM ELEVATION(FEET) =    797.90
      DOWNSTREAM ELEVATION(FEET) =    796.40
      ELEVATION DIFFERENCE(FEET) =     1.50
      TC = 0.303*[( 49.00**3)/( 1.50)]**.2 =    2.887
      COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
      100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.503
      COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8793
      SOIL CLASSIFICATION IS "B"
      SUBAREA RUNOFF(CFS) =      0.12
      TOTAL AREA(ACRES) =      0.04   TOTAL RUNOFF(CFS) =      0.12

*****
FLOW PROCESS FROM NODE      80.00 TO NODE      81.00 IS CODE =  21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
      TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
      INITIAL SUBAREA FLOW-LENGTH(FEET) =   230.00
      UPSTREAM ELEVATION(FEET) =    794.70
      DOWNSTREAM ELEVATION(FEET) =    791.00
      ELEVATION DIFFERENCE(FEET) =     3.70
      TC = 0.303*[( 230.00**3)/( 3.70)]**.2 =    6.095
      100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.185
      COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8777
      SOIL CLASSIFICATION IS "B"
      SUBAREA RUNOFF(CFS) =      1.51

```



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TOTAL AREA(ACRES) =      0.54   TOTAL RUNOFF(CFS) =      1.51

*****
FLOW PROCESS FROM NODE      90.00 TO NODE      91.00 IS CODE =  21
-----
>>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
      TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
      INITIAL SUBAREA FLOW-LENGTH(FEET) =  574.00
      UPSTREAM ELEVATION(FEET) =      809.00
      DOWNSTREAM ELEVATION(FEET) =      792.50
      ELEVATION DIFFERENCE(FEET) =      16.50
      TC = 0.303*[( 574.00**3)/( 16.50)]**.2 =      7.824
      100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.824
      COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8757
      SOIL CLASSIFICATION IS "B"
      SUBAREA RUNOFF(CFS) =      3.31
      TOTAL AREA(ACRES) =      1.34   TOTAL RUNOFF(CFS) =      3.31

*****
FLOW PROCESS FROM NODE      100.00 TO NODE      101.00 IS CODE =  22
-----
>>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
=====
      ASSUMED INITIAL SUBAREA UNIFORM
      DEVELOPMENT IS COMMERCIAL
      USER SPECIFIED Tc(MIN.) =      5.000
      100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.503
      COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8793
      SOIL CLASSIFICATION IS "B"
      SUBAREA RUNOFF(CFS) =      0.06
      TOTAL AREA(ACRES) =      0.02   TOTAL RUNOFF(CFS) =      0.06
=====
      END OF STUDY SUMMARY:
      TOTAL AREA(ACRES)      =      0.0   TC(MIN.) =      5.00
      PEAK FLOW RATE(CFS)    =      0.06
=====
      END OF RATIONAL METHOD ANALYSIS

```

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Appendix H - Unit Hydrograph Analysis

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchexa12.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
EX-A
2 yr existing
Kimley-Horn

Drainage Area = 2.27(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.27(Ac.) =
0.004 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.116 Hr.
Lag time = 6.96 Min.
25% of lag time = 1.74 Min.
40% of lag time = 2.78 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]
2.27	0.50	1.14

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.27	1.10	2.50

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.100(In)

Point rain (area averaged) = 0.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.270	56.00	0.820

Total Area Entered = 2.27(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.820	0.185	1.000	0.185
Sum (F) =						0.185

Area averaged mean soil loss (F) (In/Hr) = 0.185
Minimum soil loss rate ((In/Hr)) = 0.092
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

Slope of intensity-duration curve for a 1 hour storm =0.5500

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	71.839	7.478
2	0.167	143.678	42.579
3	0.250	215.517	28.152
4	0.333	287.356	10.698
5	0.417	359.195	5.830
6	0.500	431.034	2.898
7	0.583	502.874	1.029
8	0.667	574.713	0.577
9	0.750	646.552	0.483
10	0.833	718.391	0.275
Sum = 100.000			Sum= 2.288

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	3.30	0.198	(0.185)	0.049	0.148
2	0.17	4.20	0.252	(0.185)	0.063	0.189
3	0.25	4.40	0.264	(0.185)	0.066	0.198
4	0.33	4.80	0.288	(0.185)	0.072	0.216
5	0.42	5.20	0.312	(0.185)	0.078	0.234
6	0.50	6.20	0.372	(0.185)	0.093	0.279
7	0.58	6.80	0.408	(0.185)	0.102	0.306
8	0.67	8.80	0.528	(0.185)	0.132	0.396
9	0.75	13.90	0.834	0.185	(0.208)	0.649
10	0.83	31.40	1.884	0.185	(0.471)	1.699
11	0.92	7.20	0.432	(0.185)	0.108	0.324
12	1.00	3.80	0.228	(0.185)	0.057	0.171

(Loss Rate Not Used)

Sum = 100.0

Sum = 4.8

Flood volume = Effective rainfall $0.40(\text{In})$

$$\text{times area} \quad 2.3(\text{Ac.})/[(\text{In})/(\text{Ft.})] = \quad 0.1(\text{Ac. Ft})$$
$$\text{Total soil loss} = 0.10(I_n)$$

Total soil loss = 0.019(Ac.Ft)

Total rainfall = 0.50(In)

Flood volume = 3302.5 Cubic Feet

Total soil loss = 817.4 Cubic Feet

Peak flow rate of this hydrograph = 2.298(CFS)

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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	0.0002	0.03	Q					
0+10	0.0014	0.18	Q					
0+15	0.0036	0.31	Q					
0+20	0.0062	0.39	Q	V				
0+25	0.0093	0.44	Q	V				
0+30	0.0127	0.50	Q	V				
0+35	0.0166	0.57	Q	V				
0+40	0.0211	0.65	Q		V			
0+45	0.0268	0.82	Q		V			
0+50	0.0358	1.32	Q			V		
0+55	0.0517	2.30	Q		Q		V	
1+ 0	0.0633	1.69	Q				V	
1+ 5	0.0696	0.92	Q				V	

1+10	0.0729	0.48	Q				V	
1+15	0.0744	0.22	Q				V	
1+20	0.0751	0.10	Q				V	
1+25	0.0755	0.05	Q				V	
1+30	0.0757	0.03	Q				V	
1+35	0.0758	0.02	Q				V	
1+40	0.0758	0.00	Q				V	
1+45	0.0758	0.00	Q				V	

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchexa32.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
EX-A
2 yr existing
Kimley-Horn

Drainage Area = 2.27(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.27(Ac.) =
0.004 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.116 Hr.
Lag time = 6.96 Min.
25% of lag time = 1.74 Min.
40% of lag time = 2.78 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]
2.27	0.80	1.82

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.27	1.80	4.09

STORM EVENT (YEAR) = 2.00
 Area Averaged 2-Year Rainfall = 0.800(In)
 Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 0.800(In)
 Areal adjustment factor = 100.00 %
 Adjusted average point rain = 0.800(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.270	56.00	0.820

Total Area Entered = 2.27(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.820	0.185	1.000	0.185
Sum (F) =						0.185

Area averaged mean soil loss (F) (In/Hr) = 0.185
 Minimum soil loss rate ((In/Hr)) = 0.092
 (for 24 hour storm duration)
 Soil low loss rate (decimal) = 0.250

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	71.839	7.478
2	0.167	143.678	42.579
3	0.250	215.517	28.152
4	0.333	287.356	10.698
5	0.417	359.195	5.830
6	0.500	431.034	2.898
7	0.583	502.874	1.029
8	0.667	574.713	0.577
9	0.750	646.552	0.483
10	0.833	718.391	0.275
Sum =		100.000	Sum= 2.288

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	1.30	0.125	(0.185)	0.031	0.094
2	0.17	1.30	0.125	(0.185)	0.031	0.094
3	0.25	1.10	0.106	(0.185)	0.026	0.079
4	0.33	1.50	0.144	(0.185)	0.036	0.108
5	0.42	1.50	0.144	(0.185)	0.036	0.108
6	0.50	1.80	0.173	(0.185)	0.043	0.130
7	0.58	1.50	0.144	(0.185)	0.036	0.108
8	0.67	1.80	0.173	(0.185)	0.043	0.130
9	0.75	1.80	0.173	(0.185)	0.043	0.130
10	0.83	1.50	0.144	(0.185)	0.036	0.108
11	0.92	1.60	0.154	(0.185)	0.038	0.115
12	1.00	1.80	0.173	(0.185)	0.043	0.130
13	1.08	2.20	0.211	(0.185)	0.053	0.158
14	1.17	2.20	0.211	(0.185)	0.053	0.158
15	1.25	2.20	0.211	(0.185)	0.053	0.158
16	1.33	2.00	0.192	(0.185)	0.048	0.144
17	1.42	2.60	0.250	(0.185)	0.062	0.187
18	1.50	2.70	0.259	(0.185)	0.065	0.194
19	1.58	2.40	0.230	(0.185)	0.058	0.173
20	1.67	2.70	0.259	(0.185)	0.065	0.194
21	1.75	3.30	0.317	(0.185)	0.079	0.238
22	1.83	3.10	0.298	(0.185)	0.074	0.223
23	1.92	2.90	0.278	(0.185)	0.070	0.209
24	2.00	3.00	0.288	(0.185)	0.072	0.216
25	2.08	3.10	0.298	(0.185)	0.074	0.223
26	2.17	4.20	0.403	(0.185)	0.101	0.302
27	2.25	5.00	0.480	(0.185)	0.120	0.360
28	2.33	3.50	0.336	(0.185)	0.084	0.252
29	2.42	6.80	0.653	(0.185)	0.163	0.490
30	2.50	7.30	0.701	(0.185)	0.175	0.526
31	2.58	8.20	0.787	0.185	(0.197)	0.602
32	2.67	5.90	0.566	(0.185)	0.142	0.425
33	2.75	2.00	0.192	(0.185)	0.048	0.144
34	2.83	1.80	0.173	(0.185)	0.043	0.130
35	2.92	1.80	0.173	(0.185)	0.043	0.130
36	3.00	0.60	0.058	(0.185)	0.014	0.043

(Loss Rate Not Used)

Sum = 100.0

Sum = 7.2

Flood volume = Effective rainfall 0.60(In)
times area 2.3(Ac.)/[((In)/(Ft.))] = 0.1(Ac.Ft)
Total soil loss = 0.20(In)
Total soil loss = 0.038(Ac.Ft)
Total rainfall = 0.80(In)
Flood volume = 4952.1 Cubic Feet
Total soil loss = 1639.9 Cubic Feet

Peak flow rate of this hydrograph = 1.189(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	0.02	Q					
0+10	0.0008	0.11	Q					
0+15	0.0020	0.17	Q					
0+20	0.0032	0.18	QV					
0+25	0.0047	0.21	QV					
0+30	0.0063	0.24	Q V					
0+35	0.0081	0.26	QV					
0+40	0.0099	0.26	Q V					
0+45	0.0118	0.28	Q V					
0+50	0.0137	0.28	Q V					
0+55	0.0156	0.27	Q V					
1+ 0	0.0174	0.27	Q V					
1+ 5	0.0194	0.29	Q V					
1+10	0.0216	0.32	Q V					
1+15	0.0240	0.34	Q V					
1+20	0.0264	0.35	Q V					
1+25	0.0288	0.35	Q V					
1+30	0.0315	0.39	Q V					
1+35	0.0343	0.41	Q V					
1+40	0.0371	0.41	Q V					
1+45	0.0401	0.43	Q V					
1+50	0.0434	0.48	Q V					
1+55	0.0469	0.50	Q V					
2+ 0	0.0503	0.49	Q V					
2+ 5	0.0536	0.49	Q V					
2+10	0.0572	0.52	Q V					
2+15	0.0614	0.61	Q V					
2+20	0.0662	0.70	Q V					
2+25	0.0709	0.69	Q V					
2+30	0.0770	0.88	Q V					
2+35	0.0844	1.07	Q V					
2+40	0.0926	1.19	Q V					
2+45	0.0999	1.05	Q V					
2+50	0.1047	0.70	Q V					
2+55	0.1080	0.48	Q V					
3+ 0	0.1106	0.37	Q V					
3+ 5	0.1122	0.23	Q					
3+10	0.1130	0.11	Q					
3+15	0.1133	0.06	Q					
3+20	0.1135	0.03	Q					
3+25	0.1136	0.01	Q					
3+30	0.1137	0.01	Q					

3+35	0.1137	0.00	Q				V
3+40	0.1137	0.00	Q				V
3+45	0.1137	0.00	Q				V

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchexa62.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
EX-A
2 yr existing
Kimley-Horn

Drainage Area = 2.27(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.27(Ac.) =
0.004 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.116 Hr.
Lag time = 6.96 Min.
25% of lag time = 1.74 Min.
40% of lag time = 2.78 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]
2.27	1.00	2.27

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.27	2.50	5.67

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 1.000(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.000(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.270	56.00	0.820

Total Area Entered = 2.27(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.820	0.185	1.000	0.185
Sum (F) =						0.185

Area averaged mean soil loss (F) (In/Hr) = 0.185
Minimum soil loss rate ((In/Hr)) = 0.092
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

Unit Hydrograph
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	71.839	7.478
2	0.167	143.678	42.579
3	0.250	215.517	28.152
4	0.333	287.356	10.698
5	0.417	359.195	5.830
6	0.500	431.034	2.898
7	0.583	502.874	1.029
8	0.667	574.713	0.577
9	0.750	646.552	0.483
10	0.833	718.391	0.275
Sum =		100.000	Sum= 2.288

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.50	0.060	(0.185)	0.015	0.045
2	0.17	0.60	0.072	(0.185)	0.018	0.054
3	0.25	0.60	0.072	(0.185)	0.018	0.054
4	0.33	0.60	0.072	(0.185)	0.018	0.054
5	0.42	0.60	0.072	(0.185)	0.018	0.054
6	0.50	0.70	0.084	(0.185)	0.021	0.063
7	0.58	0.70	0.084	(0.185)	0.021	0.063
8	0.67	0.70	0.084	(0.185)	0.021	0.063
9	0.75	0.70	0.084	(0.185)	0.021	0.063
10	0.83	0.70	0.084	(0.185)	0.021	0.063
11	0.92	0.70	0.084	(0.185)	0.021	0.063
12	1.00	0.80	0.096	(0.185)	0.024	0.072
13	1.08	0.80	0.096	(0.185)	0.024	0.072
14	1.17	0.80	0.096	(0.185)	0.024	0.072
15	1.25	0.80	0.096	(0.185)	0.024	0.072
16	1.33	0.80	0.096	(0.185)	0.024	0.072
17	1.42	0.80	0.096	(0.185)	0.024	0.072
18	1.50	0.80	0.096	(0.185)	0.024	0.072
19	1.58	0.80	0.096	(0.185)	0.024	0.072
20	1.67	0.80	0.096	(0.185)	0.024	0.072
21	1.75	0.80	0.096	(0.185)	0.024	0.072
22	1.83	0.80	0.096	(0.185)	0.024	0.072
23	1.92	0.80	0.096	(0.185)	0.024	0.072
24	2.00	0.90	0.108	(0.185)	0.027	0.081
25	2.08	0.80	0.096	(0.185)	0.024	0.072
26	2.17	0.90	0.108	(0.185)	0.027	0.081
27	2.25	0.90	0.108	(0.185)	0.027	0.081
28	2.33	0.90	0.108	(0.185)	0.027	0.081
29	2.42	0.90	0.108	(0.185)	0.027	0.081
30	2.50	0.90	0.108	(0.185)	0.027	0.081
31	2.58	0.90	0.108	(0.185)	0.027	0.081
32	2.67	0.90	0.108	(0.185)	0.027	0.081
33	2.75	1.00	0.120	(0.185)	0.030	0.090
34	2.83	1.00	0.120	(0.185)	0.030	0.090
35	2.92	1.00	0.120	(0.185)	0.030	0.090
36	3.00	1.00	0.120	(0.185)	0.030	0.090
37	3.08	1.00	0.120	(0.185)	0.030	0.090
38	3.17	1.10	0.132	(0.185)	0.033	0.099
39	3.25	1.10	0.132	(0.185)	0.033	0.099
40	3.33	1.10	0.132	(0.185)	0.033	0.099
41	3.42	1.20	0.144	(0.185)	0.036	0.108
42	3.50	1.30	0.156	(0.185)	0.039	0.117
43	3.58	1.40	0.168	(0.185)	0.042	0.126
44	3.67	1.40	0.168	(0.185)	0.042	0.126
45	3.75	1.50	0.180	(0.185)	0.045	0.135
46	3.83	1.50	0.180	(0.185)	0.045	0.135
47	3.92	1.60	0.192	(0.185)	0.048	0.144
48	4.00	1.60	0.192	(0.185)	0.048	0.144

49	4.08	1.70	0.204	(0.185)	0.051	0.153
50	4.17	1.80	0.216	(0.185)	0.054	0.162
51	4.25	1.90	0.228	(0.185)	0.057	0.171
52	4.33	2.00	0.240	(0.185)	0.060	0.180
53	4.42	2.10	0.252	(0.185)	0.063	0.189
54	4.50	2.10	0.252	(0.185)	0.063	0.189
55	4.58	2.20	0.264	(0.185)	0.066	0.198
56	4.67	2.30	0.276	(0.185)	0.069	0.207
57	4.75	2.40	0.288	(0.185)	0.072	0.216
58	4.83	2.40	0.288	(0.185)	0.072	0.216
59	4.92	2.50	0.300	(0.185)	0.075	0.225
60	5.00	2.60	0.312	(0.185)	0.078	0.234
61	5.08	3.10	0.372	(0.185)	0.093	0.279
62	5.17	3.60	0.432	(0.185)	0.108	0.324
63	5.25	3.90	0.468	(0.185)	0.117	0.351
64	5.33	4.20	0.504	(0.185)	0.126	0.378
65	5.42	4.70	0.564	(0.185)	0.141	0.423
66	5.50	5.60	0.672	(0.185)	0.168	0.504
67	5.58	1.90	0.228	(0.185)	0.057	0.171
68	5.67	0.90	0.108	(0.185)	0.027	0.081
69	5.75	0.60	0.072	(0.185)	0.018	0.054
70	5.83	0.50	0.060	(0.185)	0.015	0.045
71	5.92	0.30	0.036	(0.185)	0.009	0.027
72	6.00	0.20	0.024	(0.185)	0.006	0.018

(Loss Rate Not Used)

Sum = 100.0

Sum = 9.0

Flood volume = Effective rainfall 0.75(In)
times area 2.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.25(In)
Total soil loss = 0.047(Ac.Ft)
Total rainfall = 1.00(In)
Flood volume = 6180.0 Cubic Feet
Total soil loss = 2060.0 Cubic Feet

Peak flow rate of this hydrograph = 0.967(CFS)

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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	0.0001	0.01	Q				
0+10	0.0004	0.05	Q				
0+15	0.0010	0.09	Q				
0+20	0.0018	0.11	Q				
0+25	0.0026	0.12	Q				
0+30	0.0034	0.12	Q				

0+35	0.0043	0.13	QV				
0+40	0.0053	0.14	QV				
0+45	0.0063	0.14	QV				
0+50	0.0072	0.14	Q V				
0+55	0.0082	0.14	Q V				
1+ 0	0.0092	0.15	Q V				
1+ 5	0.0103	0.15	Q V				
1+10	0.0114	0.16	Q V				
1+15	0.0125	0.16	Q V				
1+20	0.0137	0.16	Q V				
1+25	0.0148	0.16	Q V				
1+30	0.0159	0.16	Q V				
1+35	0.0170	0.16	Q V				
1+40	0.0182	0.16	Q V				
1+45	0.0193	0.16	Q V				
1+50	0.0205	0.16	Q V				
1+55	0.0216	0.16	Q V				
2+ 0	0.0227	0.17	Q V				
2+ 5	0.0239	0.17	Q V				
2+10	0.0251	0.17	Q V				
2+15	0.0263	0.18	Q V				
2+20	0.0276	0.18	Q V				
2+25	0.0289	0.18	Q V				
2+30	0.0301	0.18	Q V				
2+35	0.0314	0.19	Q V				
2+40	0.0327	0.19	Q V				
2+45	0.0340	0.19	Q V				
2+50	0.0353	0.20	Q V				
2+55	0.0367	0.20	Q V				
3+ 0	0.0381	0.20	Q V				
3+ 5	0.0395	0.20	Q V				
3+10	0.0409	0.21	Q V				
3+15	0.0424	0.22	Q V				
3+20	0.0440	0.22	Q V				
3+25	0.0455	0.23	Q V				
3+30	0.0471	0.24	Q V				
3+35	0.0489	0.25	Q V				
3+40	0.0508	0.27	Q V				
3+45	0.0527	0.28	Q V				
3+50	0.0547	0.29	Q V				
3+55	0.0568	0.30	Q V				
4+ 0	0.0590	0.32	Q V				
4+ 5	0.0612	0.33	Q V				
4+10	0.0636	0.34	Q V				
4+15	0.0660	0.36	Q V				
4+20	0.0686	0.38	Q V				
4+25	0.0713	0.40	Q V				
4+30	0.0742	0.41	Q V				
4+35	0.0771	0.43	Q V				
4+40	0.0801	0.44	Q V				
4+45	0.0833	0.46	Q V				

4+50	0.0866	0.48	Q			V		
4+55	0.0899	0.49	Q			V		
5+ 0	0.0934	0.50	Q			V		
5+ 5	0.0970	0.53	Q			V		
5+10	0.1011	0.59	Q			V		
5+15	0.1057	0.67	Q			V		
5+20	0.1108	0.74	Q				V	
5+25	0.1164	0.81	Q				V	
5+30	0.1226	0.90	Q					V
5+35	0.1292	0.97	Q					V
5+40	0.1340	0.70	Q					V
5+45	0.1369	0.42	Q					V
5+50	0.1388	0.27	Q					V
5+55	0.1400	0.18	Q					V
6+ 0	0.1408	0.12	Q					V
6+ 5	0.1414	0.08	Q					V
6+10	0.1416	0.04	Q					V
6+15	0.1418	0.02	Q					V
6+20	0.1418	0.01	Q					V
6+25	0.1419	0.00	Q					V
6+30	0.1419	0.00	Q					V
6+35	0.1419	0.00	Q					V
6+40	0.1419	0.00	Q					V
6+45	0.1419	0.00	Q					V

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchexa242.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
EX-A
2 yr existing
Kimley-Horn

Drainage Area = 2.27(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.27(Ac.) =
0.004 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.116 Hr.
Lag time = 6.96 Min.
25% of lag time = 1.74 Min.
40% of lag time = 2.78 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.27	1.60	3.63

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.27	4.00	9.08

STORM EVENT (YEAR) = 2.00
 Area Averaged 2-Year Rainfall = 1.600(In)
 Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 1.600(In)
 Areal adjustment factor = 100.00 %
 Adjusted average point rain = 1.600(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.270	56.00	0.820

Total Area Entered = 2.27(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.820	0.185	1.000	0.185
Sum (F) =						0.185

Area averaged mean soil loss (F) (In/Hr) = 0.185
 Minimum soil loss rate ((In/Hr)) = 0.092
 (for 24 hour storm duration)
 Soil low loss rate (decimal) = 0.250

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	71.839	7.478
2	0.167	143.678	42.579
3	0.250	215.517	28.152
4	0.333	287.356	10.698
5	0.417	359.195	5.830
6	0.500	431.034	2.898
7	0.583	502.874	1.029
8	0.667	574.713	0.577
9	0.750	646.552	0.483
10	0.833	718.391	0.275
Sum = 100.000		Sum=	2.288

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.013	(0.328)	0.003	0.010
2	0.17	0.07	0.013	(0.327)	0.003	0.010
3	0.25	0.07	0.013	(0.325)	0.003	0.010
4	0.33	0.10	0.019	(0.324)	0.005	0.014
5	0.42	0.10	0.019	(0.323)	0.005	0.014
6	0.50	0.10	0.019	(0.322)	0.005	0.014
7	0.58	0.10	0.019	(0.320)	0.005	0.014
8	0.67	0.10	0.019	(0.319)	0.005	0.014
9	0.75	0.10	0.019	(0.318)	0.005	0.014
10	0.83	0.13	0.026	(0.317)	0.006	0.019
11	0.92	0.13	0.026	(0.315)	0.006	0.019
12	1.00	0.13	0.026	(0.314)	0.006	0.019
13	1.08	0.10	0.019	(0.313)	0.005	0.014
14	1.17	0.10	0.019	(0.312)	0.005	0.014
15	1.25	0.10	0.019	(0.310)	0.005	0.014
16	1.33	0.10	0.019	(0.309)	0.005	0.014
17	1.42	0.10	0.019	(0.308)	0.005	0.014
18	1.50	0.10	0.019	(0.307)	0.005	0.014
19	1.58	0.10	0.019	(0.305)	0.005	0.014
20	1.67	0.10	0.019	(0.304)	0.005	0.014
21	1.75	0.10	0.019	(0.303)	0.005	0.014
22	1.83	0.13	0.026	(0.302)	0.006	0.019
23	1.92	0.13	0.026	(0.301)	0.006	0.019
24	2.00	0.13	0.026	(0.299)	0.006	0.019
25	2.08	0.13	0.026	(0.298)	0.006	0.019
26	2.17	0.13	0.026	(0.297)	0.006	0.019
27	2.25	0.13	0.026	(0.296)	0.006	0.019
28	2.33	0.13	0.026	(0.295)	0.006	0.019
29	2.42	0.13	0.026	(0.293)	0.006	0.019
30	2.50	0.13	0.026	(0.292)	0.006	0.019
31	2.58	0.17	0.032	(0.291)	0.008	0.024
32	2.67	0.17	0.032	(0.290)	0.008	0.024
33	2.75	0.17	0.032	(0.289)	0.008	0.024
34	2.83	0.17	0.032	(0.287)	0.008	0.024
35	2.92	0.17	0.032	(0.286)	0.008	0.024
36	3.00	0.17	0.032	(0.285)	0.008	0.024
37	3.08	0.17	0.032	(0.284)	0.008	0.024
38	3.17	0.17	0.032	(0.283)	0.008	0.024
39	3.25	0.17	0.032	(0.281)	0.008	0.024
40	3.33	0.17	0.032	(0.280)	0.008	0.024
41	3.42	0.17	0.032	(0.279)	0.008	0.024
42	3.50	0.17	0.032	(0.278)	0.008	0.024
43	3.58	0.17	0.032	(0.277)	0.008	0.024
44	3.67	0.17	0.032	(0.276)	0.008	0.024
45	3.75	0.17	0.032	(0.274)	0.008	0.024
46	3.83	0.20	0.038	(0.273)	0.010	0.029
47	3.92	0.20	0.038	(0.272)	0.010	0.029
48	4.00	0.20	0.038	(0.271)	0.010	0.029

49	4.08	0.20	0.038	(0.270)	0.010	0.029
50	4.17	0.20	0.038	(0.269)	0.010	0.029
51	4.25	0.20	0.038	(0.268)	0.010	0.029
52	4.33	0.23	0.045	(0.266)	0.011	0.034
53	4.42	0.23	0.045	(0.265)	0.011	0.034
54	4.50	0.23	0.045	(0.264)	0.011	0.034
55	4.58	0.23	0.045	(0.263)	0.011	0.034
56	4.67	0.23	0.045	(0.262)	0.011	0.034
57	4.75	0.23	0.045	(0.261)	0.011	0.034
58	4.83	0.27	0.051	(0.260)	0.013	0.038
59	4.92	0.27	0.051	(0.259)	0.013	0.038
60	5.00	0.27	0.051	(0.257)	0.013	0.038
61	5.08	0.20	0.038	(0.256)	0.010	0.029
62	5.17	0.20	0.038	(0.255)	0.010	0.029
63	5.25	0.20	0.038	(0.254)	0.010	0.029
64	5.33	0.23	0.045	(0.253)	0.011	0.034
65	5.42	0.23	0.045	(0.252)	0.011	0.034
66	5.50	0.23	0.045	(0.251)	0.011	0.034
67	5.58	0.27	0.051	(0.250)	0.013	0.038
68	5.67	0.27	0.051	(0.249)	0.013	0.038
69	5.75	0.27	0.051	(0.247)	0.013	0.038
70	5.83	0.27	0.051	(0.246)	0.013	0.038
71	5.92	0.27	0.051	(0.245)	0.013	0.038
72	6.00	0.27	0.051	(0.244)	0.013	0.038
73	6.08	0.30	0.058	(0.243)	0.014	0.043
74	6.17	0.30	0.058	(0.242)	0.014	0.043
75	6.25	0.30	0.058	(0.241)	0.014	0.043
76	6.33	0.30	0.058	(0.240)	0.014	0.043
77	6.42	0.30	0.058	(0.239)	0.014	0.043
78	6.50	0.30	0.058	(0.238)	0.014	0.043
79	6.58	0.33	0.064	(0.237)	0.016	0.048
80	6.67	0.33	0.064	(0.236)	0.016	0.048
81	6.75	0.33	0.064	(0.234)	0.016	0.048
82	6.83	0.33	0.064	(0.233)	0.016	0.048
83	6.92	0.33	0.064	(0.232)	0.016	0.048
84	7.00	0.33	0.064	(0.231)	0.016	0.048
85	7.08	0.33	0.064	(0.230)	0.016	0.048
86	7.17	0.33	0.064	(0.229)	0.016	0.048
87	7.25	0.33	0.064	(0.228)	0.016	0.048
88	7.33	0.37	0.070	(0.227)	0.018	0.053
89	7.42	0.37	0.070	(0.226)	0.018	0.053
90	7.50	0.37	0.070	(0.225)	0.018	0.053
91	7.58	0.40	0.077	(0.224)	0.019	0.058
92	7.67	0.40	0.077	(0.223)	0.019	0.058
93	7.75	0.40	0.077	(0.222)	0.019	0.058
94	7.83	0.43	0.083	(0.221)	0.021	0.062
95	7.92	0.43	0.083	(0.220)	0.021	0.062
96	8.00	0.43	0.083	(0.219)	0.021	0.062
97	8.08	0.50	0.096	(0.218)	0.024	0.072
98	8.17	0.50	0.096	(0.217)	0.024	0.072
99	8.25	0.50	0.096	(0.216)	0.024	0.072

100	8.33	0.50	0.096	(0.215)	0.024	0.072
101	8.42	0.50	0.096	(0.214)	0.024	0.072
102	8.50	0.50	0.096	(0.213)	0.024	0.072
103	8.58	0.53	0.102	(0.212)	0.026	0.077
104	8.67	0.53	0.102	(0.211)	0.026	0.077
105	8.75	0.53	0.102	(0.210)	0.026	0.077
106	8.83	0.57	0.109	(0.209)	0.027	0.082
107	8.92	0.57	0.109	(0.208)	0.027	0.082
108	9.00	0.57	0.109	(0.207)	0.027	0.082
109	9.08	0.63	0.122	(0.206)	0.030	0.091
110	9.17	0.63	0.122	(0.205)	0.030	0.091
111	9.25	0.63	0.122	(0.204)	0.030	0.091
112	9.33	0.67	0.128	(0.203)	0.032	0.096
113	9.42	0.67	0.128	(0.202)	0.032	0.096
114	9.50	0.67	0.128	(0.201)	0.032	0.096
115	9.58	0.70	0.134	(0.200)	0.034	0.101
116	9.67	0.70	0.134	(0.199)	0.034	0.101
117	9.75	0.70	0.134	(0.198)	0.034	0.101
118	9.83	0.73	0.141	(0.197)	0.035	0.106
119	9.92	0.73	0.141	(0.196)	0.035	0.106
120	10.00	0.73	0.141	(0.195)	0.035	0.106
121	10.08	0.50	0.096	(0.194)	0.024	0.072
122	10.17	0.50	0.096	(0.193)	0.024	0.072
123	10.25	0.50	0.096	(0.193)	0.024	0.072
124	10.33	0.50	0.096	(0.192)	0.024	0.072
125	10.42	0.50	0.096	(0.191)	0.024	0.072
126	10.50	0.50	0.096	(0.190)	0.024	0.072
127	10.58	0.67	0.128	(0.189)	0.032	0.096
128	10.67	0.67	0.128	(0.188)	0.032	0.096
129	10.75	0.67	0.128	(0.187)	0.032	0.096
130	10.83	0.67	0.128	(0.186)	0.032	0.096
131	10.92	0.67	0.128	(0.185)	0.032	0.096
132	11.00	0.67	0.128	(0.184)	0.032	0.096
133	11.08	0.63	0.122	(0.183)	0.030	0.091
134	11.17	0.63	0.122	(0.182)	0.030	0.091
135	11.25	0.63	0.122	(0.181)	0.030	0.091
136	11.33	0.63	0.122	(0.181)	0.030	0.091
137	11.42	0.63	0.122	(0.180)	0.030	0.091
138	11.50	0.63	0.122	(0.179)	0.030	0.091
139	11.58	0.57	0.109	(0.178)	0.027	0.082
140	11.67	0.57	0.109	(0.177)	0.027	0.082
141	11.75	0.57	0.109	(0.176)	0.027	0.082
142	11.83	0.60	0.115	(0.175)	0.029	0.086
143	11.92	0.60	0.115	(0.174)	0.029	0.086
144	12.00	0.60	0.115	(0.174)	0.029	0.086
145	12.08	0.83	0.160	(0.173)	0.040	0.120
146	12.17	0.83	0.160	(0.172)	0.040	0.120
147	12.25	0.83	0.160	(0.171)	0.040	0.120
148	12.33	0.87	0.166	(0.170)	0.042	0.125
149	12.42	0.87	0.166	(0.169)	0.042	0.125
150	12.50	0.87	0.166	(0.168)	0.042	0.125

151	12.58	0.93	0.179	(0.168)	0.045	0.134
152	12.67	0.93	0.179	(0.167)	0.045	0.134
153	12.75	0.93	0.179	(0.166)	0.045	0.134
154	12.83	0.97	0.186	(0.165)	0.046	0.139
155	12.92	0.97	0.186	(0.164)	0.046	0.139
156	13.00	0.97	0.186	(0.163)	0.046	0.139
157	13.08	1.13	0.218	(0.163)	0.054	0.163
158	13.17	1.13	0.218	(0.162)	0.054	0.163
159	13.25	1.13	0.218	(0.161)	0.054	0.163
160	13.33	1.13	0.218	(0.160)	0.054	0.163
161	13.42	1.13	0.218	(0.159)	0.054	0.163
162	13.50	1.13	0.218	(0.158)	0.054	0.163
163	13.58	0.77	0.147	(0.158)	0.037	0.110
164	13.67	0.77	0.147	(0.157)	0.037	0.110
165	13.75	0.77	0.147	(0.156)	0.037	0.110
166	13.83	0.77	0.147	(0.155)	0.037	0.110
167	13.92	0.77	0.147	(0.154)	0.037	0.110
168	14.00	0.77	0.147	(0.154)	0.037	0.110
169	14.08	0.90	0.173	(0.153)	0.043	0.130
170	14.17	0.90	0.173	(0.152)	0.043	0.130
171	14.25	0.90	0.173	(0.151)	0.043	0.130
172	14.33	0.87	0.166	(0.151)	0.042	0.125
173	14.42	0.87	0.166	(0.150)	0.042	0.125
174	14.50	0.87	0.166	(0.149)	0.042	0.125
175	14.58	0.87	0.166	(0.148)	0.042	0.125
176	14.67	0.87	0.166	(0.147)	0.042	0.125
177	14.75	0.87	0.166	(0.147)	0.042	0.125
178	14.83	0.83	0.160	(0.146)	0.040	0.120
179	14.92	0.83	0.160	(0.145)	0.040	0.120
180	15.00	0.83	0.160	(0.144)	0.040	0.120
181	15.08	0.80	0.154	(0.144)	0.038	0.115
182	15.17	0.80	0.154	(0.143)	0.038	0.115
183	15.25	0.80	0.154	(0.142)	0.038	0.115
184	15.33	0.77	0.147	(0.142)	0.037	0.110
185	15.42	0.77	0.147	(0.141)	0.037	0.110
186	15.50	0.77	0.147	(0.140)	0.037	0.110
187	15.58	0.63	0.122	(0.139)	0.030	0.091
188	15.67	0.63	0.122	(0.139)	0.030	0.091
189	15.75	0.63	0.122	(0.138)	0.030	0.091
190	15.83	0.63	0.122	(0.137)	0.030	0.091
191	15.92	0.63	0.122	(0.137)	0.030	0.091
192	16.00	0.63	0.122	(0.136)	0.030	0.091
193	16.08	0.13	0.026	(0.135)	0.006	0.019
194	16.17	0.13	0.026	(0.134)	0.006	0.019
195	16.25	0.13	0.026	(0.134)	0.006	0.019
196	16.33	0.13	0.026	(0.133)	0.006	0.019
197	16.42	0.13	0.026	(0.132)	0.006	0.019
198	16.50	0.13	0.026	(0.132)	0.006	0.019
199	16.58	0.10	0.019	(0.131)	0.005	0.014
200	16.67	0.10	0.019	(0.130)	0.005	0.014
201	16.75	0.10	0.019	(0.130)	0.005	0.014

202	16.83	0.10	0.019	(0.129)	0.005	0.014
203	16.92	0.10	0.019	(0.128)	0.005	0.014
204	17.00	0.10	0.019	(0.128)	0.005	0.014
205	17.08	0.17	0.032	(0.127)	0.008	0.024
206	17.17	0.17	0.032	(0.126)	0.008	0.024
207	17.25	0.17	0.032	(0.126)	0.008	0.024
208	17.33	0.17	0.032	(0.125)	0.008	0.024
209	17.42	0.17	0.032	(0.125)	0.008	0.024
210	17.50	0.17	0.032	(0.124)	0.008	0.024
211	17.58	0.17	0.032	(0.123)	0.008	0.024
212	17.67	0.17	0.032	(0.123)	0.008	0.024
213	17.75	0.17	0.032	(0.122)	0.008	0.024
214	17.83	0.13	0.026	(0.122)	0.006	0.019
215	17.92	0.13	0.026	(0.121)	0.006	0.019
216	18.00	0.13	0.026	(0.120)	0.006	0.019
217	18.08	0.13	0.026	(0.120)	0.006	0.019
218	18.17	0.13	0.026	(0.119)	0.006	0.019
219	18.25	0.13	0.026	(0.119)	0.006	0.019
220	18.33	0.13	0.026	(0.118)	0.006	0.019
221	18.42	0.13	0.026	(0.117)	0.006	0.019
222	18.50	0.13	0.026	(0.117)	0.006	0.019
223	18.58	0.10	0.019	(0.116)	0.005	0.014
224	18.67	0.10	0.019	(0.116)	0.005	0.014
225	18.75	0.10	0.019	(0.115)	0.005	0.014
226	18.83	0.07	0.013	(0.115)	0.003	0.010
227	18.92	0.07	0.013	(0.114)	0.003	0.010
228	19.00	0.07	0.013	(0.114)	0.003	0.010
229	19.08	0.10	0.019	(0.113)	0.005	0.014
230	19.17	0.10	0.019	(0.112)	0.005	0.014
231	19.25	0.10	0.019	(0.112)	0.005	0.014
232	19.33	0.13	0.026	(0.111)	0.006	0.019
233	19.42	0.13	0.026	(0.111)	0.006	0.019
234	19.50	0.13	0.026	(0.110)	0.006	0.019
235	19.58	0.10	0.019	(0.110)	0.005	0.014
236	19.67	0.10	0.019	(0.109)	0.005	0.014
237	19.75	0.10	0.019	(0.109)	0.005	0.014
238	19.83	0.07	0.013	(0.108)	0.003	0.010
239	19.92	0.07	0.013	(0.108)	0.003	0.010
240	20.00	0.07	0.013	(0.107)	0.003	0.010
241	20.08	0.10	0.019	(0.107)	0.005	0.014
242	20.17	0.10	0.019	(0.106)	0.005	0.014
243	20.25	0.10	0.019	(0.106)	0.005	0.014
244	20.33	0.10	0.019	(0.106)	0.005	0.014
245	20.42	0.10	0.019	(0.105)	0.005	0.014
246	20.50	0.10	0.019	(0.105)	0.005	0.014
247	20.58	0.10	0.019	(0.104)	0.005	0.014
248	20.67	0.10	0.019	(0.104)	0.005	0.014
249	20.75	0.10	0.019	(0.103)	0.005	0.014
250	20.83	0.07	0.013	(0.103)	0.003	0.010
251	20.92	0.07	0.013	(0.103)	0.003	0.010
252	21.00	0.07	0.013	(0.102)	0.003	0.010

253	21.08	0.10	0.019	(0.102)	0.005	0.014
254	21.17	0.10	0.019	(0.101)	0.005	0.014
255	21.25	0.10	0.019	(0.101)	0.005	0.014
256	21.33	0.07	0.013	(0.101)	0.003	0.010
257	21.42	0.07	0.013	(0.100)	0.003	0.010
258	21.50	0.07	0.013	(0.100)	0.003	0.010
259	21.58	0.10	0.019	(0.099)	0.005	0.014
260	21.67	0.10	0.019	(0.099)	0.005	0.014
261	21.75	0.10	0.019	(0.099)	0.005	0.014
262	21.83	0.07	0.013	(0.098)	0.003	0.010
263	21.92	0.07	0.013	(0.098)	0.003	0.010
264	22.00	0.07	0.013	(0.098)	0.003	0.010
265	22.08	0.10	0.019	(0.097)	0.005	0.014
266	22.17	0.10	0.019	(0.097)	0.005	0.014
267	22.25	0.10	0.019	(0.097)	0.005	0.014
268	22.33	0.07	0.013	(0.096)	0.003	0.010
269	22.42	0.07	0.013	(0.096)	0.003	0.010
270	22.50	0.07	0.013	(0.096)	0.003	0.010
271	22.58	0.07	0.013	(0.096)	0.003	0.010
272	22.67	0.07	0.013	(0.095)	0.003	0.010
273	22.75	0.07	0.013	(0.095)	0.003	0.010
274	22.83	0.07	0.013	(0.095)	0.003	0.010
275	22.92	0.07	0.013	(0.095)	0.003	0.010
276	23.00	0.07	0.013	(0.094)	0.003	0.010
277	23.08	0.07	0.013	(0.094)	0.003	0.010
278	23.17	0.07	0.013	(0.094)	0.003	0.010
279	23.25	0.07	0.013	(0.094)	0.003	0.010
280	23.33	0.07	0.013	(0.093)	0.003	0.010
281	23.42	0.07	0.013	(0.093)	0.003	0.010
282	23.50	0.07	0.013	(0.093)	0.003	0.010
283	23.58	0.07	0.013	(0.093)	0.003	0.010
284	23.67	0.07	0.013	(0.093)	0.003	0.010
285	23.75	0.07	0.013	(0.093)	0.003	0.010
286	23.83	0.07	0.013	(0.093)	0.003	0.010
287	23.92	0.07	0.013	(0.093)	0.003	0.010
288	24.00	0.07	0.013	(0.092)	0.003	0.010

(Loss Rate Not Used)

Sum = 100.0

Sum = 14.4

Flood volume = Effective rainfall 1.20(In)
times area 2.3(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.40(In)
Total soil loss = 0.076(Ac.Ft)
Total rainfall = 1.60(In)
Flood volume = 9888.1 Cubic Feet
Total soil loss = 3296.0 Cubic Feet

Peak flow rate of this hydrograph = 0.372(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	0.0000		0.00	Q				
0+10	0.0001		0.01	Q				
0+15	0.0002		0.02	Q				
0+20	0.0003		0.02	Q				
0+25	0.0005		0.03	Q				
0+30	0.0007		0.03	Q				
0+35	0.0010		0.03	Q				
0+40	0.0012		0.03	Q				
0+45	0.0014		0.03	Q				
0+50	0.0016		0.03	Q				
0+55	0.0019		0.04	Q				
1+ 0	0.0022		0.04	Q				
1+ 5	0.0025		0.04	Q				
1+10	0.0027		0.04	Q				
1+15	0.0030		0.04	Q				
1+20	0.0032		0.03	Q				
1+25	0.0034		0.03	Q				
1+30	0.0037		0.03	Q				
1+35	0.0039		0.03	Q				
1+40	0.0041		0.03	Q				
1+45	0.0043		0.03	Q				
1+50	0.0046		0.03	Q				
1+55	0.0048		0.04	Q				
2+ 0	0.0051		0.04	Q				
2+ 5	0.0054		0.04	Q				
2+10	0.0057		0.04	QV				
2+15	0.0060		0.04	QV				
2+20	0.0063		0.04	QV				
2+25	0.0066		0.04	QV				
2+30	0.0069		0.04	QV				
2+35	0.0072		0.04	QV				
2+40	0.0076		0.05	QV				
2+45	0.0079		0.05	QV				
2+50	0.0083		0.05	QV				
2+55	0.0087		0.05	QV				
3+ 0	0.0091		0.05	QV				
3+ 5	0.0094		0.05	QV				
3+10	0.0098		0.05	QV				
3+15	0.0102		0.05	QV				
3+20	0.0106		0.05	QV				
3+25	0.0110		0.05	QV				
3+30	0.0113		0.05	QV				
3+35	0.0117		0.05	Q V				
3+40	0.0121		0.05	Q V				
3+45	0.0125		0.05	Q V				

3+50	0.0128	0.06	Q V				
3+55	0.0133	0.06	Q V				
4+ 0	0.0137	0.06	Q V				
4+ 5	0.0141	0.06	Q V				
4+10	0.0146	0.07	Q V				
4+15	0.0151	0.07	Q V				
4+20	0.0155	0.07	Q V				
4+25	0.0160	0.07	Q V				
4+30	0.0165	0.07	Q V				
4+35	0.0170	0.08	Q V				
4+40	0.0176	0.08	Q V				
4+45	0.0181	0.08	Q V				
4+50	0.0186	0.08	Q V				
4+55	0.0192	0.08	Q V				
5+ 0	0.0198	0.09	Q V				
5+ 5	0.0204	0.09	Q V				
5+10	0.0209	0.08	Q V				
5+15	0.0214	0.07	Q V				
5+20	0.0218	0.07	Q V				
5+25	0.0223	0.07	Q V				
5+30	0.0229	0.08	Q V				
5+35	0.0234	0.08	Q V				
5+40	0.0240	0.08	Q V				
5+45	0.0245	0.09	Q V				
5+50	0.0251	0.09	Q V				
5+55	0.0257	0.09	Q V				
6+ 0	0.0263	0.09	Q V				
6+ 5	0.0270	0.09	Q V				
6+10	0.0276	0.09	Q V				
6+15	0.0283	0.10	Q V				
6+20	0.0289	0.10	Q V				
6+25	0.0296	0.10	Q V				
6+30	0.0303	0.10	Q V				
6+35	0.0310	0.10	Q V				
6+40	0.0317	0.10	Q V				
6+45	0.0324	0.11	Q V				
6+50	0.0332	0.11	Q V				
6+55	0.0339	0.11	Q V				
7+ 0	0.0347	0.11	Q V				
7+ 5	0.0354	0.11	Q V				
7+10	0.0362	0.11	Q V				
7+15	0.0370	0.11	Q V				
7+20	0.0377	0.11	Q V				
7+25	0.0385	0.12	Q V				
7+30	0.0393	0.12	Q V				
7+35	0.0402	0.12	Q V				
7+40	0.0410	0.13	Q V				
7+45	0.0419	0.13	Q V				
7+50	0.0428	0.13	Q V				
7+55	0.0438	0.14	Q V				
8+ 0	0.0447	0.14	Q V				

8+ 5	0.0457	0.14	Q	V					
8+10	0.0468	0.15	Q	V					
8+15	0.0479	0.16	Q	V					
8+20	0.0490	0.16	Q	V					
8+25	0.0501	0.16	Q	V					
8+30	0.0512	0.16	Q	V					
8+35	0.0524	0.17	Q	V					
8+40	0.0536	0.17	Q	V					
8+45	0.0547	0.17	Q	V					
8+50	0.0560	0.18	Q	V					
8+55	0.0572	0.18	Q	V					
9+ 0	0.0585	0.18	Q	V					
9+ 5	0.0598	0.19	Q	V					
9+10	0.0611	0.20	Q	V					
9+15	0.0625	0.20	Q	V					
9+20	0.0639	0.21	Q	V					
9+25	0.0654	0.21	Q	V					
9+30	0.0669	0.22	Q	V					
9+35	0.0684	0.22	Q	V					
9+40	0.0700	0.22	Q	V					
9+45	0.0715	0.23	Q	V					
9+50	0.0731	0.23	Q	V					
9+55	0.0747	0.24	Q	V					
10+ 0	0.0764	0.24	Q	V					
10+ 5	0.0780	0.23	Q	V					
10+10	0.0794	0.20	Q	V					
10+15	0.0806	0.18	Q	V					
10+20	0.0818	0.17	Q	V					
10+25	0.0830	0.17	Q	V					
10+30	0.0841	0.17	Q	V					
10+35	0.0853	0.17	Q	V					
10+40	0.0866	0.19	Q	V					
10+45	0.0881	0.21	Q	V					
10+50	0.0895	0.21	Q	V					
10+55	0.0910	0.22	Q	V					
11+ 0	0.0925	0.22	Q	V					
11+ 5	0.0940	0.22	Q	V					
11+10	0.0955	0.21	Q	V					
11+15	0.0970	0.21	Q	V					
11+20	0.0984	0.21	Q	V					
11+25	0.0999	0.21	Q	V					
11+30	0.1013	0.21	Q	V					
11+35	0.1027	0.21	Q	V					
11+40	0.1041	0.20	Q	V					
11+45	0.1054	0.19	Q	V					
11+50	0.1067	0.19	Q	V					
11+55	0.1080	0.19	Q	V					
12+ 0	0.1094	0.20	Q	V					
12+ 5	0.1108	0.20	Q	V					
12+10	0.1124	0.24	Q	V					
12+15	0.1142	0.26	Q	V					

12+20	0.1160	0.27	Q		V		
12+25	0.1179	0.28	Q		V		
12+30	0.1199	0.28	Q		V		
12+35	0.1218	0.29	Q		V		
12+40	0.1239	0.30	Q		V		
12+45	0.1260	0.30	Q		V		
12+50	0.1281	0.31	Q		V		
12+55	0.1302	0.31	Q		V		
13+ 0	0.1324	0.32	Q		V		
13+ 5	0.1346	0.32	Q		V		
13+10	0.1370	0.35	Q		V		
13+15	0.1395	0.36	Q		V		
13+20	0.1420	0.37	Q		V		
13+25	0.1445	0.37	Q		V		
13+30	0.1471	0.37	Q		V		
13+35	0.1496	0.36	Q		V		
13+40	0.1518	0.31	Q		V		
13+45	0.1537	0.28	Q		V		
13+50	0.1555	0.27	Q		V		
13+55	0.1573	0.26	Q		V		
14+ 0	0.1591	0.26	Q		V		
14+ 5	0.1608	0.26	Q		V		
14+10	0.1627	0.28	Q		V		
14+15	0.1647	0.29	Q		V		
14+20	0.1667	0.29	Q		V		
14+25	0.1687	0.29	Q		V		
14+30	0.1707	0.29	Q		V		
14+35	0.1727	0.29	Q		V		
14+40	0.1746	0.29	Q		V		
14+45	0.1766	0.29	Q		V		
14+50	0.1786	0.28	Q		V		
14+55	0.1805	0.28	Q		V		
15+ 0	0.1824	0.28	Q		V		
15+ 5	0.1843	0.28	Q		V		
15+10	0.1861	0.27	Q		V		
15+15	0.1880	0.27	Q		V		
15+20	0.1898	0.26	Q		V		
15+25	0.1916	0.26	Q		V		
15+30	0.1933	0.26	Q		V		
15+35	0.1951	0.25	Q		V		
15+40	0.1967	0.23	Q		V		
15+45	0.1982	0.22	Q		V		
15+50	0.1996	0.21	Q		V		
15+55	0.2011	0.21	Q		V		
16+ 0	0.2025	0.21	Q		V		
16+ 5	0.2039	0.20	Q		V		
16+10	0.2048	0.13	Q		V		
16+15	0.2053	0.08	Q		V		
16+20	0.2057	0.06	Q		V		
16+25	0.2061	0.05	Q		V		
16+30	0.2064	0.05	Q		V		

16+35	0.2067	0.05	Q				V
16+40	0.2070	0.04	Q				V
16+45	0.2073	0.04	Q				V
16+50	0.2075	0.03	Q				V
16+55	0.2077	0.03	Q				V
17+ 0	0.2080	0.03	Q				V
17+ 5	0.2082	0.03	Q				V
17+10	0.2085	0.04	Q				V
17+15	0.2089	0.05	Q				V
17+20	0.2092	0.05	Q				V
17+25	0.2096	0.05	Q				V
17+30	0.2100	0.05	Q				V
17+35	0.2103	0.05	Q				V
17+40	0.2107	0.05	Q				V
17+45	0.2111	0.05	Q				V
17+50	0.2115	0.05	Q				V
17+55	0.2118	0.05	Q				V
18+ 0	0.2121	0.05	Q				V
18+ 5	0.2124	0.05	Q				V
18+10	0.2127	0.04	Q				V
18+15	0.2130	0.04	Q				V
18+20	0.2133	0.04	Q				V
18+25	0.2137	0.04	Q				V
18+30	0.2140	0.04	Q				V
18+35	0.2143	0.04	Q				V
18+40	0.2145	0.04	Q				V
18+45	0.2148	0.04	Q				V
18+50	0.2150	0.03	Q				V
18+55	0.2152	0.03	Q				V
19+ 0	0.2154	0.02	Q				V
19+ 5	0.2155	0.02	Q				V
19+10	0.2157	0.03	Q				V
19+15	0.2159	0.03	Q				V
19+20	0.2161	0.03	Q				V
19+25	0.2164	0.04	Q				V
19+30	0.2167	0.04	Q				V
19+35	0.2170	0.04	Q				V
19+40	0.2172	0.04	Q				V
19+45	0.2175	0.04	Q				V
19+50	0.2177	0.03	Q				V
19+55	0.2179	0.03	Q				V
20+ 0	0.2181	0.02	Q				V
20+ 5	0.2182	0.02	Q				V
20+10	0.2184	0.03	Q				V
20+15	0.2186	0.03	Q				V
20+20	0.2189	0.03	Q				V
20+25	0.2191	0.03	Q				V
20+30	0.2193	0.03	Q				V
20+35	0.2195	0.03	Q				V
20+40	0.2198	0.03	Q				V
20+45	0.2200	0.03	Q				V

20+50	0.2202	0.03	Q				V
20+55	0.2204	0.03	Q				V
21+ 0	0.2206	0.02	Q				V
21+ 5	0.2207	0.02	Q				V
21+10	0.2209	0.03	Q				V
21+15	0.2211	0.03	Q				V
21+20	0.2214	0.03	Q				V
21+25	0.2215	0.03	Q				V
21+30	0.2217	0.02	Q				V
21+35	0.2219	0.02	Q				V
21+40	0.2221	0.03	Q				V
21+45	0.2223	0.03	Q				V
21+50	0.2225	0.03	Q				V
21+55	0.2227	0.03	Q				V
22+ 0	0.2228	0.02	Q				V
22+ 5	0.2230	0.02	Q				V
22+10	0.2232	0.03	Q				V
22+15	0.2234	0.03	Q				V
22+20	0.2236	0.03	Q				V
22+25	0.2238	0.03	Q				V
22+30	0.2240	0.02	Q				V
22+35	0.2241	0.02	Q				V
22+40	0.2243	0.02	Q				V
22+45	0.2244	0.02	Q				V
22+50	0.2246	0.02	Q				V
22+55	0.2248	0.02	Q				V
23+ 0	0.2249	0.02	Q				V
23+ 5	0.2251	0.02	Q				V
23+10	0.2252	0.02	Q				V
23+15	0.2254	0.02	Q				V
23+20	0.2255	0.02	Q				V
23+25	0.2257	0.02	Q				V
23+30	0.2258	0.02	Q				V
23+35	0.2260	0.02	Q				V
23+40	0.2261	0.02	Q				V
23+45	0.2263	0.02	Q				V
23+50	0.2264	0.02	Q				V
23+55	0.2266	0.02	Q				V
24+ 0	0.2267	0.02	Q				V
24+ 5	0.2269	0.02	Q				V
24+10	0.2269	0.01	Q				V
24+15	0.2270	0.00	Q				V
24+20	0.2270	0.00	Q				V
24+25	0.2270	0.00	Q				V
24+30	0.2270	0.00	Q				V
24+35	0.2270	0.00	Q				V
24+40	0.2270	0.00	Q				V
24+45	0.2270	0.00	Q				V

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchexa15.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
EX-A
5 yr existing
Kimley-Horn

Drainage Area = 2.27(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.27(Ac.) =
0.004 Sq. Mi.

USER Entry of lag time in hours
Lag time = 0.116 Hr.
Lag time = 6.96 Min.
25% of lag time = 1.74 Min.
40% of lag time = 2.78 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]
2.27	0.50	1.14

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.27	1.10	2.50

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.100(In)

Point rain (area averaged) = 0.641(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.641(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.270	56.00	0.820

Total Area Entered = 2.27(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.820	0.185	1.000	0.185
Sum (F) =						0.185

Area averaged mean soil loss (F) (In/Hr) = 0.185
Minimum soil loss rate ((In/Hr)) = 0.092
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

Slope of intensity-duration curve for a 1 hour storm =0.5500

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	71.839	7.478
2	0.167	143.678	42.579
3	0.250	215.517	28.152
4	0.333	287.356	10.698
5	0.417	359.195	5.830
6	0.500	431.034	2.898
7	0.583	502.874	1.029
8	0.667	574.713	0.577
9	0.750	646.552	0.483
10	0.833	718.391	0.275
Sum =		100.000	Sum= 2.288

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	3.30	0.254	(0.185)	0.063	0.190
2	0.17	4.20	0.323	(0.185)	0.081	0.242
3	0.25	4.40	0.338	(0.185)	0.085	0.254
4	0.33	4.80	0.369	(0.185)	0.092	0.277
5	0.42	5.20	0.400	(0.185)	0.100	0.300
6	0.50	6.20	0.477	(0.185)	0.119	0.357
7	0.58	6.80	0.523	(0.185)	0.131	0.392
8	0.67	8.80	0.676	(0.185)	0.169	0.507
9	0.75	13.90	1.068	0.185	(0.267)	0.883
10	0.83	31.40	2.413	0.185	(0.603)	2.229
11	0.92	7.20	0.553	(0.185)	0.138	0.415
12	1.00	3.80	0.292	(0.185)	0.073	0.219

(Loss Rate Not Used)

```
Sum = 100.0
```

Sum = 6.3

Flood volume = Effective rainfall $0.52(\text{In})$

$$\text{times area} \quad 2.3(\text{Ac.})/[(\text{In})/(\text{Ft.})] = \quad 0.1(\text{Ac. Ft})$$

Total soil loss = $0.12(\text{In})$

Total soil loss = 0.022 (Ac.Ft)

Total rainfall = 0.64(In)

Flood volume = 4302.2 Cubic Feet

Total soil loss = 975.8 Cubic Feet

Peak flow rate of this hydrograph = 3.027(CFS)

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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	0.0002	0.03	Q					
0+10	0.0018	0.23	Q					
0+15	0.0046	0.40	Q					
0+20	0.0080	0.50	Q V					
0+25	0.0119	0.57	Q V					
0+30	0.0163	0.64	Q V					
0+35	0.0213	0.73	Q V					
0+40	0.0271	0.83	Q V					
0+45	0.0343	1.06	Q V					
0+50	0.0464	1.75	Q V					
0+55	0.0672	3.03	Q V					
1+ 0	0.0824	2.21	Q V					
1+ 5	0.0907	1.20	Q V					

1+10	0.0949	0.62	Q				V
1+15	0.0969	0.29	Q				V
1+20	0.0978	0.13	Q				V
1+25	0.0983	0.07	Q				V
1+30	0.0986	0.04	Q				V
1+35	0.0987	0.02	Q				V
1+40	0.0988	0.01	Q				V
1+45	0.0988	0.00	Q				V

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchexa35.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
EX-A
5 yr existing
Kimley-Horn

Drainage Area = 2.27(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.27(Ac.) =
0.004 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.116 Hr.
Lag time = 6.96 Min.
25% of lag time = 1.74 Min.
40% of lag time = 2.78 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]
2.27	0.80	1.82

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.27	1.80	4.09

STORM EVENT (YEAR) = 5.00
 Area Averaged 2-Year Rainfall = 0.800(In)
 Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.034(In)
 Areal adjustment factor = 100.00 %
 Adjusted average point rain = 1.034(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.270	56.00	0.820

Total Area Entered = 2.27(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.820	0.185	1.000	0.185
Sum (F) =						0.185

Area averaged mean soil loss (F) (In/Hr) = 0.185
 Minimum soil loss rate ((In/Hr)) = 0.092
 (for 24 hour storm duration)
 Soil low loss rate (decimal) = 0.250

Unit Hydrograph
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	71.839	7.478
2	0.167	143.678	42.579
3	0.250	215.517	28.152
4	0.333	287.356	10.698
5	0.417	359.195	5.830
6	0.500	431.034	2.898
7	0.583	502.874	1.029
8	0.667	574.713	0.577
9	0.750	646.552	0.483
10	0.833	718.391	0.275
Sum =		100.000	Sum= 2.288

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	1.30	0.161	(0.185)	0.040	0.121
2	0.17	1.30	0.161	(0.185)	0.040	0.121
3	0.25	1.10	0.137	(0.185)	0.034	0.102
4	0.33	1.50	0.186	(0.185)	0.047	0.140
5	0.42	1.50	0.186	(0.185)	0.047	0.140
6	0.50	1.80	0.223	(0.185)	0.056	0.168
7	0.58	1.50	0.186	(0.185)	0.047	0.140
8	0.67	1.80	0.223	(0.185)	0.056	0.168
9	0.75	1.80	0.223	(0.185)	0.056	0.168
10	0.83	1.50	0.186	(0.185)	0.047	0.140
11	0.92	1.60	0.199	(0.185)	0.050	0.149
12	1.00	1.80	0.223	(0.185)	0.056	0.168
13	1.08	2.20	0.273	(0.185)	0.068	0.205
14	1.17	2.20	0.273	(0.185)	0.068	0.205
15	1.25	2.20	0.273	(0.185)	0.068	0.205
16	1.33	2.00	0.248	(0.185)	0.062	0.186
17	1.42	2.60	0.323	(0.185)	0.081	0.242
18	1.50	2.70	0.335	(0.185)	0.084	0.251
19	1.58	2.40	0.298	(0.185)	0.074	0.223
20	1.67	2.70	0.335	(0.185)	0.084	0.251
21	1.75	3.30	0.410	(0.185)	0.102	0.307
22	1.83	3.10	0.385	(0.185)	0.096	0.289
23	1.92	2.90	0.360	(0.185)	0.090	0.270
24	2.00	3.00	0.372	(0.185)	0.093	0.279
25	2.08	3.10	0.385	(0.185)	0.096	0.289
26	2.17	4.20	0.521	(0.185)	0.130	0.391
27	2.25	5.00	0.621	(0.185)	0.155	0.465
28	2.33	3.50	0.434	(0.185)	0.109	0.326
29	2.42	6.80	0.844	0.185	(0.211)	0.659
30	2.50	7.30	0.906	0.185	(0.226)	0.721
31	2.58	8.20	1.018	0.185	(0.254)	0.833
32	2.67	5.90	0.732	(0.185)	0.183	0.549
33	2.75	2.00	0.248	(0.185)	0.062	0.186
34	2.83	1.80	0.223	(0.185)	0.056	0.168
35	2.92	1.80	0.223	(0.185)	0.056	0.168
36	3.00	0.60	0.074	(0.185)	0.019	0.056

(Loss Rate Not Used)

Sum = 100.0

Sum = 9.4

Flood volume = Effective rainfall 0.79(In)
times area 2.3(Ac.)/[((In)/(Ft.))] = 0.1(Ac.Ft)
Total soil loss = 0.25(In)
Total soil loss = 0.047(Ac.Ft)
Total rainfall = 1.03(In)
Flood volume = 6485.6 Cubic Feet
Total soil loss = 2036.5 Cubic Feet

Peak flow rate of this hydrograph = 1.624(CFS)

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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	0.02	Q					
0+10	0.0011	0.14	Q					
0+15	0.0026	0.21	Q					
0+20	0.0042	0.23	QV					
0+25	0.0060	0.27	Q					
0+30	0.0081	0.30	QV					
0+35	0.0104	0.34	QV					
0+40	0.0128	0.34	Q V					
0+45	0.0152	0.36	Q V					
0+50	0.0177	0.37	Q V					
0+55	0.0201	0.35	Q V					
1+ 0	0.0225	0.34	Q V					
1+ 5	0.0251	0.37	Q V					
1+10	0.0279	0.42	Q V					
1+15	0.0310	0.45	Q V					
1+20	0.0341	0.45	Q V					
1+25	0.0372	0.45	Q V					
1+30	0.0407	0.50	Q V					
1+35	0.0444	0.54	Q V					
1+40	0.0480	0.53	Q V					
1+45	0.0519	0.56	Q V					
1+50	0.0562	0.63	Q V					
1+55	0.0606	0.65	Q V					
2+ 0	0.0650	0.63	Q V					
2+ 5	0.0693	0.64	Q V					
2+10	0.0739	0.67	Q V					
2+15	0.0793	0.78	Q V					
2+20	0.0856	0.90	Q V					
2+25	0.0917	0.90	Q V					
2+30	0.0998	1.18	Q V					
2+35	0.1098	1.45	Q V					
2+40	0.1210	1.62	Q V					
2+45	0.1307	1.41	Q V					
2+50	0.1371	0.93	Q V					
2+55	0.1415	0.63	Q V					
3+ 0	0.1448	0.49	Q V					
3+ 5	0.1469	0.30	Q V					
3+10	0.1479	0.15	Q V					
3+15	0.1484	0.07	Q V					
3+20	0.1487	0.04	Q V					
3+25	0.1488	0.02	Q V					
3+30	0.1488	0.01	Q V					

3+35	0.1489	0.00	Q				V
3+40	0.1489	0.00	Q				V
3+45	0.1489	0.00	Q				V

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchexa65.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
EX-A
5 yr existing
Kimley-Horn

Drainage Area = 2.27(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.27(Ac.) =
0.004 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.116 Hr.
Lag time = 6.96 Min.
25% of lag time = 1.74 Min.
40% of lag time = 2.78 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]
2.27	1.00	2.27

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.27	2.50	5.67

STORM EVENT (YEAR) = 5.00
 Area Averaged 2-Year Rainfall = 1.000(In)
 Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 1.351(In)
 Areal adjustment factor = 100.00 %
 Adjusted average point rain = 1.351(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.270	56.00	0.820

Total Area Entered = 2.27(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.820	0.185	1.000	0.185
Sum (F) =						0.185

Area averaged mean soil loss (F) (In/Hr) = 0.185
 Minimum soil loss rate ((In/Hr)) = 0.092
 (for 24 hour storm duration)
 Soil low loss rate (decimal) = 0.250

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	71.839	7.478
2	0.167	143.678	42.579
3	0.250	215.517	28.152
4	0.333	287.356	10.698
5	0.417	359.195	5.830
6	0.500	431.034	2.898
7	0.583	502.874	1.029
8	0.667	574.713	0.577
9	0.750	646.552	0.483
10	0.833	718.391	0.275
Sum = 100.000		Sum=	2.288

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.50	0.081	(0.185)	0.020	0.061
2	0.17	0.60	0.097	(0.185)	0.024	0.073
3	0.25	0.60	0.097	(0.185)	0.024	0.073
4	0.33	0.60	0.097	(0.185)	0.024	0.073
5	0.42	0.60	0.097	(0.185)	0.024	0.073
6	0.50	0.70	0.114	(0.185)	0.028	0.085
7	0.58	0.70	0.114	(0.185)	0.028	0.085
8	0.67	0.70	0.114	(0.185)	0.028	0.085
9	0.75	0.70	0.114	(0.185)	0.028	0.085
10	0.83	0.70	0.114	(0.185)	0.028	0.085
11	0.92	0.70	0.114	(0.185)	0.028	0.085
12	1.00	0.80	0.130	(0.185)	0.032	0.097
13	1.08	0.80	0.130	(0.185)	0.032	0.097
14	1.17	0.80	0.130	(0.185)	0.032	0.097
15	1.25	0.80	0.130	(0.185)	0.032	0.097
16	1.33	0.80	0.130	(0.185)	0.032	0.097
17	1.42	0.80	0.130	(0.185)	0.032	0.097
18	1.50	0.80	0.130	(0.185)	0.032	0.097
19	1.58	0.80	0.130	(0.185)	0.032	0.097
20	1.67	0.80	0.130	(0.185)	0.032	0.097
21	1.75	0.80	0.130	(0.185)	0.032	0.097
22	1.83	0.80	0.130	(0.185)	0.032	0.097
23	1.92	0.80	0.130	(0.185)	0.032	0.097
24	2.00	0.90	0.146	(0.185)	0.036	0.109
25	2.08	0.80	0.130	(0.185)	0.032	0.097
26	2.17	0.90	0.146	(0.185)	0.036	0.109
27	2.25	0.90	0.146	(0.185)	0.036	0.109
28	2.33	0.90	0.146	(0.185)	0.036	0.109
29	2.42	0.90	0.146	(0.185)	0.036	0.109
30	2.50	0.90	0.146	(0.185)	0.036	0.109
31	2.58	0.90	0.146	(0.185)	0.036	0.109
32	2.67	0.90	0.146	(0.185)	0.036	0.109
33	2.75	1.00	0.162	(0.185)	0.041	0.122
34	2.83	1.00	0.162	(0.185)	0.041	0.122
35	2.92	1.00	0.162	(0.185)	0.041	0.122
36	3.00	1.00	0.162	(0.185)	0.041	0.122
37	3.08	1.00	0.162	(0.185)	0.041	0.122
38	3.17	1.10	0.178	(0.185)	0.045	0.134
39	3.25	1.10	0.178	(0.185)	0.045	0.134
40	3.33	1.10	0.178	(0.185)	0.045	0.134
41	3.42	1.20	0.195	(0.185)	0.049	0.146
42	3.50	1.30	0.211	(0.185)	0.053	0.158
43	3.58	1.40	0.227	(0.185)	0.057	0.170
44	3.67	1.40	0.227	(0.185)	0.057	0.170
45	3.75	1.50	0.243	(0.185)	0.061	0.182
46	3.83	1.50	0.243	(0.185)	0.061	0.182
47	3.92	1.60	0.259	(0.185)	0.065	0.195
48	4.00	1.60	0.259	(0.185)	0.065	0.195

49	4.08	1.70	0.276	(0.185)	0.069	0.207
50	4.17	1.80	0.292	(0.185)	0.073	0.219
51	4.25	1.90	0.308	(0.185)	0.077	0.231
52	4.33	2.00	0.324	(0.185)	0.081	0.243
53	4.42	2.10	0.341	(0.185)	0.085	0.255
54	4.50	2.10	0.341	(0.185)	0.085	0.255
55	4.58	2.20	0.357	(0.185)	0.089	0.268
56	4.67	2.30	0.373	(0.185)	0.093	0.280
57	4.75	2.40	0.389	(0.185)	0.097	0.292
58	4.83	2.40	0.389	(0.185)	0.097	0.292
59	4.92	2.50	0.405	(0.185)	0.101	0.304
60	5.00	2.60	0.422	(0.185)	0.105	0.316
61	5.08	3.10	0.503	(0.185)	0.126	0.377
62	5.17	3.60	0.584	(0.185)	0.146	0.438
63	5.25	3.90	0.632	(0.185)	0.158	0.474
64	5.33	4.20	0.681	(0.185)	0.170	0.511
65	5.42	4.70	0.762	0.185 (0.191)		0.577
66	5.50	5.60	0.908	0.185 (0.227)		0.723
67	5.58	1.90	0.308	(0.185)	0.077	0.231
68	5.67	0.90	0.146	(0.185)	0.036	0.109
69	5.75	0.60	0.097	(0.185)	0.024	0.073
70	5.83	0.50	0.081	(0.185)	0.020	0.061
71	5.92	0.30	0.049	(0.185)	0.012	0.036
72	6.00	0.20	0.032	(0.185)	0.008	0.024

(Loss Rate Not Used)

Sum = 100.0

Sum = 12.2

Flood volume = Effective rainfall 1.02(In)
times area 2.3(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.33(In)
Total soil loss = 0.063(Ac.Ft)
Total rainfall = 1.35(In)
Flood volume = 8384.0 Cubic Feet
Total soil loss = 2751.1 Cubic Feet

Peak flow rate of this hydrograph = 1.352(CFS)

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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	0.0001	0.01	Q				
0+10	0.0006	0.07	Q				
0+15	0.0014	0.12	Q				
0+20	0.0024	0.15	Q				
0+25	0.0035	0.16	Q				
0+30	0.0046	0.16	Q				

0+35	0.0059	0.18	QV				
0+40	0.0071	0.19	QV				
0+45	0.0085	0.19	QV				
0+50	0.0098	0.19	Q V				
0+55	0.0111	0.19	Q V				
1+ 0	0.0125	0.20	Q V				
1+ 5	0.0139	0.21	Q V				
1+10	0.0154	0.22	Q V				
1+15	0.0169	0.22	Q V				
1+20	0.0184	0.22	Q V				
1+25	0.0200	0.22	Q V				
1+30	0.0215	0.22	Q V				
1+35	0.0230	0.22	Q V				
1+40	0.0246	0.22	Q V				
1+45	0.0261	0.22	Q V				
1+50	0.0276	0.22	Q V				
1+55	0.0292	0.22	Q V				
2+ 0	0.0307	0.22	Q V				
2+ 5	0.0323	0.23	Q V				
2+10	0.0339	0.23	Q V				
2+15	0.0356	0.24	Q V				
2+20	0.0373	0.25	Q V				
2+25	0.0390	0.25	Q V				
2+30	0.0407	0.25	Q V				
2+35	0.0424	0.25	Q V				
2+40	0.0442	0.25	Q V				
2+45	0.0459	0.25	Q V				
2+50	0.0477	0.26	Q V				
2+55	0.0496	0.27	Q V				
3+ 0	0.0515	0.28	Q V				
3+ 5	0.0534	0.28	Q V				
3+10	0.0553	0.28	Q V				
3+15	0.0573	0.29	Q V				
3+20	0.0594	0.30	Q V				
3+25	0.0615	0.31	Q V				
3+30	0.0637	0.32	Q V				
3+35	0.0661	0.34	Q V				
3+40	0.0686	0.37	Q V				
3+45	0.0712	0.38	Q V				
3+50	0.0740	0.40	Q V				
3+55	0.0768	0.41	Q V				
4+ 0	0.0797	0.43	Q V				
4+ 5	0.0828	0.44	Q V				
4+10	0.0859	0.46	Q V				
4+15	0.0892	0.48	Q V				
4+20	0.0927	0.51	Q V				
4+25	0.0964	0.53	Q V				
4+30	0.1002	0.56	Q V				
4+35	0.1042	0.57	Q V				
4+40	0.1083	0.59	Q V				
4+45	0.1126	0.62	Q V				

4+50	0.1170	0.64	Q			V		
4+55	0.1215	0.66	Q			V		
5+ 0	0.1262	0.68	Q			V		
5+ 5	0.1311	0.71	Q			V		
5+10	0.1366	0.79	Q			V		
5+15	0.1428	0.90	Q			V		
5+20	0.1497	1.00	Q			V		
5+25	0.1573	1.10	Q			V		
5+30	0.1657	1.23	Q			V		
5+35	0.1751	1.35	Q			V		
5+40	0.1817	0.97	Q			V		
5+45	0.1857	0.58	Q			V		
5+50	0.1883	0.37	Q			V		
5+55	0.1900	0.25	Q			V		
6+ 0	0.1911	0.16	Q			V		
6+ 5	0.1918	0.10	Q			V		
6+10	0.1922	0.05	Q			V		
6+15	0.1923	0.03	Q			V		
6+20	0.1924	0.01	Q			V		
6+25	0.1924	0.00	Q			V		
6+30	0.1925	0.00	Q			V		
6+35	0.1925	0.00	Q			V		
6+40	0.1925	0.00	Q			V		
6+45	0.1925	0.00	Q			V		

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchexa245.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
EX-A
5 yr existing
Kimley-Horn

Drainage Area = 2.27(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.27(Ac.) =
0.004 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.116 Hr.
Lag time = 6.96 Min.
25% of lag time = 1.74 Min.
40% of lag time = 2.78 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.27	1.60	3.63

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.27	4.00	9.08

STORM EVENT (YEAR) = 5.00
 Area Averaged 2-Year Rainfall = 1.600(In)
 Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 2.162(In)
 Areal adjustment factor = 100.00 %
 Adjusted average point rain = 2.162(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.270	56.00	0.820
Total Area Entered = 2.27(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.820	0.185	1.000	0.185
Sum (F) =						0.185

Area averaged mean soil loss (F) (In/Hr) = 0.185
 Minimum soil loss rate ((In/Hr)) = 0.092
 (for 24 hour storm duration)
 Soil low loss rate (decimal) = 0.250

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	71.839	7.478
2	0.167	143.678	42.579
3	0.250	215.517	28.152
4	0.333	287.356	10.698
5	0.417	359.195	5.830
6	0.500	431.034	2.898
7	0.583	502.874	1.029
8	0.667	574.713	0.577
9	0.750	646.552	0.483
10	0.833	718.391	0.275
Sum = 100.000		Sum=	2.288

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.017	(0.328)	0.004	0.013
2	0.17	0.07	0.017	(0.327)	0.004	0.013
3	0.25	0.07	0.017	(0.325)	0.004	0.013
4	0.33	0.10	0.026	(0.324)	0.006	0.019
5	0.42	0.10	0.026	(0.323)	0.006	0.019
6	0.50	0.10	0.026	(0.322)	0.006	0.019
7	0.58	0.10	0.026	(0.320)	0.006	0.019
8	0.67	0.10	0.026	(0.319)	0.006	0.019
9	0.75	0.10	0.026	(0.318)	0.006	0.019
10	0.83	0.13	0.035	(0.317)	0.009	0.026
11	0.92	0.13	0.035	(0.315)	0.009	0.026
12	1.00	0.13	0.035	(0.314)	0.009	0.026
13	1.08	0.10	0.026	(0.313)	0.006	0.019
14	1.17	0.10	0.026	(0.312)	0.006	0.019
15	1.25	0.10	0.026	(0.310)	0.006	0.019
16	1.33	0.10	0.026	(0.309)	0.006	0.019
17	1.42	0.10	0.026	(0.308)	0.006	0.019
18	1.50	0.10	0.026	(0.307)	0.006	0.019
19	1.58	0.10	0.026	(0.305)	0.006	0.019
20	1.67	0.10	0.026	(0.304)	0.006	0.019
21	1.75	0.10	0.026	(0.303)	0.006	0.019
22	1.83	0.13	0.035	(0.302)	0.009	0.026
23	1.92	0.13	0.035	(0.301)	0.009	0.026
24	2.00	0.13	0.035	(0.299)	0.009	0.026
25	2.08	0.13	0.035	(0.298)	0.009	0.026
26	2.17	0.13	0.035	(0.297)	0.009	0.026
27	2.25	0.13	0.035	(0.296)	0.009	0.026
28	2.33	0.13	0.035	(0.295)	0.009	0.026
29	2.42	0.13	0.035	(0.293)	0.009	0.026
30	2.50	0.13	0.035	(0.292)	0.009	0.026
31	2.58	0.17	0.043	(0.291)	0.011	0.032
32	2.67	0.17	0.043	(0.290)	0.011	0.032
33	2.75	0.17	0.043	(0.289)	0.011	0.032
34	2.83	0.17	0.043	(0.287)	0.011	0.032
35	2.92	0.17	0.043	(0.286)	0.011	0.032
36	3.00	0.17	0.043	(0.285)	0.011	0.032
37	3.08	0.17	0.043	(0.284)	0.011	0.032
38	3.17	0.17	0.043	(0.283)	0.011	0.032
39	3.25	0.17	0.043	(0.281)	0.011	0.032
40	3.33	0.17	0.043	(0.280)	0.011	0.032
41	3.42	0.17	0.043	(0.279)	0.011	0.032
42	3.50	0.17	0.043	(0.278)	0.011	0.032
43	3.58	0.17	0.043	(0.277)	0.011	0.032
44	3.67	0.17	0.043	(0.276)	0.011	0.032
45	3.75	0.17	0.043	(0.274)	0.011	0.032
46	3.83	0.20	0.052	(0.273)	0.013	0.039
47	3.92	0.20	0.052	(0.272)	0.013	0.039
48	4.00	0.20	0.052	(0.271)	0.013	0.039

49	4.08	0.20	0.052	(0.270)	0.013	0.039
50	4.17	0.20	0.052	(0.269)	0.013	0.039
51	4.25	0.20	0.052	(0.268)	0.013	0.039
52	4.33	0.23	0.061	(0.266)	0.015	0.045
53	4.42	0.23	0.061	(0.265)	0.015	0.045
54	4.50	0.23	0.061	(0.264)	0.015	0.045
55	4.58	0.23	0.061	(0.263)	0.015	0.045
56	4.67	0.23	0.061	(0.262)	0.015	0.045
57	4.75	0.23	0.061	(0.261)	0.015	0.045
58	4.83	0.27	0.069	(0.260)	0.017	0.052
59	4.92	0.27	0.069	(0.259)	0.017	0.052
60	5.00	0.27	0.069	(0.257)	0.017	0.052
61	5.08	0.20	0.052	(0.256)	0.013	0.039
62	5.17	0.20	0.052	(0.255)	0.013	0.039
63	5.25	0.20	0.052	(0.254)	0.013	0.039
64	5.33	0.23	0.061	(0.253)	0.015	0.045
65	5.42	0.23	0.061	(0.252)	0.015	0.045
66	5.50	0.23	0.061	(0.251)	0.015	0.045
67	5.58	0.27	0.069	(0.250)	0.017	0.052
68	5.67	0.27	0.069	(0.249)	0.017	0.052
69	5.75	0.27	0.069	(0.247)	0.017	0.052
70	5.83	0.27	0.069	(0.246)	0.017	0.052
71	5.92	0.27	0.069	(0.245)	0.017	0.052
72	6.00	0.27	0.069	(0.244)	0.017	0.052
73	6.08	0.30	0.078	(0.243)	0.019	0.058
74	6.17	0.30	0.078	(0.242)	0.019	0.058
75	6.25	0.30	0.078	(0.241)	0.019	0.058
76	6.33	0.30	0.078	(0.240)	0.019	0.058
77	6.42	0.30	0.078	(0.239)	0.019	0.058
78	6.50	0.30	0.078	(0.238)	0.019	0.058
79	6.58	0.33	0.086	(0.237)	0.022	0.065
80	6.67	0.33	0.086	(0.236)	0.022	0.065
81	6.75	0.33	0.086	(0.234)	0.022	0.065
82	6.83	0.33	0.086	(0.233)	0.022	0.065
83	6.92	0.33	0.086	(0.232)	0.022	0.065
84	7.00	0.33	0.086	(0.231)	0.022	0.065
85	7.08	0.33	0.086	(0.230)	0.022	0.065
86	7.17	0.33	0.086	(0.229)	0.022	0.065
87	7.25	0.33	0.086	(0.228)	0.022	0.065
88	7.33	0.37	0.095	(0.227)	0.024	0.071
89	7.42	0.37	0.095	(0.226)	0.024	0.071
90	7.50	0.37	0.095	(0.225)	0.024	0.071
91	7.58	0.40	0.104	(0.224)	0.026	0.078
92	7.67	0.40	0.104	(0.223)	0.026	0.078
93	7.75	0.40	0.104	(0.222)	0.026	0.078
94	7.83	0.43	0.112	(0.221)	0.028	0.084
95	7.92	0.43	0.112	(0.220)	0.028	0.084
96	8.00	0.43	0.112	(0.219)	0.028	0.084
97	8.08	0.50	0.130	(0.218)	0.032	0.097
98	8.17	0.50	0.130	(0.217)	0.032	0.097
99	8.25	0.50	0.130	(0.216)	0.032	0.097

100	8.33	0.50	0.130	(0.215)	0.032	0.097
101	8.42	0.50	0.130	(0.214)	0.032	0.097
102	8.50	0.50	0.130	(0.213)	0.032	0.097
103	8.58	0.53	0.138	(0.212)	0.035	0.104
104	8.67	0.53	0.138	(0.211)	0.035	0.104
105	8.75	0.53	0.138	(0.210)	0.035	0.104
106	8.83	0.57	0.147	(0.209)	0.037	0.110
107	8.92	0.57	0.147	(0.208)	0.037	0.110
108	9.00	0.57	0.147	(0.207)	0.037	0.110
109	9.08	0.63	0.164	(0.206)	0.041	0.123
110	9.17	0.63	0.164	(0.205)	0.041	0.123
111	9.25	0.63	0.164	(0.204)	0.041	0.123
112	9.33	0.67	0.173	(0.203)	0.043	0.130
113	9.42	0.67	0.173	(0.202)	0.043	0.130
114	9.50	0.67	0.173	(0.201)	0.043	0.130
115	9.58	0.70	0.182	(0.200)	0.045	0.136
116	9.67	0.70	0.182	(0.199)	0.045	0.136
117	9.75	0.70	0.182	(0.198)	0.045	0.136
118	9.83	0.73	0.190	(0.197)	0.048	0.143
119	9.92	0.73	0.190	(0.196)	0.048	0.143
120	10.00	0.73	0.190	(0.195)	0.048	0.143
121	10.08	0.50	0.130	(0.194)	0.032	0.097
122	10.17	0.50	0.130	(0.193)	0.032	0.097
123	10.25	0.50	0.130	(0.193)	0.032	0.097
124	10.33	0.50	0.130	(0.192)	0.032	0.097
125	10.42	0.50	0.130	(0.191)	0.032	0.097
126	10.50	0.50	0.130	(0.190)	0.032	0.097
127	10.58	0.67	0.173	(0.189)	0.043	0.130
128	10.67	0.67	0.173	(0.188)	0.043	0.130
129	10.75	0.67	0.173	(0.187)	0.043	0.130
130	10.83	0.67	0.173	(0.186)	0.043	0.130
131	10.92	0.67	0.173	(0.185)	0.043	0.130
132	11.00	0.67	0.173	(0.184)	0.043	0.130
133	11.08	0.63	0.164	(0.183)	0.041	0.123
134	11.17	0.63	0.164	(0.182)	0.041	0.123
135	11.25	0.63	0.164	(0.181)	0.041	0.123
136	11.33	0.63	0.164	(0.181)	0.041	0.123
137	11.42	0.63	0.164	(0.180)	0.041	0.123
138	11.50	0.63	0.164	(0.179)	0.041	0.123
139	11.58	0.57	0.147	(0.178)	0.037	0.110
140	11.67	0.57	0.147	(0.177)	0.037	0.110
141	11.75	0.57	0.147	(0.176)	0.037	0.110
142	11.83	0.60	0.156	(0.175)	0.039	0.117
143	11.92	0.60	0.156	(0.174)	0.039	0.117
144	12.00	0.60	0.156	(0.174)	0.039	0.117
145	12.08	0.83	0.216	(0.173)	0.054	0.162
146	12.17	0.83	0.216	(0.172)	0.054	0.162
147	12.25	0.83	0.216	(0.171)	0.054	0.162
148	12.33	0.87	0.225	(0.170)	0.056	0.169
149	12.42	0.87	0.225	(0.169)	0.056	0.169
150	12.50	0.87	0.225	(0.168)	0.056	0.169

151	12.58	0.93	0.242	(0.168)	0.061	0.182
152	12.67	0.93	0.242	(0.167)	0.061	0.182
153	12.75	0.93	0.242	(0.166)	0.061	0.182
154	12.83	0.97	0.251	(0.165)	0.063	0.188
155	12.92	0.97	0.251	(0.164)	0.063	0.188
156	13.00	0.97	0.251	(0.163)	0.063	0.188
157	13.08	1.13	0.294	(0.163)	0.074	0.221
158	13.17	1.13	0.294	(0.162)	0.074	0.221
159	13.25	1.13	0.294	(0.161)	0.074	0.221
160	13.33	1.13	0.294	(0.160)	0.074	0.221
161	13.42	1.13	0.294	(0.159)	0.074	0.221
162	13.50	1.13	0.294	(0.158)	0.074	0.221
163	13.58	0.77	0.199	(0.158)	0.050	0.149
164	13.67	0.77	0.199	(0.157)	0.050	0.149
165	13.75	0.77	0.199	(0.156)	0.050	0.149
166	13.83	0.77	0.199	(0.155)	0.050	0.149
167	13.92	0.77	0.199	(0.154)	0.050	0.149
168	14.00	0.77	0.199	(0.154)	0.050	0.149
169	14.08	0.90	0.234	(0.153)	0.058	0.175
170	14.17	0.90	0.234	(0.152)	0.058	0.175
171	14.25	0.90	0.234	(0.151)	0.058	0.175
172	14.33	0.87	0.225	(0.151)	0.056	0.169
173	14.42	0.87	0.225	(0.150)	0.056	0.169
174	14.50	0.87	0.225	(0.149)	0.056	0.169
175	14.58	0.87	0.225	(0.148)	0.056	0.169
176	14.67	0.87	0.225	(0.147)	0.056	0.169
177	14.75	0.87	0.225	(0.147)	0.056	0.169
178	14.83	0.83	0.216	(0.146)	0.054	0.162
179	14.92	0.83	0.216	(0.145)	0.054	0.162
180	15.00	0.83	0.216	(0.144)	0.054	0.162
181	15.08	0.80	0.208	(0.144)	0.052	0.156
182	15.17	0.80	0.208	(0.143)	0.052	0.156
183	15.25	0.80	0.208	(0.142)	0.052	0.156
184	15.33	0.77	0.199	(0.142)	0.050	0.149
185	15.42	0.77	0.199	(0.141)	0.050	0.149
186	15.50	0.77	0.199	(0.140)	0.050	0.149
187	15.58	0.63	0.164	(0.139)	0.041	0.123
188	15.67	0.63	0.164	(0.139)	0.041	0.123
189	15.75	0.63	0.164	(0.138)	0.041	0.123
190	15.83	0.63	0.164	(0.137)	0.041	0.123
191	15.92	0.63	0.164	(0.137)	0.041	0.123
192	16.00	0.63	0.164	(0.136)	0.041	0.123
193	16.08	0.13	0.035	(0.135)	0.009	0.026
194	16.17	0.13	0.035	(0.134)	0.009	0.026
195	16.25	0.13	0.035	(0.134)	0.009	0.026
196	16.33	0.13	0.035	(0.133)	0.009	0.026
197	16.42	0.13	0.035	(0.132)	0.009	0.026
198	16.50	0.13	0.035	(0.132)	0.009	0.026
199	16.58	0.10	0.026	(0.131)	0.006	0.019
200	16.67	0.10	0.026	(0.130)	0.006	0.019
201	16.75	0.10	0.026	(0.130)	0.006	0.019

202	16.83	0.10	0.026	(0.129)	0.006	0.019
203	16.92	0.10	0.026	(0.128)	0.006	0.019
204	17.00	0.10	0.026	(0.128)	0.006	0.019
205	17.08	0.17	0.043	(0.127)	0.011	0.032
206	17.17	0.17	0.043	(0.126)	0.011	0.032
207	17.25	0.17	0.043	(0.126)	0.011	0.032
208	17.33	0.17	0.043	(0.125)	0.011	0.032
209	17.42	0.17	0.043	(0.125)	0.011	0.032
210	17.50	0.17	0.043	(0.124)	0.011	0.032
211	17.58	0.17	0.043	(0.123)	0.011	0.032
212	17.67	0.17	0.043	(0.123)	0.011	0.032
213	17.75	0.17	0.043	(0.122)	0.011	0.032
214	17.83	0.13	0.035	(0.122)	0.009	0.026
215	17.92	0.13	0.035	(0.121)	0.009	0.026
216	18.00	0.13	0.035	(0.120)	0.009	0.026
217	18.08	0.13	0.035	(0.120)	0.009	0.026
218	18.17	0.13	0.035	(0.119)	0.009	0.026
219	18.25	0.13	0.035	(0.119)	0.009	0.026
220	18.33	0.13	0.035	(0.118)	0.009	0.026
221	18.42	0.13	0.035	(0.117)	0.009	0.026
222	18.50	0.13	0.035	(0.117)	0.009	0.026
223	18.58	0.10	0.026	(0.116)	0.006	0.019
224	18.67	0.10	0.026	(0.116)	0.006	0.019
225	18.75	0.10	0.026	(0.115)	0.006	0.019
226	18.83	0.07	0.017	(0.115)	0.004	0.013
227	18.92	0.07	0.017	(0.114)	0.004	0.013
228	19.00	0.07	0.017	(0.114)	0.004	0.013
229	19.08	0.10	0.026	(0.113)	0.006	0.019
230	19.17	0.10	0.026	(0.112)	0.006	0.019
231	19.25	0.10	0.026	(0.112)	0.006	0.019
232	19.33	0.13	0.035	(0.111)	0.009	0.026
233	19.42	0.13	0.035	(0.111)	0.009	0.026
234	19.50	0.13	0.035	(0.110)	0.009	0.026
235	19.58	0.10	0.026	(0.110)	0.006	0.019
236	19.67	0.10	0.026	(0.109)	0.006	0.019
237	19.75	0.10	0.026	(0.109)	0.006	0.019
238	19.83	0.07	0.017	(0.108)	0.004	0.013
239	19.92	0.07	0.017	(0.108)	0.004	0.013
240	20.00	0.07	0.017	(0.107)	0.004	0.013
241	20.08	0.10	0.026	(0.107)	0.006	0.019
242	20.17	0.10	0.026	(0.106)	0.006	0.019
243	20.25	0.10	0.026	(0.106)	0.006	0.019
244	20.33	0.10	0.026	(0.106)	0.006	0.019
245	20.42	0.10	0.026	(0.105)	0.006	0.019
246	20.50	0.10	0.026	(0.105)	0.006	0.019
247	20.58	0.10	0.026	(0.104)	0.006	0.019
248	20.67	0.10	0.026	(0.104)	0.006	0.019
249	20.75	0.10	0.026	(0.103)	0.006	0.019
250	20.83	0.07	0.017	(0.103)	0.004	0.013
251	20.92	0.07	0.017	(0.103)	0.004	0.013
252	21.00	0.07	0.017	(0.102)	0.004	0.013

253	21.08	0.10	0.026	(0.102)	0.006	0.019
254	21.17	0.10	0.026	(0.101)	0.006	0.019
255	21.25	0.10	0.026	(0.101)	0.006	0.019
256	21.33	0.07	0.017	(0.101)	0.004	0.013
257	21.42	0.07	0.017	(0.100)	0.004	0.013
258	21.50	0.07	0.017	(0.100)	0.004	0.013
259	21.58	0.10	0.026	(0.099)	0.006	0.019
260	21.67	0.10	0.026	(0.099)	0.006	0.019
261	21.75	0.10	0.026	(0.099)	0.006	0.019
262	21.83	0.07	0.017	(0.098)	0.004	0.013
263	21.92	0.07	0.017	(0.098)	0.004	0.013
264	22.00	0.07	0.017	(0.098)	0.004	0.013
265	22.08	0.10	0.026	(0.097)	0.006	0.019
266	22.17	0.10	0.026	(0.097)	0.006	0.019
267	22.25	0.10	0.026	(0.097)	0.006	0.019
268	22.33	0.07	0.017	(0.096)	0.004	0.013
269	22.42	0.07	0.017	(0.096)	0.004	0.013
270	22.50	0.07	0.017	(0.096)	0.004	0.013
271	22.58	0.07	0.017	(0.096)	0.004	0.013
272	22.67	0.07	0.017	(0.095)	0.004	0.013
273	22.75	0.07	0.017	(0.095)	0.004	0.013
274	22.83	0.07	0.017	(0.095)	0.004	0.013
275	22.92	0.07	0.017	(0.095)	0.004	0.013
276	23.00	0.07	0.017	(0.094)	0.004	0.013
277	23.08	0.07	0.017	(0.094)	0.004	0.013
278	23.17	0.07	0.017	(0.094)	0.004	0.013
279	23.25	0.07	0.017	(0.094)	0.004	0.013
280	23.33	0.07	0.017	(0.093)	0.004	0.013
281	23.42	0.07	0.017	(0.093)	0.004	0.013
282	23.50	0.07	0.017	(0.093)	0.004	0.013
283	23.58	0.07	0.017	(0.093)	0.004	0.013
284	23.67	0.07	0.017	(0.093)	0.004	0.013
285	23.75	0.07	0.017	(0.093)	0.004	0.013
286	23.83	0.07	0.017	(0.093)	0.004	0.013
287	23.92	0.07	0.017	(0.093)	0.004	0.013
288	24.00	0.07	0.017	(0.092)	0.004	0.013

(Loss Rate Not Used)

Sum = 100.0

Sum = 19.5

Flood volume = Effective rainfall 1.62(In)
times area 2.3(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.54(In)
Total soil loss = 0.102(Ac.Ft)
Total rainfall = 2.16(In)
Flood volume = 13362.1 Cubic Feet
Total soil loss = 4454.0 Cubic Feet

Peak flow rate of this hydrograph = 0.503(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	0.0000		0.00	Q				
0+10	0.0001		0.01	Q				
0+15	0.0003		0.02	Q				
0+20	0.0005		0.03	Q				
0+25	0.0007		0.04	Q				
0+30	0.0010		0.04	Q				
0+35	0.0013		0.04	Q				
0+40	0.0016		0.04	Q				
0+45	0.0019		0.04	Q				
0+50	0.0022		0.05	Q				
0+55	0.0026		0.05	Q				
1+ 0	0.0029		0.06	Q				
1+ 5	0.0033		0.06	Q				
1+10	0.0037		0.05	Q				
1+15	0.0040		0.05	Q				
1+20	0.0043		0.05	Q				
1+25	0.0046		0.05	Q				
1+30	0.0050		0.04	Q				
1+35	0.0053		0.04	Q				
1+40	0.0056		0.04	Q				
1+45	0.0059		0.04	Q				
1+50	0.0062		0.05	Q				
1+55	0.0065		0.05	Q				
2+ 0	0.0069		0.06	Q				
2+ 5	0.0073		0.06	Q				
2+10	0.0077		0.06	QV				
2+15	0.0081		0.06	QV				
2+20	0.0085		0.06	QV				
2+25	0.0090		0.06	QV				
2+30	0.0094		0.06	QV				
2+35	0.0098		0.06	QV				
2+40	0.0102		0.07	QV				
2+45	0.0107		0.07	QV				
2+50	0.0112		0.07	QV				
2+55	0.0117		0.07	QV				
3+ 0	0.0122		0.07	QV				
3+ 5	0.0128		0.07	QV				
3+10	0.0133		0.07	QV				
3+15	0.0138		0.07	QV				
3+20	0.0143		0.07	QV				
3+25	0.0148		0.07	QV				
3+30	0.0153		0.07	QV				
3+35	0.0158		0.07	Q V				
3+40	0.0163		0.07	Q V				
3+45	0.0168		0.07	Q V				

3+50	0.0174	0.08	Q V				
3+55	0.0179	0.08	Q V				
4+ 0	0.0185	0.09	Q V				
4+ 5	0.0191	0.09	Q V				
4+10	0.0197	0.09	Q V				
4+15	0.0203	0.09	Q V				
4+20	0.0210	0.09	Q V				
4+25	0.0216	0.10	Q V				
4+30	0.0223	0.10	Q V				
4+35	0.0230	0.10	Q V				
4+40	0.0237	0.10	Q V				
4+45	0.0244	0.10	Q V				
4+50	0.0252	0.10	Q V				
4+55	0.0259	0.11	Q V				
5+ 0	0.0267	0.12	Q V				
5+ 5	0.0275	0.11	Q V				
5+10	0.0282	0.10	Q V				
5+15	0.0289	0.10	Q V				
5+20	0.0295	0.09	Q V				
5+25	0.0302	0.10	Q V				
5+30	0.0309	0.10	Q V				
5+35	0.0316	0.10	Q V				
5+40	0.0324	0.11	Q V				
5+45	0.0332	0.12	Q V				
5+50	0.0340	0.12	Q V				
5+55	0.0348	0.12	Q V				
6+ 0	0.0356	0.12	Q V				
6+ 5	0.0364	0.12	Q V				
6+10	0.0373	0.13	Q V				
6+15	0.0382	0.13	Q V				
6+20	0.0391	0.13	Q V				
6+25	0.0400	0.13	Q V				
6+30	0.0409	0.13	Q V				
6+35	0.0419	0.13	Q V				
6+40	0.0428	0.14	Q V				
6+45	0.0438	0.15	Q V				
6+50	0.0448	0.15	Q V				
6+55	0.0459	0.15	Q V				
7+ 0	0.0469	0.15	Q V				
7+ 5	0.0479	0.15	Q V				
7+10	0.0489	0.15	Q V				
7+15	0.0499	0.15	Q V				
7+20	0.0510	0.15	Q V				
7+25	0.0520	0.16	Q V				
7+30	0.0532	0.16	Q V				
7+35	0.0543	0.16	Q V				
7+40	0.0554	0.17	Q V				
7+45	0.0566	0.17	Q V				
7+50	0.0579	0.18	Q V				
7+55	0.0591	0.18	Q V				
8+ 0	0.0604	0.19	Q V				

8+ 5	0.0618	0.19	Q	V					
8+10	0.0632	0.21	Q	V					
8+15	0.0647	0.22	Q	V					
8+20	0.0662	0.22	Q	V					
8+25	0.0677	0.22	Q	V					
8+30	0.0692	0.22	Q	V					
8+35	0.0708	0.22	Q	V					
8+40	0.0724	0.23	Q	V					
8+45	0.0740	0.23	Q	V					
8+50	0.0756	0.24	Q	V					
8+55	0.0773	0.24	Q	V					
9+ 0	0.0790	0.25	Q	V					
9+ 5	0.0808	0.25	Q	V					
9+10	0.0826	0.27	Q	V					
9+15	0.0845	0.28	Q	V					
9+20	0.0864	0.28	Q	V					
9+25	0.0884	0.29	Q	V					
9+30	0.0904	0.29	Q	V					
9+35	0.0924	0.30	Q	V					
9+40	0.0945	0.30	Q	V					
9+45	0.0967	0.31	Q	V					
9+50	0.0988	0.31	Q	V					
9+55	0.1010	0.32	Q	V					
10+ 0	0.1032	0.32	Q	V					
10+ 5	0.1054	0.32	Q	V					
10+10	0.1073	0.27	Q	V					
10+15	0.1090	0.24	Q	V					
10+20	0.1106	0.23	Q	V					
10+25	0.1122	0.23	Q	V					
10+30	0.1137	0.23	Q	V					
10+35	0.1153	0.23	Q	V					
10+40	0.1171	0.26	Q	V					
10+45	0.1190	0.28	Q	V					
10+50	0.1210	0.29	Q	V					
10+55	0.1230	0.29	Q	V					
11+ 0	0.1251	0.30	Q	V					
11+ 5	0.1271	0.29	Q	V					
11+10	0.1291	0.29	Q	V					
11+15	0.1310	0.29	Q	V					
11+20	0.1330	0.28	Q	V					
11+25	0.1349	0.28	Q	V					
11+30	0.1369	0.28	Q	V					
11+35	0.1388	0.28	Q	V					
11+40	0.1407	0.27	Q	V					
11+45	0.1424	0.26	Q	V					
11+50	0.1442	0.26	Q	V					
11+55	0.1460	0.26	Q	V					
12+ 0	0.1478	0.26	Q	V					
12+ 5	0.1497	0.27	Q	V					
12+10	0.1519	0.32	Q	V					
12+15	0.1543	0.35	Q	V					

12+20	0.1568	0.36	Q		V		
12+25	0.1594	0.37	Q		V		
12+30	0.1620	0.38	Q		V		
12+35	0.1646	0.39	Q		V		
12+40	0.1674	0.40	Q		V		
12+45	0.1702	0.41	Q		V		
12+50	0.1730	0.41	Q		V		
12+55	0.1760	0.42	Q		V		
13+ 0	0.1789	0.43	Q		V		
13+ 5	0.1819	0.43	Q		V		
13+10	0.1851	0.47	Q		V		
13+15	0.1885	0.49	Q		V		
13+20	0.1919	0.50	Q		V		
13+25	0.1953	0.50	Q		V		
13+30	0.1988	0.50	Q		V		
13+35	0.2022	0.49	Q		V		
13+40	0.2051	0.42	Q		V		
13+45	0.2077	0.38	Q		V		
13+50	0.2102	0.36	Q		V		
13+55	0.2126	0.35	Q		V		
14+ 0	0.2149	0.35	Q		V		
14+ 5	0.2173	0.35	Q		V		
14+10	0.2199	0.37	Q		V		
14+15	0.2226	0.39	Q		V		
14+20	0.2253	0.39	Q		V		
14+25	0.2280	0.39	Q		V		
14+30	0.2306	0.39	Q		V		
14+35	0.2333	0.39	Q		V		
14+40	0.2360	0.39	Q		V		
14+45	0.2386	0.39	Q		V		
14+50	0.2413	0.39	Q		V		
14+55	0.2439	0.38	Q		V		
15+ 0	0.2465	0.37	Q		V		
15+ 5	0.2490	0.37	Q		V		
15+10	0.2515	0.36	Q		V		
15+15	0.2540	0.36	Q		V		
15+20	0.2565	0.36	Q		V		
15+25	0.2589	0.35	Q		V		
15+30	0.2613	0.35	Q		V		
15+35	0.2636	0.34	Q		V		
15+40	0.2658	0.31	Q		V		
15+45	0.2678	0.30	Q		V		
15+50	0.2698	0.29	Q		V		
15+55	0.2717	0.29	Q		V		
16+ 0	0.2737	0.28	Q		V		
16+ 5	0.2755	0.27	Q		V		
16+10	0.2767	0.17	Q		V		
16+15	0.2774	0.11	Q		V		
16+20	0.2780	0.08	Q		V		
16+25	0.2785	0.07	Q		V		
16+30	0.2790	0.06	Q		V		

16+35	0.2794	0.06	Q				V
16+40	0.2798	0.05	Q				V
16+45	0.2801	0.05	Q				V
16+50	0.2804	0.05	Q				V
16+55	0.2807	0.05	Q				V
17+ 0	0.2810	0.04	Q				V
17+ 5	0.2814	0.05	Q				V
17+10	0.2818	0.06	Q				V
17+15	0.2822	0.07	Q				V
17+20	0.2827	0.07	Q				V
17+25	0.2832	0.07	Q				V
17+30	0.2837	0.07	Q				V
17+35	0.2842	0.07	Q				V
17+40	0.2847	0.07	Q				V
17+45	0.2853	0.07	Q				V
17+50	0.2858	0.07	Q				V
17+55	0.2862	0.07	Q				V
18+ 0	0.2866	0.06	Q				V
18+ 5	0.2871	0.06	Q				V
18+10	0.2875	0.06	Q				V
18+15	0.2879	0.06	Q				V
18+20	0.2883	0.06	Q				V
18+25	0.2887	0.06	Q				V
18+30	0.2891	0.06	Q				V
18+35	0.2895	0.06	Q				V
18+40	0.2899	0.05	Q				V
18+45	0.2902	0.05	Q				V
18+50	0.2905	0.05	Q				V
18+55	0.2908	0.04	Q				V
19+ 0	0.2910	0.03	Q				V
19+ 5	0.2912	0.03	Q				V
19+10	0.2915	0.04	Q				V
19+15	0.2918	0.04	Q				V
19+20	0.2921	0.04	Q				V
19+25	0.2924	0.05	Q				V
19+30	0.2928	0.06	Q				V
19+35	0.2932	0.06	Q				V
19+40	0.2936	0.05	Q				V
19+45	0.2939	0.05	Q				V
19+50	0.2942	0.04	Q				V
19+55	0.2945	0.04	Q				V
20+ 0	0.2947	0.03	Q				V
20+ 5	0.2949	0.03	Q				V
20+10	0.2952	0.04	Q				V
20+15	0.2955	0.04	Q				V
20+20	0.2958	0.04	Q				V
20+25	0.2961	0.04	Q				V
20+30	0.2964	0.04	Q				V
20+35	0.2967	0.04	Q				V
20+40	0.2970	0.04	Q				V
20+45	0.2973	0.04	Q				V

20+50	0.2976	0.04	Q				V
20+55	0.2978	0.04	Q				V
21+ 0	0.2981	0.03	Q				V
21+ 5	0.2983	0.03	Q				V
21+10	0.2986	0.04	Q				V
21+15	0.2988	0.04	Q				V
21+20	0.2991	0.04	Q				V
21+25	0.2994	0.04	Q				V
21+30	0.2996	0.03	Q				V
21+35	0.2998	0.03	Q				V
21+40	0.3001	0.04	Q				V
21+45	0.3004	0.04	Q				V
21+50	0.3007	0.04	Q				V
21+55	0.3009	0.04	Q				V
22+ 0	0.3011	0.03	Q				V
22+ 5	0.3014	0.03	Q				V
22+10	0.3016	0.04	Q				V
22+15	0.3019	0.04	Q				V
22+20	0.3022	0.04	Q				V
22+25	0.3024	0.04	Q				V
22+30	0.3027	0.03	Q				V
22+35	0.3029	0.03	Q				V
22+40	0.3031	0.03	Q				V
22+45	0.3033	0.03	Q				V
22+50	0.3035	0.03	Q				V
22+55	0.3037	0.03	Q				V
23+ 0	0.3039	0.03	Q				V
23+ 5	0.3041	0.03	Q				V
23+10	0.3043	0.03	Q				V
23+15	0.3045	0.03	Q				V
23+20	0.3047	0.03	Q				V
23+25	0.3049	0.03	Q				V
23+30	0.3051	0.03	Q				V
23+35	0.3054	0.03	Q				V
23+40	0.3056	0.03	Q				V
23+45	0.3058	0.03	Q				V
23+50	0.3060	0.03	Q				V
23+55	0.3062	0.03	Q				V
24+ 0	0.3064	0.03	Q				V
24+ 5	0.3066	0.03	Q				V
24+10	0.3067	0.01	Q				V
24+15	0.3067	0.01	Q				V
24+20	0.3067	0.00	Q				V
24+25	0.3067	0.00	Q				V
24+30	0.3067	0.00	Q				V
24+35	0.3067	0.00	Q				V
24+40	0.3068	0.00	Q				V
24+45	0.3068	0.00	Q				V

Unit Hydrograph Analysis

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Study date 09/25/24 File: RCHEXA110.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
EX-A
10 yr Existing
Kimley-Horn

Drainage Area = 2.27(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.27(Ac.) =
0.004 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.116 Hr.
Lag time = 6.96 Min.
25% of lag time = 1.74 Min.
40% of lag time = 2.78 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]
2.27	0.50	1.14

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.27	1.10	2.50

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.100(In)

Point rain (area averaged) = 0.747(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.747(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.270	56.00	0.820

Total Area Entered = 2.27(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	56.0	0.511	0.820	0.134	1.000	0.134
Sum (F) =						0.134

Area averaged mean soil loss (F) (In/Hr) = 0.134
Minimum soil loss rate ((In/Hr)) = 0.067
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

Slope of intensity-duration curve for a 1 hour storm =0.5500

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

----- Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	71.839	7.478
2	0.167	143.678	42.579
3	0.250	215.517	28.152
4	0.333	287.356	10.698
5	0.417	359.195	5.830
6	0.500	431.034	2.898
7	0.583	502.874	1.029
8	0.667	574.713	0.577
9	0.750	646.552	0.483
10	0.833	718.391	0.275
Sum =		100.000	Sum= 2.288

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	3.30	0.296	(0.134)	0.074	0.222
2	0.17	4.20	0.376	(0.134)	0.094	0.282
3	0.25	4.40	0.394	(0.134)	0.099	0.296
4	0.33	4.80	0.430	(0.134)	0.108	0.323
5	0.42	5.20	0.466	(0.134)	0.117	0.350
6	0.50	6.20	0.556	0.134	(0.139)	0.422
7	0.58	6.80	0.609	0.134	(0.152)	0.476
8	0.67	8.80	0.789	0.134	(0.197)	0.655
9	0.75	13.90	1.246	0.134	(0.311)	1.112
10	0.83	31.40	2.814	0.134	(0.704)	2.680
11	0.92	7.20	0.645	0.134	(0.161)	0.511
12	1.00	3.80	0.341	(0.134)	0.085	0.255

(Loss Rate Not Used)

```
Sum = 100.0
```

Sum = 7.6

Flood volume = Effective rainfall $0.63(\text{In})$

$$\text{times area} \quad 2.3(\text{Ac.})/[(\text{In})/(\text{Ft.})] = \quad 0.1(\text{Ac. Ft})$$
$$\text{Total soil loss} = 0.11(\text{In})$$

Total soil loss = 0.022 (Ac.Ft)

Total rainfall = 0.75(In)

Flood volume = 5207.2 Cubic Feet

Total soil loss = 946.8 Cubic Feet

Peak flow rate of this hydrograph = 3.685(CFS)

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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	0.0021	0.26	VQ					
0+15	0.0053	0.47	Q					
0+20	0.0093	0.58	QV					
0+25	0.0139	0.66	Q V					
0+30	0.0190	0.75	Q V					
0+35	0.0249	0.86	Q V					
0+40	0.0319	1.01	Q V					
0+45	0.0409	1.32	Q V					
0+50	0.0559	2.18	Q V					
0+55	0.0813	3.69	Q V					
1+ 0	0.0998	2.68	Q V					
1+ 5	0.1098	1.45	Q V					

1+10	0.1149	0.75	Q				V
1+15	0.1173	0.35	Q				V
1+20	0.1184	0.16	Q				V
1+25	0.1190	0.08	Q				V
1+30	0.1193	0.05	Q				V
1+35	0.1195	0.03	Q				V
1+40	0.1195	0.01	Q				V
1+45	0.1195	0.00	Q				V

Unit Hydrograph Analysis

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
EX-A
10 yr Existing
Kimley-Horn

Drainage Area = 2.27(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.27(Ac.) =
0.004 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.116 Hr.
Lag time = 6.96 Min.
25% of lag time = 1.74 Min.
40% of lag time = 2.78 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]
2.27	0.80	1.82

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.27	1.80	4.09

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.211(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.211(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.270	56.00	0.820

Total Area Entered = 2.27(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	56.0	0.511	0.820	0.134	1.000	0.134
Sum (F) =						0.134

Area averaged mean soil loss (F) (In/Hr) = 0.134
Minimum soil loss rate ((In/Hr)) = 0.067
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

Unit Hydrograph FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	71.839	7.478
2	0.167	143.678	42.579
3	0.250	215.517	28.152
4	0.333	287.356	10.698
5	0.417	359.195	5.830
6	0.500	431.034	2.898
7	0.583	502.874	1.029
8	0.667	574.713	0.577
9	0.750	646.552	0.483
10	0.833	718.391	0.275
Sum =		100.000	Sum= 2.288

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	1.30	0.189	(0.134)	0.047	0.142
2	0.17	1.30	0.189	(0.134)	0.047	0.142
3	0.25	1.10	0.160	(0.134)	0.040	0.120
4	0.33	1.50	0.218	(0.134)	0.055	0.164
5	0.42	1.50	0.218	(0.134)	0.055	0.164
6	0.50	1.80	0.262	(0.134)	0.065	0.196
7	0.58	1.50	0.218	(0.134)	0.055	0.164
8	0.67	1.80	0.262	(0.134)	0.065	0.196
9	0.75	1.80	0.262	(0.134)	0.065	0.196
10	0.83	1.50	0.218	(0.134)	0.055	0.164
11	0.92	1.60	0.233	(0.134)	0.058	0.174
12	1.00	1.80	0.262	(0.134)	0.065	0.196
13	1.08	2.20	0.320	(0.134)	0.080	0.240
14	1.17	2.20	0.320	(0.134)	0.080	0.240
15	1.25	2.20	0.320	(0.134)	0.080	0.240
16	1.33	2.00	0.291	(0.134)	0.073	0.218
17	1.42	2.60	0.378	(0.134)	0.094	0.283
18	1.50	2.70	0.392	(0.134)	0.098	0.294
19	1.58	2.40	0.349	(0.134)	0.087	0.262
20	1.67	2.70	0.392	(0.134)	0.098	0.294
21	1.75	3.30	0.480	(0.134)	0.120	0.360
22	1.83	3.10	0.451	(0.134)	0.113	0.338
23	1.92	2.90	0.422	(0.134)	0.105	0.316
24	2.00	3.00	0.436	(0.134)	0.109	0.327
25	2.08	3.10	0.451	(0.134)	0.113	0.338
26	2.17	4.20	0.611	0.134	(0.153)	0.477
27	2.25	5.00	0.727	0.134	(0.182)	0.593
28	2.33	3.50	0.509	(0.134)	0.127	0.382
29	2.42	6.80	0.988	0.134	(0.247)	0.855
30	2.50	7.30	1.061	0.134	(0.265)	0.927
31	2.58	8.20	1.192	0.134	(0.298)	1.058
32	2.67	5.90	0.858	0.134	(0.214)	0.724
33	2.75	2.00	0.291	(0.134)	0.073	0.218
34	2.83	1.80	0.262	(0.134)	0.065	0.196
35	2.92	1.80	0.262	(0.134)	0.065	0.196
36	3.00	0.60	0.087	(0.134)	0.022	0.065

(Loss Rate Not Used)

Sum = 100.0

Sum = 11.5

Flood volume = Effective rainfall 0.95(In)
times area 2.3(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.049(Ac.Ft)
Total rainfall = 1.21(In)
Flood volume = 7868.5 Cubic Feet
Total soil loss = 2113.6 Cubic Feet

Peak flow rate of this hydrograph = 2.074(CFS)

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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	0.0002	0.02	Q					
0+10	0.0013	0.16	Q					
0+15	0.0030	0.25	Q					
0+20	0.0049	0.27	Q					
0+25	0.0071	0.32	Q					
0+30	0.0095	0.36	QV					
0+35	0.0122	0.39	QV					
0+40	0.0149	0.39	Q V					
0+45	0.0178	0.42	Q V					
0+50	0.0208	0.43	Q V					
0+55	0.0236	0.41	Q V					
1+ 0	0.0264	0.40	Q V					
1+ 5	0.0293	0.43	Q V					
1+10	0.0327	0.49	Q V					
1+15	0.0363	0.52	Q V					
1+20	0.0400	0.53	Q V					
1+25	0.0436	0.53	Q V					
1+30	0.0476	0.58	Q V					
1+35	0.0520	0.63	Q V					
1+40	0.0562	0.62	Q V					
1+45	0.0607	0.65	Q V					
1+50	0.0658	0.73	Q V					
1+55	0.0710	0.76	Q V					
2+ 0	0.0761	0.74	Q V					
2+ 5	0.0812	0.75	Q V					
2+10	0.0866	0.78	Q V					
2+15	0.0931	0.95	Q V					
2+20	0.1008	1.12	Q V					
2+25	0.1084	1.10	Q V					
2+30	0.1186	1.49	Q V					
2+35	0.1314	1.86	Q V					
2+40	0.1457	2.07	Q V					
2+45	0.1582	1.82	Q V					
2+50	0.1663	1.18	Q V					
2+55	0.1717	0.78	Q V					
3+ 0	0.1758	0.59	Q V					
3+ 5	0.1783	0.36	Q V					
3+10	0.1795	0.18	Q V					
3+15	0.1801	0.09	Q V					
3+20	0.1804	0.04	Q V					
3+25	0.1805	0.02	Q V					
3+30	0.1806	0.01	Q V					

3+35	0.1806	0.00	Q				V
3+40	0.1806	0.00	Q				V
3+45	0.1806	0.00	Q				V

Unit Hydrograph Analysis

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Study date 09/25/24 File: RCHEXA610.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
EX-A
10 yr Existing
Kimley-Horn

Drainage Area = 2.27(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.27(Ac.) =
0.004 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.116 Hr.
Lag time = 6.96 Min.
25% of lag time = 1.74 Min.
40% of lag time = 2.78 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]
2.27	1.00	2.27

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.27	2.50	5.67

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 1.617(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.617(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.270	56.00	0.820

Total Area Entered = 2.27(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	56.0	0.511	0.820	0.134	1.000	0.134
Sum (F) =						0.134

Area averaged mean soil loss (F) (In/Hr) = 0.134
Minimum soil loss rate ((In/Hr)) = 0.067
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	71.839	7.478
2	0.167	143.678	42.579
3	0.250	215.517	28.152
4	0.333	287.356	10.698
5	0.417	359.195	5.830
6	0.500	431.034	2.898
7	0.583	502.874	1.029
8	0.667	574.713	0.577
9	0.750	646.552	0.483
10	0.833	718.391	0.275
Sum =		100.000	Sum= 2.288

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.50	0.097	(0.134)	0.024	0.073
2	0.17	0.60	0.116	(0.134)	0.029	0.087
3	0.25	0.60	0.116	(0.134)	0.029	0.087
4	0.33	0.60	0.116	(0.134)	0.029	0.087
5	0.42	0.60	0.116	(0.134)	0.029	0.087
6	0.50	0.70	0.136	(0.134)	0.034	0.102
7	0.58	0.70	0.136	(0.134)	0.034	0.102
8	0.67	0.70	0.136	(0.134)	0.034	0.102
9	0.75	0.70	0.136	(0.134)	0.034	0.102
10	0.83	0.70	0.136	(0.134)	0.034	0.102
11	0.92	0.70	0.136	(0.134)	0.034	0.102
12	1.00	0.80	0.155	(0.134)	0.039	0.116
13	1.08	0.80	0.155	(0.134)	0.039	0.116
14	1.17	0.80	0.155	(0.134)	0.039	0.116
15	1.25	0.80	0.155	(0.134)	0.039	0.116
16	1.33	0.80	0.155	(0.134)	0.039	0.116
17	1.42	0.80	0.155	(0.134)	0.039	0.116
18	1.50	0.80	0.155	(0.134)	0.039	0.116
19	1.58	0.80	0.155	(0.134)	0.039	0.116
20	1.67	0.80	0.155	(0.134)	0.039	0.116
21	1.75	0.80	0.155	(0.134)	0.039	0.116
22	1.83	0.80	0.155	(0.134)	0.039	0.116
23	1.92	0.80	0.155	(0.134)	0.039	0.116
24	2.00	0.90	0.175	(0.134)	0.044	0.131
25	2.08	0.80	0.155	(0.134)	0.039	0.116
26	2.17	0.90	0.175	(0.134)	0.044	0.131
27	2.25	0.90	0.175	(0.134)	0.044	0.131
28	2.33	0.90	0.175	(0.134)	0.044	0.131
29	2.42	0.90	0.175	(0.134)	0.044	0.131
30	2.50	0.90	0.175	(0.134)	0.044	0.131
31	2.58	0.90	0.175	(0.134)	0.044	0.131
32	2.67	0.90	0.175	(0.134)	0.044	0.131
33	2.75	1.00	0.194	(0.134)	0.049	0.146
34	2.83	1.00	0.194	(0.134)	0.049	0.146
35	2.92	1.00	0.194	(0.134)	0.049	0.146
36	3.00	1.00	0.194	(0.134)	0.049	0.146
37	3.08	1.00	0.194	(0.134)	0.049	0.146
38	3.17	1.10	0.213	(0.134)	0.053	0.160
39	3.25	1.10	0.213	(0.134)	0.053	0.160
40	3.33	1.10	0.213	(0.134)	0.053	0.160
41	3.42	1.20	0.233	(0.134)	0.058	0.175
42	3.50	1.30	0.252	(0.134)	0.063	0.189
43	3.58	1.40	0.272	(0.134)	0.068	0.204
44	3.67	1.40	0.272	(0.134)	0.068	0.204
45	3.75	1.50	0.291	(0.134)	0.073	0.218
46	3.83	1.50	0.291	(0.134)	0.073	0.218
47	3.92	1.60	0.310	(0.134)	0.078	0.233
48	4.00	1.60	0.310	(0.134)	0.078	0.233

49	4.08	1.70	0.330	(0.134)	0.082	0.247
50	4.17	1.80	0.349	(0.134)	0.087	0.262
51	4.25	1.90	0.369	(0.134)	0.092	0.277
52	4.33	2.00	0.388	(0.134)	0.097	0.291
53	4.42	2.10	0.408	(0.134)	0.102	0.306
54	4.50	2.10	0.408	(0.134)	0.102	0.306
55	4.58	2.20	0.427	(0.134)	0.107	0.320
56	4.67	2.30	0.446	(0.134)	0.112	0.335
57	4.75	2.40	0.466	(0.134)	0.116	0.349
58	4.83	2.40	0.466	(0.134)	0.116	0.349
59	4.92	2.50	0.485	(0.134)	0.121	0.364
60	5.00	2.60	0.505	(0.134)	0.126	0.378
61	5.08	3.10	0.602	0.134	(0.150)	0.468
62	5.17	3.60	0.699	0.134	(0.175)	0.565
63	5.25	3.90	0.757	0.134	(0.189)	0.623
64	5.33	4.20	0.815	0.134	(0.204)	0.681
65	5.42	4.70	0.912	0.134	(0.228)	0.778
66	5.50	5.60	1.087	0.134	(0.272)	0.953
67	5.58	1.90	0.369	(0.134)	0.092	0.277
68	5.67	0.90	0.175	(0.134)	0.044	0.131
69	5.75	0.60	0.116	(0.134)	0.029	0.087
70	5.83	0.50	0.097	(0.134)	0.024	0.073
71	5.92	0.30	0.058	(0.134)	0.015	0.044
72	6.00	0.20	0.039	(0.134)	0.010	0.029

(Loss Rate Not Used)

Sum = 100.0

Sum = 15.0

Flood volume = Effective rainfall 1.25(In)
times area 2.3(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.37(In)
Total soil loss = 0.070(Ac.Ft)
Total rainfall = 1.62(In)
Flood volume = 10278.6 Cubic Feet
Total soil loss = 3046.5 Cubic Feet

Peak flow rate of this hydrograph = 1.787(CFS)

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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	0.0001	0.01	Q				
0+10	0.0007	0.09	Q				
0+15	0.0017	0.15	Q				
0+20	0.0029	0.17	Q				
0+25	0.0042	0.19	Q				
0+30	0.0055	0.20	Q				

0+35	0.0070	0.21	QV				
0+40	0.0085	0.22	QV				
0+45	0.0101	0.23	QV				
0+50	0.0117	0.23	QV				
0+55	0.0133	0.23	Q V				
1+ 0	0.0149	0.24	Q V				
1+ 5	0.0167	0.25	Q V				
1+10	0.0184	0.26	Q V				
1+15	0.0203	0.26	Q V				
1+20	0.0221	0.26	Q V				
1+25	0.0239	0.27	Q V				
1+30	0.0257	0.27	Q V				
1+35	0.0276	0.27	Q V				
1+40	0.0294	0.27	Q V				
1+45	0.0312	0.27	Q V				
1+50	0.0331	0.27	Q V				
1+55	0.0349	0.27	Q V				
2+ 0	0.0368	0.27	Q V				
2+ 5	0.0387	0.28	Q V				
2+10	0.0406	0.28	Q V				
2+15	0.0426	0.29	Q V				
2+20	0.0446	0.29	Q V				
2+25	0.0467	0.30	Q V				
2+30	0.0487	0.30	Q V				
2+35	0.0508	0.30	Q V				
2+40	0.0528	0.30	Q V				
2+45	0.0549	0.30	Q V				
2+50	0.0571	0.32	Q V				
2+55	0.0593	0.33	Q V				
3+ 0	0.0616	0.33	Q V				
3+ 5	0.0639	0.33	Q V				
3+10	0.0662	0.33	Q V				
3+15	0.0686	0.35	Q V				
3+20	0.0711	0.36	Q V				
3+25	0.0736	0.37	Q V				
3+30	0.0762	0.38	Q V				
3+35	0.0791	0.41	Q V				
3+40	0.0821	0.44	Q V				
3+45	0.0852	0.46	Q V				
3+50	0.0885	0.48	Q V				
3+55	0.0919	0.49	Q V				
4+ 0	0.0954	0.51	Q				
4+ 5	0.0990	0.53	Q				
4+10	0.1028	0.55	Q				
4+15	0.1068	0.58	Q				
4+20	0.1110	0.61	Q				
4+25	0.1154	0.64	Q				
4+30	0.1200	0.67	Q				
4+35	0.1247	0.69	Q				
4+40	0.1296	0.71	Q				
4+45	0.1347	0.74	Q				

4+50	0.1400	0.77	Q			V		
4+55	0.1454	0.79	Q			V		
5+ 0	0.1510	0.81	Q			V		
5+ 5	0.1569	0.85	Q			V		
5+10	0.1636	0.97	Q			V		
5+15	0.1715	1.14	Q			V		
5+20	0.1804	1.30	Q			V		
5+25	0.1903	1.44	Q			V		
5+30	0.2016	1.64	Q			V		
5+35	0.2139	1.79	Q			V		
5+40	0.2226	1.25	Q			V		
5+45	0.2276	0.73	Q			V		
5+50	0.2308	0.46	Q			V		
5+55	0.2329	0.30	Q			V		
6+ 0	0.2343	0.20	Q			V		
6+ 5	0.2351	0.13	Q			V		
6+10	0.2356	0.07	Q			V		
6+15	0.2358	0.03	Q			V		
6+20	0.2359	0.01	Q			V		
6+25	0.2359	0.01	Q			V		
6+30	0.2359	0.00	Q			V		
6+35	0.2360	0.00	Q			V		
6+40	0.2360	0.00	Q			V		
6+45	0.2360	0.00	Q			V		

Unit Hydrograph Analysis

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Study date 09/25/24 File: RCHEXA2410.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
EX-A
10 yr Existing
Kimley-Horn

Drainage Area = 2.27(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.27(Ac.) =
0.004 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.116 Hr.
Lag time = 6.96 Min.
25% of lag time = 1.74 Min.
40% of lag time = 2.78 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.27	1.60	3.63

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.27	4.00	9.08

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 2.587(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.587(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.270	56.00	0.820

Total Area Entered = 2.27(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	56.0	0.511	0.820	0.134	1.000	0.134
Sum (F) =						0.134

Area averaged mean soil loss (F) (In/Hr) = 0.134
Minimum soil loss rate ((In/Hr)) = 0.067
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

Unit Hydrograph FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	71.839	7.478
2	0.167	143.678	42.579
3	0.250	215.517	28.152
4	0.333	287.356	10.698
5	0.417	359.195	5.830
6	0.500	431.034	2.898
7	0.583	502.874	1.029
8	0.667	574.713	0.577
9	0.750	646.552	0.483
10	0.833	718.391	0.275
Sum =		100.000	Sum= 2.288

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.021	(0.237)	0.005	0.016
2	0.17	0.07	0.021	(0.236)	0.005	0.016
3	0.25	0.07	0.021	(0.235)	0.005	0.016
4	0.33	0.10	0.031	(0.234)	0.008	0.023
5	0.42	0.10	0.031	(0.234)	0.008	0.023
6	0.50	0.10	0.031	(0.233)	0.008	0.023
7	0.58	0.10	0.031	(0.232)	0.008	0.023
8	0.67	0.10	0.031	(0.231)	0.008	0.023
9	0.75	0.10	0.031	(0.230)	0.008	0.023
10	0.83	0.13	0.041	(0.229)	0.010	0.031
11	0.92	0.13	0.041	(0.228)	0.010	0.031
12	1.00	0.13	0.041	(0.227)	0.010	0.031
13	1.08	0.10	0.031	(0.226)	0.008	0.023
14	1.17	0.10	0.031	(0.225)	0.008	0.023
15	1.25	0.10	0.031	(0.225)	0.008	0.023
16	1.33	0.10	0.031	(0.224)	0.008	0.023
17	1.42	0.10	0.031	(0.223)	0.008	0.023
18	1.50	0.10	0.031	(0.222)	0.008	0.023
19	1.58	0.10	0.031	(0.221)	0.008	0.023
20	1.67	0.10	0.031	(0.220)	0.008	0.023
21	1.75	0.10	0.031	(0.219)	0.008	0.023
22	1.83	0.13	0.041	(0.218)	0.010	0.031
23	1.92	0.13	0.041	(0.217)	0.010	0.031
24	2.00	0.13	0.041	(0.217)	0.010	0.031
25	2.08	0.13	0.041	(0.216)	0.010	0.031
26	2.17	0.13	0.041	(0.215)	0.010	0.031
27	2.25	0.13	0.041	(0.214)	0.010	0.031
28	2.33	0.13	0.041	(0.213)	0.010	0.031
29	2.42	0.13	0.041	(0.212)	0.010	0.031
30	2.50	0.13	0.041	(0.211)	0.010	0.031
31	2.58	0.17	0.052	(0.210)	0.013	0.039
32	2.67	0.17	0.052	(0.210)	0.013	0.039
33	2.75	0.17	0.052	(0.209)	0.013	0.039
34	2.83	0.17	0.052	(0.208)	0.013	0.039
35	2.92	0.17	0.052	(0.207)	0.013	0.039
36	3.00	0.17	0.052	(0.206)	0.013	0.039
37	3.08	0.17	0.052	(0.205)	0.013	0.039
38	3.17	0.17	0.052	(0.204)	0.013	0.039
39	3.25	0.17	0.052	(0.204)	0.013	0.039
40	3.33	0.17	0.052	(0.203)	0.013	0.039
41	3.42	0.17	0.052	(0.202)	0.013	0.039
42	3.50	0.17	0.052	(0.201)	0.013	0.039
43	3.58	0.17	0.052	(0.200)	0.013	0.039
44	3.67	0.17	0.052	(0.199)	0.013	0.039
45	3.75	0.17	0.052	(0.199)	0.013	0.039
46	3.83	0.20	0.062	(0.198)	0.016	0.047
47	3.92	0.20	0.062	(0.197)	0.016	0.047
48	4.00	0.20	0.062	(0.196)	0.016	0.047

49	4.08	0.20	0.062	(0.195)	0.016	0.047
50	4.17	0.20	0.062	(0.194)	0.016	0.047
51	4.25	0.20	0.062	(0.194)	0.016	0.047
52	4.33	0.23	0.072	(0.193)	0.018	0.054
53	4.42	0.23	0.072	(0.192)	0.018	0.054
54	4.50	0.23	0.072	(0.191)	0.018	0.054
55	4.58	0.23	0.072	(0.190)	0.018	0.054
56	4.67	0.23	0.072	(0.189)	0.018	0.054
57	4.75	0.23	0.072	(0.189)	0.018	0.054
58	4.83	0.27	0.083	(0.188)	0.021	0.062
59	4.92	0.27	0.083	(0.187)	0.021	0.062
60	5.00	0.27	0.083	(0.186)	0.021	0.062
61	5.08	0.20	0.062	(0.185)	0.016	0.047
62	5.17	0.20	0.062	(0.185)	0.016	0.047
63	5.25	0.20	0.062	(0.184)	0.016	0.047
64	5.33	0.23	0.072	(0.183)	0.018	0.054
65	5.42	0.23	0.072	(0.182)	0.018	0.054
66	5.50	0.23	0.072	(0.181)	0.018	0.054
67	5.58	0.27	0.083	(0.181)	0.021	0.062
68	5.67	0.27	0.083	(0.180)	0.021	0.062
69	5.75	0.27	0.083	(0.179)	0.021	0.062
70	5.83	0.27	0.083	(0.178)	0.021	0.062
71	5.92	0.27	0.083	(0.177)	0.021	0.062
72	6.00	0.27	0.083	(0.177)	0.021	0.062
73	6.08	0.30	0.093	(0.176)	0.023	0.070
74	6.17	0.30	0.093	(0.175)	0.023	0.070
75	6.25	0.30	0.093	(0.174)	0.023	0.070
76	6.33	0.30	0.093	(0.174)	0.023	0.070
77	6.42	0.30	0.093	(0.173)	0.023	0.070
78	6.50	0.30	0.093	(0.172)	0.023	0.070
79	6.58	0.33	0.103	(0.171)	0.026	0.078
80	6.67	0.33	0.103	(0.170)	0.026	0.078
81	6.75	0.33	0.103	(0.170)	0.026	0.078
82	6.83	0.33	0.103	(0.169)	0.026	0.078
83	6.92	0.33	0.103	(0.168)	0.026	0.078
84	7.00	0.33	0.103	(0.167)	0.026	0.078
85	7.08	0.33	0.103	(0.167)	0.026	0.078
86	7.17	0.33	0.103	(0.166)	0.026	0.078
87	7.25	0.33	0.103	(0.165)	0.026	0.078
88	7.33	0.37	0.114	(0.164)	0.028	0.085
89	7.42	0.37	0.114	(0.164)	0.028	0.085
90	7.50	0.37	0.114	(0.163)	0.028	0.085
91	7.58	0.40	0.124	(0.162)	0.031	0.093
92	7.67	0.40	0.124	(0.161)	0.031	0.093
93	7.75	0.40	0.124	(0.161)	0.031	0.093
94	7.83	0.43	0.135	(0.160)	0.034	0.101
95	7.92	0.43	0.135	(0.159)	0.034	0.101
96	8.00	0.43	0.135	(0.158)	0.034	0.101
97	8.08	0.50	0.155	(0.158)	0.039	0.116
98	8.17	0.50	0.155	(0.157)	0.039	0.116
99	8.25	0.50	0.155	(0.156)	0.039	0.116

100	8.33	0.50	0.155	(0.155)	0.039	0.116
101	8.42	0.50	0.155	(0.155)	0.039	0.116
102	8.50	0.50	0.155	(0.154)	0.039	0.116
103	8.58	0.53	0.166	(0.153)	0.041	0.124
104	8.67	0.53	0.166	(0.153)	0.041	0.124
105	8.75	0.53	0.166	(0.152)	0.041	0.124
106	8.83	0.57	0.176	(0.151)	0.044	0.132
107	8.92	0.57	0.176	(0.150)	0.044	0.132
108	9.00	0.57	0.176	(0.150)	0.044	0.132
109	9.08	0.63	0.197	(0.149)	0.049	0.147
110	9.17	0.63	0.197	(0.148)	0.049	0.147
111	9.25	0.63	0.197	(0.148)	0.049	0.147
112	9.33	0.67	0.207	(0.147)	0.052	0.155
113	9.42	0.67	0.207	(0.146)	0.052	0.155
114	9.50	0.67	0.207	(0.145)	0.052	0.155
115	9.58	0.70	0.217	(0.145)	0.054	0.163
116	9.67	0.70	0.217	(0.144)	0.054	0.163
117	9.75	0.70	0.217	(0.143)	0.054	0.163
118	9.83	0.73	0.228	(0.143)	0.057	0.171
119	9.92	0.73	0.228	(0.142)	0.057	0.171
120	10.00	0.73	0.228	(0.141)	0.057	0.171
121	10.08	0.50	0.155	(0.141)	0.039	0.116
122	10.17	0.50	0.155	(0.140)	0.039	0.116
123	10.25	0.50	0.155	(0.139)	0.039	0.116
124	10.33	0.50	0.155	(0.139)	0.039	0.116
125	10.42	0.50	0.155	(0.138)	0.039	0.116
126	10.50	0.50	0.155	(0.137)	0.039	0.116
127	10.58	0.67	0.207	(0.137)	0.052	0.155
128	10.67	0.67	0.207	(0.136)	0.052	0.155
129	10.75	0.67	0.207	(0.135)	0.052	0.155
130	10.83	0.67	0.207	(0.135)	0.052	0.155
131	10.92	0.67	0.207	(0.134)	0.052	0.155
132	11.00	0.67	0.207	(0.133)	0.052	0.155
133	11.08	0.63	0.197	(0.133)	0.049	0.147
134	11.17	0.63	0.197	(0.132)	0.049	0.147
135	11.25	0.63	0.197	(0.131)	0.049	0.147
136	11.33	0.63	0.197	(0.131)	0.049	0.147
137	11.42	0.63	0.197	(0.130)	0.049	0.147
138	11.50	0.63	0.197	(0.129)	0.049	0.147
139	11.58	0.57	0.176	(0.129)	0.044	0.132
140	11.67	0.57	0.176	(0.128)	0.044	0.132
141	11.75	0.57	0.176	(0.127)	0.044	0.132
142	11.83	0.60	0.186	(0.127)	0.047	0.140
143	11.92	0.60	0.186	(0.126)	0.047	0.140
144	12.00	0.60	0.186	(0.126)	0.047	0.140
145	12.08	0.83	0.259	(0.125)	0.065	0.194
146	12.17	0.83	0.259	(0.124)	0.065	0.194
147	12.25	0.83	0.259	(0.124)	0.065	0.194
148	12.33	0.87	0.269	(0.123)	0.067	0.202
149	12.42	0.87	0.269	(0.122)	0.067	0.202
150	12.50	0.87	0.269	(0.122)	0.067	0.202

151	12.58	0.93	0.290	(0.121)	0.072	0.217
152	12.67	0.93	0.290	(0.121)	0.072	0.217
153	12.75	0.93	0.290	(0.120)	0.072	0.217
154	12.83	0.97	0.300	(0.119)	0.075	0.225
155	12.92	0.97	0.300	(0.119)	0.075	0.225
156	13.00	0.97	0.300	(0.118)	0.075	0.225
157	13.08	1.13	0.352	(0.118)	0.088	0.264
158	13.17	1.13	0.352	(0.117)	0.088	0.264
159	13.25	1.13	0.352	(0.116)	0.088	0.264
160	13.33	1.13	0.352	(0.116)	0.088	0.264
161	13.42	1.13	0.352	(0.115)	0.088	0.264
162	13.50	1.13	0.352	(0.115)	0.088	0.264
163	13.58	0.77	0.238	(0.114)	0.060	0.179
164	13.67	0.77	0.238	(0.113)	0.060	0.179
165	13.75	0.77	0.238	(0.113)	0.060	0.179
166	13.83	0.77	0.238	(0.112)	0.060	0.179
167	13.92	0.77	0.238	(0.112)	0.060	0.179
168	14.00	0.77	0.238	(0.111)	0.060	0.179
169	14.08	0.90	0.279	(0.111)	0.070	0.210
170	14.17	0.90	0.279	(0.110)	0.070	0.210
171	14.25	0.90	0.279	(0.109)	0.070	0.210
172	14.33	0.87	0.269	(0.109)	0.067	0.202
173	14.42	0.87	0.269	(0.108)	0.067	0.202
174	14.50	0.87	0.269	(0.108)	0.067	0.202
175	14.58	0.87	0.269	(0.107)	0.067	0.202
176	14.67	0.87	0.269	(0.107)	0.067	0.202
177	14.75	0.87	0.269	(0.106)	0.067	0.202
178	14.83	0.83	0.259	(0.106)	0.065	0.194
179	14.92	0.83	0.259	(0.105)	0.065	0.194
180	15.00	0.83	0.259	(0.105)	0.065	0.194
181	15.08	0.80	0.248	(0.104)	0.062	0.186
182	15.17	0.80	0.248	(0.103)	0.062	0.186
183	15.25	0.80	0.248	(0.103)	0.062	0.186
184	15.33	0.77	0.238	(0.102)	0.060	0.179
185	15.42	0.77	0.238	(0.102)	0.060	0.179
186	15.50	0.77	0.238	(0.101)	0.060	0.179
187	15.58	0.63	0.197	(0.101)	0.049	0.147
188	15.67	0.63	0.197	(0.100)	0.049	0.147
189	15.75	0.63	0.197	(0.100)	0.049	0.147
190	15.83	0.63	0.197	(0.099)	0.049	0.147
191	15.92	0.63	0.197	(0.099)	0.049	0.147
192	16.00	0.63	0.197	(0.098)	0.049	0.147
193	16.08	0.13	0.041	(0.098)	0.010	0.031
194	16.17	0.13	0.041	(0.097)	0.010	0.031
195	16.25	0.13	0.041	(0.097)	0.010	0.031
196	16.33	0.13	0.041	(0.096)	0.010	0.031
197	16.42	0.13	0.041	(0.096)	0.010	0.031
198	16.50	0.13	0.041	(0.095)	0.010	0.031
199	16.58	0.10	0.031	(0.095)	0.008	0.023
200	16.67	0.10	0.031	(0.094)	0.008	0.023
201	16.75	0.10	0.031	(0.094)	0.008	0.023

202	16.83	0.10	0.031	(0.093)	0.008	0.023
203	16.92	0.10	0.031	(0.093)	0.008	0.023
204	17.00	0.10	0.031	(0.092)	0.008	0.023
205	17.08	0.17	0.052	(0.092)	0.013	0.039
206	17.17	0.17	0.052	(0.092)	0.013	0.039
207	17.25	0.17	0.052	(0.091)	0.013	0.039
208	17.33	0.17	0.052	(0.091)	0.013	0.039
209	17.42	0.17	0.052	(0.090)	0.013	0.039
210	17.50	0.17	0.052	(0.090)	0.013	0.039
211	17.58	0.17	0.052	(0.089)	0.013	0.039
212	17.67	0.17	0.052	(0.089)	0.013	0.039
213	17.75	0.17	0.052	(0.088)	0.013	0.039
214	17.83	0.13	0.041	(0.088)	0.010	0.031
215	17.92	0.13	0.041	(0.087)	0.010	0.031
216	18.00	0.13	0.041	(0.087)	0.010	0.031
217	18.08	0.13	0.041	(0.087)	0.010	0.031
218	18.17	0.13	0.041	(0.086)	0.010	0.031
219	18.25	0.13	0.041	(0.086)	0.010	0.031
220	18.33	0.13	0.041	(0.085)	0.010	0.031
221	18.42	0.13	0.041	(0.085)	0.010	0.031
222	18.50	0.13	0.041	(0.085)	0.010	0.031
223	18.58	0.10	0.031	(0.084)	0.008	0.023
224	18.67	0.10	0.031	(0.084)	0.008	0.023
225	18.75	0.10	0.031	(0.083)	0.008	0.023
226	18.83	0.07	0.021	(0.083)	0.005	0.016
227	18.92	0.07	0.021	(0.083)	0.005	0.016
228	19.00	0.07	0.021	(0.082)	0.005	0.016
229	19.08	0.10	0.031	(0.082)	0.008	0.023
230	19.17	0.10	0.031	(0.081)	0.008	0.023
231	19.25	0.10	0.031	(0.081)	0.008	0.023
232	19.33	0.13	0.041	(0.081)	0.010	0.031
233	19.42	0.13	0.041	(0.080)	0.010	0.031
234	19.50	0.13	0.041	(0.080)	0.010	0.031
235	19.58	0.10	0.031	(0.079)	0.008	0.023
236	19.67	0.10	0.031	(0.079)	0.008	0.023
237	19.75	0.10	0.031	(0.079)	0.008	0.023
238	19.83	0.07	0.021	(0.078)	0.005	0.016
239	19.92	0.07	0.021	(0.078)	0.005	0.016
240	20.00	0.07	0.021	(0.078)	0.005	0.016
241	20.08	0.10	0.031	(0.077)	0.008	0.023
242	20.17	0.10	0.031	(0.077)	0.008	0.023
243	20.25	0.10	0.031	(0.077)	0.008	0.023
244	20.33	0.10	0.031	(0.076)	0.008	0.023
245	20.42	0.10	0.031	(0.076)	0.008	0.023
246	20.50	0.10	0.031	(0.076)	0.008	0.023
247	20.58	0.10	0.031	(0.075)	0.008	0.023
248	20.67	0.10	0.031	(0.075)	0.008	0.023
249	20.75	0.10	0.031	(0.075)	0.008	0.023
250	20.83	0.07	0.021	(0.074)	0.005	0.016
251	20.92	0.07	0.021	(0.074)	0.005	0.016
252	21.00	0.07	0.021	(0.074)	0.005	0.016

253	21.08	0.10	0.031	(0.074)	0.008	0.023
254	21.17	0.10	0.031	(0.073)	0.008	0.023
255	21.25	0.10	0.031	(0.073)	0.008	0.023
256	21.33	0.07	0.021	(0.073)	0.005	0.016
257	21.42	0.07	0.021	(0.072)	0.005	0.016
258	21.50	0.07	0.021	(0.072)	0.005	0.016
259	21.58	0.10	0.031	(0.072)	0.008	0.023
260	21.67	0.10	0.031	(0.072)	0.008	0.023
261	21.75	0.10	0.031	(0.071)	0.008	0.023
262	21.83	0.07	0.021	(0.071)	0.005	0.016
263	21.92	0.07	0.021	(0.071)	0.005	0.016
264	22.00	0.07	0.021	(0.071)	0.005	0.016
265	22.08	0.10	0.031	(0.070)	0.008	0.023
266	22.17	0.10	0.031	(0.070)	0.008	0.023
267	22.25	0.10	0.031	(0.070)	0.008	0.023
268	22.33	0.07	0.021	(0.070)	0.005	0.016
269	22.42	0.07	0.021	(0.070)	0.005	0.016
270	22.50	0.07	0.021	(0.069)	0.005	0.016
271	22.58	0.07	0.021	(0.069)	0.005	0.016
272	22.67	0.07	0.021	(0.069)	0.005	0.016
273	22.75	0.07	0.021	(0.069)	0.005	0.016
274	22.83	0.07	0.021	(0.069)	0.005	0.016
275	22.92	0.07	0.021	(0.068)	0.005	0.016
276	23.00	0.07	0.021	(0.068)	0.005	0.016
277	23.08	0.07	0.021	(0.068)	0.005	0.016
278	23.17	0.07	0.021	(0.068)	0.005	0.016
279	23.25	0.07	0.021	(0.068)	0.005	0.016
280	23.33	0.07	0.021	(0.068)	0.005	0.016
281	23.42	0.07	0.021	(0.068)	0.005	0.016
282	23.50	0.07	0.021	(0.067)	0.005	0.016
283	23.58	0.07	0.021	(0.067)	0.005	0.016
284	23.67	0.07	0.021	(0.067)	0.005	0.016
285	23.75	0.07	0.021	(0.067)	0.005	0.016
286	23.83	0.07	0.021	(0.067)	0.005	0.016
287	23.92	0.07	0.021	(0.067)	0.005	0.016
288	24.00	0.07	0.021	(0.067)	0.005	0.016

(Loss Rate Not Used)

Sum = 100.0

Sum = 23.3

Flood volume = Effective rainfall 1.94(In)
times area 2.3(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.65(In)
Total soil loss = 0.122(Ac.Ft)
Total rainfall = 2.59(In)
Flood volume = 15990.1 Cubic Feet
Total soil loss = 5330.0 Cubic Feet

Peak flow rate of this hydrograph = 0.602(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	0.0000		0.00	Q				
0+10	0.0001		0.02	Q				
0+15	0.0003		0.03	Q				
0+20	0.0006		0.03	Q				
0+25	0.0009		0.04	Q				
0+30	0.0012		0.05	Q				
0+35	0.0015		0.05	Q				
0+40	0.0019		0.05	Q				
0+45	0.0023		0.05	Q				
0+50	0.0026		0.05	Q				
0+55	0.0031		0.06	Q				
1+ 0	0.0035		0.07	Q				
1+ 5	0.0040		0.07	Q				
1+10	0.0044		0.06	Q				
1+15	0.0048		0.06	Q				
1+20	0.0052		0.06	Q				
1+25	0.0056		0.05	Q				
1+30	0.0059		0.05	Q				
1+35	0.0063		0.05	Q				
1+40	0.0067		0.05	Q				
1+45	0.0070		0.05	Q				
1+50	0.0074		0.05	Q				
1+55	0.0078		0.06	Q				
2+ 0	0.0083		0.07	Q				
2+ 5	0.0088		0.07	Q				
2+10	0.0093		0.07	QV				
2+15	0.0097		0.07	QV				
2+20	0.0102		0.07	QV				
2+25	0.0107		0.07	QV				
2+30	0.0112		0.07	QV				
2+35	0.0117		0.07	QV				
2+40	0.0123		0.08	QV				
2+45	0.0128		0.08	QV				
2+50	0.0134		0.09	QV				
2+55	0.0140		0.09	QV				
3+ 0	0.0147		0.09	QV				
3+ 5	0.0153		0.09	QV				
3+10	0.0159		0.09	QV				
3+15	0.0165		0.09	QV				
3+20	0.0171		0.09	QV				
3+25	0.0177		0.09	QV				
3+30	0.0183		0.09	QV				
3+35	0.0189		0.09	Q V				
3+40	0.0195		0.09	Q V				
3+45	0.0202		0.09	Q V				

3+50	0.0208	0.09	Q V				
3+55	0.0215	0.10	Q V				
4+ 0	0.0222	0.10	Q V				
4+ 5	0.0229	0.10	Q V				
4+10	0.0236	0.11	Q V				
4+15	0.0243	0.11	Q V				
4+20	0.0251	0.11	Q V				
4+25	0.0259	0.12	Q V				
4+30	0.0267	0.12	Q V				
4+35	0.0275	0.12	Q V				
4+40	0.0284	0.12	Q V				
4+45	0.0293	0.12	Q V				
4+50	0.0301	0.13	Q V				
4+55	0.0310	0.13	Q V				
5+ 0	0.0320	0.14	Q V				
5+ 5	0.0329	0.14	Q V				
5+10	0.0338	0.12	Q V				
5+15	0.0346	0.11	Q V				
5+20	0.0353	0.11	Q V				
5+25	0.0361	0.12	Q V				
5+30	0.0370	0.12	Q V				
5+35	0.0378	0.12	Q V				
5+40	0.0387	0.13	Q V				
5+45	0.0397	0.14	Q V				
5+50	0.0407	0.14	Q V				
5+55	0.0416	0.14	Q V				
6+ 0	0.0426	0.14	Q V				
6+ 5	0.0436	0.14	Q V				
6+10	0.0446	0.15	Q V				
6+15	0.0457	0.16	Q V				
6+20	0.0468	0.16	Q V				
6+25	0.0479	0.16	Q V				
6+30	0.0490	0.16	Q V				
6+35	0.0501	0.16	Q V				
6+40	0.0513	0.17	Q V				
6+45	0.0525	0.17	Q V				
6+50	0.0537	0.18	Q V				
6+55	0.0549	0.18	Q V				
7+ 0	0.0561	0.18	Q V				
7+ 5	0.0573	0.18	Q V				
7+10	0.0585	0.18	Q V				
7+15	0.0598	0.18	Q V				
7+20	0.0610	0.18	Q V				
7+25	0.0623	0.19	Q V				
7+30	0.0636	0.19	Q V				
7+35	0.0649	0.19	Q V				
7+40	0.0663	0.20	Q V				
7+45	0.0678	0.21	Q V				
7+50	0.0692	0.21	Q V				
7+55	0.0708	0.22	Q V				
8+ 0	0.0723	0.23	Q V				

8+ 5	0.0739	0.23	Q	V				
8+10	0.0756	0.25	Q	V				
8+15	0.0774	0.26	Q	V				
8+20	0.0792	0.26	Q	V				
8+25	0.0810	0.26	Q	V				
8+30	0.0829	0.27	Q	V				
8+35	0.0847	0.27	Q	V				
8+40	0.0866	0.28	Q	V				
8+45	0.0885	0.28	Q	V				
8+50	0.0905	0.28	Q	V				
8+55	0.0925	0.29	Q	V				
9+ 0	0.0946	0.30	Q	V				
9+ 5	0.0966	0.30	Q	V				
9+10	0.0988	0.32	Q	V				
9+15	0.1011	0.33	Q	V				
9+20	0.1034	0.33	Q	V				
9+25	0.1058	0.34	Q	V				
9+30	0.1082	0.35	Q	V				
9+35	0.1106	0.35	Q	V				
9+40	0.1131	0.36	Q	V				
9+45	0.1157	0.37	Q	V				
9+50	0.1182	0.37	Q	V				
9+55	0.1209	0.38	Q	V				
10+ 0	0.1235	0.39	Q	V				
10+ 5	0.1261	0.38	Q	V				
10+10	0.1284	0.33	Q	V				
10+15	0.1304	0.29	Q	V				
10+20	0.1323	0.28	Q	V				
10+25	0.1342	0.27	Q	V				
10+30	0.1361	0.27	Q	V				
10+35	0.1380	0.27	Q	V				
10+40	0.1401	0.31	Q	V				
10+45	0.1424	0.34	Q	V				
10+50	0.1448	0.35	Q	V				
10+55	0.1472	0.35	Q	V				
11+ 0	0.1497	0.35	Q	V				
11+ 5	0.1521	0.35	Q	V				
11+10	0.1545	0.35	Q	V				
11+15	0.1568	0.34	Q	V				
11+20	0.1592	0.34	Q	V				
11+25	0.1615	0.34	Q	V				
11+30	0.1638	0.34	Q	V				
11+35	0.1661	0.34	Q	V				
11+40	0.1683	0.32	Q	V				
11+45	0.1705	0.31	Q	V				
11+50	0.1726	0.31	Q	V				
11+55	0.1747	0.31	Q	V				
12+ 0	0.1769	0.32	Q	V				
12+ 5	0.1792	0.33	Q	V				
12+10	0.1818	0.38	Q	V				
12+15	0.1847	0.42	Q	V				

12+20	0.1876	0.43	Q		V		
12+25	0.1907	0.45	Q		V		
12+30	0.1938	0.46	Q		V		
12+35	0.1970	0.46	Q		V		
12+40	0.2003	0.48	Q		V		
12+45	0.2037	0.49	Q		V		
12+50	0.2071	0.49	Q		V		
12+55	0.2106	0.50	Q		V		
13+ 0	0.2141	0.51	Q		V		
13+ 5	0.2176	0.52	Q		V		
13+10	0.2215	0.56	Q		V		
13+15	0.2255	0.58	Q		V		
13+20	0.2296	0.59	Q		V		
13+25	0.2337	0.60	Q		V		
13+30	0.2379	0.60	Q		V		
13+35	0.2419	0.59	Q		V		
13+40	0.2454	0.51	Q		V		
13+45	0.2485	0.45	Q		V		
13+50	0.2515	0.43	Q		V		
13+55	0.2544	0.42	Q		V		
14+ 0	0.2572	0.41	Q		V		
14+ 5	0.2601	0.42	Q		V		
14+10	0.2632	0.45	Q		V		
14+15	0.2664	0.46	Q		V		
14+20	0.2696	0.47	Q		V		
14+25	0.2728	0.47	Q		V		
14+30	0.2760	0.46	Q		V		
14+35	0.2792	0.46	Q		V		
14+40	0.2824	0.46	Q		V		
14+45	0.2856	0.46	Q		V		
14+50	0.2887	0.46	Q		V		
14+55	0.2919	0.45	Q		V		
15+ 0	0.2949	0.45	Q		V		
15+ 5	0.2980	0.44	Q		V		
15+10	0.3010	0.44	Q		V		
15+15	0.3040	0.43	Q		V		
15+20	0.3069	0.43	Q		V		
15+25	0.3098	0.42	Q		V		
15+30	0.3126	0.41	Q		V		
15+35	0.3154	0.41	Q		V		
15+40	0.3180	0.37	Q		V		
15+45	0.3205	0.35	Q		V		
15+50	0.3228	0.35	Q		V		
15+55	0.3252	0.34	Q		V		
16+ 0	0.3275	0.34	Q		V		
16+ 5	0.3297	0.32	Q		V		
16+10	0.3311	0.20	Q		V		
16+15	0.3320	0.13	Q		V		
16+20	0.3327	0.10	Q		V		
16+25	0.3333	0.09	Q		V		
16+30	0.3338	0.08	Q		V		

16+35	0.3343	0.07	Q				V
16+40	0.3348	0.06	Q				V
16+45	0.3352	0.06	Q				V
16+50	0.3356	0.06	Q				V
16+55	0.3359	0.05	Q				V
17+ 0	0.3363	0.05	Q				V
17+ 5	0.3367	0.06	Q				V
17+10	0.3372	0.07	Q				V
17+15	0.3377	0.08	Q				V
17+20	0.3383	0.08	Q				V
17+25	0.3389	0.09	Q				V
17+30	0.3395	0.09	Q				V
17+35	0.3401	0.09	Q				V
17+40	0.3407	0.09	Q				V
17+45	0.3414	0.09	Q				V
17+50	0.3420	0.09	Q				V
17+55	0.3425	0.08	Q				V
18+ 0	0.3430	0.07	Q				V
18+ 5	0.3435	0.07	Q				V
18+10	0.3440	0.07	Q				V
18+15	0.3445	0.07	Q				V
18+20	0.3450	0.07	Q				V
18+25	0.3455	0.07	Q				V
18+30	0.3460	0.07	Q				V
18+35	0.3465	0.07	Q				V
18+40	0.3469	0.06	Q				V
18+45	0.3473	0.06	Q				V
18+50	0.3477	0.05	Q				V
18+55	0.3480	0.05	Q				V
19+ 0	0.3482	0.04	Q				V
19+ 5	0.3485	0.04	Q				V
19+10	0.3488	0.05	Q				V
19+15	0.3492	0.05	Q				V
19+20	0.3495	0.05	Q				V
19+25	0.3500	0.06	Q				V
19+30	0.3504	0.07	Q				V
19+35	0.3509	0.07	Q				V
19+40	0.3513	0.06	Q				V
19+45	0.3517	0.06	Q				V
19+50	0.3521	0.05	Q				V
19+55	0.3524	0.05	Q				V
20+ 0	0.3527	0.04	Q				V
20+ 5	0.3529	0.04	Q				V
20+10	0.3532	0.05	Q				V
20+15	0.3536	0.05	Q				V
20+20	0.3539	0.05	Q				V
20+25	0.3543	0.05	Q				V
20+30	0.3547	0.05	Q				V
20+35	0.3550	0.05	Q				V
20+40	0.3554	0.05	Q				V
20+45	0.3558	0.05	Q				V

20+50	0.3561	0.05	Q				V
20+55	0.3564	0.04	Q				V
21+ 0	0.3567	0.04	Q				V
21+ 5	0.3570	0.04	Q				V
21+10	0.3573	0.05	Q				V
21+15	0.3576	0.05	Q				V
21+20	0.3580	0.05	Q				V
21+25	0.3583	0.04	Q				V
21+30	0.3585	0.04	Q				V
21+35	0.3588	0.04	Q				V
21+40	0.3591	0.05	Q				V
21+45	0.3595	0.05	Q				V
21+50	0.3598	0.05	Q				V
21+55	0.3601	0.04	Q				V
22+ 0	0.3604	0.04	Q				V
22+ 5	0.3606	0.04	Q				V
22+10	0.3609	0.05	Q				V
22+15	0.3613	0.05	Q				V
22+20	0.3616	0.05	Q				V
22+25	0.3619	0.04	Q				V
22+30	0.3622	0.04	Q				V
22+35	0.3625	0.04	Q				V
22+40	0.3627	0.04	Q				V
22+45	0.3630	0.04	Q				V
22+50	0.3632	0.04	Q				V
22+55	0.3634	0.04	Q				V
23+ 0	0.3637	0.04	Q				V
23+ 5	0.3639	0.04	Q				V
23+10	0.3642	0.04	Q				V
23+15	0.3644	0.04	Q				V
23+20	0.3647	0.04	Q				V
23+25	0.3649	0.04	Q				V
23+30	0.3652	0.04	Q				V
23+35	0.3654	0.04	Q				V
23+40	0.3657	0.04	Q				V
23+45	0.3659	0.04	Q				V
23+50	0.3661	0.04	Q				V
23+55	0.3664	0.04	Q				V
24+ 0	0.3666	0.04	Q				V
24+ 5	0.3669	0.03	Q				V
24+10	0.3670	0.02	Q				V
24+15	0.3670	0.01	Q				V
24+20	0.3671	0.00	Q				V
24+25	0.3671	0.00	Q				V
24+30	0.3671	0.00	Q				V
24+35	0.3671	0.00	Q				V
24+40	0.3671	0.00	Q				V
24+45	0.3671	0.00	Q				V

Unit Hydrograph Analysis

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Study date 09/25/24 File: RCHEXA1100.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
EX-A
100 yr Existing
Kimley-Horn

Drainage Area = 2.27(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.27(Ac.) =
0.004 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.116 Hr.
Lag time = 6.96 Min.
25% of lag time = 1.74 Min.
40% of lag time = 2.78 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]
2.27	0.50	1.14

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.27	1.10	2.50

STORM EVENT (YEAR) = 100.00

Area Averaged 2-Year Rainfall = 0.500(In)

Area Averaged 100-Year Rainfall = 1.100(In)

Point rain (area averaged) = 1.100(In)

Areal adjustment factor = 100.00 %

Adjusted average point rain = 1.100(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.270	56.00	0.820
Total Area Entered = 2.27(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-3	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	74.8	0.305	0.820	0.080	1.000	0.080
Sum (F) =						0.080

Area averaged mean soil loss (F) (In/Hr) = 0.080

Minimum soil loss rate ((In/Hr)) = 0.040

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.250

Slope of intensity-duration curve for a 1 hour storm =0.5500

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	71.839	7.478
2	0.167	143.678	42.579
3	0.250	215.517	28.152
4	0.333	287.356	10.698
5	0.417	359.195	5.830
6	0.500	431.034	2.898
7	0.583	502.874	1.029
8	0.667	574.713	0.577
9	0.750	646.552	0.483
10	0.833	718.391	0.275
Sum = 100.000			Sum= 2.288

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	3.30	0.436	0.080	(0.109)	0.356
2	0.17	4.20	0.554	0.080	(0.139)	0.474
3	0.25	4.40	0.581	0.080	(0.145)	0.501
4	0.33	4.80	0.634	0.080	(0.158)	0.554
5	0.42	5.20	0.686	0.080	(0.172)	0.606
6	0.50	6.20	0.818	0.080	(0.205)	0.738
7	0.58	6.80	0.898	0.080	(0.224)	0.818
8	0.67	8.80	1.162	0.080	(0.290)	1.082
9	0.75	13.90	1.835	0.080	(0.459)	1.755
10	0.83	31.40	4.145	0.080	(1.036)	4.065
11	0.92	7.20	0.950	0.080	(0.238)	0.870
12	1.00	3.80	0.502	0.080	(0.125)	0.422

(Loss Rate Not Used)

Sum = 100.0

Sum = 12.2

Flood volume = Effective rainfall 1.02(In)

times area 2.3(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)

Total soil loss = 0.08(In)

Total soil loss = 0.015(Ac.Ft)

Total rainfall = 1.10(In)

Flood volume = 8404.7 Cubic Feet

Total soil loss = 659.2 Cubic Feet

Peak flow rate of this hydrograph = 5.694(CFS)

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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	0.0004	0.06	Q				
0+10	0.0034	0.43	VQ				
0+15	0.0087	0.78	V Q				
0+20	0.0154	0.98	Q				
0+25	0.0232	1.13	Q				
0+30	0.0321	1.28	QV				
0+35	0.0423	1.49	Q V				
0+40	0.0542	1.73	Q	V			
0+45	0.0694	2.20	Q	V			
0+50	0.0933	3.47		Q	V		
0+55	0.1325	5.69			Q	V	
1+ 0	0.1615	4.20		Q		V	
1+ 5	0.1774	2.31		Q			V

1+10	0.1856	1.19		Q				V	
1+15	0.1894	0.56		Q				V	
1+20	0.1912	0.25		Q				V	
1+25	0.1920	0.13	Q					V	
1+30	0.1926	0.08	Q					V	
1+35	0.1929	0.04	Q					V	
1+40	0.1929	0.01	Q					V	
1+45	0.1929	0.00	Q					V	

Unit Hydrograph Analysis

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Study date 09/25/24 File: RCHEXA24100.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
EX-A
100 yr Existing
Kimley-Horn

Drainage Area = 2.27(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.27(Ac.) =
0.004 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.116 Hr.
Lag time = 6.96 Min.
25% of lag time = 1.74 Min.
40% of lag time = 2.78 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.27	1.60	3.63

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.27	4.00	9.08

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 4.000(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.000(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.270	56.00	0.820

Total Area Entered = 2.27(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-3	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	74.8	0.305	0.820	0.080	1.000	0.080
Sum (F) =						0.080

Area averaged mean soil loss (F) (In/Hr) = 0.080
Minimum soil loss rate ((In/Hr)) = 0.040
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.250

Unit Hydrograph FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	71.839	7.478
2	0.167	143.678	42.579
3	0.250	215.517	28.152
4	0.333	287.356	10.698
5	0.417	359.195	5.830
6	0.500	431.034	2.898
7	0.583	502.874	1.029
8	0.667	574.713	0.577
9	0.750	646.552	0.483
10	0.833	718.391	0.275
Sum =		100.000	Sum= 2.288

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.032	(0.142)	0.008	0.024
2	0.17	0.07	0.032	(0.141)	0.008	0.024
3	0.25	0.07	0.032	(0.141)	0.008	0.024
4	0.33	0.10	0.048	(0.140)	0.012	0.036
5	0.42	0.10	0.048	(0.140)	0.012	0.036
6	0.50	0.10	0.048	(0.139)	0.012	0.036
7	0.58	0.10	0.048	(0.139)	0.012	0.036
8	0.67	0.10	0.048	(0.138)	0.012	0.036
9	0.75	0.10	0.048	(0.137)	0.012	0.036
10	0.83	0.13	0.064	(0.137)	0.016	0.048
11	0.92	0.13	0.064	(0.136)	0.016	0.048
12	1.00	0.13	0.064	(0.136)	0.016	0.048
13	1.08	0.10	0.048	(0.135)	0.012	0.036
14	1.17	0.10	0.048	(0.135)	0.012	0.036
15	1.25	0.10	0.048	(0.134)	0.012	0.036
16	1.33	0.10	0.048	(0.134)	0.012	0.036
17	1.42	0.10	0.048	(0.133)	0.012	0.036
18	1.50	0.10	0.048	(0.133)	0.012	0.036
19	1.58	0.10	0.048	(0.132)	0.012	0.036
20	1.67	0.10	0.048	(0.132)	0.012	0.036
21	1.75	0.10	0.048	(0.131)	0.012	0.036
22	1.83	0.13	0.064	(0.131)	0.016	0.048
23	1.92	0.13	0.064	(0.130)	0.016	0.048
24	2.00	0.13	0.064	(0.129)	0.016	0.048
25	2.08	0.13	0.064	(0.129)	0.016	0.048
26	2.17	0.13	0.064	(0.128)	0.016	0.048
27	2.25	0.13	0.064	(0.128)	0.016	0.048
28	2.33	0.13	0.064	(0.127)	0.016	0.048
29	2.42	0.13	0.064	(0.127)	0.016	0.048
30	2.50	0.13	0.064	(0.126)	0.016	0.048
31	2.58	0.17	0.080	(0.126)	0.020	0.060
32	2.67	0.17	0.080	(0.125)	0.020	0.060
33	2.75	0.17	0.080	(0.125)	0.020	0.060
34	2.83	0.17	0.080	(0.124)	0.020	0.060
35	2.92	0.17	0.080	(0.124)	0.020	0.060
36	3.00	0.17	0.080	(0.123)	0.020	0.060
37	3.08	0.17	0.080	(0.123)	0.020	0.060
38	3.17	0.17	0.080	(0.122)	0.020	0.060
39	3.25	0.17	0.080	(0.122)	0.020	0.060
40	3.33	0.17	0.080	(0.121)	0.020	0.060
41	3.42	0.17	0.080	(0.121)	0.020	0.060
42	3.50	0.17	0.080	(0.120)	0.020	0.060
43	3.58	0.17	0.080	(0.120)	0.020	0.060
44	3.67	0.17	0.080	(0.119)	0.020	0.060
45	3.75	0.17	0.080	(0.119)	0.020	0.060
46	3.83	0.20	0.096	(0.118)	0.024	0.072
47	3.92	0.20	0.096	(0.118)	0.024	0.072
48	4.00	0.20	0.096	(0.117)	0.024	0.072

49	4.08	0.20	0.096	(0.117)	0.024	0.072
50	4.17	0.20	0.096	(0.116)	0.024	0.072
51	4.25	0.20	0.096	(0.116)	0.024	0.072
52	4.33	0.23	0.112	(0.115)	0.028	0.084
53	4.42	0.23	0.112	(0.115)	0.028	0.084
54	4.50	0.23	0.112	(0.114)	0.028	0.084
55	4.58	0.23	0.112	(0.114)	0.028	0.084
56	4.67	0.23	0.112	(0.113)	0.028	0.084
57	4.75	0.23	0.112	(0.113)	0.028	0.084
58	4.83	0.27	0.128	(0.112)	0.032	0.096
59	4.92	0.27	0.128	(0.112)	0.032	0.096
60	5.00	0.27	0.128	(0.111)	0.032	0.096
61	5.08	0.20	0.096	(0.111)	0.024	0.072
62	5.17	0.20	0.096	(0.110)	0.024	0.072
63	5.25	0.20	0.096	(0.110)	0.024	0.072
64	5.33	0.23	0.112	(0.109)	0.028	0.084
65	5.42	0.23	0.112	(0.109)	0.028	0.084
66	5.50	0.23	0.112	(0.108)	0.028	0.084
67	5.58	0.27	0.128	(0.108)	0.032	0.096
68	5.67	0.27	0.128	(0.107)	0.032	0.096
69	5.75	0.27	0.128	(0.107)	0.032	0.096
70	5.83	0.27	0.128	(0.107)	0.032	0.096
71	5.92	0.27	0.128	(0.106)	0.032	0.096
72	6.00	0.27	0.128	(0.106)	0.032	0.096
73	6.08	0.30	0.144	(0.105)	0.036	0.108
74	6.17	0.30	0.144	(0.105)	0.036	0.108
75	6.25	0.30	0.144	(0.104)	0.036	0.108
76	6.33	0.30	0.144	(0.104)	0.036	0.108
77	6.42	0.30	0.144	(0.103)	0.036	0.108
78	6.50	0.30	0.144	(0.103)	0.036	0.108
79	6.58	0.33	0.160	(0.102)	0.040	0.120
80	6.67	0.33	0.160	(0.102)	0.040	0.120
81	6.75	0.33	0.160	(0.101)	0.040	0.120
82	6.83	0.33	0.160	(0.101)	0.040	0.120
83	6.92	0.33	0.160	(0.101)	0.040	0.120
84	7.00	0.33	0.160	(0.100)	0.040	0.120
85	7.08	0.33	0.160	(0.100)	0.040	0.120
86	7.17	0.33	0.160	(0.099)	0.040	0.120
87	7.25	0.33	0.160	(0.099)	0.040	0.120
88	7.33	0.37	0.176	(0.098)	0.044	0.132
89	7.42	0.37	0.176	(0.098)	0.044	0.132
90	7.50	0.37	0.176	(0.097)	0.044	0.132
91	7.58	0.40	0.192	(0.097)	0.048	0.144
92	7.67	0.40	0.192	(0.096)	0.048	0.144
93	7.75	0.40	0.192	(0.096)	0.048	0.144
94	7.83	0.43	0.208	(0.096)	0.052	0.156
95	7.92	0.43	0.208	(0.095)	0.052	0.156
96	8.00	0.43	0.208	(0.095)	0.052	0.156
97	8.08	0.50	0.240	(0.094)	0.060	0.180
98	8.17	0.50	0.240	(0.094)	0.060	0.180
99	8.25	0.50	0.240	(0.093)	0.060	0.180

100	8.33	0.50	0.240	(0.093)	0.060	0.180
101	8.42	0.50	0.240	(0.092)	0.060	0.180
102	8.50	0.50	0.240	(0.092)	0.060	0.180
103	8.58	0.53	0.256	(0.092)	0.064	0.192
104	8.67	0.53	0.256	(0.091)	0.064	0.192
105	8.75	0.53	0.256	(0.091)	0.064	0.192
106	8.83	0.57	0.272	(0.090)	0.068	0.204
107	8.92	0.57	0.272	(0.090)	0.068	0.204
108	9.00	0.57	0.272	(0.089)	0.068	0.204
109	9.08	0.63	0.304	(0.089)	0.076	0.228
110	9.17	0.63	0.304	(0.089)	0.076	0.228
111	9.25	0.63	0.304	(0.088)	0.076	0.228
112	9.33	0.67	0.320	(0.088)	0.080	0.240
113	9.42	0.67	0.320	(0.087)	0.080	0.240
114	9.50	0.67	0.320	(0.087)	0.080	0.240
115	9.58	0.70	0.336	(0.087)	0.084	0.252
116	9.67	0.70	0.336	(0.086)	0.084	0.252
117	9.75	0.70	0.336	(0.086)	0.084	0.252
118	9.83	0.73	0.352	0.085 (0.088)		0.267
119	9.92	0.73	0.352	0.085 (0.088)		0.267
120	10.00	0.73	0.352	0.084 (0.088)		0.268
121	10.08	0.50	0.240	(0.084)	0.060	0.180
122	10.17	0.50	0.240	(0.084)	0.060	0.180
123	10.25	0.50	0.240	(0.083)	0.060	0.180
124	10.33	0.50	0.240	(0.083)	0.060	0.180
125	10.42	0.50	0.240	(0.082)	0.060	0.180
126	10.50	0.50	0.240	(0.082)	0.060	0.180
127	10.58	0.67	0.320	(0.082)	0.080	0.240
128	10.67	0.67	0.320	(0.081)	0.080	0.240
129	10.75	0.67	0.320	(0.081)	0.080	0.240
130	10.83	0.67	0.320	(0.080)	0.080	0.240
131	10.92	0.67	0.320	(0.080)	0.080	0.240
132	11.00	0.67	0.320	0.080 (0.080)		0.240
133	11.08	0.63	0.304	(0.079)	0.076	0.228
134	11.17	0.63	0.304	(0.079)	0.076	0.228
135	11.25	0.63	0.304	(0.078)	0.076	0.228
136	11.33	0.63	0.304	(0.078)	0.076	0.228
137	11.42	0.63	0.304	(0.078)	0.076	0.228
138	11.50	0.63	0.304	(0.077)	0.076	0.228
139	11.58	0.57	0.272	(0.077)	0.068	0.204
140	11.67	0.57	0.272	(0.077)	0.068	0.204
141	11.75	0.57	0.272	(0.076)	0.068	0.204
142	11.83	0.60	0.288	(0.076)	0.072	0.216
143	11.92	0.60	0.288	(0.075)	0.072	0.216
144	12.00	0.60	0.288	(0.075)	0.072	0.216
145	12.08	0.83	0.400	0.075 (0.100)		0.325
146	12.17	0.83	0.400	0.074 (0.100)		0.326
147	12.25	0.83	0.400	0.074 (0.100)		0.326
148	12.33	0.87	0.416	0.074 (0.104)		0.342
149	12.42	0.87	0.416	0.073 (0.104)		0.343
150	12.50	0.87	0.416	0.073 (0.104)		0.343

151	12.58	0.93	0.448	0.072	(0.112)	0.376
152	12.67	0.93	0.448	0.072	(0.112)	0.376
153	12.75	0.93	0.448	0.072	(0.112)	0.376
154	12.83	0.97	0.464	0.071	(0.116)	0.393
155	12.92	0.97	0.464	0.071	(0.116)	0.393
156	13.00	0.97	0.464	0.071	(0.116)	0.393
157	13.08	1.13	0.544	0.070	(0.136)	0.474
158	13.17	1.13	0.544	0.070	(0.136)	0.474
159	13.25	1.13	0.544	0.070	(0.136)	0.474
160	13.33	1.13	0.544	0.069	(0.136)	0.475
161	13.42	1.13	0.544	0.069	(0.136)	0.475
162	13.50	1.13	0.544	0.069	(0.136)	0.475
163	13.58	0.77	0.368	0.068	(0.092)	0.300
164	13.67	0.77	0.368	0.068	(0.092)	0.300
165	13.75	0.77	0.368	0.067	(0.092)	0.301
166	13.83	0.77	0.368	0.067	(0.092)	0.301
167	13.92	0.77	0.368	0.067	(0.092)	0.301
168	14.00	0.77	0.368	0.066	(0.092)	0.302
169	14.08	0.90	0.432	0.066	(0.108)	0.366
170	14.17	0.90	0.432	0.066	(0.108)	0.366
171	14.25	0.90	0.432	0.065	(0.108)	0.367
172	14.33	0.87	0.416	0.065	(0.104)	0.351
173	14.42	0.87	0.416	0.065	(0.104)	0.351
174	14.50	0.87	0.416	0.064	(0.104)	0.352
175	14.58	0.87	0.416	0.064	(0.104)	0.352
176	14.67	0.87	0.416	0.064	(0.104)	0.352
177	14.75	0.87	0.416	0.063	(0.104)	0.353
178	14.83	0.83	0.400	0.063	(0.100)	0.337
179	14.92	0.83	0.400	0.063	(0.100)	0.337
180	15.00	0.83	0.400	0.062	(0.100)	0.338
181	15.08	0.80	0.384	0.062	(0.096)	0.322
182	15.17	0.80	0.384	0.062	(0.096)	0.322
183	15.25	0.80	0.384	0.062	(0.096)	0.322
184	15.33	0.77	0.368	0.061	(0.092)	0.307
185	15.42	0.77	0.368	0.061	(0.092)	0.307
186	15.50	0.77	0.368	0.061	(0.092)	0.307
187	15.58	0.63	0.304	0.060	(0.076)	0.244
188	15.67	0.63	0.304	0.060	(0.076)	0.244
189	15.75	0.63	0.304	0.060	(0.076)	0.244
190	15.83	0.63	0.304	0.059	(0.076)	0.245
191	15.92	0.63	0.304	0.059	(0.076)	0.245
192	16.00	0.63	0.304	0.059	(0.076)	0.245
193	16.08	0.13	0.064	(0.058)	0.016	0.048
194	16.17	0.13	0.064	(0.058)	0.016	0.048
195	16.25	0.13	0.064	(0.058)	0.016	0.048
196	16.33	0.13	0.064	(0.058)	0.016	0.048
197	16.42	0.13	0.064	(0.057)	0.016	0.048
198	16.50	0.13	0.064	(0.057)	0.016	0.048
199	16.58	0.10	0.048	(0.057)	0.012	0.036
200	16.67	0.10	0.048	(0.056)	0.012	0.036
201	16.75	0.10	0.048	(0.056)	0.012	0.036

202	16.83	0.10	0.048	(0.056)	0.012	0.036
203	16.92	0.10	0.048	(0.056)	0.012	0.036
204	17.00	0.10	0.048	(0.055)	0.012	0.036
205	17.08	0.17	0.080	(0.055)	0.020	0.060
206	17.17	0.17	0.080	(0.055)	0.020	0.060
207	17.25	0.17	0.080	(0.054)	0.020	0.060
208	17.33	0.17	0.080	(0.054)	0.020	0.060
209	17.42	0.17	0.080	(0.054)	0.020	0.060
210	17.50	0.17	0.080	(0.054)	0.020	0.060
211	17.58	0.17	0.080	(0.053)	0.020	0.060
212	17.67	0.17	0.080	(0.053)	0.020	0.060
213	17.75	0.17	0.080	(0.053)	0.020	0.060
214	17.83	0.13	0.064	(0.053)	0.016	0.048
215	17.92	0.13	0.064	(0.052)	0.016	0.048
216	18.00	0.13	0.064	(0.052)	0.016	0.048
217	18.08	0.13	0.064	(0.052)	0.016	0.048
218	18.17	0.13	0.064	(0.052)	0.016	0.048
219	18.25	0.13	0.064	(0.051)	0.016	0.048
220	18.33	0.13	0.064	(0.051)	0.016	0.048
221	18.42	0.13	0.064	(0.051)	0.016	0.048
222	18.50	0.13	0.064	(0.051)	0.016	0.048
223	18.58	0.10	0.048	(0.050)	0.012	0.036
224	18.67	0.10	0.048	(0.050)	0.012	0.036
225	18.75	0.10	0.048	(0.050)	0.012	0.036
226	18.83	0.07	0.032	(0.050)	0.008	0.024
227	18.92	0.07	0.032	(0.049)	0.008	0.024
228	19.00	0.07	0.032	(0.049)	0.008	0.024
229	19.08	0.10	0.048	(0.049)	0.012	0.036
230	19.17	0.10	0.048	(0.049)	0.012	0.036
231	19.25	0.10	0.048	(0.048)	0.012	0.036
232	19.33	0.13	0.064	(0.048)	0.016	0.048
233	19.42	0.13	0.064	(0.048)	0.016	0.048
234	19.50	0.13	0.064	(0.048)	0.016	0.048
235	19.58	0.10	0.048	(0.048)	0.012	0.036
236	19.67	0.10	0.048	(0.047)	0.012	0.036
237	19.75	0.10	0.048	(0.047)	0.012	0.036
238	19.83	0.07	0.032	(0.047)	0.008	0.024
239	19.92	0.07	0.032	(0.047)	0.008	0.024
240	20.00	0.07	0.032	(0.046)	0.008	0.024
241	20.08	0.10	0.048	(0.046)	0.012	0.036
242	20.17	0.10	0.048	(0.046)	0.012	0.036
243	20.25	0.10	0.048	(0.046)	0.012	0.036
244	20.33	0.10	0.048	(0.046)	0.012	0.036
245	20.42	0.10	0.048	(0.045)	0.012	0.036
246	20.50	0.10	0.048	(0.045)	0.012	0.036
247	20.58	0.10	0.048	(0.045)	0.012	0.036
248	20.67	0.10	0.048	(0.045)	0.012	0.036
249	20.75	0.10	0.048	(0.045)	0.012	0.036
250	20.83	0.07	0.032	(0.045)	0.008	0.024
251	20.92	0.07	0.032	(0.044)	0.008	0.024
252	21.00	0.07	0.032	(0.044)	0.008	0.024

253	21.08	0.10	0.048	(0.044)	0.012	0.036
254	21.17	0.10	0.048	(0.044)	0.012	0.036
255	21.25	0.10	0.048	(0.044)	0.012	0.036
256	21.33	0.07	0.032	(0.043)	0.008	0.024
257	21.42	0.07	0.032	(0.043)	0.008	0.024
258	21.50	0.07	0.032	(0.043)	0.008	0.024
259	21.58	0.10	0.048	(0.043)	0.012	0.036
260	21.67	0.10	0.048	(0.043)	0.012	0.036
261	21.75	0.10	0.048	(0.043)	0.012	0.036
262	21.83	0.07	0.032	(0.043)	0.008	0.024
263	21.92	0.07	0.032	(0.042)	0.008	0.024
264	22.00	0.07	0.032	(0.042)	0.008	0.024
265	22.08	0.10	0.048	(0.042)	0.012	0.036
266	22.17	0.10	0.048	(0.042)	0.012	0.036
267	22.25	0.10	0.048	(0.042)	0.012	0.036
268	22.33	0.07	0.032	(0.042)	0.008	0.024
269	22.42	0.07	0.032	(0.042)	0.008	0.024
270	22.50	0.07	0.032	(0.041)	0.008	0.024
271	22.58	0.07	0.032	(0.041)	0.008	0.024
272	22.67	0.07	0.032	(0.041)	0.008	0.024
273	22.75	0.07	0.032	(0.041)	0.008	0.024
274	22.83	0.07	0.032	(0.041)	0.008	0.024
275	22.92	0.07	0.032	(0.041)	0.008	0.024
276	23.00	0.07	0.032	(0.041)	0.008	0.024
277	23.08	0.07	0.032	(0.041)	0.008	0.024
278	23.17	0.07	0.032	(0.041)	0.008	0.024
279	23.25	0.07	0.032	(0.041)	0.008	0.024
280	23.33	0.07	0.032	(0.040)	0.008	0.024
281	23.42	0.07	0.032	(0.040)	0.008	0.024
282	23.50	0.07	0.032	(0.040)	0.008	0.024
283	23.58	0.07	0.032	(0.040)	0.008	0.024
284	23.67	0.07	0.032	(0.040)	0.008	0.024
285	23.75	0.07	0.032	(0.040)	0.008	0.024
286	23.83	0.07	0.032	(0.040)	0.008	0.024
287	23.92	0.07	0.032	(0.040)	0.008	0.024
288	24.00	0.07	0.032	(0.040)	0.008	0.024

(Loss Rate Not Used)

Sum = 100.0

Sum = 37.8

Flood volume = Effective rainfall 3.15(In)
times area 2.3(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 0.85(In)
Total soil loss = 0.162(Ac.Ft)
Total rainfall = 4.00(In)
Flood volume = 25923.7 Cubic Feet
Total soil loss = 7036.5 Cubic Feet

Peak flow rate of this hydrograph = 1.082(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	0.0000		0.00	Q				
0+10	0.0002		0.03	Q				
0+15	0.0005		0.04	Q				
0+20	0.0009		0.05	Q				
0+25	0.0013		0.07	Q				
0+30	0.0018		0.08	Q				
0+35	0.0024		0.08	Q				
0+40	0.0029		0.08	Q				
0+45	0.0035		0.08	Q				
0+50	0.0041		0.08	Q				
0+55	0.0047		0.10	Q				
1+ 0	0.0054		0.10	Q				
1+ 5	0.0062		0.10	Q				
1+10	0.0068		0.09	Q				
1+15	0.0074		0.09	Q				
1+20	0.0080		0.09	Q				
1+25	0.0086		0.08	Q				
1+30	0.0092		0.08	Q				
1+35	0.0097		0.08	Q				
1+40	0.0103		0.08	Q				
1+45	0.0109		0.08	Q				
1+50	0.0114		0.08	Q				
1+55	0.0121		0.10	Q				
2+ 0	0.0128		0.10	Q				
2+ 5	0.0136		0.11	Q				
2+10	0.0143		0.11	Q				
2+15	0.0151		0.11	QV				
2+20	0.0158		0.11	QV				
2+25	0.0166		0.11	QV				
2+30	0.0173		0.11	QV				
2+35	0.0181		0.11	QV				
2+40	0.0189		0.12	QV				
2+45	0.0199		0.13	QV				
2+50	0.0208		0.13	QV				
2+55	0.0217		0.14	QV				
3+ 0	0.0227		0.14	QV				
3+ 5	0.0236		0.14	QV				
3+10	0.0245		0.14	QV				
3+15	0.0255		0.14	QV				
3+20	0.0264		0.14	QV				
3+25	0.0274		0.14	QV				
3+30	0.0283		0.14	QV				
3+35	0.0293		0.14	QV				
3+40	0.0302		0.14	Q V				
3+45	0.0312		0.14	Q V				

3+50	0.0321	0.14	Q V				
3+55	0.0332	0.15	Q V				
4+ 0	0.0343	0.16	Q V				
4+ 5	0.0354	0.16	Q V				
4+10	0.0365	0.16	Q V				
4+15	0.0376	0.16	Q V				
4+20	0.0388	0.17	Q V				
4+25	0.0400	0.18	Q V				
4+30	0.0413	0.19	Q V				
4+35	0.0426	0.19	Q V				
4+40	0.0439	0.19	Q V				
4+45	0.0452	0.19	Q V				
4+50	0.0466	0.19	Q V				
4+55	0.0480	0.21	Q V				
5+ 0	0.0494	0.21	Q V				
5+ 5	0.0509	0.21	Q V				
5+10	0.0522	0.19	Q V				
5+15	0.0534	0.18	Q V				
5+20	0.0546	0.17	Q V				
5+25	0.0559	0.18	Q V				
5+30	0.0572	0.19	Q V				
5+35	0.0585	0.19	Q V				
5+40	0.0599	0.20	Q V				
5+45	0.0614	0.21	Q V				
5+50	0.0629	0.22	Q V				
5+55	0.0644	0.22	Q V				
6+ 0	0.0659	0.22	Q V				
6+ 5	0.0674	0.22	Q V				
6+10	0.0690	0.23	Q V				
6+15	0.0707	0.24	Q V				
6+20	0.0723	0.24	Q V				
6+25	0.0740	0.25	Q V				
6+30	0.0757	0.25	Q V				
6+35	0.0774	0.25	Q V				
6+40	0.0792	0.26	Q V				
6+45	0.0811	0.27	Q V				
6+50	0.0830	0.27	Q V				
6+55	0.0848	0.27	Q V				
7+ 0	0.0867	0.27	Q V				
7+ 5	0.0886	0.27	Q V				
7+10	0.0905	0.27	Q V				
7+15	0.0924	0.27	Q V				
7+20	0.0943	0.28	Q V				
7+25	0.0963	0.29	Q V				
7+30	0.0983	0.30	Q V				
7+35	0.1004	0.30	Q V				
7+40	0.1026	0.31	Q V				
7+45	0.1048	0.32	Q V				
7+50	0.1071	0.33	Q V				
7+55	0.1094	0.34	Q V				
8+ 0	0.1118	0.35	Q V				

8+ 5	0.1143	0.36	Q	V				
8+10	0.1169	0.38	Q	V				
8+15	0.1197	0.40	Q	V				
8+20	0.1225	0.41	Q	V				
8+25	0.1253	0.41	Q	V				
8+30	0.1281	0.41	Q	V				
8+35	0.1310	0.41	Q	V				
8+40	0.1339	0.43	Q	V				
8+45	0.1369	0.43	Q	V				
8+50	0.1399	0.44	Q	V				
8+55	0.1430	0.45	Q	V				
9+ 0	0.1462	0.46	Q	V				
9+ 5	0.1494	0.47	Q	V				
9+10	0.1528	0.49	Q	V				
9+15	0.1563	0.51	Q	V				
9+20	0.1599	0.52	Q	V				
9+25	0.1635	0.53	Q	V				
9+30	0.1673	0.54	Q	V				
9+35	0.1710	0.55	Q	V				
9+40	0.1749	0.56	Q	V				
9+45	0.1788	0.57	Q	V				
9+50	0.1828	0.58	Q	V				
9+55	0.1869	0.59	Q	V				
10+ 0	0.1910	0.60	Q	V				
10+ 5	0.1951	0.59	Q	V				
10+10	0.1986	0.51	Q	V				
10+15	0.2017	0.45	Q	V				
10+20	0.2047	0.43	Q	V				
10+25	0.2076	0.42	Q	V				
10+30	0.2105	0.42	Q	V				
10+35	0.2134	0.42	Q	V				
10+40	0.2168	0.48	Q	V				
10+45	0.2203	0.52	Q	V				
10+50	0.2240	0.53	Q	V				
10+55	0.2277	0.54	Q	V				
11+ 0	0.2315	0.55	Q	V				
11+ 5	0.2353	0.55	Q	V				
11+10	0.2389	0.53	Q	V				
11+15	0.2426	0.53	Q	V				
11+20	0.2462	0.52	Q	V				
11+25	0.2498	0.52	Q	V				
11+30	0.2534	0.52	Q	V				
11+35	0.2570	0.52	Q	V				
11+40	0.2604	0.49	Q	V				
11+45	0.2637	0.48	Q	V				
11+50	0.2669	0.48	Q	V				
11+55	0.2703	0.48	Q	V				
12+ 0	0.2736	0.49	Q	V				
12+ 5	0.2772	0.51	Q	V				
12+10	0.2814	0.62	Q	V				
12+15	0.2862	0.69	Q	V				

12+20	0.2911	0.72	Q	V		
12+25	0.2963	0.75	Q	V		
12+30	0.3016	0.77	Q	V		
12+35	0.3070	0.78	Q	V		
12+40	0.3126	0.82	Q	V		
12+45	0.3184	0.84	Q	V		
12+50	0.3243	0.85	Q	V		
12+55	0.3304	0.88	Q	V		
13+ 0	0.3365	0.89	Q	V		
13+ 5	0.3427	0.91	Q	V		
13+10	0.3496	0.99	Q	V		
13+15	0.3567	1.04	Q	V		
13+20	0.3641	1.06	Q	V		
13+25	0.3715	1.08	Q	V		
13+30	0.3789	1.08	Q	V		
13+35	0.3862	1.06	Q	V		
13+40	0.3923	0.89	Q	V		
13+45	0.3976	0.77	Q	V		
13+50	0.4027	0.73	Q	V		
13+55	0.4076	0.71	Q	V		
14+ 0	0.4124	0.70	Q	V		
14+ 5	0.4172	0.71	Q	V		
14+10	0.4225	0.77	Q	V		
14+15	0.4281	0.81	Q	V		
14+20	0.4337	0.82	Q	V		
14+25	0.4393	0.81	Q	V		
14+30	0.4449	0.81	Q	V		
14+35	0.4504	0.81	Q	V		
14+40	0.4560	0.81	Q	V		
14+45	0.4615	0.81	Q	V		
14+50	0.4671	0.80	Q	V		
14+55	0.4725	0.79	Q	V		
15+ 0	0.4779	0.78	Q	V		
15+ 5	0.4832	0.77	Q	V		
15+10	0.4884	0.76	Q	V		
15+15	0.4935	0.75	Q	V		
15+20	0.4986	0.74	Q	V		
15+25	0.5036	0.72	Q	V		
15+30	0.5085	0.71	Q	V		
15+35	0.5133	0.70	Q	V		
15+40	0.5176	0.63	Q	V		
15+45	0.5217	0.59	Q	V		
15+50	0.5257	0.58	Q	V		
15+55	0.5296	0.57	Q	V		
16+ 0	0.5335	0.56	Q	V		
16+ 5	0.5371	0.53	Q	V		
16+10	0.5394	0.34	Q	V		
16+15	0.5409	0.21	Q	V		
16+20	0.5420	0.16	Q	V		
16+25	0.5429	0.13	Q	V		
16+30	0.5437	0.12	Q	V		

16+35	0.5445	0.11	Q				V
16+40	0.5452	0.10	Q				V
16+45	0.5458	0.09	Q				V
16+50	0.5464	0.09	Q				V
16+55	0.5470	0.08	Q				V
17+ 0	0.5475	0.08	Q				V
17+ 5	0.5481	0.09	Q				V
17+10	0.5489	0.11	Q				V
17+15	0.5498	0.13	Q				V
17+20	0.5507	0.13	Q				V
17+25	0.5516	0.13	Q				V
17+30	0.5525	0.14	Q				V
17+35	0.5535	0.14	Q				V
17+40	0.5544	0.14	Q				V
17+45	0.5554	0.14	Q				V
17+50	0.5563	0.14	Q				V
17+55	0.5571	0.12	Q				V
18+ 0	0.5579	0.12	Q				V
18+ 5	0.5587	0.11	Q				V
18+10	0.5595	0.11	Q				V
18+15	0.5602	0.11	Q				V
18+20	0.5610	0.11	Q				V
18+25	0.5618	0.11	Q				V
18+30	0.5625	0.11	Q				V
18+35	0.5633	0.11	Q				V
18+40	0.5639	0.10	Q				V
18+45	0.5645	0.09	Q				V
18+50	0.5651	0.08	Q				V
18+55	0.5656	0.07	Q				V
19+ 0	0.5660	0.06	Q				V
19+ 5	0.5664	0.06	Q				V
19+10	0.5669	0.07	Q				V
19+15	0.5674	0.08	Q				V
19+20	0.5680	0.08	Q				V
19+25	0.5687	0.09	Q				V
19+30	0.5694	0.10	Q				V
19+35	0.5701	0.10	Q				V
19+40	0.5707	0.09	Q				V
19+45	0.5713	0.09	Q				V
19+50	0.5719	0.08	Q				V
19+55	0.5724	0.07	Q				V
20+ 0	0.5728	0.06	Q				V
20+ 5	0.5732	0.06	Q				V
20+10	0.5737	0.07	Q				V
20+15	0.5742	0.08	Q				V
20+20	0.5748	0.08	Q				V
20+25	0.5754	0.08	Q				V
20+30	0.5759	0.08	Q				V
20+35	0.5765	0.08	Q				V
20+40	0.5771	0.08	Q				V
20+45	0.5776	0.08	Q				V

20+50	0.5782	0.08	Q				V
20+55	0.5786	0.07	Q				V
21+ 0	0.5791	0.06	Q				V
21+ 5	0.5795	0.06	Q				V
21+10	0.5800	0.07	Q				V
21+15	0.5805	0.08	Q				V
21+20	0.5810	0.08	Q				V
21+25	0.5815	0.07	Q				V
21+30	0.5819	0.06	Q				V
21+35	0.5823	0.06	Q				V
21+40	0.5828	0.07	Q				V
21+45	0.5833	0.08	Q				V
21+50	0.5839	0.08	Q				V
21+55	0.5843	0.07	Q				V
22+ 0	0.5847	0.06	Q				V
22+ 5	0.5852	0.06	Q				V
22+10	0.5856	0.07	Q				V
22+15	0.5862	0.08	Q				V
22+20	0.5867	0.08	Q				V
22+25	0.5872	0.07	Q				V
22+30	0.5876	0.06	Q				V
22+35	0.5880	0.06	Q				V
22+40	0.5884	0.06	Q				V
22+45	0.5887	0.06	Q				V
22+50	0.5891	0.06	Q				V
22+55	0.5895	0.06	Q				V
23+ 0	0.5899	0.06	Q				V
23+ 5	0.5903	0.05	Q				V
23+10	0.5906	0.05	Q				V
23+15	0.5910	0.05	Q				V
23+20	0.5914	0.05	Q				V
23+25	0.5918	0.05	Q				V
23+30	0.5922	0.05	Q				V
23+35	0.5925	0.05	Q				V
23+40	0.5929	0.05	Q				V
23+45	0.5933	0.05	Q				V
23+50	0.5937	0.05	Q				V
23+55	0.5940	0.05	Q				V
24+ 0	0.5944	0.05	Q				V
24+ 5	0.5948	0.05	Q				V
24+10	0.5950	0.03	Q				V
24+15	0.5950	0.01	Q				V
24+20	0.5951	0.01	Q				V
24+25	0.5951	0.00	Q				V
24+30	0.5951	0.00	Q				V
24+35	0.5951	0.00	Q				V
24+40	0.5951	0.00	Q				V
24+45	0.5951	0.00	Q				V

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchph1a12.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
DMA A1
Kimley-Horn
2 yr proposed

Drainage Area = 1.91(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.91(Ac.) =
0.003 Sq. Mi.

USER Entry of lag time in hours
Lag time = 0.095 Hr.
Lag time = 5.70 Min.
25% of lag time = 1.43 Min.
40% of lag time = 2.28 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]
1.91	0.50	0.95

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.91	1.10	2.10

STORM EVENT (YEAR) = 2.00
 Area Averaged 2-Year Rainfall = 0.500(In)
 Area Averaged 100-Year Rainfall = 1.100(In)

Point rain (area averaged) = 0.500(In)
 Areal adjustment factor = 100.00 %
 Adjusted average point rain = 0.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.910	56.00	0.730
Total Area Entered = 1.91(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.730	0.242	1.000	0.242
Sum (F) =						0.242

Area averaged mean soil loss (F) (In/Hr) = 0.242
 Minimum soil loss rate ((In/Hr)) = 0.121
 (for 24 hour storm duration)
 Soil low loss rate (decimal) = 0.320

 Slope of intensity-duration curve for a 1 hour storm =0.5500

Unit Hydrograph FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	87.719	10.710
2	0.167	175.439	52.537
3	0.250	263.158	21.572
4	0.333	350.877	8.833
5	0.417	438.596	3.926
6	0.500	526.316	1.230
7	0.583	614.035	0.656
8	0.667	701.754	0.537
Sum = 100.000			Sum= 1.925

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)		Effective (In/Hr)
				Max	Low	
1	0.08	3.30	0.198	(0.242)	0.063	0.135
2	0.17	4.20	0.252	(0.242)	0.081	0.171
3	0.25	4.40	0.264	(0.242)	0.084	0.180
4	0.33	4.80	0.288	(0.242)	0.092	0.196
5	0.42	5.20	0.312	(0.242)	0.100	0.212
6	0.50	6.20	0.372	(0.242)	0.119	0.253
7	0.58	6.80	0.408	(0.242)	0.131	0.277
8	0.67	8.80	0.528	(0.242)	0.169	0.359
9	0.75	13.90	0.834	0.242	(0.267)	0.592
10	0.83	31.40	1.884	0.242	(0.603)	1.642
11	0.92	7.20	0.432	(0.242)	0.138	0.294
12	1.00	3.80	0.228	(0.242)	0.073	0.155

(Loss Rate Not Used)

Sum = 100.0 Sum = 4.5

Flood volume = Effective rainfall 0.37(In)
times area 1.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.13(In)
Total soil loss = 0.020(Ac.Ft)
Total rainfall = 0.50(In)
Flood volume = 2580.0 Cubic Feet
Total soil loss = 886.6 Cubic Feet

Peak flow rate of this hydrograph = 2.060(CFS)

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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	0.0002	0.03	Q				
0+10	0.0014	0.17	Q				
0+15	0.0032	0.27	Q V				
0+20	0.0054	0.32	Q V				
0+25	0.0078	0.36	Q V				
0+30	0.0106	0.39	Q V				
0+35	0.0137	0.45	Q V				
0+40	0.0173	0.52	Q V				
0+45	0.0219	0.67	Q V				
0+50	0.0299	1.16	Q		V		
0+55	0.0441	2.06	Q	Q		V	
1+ 0	0.0520	1.15	Q			V	
1+ 5	0.0562	0.62	Q			V	
1+10	0.0580	0.26	Q				V
1+15	0.0587	0.10	Q				V

1+20	0.0590	0.05	Q				V
1+25	0.0592	0.02	Q				V
1+30	0.0592	0.00	Q				V
1+35	0.0592	0.00	Q				V

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchph1a32.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
DMA A1
Kimley-Horn
2 yr proposed

Drainage Area = 1.91(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.91(Ac.) =
0.003 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.095 Hr.
Lag time = 5.70 Min.
25% of lag time = 1.43 Min.
40% of lag time = 2.28 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]
1.91	0.80	1.53

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.91	1.80	3.44

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 0.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.800(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.910	56.00	0.730
Total Area Entered = 1.91(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.730	0.242	1.000	0.242
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Area averaged mean soil loss (F) (In/Hr) = 0.242
Minimum soil loss rate ((In/Hr)) = 0.121
(for 24 hour storm duration)
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Unit Hydrograph FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	87.719	10.710
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4	0.333	350.877	8.833
5	0.417	438.596	3.926
6	0.500	526.316	1.230
7	0.583	614.035	0.656
8	0.667	701.754	0.537
Sum = 100.000			Sum= 1.925

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

Unit Time	Pattern	Storm Rain	Loss rate(In./Hr)	Effective

	(Hr.)	Percent	(In/Hr)	Max		Low	(In/Hr)
1	0.08	1.30	0.125	(0.242)		0.040	0.085
2	0.17	1.30	0.125	(0.242)		0.040	0.085
3	0.25	1.10	0.106	(0.242)		0.034	0.072
4	0.33	1.50	0.144	(0.242)		0.046	0.098
5	0.42	1.50	0.144	(0.242)		0.046	0.098
6	0.50	1.80	0.173	(0.242)		0.055	0.118
7	0.58	1.50	0.144	(0.242)		0.046	0.098
8	0.67	1.80	0.173	(0.242)		0.055	0.118
9	0.75	1.80	0.173	(0.242)		0.055	0.118
10	0.83	1.50	0.144	(0.242)		0.046	0.098
11	0.92	1.60	0.154	(0.242)		0.049	0.104
12	1.00	1.80	0.173	(0.242)		0.055	0.118
13	1.08	2.20	0.211	(0.242)		0.068	0.144
14	1.17	2.20	0.211	(0.242)		0.068	0.144
15	1.25	2.20	0.211	(0.242)		0.068	0.144
16	1.33	2.00	0.192	(0.242)		0.061	0.131
17	1.42	2.60	0.250	(0.242)		0.080	0.170
18	1.50	2.70	0.259	(0.242)		0.083	0.176
19	1.58	2.40	0.230	(0.242)		0.074	0.157
20	1.67	2.70	0.259	(0.242)		0.083	0.176
21	1.75	3.30	0.317	(0.242)		0.101	0.215
22	1.83	3.10	0.298	(0.242)		0.095	0.202
23	1.92	2.90	0.278	(0.242)		0.089	0.189
24	2.00	3.00	0.288	(0.242)		0.092	0.196
25	2.08	3.10	0.298	(0.242)		0.095	0.202
26	2.17	4.20	0.403	(0.242)		0.129	0.274
27	2.25	5.00	0.480	(0.242)		0.154	0.326
28	2.33	3.50	0.336	(0.242)		0.108	0.228
29	2.42	6.80	0.653	(0.242)		0.209	0.444
30	2.50	7.30	0.701	(0.242)		0.224	0.477
31	2.58	8.20	0.787	0.242	(0.252)		0.545
32	2.67	5.90	0.566	(0.242)		0.181	0.385
33	2.75	2.00	0.192	(0.242)		0.061	0.131
34	2.83	1.80	0.173	(0.242)		0.055	0.118
35	2.92	1.80	0.173	(0.242)		0.055	0.118
36	3.00	0.60	0.058	(0.242)		0.018	0.039

(Loss Rate Not Used)

Sum = 100.0

Sum = 6.5

Flood volume = Effective rainfall 0.54(In)
times area 1.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.26(In)
Total soil loss = 0.041(Ac.Ft)
Total rainfall = 0.80(In)
Flood volume = 3777.3 Cubic Feet
Total soil loss = 1769.3 Cubic Feet

Peak flow rate of this hydrograph = 0.935(CFS)

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3 - H O U R S T O R M

Runoff Hydrograph

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	0.02	Q					
0+10	0.0008	0.10	Q					
0+15	0.0018	0.14	Q					
0+20	0.0028	0.14	QV					
0+25	0.0039	0.17	QV					
0+30	0.0052	0.18	Q V					
0+35	0.0066	0.20	Q V					
0+40	0.0080	0.20	Q V					
0+45	0.0095	0.22	Q V					
0+50	0.0110	0.22	Q V					
0+55	0.0124	0.20	Q V					
1+ 0	0.0138	0.20	Q V					
1+ 5	0.0153	0.22	Q V					
1+10	0.0170	0.25	Q V					
1+15	0.0189	0.27	Q V					
1+20	0.0207	0.27	Q V					
1+25	0.0226	0.27	Q V					
1+30	0.0247	0.30	Q V					
1+35	0.0269	0.32	Q V					
1+40	0.0290	0.31	Q V					
1+45	0.0314	0.34	Q V					
1+50	0.0340	0.38	Q V					
1+55	0.0366	0.38	Q V					
2+ 0	0.0392	0.37	Q V					
2+ 5	0.0418	0.38	Q V					
2+10	0.0445	0.40	Q V					
2+15	0.0479	0.49	Q V					
2+20	0.0517	0.55	Q V					
2+25	0.0553	0.53	Q V					
2+30	0.0603	0.73	Q V					
2+35	0.0662	0.85	Q V					
2+40	0.0727	0.93	Q V					
2+45	0.0780	0.77	Q V					
2+50	0.0811	0.46	Q V					
2+55	0.0834	0.32	Q V					
3+ 0	0.0851	0.25	Q V					
3+ 5	0.0860	0.14	Q					
3+10	0.0865	0.06	Q					
3+15	0.0866	0.02	Q					
3+20	0.0867	0.01	Q					
3+25	0.0867	0.00	Q					
3+30	0.0867	0.00	Q					
3+35	0.0867	0.00	Q					

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchph1a62.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
DMA A1
Kimley-Horn
2 yr proposed

Drainage Area = 1.91(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.91(Ac.) =
0.003 Sq. Mi.

USER Entry of lag time in hours
Lag time = 0.095 Hr.
Lag time = 5.70 Min.
25% of lag time = 1.43 Min.
40% of lag time = 2.28 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]
1.91	1.00	1.91

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.91	2.50	4.77

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 1.000(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.000(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.910	56.00	0.730

Total Area Entered = 1.91(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.730	0.242	1.000	0.242
Sum (F) =						0.242

Area averaged mean soil loss (F) (In/Hr) = 0.242
Minimum soil loss rate ((In/Hr)) = 0.121
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.320

Unit Hydrograph FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	87.719	10.710
2	0.167	175.439	52.537
3	0.250	263.158	21.572
4	0.333	350.877	8.833
5	0.417	438.596	3.926
6	0.500	526.316	1.230
7	0.583	614.035	0.656
8	0.667	701.754	0.537
Sum = 100.000		Sum=	1.925

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

Unit Time	Pattern	Storm Rain	Loss rate(In./Hr)	Effective

	(Hr.)	Percent	(In/Hr)	Max		Low	(In/Hr)
1	0.08	0.50	0.060	(0.242)		0.019	0.041
2	0.17	0.60	0.072	(0.242)		0.023	0.049
3	0.25	0.60	0.072	(0.242)		0.023	0.049
4	0.33	0.60	0.072	(0.242)		0.023	0.049
5	0.42	0.60	0.072	(0.242)		0.023	0.049
6	0.50	0.70	0.084	(0.242)		0.027	0.057
7	0.58	0.70	0.084	(0.242)		0.027	0.057
8	0.67	0.70	0.084	(0.242)		0.027	0.057
9	0.75	0.70	0.084	(0.242)		0.027	0.057
10	0.83	0.70	0.084	(0.242)		0.027	0.057
11	0.92	0.70	0.084	(0.242)		0.027	0.057
12	1.00	0.80	0.096	(0.242)		0.031	0.065
13	1.08	0.80	0.096	(0.242)		0.031	0.065
14	1.17	0.80	0.096	(0.242)		0.031	0.065
15	1.25	0.80	0.096	(0.242)		0.031	0.065
16	1.33	0.80	0.096	(0.242)		0.031	0.065
17	1.42	0.80	0.096	(0.242)		0.031	0.065
18	1.50	0.80	0.096	(0.242)		0.031	0.065
19	1.58	0.80	0.096	(0.242)		0.031	0.065
20	1.67	0.80	0.096	(0.242)		0.031	0.065
21	1.75	0.80	0.096	(0.242)		0.031	0.065
22	1.83	0.80	0.096	(0.242)		0.031	0.065
23	1.92	0.80	0.096	(0.242)		0.031	0.065
24	2.00	0.90	0.108	(0.242)		0.035	0.073
25	2.08	0.80	0.096	(0.242)		0.031	0.065
26	2.17	0.90	0.108	(0.242)		0.035	0.073
27	2.25	0.90	0.108	(0.242)		0.035	0.073
28	2.33	0.90	0.108	(0.242)		0.035	0.073
29	2.42	0.90	0.108	(0.242)		0.035	0.073
30	2.50	0.90	0.108	(0.242)		0.035	0.073
31	2.58	0.90	0.108	(0.242)		0.035	0.073
32	2.67	0.90	0.108	(0.242)		0.035	0.073
33	2.75	1.00	0.120	(0.242)		0.038	0.082
34	2.83	1.00	0.120	(0.242)		0.038	0.082
35	2.92	1.00	0.120	(0.242)		0.038	0.082
36	3.00	1.00	0.120	(0.242)		0.038	0.082
37	3.08	1.00	0.120	(0.242)		0.038	0.082
38	3.17	1.10	0.132	(0.242)		0.042	0.090
39	3.25	1.10	0.132	(0.242)		0.042	0.090
40	3.33	1.10	0.132	(0.242)		0.042	0.090
41	3.42	1.20	0.144	(0.242)		0.046	0.098
42	3.50	1.30	0.156	(0.242)		0.050	0.106
43	3.58	1.40	0.168	(0.242)		0.054	0.114
44	3.67	1.40	0.168	(0.242)		0.054	0.114
45	3.75	1.50	0.180	(0.242)		0.058	0.122
46	3.83	1.50	0.180	(0.242)		0.058	0.122
47	3.92	1.60	0.192	(0.242)		0.061	0.131
48	4.00	1.60	0.192	(0.242)		0.061	0.131
49	4.08	1.70	0.204	(0.242)		0.065	0.139
50	4.17	1.80	0.216	(0.242)		0.069	0.147

51	4.25	1.90	0.228	(0.242)	0.073	0.155
52	4.33	2.00	0.240	(0.242)	0.077	0.163
53	4.42	2.10	0.252	(0.242)	0.081	0.171
54	4.50	2.10	0.252	(0.242)	0.081	0.171
55	4.58	2.20	0.264	(0.242)	0.084	0.180
56	4.67	2.30	0.276	(0.242)	0.088	0.188
57	4.75	2.40	0.288	(0.242)	0.092	0.196
58	4.83	2.40	0.288	(0.242)	0.092	0.196
59	4.92	2.50	0.300	(0.242)	0.096	0.204
60	5.00	2.60	0.312	(0.242)	0.100	0.212
61	5.08	3.10	0.372	(0.242)	0.119	0.253
62	5.17	3.60	0.432	(0.242)	0.138	0.294
63	5.25	3.90	0.468	(0.242)	0.150	0.318
64	5.33	4.20	0.504	(0.242)	0.161	0.343
65	5.42	4.70	0.564	(0.242)	0.180	0.384
66	5.50	5.60	0.672	(0.242)	0.215	0.457
67	5.58	1.90	0.228	(0.242)	0.073	0.155
68	5.67	0.90	0.108	(0.242)	0.035	0.073
69	5.75	0.60	0.072	(0.242)	0.023	0.049
70	5.83	0.50	0.060	(0.242)	0.019	0.041
71	5.92	0.30	0.036	(0.242)	0.012	0.024
72	6.00	0.20	0.024	(0.242)	0.008	0.016

(Loss Rate Not Used)

Sum = 100.0

Sum = 8.2

Flood volume = Effective rainfall 0.68(In)
times area 1.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.32(In)
Total soil loss = 0.051(Ac.Ft)
Total rainfall = 1.00(In)
Flood volume = 4714.6 Cubic Feet
Total soil loss = 2218.6 Cubic Feet

Peak flow rate of this hydrograph = 0.748(CFS)

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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	0.0001	0.01	Q				
0+10	0.0004	0.05	Q				
0+15	0.0009	0.08	Q				
0+20	0.0015	0.09	Q				
0+25	0.0022	0.09	Q				
0+30	0.0028	0.09	QV				
0+35	0.0035	0.10	QV				
0+40	0.0043	0.11	QV				

0+45	0.0050	0.11	QV				
0+50	0.0058	0.11	Q V				
0+55	0.0065	0.11	Q V				
1+ 0	0.0073	0.11	Q V				
1+ 5	0.0081	0.12	Q V				
1+10	0.0090	0.12	Q V				
1+15	0.0098	0.12	Q V				
1+20	0.0107	0.13	Q V				
1+25	0.0116	0.13	Q V				
1+30	0.0124	0.13	Q V				
1+35	0.0133	0.13	Q V				
1+40	0.0142	0.13	Q V				
1+45	0.0150	0.13	Q V				
1+50	0.0159	0.13	Q V				
1+55	0.0168	0.13	Q V				
2+ 0	0.0176	0.13	Q V				
2+ 5	0.0186	0.13	Q V				
2+10	0.0195	0.13	Q V				
2+15	0.0204	0.14	Q V				
2+20	0.0214	0.14	Q V				
2+25	0.0223	0.14	Q V				
2+30	0.0233	0.14	Q V				
2+35	0.0243	0.14	Q V				
2+40	0.0253	0.14	Q V				
2+45	0.0262	0.14	Q V				
2+50	0.0273	0.15	Q V				
2+55	0.0283	0.15	Q V				
3+ 0	0.0294	0.16	Q V				
3+ 5	0.0305	0.16	Q V				
3+10	0.0316	0.16	Q V				
3+15	0.0327	0.17	Q V				
3+20	0.0339	0.17	Q V				
3+25	0.0351	0.17	Q V				
3+30	0.0364	0.18	Q V				
3+35	0.0377	0.20	Q V				
3+40	0.0392	0.21	Q V				
3+45	0.0407	0.22	Q V				
3+50	0.0423	0.23	Q V				
3+55	0.0439	0.23	Q V				
4+ 0	0.0456	0.24	Q V				
4+ 5	0.0473	0.25	Q V				
4+10	0.0491	0.26	Q V				
4+15	0.0510	0.28	Q V				
4+20	0.0530	0.29	Q V				
4+25	0.0551	0.31	Q V				
4+30	0.0573	0.32	Q V				
4+35	0.0596	0.33	Q V				
4+40	0.0619	0.34	Q V				
4+45	0.0644	0.35	Q V				
4+50	0.0669	0.37	Q V				
4+55	0.0695	0.38	Q V				

5+ 0	0.0721	0.39	Q			V		
5+ 5	0.0749	0.41	Q			V		
5+10	0.0781	0.46	Q			V		
5+15	0.0818	0.53	Q			V		
5+20	0.0858	0.58	Q			V		
5+25	0.0902	0.64	Q				V	
5+30	0.0951	0.71	Q				V	
5+35	0.1002	0.75	Q					V
5+40	0.1035	0.47	Q					V
5+45	0.1053	0.27	Q					V
5+50	0.1065	0.17	Q					V
5+55	0.1072	0.11	Q					V
6+ 0	0.1077	0.07	Q					V
6+ 5	0.1080	0.05	Q					V
6+10	0.1082	0.02	Q					V
6+15	0.1082	0.01	Q					V
6+20	0.1082	0.00	Q					V
6+25	0.1082	0.00	Q					V
6+30	0.1082	0.00	Q					V
6+35	0.1082	0.00	Q					V

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchph1a242.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
DMA A1
Kimley-Horn
2 yr proposed

Drainage Area = 1.91(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.91(Ac.) =
0.003 Sq. Mi.

USER Entry of lag time in hours
Lag time = 0.095 Hr.
Lag time = 5.70 Min.
25% of lag time = 1.43 Min.
40% of lag time = 2.28 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]
1.91	1.60	3.06

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.91	4.00	7.64

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 1.600(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.600(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.910	56.00	0.730
Total Area Entered = 1.91(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.730	0.242	1.000	0.242
Sum (F) =						0.242

Area averaged mean soil loss (F) (In/Hr) = 0.242
Minimum soil loss rate ((In/Hr)) = 0.121
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.320

Unit Hydrograph
FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	87.719	10.710
2	0.167	175.439	52.537
3	0.250	263.158	21.572
4	0.333	350.877	8.833
5	0.417	438.596	3.926
6	0.500	526.316	1.230
7	0.583	614.035	0.656
8	0.667	701.754	0.537
Sum = 100.000		Sum=	1.925

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

Unit Time	Pattern	Storm Rain	Loss rate(In./Hr)	Effective

	(Hr.)	Percent	(In/Hr)	Max		Low	(In/Hr)
1	0.08	0.07	0.013	(0.429)		0.004	0.009
2	0.17	0.07	0.013	(0.428)		0.004	0.009
3	0.25	0.07	0.013	(0.426)		0.004	0.009
4	0.33	0.10	0.019	(0.424)		0.006	0.013
5	0.42	0.10	0.019	(0.423)		0.006	0.013
6	0.50	0.10	0.019	(0.421)		0.006	0.013
7	0.58	0.10	0.019	(0.419)		0.006	0.013
8	0.67	0.10	0.019	(0.418)		0.006	0.013
9	0.75	0.10	0.019	(0.416)		0.006	0.013
10	0.83	0.13	0.026	(0.414)		0.008	0.017
11	0.92	0.13	0.026	(0.413)		0.008	0.017
12	1.00	0.13	0.026	(0.411)		0.008	0.017
13	1.08	0.10	0.019	(0.410)		0.006	0.013
14	1.17	0.10	0.019	(0.408)		0.006	0.013
15	1.25	0.10	0.019	(0.406)		0.006	0.013
16	1.33	0.10	0.019	(0.405)		0.006	0.013
17	1.42	0.10	0.019	(0.403)		0.006	0.013
18	1.50	0.10	0.019	(0.401)		0.006	0.013
19	1.58	0.10	0.019	(0.400)		0.006	0.013
20	1.67	0.10	0.019	(0.398)		0.006	0.013
21	1.75	0.10	0.019	(0.397)		0.006	0.013
22	1.83	0.13	0.026	(0.395)		0.008	0.017
23	1.92	0.13	0.026	(0.394)		0.008	0.017
24	2.00	0.13	0.026	(0.392)		0.008	0.017
25	2.08	0.13	0.026	(0.390)		0.008	0.017
26	2.17	0.13	0.026	(0.389)		0.008	0.017
27	2.25	0.13	0.026	(0.387)		0.008	0.017
28	2.33	0.13	0.026	(0.386)		0.008	0.017
29	2.42	0.13	0.026	(0.384)		0.008	0.017
30	2.50	0.13	0.026	(0.382)		0.008	0.017
31	2.58	0.17	0.032	(0.381)		0.010	0.022
32	2.67	0.17	0.032	(0.379)		0.010	0.022
33	2.75	0.17	0.032	(0.378)		0.010	0.022
34	2.83	0.17	0.032	(0.376)		0.010	0.022
35	2.92	0.17	0.032	(0.375)		0.010	0.022
36	3.00	0.17	0.032	(0.373)		0.010	0.022
37	3.08	0.17	0.032	(0.372)		0.010	0.022
38	3.17	0.17	0.032	(0.370)		0.010	0.022
39	3.25	0.17	0.032	(0.368)		0.010	0.022
40	3.33	0.17	0.032	(0.367)		0.010	0.022
41	3.42	0.17	0.032	(0.365)		0.010	0.022
42	3.50	0.17	0.032	(0.364)		0.010	0.022
43	3.58	0.17	0.032	(0.362)		0.010	0.022
44	3.67	0.17	0.032	(0.361)		0.010	0.022
45	3.75	0.17	0.032	(0.359)		0.010	0.022
46	3.83	0.20	0.038	(0.358)		0.012	0.026
47	3.92	0.20	0.038	(0.356)		0.012	0.026
48	4.00	0.20	0.038	(0.355)		0.012	0.026
49	4.08	0.20	0.038	(0.353)		0.012	0.026
50	4.17	0.20	0.038	(0.352)		0.012	0.026

51	4.25	0.20	0.038	(0.350)	0.012	0.026
52	4.33	0.23	0.045	(0.349)	0.014	0.030
53	4.42	0.23	0.045	(0.347)	0.014	0.030
54	4.50	0.23	0.045	(0.346)	0.014	0.030
55	4.58	0.23	0.045	(0.344)	0.014	0.030
56	4.67	0.23	0.045	(0.343)	0.014	0.030
57	4.75	0.23	0.045	(0.341)	0.014	0.030
58	4.83	0.27	0.051	(0.340)	0.016	0.035
59	4.92	0.27	0.051	(0.338)	0.016	0.035
60	5.00	0.27	0.051	(0.337)	0.016	0.035
61	5.08	0.20	0.038	(0.335)	0.012	0.026
62	5.17	0.20	0.038	(0.334)	0.012	0.026
63	5.25	0.20	0.038	(0.333)	0.012	0.026
64	5.33	0.23	0.045	(0.331)	0.014	0.030
65	5.42	0.23	0.045	(0.330)	0.014	0.030
66	5.50	0.23	0.045	(0.328)	0.014	0.030
67	5.58	0.27	0.051	(0.327)	0.016	0.035
68	5.67	0.27	0.051	(0.325)	0.016	0.035
69	5.75	0.27	0.051	(0.324)	0.016	0.035
70	5.83	0.27	0.051	(0.322)	0.016	0.035
71	5.92	0.27	0.051	(0.321)	0.016	0.035
72	6.00	0.27	0.051	(0.320)	0.016	0.035
73	6.08	0.30	0.058	(0.318)	0.018	0.039
74	6.17	0.30	0.058	(0.317)	0.018	0.039
75	6.25	0.30	0.058	(0.315)	0.018	0.039
76	6.33	0.30	0.058	(0.314)	0.018	0.039
77	6.42	0.30	0.058	(0.313)	0.018	0.039
78	6.50	0.30	0.058	(0.311)	0.018	0.039
79	6.58	0.33	0.064	(0.310)	0.020	0.044
80	6.67	0.33	0.064	(0.308)	0.020	0.044
81	6.75	0.33	0.064	(0.307)	0.020	0.044
82	6.83	0.33	0.064	(0.306)	0.020	0.044
83	6.92	0.33	0.064	(0.304)	0.020	0.044
84	7.00	0.33	0.064	(0.303)	0.020	0.044
85	7.08	0.33	0.064	(0.301)	0.020	0.044
86	7.17	0.33	0.064	(0.300)	0.020	0.044
87	7.25	0.33	0.064	(0.299)	0.020	0.044
88	7.33	0.37	0.070	(0.297)	0.023	0.048
89	7.42	0.37	0.070	(0.296)	0.023	0.048
90	7.50	0.37	0.070	(0.295)	0.023	0.048
91	7.58	0.40	0.077	(0.293)	0.025	0.052
92	7.67	0.40	0.077	(0.292)	0.025	0.052
93	7.75	0.40	0.077	(0.291)	0.025	0.052
94	7.83	0.43	0.083	(0.289)	0.027	0.057
95	7.92	0.43	0.083	(0.288)	0.027	0.057
96	8.00	0.43	0.083	(0.287)	0.027	0.057
97	8.08	0.50	0.096	(0.285)	0.031	0.065
98	8.17	0.50	0.096	(0.284)	0.031	0.065
99	8.25	0.50	0.096	(0.283)	0.031	0.065
100	8.33	0.50	0.096	(0.281)	0.031	0.065
101	8.42	0.50	0.096	(0.280)	0.031	0.065

102	8.50	0.50	0.096	(0.279)	0.031	0.065
103	8.58	0.53	0.102	(0.277)	0.033	0.070
104	8.67	0.53	0.102	(0.276)	0.033	0.070
105	8.75	0.53	0.102	(0.275)	0.033	0.070
106	8.83	0.57	0.109	(0.273)	0.035	0.074
107	8.92	0.57	0.109	(0.272)	0.035	0.074
108	9.00	0.57	0.109	(0.271)	0.035	0.074
109	9.08	0.63	0.122	(0.270)	0.039	0.083
110	9.17	0.63	0.122	(0.268)	0.039	0.083
111	9.25	0.63	0.122	(0.267)	0.039	0.083
112	9.33	0.67	0.128	(0.266)	0.041	0.087
113	9.42	0.67	0.128	(0.264)	0.041	0.087
114	9.50	0.67	0.128	(0.263)	0.041	0.087
115	9.58	0.70	0.134	(0.262)	0.043	0.091
116	9.67	0.70	0.134	(0.261)	0.043	0.091
117	9.75	0.70	0.134	(0.259)	0.043	0.091
118	9.83	0.73	0.141	(0.258)	0.045	0.096
119	9.92	0.73	0.141	(0.257)	0.045	0.096
120	10.00	0.73	0.141	(0.256)	0.045	0.096
121	10.08	0.50	0.096	(0.254)	0.031	0.065
122	10.17	0.50	0.096	(0.253)	0.031	0.065
123	10.25	0.50	0.096	(0.252)	0.031	0.065
124	10.33	0.50	0.096	(0.251)	0.031	0.065
125	10.42	0.50	0.096	(0.250)	0.031	0.065
126	10.50	0.50	0.096	(0.248)	0.031	0.065
127	10.58	0.67	0.128	(0.247)	0.041	0.087
128	10.67	0.67	0.128	(0.246)	0.041	0.087
129	10.75	0.67	0.128	(0.245)	0.041	0.087
130	10.83	0.67	0.128	(0.244)	0.041	0.087
131	10.92	0.67	0.128	(0.242)	0.041	0.087
132	11.00	0.67	0.128	(0.241)	0.041	0.087
133	11.08	0.63	0.122	(0.240)	0.039	0.083
134	11.17	0.63	0.122	(0.239)	0.039	0.083
135	11.25	0.63	0.122	(0.238)	0.039	0.083
136	11.33	0.63	0.122	(0.236)	0.039	0.083
137	11.42	0.63	0.122	(0.235)	0.039	0.083
138	11.50	0.63	0.122	(0.234)	0.039	0.083
139	11.58	0.57	0.109	(0.233)	0.035	0.074
140	11.67	0.57	0.109	(0.232)	0.035	0.074
141	11.75	0.57	0.109	(0.231)	0.035	0.074
142	11.83	0.60	0.115	(0.229)	0.037	0.078
143	11.92	0.60	0.115	(0.228)	0.037	0.078
144	12.00	0.60	0.115	(0.227)	0.037	0.078
145	12.08	0.83	0.160	(0.226)	0.051	0.109
146	12.17	0.83	0.160	(0.225)	0.051	0.109
147	12.25	0.83	0.160	(0.224)	0.051	0.109
148	12.33	0.87	0.166	(0.223)	0.053	0.113
149	12.42	0.87	0.166	(0.222)	0.053	0.113
150	12.50	0.87	0.166	(0.220)	0.053	0.113
151	12.58	0.93	0.179	(0.219)	0.057	0.122
152	12.67	0.93	0.179	(0.218)	0.057	0.122

153	12.75	0.93	0.179	(0.217)	0.057	0.122
154	12.83	0.97	0.186	(0.216)	0.059	0.126
155	12.92	0.97	0.186	(0.215)	0.059	0.126
156	13.00	0.97	0.186	(0.214)	0.059	0.126
157	13.08	1.13	0.218	(0.213)	0.070	0.148
158	13.17	1.13	0.218	(0.212)	0.070	0.148
159	13.25	1.13	0.218	(0.211)	0.070	0.148
160	13.33	1.13	0.218	(0.210)	0.070	0.148
161	13.42	1.13	0.218	(0.208)	0.070	0.148
162	13.50	1.13	0.218	(0.207)	0.070	0.148
163	13.58	0.77	0.147	(0.206)	0.047	0.100
164	13.67	0.77	0.147	(0.205)	0.047	0.100
165	13.75	0.77	0.147	(0.204)	0.047	0.100
166	13.83	0.77	0.147	(0.203)	0.047	0.100
167	13.92	0.77	0.147	(0.202)	0.047	0.100
168	14.00	0.77	0.147	(0.201)	0.047	0.100
169	14.08	0.90	0.173	(0.200)	0.055	0.118
170	14.17	0.90	0.173	(0.199)	0.055	0.118
171	14.25	0.90	0.173	(0.198)	0.055	0.118
172	14.33	0.87	0.166	(0.197)	0.053	0.113
173	14.42	0.87	0.166	(0.196)	0.053	0.113
174	14.50	0.87	0.166	(0.195)	0.053	0.113
175	14.58	0.87	0.166	(0.194)	0.053	0.113
176	14.67	0.87	0.166	(0.193)	0.053	0.113
177	14.75	0.87	0.166	(0.192)	0.053	0.113
178	14.83	0.83	0.160	(0.191)	0.051	0.109
179	14.92	0.83	0.160	(0.190)	0.051	0.109
180	15.00	0.83	0.160	(0.189)	0.051	0.109
181	15.08	0.80	0.154	(0.188)	0.049	0.104
182	15.17	0.80	0.154	(0.187)	0.049	0.104
183	15.25	0.80	0.154	(0.186)	0.049	0.104
184	15.33	0.77	0.147	(0.185)	0.047	0.100
185	15.42	0.77	0.147	(0.184)	0.047	0.100
186	15.50	0.77	0.147	(0.183)	0.047	0.100
187	15.58	0.63	0.122	(0.182)	0.039	0.083
188	15.67	0.63	0.122	(0.182)	0.039	0.083
189	15.75	0.63	0.122	(0.181)	0.039	0.083
190	15.83	0.63	0.122	(0.180)	0.039	0.083
191	15.92	0.63	0.122	(0.179)	0.039	0.083
192	16.00	0.63	0.122	(0.178)	0.039	0.083
193	16.08	0.13	0.026	(0.177)	0.008	0.017
194	16.17	0.13	0.026	(0.176)	0.008	0.017
195	16.25	0.13	0.026	(0.175)	0.008	0.017
196	16.33	0.13	0.026	(0.174)	0.008	0.017
197	16.42	0.13	0.026	(0.173)	0.008	0.017
198	16.50	0.13	0.026	(0.172)	0.008	0.017
199	16.58	0.10	0.019	(0.172)	0.006	0.013
200	16.67	0.10	0.019	(0.171)	0.006	0.013
201	16.75	0.10	0.019	(0.170)	0.006	0.013
202	16.83	0.10	0.019	(0.169)	0.006	0.013
203	16.92	0.10	0.019	(0.168)	0.006	0.013

204	17.00	0.10	0.019	(0.167)	0.006	0.013
205	17.08	0.17	0.032	(0.166)	0.010	0.022
206	17.17	0.17	0.032	(0.166)	0.010	0.022
207	17.25	0.17	0.032	(0.165)	0.010	0.022
208	17.33	0.17	0.032	(0.164)	0.010	0.022
209	17.42	0.17	0.032	(0.163)	0.010	0.022
210	17.50	0.17	0.032	(0.162)	0.010	0.022
211	17.58	0.17	0.032	(0.161)	0.010	0.022
212	17.67	0.17	0.032	(0.161)	0.010	0.022
213	17.75	0.17	0.032	(0.160)	0.010	0.022
214	17.83	0.13	0.026	(0.159)	0.008	0.017
215	17.92	0.13	0.026	(0.158)	0.008	0.017
216	18.00	0.13	0.026	(0.158)	0.008	0.017
217	18.08	0.13	0.026	(0.157)	0.008	0.017
218	18.17	0.13	0.026	(0.156)	0.008	0.017
219	18.25	0.13	0.026	(0.155)	0.008	0.017
220	18.33	0.13	0.026	(0.154)	0.008	0.017
221	18.42	0.13	0.026	(0.154)	0.008	0.017
222	18.50	0.13	0.026	(0.153)	0.008	0.017
223	18.58	0.10	0.019	(0.152)	0.006	0.013
224	18.67	0.10	0.019	(0.151)	0.006	0.013
225	18.75	0.10	0.019	(0.151)	0.006	0.013
226	18.83	0.07	0.013	(0.150)	0.004	0.009
227	18.92	0.07	0.013	(0.149)	0.004	0.009
228	19.00	0.07	0.013	(0.149)	0.004	0.009
229	19.08	0.10	0.019	(0.148)	0.006	0.013
230	19.17	0.10	0.019	(0.147)	0.006	0.013
231	19.25	0.10	0.019	(0.147)	0.006	0.013
232	19.33	0.13	0.026	(0.146)	0.008	0.017
233	19.42	0.13	0.026	(0.145)	0.008	0.017
234	19.50	0.13	0.026	(0.144)	0.008	0.017
235	19.58	0.10	0.019	(0.144)	0.006	0.013
236	19.67	0.10	0.019	(0.143)	0.006	0.013
237	19.75	0.10	0.019	(0.143)	0.006	0.013
238	19.83	0.07	0.013	(0.142)	0.004	0.009
239	19.92	0.07	0.013	(0.141)	0.004	0.009
240	20.00	0.07	0.013	(0.141)	0.004	0.009
241	20.08	0.10	0.019	(0.140)	0.006	0.013
242	20.17	0.10	0.019	(0.139)	0.006	0.013
243	20.25	0.10	0.019	(0.139)	0.006	0.013
244	20.33	0.10	0.019	(0.138)	0.006	0.013
245	20.42	0.10	0.019	(0.138)	0.006	0.013
246	20.50	0.10	0.019	(0.137)	0.006	0.013
247	20.58	0.10	0.019	(0.136)	0.006	0.013
248	20.67	0.10	0.019	(0.136)	0.006	0.013
249	20.75	0.10	0.019	(0.135)	0.006	0.013
250	20.83	0.07	0.013	(0.135)	0.004	0.009
251	20.92	0.07	0.013	(0.134)	0.004	0.009
252	21.00	0.07	0.013	(0.134)	0.004	0.009
253	21.08	0.10	0.019	(0.133)	0.006	0.013
254	21.17	0.10	0.019	(0.133)	0.006	0.013

255	21.25	0.10	0.019	(0.132)	0.006	0.013
256	21.33	0.07	0.013	(0.132)	0.004	0.009
257	21.42	0.07	0.013	(0.131)	0.004	0.009
258	21.50	0.07	0.013	(0.131)	0.004	0.009
259	21.58	0.10	0.019	(0.130)	0.006	0.013
260	21.67	0.10	0.019	(0.130)	0.006	0.013
261	21.75	0.10	0.019	(0.129)	0.006	0.013
262	21.83	0.07	0.013	(0.129)	0.004	0.009
263	21.92	0.07	0.013	(0.128)	0.004	0.009
264	22.00	0.07	0.013	(0.128)	0.004	0.009
265	22.08	0.10	0.019	(0.127)	0.006	0.013
266	22.17	0.10	0.019	(0.127)	0.006	0.013
267	22.25	0.10	0.019	(0.127)	0.006	0.013
268	22.33	0.07	0.013	(0.126)	0.004	0.009
269	22.42	0.07	0.013	(0.126)	0.004	0.009
270	22.50	0.07	0.013	(0.125)	0.004	0.009
271	22.58	0.07	0.013	(0.125)	0.004	0.009
272	22.67	0.07	0.013	(0.125)	0.004	0.009
273	22.75	0.07	0.013	(0.124)	0.004	0.009
274	22.83	0.07	0.013	(0.124)	0.004	0.009
275	22.92	0.07	0.013	(0.124)	0.004	0.009
276	23.00	0.07	0.013	(0.123)	0.004	0.009
277	23.08	0.07	0.013	(0.123)	0.004	0.009
278	23.17	0.07	0.013	(0.123)	0.004	0.009
279	23.25	0.07	0.013	(0.123)	0.004	0.009
280	23.33	0.07	0.013	(0.122)	0.004	0.009
281	23.42	0.07	0.013	(0.122)	0.004	0.009
282	23.50	0.07	0.013	(0.122)	0.004	0.009
283	23.58	0.07	0.013	(0.122)	0.004	0.009
284	23.67	0.07	0.013	(0.122)	0.004	0.009
285	23.75	0.07	0.013	(0.121)	0.004	0.009
286	23.83	0.07	0.013	(0.121)	0.004	0.009
287	23.92	0.07	0.013	(0.121)	0.004	0.009
288	24.00	0.07	0.013	(0.121)	0.004	0.009

(Loss Rate Not Used)

Sum = 100.0

Sum = 13.1

Flood volume = Effective rainfall 1.09(In)
times area 1.9(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.51(In)
Total soil loss = 0.081(Ac.Ft)
Total rainfall = 1.60(In)
Flood volume = 7543.4 Cubic Feet
Total soil loss = 3549.8 Cubic Feet

Peak flow rate of this hydrograph = 0.284(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	0.0000		0.00	Q				
0+10	0.0001		0.01	Q				
0+15	0.0002		0.01	Q				
0+20	0.0003		0.02	Q				
0+25	0.0004		0.02	Q				
0+30	0.0006		0.02	Q				
0+35	0.0008		0.02	Q				
0+40	0.0010		0.02	Q				
0+45	0.0011		0.03	Q				
0+50	0.0013		0.03	Q				
0+55	0.0015		0.03	Q				
1+ 0	0.0017		0.03	Q				
1+ 5	0.0020		0.03	Q				
1+10	0.0021		0.03	Q				
1+15	0.0023		0.03	Q				
1+20	0.0025		0.03	Q				
1+25	0.0027		0.03	Q				
1+30	0.0029		0.03	Q				
1+35	0.0030		0.03	Q				
1+40	0.0032		0.03	Q				
1+45	0.0034		0.03	Q				
1+50	0.0036		0.03	Q				
1+55	0.0038		0.03	Q				
2+ 0	0.0040		0.03	Q				
2+ 5	0.0042		0.03	Q				
2+10	0.0044		0.03	QV				
2+15	0.0047		0.03	QV				
2+20	0.0049		0.03	QV				
2+25	0.0051		0.03	QV				
2+30	0.0054		0.03	QV				
2+35	0.0056		0.03	QV				
2+40	0.0059		0.04	QV				
2+45	0.0061		0.04	QV				
2+50	0.0064		0.04	QV				
2+55	0.0067		0.04	QV				
3+ 0	0.0070		0.04	QV				
3+ 5	0.0073		0.04	QV				
3+10	0.0076		0.04	QV				
3+15	0.0079		0.04	QV				
3+20	0.0082		0.04	QV				
3+25	0.0085		0.04	QV				
3+30	0.0087		0.04	Q V				
3+35	0.0090		0.04	Q V				
3+40	0.0093		0.04	Q V				
3+45	0.0096		0.04	Q V				
3+50	0.0099		0.04	Q V				
3+55	0.0102		0.05	Q V				

4+ 0	0.0106	0.05	Q V				
4+ 5	0.0109	0.05	Q V				
4+10	0.0113	0.05	Q V				
4+15	0.0116	0.05	Q V				
4+20	0.0119	0.05	Q V				
4+25	0.0123	0.06	Q V				
4+30	0.0127	0.06	Q V				
4+35	0.0131	0.06	Q V				
4+40	0.0135	0.06	Q V				
4+45	0.0139	0.06	Q V				
4+50	0.0143	0.06	Q V				
4+55	0.0148	0.06	Q V				
5+ 0	0.0152	0.07	Q V				
5+ 5	0.0157	0.06	Q V				
5+10	0.0161	0.06	Q V				
5+15	0.0164	0.05	Q V				
5+20	0.0168	0.05	Q V				
5+25	0.0172	0.06	Q V				
5+30	0.0176	0.06	Q V				
5+35	0.0180	0.06	Q V				
5+40	0.0184	0.06	Q V				
5+45	0.0189	0.07	Q V				
5+50	0.0193	0.07	Q V				
5+55	0.0198	0.07	Q V				
6+ 0	0.0203	0.07	Q V				
6+ 5	0.0207	0.07	Q V				
6+10	0.0212	0.07	Q V				
6+15	0.0217	0.07	Q V				
6+20	0.0222	0.07	Q V				
6+25	0.0228	0.08	Q V				
6+30	0.0233	0.08	Q V				
6+35	0.0238	0.08	Q V				
6+40	0.0244	0.08	Q V				
6+45	0.0249	0.08	Q V				
6+50	0.0255	0.08	Q V				
6+55	0.0261	0.08	Q V				
7+ 0	0.0267	0.08	Q V				
7+ 5	0.0272	0.08	Q V				
7+10	0.0278	0.08	Q V				
7+15	0.0284	0.08	Q V				
7+20	0.0290	0.08	Q V				
7+25	0.0296	0.09	Q V				
7+30	0.0302	0.09	Q V				
7+35	0.0309	0.09	Q V				
7+40	0.0315	0.10	Q V				
7+45	0.0322	0.10	Q V				
7+50	0.0329	0.10	Q V				
7+55	0.0336	0.11	Q V				
8+ 0	0.0344	0.11	Q V				
8+ 5	0.0351	0.11	Q V				
8+10	0.0359	0.12	Q V				

8+15	0.0368	0.12	Q	V					
8+20	0.0377	0.12	Q	V					
8+25	0.0385	0.13	Q	V					
8+30	0.0394	0.13	Q	V					
8+35	0.0403	0.13	Q	V					
8+40	0.0412	0.13	Q	V					
8+45	0.0421	0.13	Q	V					
8+50	0.0430	0.13	Q	V					
8+55	0.0440	0.14	Q	V					
9+ 0	0.0449	0.14	Q	V					
9+ 5	0.0459	0.14	Q	V					
9+10	0.0470	0.15	Q	V					
9+15	0.0480	0.16	Q	V					
9+20	0.0491	0.16	Q	V					
9+25	0.0503	0.16	Q	V					
9+30	0.0514	0.17	Q	V					
9+35	0.0526	0.17	Q	V					
9+40	0.0538	0.17	Q	V					
9+45	0.0550	0.17	Q	V					
9+50	0.0562	0.18	Q	V					
9+55	0.0574	0.18	Q	V					
10+ 0	0.0587	0.18	Q	V					
10+ 5	0.0599	0.18	Q	V					
10+10	0.0609	0.15	Q	V					
10+15	0.0619	0.13	Q	V					
10+20	0.0627	0.13	Q	V					
10+25	0.0636	0.13	Q	V					
10+30	0.0645	0.13	Q	V					
10+35	0.0654	0.13	Q	V					
10+40	0.0664	0.15	Q	V					
10+45	0.0675	0.16	Q	V					
10+50	0.0687	0.16	Q	V					
10+55	0.0698	0.17	Q	V					
11+ 0	0.0710	0.17	Q	V					
11+ 5	0.0721	0.17	Q	V					
11+10	0.0732	0.16	Q	V					
11+15	0.0744	0.16	Q	V					
11+20	0.0755	0.16	Q	V					
11+25	0.0766	0.16	Q	V					
11+30	0.0776	0.16	Q	V					
11+35	0.0787	0.16	Q	V					
11+40	0.0798	0.15	Q	V					
11+45	0.0808	0.15	Q	V					
11+50	0.0818	0.14	Q	V					
11+55	0.0828	0.15	Q	V					
12+ 0	0.0838	0.15	Q	V					
12+ 5	0.0849	0.16	Q	V					
12+10	0.0862	0.19	Q	V					
12+15	0.0876	0.20	Q	V					
12+20	0.0890	0.21	Q	V					
12+25	0.0904	0.21	Q	V					

12+30	0.0919	0.22	Q		V		
12+35	0.0934	0.22	Q		V		
12+40	0.0950	0.23	Q		V		
12+45	0.0966	0.23	Q		V		
12+50	0.0982	0.23	Q		V		
12+55	0.0999	0.24	Q		V		
13+ 0	0.1015	0.24	Q		V		
13+ 5	0.1032	0.25	Q		V		
13+10	0.1051	0.27	Q		V		
13+15	0.1070	0.28	Q		V		
13+20	0.1090	0.28	Q		V		
13+25	0.1109	0.28	Q		V		
13+30	0.1129	0.28	Q		V		
13+35	0.1148	0.27	Q		V		
13+40	0.1163	0.23	Q		V		
13+45	0.1178	0.21	Q		V		
13+50	0.1191	0.20	Q		V		
13+55	0.1205	0.20	Q		V		
14+ 0	0.1218	0.19	Q		V		
14+ 5	0.1232	0.20	Q		V		
14+10	0.1246	0.21	Q		V		
14+15	0.1262	0.22	Q		V		
14+20	0.1277	0.22	Q		V		
14+25	0.1292	0.22	Q		V		
14+30	0.1307	0.22	Q		V		
14+35	0.1322	0.22	Q		V		
14+40	0.1337	0.22	Q		V		
14+45	0.1352	0.22	Q		V		
14+50	0.1367	0.22	Q		V		
14+55	0.1382	0.21	Q		V		
15+ 0	0.1396	0.21	Q		V		
15+ 5	0.1411	0.21	Q		V		
15+10	0.1425	0.20	Q		V		
15+15	0.1439	0.20	Q		V		
15+20	0.1453	0.20	Q		V		
15+25	0.1466	0.20	Q		V		
15+30	0.1479	0.19	Q		V		
15+35	0.1493	0.19	Q		V		
15+40	0.1504	0.17	Q		V		
15+45	0.1516	0.16	Q		V		
15+50	0.1527	0.16	Q		V		
15+55	0.1538	0.16	Q		V		
16+ 0	0.1549	0.16	Q		V		
16+ 5	0.1559	0.15	Q		V		
16+10	0.1564	0.08	Q		V		
16+15	0.1568	0.05	Q		V		
16+20	0.1571	0.04	Q		V		
16+25	0.1573	0.04	Q		V		
16+30	0.1576	0.04	Q		V		
16+35	0.1578	0.03	Q		V		
16+40	0.1580	0.03	Q		V		

16+45	0.1582	0.03	Q				V
16+50	0.1584	0.03	Q				V
16+55	0.1585	0.03	Q				V
17+ 0	0.1587	0.03	Q				V
17+ 5	0.1589	0.03	Q				V
17+10	0.1591	0.04	Q				V
17+15	0.1594	0.04	Q				V
17+20	0.1597	0.04	Q				V
17+25	0.1600	0.04	Q				V
17+30	0.1603	0.04	Q				V
17+35	0.1606	0.04	Q				V
17+40	0.1608	0.04	Q				V
17+45	0.1611	0.04	Q				V
17+50	0.1614	0.04	Q				V
17+55	0.1617	0.04	Q				V
18+ 0	0.1619	0.03	Q				V
18+ 5	0.1621	0.03	Q				V
18+10	0.1624	0.03	Q				V
18+15	0.1626	0.03	Q				V
18+20	0.1628	0.03	Q				V
18+25	0.1631	0.03	Q				V
18+30	0.1633	0.03	Q				V
18+35	0.1635	0.03	Q				V
18+40	0.1637	0.03	Q				V
18+45	0.1639	0.03	Q				V
18+50	0.1641	0.02	Q				V
18+55	0.1642	0.02	Q				V
19+ 0	0.1643	0.02	Q				V
19+ 5	0.1645	0.02	Q				V
19+10	0.1646	0.02	Q				V
19+15	0.1648	0.02	Q				V
19+20	0.1650	0.03	Q				V
19+25	0.1652	0.03	Q				V
19+30	0.1654	0.03	Q				V
19+35	0.1656	0.03	Q				V
19+40	0.1658	0.03	Q				V
19+45	0.1660	0.03	Q				V
19+50	0.1661	0.02	Q				V
19+55	0.1663	0.02	Q				V
20+ 0	0.1664	0.02	Q				V
20+ 5	0.1665	0.02	Q				V
20+10	0.1667	0.02	Q				V
20+15	0.1669	0.02	Q				V
20+20	0.1670	0.02	Q				V
20+25	0.1672	0.02	Q				V
20+30	0.1674	0.03	Q				V
20+35	0.1675	0.03	Q				V
20+40	0.1677	0.03	Q				V
20+45	0.1679	0.03	Q				V
20+50	0.1681	0.02	Q				V
20+55	0.1682	0.02	Q				V

21+ 0	0.1683	0.02	Q				V
21+ 5	0.1684	0.02	Q				V
21+10	0.1686	0.02	Q				V
21+15	0.1688	0.02	Q				V
21+20	0.1689	0.02	Q				V
21+25	0.1691	0.02	Q				V
21+30	0.1692	0.02	Q				V
21+35	0.1693	0.02	Q				V
21+40	0.1695	0.02	Q				V
21+45	0.1696	0.02	Q				V
21+50	0.1698	0.02	Q				V
21+55	0.1699	0.02	Q				V
22+ 0	0.1700	0.02	Q				V
22+ 5	0.1702	0.02	Q				V
22+10	0.1703	0.02	Q				V
22+15	0.1705	0.02	Q				V
22+20	0.1707	0.02	Q				V
22+25	0.1708	0.02	Q				V
22+30	0.1709	0.02	Q				V
22+35	0.1710	0.02	Q				V
22+40	0.1711	0.02	Q				V
22+45	0.1713	0.02	Q				V
22+50	0.1714	0.02	Q				V
22+55	0.1715	0.02	Q				V
23+ 0	0.1716	0.02	Q				V
23+ 5	0.1717	0.02	Q				V
23+10	0.1718	0.02	Q				V
23+15	0.1720	0.02	Q				V
23+20	0.1721	0.02	Q				V
23+25	0.1722	0.02	Q				V
23+30	0.1723	0.02	Q				V
23+35	0.1724	0.02	Q				V
23+40	0.1725	0.02	Q				V
23+45	0.1727	0.02	Q				V
23+50	0.1728	0.02	Q				V
23+55	0.1729	0.02	Q				V
24+ 0	0.1730	0.02	Q				V
24+ 5	0.1731	0.01	Q				V
24+10	0.1731	0.01	Q				V
24+15	0.1732	0.00	Q				V
24+20	0.1732	0.00	Q				V
24+25	0.1732	0.00	Q				V
24+30	0.1732	0.00	Q				V
24+35	0.1732	0.00	Q				V

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchph1a15.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
DMA A1
Kimley-Horn
5 yr

Drainage Area = 1.91(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.91(Ac.) =
0.003 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.095 Hr.
Lag time = 5.70 Min.
25% of lag time = 1.43 Min.
40% of lag time = 2.28 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]
1.91	0.50	0.95

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.91	1.10	2.10

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.100(In)

Point rain (area averaged) = 0.641(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.641(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.910	56.00	0.730
Total Area Entered = 1.91(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.730	0.242	1.000	0.242
Sum (F) =						0.242

Area averaged mean soil loss (F) (In/Hr) = 0.242
Minimum soil loss rate ((In/Hr)) = 0.121
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.320

Slope of intensity-duration curve for a 1 hour storm =0.5500

Unit Hydrograph FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	87.719	10.710
2	0.167	175.439	52.537
3	0.250	263.158	21.572
4	0.333	350.877	8.833
5	0.417	438.596	3.926
6	0.500	526.316	1.230
7	0.583	614.035	0.656
8	0.667	701.754	0.537
Sum = 100.000			Sum= 1.925

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)		Effective (In/Hr)
				Max	Low	
1	0.08	3.30	0.254	(0.242)	0.081	0.172
2	0.17	4.20	0.323	(0.242)	0.103	0.220
3	0.25	4.40	0.338	(0.242)	0.108	0.230
4	0.33	4.80	0.369	(0.242)	0.118	0.251
5	0.42	5.20	0.400	(0.242)	0.128	0.272
6	0.50	6.20	0.477	(0.242)	0.152	0.324
7	0.58	6.80	0.523	(0.242)	0.167	0.355
8	0.67	8.80	0.676	(0.242)	0.216	0.460
9	0.75	13.90	1.068	0.242	(0.342)	0.826
10	0.83	31.40	2.413	0.242	(0.772)	2.171
11	0.92	7.20	0.553	(0.242)	0.177	0.376
12	1.00	3.80	0.292	(0.242)	0.093	0.199

(Loss Rate Not Used)

Sum = 100.0 Sum = 5.9

Flood volume = Effective rainfall 0.49(In)
times area 1.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.15(In)
Total soil loss = 0.024(Ac.Ft)
Total rainfall = 0.64(In)
Flood volume = 3383.8 Cubic Feet
Total soil loss = 1057.2 Cubic Feet

Peak flow rate of this hydrograph = 2.737(CFS)

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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	0.0002	0.04	Q					
0+10	0.0018	0.22	Q					
0+15	0.0041	0.34	Q V					
0+20	0.0069	0.40	Q V					
0+25	0.0100	0.46	Q V					
0+30	0.0135	0.51	Q V					
0+35	0.0175	0.58	Q V					
0+40	0.0221	0.66	Q V					
0+45	0.0281	0.87	Q V					
0+50	0.0389	1.57	Q V					
0+55	0.0578	2.74	Q V					
1+ 0	0.0682	1.51	Q V					
1+ 5	0.0738	0.81	Q V					
1+10	0.0761	0.34	Q V					
1+15	0.0770	0.13	Q					

1+20	0.0774	0.06	Q				V
1+25	0.0776	0.03	Q				V
1+30	0.0777	0.01	Q				V
1+35	0.0777	0.00	Q				V

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchph1a35.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
DMA A1
Kimley-Horn
5 yr

Drainage Area = 1.91(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.91(Ac.) =
0.003 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.095 Hr.
Lag time = 5.70 Min.
25% of lag time = 1.43 Min.
40% of lag time = 2.28 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]
1.91	0.80	1.53

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.91	1.80	3.44

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.034(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.034(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.910	56.00	0.730
Total Area Entered = 1.91(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.730	0.242	1.000	0.242
Sum (F) =						0.242

Area averaged mean soil loss (F) (In/Hr) = 0.242
Minimum soil loss rate ((In/Hr)) = 0.121
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.320

Unit Hydrograph FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	87.719	10.710
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5	0.417	438.596	3.926
6	0.500	526.316	1.230
7	0.583	614.035	0.656
8	0.667	701.754	0.537
Sum =		100.000	Sum= 1.925

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

Unit Time	Pattern	Storm Rain	Loss rate(In./Hr)	Effective

	(Hr.)	Percent	(In/Hr)	Max		Low	(In/Hr)
1	0.08	1.30	0.161	(0.242)		0.052	0.110
2	0.17	1.30	0.161	(0.242)		0.052	0.110
3	0.25	1.10	0.137	(0.242)		0.044	0.093
4	0.33	1.50	0.186	(0.242)		0.060	0.127
5	0.42	1.50	0.186	(0.242)		0.060	0.127
6	0.50	1.80	0.223	(0.242)		0.071	0.152
7	0.58	1.50	0.186	(0.242)		0.060	0.127
8	0.67	1.80	0.223	(0.242)		0.071	0.152
9	0.75	1.80	0.223	(0.242)		0.071	0.152
10	0.83	1.50	0.186	(0.242)		0.060	0.127
11	0.92	1.60	0.199	(0.242)		0.064	0.135
12	1.00	1.80	0.223	(0.242)		0.071	0.152
13	1.08	2.20	0.273	(0.242)		0.087	0.186
14	1.17	2.20	0.273	(0.242)		0.087	0.186
15	1.25	2.20	0.273	(0.242)		0.087	0.186
16	1.33	2.00	0.248	(0.242)		0.079	0.169
17	1.42	2.60	0.323	(0.242)		0.103	0.219
18	1.50	2.70	0.335	(0.242)		0.107	0.228
19	1.58	2.40	0.298	(0.242)		0.095	0.203
20	1.67	2.70	0.335	(0.242)		0.107	0.228
21	1.75	3.30	0.410	(0.242)		0.131	0.278
22	1.83	3.10	0.385	(0.242)		0.123	0.262
23	1.92	2.90	0.360	(0.242)		0.115	0.245
24	2.00	3.00	0.372	(0.242)		0.119	0.253
25	2.08	3.10	0.385	(0.242)		0.123	0.262
26	2.17	4.20	0.521	(0.242)		0.167	0.354
27	2.25	5.00	0.621	(0.242)		0.199	0.422
28	2.33	3.50	0.434	(0.242)		0.139	0.295
29	2.42	6.80	0.844	0.242	(0.270)		0.602
30	2.50	7.30	0.906	0.242	(0.290)		0.664
31	2.58	8.20	1.018	0.242	(0.326)		0.776
32	2.67	5.90	0.732	(0.242)		0.234	0.498
33	2.75	2.00	0.248	(0.242)		0.079	0.169
34	2.83	1.80	0.223	(0.242)		0.071	0.152
35	2.92	1.80	0.223	(0.242)		0.071	0.152
36	3.00	0.60	0.074	(0.242)		0.024	0.051

(Loss Rate Not Used)

Sum = 100.0

Sum = 8.6

Flood volume = Effective rainfall 0.72(In)
times area 1.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.32(In)
Total soil loss = 0.051(Ac.Ft)
Total rainfall = 1.03(In)
Flood volume = 4967.9 Cubic Feet
Total soil loss = 2202.6 Cubic Feet

Peak flow rate of this hydrograph = 1.305(CFS)

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3 - H O U R S T O R M

Runoff Hydrograph

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.02	Q					
0+10	0.0011	0.13	Q					
0+15	0.0023	0.18	Q					
0+20	0.0036	0.18	QV					
0+25	0.0051	0.22	QV					
0+30	0.0067	0.24	Q V					
0+35	0.0085	0.26	QV					
0+40	0.0103	0.26	Q V					
0+45	0.0122	0.28	Q V					
0+50	0.0142	0.28	Q V					
0+55	0.0160	0.26	Q V					
1+ 0	0.0178	0.26	Q V					
1+ 5	0.0198	0.29	Q V					
1+10	0.0220	0.33	Q V					
1+15	0.0244	0.35	Q V					
1+20	0.0268	0.35	Q V					
1+25	0.0292	0.35	Q V					
1+30	0.0319	0.39	Q V					
1+35	0.0348	0.41	Q V					
1+40	0.0375	0.41	Q V					
1+45	0.0406	0.44	Q V					
1+50	0.0439	0.49	Q V					
1+55	0.0473	0.49	Q V					
2+ 0	0.0507	0.48	Q V					
2+ 5	0.0540	0.49	Q V					
2+10	0.0576	0.52	Q V					
2+15	0.0619	0.63	Q V					
2+20	0.0668	0.71	Q V					
2+25	0.0716	0.69	Q V					
2+30	0.0783	0.98	Q V					
2+35	0.0864	1.18	Q V					
2+40	0.0954	1.31	Q V					
2+45	0.1025	1.04	Q V					
2+50	0.1068	0.61	Q V					
2+55	0.1097	0.42	Q V					
3+ 0	0.1119	0.33	Q V					
3+ 5	0.1132	0.18	Q					
3+10	0.1137	0.08	Q					
3+15	0.1139	0.03	Q					
3+20	0.1140	0.01	Q					
3+25	0.1140	0.00	Q					
3+30	0.1140	0.00	Q					
3+35	0.1140	0.00	Q					

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchph1a65.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
DMA A1
Kimley-Horn
5 yr

Drainage Area = 1.91(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.91(Ac.) =
0.003 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.095 Hr.
Lag time = 5.70 Min.
25% of lag time = 1.43 Min.
40% of lag time = 2.28 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]
1.91	1.00	1.91

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.91	2.50	4.77

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 1.351(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.351(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.910	56.00	0.730
Total Area Entered = 1.91(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.730	0.242	1.000	0.242
Sum (F) =						0.242

Area averaged mean soil loss (F) (In/Hr) = 0.242
Minimum soil loss rate ((In/Hr)) = 0.121
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.320

Unit Hydrograph FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	87.719	10.710
2	0.167	175.439	52.537
3	0.250	263.158	21.572
4	0.333	350.877	8.833
5	0.417	438.596	3.926
6	0.500	526.316	1.230
7	0.583	614.035	0.656
8	0.667	701.754	0.537
Sum = 100.000			Sum= 1.925

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

Unit Time	Pattern	Storm Rain	Loss rate(In./Hr)	Effective

	(Hr.)	Percent	(In/Hr)	Max	Low	(In/Hr)
1	0.08	0.50	0.081	(0.242)	0.026	0.055
2	0.17	0.60	0.097	(0.242)	0.031	0.066
3	0.25	0.60	0.097	(0.242)	0.031	0.066
4	0.33	0.60	0.097	(0.242)	0.031	0.066
5	0.42	0.60	0.097	(0.242)	0.031	0.066
6	0.50	0.70	0.114	(0.242)	0.036	0.077
7	0.58	0.70	0.114	(0.242)	0.036	0.077
8	0.67	0.70	0.114	(0.242)	0.036	0.077
9	0.75	0.70	0.114	(0.242)	0.036	0.077
10	0.83	0.70	0.114	(0.242)	0.036	0.077
11	0.92	0.70	0.114	(0.242)	0.036	0.077
12	1.00	0.80	0.130	(0.242)	0.042	0.088
13	1.08	0.80	0.130	(0.242)	0.042	0.088
14	1.17	0.80	0.130	(0.242)	0.042	0.088
15	1.25	0.80	0.130	(0.242)	0.042	0.088
16	1.33	0.80	0.130	(0.242)	0.042	0.088
17	1.42	0.80	0.130	(0.242)	0.042	0.088
18	1.50	0.80	0.130	(0.242)	0.042	0.088
19	1.58	0.80	0.130	(0.242)	0.042	0.088
20	1.67	0.80	0.130	(0.242)	0.042	0.088
21	1.75	0.80	0.130	(0.242)	0.042	0.088
22	1.83	0.80	0.130	(0.242)	0.042	0.088
23	1.92	0.80	0.130	(0.242)	0.042	0.088
24	2.00	0.90	0.146	(0.242)	0.047	0.099
25	2.08	0.80	0.130	(0.242)	0.042	0.088
26	2.17	0.90	0.146	(0.242)	0.047	0.099
27	2.25	0.90	0.146	(0.242)	0.047	0.099
28	2.33	0.90	0.146	(0.242)	0.047	0.099
29	2.42	0.90	0.146	(0.242)	0.047	0.099
30	2.50	0.90	0.146	(0.242)	0.047	0.099
31	2.58	0.90	0.146	(0.242)	0.047	0.099
32	2.67	0.90	0.146	(0.242)	0.047	0.099
33	2.75	1.00	0.162	(0.242)	0.052	0.110
34	2.83	1.00	0.162	(0.242)	0.052	0.110
35	2.92	1.00	0.162	(0.242)	0.052	0.110
36	3.00	1.00	0.162	(0.242)	0.052	0.110
37	3.08	1.00	0.162	(0.242)	0.052	0.110
38	3.17	1.10	0.178	(0.242)	0.057	0.121
39	3.25	1.10	0.178	(0.242)	0.057	0.121
40	3.33	1.10	0.178	(0.242)	0.057	0.121
41	3.42	1.20	0.195	(0.242)	0.062	0.132
42	3.50	1.30	0.211	(0.242)	0.067	0.143
43	3.58	1.40	0.227	(0.242)	0.073	0.154
44	3.67	1.40	0.227	(0.242)	0.073	0.154
45	3.75	1.50	0.243	(0.242)	0.078	0.165
46	3.83	1.50	0.243	(0.242)	0.078	0.165
47	3.92	1.60	0.259	(0.242)	0.083	0.176
48	4.00	1.60	0.259	(0.242)	0.083	0.176
49	4.08	1.70	0.276	(0.242)	0.088	0.187
50	4.17	1.80	0.292	(0.242)	0.093	0.198

51	4.25	1.90	0.308	(0.242)	0.099	0.210
52	4.33	2.00	0.324	(0.242)	0.104	0.221
53	4.42	2.10	0.341	(0.242)	0.109	0.232
54	4.50	2.10	0.341	(0.242)	0.109	0.232
55	4.58	2.20	0.357	(0.242)	0.114	0.243
56	4.67	2.30	0.373	(0.242)	0.119	0.254
57	4.75	2.40	0.389	(0.242)	0.125	0.265
58	4.83	2.40	0.389	(0.242)	0.125	0.265
59	4.92	2.50	0.405	(0.242)	0.130	0.276
60	5.00	2.60	0.422	(0.242)	0.135	0.287
61	5.08	3.10	0.503	(0.242)	0.161	0.342
62	5.17	3.60	0.584	(0.242)	0.187	0.397
63	5.25	3.90	0.632	(0.242)	0.202	0.430
64	5.33	4.20	0.681	(0.242)	0.218	0.463
65	5.42	4.70	0.762	0.242 (0.244)		0.520
66	5.50	5.60	0.908	0.242 (0.291)		0.666
67	5.58	1.90	0.308	(0.242)	0.099	0.210
68	5.67	0.90	0.146	(0.242)	0.047	0.099
69	5.75	0.60	0.097	(0.242)	0.031	0.066
70	5.83	0.50	0.081	(0.242)	0.026	0.055
71	5.92	0.30	0.049	(0.242)	0.016	0.033
72	6.00	0.20	0.032	(0.242)	0.010	0.022

(Loss Rate Not Used)

Sum = 100.0

Sum = 11.1

Flood volume = Effective rainfall 0.92(In)
times area 1.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.43(In)
Total soil loss = 0.068(Ac.Ft)
Total rainfall = 1.35(In)
Flood volume = 6400.0 Cubic Feet
Total soil loss = 2969.1 Cubic Feet

Peak flow rate of this hydrograph = 1.061(CFS)

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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	0.0001	0.01	Q				
0+10	0.0006	0.07	Q				
0+15	0.0013	0.10	Q				
0+20	0.0021	0.12	Q				
0+25	0.0029	0.12	Q				
0+30	0.0038	0.13	QV				
0+35	0.0048	0.14	QV				
0+40	0.0058	0.15	QV				

0+45	0.0068	0.15	QV				
0+50	0.0078	0.15	Q V				
0+55	0.0088	0.15	Q V				
1+ 0	0.0099	0.15	Q V				
1+ 5	0.0110	0.16	Q V				
1+10	0.0121	0.17	Q V				
1+15	0.0133	0.17	Q V				
1+20	0.0145	0.17	Q V				
1+25	0.0156	0.17	Q V				
1+30	0.0168	0.17	Q V				
1+35	0.0180	0.17	Q V				
1+40	0.0191	0.17	Q V				
1+45	0.0203	0.17	Q V				
1+50	0.0215	0.17	Q V				
1+55	0.0226	0.17	Q V				
2+ 0	0.0238	0.17	Q V				
2+ 5	0.0251	0.18	Q V				
2+10	0.0263	0.18	Q V				
2+15	0.0276	0.19	Q V				
2+20	0.0289	0.19	Q V				
2+25	0.0302	0.19	Q V				
2+30	0.0315	0.19	Q V				
2+35	0.0328	0.19	Q V				
2+40	0.0341	0.19	Q V				
2+45	0.0355	0.19	Q V				
2+50	0.0369	0.20	Q V				
2+55	0.0383	0.21	Q V				
3+ 0	0.0398	0.21	Q V				
3+ 5	0.0412	0.21	Q V				
3+10	0.0427	0.21	Q V				
3+15	0.0443	0.23	Q V				
3+20	0.0458	0.23	Q V				
3+25	0.0475	0.23	Q V				
3+30	0.0492	0.25	Q V				
3+35	0.0510	0.27	Q V				
3+40	0.0530	0.28	Q V				
3+45	0.0550	0.29	Q V				
3+50	0.0571	0.31	Q V				
3+55	0.0593	0.32	Q V				
4+ 0	0.0616	0.33	Q V				
4+ 5	0.0639	0.34	Q V				
4+10	0.0663	0.35	Q V				
4+15	0.0689	0.37	Q V				
4+20	0.0716	0.39	Q V				
4+25	0.0745	0.41	Q V				
4+30	0.0775	0.43	Q V				
4+35	0.0805	0.44	Q V				
4+40	0.0837	0.46	Q V				
4+45	0.0870	0.48	Q V				
4+50	0.0904	0.50	Q V				
4+55	0.0939	0.51	Q V				

5+ 0	0.0975	0.52	Q			V		
5+ 5	0.1013	0.55	Q			V		
5+10	0.1056	0.63	Q			V		
5+15	0.1105	0.71	Q			V		
5+20	0.1159	0.79	Q			V		
5+25	0.1219	0.86	Q			V	V	
5+30	0.1286	0.97	Q			V	V	
5+35	0.1359	1.06	Q			V	V	
5+40	0.1404	0.65	Q			V	V	
5+45	0.1429	0.37	Q			V	V	
5+50	0.1445	0.23	Q			V	V	
5+55	0.1455	0.15	Q			V	V	
6+ 0	0.1462	0.10	Q			V	V	
6+ 5	0.1467	0.06	Q			V	V	
6+10	0.1468	0.02	Q			V	V	
6+15	0.1469	0.01	Q			V	V	
6+20	0.1469	0.00	Q			V	V	
6+25	0.1469	0.00	Q			V	V	
6+30	0.1469	0.00	Q			V	V	
6+35	0.1469	0.00	Q			V	V	

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchph1a245.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
DMA A1
Kimley-Horn
5 yr

Drainage Area = 1.91(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.91(Ac.) =
0.003 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.095 Hr.
Lag time = 5.70 Min.
25% of lag time = 1.43 Min.
40% of lag time = 2.28 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]
1.91	1.60	3.06

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.91	4.00	7.64

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 2.162(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.162(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.910	56.00	0.730
Total Area Entered = 1.91(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.730	0.242	1.000	0.242
Sum (F) =						0.242

Area averaged mean soil loss (F) (In/Hr) = 0.242
Minimum soil loss rate ((In/Hr)) = 0.121
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.320

Unit Hydrograph FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	87.719	10.710
2	0.167	175.439	52.537
3	0.250	263.158	21.572
4	0.333	350.877	8.833
5	0.417	438.596	3.926
6	0.500	526.316	1.230
7	0.583	614.035	0.656
8	0.667	701.754	0.537
Sum = 100.000		Sum=	1.925

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

Unit Time	Pattern	Storm Rain	Loss rate(In./Hr)	Effective

	(Hr.)	Percent	(In/Hr)	Max		Low	(In/Hr)
1	0.08	0.07	0.017	(0.429)		0.006	0.012
2	0.17	0.07	0.017	(0.428)		0.006	0.012
3	0.25	0.07	0.017	(0.426)		0.006	0.012
4	0.33	0.10	0.026	(0.424)		0.008	0.018
5	0.42	0.10	0.026	(0.423)		0.008	0.018
6	0.50	0.10	0.026	(0.421)		0.008	0.018
7	0.58	0.10	0.026	(0.419)		0.008	0.018
8	0.67	0.10	0.026	(0.418)		0.008	0.018
9	0.75	0.10	0.026	(0.416)		0.008	0.018
10	0.83	0.13	0.035	(0.414)		0.011	0.024
11	0.92	0.13	0.035	(0.413)		0.011	0.024
12	1.00	0.13	0.035	(0.411)		0.011	0.024
13	1.08	0.10	0.026	(0.410)		0.008	0.018
14	1.17	0.10	0.026	(0.408)		0.008	0.018
15	1.25	0.10	0.026	(0.406)		0.008	0.018
16	1.33	0.10	0.026	(0.405)		0.008	0.018
17	1.42	0.10	0.026	(0.403)		0.008	0.018
18	1.50	0.10	0.026	(0.401)		0.008	0.018
19	1.58	0.10	0.026	(0.400)		0.008	0.018
20	1.67	0.10	0.026	(0.398)		0.008	0.018
21	1.75	0.10	0.026	(0.397)		0.008	0.018
22	1.83	0.13	0.035	(0.395)		0.011	0.024
23	1.92	0.13	0.035	(0.394)		0.011	0.024
24	2.00	0.13	0.035	(0.392)		0.011	0.024
25	2.08	0.13	0.035	(0.390)		0.011	0.024
26	2.17	0.13	0.035	(0.389)		0.011	0.024
27	2.25	0.13	0.035	(0.387)		0.011	0.024
28	2.33	0.13	0.035	(0.386)		0.011	0.024
29	2.42	0.13	0.035	(0.384)		0.011	0.024
30	2.50	0.13	0.035	(0.382)		0.011	0.024
31	2.58	0.17	0.043	(0.381)		0.014	0.029
32	2.67	0.17	0.043	(0.379)		0.014	0.029
33	2.75	0.17	0.043	(0.378)		0.014	0.029
34	2.83	0.17	0.043	(0.376)		0.014	0.029
35	2.92	0.17	0.043	(0.375)		0.014	0.029
36	3.00	0.17	0.043	(0.373)		0.014	0.029
37	3.08	0.17	0.043	(0.372)		0.014	0.029
38	3.17	0.17	0.043	(0.370)		0.014	0.029
39	3.25	0.17	0.043	(0.368)		0.014	0.029
40	3.33	0.17	0.043	(0.367)		0.014	0.029
41	3.42	0.17	0.043	(0.365)		0.014	0.029
42	3.50	0.17	0.043	(0.364)		0.014	0.029
43	3.58	0.17	0.043	(0.362)		0.014	0.029
44	3.67	0.17	0.043	(0.361)		0.014	0.029
45	3.75	0.17	0.043	(0.359)		0.014	0.029
46	3.83	0.20	0.052	(0.358)		0.017	0.035
47	3.92	0.20	0.052	(0.356)		0.017	0.035
48	4.00	0.20	0.052	(0.355)		0.017	0.035
49	4.08	0.20	0.052	(0.353)		0.017	0.035
50	4.17	0.20	0.052	(0.352)		0.017	0.035

51	4.25	0.20	0.052	(0.350)	0.017	0.035
52	4.33	0.23	0.061	(0.349)	0.019	0.041
53	4.42	0.23	0.061	(0.347)	0.019	0.041
54	4.50	0.23	0.061	(0.346)	0.019	0.041
55	4.58	0.23	0.061	(0.344)	0.019	0.041
56	4.67	0.23	0.061	(0.343)	0.019	0.041
57	4.75	0.23	0.061	(0.341)	0.019	0.041
58	4.83	0.27	0.069	(0.340)	0.022	0.047
59	4.92	0.27	0.069	(0.338)	0.022	0.047
60	5.00	0.27	0.069	(0.337)	0.022	0.047
61	5.08	0.20	0.052	(0.335)	0.017	0.035
62	5.17	0.20	0.052	(0.334)	0.017	0.035
63	5.25	0.20	0.052	(0.333)	0.017	0.035
64	5.33	0.23	0.061	(0.331)	0.019	0.041
65	5.42	0.23	0.061	(0.330)	0.019	0.041
66	5.50	0.23	0.061	(0.328)	0.019	0.041
67	5.58	0.27	0.069	(0.327)	0.022	0.047
68	5.67	0.27	0.069	(0.325)	0.022	0.047
69	5.75	0.27	0.069	(0.324)	0.022	0.047
70	5.83	0.27	0.069	(0.322)	0.022	0.047
71	5.92	0.27	0.069	(0.321)	0.022	0.047
72	6.00	0.27	0.069	(0.320)	0.022	0.047
73	6.08	0.30	0.078	(0.318)	0.025	0.053
74	6.17	0.30	0.078	(0.317)	0.025	0.053
75	6.25	0.30	0.078	(0.315)	0.025	0.053
76	6.33	0.30	0.078	(0.314)	0.025	0.053
77	6.42	0.30	0.078	(0.313)	0.025	0.053
78	6.50	0.30	0.078	(0.311)	0.025	0.053
79	6.58	0.33	0.086	(0.310)	0.028	0.059
80	6.67	0.33	0.086	(0.308)	0.028	0.059
81	6.75	0.33	0.086	(0.307)	0.028	0.059
82	6.83	0.33	0.086	(0.306)	0.028	0.059
83	6.92	0.33	0.086	(0.304)	0.028	0.059
84	7.00	0.33	0.086	(0.303)	0.028	0.059
85	7.08	0.33	0.086	(0.301)	0.028	0.059
86	7.17	0.33	0.086	(0.300)	0.028	0.059
87	7.25	0.33	0.086	(0.299)	0.028	0.059
88	7.33	0.37	0.095	(0.297)	0.030	0.065
89	7.42	0.37	0.095	(0.296)	0.030	0.065
90	7.50	0.37	0.095	(0.295)	0.030	0.065
91	7.58	0.40	0.104	(0.293)	0.033	0.071
92	7.67	0.40	0.104	(0.292)	0.033	0.071
93	7.75	0.40	0.104	(0.291)	0.033	0.071
94	7.83	0.43	0.112	(0.289)	0.036	0.076
95	7.92	0.43	0.112	(0.288)	0.036	0.076
96	8.00	0.43	0.112	(0.287)	0.036	0.076
97	8.08	0.50	0.130	(0.285)	0.042	0.088
98	8.17	0.50	0.130	(0.284)	0.042	0.088
99	8.25	0.50	0.130	(0.283)	0.042	0.088
100	8.33	0.50	0.130	(0.281)	0.042	0.088
101	8.42	0.50	0.130	(0.280)	0.042	0.088

102	8.50	0.50	0.130	(0.279)	0.042	0.088
103	8.58	0.53	0.138	(0.277)	0.044	0.094
104	8.67	0.53	0.138	(0.276)	0.044	0.094
105	8.75	0.53	0.138	(0.275)	0.044	0.094
106	8.83	0.57	0.147	(0.273)	0.047	0.100
107	8.92	0.57	0.147	(0.272)	0.047	0.100
108	9.00	0.57	0.147	(0.271)	0.047	0.100
109	9.08	0.63	0.164	(0.270)	0.053	0.112
110	9.17	0.63	0.164	(0.268)	0.053	0.112
111	9.25	0.63	0.164	(0.267)	0.053	0.112
112	9.33	0.67	0.173	(0.266)	0.055	0.118
113	9.42	0.67	0.173	(0.264)	0.055	0.118
114	9.50	0.67	0.173	(0.263)	0.055	0.118
115	9.58	0.70	0.182	(0.262)	0.058	0.124
116	9.67	0.70	0.182	(0.261)	0.058	0.124
117	9.75	0.70	0.182	(0.259)	0.058	0.124
118	9.83	0.73	0.190	(0.258)	0.061	0.129
119	9.92	0.73	0.190	(0.257)	0.061	0.129
120	10.00	0.73	0.190	(0.256)	0.061	0.129
121	10.08	0.50	0.130	(0.254)	0.042	0.088
122	10.17	0.50	0.130	(0.253)	0.042	0.088
123	10.25	0.50	0.130	(0.252)	0.042	0.088
124	10.33	0.50	0.130	(0.251)	0.042	0.088
125	10.42	0.50	0.130	(0.250)	0.042	0.088
126	10.50	0.50	0.130	(0.248)	0.042	0.088
127	10.58	0.67	0.173	(0.247)	0.055	0.118
128	10.67	0.67	0.173	(0.246)	0.055	0.118
129	10.75	0.67	0.173	(0.245)	0.055	0.118
130	10.83	0.67	0.173	(0.244)	0.055	0.118
131	10.92	0.67	0.173	(0.242)	0.055	0.118
132	11.00	0.67	0.173	(0.241)	0.055	0.118
133	11.08	0.63	0.164	(0.240)	0.053	0.112
134	11.17	0.63	0.164	(0.239)	0.053	0.112
135	11.25	0.63	0.164	(0.238)	0.053	0.112
136	11.33	0.63	0.164	(0.236)	0.053	0.112
137	11.42	0.63	0.164	(0.235)	0.053	0.112
138	11.50	0.63	0.164	(0.234)	0.053	0.112
139	11.58	0.57	0.147	(0.233)	0.047	0.100
140	11.67	0.57	0.147	(0.232)	0.047	0.100
141	11.75	0.57	0.147	(0.231)	0.047	0.100
142	11.83	0.60	0.156	(0.229)	0.050	0.106
143	11.92	0.60	0.156	(0.228)	0.050	0.106
144	12.00	0.60	0.156	(0.227)	0.050	0.106
145	12.08	0.83	0.216	(0.226)	0.069	0.147
146	12.17	0.83	0.216	(0.225)	0.069	0.147
147	12.25	0.83	0.216	(0.224)	0.069	0.147
148	12.33	0.87	0.225	(0.223)	0.072	0.153
149	12.42	0.87	0.225	(0.222)	0.072	0.153
150	12.50	0.87	0.225	(0.220)	0.072	0.153
151	12.58	0.93	0.242	(0.219)	0.077	0.165
152	12.67	0.93	0.242	(0.218)	0.077	0.165

153	12.75	0.93	0.242	(0.217)	0.077	0.165
154	12.83	0.97	0.251	(0.216)	0.080	0.171
155	12.92	0.97	0.251	(0.215)	0.080	0.171
156	13.00	0.97	0.251	(0.214)	0.080	0.171
157	13.08	1.13	0.294	(0.213)	0.094	0.200
158	13.17	1.13	0.294	(0.212)	0.094	0.200
159	13.25	1.13	0.294	(0.211)	0.094	0.200
160	13.33	1.13	0.294	(0.210)	0.094	0.200
161	13.42	1.13	0.294	(0.208)	0.094	0.200
162	13.50	1.13	0.294	(0.207)	0.094	0.200
163	13.58	0.77	0.199	(0.206)	0.064	0.135
164	13.67	0.77	0.199	(0.205)	0.064	0.135
165	13.75	0.77	0.199	(0.204)	0.064	0.135
166	13.83	0.77	0.199	(0.203)	0.064	0.135
167	13.92	0.77	0.199	(0.202)	0.064	0.135
168	14.00	0.77	0.199	(0.201)	0.064	0.135
169	14.08	0.90	0.234	(0.200)	0.075	0.159
170	14.17	0.90	0.234	(0.199)	0.075	0.159
171	14.25	0.90	0.234	(0.198)	0.075	0.159
172	14.33	0.87	0.225	(0.197)	0.072	0.153
173	14.42	0.87	0.225	(0.196)	0.072	0.153
174	14.50	0.87	0.225	(0.195)	0.072	0.153
175	14.58	0.87	0.225	(0.194)	0.072	0.153
176	14.67	0.87	0.225	(0.193)	0.072	0.153
177	14.75	0.87	0.225	(0.192)	0.072	0.153
178	14.83	0.83	0.216	(0.191)	0.069	0.147
179	14.92	0.83	0.216	(0.190)	0.069	0.147
180	15.00	0.83	0.216	(0.189)	0.069	0.147
181	15.08	0.80	0.208	(0.188)	0.066	0.141
182	15.17	0.80	0.208	(0.187)	0.066	0.141
183	15.25	0.80	0.208	(0.186)	0.066	0.141
184	15.33	0.77	0.199	(0.185)	0.064	0.135
185	15.42	0.77	0.199	(0.184)	0.064	0.135
186	15.50	0.77	0.199	(0.183)	0.064	0.135
187	15.58	0.63	0.164	(0.182)	0.053	0.112
188	15.67	0.63	0.164	(0.182)	0.053	0.112
189	15.75	0.63	0.164	(0.181)	0.053	0.112
190	15.83	0.63	0.164	(0.180)	0.053	0.112
191	15.92	0.63	0.164	(0.179)	0.053	0.112
192	16.00	0.63	0.164	(0.178)	0.053	0.112
193	16.08	0.13	0.035	(0.177)	0.011	0.024
194	16.17	0.13	0.035	(0.176)	0.011	0.024
195	16.25	0.13	0.035	(0.175)	0.011	0.024
196	16.33	0.13	0.035	(0.174)	0.011	0.024
197	16.42	0.13	0.035	(0.173)	0.011	0.024
198	16.50	0.13	0.035	(0.172)	0.011	0.024
199	16.58	0.10	0.026	(0.172)	0.008	0.018
200	16.67	0.10	0.026	(0.171)	0.008	0.018
201	16.75	0.10	0.026	(0.170)	0.008	0.018
202	16.83	0.10	0.026	(0.169)	0.008	0.018
203	16.92	0.10	0.026	(0.168)	0.008	0.018

204	17.00	0.10	0.026	(0.167)	0.008	0.018
205	17.08	0.17	0.043	(0.166)	0.014	0.029
206	17.17	0.17	0.043	(0.166)	0.014	0.029
207	17.25	0.17	0.043	(0.165)	0.014	0.029
208	17.33	0.17	0.043	(0.164)	0.014	0.029
209	17.42	0.17	0.043	(0.163)	0.014	0.029
210	17.50	0.17	0.043	(0.162)	0.014	0.029
211	17.58	0.17	0.043	(0.161)	0.014	0.029
212	17.67	0.17	0.043	(0.161)	0.014	0.029
213	17.75	0.17	0.043	(0.160)	0.014	0.029
214	17.83	0.13	0.035	(0.159)	0.011	0.024
215	17.92	0.13	0.035	(0.158)	0.011	0.024
216	18.00	0.13	0.035	(0.158)	0.011	0.024
217	18.08	0.13	0.035	(0.157)	0.011	0.024
218	18.17	0.13	0.035	(0.156)	0.011	0.024
219	18.25	0.13	0.035	(0.155)	0.011	0.024
220	18.33	0.13	0.035	(0.154)	0.011	0.024
221	18.42	0.13	0.035	(0.154)	0.011	0.024
222	18.50	0.13	0.035	(0.153)	0.011	0.024
223	18.58	0.10	0.026	(0.152)	0.008	0.018
224	18.67	0.10	0.026	(0.151)	0.008	0.018
225	18.75	0.10	0.026	(0.151)	0.008	0.018
226	18.83	0.07	0.017	(0.150)	0.006	0.012
227	18.92	0.07	0.017	(0.149)	0.006	0.012
228	19.00	0.07	0.017	(0.149)	0.006	0.012
229	19.08	0.10	0.026	(0.148)	0.008	0.018
230	19.17	0.10	0.026	(0.147)	0.008	0.018
231	19.25	0.10	0.026	(0.147)	0.008	0.018
232	19.33	0.13	0.035	(0.146)	0.011	0.024
233	19.42	0.13	0.035	(0.145)	0.011	0.024
234	19.50	0.13	0.035	(0.144)	0.011	0.024
235	19.58	0.10	0.026	(0.144)	0.008	0.018
236	19.67	0.10	0.026	(0.143)	0.008	0.018
237	19.75	0.10	0.026	(0.143)	0.008	0.018
238	19.83	0.07	0.017	(0.142)	0.006	0.012
239	19.92	0.07	0.017	(0.141)	0.006	0.012
240	20.00	0.07	0.017	(0.141)	0.006	0.012
241	20.08	0.10	0.026	(0.140)	0.008	0.018
242	20.17	0.10	0.026	(0.139)	0.008	0.018
243	20.25	0.10	0.026	(0.139)	0.008	0.018
244	20.33	0.10	0.026	(0.138)	0.008	0.018
245	20.42	0.10	0.026	(0.138)	0.008	0.018
246	20.50	0.10	0.026	(0.137)	0.008	0.018
247	20.58	0.10	0.026	(0.136)	0.008	0.018
248	20.67	0.10	0.026	(0.136)	0.008	0.018
249	20.75	0.10	0.026	(0.135)	0.008	0.018
250	20.83	0.07	0.017	(0.135)	0.006	0.012
251	20.92	0.07	0.017	(0.134)	0.006	0.012
252	21.00	0.07	0.017	(0.134)	0.006	0.012
253	21.08	0.10	0.026	(0.133)	0.008	0.018
254	21.17	0.10	0.026	(0.133)	0.008	0.018

255	21.25	0.10	0.026	(0.132)	0.008	0.018
256	21.33	0.07	0.017	(0.132)	0.006	0.012
257	21.42	0.07	0.017	(0.131)	0.006	0.012
258	21.50	0.07	0.017	(0.131)	0.006	0.012
259	21.58	0.10	0.026	(0.130)	0.008	0.018
260	21.67	0.10	0.026	(0.130)	0.008	0.018
261	21.75	0.10	0.026	(0.129)	0.008	0.018
262	21.83	0.07	0.017	(0.129)	0.006	0.012
263	21.92	0.07	0.017	(0.128)	0.006	0.012
264	22.00	0.07	0.017	(0.128)	0.006	0.012
265	22.08	0.10	0.026	(0.127)	0.008	0.018
266	22.17	0.10	0.026	(0.127)	0.008	0.018
267	22.25	0.10	0.026	(0.127)	0.008	0.018
268	22.33	0.07	0.017	(0.126)	0.006	0.012
269	22.42	0.07	0.017	(0.126)	0.006	0.012
270	22.50	0.07	0.017	(0.125)	0.006	0.012
271	22.58	0.07	0.017	(0.125)	0.006	0.012
272	22.67	0.07	0.017	(0.125)	0.006	0.012
273	22.75	0.07	0.017	(0.124)	0.006	0.012
274	22.83	0.07	0.017	(0.124)	0.006	0.012
275	22.92	0.07	0.017	(0.124)	0.006	0.012
276	23.00	0.07	0.017	(0.123)	0.006	0.012
277	23.08	0.07	0.017	(0.123)	0.006	0.012
278	23.17	0.07	0.017	(0.123)	0.006	0.012
279	23.25	0.07	0.017	(0.123)	0.006	0.012
280	23.33	0.07	0.017	(0.122)	0.006	0.012
281	23.42	0.07	0.017	(0.122)	0.006	0.012
282	23.50	0.07	0.017	(0.122)	0.006	0.012
283	23.58	0.07	0.017	(0.122)	0.006	0.012
284	23.67	0.07	0.017	(0.122)	0.006	0.012
285	23.75	0.07	0.017	(0.121)	0.006	0.012
286	23.83	0.07	0.017	(0.121)	0.006	0.012
287	23.92	0.07	0.017	(0.121)	0.006	0.012
288	24.00	0.07	0.017	(0.121)	0.006	0.012

(Loss Rate Not Used)

Sum = 100.0

Sum = 17.6

Flood volume = Effective rainfall 1.47(In)
times area 1.9(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.69(In)
Total soil loss = 0.110(Ac.Ft)
Total rainfall = 2.16(In)
Flood volume = 10193.7 Cubic Feet
Total soil loss = 4797.0 Cubic Feet

Peak flow rate of this hydrograph = 0.384(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	0.0000		0.00	Q				
0+10	0.0001		0.01	Q				
0+15	0.0002		0.02	Q				
0+20	0.0004		0.02	Q				
0+25	0.0006		0.03	Q				
0+30	0.0008		0.03	Q				
0+35	0.0011		0.03	Q				
0+40	0.0013		0.03	Q				
0+45	0.0015		0.03	Q				
0+50	0.0018		0.04	Q				
0+55	0.0020		0.04	Q				
1+ 0	0.0023		0.04	Q				
1+ 5	0.0026		0.04	Q				
1+10	0.0029		0.04	Q				
1+15	0.0031		0.04	Q				
1+20	0.0034		0.03	Q				
1+25	0.0036		0.03	Q				
1+30	0.0039		0.03	Q				
1+35	0.0041		0.03	Q				
1+40	0.0043		0.03	Q				
1+45	0.0046		0.03	Q				
1+50	0.0048		0.04	Q				
1+55	0.0051		0.04	Q				
2+ 0	0.0054		0.04	Q				
2+ 5	0.0057		0.04	Q				
2+10	0.0060		0.05	QV				
2+15	0.0063		0.05	QV				
2+20	0.0066		0.05	QV				
2+25	0.0069		0.05	QV				
2+30	0.0072		0.05	QV				
2+35	0.0076		0.05	QV				
2+40	0.0079		0.05	QV				
2+45	0.0083		0.05	QV				
2+50	0.0087		0.06	QV				
2+55	0.0091		0.06	QV				
3+ 0	0.0095		0.06	QV				
3+ 5	0.0099		0.06	QV				
3+10	0.0103		0.06	QV				
3+15	0.0106		0.06	QV				
3+20	0.0110		0.06	QV				
3+25	0.0114		0.06	QV				
3+30	0.0118		0.06	Q V				
3+35	0.0122		0.06	Q V				
3+40	0.0126		0.06	Q V				
3+45	0.0130		0.06	Q V				
3+50	0.0134		0.06	Q V				
3+55	0.0138		0.06	Q V				

4+ 0	0.0143	0.07	Q V				
4+ 5	0.0147	0.07	Q V				
4+10	0.0152	0.07	Q V				
4+15	0.0157	0.07	Q V				
4+20	0.0161	0.07	Q V				
4+25	0.0167	0.08	Q V				
4+30	0.0172	0.08	Q V				
4+35	0.0177	0.08	Q V				
4+40	0.0183	0.08	Q V				
4+45	0.0188	0.08	Q V				
4+50	0.0194	0.08	Q V				
4+55	0.0200	0.09	Q V				
5+ 0	0.0206	0.09	Q V				
5+ 5	0.0212	0.09	Q V				
5+10	0.0217	0.08	Q V				
5+15	0.0222	0.07	Q V				
5+20	0.0227	0.07	Q V				
5+25	0.0232	0.08	Q V				
5+30	0.0238	0.08	Q V				
5+35	0.0243	0.08	Q V				
5+40	0.0249	0.09	Q V				
5+45	0.0255	0.09	Q V				
5+50	0.0261	0.09	Q V				
5+55	0.0267	0.09	Q V				
6+ 0	0.0274	0.09	Q V				
6+ 5	0.0280	0.09	Q V				
6+10	0.0287	0.10	Q V				
6+15	0.0294	0.10	Q V				
6+20	0.0301	0.10	Q V				
6+25	0.0308	0.10	Q V				
6+30	0.0315	0.10	Q V				
6+35	0.0322	0.10	Q V				
6+40	0.0329	0.11	Q V				
6+45	0.0337	0.11	Q V				
6+50	0.0345	0.11	Q V				
6+55	0.0352	0.11	Q V				
7+ 0	0.0360	0.11	Q V				
7+ 5	0.0368	0.11	Q V				
7+10	0.0376	0.11	Q V				
7+15	0.0384	0.11	Q V				
7+20	0.0392	0.11	Q V				
7+25	0.0400	0.12	Q V				
7+30	0.0408	0.12	Q V				
7+35	0.0417	0.13	Q V				
7+40	0.0426	0.13	Q V				
7+45	0.0435	0.13	Q V				
7+50	0.0445	0.14	Q V				
7+55	0.0454	0.14	Q V				
8+ 0	0.0464	0.15	Q V				
8+ 5	0.0475	0.15	Q V				
8+10	0.0486	0.16	Q V				

8+15	0.0497	0.17	Q	V					
8+20	0.0509	0.17	Q	V					
8+25	0.0521	0.17	Q	V					
8+30	0.0532	0.17	Q	V					
8+35	0.0544	0.17	Q	V					
8+40	0.0556	0.18	Q	V					
8+45	0.0569	0.18	Q	V					
8+50	0.0581	0.18	Q	V					
8+55	0.0594	0.19	Q	V					
9+ 0	0.0607	0.19	Q	V					
9+ 5	0.0620	0.19	Q	V					
9+10	0.0635	0.21	Q	V					
9+15	0.0649	0.21	Q	V					
9+20	0.0664	0.21	Q	V					
9+25	0.0679	0.22	Q	V					
9+30	0.0695	0.22	Q	V					
9+35	0.0710	0.23	Q	V					
9+40	0.0727	0.23	Q	V					
9+45	0.0743	0.24	Q	V					
9+50	0.0759	0.24	Q	V					
9+55	0.0776	0.24	Q	V					
10+ 0	0.0793	0.25	Q	V					
10+ 5	0.0810	0.24	Q	V					
10+10	0.0823	0.20	Q	V					
10+15	0.0836	0.18	Q	V					
10+20	0.0848	0.17	Q	V					
10+25	0.0860	0.17	Q	V					
10+30	0.0871	0.17	Q	V					
10+35	0.0884	0.18	Q	V					
10+40	0.0898	0.21	Q	V					
10+45	0.0913	0.22	Q	V					
10+50	0.0928	0.22	Q	V					
10+55	0.0944	0.23	Q	V					
11+ 0	0.0959	0.23	Q	V					
11+ 5	0.0975	0.23	Q	V					
11+10	0.0990	0.22	Q	V					
11+15	0.1005	0.22	Q	V					
11+20	0.1020	0.22	Q	V					
11+25	0.1034	0.22	Q	V					
11+30	0.1049	0.22	Q	V					
11+35	0.1064	0.21	Q	V					
11+40	0.1078	0.20	Q	V					
11+45	0.1091	0.20	Q	V					
11+50	0.1105	0.20	Q	V					
11+55	0.1119	0.20	Q	V					
12+ 0	0.1132	0.20	Q	V					
12+ 5	0.1147	0.21	Q	V					
12+10	0.1165	0.25	Q	V					
12+15	0.1183	0.27	Q	V					
12+20	0.1202	0.28	Q	V					
12+25	0.1222	0.29	Q	V					

12+30	0.1242	0.29	Q		V		
12+35	0.1263	0.30	Q		V		
12+40	0.1284	0.31	Q		V		
12+45	0.1306	0.31	Q		V		
12+50	0.1327	0.32	Q		V		
12+55	0.1350	0.32	Q		V		
13+ 0	0.1372	0.33	Q		V		
13+ 5	0.1395	0.33	Q		V		
13+10	0.1420	0.36	Q		V		
13+15	0.1446	0.38	Q		V		
13+20	0.1472	0.38	Q		V		
13+25	0.1499	0.38	Q		V		
13+30	0.1525	0.38	Q		V		
13+35	0.1551	0.37	Q		V		
13+40	0.1572	0.31	Q		V		
13+45	0.1591	0.28	Q		V		
13+50	0.1610	0.27	Q		V		
13+55	0.1628	0.26	Q		V		
14+ 0	0.1646	0.26	Q		V		
14+ 5	0.1664	0.27	Q		V		
14+10	0.1684	0.29	Q		V		
14+15	0.1705	0.30	Q		V		
14+20	0.1726	0.30	Q		V		
14+25	0.1746	0.30	Q		V		
14+30	0.1766	0.30	Q		V		
14+35	0.1787	0.29	Q		V		
14+40	0.1807	0.29	Q		V		
14+45	0.1827	0.29	Q		V		
14+50	0.1848	0.29	Q		V		
14+55	0.1867	0.29	Q		V		
15+ 0	0.1887	0.28	Q		V		
15+ 5	0.1906	0.28	Q		V		
15+10	0.1925	0.28	Q		V		
15+15	0.1944	0.27	Q		V		
15+20	0.1963	0.27	Q		V		
15+25	0.1981	0.26	Q		V		
15+30	0.1999	0.26	Q		V		
15+35	0.2017	0.26	Q		V		
15+40	0.2033	0.23	Q		V		
15+45	0.2048	0.22	Q		V		
15+50	0.2063	0.22	Q		V		
15+55	0.2078	0.22	Q		V		
16+ 0	0.2093	0.22	Q		V		
16+ 5	0.2107	0.20	Q		V		
16+10	0.2114	0.11	Q		V		
16+15	0.2119	0.07	Q		V		
16+20	0.2123	0.06	Q		V		
16+25	0.2126	0.05	Q		V		
16+30	0.2129	0.05	Q		V		
16+35	0.2133	0.05	Q		V		
16+40	0.2135	0.04	Q		V		

16+45	0.2138	0.04	Q				V
16+50	0.2140	0.03	Q				V
16+55	0.2142	0.03	Q				V
17+ 0	0.2145	0.03	Q				V
17+ 5	0.2147	0.04	Q				V
17+10	0.2151	0.05	Q				V
17+15	0.2154	0.05	Q				V
17+20	0.2158	0.06	Q				V
17+25	0.2162	0.06	Q				V
17+30	0.2166	0.06	Q				V
17+35	0.2170	0.06	Q				V
17+40	0.2174	0.06	Q				V
17+45	0.2177	0.06	Q				V
17+50	0.2181	0.06	Q				V
17+55	0.2185	0.05	Q				V
18+ 0	0.2188	0.05	Q				V
18+ 5	0.2191	0.05	Q				V
18+10	0.2194	0.05	Q				V
18+15	0.2197	0.05	Q				V
18+20	0.2200	0.05	Q				V
18+25	0.2204	0.05	Q				V
18+30	0.2207	0.05	Q				V
18+35	0.2210	0.04	Q				V
18+40	0.2212	0.04	Q				V
18+45	0.2215	0.04	Q				V
18+50	0.2217	0.03	Q				V
18+55	0.2219	0.03	Q				V
19+ 0	0.2221	0.02	Q				V
19+ 5	0.2222	0.02	Q				V
19+10	0.2224	0.03	Q				V
19+15	0.2227	0.03	Q				V
19+20	0.2229	0.03	Q				V
19+25	0.2232	0.04	Q				V
19+30	0.2235	0.04	Q				V
19+35	0.2238	0.04	Q				V
19+40	0.2240	0.04	Q				V
19+45	0.2243	0.04	Q				V
19+50	0.2245	0.03	Q				V
19+55	0.2247	0.03	Q				V
20+ 0	0.2249	0.02	Q				V
20+ 5	0.2250	0.02	Q				V
20+10	0.2253	0.03	Q				V
20+15	0.2255	0.03	Q				V
20+20	0.2257	0.03	Q				V
20+25	0.2259	0.03	Q				V
20+30	0.2262	0.03	Q				V
20+35	0.2264	0.03	Q				V
20+40	0.2266	0.03	Q				V
20+45	0.2269	0.03	Q				V
20+50	0.2271	0.03	Q				V
20+55	0.2273	0.03	Q				V

21+ 0	0.2275	0.02	Q				V
21+ 5	0.2276	0.02	Q				V
21+10	0.2278	0.03	Q				V
21+15	0.2281	0.03	Q				V
21+20	0.2283	0.03	Q				V
21+25	0.2285	0.03	Q				V
21+30	0.2286	0.02	Q				V
21+35	0.2288	0.02	Q				V
21+40	0.2290	0.03	Q				V
21+45	0.2292	0.03	Q				V
21+50	0.2294	0.03	Q				V
21+55	0.2296	0.03	Q				V
22+ 0	0.2298	0.02	Q				V
22+ 5	0.2300	0.02	Q				V
22+10	0.2302	0.03	Q				V
22+15	0.2304	0.03	Q				V
22+20	0.2306	0.03	Q				V
22+25	0.2308	0.03	Q				V
22+30	0.2310	0.02	Q				V
22+35	0.2311	0.02	Q				V
22+40	0.2313	0.02	Q				V
22+45	0.2314	0.02	Q				V
22+50	0.2316	0.02	Q				V
22+55	0.2317	0.02	Q				V
23+ 0	0.2319	0.02	Q				V
23+ 5	0.2321	0.02	Q				V
23+10	0.2322	0.02	Q				V
23+15	0.2324	0.02	Q				V
23+20	0.2325	0.02	Q				V
23+25	0.2327	0.02	Q				V
23+30	0.2328	0.02	Q				V
23+35	0.2330	0.02	Q				V
23+40	0.2332	0.02	Q				V
23+45	0.2333	0.02	Q				V
23+50	0.2335	0.02	Q				V
23+55	0.2336	0.02	Q				V
24+ 0	0.2338	0.02	Q				V
24+ 5	0.2339	0.02	Q				V
24+10	0.2340	0.01	Q				V
24+15	0.2340	0.00	Q				V
24+20	0.2340	0.00	Q				V
24+25	0.2340	0.00	Q				V
24+30	0.2340	0.00	Q				V
24+35	0.2340	0.00	Q				V

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchph1a110.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
DMA A1
Kimley-Horn
10 yr

Drainage Area = 1.91(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.91(Ac.) =
0.003 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.095 Hr.
Lag time = 5.70 Min.
25% of lag time = 1.43 Min.
40% of lag time = 2.28 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]
1.91	0.50	0.95

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.91	1.10	2.10

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.100(In)

Point rain (area averaged) = 0.747(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.747(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.910	56.00	0.730
Total Area Entered = 1.91(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	56.0	0.511	0.730	0.175	1.000	0.175
Sum (F) =						0.175

Area averaged mean soil loss (F) (In/Hr) = 0.175
Minimum soil loss rate ((In/Hr)) = 0.088
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.320

Slope of intensity-duration curve for a 1 hour storm =0.5500

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

Unit Hydrograph Data

Unit time period	Time % of lag	Distribution	Unit Hydrograph
(hrs)		Graph %	(CFS)
1	0.083	87.719	10.710
2	0.167	175.439	52.537
3	0.250	263.158	21.572
4	0.333	350.877	8.833
5	0.417	438.596	3.926
6	0.500	526.316	1.230
7	0.583	614.035	0.656
8	0.667	701.754	0.537
Sum =		100.000	Sum= 1.925

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)		Effective (In/Hr)
				Max	Low	
1	0.08	3.30	0.296	(0.175)	0.095	0.201
2	0.17	4.20	0.376	(0.175)	0.120	0.256
3	0.25	4.40	0.394	(0.175)	0.126	0.268
4	0.33	4.80	0.430	(0.175)	0.138	0.293
5	0.42	5.20	0.466	(0.175)	0.149	0.317
6	0.50	6.20	0.556	0.175	(0.178)	0.380
7	0.58	6.80	0.609	0.175	(0.195)	0.434
8	0.67	8.80	0.789	0.175	(0.252)	0.613
9	0.75	13.90	1.246	0.175	(0.399)	1.071
10	0.83	31.40	2.814	0.175	(0.901)	2.639
11	0.92	7.20	0.645	0.175	(0.206)	0.470
12	1.00	3.80	0.341	(0.175)	0.109	0.232

(Loss Rate Not Used)

Sum = 100.0 Sum = 7.2

Flood volume = Effective rainfall 0.60(In)
times area 1.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.15(In)
Total soil loss = 0.024(Ac.Ft)
Total rainfall = 0.75(In)
Flood volume = 4144.8 Cubic Feet
Total soil loss = 1033.2 Cubic Feet

Peak flow rate of this hydrograph = 3.365(CFS)

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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	0.0021	0.26	VQ				
0+15	0.0048	0.40	QV				
0+20	0.0080	0.47	Q V				
0+25	0.0117	0.53	Q V				
0+30	0.0158	0.59	Q V				
0+35	0.0205	0.68	Q V				
0+40	0.0261	0.81	Q V				
0+45	0.0338	1.12	Q V				
0+50	0.0476	2.00	Q		V		
0+55	0.0708	3.36	Q	Q		V	
1+ 0	0.0836	1.87	Q			V	
1+ 5	0.0904	0.98	Q			V	
1+10	0.0932	0.41	Q				V
1+15	0.0943	0.16	Q				V

1+20	0.0948	0.07	Q				V
1+25	0.0951	0.04	Q				V
1+30	0.0951	0.01	Q				V
1+35	0.0952	0.00	Q				V

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchph1a310.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
DMA A1
Kimley-Horn
10 yr

Drainage Area = 1.91(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.91(Ac.) =
0.003 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.095 Hr.
Lag time = 5.70 Min.
25% of lag time = 1.43 Min.
40% of lag time = 2.28 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]
1.91	0.80	1.53

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.91	1.80	3.44

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.211(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.211(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.910	56.00	0.730
Total Area Entered = 1.91(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	56.0	0.511	0.730	0.175	1.000	0.175
Sum (F) =						0.175

Area averaged mean soil loss (F) (In/Hr) = 0.175
Minimum soil loss rate ((In/Hr)) = 0.088
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.320

Unit Hydrograph FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	87.719	10.710
2	0.167	175.439	52.537
3	0.250	263.158	21.572
4	0.333	350.877	8.833
5	0.417	438.596	3.926
6	0.500	526.316	1.230
7	0.583	614.035	0.656
8	0.667	701.754	0.537
Sum = 100.000			Sum= 1.925

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

Unit Time	Pattern	Storm Rain	Loss rate(In./Hr)	Effective

Runoff Hydrograph

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q					
0+10	0.0013	0.16	Q					
0+15	0.0027	0.21	Q					
0+20	0.0042	0.22	QV					
0+25	0.0059	0.26	Q					
0+30	0.0079	0.28	QV					
0+35	0.0100	0.31	QV					
0+40	0.0121	0.30	Q V					
0+45	0.0143	0.33	Q V					
0+50	0.0166	0.33	Q V					
0+55	0.0187	0.31	Q V					
1+ 0	0.0208	0.31	Q V					
1+ 5	0.0232	0.34	Q V					
1+10	0.0258	0.38	Q V					
1+15	0.0286	0.41	Q V					
1+20	0.0314	0.41	Q V					
1+25	0.0342	0.40	Q V					
1+30	0.0374	0.46	Q V					
1+35	0.0407	0.49	Q V					
1+40	0.0440	0.47	Q V					
1+45	0.0475	0.51	Q V					
1+50	0.0515	0.58	Q V					
1+55	0.0555	0.58	Q V					
2+ 0	0.0594	0.57	Q V					
2+ 5	0.0633	0.57	Q V					
2+10	0.0675	0.61	Q V					
2+15	0.0728	0.77	Q V					
2+20	0.0790	0.90	Q V					
2+25	0.0849	0.86	Q V					
2+30	0.0937	1.29	Q V					
2+35	0.1045	1.56	Q V					
2+40	0.1164	1.72	Q V					
2+45	0.1259	1.39	Q V					
2+50	0.1314	0.79	Q V					
2+55	0.1350	0.53	Q V					
3+ 0	0.1377	0.40	Q V					
3+ 5	0.1392	0.22	Q V					
3+10	0.1398	0.09	Q V					
3+15	0.1401	0.04	Q V					
3+20	0.1402	0.01	Q V					
3+25	0.1402	0.01	Q V					
3+30	0.1402	0.00	Q V					
3+35	0.1402	0.00	Q V					

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchph1a610.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
DMA A1
Kimley-Horn
10 yr

Drainage Area = 1.91(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.91(Ac.) =
0.003 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.095 Hr.
Lag time = 5.70 Min.
25% of lag time = 1.43 Min.
40% of lag time = 2.28 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]
1.91	1.00	1.91

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.91	2.50	4.77

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 1.617(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.617(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.910	56.00	0.730
Total Area Entered = 1.91(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	56.0	0.511	0.730	0.175	1.000	0.175
Sum (F) =						0.175

Area averaged mean soil loss (F) (In/Hr) = 0.175
Minimum soil loss rate ((In/Hr)) = 0.088
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.320

Unit Hydrograph FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	87.719	10.710
2	0.167	175.439	52.537
3	0.250	263.158	21.572
4	0.333	350.877	8.833
5	0.417	438.596	3.926
6	0.500	526.316	1.230
7	0.583	614.035	0.656
8	0.667	701.754	0.537
Sum = 100.000			Sum= 1.925

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

Unit Time	Pattern	Storm Rain	Loss rate(In./Hr)	Effective

	(Hr.)	Percent	(In/Hr)	Max	Low	(In/Hr)
1	0.08	0.50	0.097	(0.175)	0.031	0.066
2	0.17	0.60	0.116	(0.175)	0.037	0.079
3	0.25	0.60	0.116	(0.175)	0.037	0.079
4	0.33	0.60	0.116	(0.175)	0.037	0.079
5	0.42	0.60	0.116	(0.175)	0.037	0.079
6	0.50	0.70	0.136	(0.175)	0.043	0.092
7	0.58	0.70	0.136	(0.175)	0.043	0.092
8	0.67	0.70	0.136	(0.175)	0.043	0.092
9	0.75	0.70	0.136	(0.175)	0.043	0.092
10	0.83	0.70	0.136	(0.175)	0.043	0.092
11	0.92	0.70	0.136	(0.175)	0.043	0.092
12	1.00	0.80	0.155	(0.175)	0.050	0.106
13	1.08	0.80	0.155	(0.175)	0.050	0.106
14	1.17	0.80	0.155	(0.175)	0.050	0.106
15	1.25	0.80	0.155	(0.175)	0.050	0.106
16	1.33	0.80	0.155	(0.175)	0.050	0.106
17	1.42	0.80	0.155	(0.175)	0.050	0.106
18	1.50	0.80	0.155	(0.175)	0.050	0.106
19	1.58	0.80	0.155	(0.175)	0.050	0.106
20	1.67	0.80	0.155	(0.175)	0.050	0.106
21	1.75	0.80	0.155	(0.175)	0.050	0.106
22	1.83	0.80	0.155	(0.175)	0.050	0.106
23	1.92	0.80	0.155	(0.175)	0.050	0.106
24	2.00	0.90	0.175	(0.175)	0.056	0.119
25	2.08	0.80	0.155	(0.175)	0.050	0.106
26	2.17	0.90	0.175	(0.175)	0.056	0.119
27	2.25	0.90	0.175	(0.175)	0.056	0.119
28	2.33	0.90	0.175	(0.175)	0.056	0.119
29	2.42	0.90	0.175	(0.175)	0.056	0.119
30	2.50	0.90	0.175	(0.175)	0.056	0.119
31	2.58	0.90	0.175	(0.175)	0.056	0.119
32	2.67	0.90	0.175	(0.175)	0.056	0.119
33	2.75	1.00	0.194	(0.175)	0.062	0.132
34	2.83	1.00	0.194	(0.175)	0.062	0.132
35	2.92	1.00	0.194	(0.175)	0.062	0.132
36	3.00	1.00	0.194	(0.175)	0.062	0.132
37	3.08	1.00	0.194	(0.175)	0.062	0.132
38	3.17	1.10	0.213	(0.175)	0.068	0.145
39	3.25	1.10	0.213	(0.175)	0.068	0.145
40	3.33	1.10	0.213	(0.175)	0.068	0.145
41	3.42	1.20	0.233	(0.175)	0.075	0.158
42	3.50	1.30	0.252	(0.175)	0.081	0.172
43	3.58	1.40	0.272	(0.175)	0.087	0.185
44	3.67	1.40	0.272	(0.175)	0.087	0.185
45	3.75	1.50	0.291	(0.175)	0.093	0.198
46	3.83	1.50	0.291	(0.175)	0.093	0.198
47	3.92	1.60	0.310	(0.175)	0.099	0.211
48	4.00	1.60	0.310	(0.175)	0.099	0.211
49	4.08	1.70	0.330	(0.175)	0.106	0.224
50	4.17	1.80	0.349	(0.175)	0.112	0.238

51	4.25	1.90	0.369	(0.175)	0.118	0.251
52	4.33	2.00	0.388	(0.175)	0.124	0.264
53	4.42	2.10	0.408	(0.175)	0.130	0.277
54	4.50	2.10	0.408	(0.175)	0.130	0.277
55	4.58	2.20	0.427	(0.175)	0.137	0.290
56	4.67	2.30	0.446	(0.175)	0.143	0.303
57	4.75	2.40	0.466	(0.175)	0.149	0.317
58	4.83	2.40	0.466	(0.175)	0.149	0.317
59	4.92	2.50	0.485	(0.175)	0.155	0.330
60	5.00	2.60	0.505	(0.175)	0.161	0.343
61	5.08	3.10	0.602	0.175 (0.192)		0.426
62	5.17	3.60	0.699	0.175 (0.224)		0.523
63	5.25	3.90	0.757	0.175 (0.242)		0.582
64	5.33	4.20	0.815	0.175 (0.261)		0.640
65	5.42	4.70	0.912	0.175 (0.292)		0.737
66	5.50	5.60	1.087	0.175 (0.348)		0.911
67	5.58	1.90	0.369	(0.175)	0.118	0.251
68	5.67	0.90	0.175	(0.175)	0.056	0.119
69	5.75	0.60	0.116	(0.175)	0.037	0.079
70	5.83	0.50	0.097	(0.175)	0.031	0.066
71	5.92	0.30	0.058	(0.175)	0.019	0.040
72	6.00	0.20	0.039	(0.175)	0.012	0.026

(Loss Rate Not Used)

Sum = 100.0

Sum = 13.7

Flood volume = Effective rainfall 1.14(In)
times area 1.9(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.48(In)
Total soil loss = 0.076(Ac.Ft)
Total rainfall = 1.62(In)
Flood volume = 7917.2 Cubic Feet
Total soil loss = 3294.6 Cubic Feet

Peak flow rate of this hydrograph = 1.454(CFS)

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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	0.0001	0.01	Q				
0+10	0.0007	0.08	Q				
0+15	0.0015	0.12	Q				
0+20	0.0025	0.14	Q				
0+25	0.0035	0.15	Q				
0+30	0.0046	0.15	QV				
0+35	0.0057	0.17	QV				
0+40	0.0069	0.17	QV				

0+45	0.0081	0.18	QV				
0+50	0.0093	0.18	Q V				
0+55	0.0106	0.18	Q V				
1+ 0	0.0118	0.18	Q V				
1+ 5	0.0131	0.19	Q V				
1+10	0.0145	0.20	Q V				
1+15	0.0159	0.20	Q V				
1+20	0.0173	0.20	Q V				
1+25	0.0187	0.20	Q V				
1+30	0.0201	0.20	Q V				
1+35	0.0215	0.20	Q V				
1+40	0.0229	0.20	Q V				
1+45	0.0243	0.20	Q V				
1+50	0.0257	0.20	Q V				
1+55	0.0271	0.20	Q V				
2+ 0	0.0285	0.21	Q V				
2+ 5	0.0300	0.22	Q V				
2+10	0.0315	0.21	Q V				
2+15	0.0330	0.22	Q V				
2+20	0.0346	0.23	Q V				
2+25	0.0361	0.23	Q V				
2+30	0.0377	0.23	Q V				
2+35	0.0393	0.23	Q V				
2+40	0.0408	0.23	Q V				
2+45	0.0424	0.23	Q V				
2+50	0.0441	0.24	Q V				
2+55	0.0458	0.25	Q V				
3+ 0	0.0476	0.25	Q V				
3+ 5	0.0493	0.25	Q V				
3+10	0.0511	0.26	Q V				
3+15	0.0530	0.27	Q V				
3+20	0.0549	0.28	Q V				
3+25	0.0568	0.28	Q V				
3+30	0.0588	0.30	Q V				
3+35	0.0610	0.32	Q V				
3+40	0.0634	0.34	Q V				
3+45	0.0658	0.35	Q V				
3+50	0.0684	0.37	Q V				
3+55	0.0710	0.38	Q V				
4+ 0	0.0737	0.40	Q V				
4+ 5	0.0765	0.40	Q V				
4+10	0.0794	0.42	Q V				
4+15	0.0825	0.45	Q V				
4+20	0.0857	0.47	Q V				
4+25	0.0891	0.50	Q V				
4+30	0.0927	0.52	Q V				
4+35	0.0963	0.53	Q V				
4+40	0.1001	0.55	Q V				
4+45	0.1041	0.57	Q V				
4+50	0.1082	0.59	Q V				
4+55	0.1123	0.61	Q V				

5+ 0	0.1167	0.63	Q			V		
5+ 5	0.1212	0.66	Q			V		
5+10	0.1266	0.78	Q			V		
5+15	0.1329	0.92	Q			V		
5+20	0.1402	1.05	Q			V		
5+25	0.1483	1.18	Q				V	
5+30	0.1576	1.36	Q				V	
5+35	0.1676	1.45	Q					V
5+40	0.1735	0.86	Q					V
5+45	0.1768	0.48	Q					V
5+50	0.1788	0.29	Q					V
5+55	0.1801	0.18	Q					V
6+ 0	0.1809	0.12	Q					V
6+ 5	0.1814	0.08	Q					V
6+10	0.1816	0.03	Q					V
6+15	0.1817	0.01	Q					V
6+20	0.1817	0.00	Q					V
6+25	0.1817	0.00	Q					V
6+30	0.1818	0.00	Q					V
6+35	0.1818	0.00	Q					V

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchph1a2410.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
DMA A1
Kimley-Horn
10 yr

Drainage Area = 1.91(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.91(Ac.) =
0.003 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.095 Hr.
Lag time = 5.70 Min.
25% of lag time = 1.43 Min.
40% of lag time = 2.28 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]
1.91	1.60	3.06

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.91	4.00	7.64

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 2.587(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.587(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.910	56.00	0.730

Total Area Entered = 1.91(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	56.0	0.511	0.730	0.175	1.000	0.175
Sum (F) =						0.175

Area averaged mean soil loss (F) (In/Hr) = 0.175
Minimum soil loss rate ((In/Hr)) = 0.088
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.320

Unit Hydrograph FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	87.719	10.710
2	0.167	175.439	52.537
3	0.250	263.158	21.572
4	0.333	350.877	8.833
5	0.417	438.596	3.926
6	0.500	526.316	1.230
7	0.583	614.035	0.656
8	0.667	701.754	0.537
Sum = 100.000		Sum=	1.925

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

Unit Time	Pattern	Storm Rain	Loss rate(In./Hr)	Effective

	(Hr.)	Percent	(In/Hr)	Max		Low	(In/Hr)
1	0.08	0.07	0.021	(0.311)		0.007	0.014
2	0.17	0.07	0.021	(0.309)		0.007	0.014
3	0.25	0.07	0.021	(0.308)		0.007	0.014
4	0.33	0.10	0.031	(0.307)		0.010	0.021
5	0.42	0.10	0.031	(0.306)		0.010	0.021
6	0.50	0.10	0.031	(0.305)		0.010	0.021
7	0.58	0.10	0.031	(0.303)		0.010	0.021
8	0.67	0.10	0.031	(0.302)		0.010	0.021
9	0.75	0.10	0.031	(0.301)		0.010	0.021
10	0.83	0.13	0.041	(0.300)		0.013	0.028
11	0.92	0.13	0.041	(0.299)		0.013	0.028
12	1.00	0.13	0.041	(0.298)		0.013	0.028
13	1.08	0.10	0.031	(0.296)		0.010	0.021
14	1.17	0.10	0.031	(0.295)		0.010	0.021
15	1.25	0.10	0.031	(0.294)		0.010	0.021
16	1.33	0.10	0.031	(0.293)		0.010	0.021
17	1.42	0.10	0.031	(0.292)		0.010	0.021
18	1.50	0.10	0.031	(0.290)		0.010	0.021
19	1.58	0.10	0.031	(0.289)		0.010	0.021
20	1.67	0.10	0.031	(0.288)		0.010	0.021
21	1.75	0.10	0.031	(0.287)		0.010	0.021
22	1.83	0.13	0.041	(0.286)		0.013	0.028
23	1.92	0.13	0.041	(0.285)		0.013	0.028
24	2.00	0.13	0.041	(0.284)		0.013	0.028
25	2.08	0.13	0.041	(0.282)		0.013	0.028
26	2.17	0.13	0.041	(0.281)		0.013	0.028
27	2.25	0.13	0.041	(0.280)		0.013	0.028
28	2.33	0.13	0.041	(0.279)		0.013	0.028
29	2.42	0.13	0.041	(0.278)		0.013	0.028
30	2.50	0.13	0.041	(0.277)		0.013	0.028
31	2.58	0.17	0.052	(0.276)		0.017	0.035
32	2.67	0.17	0.052	(0.274)		0.017	0.035
33	2.75	0.17	0.052	(0.273)		0.017	0.035
34	2.83	0.17	0.052	(0.272)		0.017	0.035
35	2.92	0.17	0.052	(0.271)		0.017	0.035
36	3.00	0.17	0.052	(0.270)		0.017	0.035
37	3.08	0.17	0.052	(0.269)		0.017	0.035
38	3.17	0.17	0.052	(0.268)		0.017	0.035
39	3.25	0.17	0.052	(0.267)		0.017	0.035
40	3.33	0.17	0.052	(0.265)		0.017	0.035
41	3.42	0.17	0.052	(0.264)		0.017	0.035
42	3.50	0.17	0.052	(0.263)		0.017	0.035
43	3.58	0.17	0.052	(0.262)		0.017	0.035
44	3.67	0.17	0.052	(0.261)		0.017	0.035
45	3.75	0.17	0.052	(0.260)		0.017	0.035
46	3.83	0.20	0.062	(0.259)		0.020	0.042
47	3.92	0.20	0.062	(0.258)		0.020	0.042
48	4.00	0.20	0.062	(0.257)		0.020	0.042
49	4.08	0.20	0.062	(0.256)		0.020	0.042
50	4.17	0.20	0.062	(0.255)		0.020	0.042

51	4.25	0.20	0.062	(0.253)	0.020	0.042
52	4.33	0.23	0.072	(0.252)	0.023	0.049
53	4.42	0.23	0.072	(0.251)	0.023	0.049
54	4.50	0.23	0.072	(0.250)	0.023	0.049
55	4.58	0.23	0.072	(0.249)	0.023	0.049
56	4.67	0.23	0.072	(0.248)	0.023	0.049
57	4.75	0.23	0.072	(0.247)	0.023	0.049
58	4.83	0.27	0.083	(0.246)	0.026	0.056
59	4.92	0.27	0.083	(0.245)	0.026	0.056
60	5.00	0.27	0.083	(0.244)	0.026	0.056
61	5.08	0.20	0.062	(0.243)	0.020	0.042
62	5.17	0.20	0.062	(0.242)	0.020	0.042
63	5.25	0.20	0.062	(0.241)	0.020	0.042
64	5.33	0.23	0.072	(0.240)	0.023	0.049
65	5.42	0.23	0.072	(0.239)	0.023	0.049
66	5.50	0.23	0.072	(0.237)	0.023	0.049
67	5.58	0.27	0.083	(0.236)	0.026	0.056
68	5.67	0.27	0.083	(0.235)	0.026	0.056
69	5.75	0.27	0.083	(0.234)	0.026	0.056
70	5.83	0.27	0.083	(0.233)	0.026	0.056
71	5.92	0.27	0.083	(0.232)	0.026	0.056
72	6.00	0.27	0.083	(0.231)	0.026	0.056
73	6.08	0.30	0.093	(0.230)	0.030	0.063
74	6.17	0.30	0.093	(0.229)	0.030	0.063
75	6.25	0.30	0.093	(0.228)	0.030	0.063
76	6.33	0.30	0.093	(0.227)	0.030	0.063
77	6.42	0.30	0.093	(0.226)	0.030	0.063
78	6.50	0.30	0.093	(0.225)	0.030	0.063
79	6.58	0.33	0.103	(0.224)	0.033	0.070
80	6.67	0.33	0.103	(0.223)	0.033	0.070
81	6.75	0.33	0.103	(0.222)	0.033	0.070
82	6.83	0.33	0.103	(0.221)	0.033	0.070
83	6.92	0.33	0.103	(0.220)	0.033	0.070
84	7.00	0.33	0.103	(0.219)	0.033	0.070
85	7.08	0.33	0.103	(0.218)	0.033	0.070
86	7.17	0.33	0.103	(0.217)	0.033	0.070
87	7.25	0.33	0.103	(0.216)	0.033	0.070
88	7.33	0.37	0.114	(0.215)	0.036	0.077
89	7.42	0.37	0.114	(0.214)	0.036	0.077
90	7.50	0.37	0.114	(0.213)	0.036	0.077
91	7.58	0.40	0.124	(0.212)	0.040	0.084
92	7.67	0.40	0.124	(0.211)	0.040	0.084
93	7.75	0.40	0.124	(0.210)	0.040	0.084
94	7.83	0.43	0.135	(0.209)	0.043	0.091
95	7.92	0.43	0.135	(0.208)	0.043	0.091
96	8.00	0.43	0.135	(0.207)	0.043	0.091
97	8.08	0.50	0.155	(0.206)	0.050	0.106
98	8.17	0.50	0.155	(0.205)	0.050	0.106
99	8.25	0.50	0.155	(0.204)	0.050	0.106
100	8.33	0.50	0.155	(0.204)	0.050	0.106
101	8.42	0.50	0.155	(0.203)	0.050	0.106

102	8.50	0.50	0.155	(0.202)	0.050	0.106
103	8.58	0.53	0.166	(0.201)	0.053	0.113
104	8.67	0.53	0.166	(0.200)	0.053	0.113
105	8.75	0.53	0.166	(0.199)	0.053	0.113
106	8.83	0.57	0.176	(0.198)	0.056	0.120
107	8.92	0.57	0.176	(0.197)	0.056	0.120
108	9.00	0.57	0.176	(0.196)	0.056	0.120
109	9.08	0.63	0.197	(0.195)	0.063	0.134
110	9.17	0.63	0.197	(0.194)	0.063	0.134
111	9.25	0.63	0.197	(0.193)	0.063	0.134
112	9.33	0.67	0.207	(0.192)	0.066	0.141
113	9.42	0.67	0.207	(0.191)	0.066	0.141
114	9.50	0.67	0.207	(0.190)	0.066	0.141
115	9.58	0.70	0.217	(0.190)	0.070	0.148
116	9.67	0.70	0.217	(0.189)	0.070	0.148
117	9.75	0.70	0.217	(0.188)	0.070	0.148
118	9.83	0.73	0.228	(0.187)	0.073	0.155
119	9.92	0.73	0.228	(0.186)	0.073	0.155
120	10.00	0.73	0.228	(0.185)	0.073	0.155
121	10.08	0.50	0.155	(0.184)	0.050	0.106
122	10.17	0.50	0.155	(0.183)	0.050	0.106
123	10.25	0.50	0.155	(0.182)	0.050	0.106
124	10.33	0.50	0.155	(0.181)	0.050	0.106
125	10.42	0.50	0.155	(0.181)	0.050	0.106
126	10.50	0.50	0.155	(0.180)	0.050	0.106
127	10.58	0.67	0.207	(0.179)	0.066	0.141
128	10.67	0.67	0.207	(0.178)	0.066	0.141
129	10.75	0.67	0.207	(0.177)	0.066	0.141
130	10.83	0.67	0.207	(0.176)	0.066	0.141
131	10.92	0.67	0.207	(0.175)	0.066	0.141
132	11.00	0.67	0.207	(0.174)	0.066	0.141
133	11.08	0.63	0.197	(0.174)	0.063	0.134
134	11.17	0.63	0.197	(0.173)	0.063	0.134
135	11.25	0.63	0.197	(0.172)	0.063	0.134
136	11.33	0.63	0.197	(0.171)	0.063	0.134
137	11.42	0.63	0.197	(0.170)	0.063	0.134
138	11.50	0.63	0.197	(0.169)	0.063	0.134
139	11.58	0.57	0.176	(0.169)	0.056	0.120
140	11.67	0.57	0.176	(0.168)	0.056	0.120
141	11.75	0.57	0.176	(0.167)	0.056	0.120
142	11.83	0.60	0.186	(0.166)	0.060	0.127
143	11.92	0.60	0.186	(0.165)	0.060	0.127
144	12.00	0.60	0.186	(0.164)	0.060	0.127
145	12.08	0.83	0.259	(0.164)	0.083	0.176
146	12.17	0.83	0.259	(0.163)	0.083	0.176
147	12.25	0.83	0.259	(0.162)	0.083	0.176
148	12.33	0.87	0.269	(0.161)	0.086	0.183
149	12.42	0.87	0.269	(0.160)	0.086	0.183
150	12.50	0.87	0.269	(0.159)	0.086	0.183
151	12.58	0.93	0.290	(0.159)	0.093	0.197
152	12.67	0.93	0.290	(0.158)	0.093	0.197

153	12.75	0.93	0.290	(0.157)	0.093	0.197
154	12.83	0.97	0.300	(0.156)	0.096	0.204
155	12.92	0.97	0.300	(0.156)	0.096	0.204
156	13.00	0.97	0.300	(0.155)	0.096	0.204
157	13.08	1.13	0.352	(0.154)	0.113	0.239
158	13.17	1.13	0.352	(0.153)	0.113	0.239
159	13.25	1.13	0.352	(0.152)	0.113	0.239
160	13.33	1.13	0.352	(0.152)	0.113	0.239
161	13.42	1.13	0.352	(0.151)	0.113	0.239
162	13.50	1.13	0.352	(0.150)	0.113	0.239
163	13.58	0.77	0.238	(0.149)	0.076	0.162
164	13.67	0.77	0.238	(0.149)	0.076	0.162
165	13.75	0.77	0.238	(0.148)	0.076	0.162
166	13.83	0.77	0.238	(0.147)	0.076	0.162
167	13.92	0.77	0.238	(0.146)	0.076	0.162
168	14.00	0.77	0.238	(0.146)	0.076	0.162
169	14.08	0.90	0.279	(0.145)	0.089	0.190
170	14.17	0.90	0.279	(0.144)	0.089	0.190
171	14.25	0.90	0.279	(0.143)	0.089	0.190
172	14.33	0.87	0.269	(0.143)	0.086	0.183
173	14.42	0.87	0.269	(0.142)	0.086	0.183
174	14.50	0.87	0.269	(0.141)	0.086	0.183
175	14.58	0.87	0.269	(0.140)	0.086	0.183
176	14.67	0.87	0.269	(0.140)	0.086	0.183
177	14.75	0.87	0.269	(0.139)	0.086	0.183
178	14.83	0.83	0.259	(0.138)	0.083	0.176
179	14.92	0.83	0.259	(0.138)	0.083	0.176
180	15.00	0.83	0.259	(0.137)	0.083	0.176
181	15.08	0.80	0.248	(0.136)	0.079	0.169
182	15.17	0.80	0.248	(0.135)	0.079	0.169
183	15.25	0.80	0.248	(0.135)	0.079	0.169
184	15.33	0.77	0.238	(0.134)	0.076	0.162
185	15.42	0.77	0.238	(0.133)	0.076	0.162
186	15.50	0.77	0.238	(0.133)	0.076	0.162
187	15.58	0.63	0.197	(0.132)	0.063	0.134
188	15.67	0.63	0.197	(0.131)	0.063	0.134
189	15.75	0.63	0.197	(0.131)	0.063	0.134
190	15.83	0.63	0.197	(0.130)	0.063	0.134
191	15.92	0.63	0.197	(0.129)	0.063	0.134
192	16.00	0.63	0.197	(0.129)	0.063	0.134
193	16.08	0.13	0.041	(0.128)	0.013	0.028
194	16.17	0.13	0.041	(0.127)	0.013	0.028
195	16.25	0.13	0.041	(0.127)	0.013	0.028
196	16.33	0.13	0.041	(0.126)	0.013	0.028
197	16.42	0.13	0.041	(0.125)	0.013	0.028
198	16.50	0.13	0.041	(0.125)	0.013	0.028
199	16.58	0.10	0.031	(0.124)	0.010	0.021
200	16.67	0.10	0.031	(0.124)	0.010	0.021
201	16.75	0.10	0.031	(0.123)	0.010	0.021
202	16.83	0.10	0.031	(0.122)	0.010	0.021
203	16.92	0.10	0.031	(0.122)	0.010	0.021

204	17.00	0.10	0.031	(0.121)	0.010	0.021
205	17.08	0.17	0.052	(0.120)	0.017	0.035
206	17.17	0.17	0.052	(0.120)	0.017	0.035
207	17.25	0.17	0.052	(0.119)	0.017	0.035
208	17.33	0.17	0.052	(0.119)	0.017	0.035
209	17.42	0.17	0.052	(0.118)	0.017	0.035
210	17.50	0.17	0.052	(0.117)	0.017	0.035
211	17.58	0.17	0.052	(0.117)	0.017	0.035
212	17.67	0.17	0.052	(0.116)	0.017	0.035
213	17.75	0.17	0.052	(0.116)	0.017	0.035
214	17.83	0.13	0.041	(0.115)	0.013	0.028
215	17.92	0.13	0.041	(0.115)	0.013	0.028
216	18.00	0.13	0.041	(0.114)	0.013	0.028
217	18.08	0.13	0.041	(0.113)	0.013	0.028
218	18.17	0.13	0.041	(0.113)	0.013	0.028
219	18.25	0.13	0.041	(0.112)	0.013	0.028
220	18.33	0.13	0.041	(0.112)	0.013	0.028
221	18.42	0.13	0.041	(0.111)	0.013	0.028
222	18.50	0.13	0.041	(0.111)	0.013	0.028
223	18.58	0.10	0.031	(0.110)	0.010	0.021
224	18.67	0.10	0.031	(0.110)	0.010	0.021
225	18.75	0.10	0.031	(0.109)	0.010	0.021
226	18.83	0.07	0.021	(0.109)	0.007	0.014
227	18.92	0.07	0.021	(0.108)	0.007	0.014
228	19.00	0.07	0.021	(0.108)	0.007	0.014
229	19.08	0.10	0.031	(0.107)	0.010	0.021
230	19.17	0.10	0.031	(0.107)	0.010	0.021
231	19.25	0.10	0.031	(0.106)	0.010	0.021
232	19.33	0.13	0.041	(0.106)	0.013	0.028
233	19.42	0.13	0.041	(0.105)	0.013	0.028
234	19.50	0.13	0.041	(0.105)	0.013	0.028
235	19.58	0.10	0.031	(0.104)	0.010	0.021
236	19.67	0.10	0.031	(0.104)	0.010	0.021
237	19.75	0.10	0.031	(0.103)	0.010	0.021
238	19.83	0.07	0.021	(0.103)	0.007	0.014
239	19.92	0.07	0.021	(0.102)	0.007	0.014
240	20.00	0.07	0.021	(0.102)	0.007	0.014
241	20.08	0.10	0.031	(0.101)	0.010	0.021
242	20.17	0.10	0.031	(0.101)	0.010	0.021
243	20.25	0.10	0.031	(0.100)	0.010	0.021
244	20.33	0.10	0.031	(0.100)	0.010	0.021
245	20.42	0.10	0.031	(0.100)	0.010	0.021
246	20.50	0.10	0.031	(0.099)	0.010	0.021
247	20.58	0.10	0.031	(0.099)	0.010	0.021
248	20.67	0.10	0.031	(0.098)	0.010	0.021
249	20.75	0.10	0.031	(0.098)	0.010	0.021
250	20.83	0.07	0.021	(0.097)	0.007	0.014
251	20.92	0.07	0.021	(0.097)	0.007	0.014
252	21.00	0.07	0.021	(0.097)	0.007	0.014
253	21.08	0.10	0.031	(0.096)	0.010	0.021
254	21.17	0.10	0.031	(0.096)	0.010	0.021

255	21.25	0.10	0.031	(0.096)	0.010	0.021
256	21.33	0.07	0.021	(0.095)	0.007	0.014
257	21.42	0.07	0.021	(0.095)	0.007	0.014
258	21.50	0.07	0.021	(0.094)	0.007	0.014
259	21.58	0.10	0.031	(0.094)	0.010	0.021
260	21.67	0.10	0.031	(0.094)	0.010	0.021
261	21.75	0.10	0.031	(0.093)	0.010	0.021
262	21.83	0.07	0.021	(0.093)	0.007	0.014
263	21.92	0.07	0.021	(0.093)	0.007	0.014
264	22.00	0.07	0.021	(0.093)	0.007	0.014
265	22.08	0.10	0.031	(0.092)	0.010	0.021
266	22.17	0.10	0.031	(0.092)	0.010	0.021
267	22.25	0.10	0.031	(0.092)	0.010	0.021
268	22.33	0.07	0.021	(0.091)	0.007	0.014
269	22.42	0.07	0.021	(0.091)	0.007	0.014
270	22.50	0.07	0.021	(0.091)	0.007	0.014
271	22.58	0.07	0.021	(0.091)	0.007	0.014
272	22.67	0.07	0.021	(0.090)	0.007	0.014
273	22.75	0.07	0.021	(0.090)	0.007	0.014
274	22.83	0.07	0.021	(0.090)	0.007	0.014
275	22.92	0.07	0.021	(0.090)	0.007	0.014
276	23.00	0.07	0.021	(0.089)	0.007	0.014
277	23.08	0.07	0.021	(0.089)	0.007	0.014
278	23.17	0.07	0.021	(0.089)	0.007	0.014
279	23.25	0.07	0.021	(0.089)	0.007	0.014
280	23.33	0.07	0.021	(0.089)	0.007	0.014
281	23.42	0.07	0.021	(0.088)	0.007	0.014
282	23.50	0.07	0.021	(0.088)	0.007	0.014
283	23.58	0.07	0.021	(0.088)	0.007	0.014
284	23.67	0.07	0.021	(0.088)	0.007	0.014
285	23.75	0.07	0.021	(0.088)	0.007	0.014
286	23.83	0.07	0.021	(0.088)	0.007	0.014
287	23.92	0.07	0.021	(0.088)	0.007	0.014
288	24.00	0.07	0.021	(0.088)	0.007	0.014

(Loss Rate Not Used)

Sum = 100.0 Sum = 21.1

Flood volume = Effective rainfall 1.76(In)
times area 1.9(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.83(In)
Total soil loss = 0.132(Ac.Ft)
Total rainfall = 2.59(In)
Flood volume = 12198.5 Cubic Feet
Total soil loss = 5740.5 Cubic Feet

Peak flow rate of this hydrograph = 0.460(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	0.0000		0.00	Q				
0+10	0.0001		0.02	Q				
0+15	0.0003		0.02	Q				
0+20	0.0005		0.03	Q				
0+25	0.0007		0.04	Q				
0+30	0.0010		0.04	Q				
0+35	0.0013		0.04	Q				
0+40	0.0015		0.04	Q				
0+45	0.0018		0.04	Q				
0+50	0.0021		0.04	Q				
0+55	0.0024		0.05	Q				
1+ 0	0.0028		0.05	Q				
1+ 5	0.0032		0.05	Q				
1+10	0.0035		0.05	Q				
1+15	0.0038		0.04	Q				
1+20	0.0041		0.04	Q				
1+25	0.0043		0.04	Q				
1+30	0.0046		0.04	Q				
1+35	0.0049		0.04	Q				
1+40	0.0052		0.04	Q				
1+45	0.0055		0.04	Q				
1+50	0.0057		0.04	Q				
1+55	0.0061		0.05	Q				
2+ 0	0.0064		0.05	Q				
2+ 5	0.0068		0.05	Q				
2+10	0.0072		0.05	QV				
2+15	0.0076		0.05	QV				
2+20	0.0079		0.05	QV				
2+25	0.0083		0.05	QV				
2+30	0.0087		0.05	QV				
2+35	0.0091		0.06	QV				
2+40	0.0095		0.06	QV				
2+45	0.0099		0.07	QV				
2+50	0.0104		0.07	QV				
2+55	0.0109		0.07	QV				
3+ 0	0.0113		0.07	QV				
3+ 5	0.0118		0.07	QV				
3+10	0.0123		0.07	QV				
3+15	0.0127		0.07	QV				
3+20	0.0132		0.07	QV				
3+25	0.0137		0.07	QV				
3+30	0.0141		0.07	Q V				
3+35	0.0146		0.07	Q V				
3+40	0.0151		0.07	Q V				
3+45	0.0155		0.07	Q V				
3+50	0.0160		0.07	Q V				
3+55	0.0165		0.08	Q V				

4+ 0	0.0171	0.08	Q V				
4+ 5	0.0176	0.08	Q V				
4+10	0.0182	0.08	Q V				
4+15	0.0188	0.08	Q V				
4+20	0.0193	0.08	Q V				
4+25	0.0199	0.09	Q V				
4+30	0.0206	0.09	Q V				
4+35	0.0212	0.09	Q V				
4+40	0.0219	0.09	Q V				
4+45	0.0225	0.09	Q V				
4+50	0.0232	0.10	Q V				
4+55	0.0239	0.10	Q V				
5+ 0	0.0246	0.11	Q V				
5+ 5	0.0254	0.10	Q V				
5+10	0.0260	0.09	Q V				
5+15	0.0266	0.09	Q V				
5+20	0.0272	0.08	Q V				
5+25	0.0278	0.09	Q V				
5+30	0.0284	0.09	Q V				
5+35	0.0291	0.10	Q V				
5+40	0.0298	0.10	Q V				
5+45	0.0305	0.11	Q V				
5+50	0.0313	0.11	Q V				
5+55	0.0320	0.11	Q V				
6+ 0	0.0328	0.11	Q V				
6+ 5	0.0335	0.11	Q V				
6+10	0.0343	0.12	Q V				
6+15	0.0351	0.12	Q V				
6+20	0.0360	0.12	Q V				
6+25	0.0368	0.12	Q V				
6+30	0.0377	0.12	Q V				
6+35	0.0385	0.12	Q V				
6+40	0.0394	0.13	Q V				
6+45	0.0403	0.13	Q V				
6+50	0.0412	0.13	Q V				
6+55	0.0422	0.14	Q V				
7+ 0	0.0431	0.14	Q V				
7+ 5	0.0440	0.14	Q V				
7+10	0.0450	0.14	Q V				
7+15	0.0459	0.14	Q V				
7+20	0.0469	0.14	Q V				
7+25	0.0478	0.14	Q V				
7+30	0.0489	0.15	Q V				
7+35	0.0499	0.15	Q V				
7+40	0.0510	0.16	Q V				
7+45	0.0521	0.16	Q V				
7+50	0.0532	0.16	Q V				
7+55	0.0544	0.17	Q V				
8+ 0	0.0556	0.17	Q V				
8+ 5	0.0568	0.18	Q V				
8+10	0.0581	0.19	Q V				

8+15	0.0595	0.20	Q	V					
8+20	0.0609	0.20	Q	V					
8+25	0.0623	0.20	Q	V					
8+30	0.0637	0.20	Q	V					
8+35	0.0651	0.20	Q	V					
8+40	0.0666	0.21	Q	V					
8+45	0.0680	0.21	Q	V					
8+50	0.0695	0.22	Q	V					
8+55	0.0711	0.23	Q	V					
9+ 0	0.0727	0.23	Q	V					
9+ 5	0.0743	0.23	Q	V					
9+10	0.0760	0.25	Q	V					
9+15	0.0777	0.25	Q	V					
9+20	0.0795	0.26	Q	V					
9+25	0.0813	0.27	Q	V					
9+30	0.0832	0.27	Q	V					
9+35	0.0850	0.27	Q	V					
9+40	0.0869	0.28	Q	V					
9+45	0.0889	0.28	Q	V					
9+50	0.0909	0.29	Q	V					
9+55	0.0929	0.29	Q	V					
10+ 0	0.0949	0.30	Q	V					
10+ 5	0.0969	0.29	Q	V					
10+10	0.0985	0.24	Q	V					
10+15	0.1000	0.22	Q	V					
10+20	0.1015	0.21	Q	V					
10+25	0.1029	0.21	Q	V					
10+30	0.1043	0.20	Q	V					
10+35	0.1057	0.21	Q	V					
10+40	0.1074	0.25	Q	V					
10+45	0.1092	0.26	Q	V					
10+50	0.1111	0.27	Q	V					
10+55	0.1129	0.27	Q	V					
11+ 0	0.1148	0.27	Q	V					
11+ 5	0.1166	0.27	Q	V					
11+10	0.1184	0.26	Q	V					
11+15	0.1202	0.26	Q	V					
11+20	0.1220	0.26	Q	V					
11+25	0.1238	0.26	Q	V					
11+30	0.1256	0.26	Q	V					
11+35	0.1273	0.25	Q	V					
11+40	0.1290	0.24	Q	V					
11+45	0.1306	0.23	Q	V					
11+50	0.1322	0.23	Q	V					
11+55	0.1339	0.24	Q	V					
12+ 0	0.1355	0.24	Q	V					
12+ 5	0.1373	0.25	Q	V					
12+10	0.1394	0.30	Q	V					
12+15	0.1416	0.32	Q	V					
12+20	0.1439	0.33	Q	V					
12+25	0.1463	0.35	Q	V					

12+30	0.1487	0.35	Q		V		
12+35	0.1511	0.35	Q		V		
12+40	0.1537	0.37	Q		V		
12+45	0.1562	0.38	Q		V		
12+50	0.1588	0.38	Q		V		
12+55	0.1615	0.39	Q		V		
13+ 0	0.1642	0.39	Q		V		
13+ 5	0.1670	0.40	Q		V		
13+10	0.1700	0.44	Q		V		
13+15	0.1731	0.45	Q		V		
13+20	0.1762	0.46	Q		V		
13+25	0.1794	0.46	Q		V		
13+30	0.1825	0.46	Q		V		
13+35	0.1856	0.44	Q		V		
13+40	0.1881	0.37	Q		V		
13+45	0.1904	0.33	Q		V		
13+50	0.1926	0.32	Q		V		
13+55	0.1948	0.32	Q		V		
14+ 0	0.1970	0.31	Q		V		
14+ 5	0.1992	0.32	Q		V		
14+10	0.2015	0.35	Q		V		
14+15	0.2040	0.36	Q		V		
14+20	0.2065	0.36	Q		V		
14+25	0.2089	0.36	Q		V		
14+30	0.2114	0.35	Q		V		
14+35	0.2138	0.35	Q		V		
14+40	0.2162	0.35	Q		V		
14+45	0.2187	0.35	Q		V		
14+50	0.2211	0.35	Q		V		
14+55	0.2235	0.34	Q		V		
15+ 0	0.2258	0.34	Q		V		
15+ 5	0.2281	0.34	Q		V		
15+10	0.2304	0.33	Q		V		
15+15	0.2327	0.33	Q		V		
15+20	0.2349	0.32	Q		V		
15+25	0.2371	0.32	Q		V		
15+30	0.2392	0.31	Q		V		
15+35	0.2414	0.31	Q		V		
15+40	0.2433	0.28	Q		V		
15+45	0.2451	0.27	Q		V		
15+50	0.2469	0.26	Q		V		
15+55	0.2487	0.26	Q		V		
16+ 0	0.2505	0.26	Q		V		
16+ 5	0.2521	0.24	Q		V		
16+10	0.2530	0.13	Q		V		
16+15	0.2536	0.09	Q		V		
16+20	0.2540	0.07	Q		V		
16+25	0.2544	0.06	Q		V		
16+30	0.2548	0.06	Q		V		
16+35	0.2552	0.05	Q		V		
16+40	0.2555	0.05	Q		V		

16+45	0.2558	0.04	Q				V
16+50	0.2561	0.04	Q				V
16+55	0.2564	0.04	Q				V
17+ 0	0.2567	0.04	Q				V
17+ 5	0.2570	0.04	Q				V
17+10	0.2573	0.06	Q				V
17+15	0.2578	0.06	Q				V
17+20	0.2582	0.07	Q				V
17+25	0.2587	0.07	Q				V
17+30	0.2592	0.07	Q				V
17+35	0.2596	0.07	Q				V
17+40	0.2601	0.07	Q				V
17+45	0.2606	0.07	Q				V
17+50	0.2610	0.07	Q				V
17+55	0.2614	0.06	Q				V
18+ 0	0.2618	0.06	Q				V
18+ 5	0.2622	0.06	Q				V
18+10	0.2626	0.05	Q				V
18+15	0.2630	0.05	Q				V
18+20	0.2633	0.05	Q				V
18+25	0.2637	0.05	Q				V
18+30	0.2641	0.05	Q				V
18+35	0.2644	0.05	Q				V
18+40	0.2647	0.05	Q				V
18+45	0.2650	0.04	Q				V
18+50	0.2653	0.04	Q				V
18+55	0.2655	0.03	Q				V
19+ 0	0.2657	0.03	Q				V
19+ 5	0.2659	0.03	Q				V
19+10	0.2662	0.04	Q				V
19+15	0.2665	0.04	Q				V
19+20	0.2667	0.04	Q				V
19+25	0.2671	0.05	Q				V
19+30	0.2674	0.05	Q				V
19+35	0.2678	0.05	Q				V
19+40	0.2681	0.05	Q				V
19+45	0.2684	0.04	Q				V
19+50	0.2687	0.04	Q				V
19+55	0.2689	0.03	Q				V
20+ 0	0.2691	0.03	Q				V
20+ 5	0.2693	0.03	Q				V
20+10	0.2696	0.04	Q				V
20+15	0.2698	0.04	Q				V
20+20	0.2701	0.04	Q				V
20+25	0.2704	0.04	Q				V
20+30	0.2707	0.04	Q				V
20+35	0.2709	0.04	Q				V
20+40	0.2712	0.04	Q				V
20+45	0.2715	0.04	Q				V
20+50	0.2718	0.04	Q				V
20+55	0.2720	0.03	Q				V

21+ 0	0.2722	0.03	Q				V
21+ 5	0.2724	0.03	Q				V
21+10	0.2726	0.04	Q				V
21+15	0.2729	0.04	Q				V
21+20	0.2732	0.04	Q				V
21+25	0.2734	0.03	Q				V
21+30	0.2736	0.03	Q				V
21+35	0.2738	0.03	Q				V
21+40	0.2740	0.04	Q				V
21+45	0.2743	0.04	Q				V
21+50	0.2746	0.04	Q				V
21+55	0.2748	0.03	Q				V
22+ 0	0.2750	0.03	Q				V
22+ 5	0.2752	0.03	Q				V
22+10	0.2754	0.04	Q				V
22+15	0.2757	0.04	Q				V
22+20	0.2760	0.04	Q				V
22+25	0.2762	0.03	Q				V
22+30	0.2764	0.03	Q				V
22+35	0.2766	0.03	Q				V
22+40	0.2768	0.03	Q				V
22+45	0.2770	0.03	Q				V
22+50	0.2771	0.03	Q				V
22+55	0.2773	0.03	Q				V
23+ 0	0.2775	0.03	Q				V
23+ 5	0.2777	0.03	Q				V
23+10	0.2779	0.03	Q				V
23+15	0.2781	0.03	Q				V
23+20	0.2783	0.03	Q				V
23+25	0.2784	0.03	Q				V
23+30	0.2786	0.03	Q				V
23+35	0.2788	0.03	Q				V
23+40	0.2790	0.03	Q				V
23+45	0.2792	0.03	Q				V
23+50	0.2794	0.03	Q				V
23+55	0.2796	0.03	Q				V
24+ 0	0.2798	0.03	Q				V
24+ 5	0.2799	0.02	Q				V
24+10	0.2800	0.01	Q				V
24+15	0.2800	0.00	Q				V
24+20	0.2800	0.00	Q				V
24+25	0.2800	0.00	Q				V
24+30	0.2800	0.00	Q				V
24+35	0.2800	0.00	Q				V

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchph1a1100.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
DMA A1
Kimley-Horn
100 yr

Drainage Area = 1.91(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.91(Ac.) =
0.003 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.095 Hr.
Lag time = 5.70 Min.
25% of lag time = 1.43 Min.
40% of lag time = 2.28 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]
1.91	0.50	0.95

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.91	1.10	2.10

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.100(In)

Point rain (area averaged) = 1.100(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.100(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.910	56.00	0.730
Total Area Entered = 1.91(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-3	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	74.8	0.305	0.730	0.105	1.000	0.105
Sum (F) =						0.105

Area averaged mean soil loss (F) (In/Hr) = 0.105
Minimum soil loss rate ((In/Hr)) = 0.052
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.320

Slope of intensity-duration curve for a 1 hour storm =0.5500

Unit Hydrograph FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	87.719	10.710
2	0.167	175.439	52.537
3	0.250	263.158	21.572
4	0.333	350.877	8.833
5	0.417	438.596	3.926
6	0.500	526.316	1.230
7	0.583	614.035	0.656
8	0.667	701.754	0.537
Sum = 100.000			Sum= 1.925

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)		Effective (In/Hr)
				Max	Low	
1	0.08	3.30	0.436	0.105	(0.139)	0.331
2	0.17	4.20	0.554	0.105	(0.177)	0.450
3	0.25	4.40	0.581	0.105	(0.186)	0.476
4	0.33	4.80	0.634	0.105	(0.203)	0.529
5	0.42	5.20	0.686	0.105	(0.220)	0.582
6	0.50	6.20	0.818	0.105	(0.262)	0.714
7	0.58	6.80	0.898	0.105	(0.287)	0.793
8	0.67	8.80	1.162	0.105	(0.372)	1.057
9	0.75	13.90	1.835	0.105	(0.587)	1.730
10	0.83	31.40	4.145	0.105	(1.326)	4.040
11	0.92	7.20	0.950	0.105	(0.304)	0.846
12	1.00	3.80	0.502	0.105	(0.161)	0.397

(Loss Rate Not Used)

Sum = 100.0 Sum = 11.9

Flood volume = Effective rainfall 1.00(In)
times area 1.9(Ac.)/[((In)/(Ft.))] = 0.2(Ac.Ft)
Total soil loss = 0.10(In)
Total soil loss = 0.017(Ac.Ft)
Total rainfall = 1.10(In)
Flood volume = 6900.3 Cubic Feet
Total soil loss = 726.2 Cubic Feet

Peak flow rate of this hydrograph = 5.250(CFS)

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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	0.0005	0.07	Q					
0+10	0.0034	0.43	VQ					
0+15	0.0082	0.69	Q					
0+20	0.0139	0.83	Q					
0+25	0.0205	0.95	Q V					
0+30	0.0279	1.08	Q V					
0+35	0.0366	1.27	Q V					
0+40	0.0468	1.48	Q	V				
0+45	0.0602	1.94	Q	V				
0+50	0.0825	3.24		Q	V			
0+55	0.1187	5.25			Q	V		
1+ 0	0.1395	3.02		Q			V	
1+ 5	0.1506	1.61	Q					V
1+10	0.1553	0.68	Q					V
1+15	0.1570	0.26	Q					V

1+20	0.1579	0.12	Q				V
1+25	0.1583	0.06	Q				V
1+30	0.1584	0.01	Q				V
1+35	0.1584	0.00	Q				V

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchph1a24100.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH Garage
DMA A1
Kimley-Horn
100 yr

Drainage Area = 1.91(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.91(Ac.) =
0.003 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.095 Hr.
Lag time = 5.70 Min.
25% of lag time = 1.43 Min.
40% of lag time = 2.28 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]
1.91	1.60	3.06

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.91	4.00	7.64

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 4.000(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.000(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.910	56.00	0.730

Total Area Entered = 1.91(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-3	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	74.8	0.305	0.730	0.105	1.000	0.105
Sum (F) =						0.105

Area averaged mean soil loss (F) (In/Hr) = 0.105
Minimum soil loss rate ((In/Hr)) = 0.052
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.320

Unit Hydrograph FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	87.719	10.710
2	0.167	175.439	52.537
3	0.250	263.158	21.572
4	0.333	350.877	8.833
5	0.417	438.596	3.926
6	0.500	526.316	1.230
7	0.583	614.035	0.656
8	0.667	701.754	0.537
Sum = 100.000		Sum=	1.925

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

Unit Time	Pattern	Storm Rain	Loss rate(In./Hr)	Effective

	(Hr.)	Percent	(In/Hr)	Max		Low	(In/Hr)
1	0.08	0.07	0.032	(0.186)		0.010	0.022
2	0.17	0.07	0.032	(0.185)		0.010	0.022
3	0.25	0.07	0.032	(0.184)		0.010	0.022
4	0.33	0.10	0.048	(0.184)		0.015	0.033
5	0.42	0.10	0.048	(0.183)		0.015	0.033
6	0.50	0.10	0.048	(0.182)		0.015	0.033
7	0.58	0.10	0.048	(0.181)		0.015	0.033
8	0.67	0.10	0.048	(0.181)		0.015	0.033
9	0.75	0.10	0.048	(0.180)		0.015	0.033
10	0.83	0.13	0.064	(0.179)		0.020	0.044
11	0.92	0.13	0.064	(0.179)		0.020	0.044
12	1.00	0.13	0.064	(0.178)		0.020	0.044
13	1.08	0.10	0.048	(0.177)		0.015	0.033
14	1.17	0.10	0.048	(0.176)		0.015	0.033
15	1.25	0.10	0.048	(0.176)		0.015	0.033
16	1.33	0.10	0.048	(0.175)		0.015	0.033
17	1.42	0.10	0.048	(0.174)		0.015	0.033
18	1.50	0.10	0.048	(0.174)		0.015	0.033
19	1.58	0.10	0.048	(0.173)		0.015	0.033
20	1.67	0.10	0.048	(0.172)		0.015	0.033
21	1.75	0.10	0.048	(0.172)		0.015	0.033
22	1.83	0.13	0.064	(0.171)		0.020	0.044
23	1.92	0.13	0.064	(0.170)		0.020	0.044
24	2.00	0.13	0.064	(0.170)		0.020	0.044
25	2.08	0.13	0.064	(0.169)		0.020	0.044
26	2.17	0.13	0.064	(0.168)		0.020	0.044
27	2.25	0.13	0.064	(0.167)		0.020	0.044
28	2.33	0.13	0.064	(0.167)		0.020	0.044
29	2.42	0.13	0.064	(0.166)		0.020	0.044
30	2.50	0.13	0.064	(0.165)		0.020	0.044
31	2.58	0.17	0.080	(0.165)		0.026	0.054
32	2.67	0.17	0.080	(0.164)		0.026	0.054
33	2.75	0.17	0.080	(0.163)		0.026	0.054
34	2.83	0.17	0.080	(0.163)		0.026	0.054
35	2.92	0.17	0.080	(0.162)		0.026	0.054
36	3.00	0.17	0.080	(0.161)		0.026	0.054
37	3.08	0.17	0.080	(0.161)		0.026	0.054
38	3.17	0.17	0.080	(0.160)		0.026	0.054
39	3.25	0.17	0.080	(0.159)		0.026	0.054
40	3.33	0.17	0.080	(0.159)		0.026	0.054
41	3.42	0.17	0.080	(0.158)		0.026	0.054
42	3.50	0.17	0.080	(0.157)		0.026	0.054
43	3.58	0.17	0.080	(0.157)		0.026	0.054
44	3.67	0.17	0.080	(0.156)		0.026	0.054
45	3.75	0.17	0.080	(0.155)		0.026	0.054
46	3.83	0.20	0.096	(0.155)		0.031	0.065
47	3.92	0.20	0.096	(0.154)		0.031	0.065
48	4.00	0.20	0.096	(0.153)		0.031	0.065
49	4.08	0.20	0.096	(0.153)		0.031	0.065
50	4.17	0.20	0.096	(0.152)		0.031	0.065

51	4.25	0.20	0.096	(0.152)	0.031	0.065
52	4.33	0.23	0.112	(0.151)	0.036	0.076
53	4.42	0.23	0.112	(0.150)	0.036	0.076
54	4.50	0.23	0.112	(0.150)	0.036	0.076
55	4.58	0.23	0.112	(0.149)	0.036	0.076
56	4.67	0.23	0.112	(0.148)	0.036	0.076
57	4.75	0.23	0.112	(0.148)	0.036	0.076
58	4.83	0.27	0.128	(0.147)	0.041	0.087
59	4.92	0.27	0.128	(0.146)	0.041	0.087
60	5.00	0.27	0.128	(0.146)	0.041	0.087
61	5.08	0.20	0.096	(0.145)	0.031	0.065
62	5.17	0.20	0.096	(0.144)	0.031	0.065
63	5.25	0.20	0.096	(0.144)	0.031	0.065
64	5.33	0.23	0.112	(0.143)	0.036	0.076
65	5.42	0.23	0.112	(0.143)	0.036	0.076
66	5.50	0.23	0.112	(0.142)	0.036	0.076
67	5.58	0.27	0.128	(0.141)	0.041	0.087
68	5.67	0.27	0.128	(0.141)	0.041	0.087
69	5.75	0.27	0.128	(0.140)	0.041	0.087
70	5.83	0.27	0.128	(0.139)	0.041	0.087
71	5.92	0.27	0.128	(0.139)	0.041	0.087
72	6.00	0.27	0.128	(0.138)	0.041	0.087
73	6.08	0.30	0.144	(0.138)	0.046	0.098
74	6.17	0.30	0.144	(0.137)	0.046	0.098
75	6.25	0.30	0.144	(0.136)	0.046	0.098
76	6.33	0.30	0.144	(0.136)	0.046	0.098
77	6.42	0.30	0.144	(0.135)	0.046	0.098
78	6.50	0.30	0.144	(0.135)	0.046	0.098
79	6.58	0.33	0.160	(0.134)	0.051	0.109
80	6.67	0.33	0.160	(0.133)	0.051	0.109
81	6.75	0.33	0.160	(0.133)	0.051	0.109
82	6.83	0.33	0.160	(0.132)	0.051	0.109
83	6.92	0.33	0.160	(0.132)	0.051	0.109
84	7.00	0.33	0.160	(0.131)	0.051	0.109
85	7.08	0.33	0.160	(0.130)	0.051	0.109
86	7.17	0.33	0.160	(0.130)	0.051	0.109
87	7.25	0.33	0.160	(0.129)	0.051	0.109
88	7.33	0.37	0.176	(0.129)	0.056	0.120
89	7.42	0.37	0.176	(0.128)	0.056	0.120
90	7.50	0.37	0.176	(0.127)	0.056	0.120
91	7.58	0.40	0.192	(0.127)	0.061	0.131
92	7.67	0.40	0.192	(0.126)	0.061	0.131
93	7.75	0.40	0.192	(0.126)	0.061	0.131
94	7.83	0.43	0.208	(0.125)	0.067	0.141
95	7.92	0.43	0.208	(0.125)	0.067	0.141
96	8.00	0.43	0.208	(0.124)	0.067	0.141
97	8.08	0.50	0.240	(0.123)	0.077	0.163
98	8.17	0.50	0.240	(0.123)	0.077	0.163
99	8.25	0.50	0.240	(0.122)	0.077	0.163
100	8.33	0.50	0.240	(0.122)	0.077	0.163
101	8.42	0.50	0.240	(0.121)	0.077	0.163

102	8.50	0.50	0.240	(0.121)	0.077	0.163
103	8.58	0.53	0.256	(0.120)	0.082	0.174
104	8.67	0.53	0.256	(0.119)	0.082	0.174
105	8.75	0.53	0.256	(0.119)	0.082	0.174
106	8.83	0.57	0.272	(0.118)	0.087	0.185
107	8.92	0.57	0.272	(0.118)	0.087	0.185
108	9.00	0.57	0.272	(0.117)	0.087	0.185
109	9.08	0.63	0.304	(0.117)	0.097	0.207
110	9.17	0.63	0.304	(0.116)	0.097	0.207
111	9.25	0.63	0.304	(0.115)	0.097	0.207
112	9.33	0.67	0.320	(0.115)	0.102	0.218
113	9.42	0.67	0.320	(0.114)	0.102	0.218
114	9.50	0.67	0.320	(0.114)	0.102	0.218
115	9.58	0.70	0.336	(0.113)	0.108	0.228
116	9.67	0.70	0.336	(0.113)	0.108	0.228
117	9.75	0.70	0.336	(0.112)	0.108	0.228
118	9.83	0.73	0.352	0.112 (0.113)		0.240
119	9.92	0.73	0.352	0.111 (0.113)		0.241
120	10.00	0.73	0.352	0.111 (0.113)		0.241
121	10.08	0.50	0.240	(0.110)	0.077	0.163
122	10.17	0.50	0.240	(0.110)	0.077	0.163
123	10.25	0.50	0.240	(0.109)	0.077	0.163
124	10.33	0.50	0.240	(0.108)	0.077	0.163
125	10.42	0.50	0.240	(0.108)	0.077	0.163
126	10.50	0.50	0.240	(0.107)	0.077	0.163
127	10.58	0.67	0.320	(0.107)	0.102	0.218
128	10.67	0.67	0.320	(0.106)	0.102	0.218
129	10.75	0.67	0.320	(0.106)	0.102	0.218
130	10.83	0.67	0.320	(0.105)	0.102	0.218
131	10.92	0.67	0.320	(0.105)	0.102	0.218
132	11.00	0.67	0.320	(0.104)	0.102	0.218
133	11.08	0.63	0.304	(0.104)	0.097	0.207
134	11.17	0.63	0.304	(0.103)	0.097	0.207
135	11.25	0.63	0.304	(0.103)	0.097	0.207
136	11.33	0.63	0.304	(0.102)	0.097	0.207
137	11.42	0.63	0.304	(0.102)	0.097	0.207
138	11.50	0.63	0.304	(0.101)	0.097	0.207
139	11.58	0.57	0.272	(0.101)	0.087	0.185
140	11.67	0.57	0.272	(0.100)	0.087	0.185
141	11.75	0.57	0.272	(0.100)	0.087	0.185
142	11.83	0.60	0.288	(0.099)	0.092	0.196
143	11.92	0.60	0.288	(0.099)	0.092	0.196
144	12.00	0.60	0.288	(0.098)	0.092	0.196
145	12.08	0.83	0.400	0.098 (0.128)		0.302
146	12.17	0.83	0.400	0.097 (0.128)		0.303
147	12.25	0.83	0.400	0.097 (0.128)		0.303
148	12.33	0.87	0.416	0.096 (0.133)		0.320
149	12.42	0.87	0.416	0.096 (0.133)		0.320
150	12.50	0.87	0.416	0.095 (0.133)		0.321
151	12.58	0.93	0.448	0.095 (0.143)		0.353
152	12.67	0.93	0.448	0.094 (0.143)		0.354

153	12.75	0.93	0.448	0.094	(0.143)	0.354
154	12.83	0.97	0.464	0.093	(0.148)	0.371
155	12.92	0.97	0.464	0.093	(0.148)	0.371
156	13.00	0.97	0.464	0.092	(0.148)	0.372
157	13.08	1.13	0.544	0.092	(0.174)	0.452
158	13.17	1.13	0.544	0.092	(0.174)	0.452
159	13.25	1.13	0.544	0.091	(0.174)	0.453
160	13.33	1.13	0.544	0.091	(0.174)	0.453
161	13.42	1.13	0.544	0.090	(0.174)	0.454
162	13.50	1.13	0.544	0.090	(0.174)	0.454
163	13.58	0.77	0.368	0.089	(0.118)	0.279
164	13.67	0.77	0.368	0.089	(0.118)	0.279
165	13.75	0.77	0.368	0.088	(0.118)	0.280
166	13.83	0.77	0.368	0.088	(0.118)	0.280
167	13.92	0.77	0.368	0.087	(0.118)	0.281
168	14.00	0.77	0.368	0.087	(0.118)	0.281
169	14.08	0.90	0.432	0.087	(0.138)	0.345
170	14.17	0.90	0.432	0.086	(0.138)	0.346
171	14.25	0.90	0.432	0.086	(0.138)	0.346
172	14.33	0.87	0.416	0.085	(0.133)	0.331
173	14.42	0.87	0.416	0.085	(0.133)	0.331
174	14.50	0.87	0.416	0.084	(0.133)	0.332
175	14.58	0.87	0.416	0.084	(0.133)	0.332
176	14.67	0.87	0.416	0.084	(0.133)	0.332
177	14.75	0.87	0.416	0.083	(0.133)	0.333
178	14.83	0.83	0.400	0.083	(0.128)	0.317
179	14.92	0.83	0.400	0.082	(0.128)	0.318
180	15.00	0.83	0.400	0.082	(0.128)	0.318
181	15.08	0.80	0.384	0.081	(0.123)	0.303
182	15.17	0.80	0.384	0.081	(0.123)	0.303
183	15.25	0.80	0.384	0.081	(0.123)	0.303
184	15.33	0.77	0.368	0.080	(0.118)	0.288
185	15.42	0.77	0.368	0.080	(0.118)	0.288
186	15.50	0.77	0.368	0.079	(0.118)	0.289
187	15.58	0.63	0.304	0.079	(0.097)	0.225
188	15.67	0.63	0.304	0.079	(0.097)	0.225
189	15.75	0.63	0.304	0.078	(0.097)	0.226
190	15.83	0.63	0.304	0.078	(0.097)	0.226
191	15.92	0.63	0.304	0.077	(0.097)	0.227
192	16.00	0.63	0.304	0.077	(0.097)	0.227
193	16.08	0.13	0.064	(0.077)	0.020	0.044
194	16.17	0.13	0.064	(0.076)	0.020	0.044
195	16.25	0.13	0.064	(0.076)	0.020	0.044
196	16.33	0.13	0.064	(0.075)	0.020	0.044
197	16.42	0.13	0.064	(0.075)	0.020	0.044
198	16.50	0.13	0.064	(0.075)	0.020	0.044
199	16.58	0.10	0.048	(0.074)	0.015	0.033
200	16.67	0.10	0.048	(0.074)	0.015	0.033
201	16.75	0.10	0.048	(0.073)	0.015	0.033
202	16.83	0.10	0.048	(0.073)	0.015	0.033
203	16.92	0.10	0.048	(0.073)	0.015	0.033

204	17.00	0.10	0.048	(0.072)	0.015	0.033
205	17.08	0.17	0.080	(0.072)	0.026	0.054
206	17.17	0.17	0.080	(0.072)	0.026	0.054
207	17.25	0.17	0.080	(0.071)	0.026	0.054
208	17.33	0.17	0.080	(0.071)	0.026	0.054
209	17.42	0.17	0.080	(0.071)	0.026	0.054
210	17.50	0.17	0.080	(0.070)	0.026	0.054
211	17.58	0.17	0.080	(0.070)	0.026	0.054
212	17.67	0.17	0.080	(0.069)	0.026	0.054
213	17.75	0.17	0.080	(0.069)	0.026	0.054
214	17.83	0.13	0.064	(0.069)	0.020	0.044
215	17.92	0.13	0.064	(0.068)	0.020	0.044
216	18.00	0.13	0.064	(0.068)	0.020	0.044
217	18.08	0.13	0.064	(0.068)	0.020	0.044
218	18.17	0.13	0.064	(0.067)	0.020	0.044
219	18.25	0.13	0.064	(0.067)	0.020	0.044
220	18.33	0.13	0.064	(0.067)	0.020	0.044
221	18.42	0.13	0.064	(0.066)	0.020	0.044
222	18.50	0.13	0.064	(0.066)	0.020	0.044
223	18.58	0.10	0.048	(0.066)	0.015	0.033
224	18.67	0.10	0.048	(0.066)	0.015	0.033
225	18.75	0.10	0.048	(0.065)	0.015	0.033
226	18.83	0.07	0.032	(0.065)	0.010	0.022
227	18.92	0.07	0.032	(0.065)	0.010	0.022
228	19.00	0.07	0.032	(0.064)	0.010	0.022
229	19.08	0.10	0.048	(0.064)	0.015	0.033
230	19.17	0.10	0.048	(0.064)	0.015	0.033
231	19.25	0.10	0.048	(0.063)	0.015	0.033
232	19.33	0.13	0.064	(0.063)	0.020	0.044
233	19.42	0.13	0.064	(0.063)	0.020	0.044
234	19.50	0.13	0.064	(0.062)	0.020	0.044
235	19.58	0.10	0.048	(0.062)	0.015	0.033
236	19.67	0.10	0.048	(0.062)	0.015	0.033
237	19.75	0.10	0.048	(0.062)	0.015	0.033
238	19.83	0.07	0.032	(0.061)	0.010	0.022
239	19.92	0.07	0.032	(0.061)	0.010	0.022
240	20.00	0.07	0.032	(0.061)	0.010	0.022
241	20.08	0.10	0.048	(0.061)	0.015	0.033
242	20.17	0.10	0.048	(0.060)	0.015	0.033
243	20.25	0.10	0.048	(0.060)	0.015	0.033
244	20.33	0.10	0.048	(0.060)	0.015	0.033
245	20.42	0.10	0.048	(0.060)	0.015	0.033
246	20.50	0.10	0.048	(0.059)	0.015	0.033
247	20.58	0.10	0.048	(0.059)	0.015	0.033
248	20.67	0.10	0.048	(0.059)	0.015	0.033
249	20.75	0.10	0.048	(0.059)	0.015	0.033
250	20.83	0.07	0.032	(0.058)	0.010	0.022
251	20.92	0.07	0.032	(0.058)	0.010	0.022
252	21.00	0.07	0.032	(0.058)	0.010	0.022
253	21.08	0.10	0.048	(0.058)	0.015	0.033
254	21.17	0.10	0.048	(0.057)	0.015	0.033

255	21.25	0.10	0.048	(0.057)	0.015	0.033
256	21.33	0.07	0.032	(0.057)	0.010	0.022
257	21.42	0.07	0.032	(0.057)	0.010	0.022
258	21.50	0.07	0.032	(0.056)	0.010	0.022
259	21.58	0.10	0.048	(0.056)	0.015	0.033
260	21.67	0.10	0.048	(0.056)	0.015	0.033
261	21.75	0.10	0.048	(0.056)	0.015	0.033
262	21.83	0.07	0.032	(0.056)	0.010	0.022
263	21.92	0.07	0.032	(0.055)	0.010	0.022
264	22.00	0.07	0.032	(0.055)	0.010	0.022
265	22.08	0.10	0.048	(0.055)	0.015	0.033
266	22.17	0.10	0.048	(0.055)	0.015	0.033
267	22.25	0.10	0.048	(0.055)	0.015	0.033
268	22.33	0.07	0.032	(0.055)	0.010	0.022
269	22.42	0.07	0.032	(0.054)	0.010	0.022
270	22.50	0.07	0.032	(0.054)	0.010	0.022
271	22.58	0.07	0.032	(0.054)	0.010	0.022
272	22.67	0.07	0.032	(0.054)	0.010	0.022
273	22.75	0.07	0.032	(0.054)	0.010	0.022
274	22.83	0.07	0.032	(0.054)	0.010	0.022
275	22.92	0.07	0.032	(0.054)	0.010	0.022
276	23.00	0.07	0.032	(0.053)	0.010	0.022
277	23.08	0.07	0.032	(0.053)	0.010	0.022
278	23.17	0.07	0.032	(0.053)	0.010	0.022
279	23.25	0.07	0.032	(0.053)	0.010	0.022
280	23.33	0.07	0.032	(0.053)	0.010	0.022
281	23.42	0.07	0.032	(0.053)	0.010	0.022
282	23.50	0.07	0.032	(0.053)	0.010	0.022
283	23.58	0.07	0.032	(0.053)	0.010	0.022
284	23.67	0.07	0.032	(0.053)	0.010	0.022
285	23.75	0.07	0.032	(0.053)	0.010	0.022
286	23.83	0.07	0.032	(0.052)	0.010	0.022
287	23.92	0.07	0.032	(0.052)	0.010	0.022
288	24.00	0.07	0.032	(0.052)	0.010	0.022

(Loss Rate Not Used)

Sum = 100.0

Sum = 34.8

Flood volume = Effective rainfall 2.90(In)

times area 1.9(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)

$$\text{Total soil loss} = 1.10(\text{In})$$

Total soil loss = 0.175 (Ac.Ft)

Total rainfall = 4.00(In)

Flood volume = 20096.5 Cubic Feet

Total soil loss = 7636.6 Cubic Feet

Peak flow rate of this hydrograph = 0.872(CFS)

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24 - H O U R S T O R M

Runoff Hydrograph

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		0.03	Q				
0+15	0.0005		0.04	Q				
0+20	0.0007		0.04	Q				
0+25	0.0011		0.05	Q				
0+30	0.0015		0.06	Q				
0+35	0.0019		0.06	Q				
0+40	0.0024		0.06	Q				
0+45	0.0028		0.06	Q				
0+50	0.0033		0.06	Q				
0+55	0.0038		0.08	Q				
1+ 0	0.0043		0.08	Q				
1+ 5	0.0049		0.08	Q				
1+10	0.0054		0.07	Q				
1+15	0.0058		0.07	Q				
1+20	0.0063		0.06	Q				
1+25	0.0067		0.06	Q				
1+30	0.0071		0.06	Q				
1+35	0.0076		0.06	Q				
1+40	0.0080		0.06	Q				
1+45	0.0084		0.06	Q				
1+50	0.0089		0.07	Q				
1+55	0.0094		0.08	Q				
2+ 0	0.0100		0.08	Q				
2+ 5	0.0105		0.08	Q				
2+10	0.0111		0.08	Q				
2+15	0.0117		0.08	QV				
2+20	0.0123		0.08	QV				
2+25	0.0128		0.08	QV				
2+30	0.0134		0.08	QV				
2+35	0.0140		0.09	QV				
2+40	0.0147		0.10	QV				
2+45	0.0154		0.10	QV				
2+50	0.0161		0.10	QV				
2+55	0.0168		0.10	QV				
3+ 0	0.0175		0.10	QV				
3+ 5	0.0182		0.10	QV				
3+10	0.0190		0.10	QV				
3+15	0.0197		0.10	QV				
3+20	0.0204		0.10	QV				
3+25	0.0211		0.10	QV				
3+30	0.0219		0.10	QV				
3+35	0.0226		0.10	QV				
3+40	0.0233		0.10	Q V				
3+45	0.0240		0.10	Q V				
3+50	0.0248		0.11	Q V				
3+55	0.0256		0.12	Q V				

4+ 0	0.0264	0.12	Q V				
4+ 5	0.0273	0.12	Q V				
4+10	0.0281	0.13	Q V				
4+15	0.0290	0.13	Q V				
4+20	0.0299	0.13	Q V				
4+25	0.0308	0.14	Q V				
4+30	0.0318	0.14	Q V				
4+35	0.0328	0.15	Q V				
4+40	0.0338	0.15	Q V				
4+45	0.0348	0.15	Q V				
4+50	0.0359	0.15	Q V				
4+55	0.0370	0.16	Q V				
5+ 0	0.0381	0.16	Q V				
5+ 5	0.0392	0.16	Q V				
5+10	0.0402	0.14	Q V				
5+15	0.0411	0.13	Q V				
5+20	0.0420	0.13	Q V				
5+25	0.0429	0.14	Q V				
5+30	0.0439	0.14	Q V				
5+35	0.0450	0.15	Q V				
5+40	0.0461	0.16	Q V				
5+45	0.0472	0.16	Q V				
5+50	0.0483	0.17	Q V				
5+55	0.0495	0.17	Q V				
6+ 0	0.0506	0.17	Q V				
6+ 5	0.0518	0.17	Q V				
6+10	0.0530	0.18	Q V				
6+15	0.0543	0.19	Q V				
6+20	0.0556	0.19	Q V				
6+25	0.0569	0.19	Q V				
6+30	0.0582	0.19	Q V				
6+35	0.0595	0.19	Q V				
6+40	0.0609	0.20	Q V				
6+45	0.0623	0.21	Q V				
6+50	0.0638	0.21	Q V				
6+55	0.0652	0.21	Q V				
7+ 0	0.0666	0.21	Q V				
7+ 5	0.0681	0.21	Q V				
7+10	0.0695	0.21	Q V				
7+15	0.0710	0.21	Q V				
7+20	0.0724	0.21	Q V				
7+25	0.0740	0.22	Q V				
7+30	0.0755	0.23	Q V				
7+35	0.0771	0.23	Q V				
7+40	0.0788	0.24	Q V				
7+45	0.0805	0.25	Q V				
7+50	0.0822	0.25	Q V				
7+55	0.0841	0.26	Q V				
8+ 0	0.0859	0.27	Q V				
8+ 5	0.0878	0.28	Q V				
8+10	0.0899	0.30	Q V				

8+15	0.0920	0.31	Q	V				
8+20	0.0941	0.31	Q	V				
8+25	0.0963	0.31	Q	V				
8+30	0.0985	0.31	Q	V				
8+35	0.1006	0.32	Q	V				
8+40	0.1029	0.33	Q	V				
8+45	0.1052	0.33	Q	V				
8+50	0.1075	0.34	Q	V				
8+55	0.1099	0.35	Q	V				
9+ 0	0.1123	0.35	Q	V				
9+ 5	0.1148	0.36	Q	V				
9+10	0.1174	0.38	Q	V				
9+15	0.1201	0.39	Q	V				
9+20	0.1229	0.40	Q	V				
9+25	0.1257	0.41	Q	V				
9+30	0.1285	0.42	Q	V				
9+35	0.1314	0.42	Q	V				
9+40	0.1344	0.43	Q	V				
9+45	0.1374	0.44	Q	V				
9+50	0.1405	0.44	Q	V				
9+55	0.1436	0.45	Q	V				
10+ 0	0.1468	0.46	Q	V				
10+ 5	0.1498	0.45	Q	V				
10+10	0.1524	0.37	Q	V				
10+15	0.1547	0.34	Q	V				
10+20	0.1569	0.32	Q	V				
10+25	0.1591	0.32	Q	V				
10+30	0.1613	0.32	Q	V				
10+35	0.1635	0.33	Q	V				
10+40	0.1662	0.38	Q	V				
10+45	0.1689	0.40	Q	V				
10+50	0.1718	0.41	Q	V				
10+55	0.1746	0.42	Q	V				
11+ 0	0.1775	0.42	Q	V				
11+ 5	0.1804	0.42	Q	V				
11+10	0.1832	0.41	Q	V				
11+15	0.1859	0.40	Q	V				
11+20	0.1887	0.40	Q	V				
11+25	0.1914	0.40	Q	V				
11+30	0.1942	0.40	Q	V				
11+35	0.1969	0.39	Q	V				
11+40	0.1995	0.37	Q	V				
11+45	0.2019	0.36	Q	V				
11+50	0.2044	0.36	Q	V				
11+55	0.2070	0.37	Q	V				
12+ 0	0.2096	0.37	Q	V				
12+ 5	0.2123	0.40	Q	V				
12+10	0.2158	0.51	Q	V				
12+15	0.2196	0.55	Q	V				
12+20	0.2235	0.57	Q	V				
12+25	0.2277	0.60	Q	V				

12+30	0.2319	0.61	Q	V	
12+35	0.2361	0.62	Q	V	
12+40	0.2407	0.66	Q	V	
12+45	0.2453	0.67	Q	V	
12+50	0.2500	0.68	Q	V	
12+55	0.2548	0.70	Q	V	
13+ 0	0.2597	0.71	Q	V	
13+ 5	0.2647	0.73	Q	V	
13+10	0.2703	0.81	Q	V	
13+15	0.2761	0.85	Q	V	
13+20	0.2821	0.86	Q	V	
13+25	0.2880	0.87	Q	V	
13+30	0.2940	0.87	Q	V	
13+35	0.2998	0.84	Q	V	
13+40	0.3044	0.66	Q	V	
13+45	0.3084	0.59	Q	V	
13+50	0.3123	0.56	Q	V	
13+55	0.3160	0.55	Q	V	
14+ 0	0.3198	0.54	Q	V	
14+ 5	0.3236	0.56	Q	V	
14+10	0.3279	0.62	Q	V	
14+15	0.3323	0.65	Q	V	
14+20	0.3369	0.66	Q	V	
14+25	0.3413	0.64	Q	V	
14+30	0.3457	0.64	Q	V	
14+35	0.3501	0.64	Q	V	
14+40	0.3545	0.64	Q	V	
14+45	0.3589	0.64	Q	V	
14+50	0.3633	0.64	Q	V	
14+55	0.3676	0.62	Q	V	
15+ 0	0.3718	0.62	Q	V	
15+ 5	0.3761	0.61	Q	V	
15+10	0.3802	0.59	Q	V	
15+15	0.3842	0.59	Q	V	
15+20	0.3882	0.58	Q	V	
15+25	0.3921	0.57	Q	V	
15+30	0.3960	0.56	Q	V	
15+35	0.3997	0.54	Q	V	
15+40	0.4030	0.48	Q	V	
15+45	0.4061	0.45	Q	V	
15+50	0.4092	0.44	Q	V	
15+55	0.4122	0.44	Q	V	
16+ 0	0.4152	0.44	Q	V	
16+ 5	0.4180	0.40	Q	V	
16+10	0.4194	0.21	Q	V	
16+15	0.4204	0.14	Q	V	
16+20	0.4211	0.11	Q	V	
16+25	0.4218	0.09	Q	V	
16+30	0.4224	0.09	Q	V	
16+35	0.4229	0.08	Q	V	
16+40	0.4234	0.07	Q	V	

16+45	0.4239	0.07	Q				V
16+50	0.4243	0.06	Q				V
16+55	0.4248	0.06	Q				V
17+ 0	0.4252	0.06	Q				V
17+ 5	0.4257	0.07	Q				V
17+10	0.4263	0.09	Q				V
17+15	0.4270	0.10	Q				V
17+20	0.4277	0.10	Q				V
17+25	0.4284	0.10	Q				V
17+30	0.4291	0.10	Q				V
17+35	0.4298	0.10	Q				V
17+40	0.4305	0.10	Q				V
17+45	0.4313	0.10	Q				V
17+50	0.4320	0.10	Q				V
17+55	0.4326	0.09	Q				V
18+ 0	0.4332	0.09	Q				V
18+ 5	0.4338	0.09	Q				V
18+10	0.4344	0.08	Q				V
18+15	0.4349	0.08	Q				V
18+20	0.4355	0.08	Q				V
18+25	0.4361	0.08	Q				V
18+30	0.4367	0.08	Q				V
18+35	0.4372	0.08	Q				V
18+40	0.4377	0.07	Q				V
18+45	0.4382	0.07	Q				V
18+50	0.4386	0.06	Q				V
18+55	0.4389	0.05	Q				V
19+ 0	0.4393	0.05	Q				V
19+ 5	0.4396	0.05	Q				V
19+10	0.4399	0.06	Q				V
19+15	0.4404	0.06	Q				V
19+20	0.4408	0.06	Q				V
19+25	0.4413	0.08	Q				V
19+30	0.4419	0.08	Q				V
19+35	0.4424	0.08	Q				V
19+40	0.4429	0.07	Q				V
19+45	0.4434	0.07	Q				V
19+50	0.4438	0.06	Q				V
19+55	0.4441	0.05	Q				V
20+ 0	0.4444	0.05	Q				V
20+ 5	0.4448	0.05	Q				V
20+10	0.4451	0.06	Q				V
20+15	0.4456	0.06	Q				V
20+20	0.4460	0.06	Q				V
20+25	0.4464	0.06	Q				V
20+30	0.4468	0.06	Q				V
20+35	0.4473	0.06	Q				V
20+40	0.4477	0.06	Q				V
20+45	0.4481	0.06	Q				V
20+50	0.4486	0.06	Q				V
20+55	0.4489	0.05	Q				V

21+ 0	0.4492	0.05	Q				V
21+ 5	0.4495	0.05	Q				V
21+10	0.4499	0.06	Q				V
21+15	0.4503	0.06	Q				V
21+20	0.4507	0.06	Q				V
21+25	0.4511	0.05	Q				V
21+30	0.4514	0.04	Q				V
21+35	0.4517	0.05	Q				V
21+40	0.4521	0.06	Q				V
21+45	0.4525	0.06	Q				V
21+50	0.4529	0.06	Q				V
21+55	0.4532	0.05	Q				V
22+ 0	0.4535	0.04	Q				V
22+ 5	0.4539	0.05	Q				V
22+10	0.4542	0.06	Q				V
22+15	0.4546	0.06	Q				V
22+20	0.4551	0.06	Q				V
22+25	0.4554	0.05	Q				V
22+30	0.4557	0.04	Q				V
22+35	0.4560	0.04	Q				V
22+40	0.4563	0.04	Q				V
22+45	0.4566	0.04	Q				V
22+50	0.4569	0.04	Q				V
22+55	0.4572	0.04	Q				V
23+ 0	0.4575	0.04	Q				V
23+ 5	0.4577	0.04	Q				V
23+10	0.4580	0.04	Q				V
23+15	0.4583	0.04	Q				V
23+20	0.4586	0.04	Q				V
23+25	0.4589	0.04	Q				V
23+30	0.4592	0.04	Q				V
23+35	0.4595	0.04	Q				V
23+40	0.4598	0.04	Q				V
23+45	0.4600	0.04	Q				V
23+50	0.4603	0.04	Q				V
23+55	0.4606	0.04	Q				V
24+ 0	0.4609	0.04	Q				V
24+ 5	0.4612	0.04	Q				V
24+10	0.4613	0.02	Q				V
24+15	0.4613	0.01	Q				V
24+20	0.4613	0.00	Q				V
24+25	0.4613	0.00	Q				V
24+30	0.4613	0.00	Q				V
24+35	0.4614	0.00	Q				V

Unit Hydrograph Analysis

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

Program License Serial Number 6443

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

English Units used in output format

RCH DMA A2
Kimley-Horn
2 yr proposed

Drainage Area = 1.34(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.34(Ac.) = 0.002 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.104 Hr.
Lag time = 6.24 Min.
25% of lag time = 1.56 Min.
40% of lag time = 2.50 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]
1.34	0.50	0.67

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.34	1.10	1.47

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.100(In)

Point rain (area averaged) = 0.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.500(In)

Sub-Area Data:

Area(Ac.) Runoff Index Impervious %
 1.340 56.00 0.810
 Total Area Entered = 1.34(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.810	0.191	1.000	0.191
						Sum (F) = 0.191

Area averaged mean soil loss (F) (In/Hr) = 0.191

Minimum soil loss rate ((In/Hr)) = 0.096

(for 24 hour storm duration)

Soil loss rate (decimal) = 0.320

 Slope of intensity-duration curve for a 1 hour storm =0.5500

U n i t H y d r o g r a p h
 F O O T H I L L S - C u r v e

 Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	80.128	9.037
2	0.167	160.256	48.467
3	0.250	240.385	24.442
4	0.333	320.513	9.714
5	0.417	400.641	4.868
6	0.500	480.769	1.848
7	0.583	560.897	0.741
8	0.667	641.026	0.548
9	0.750	721.154	0.334
		Sum = 100.000	Sum= 1.350

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	3.30	(0.191) 0.063	0.135
2	0.17	4.20	(0.191) 0.081	0.171
3	0.25	4.40	(0.191) 0.084	0.180
4	0.33	4.80	(0.191) 0.092	0.196
5	0.42	5.20	(0.191) 0.100	0.212
6	0.50	6.20	(0.191) 0.119	0.253
7	0.58	6.80	(0.191) 0.131	0.277
8	0.67	8.80	(0.191) 0.169	0.359
9	0.75	13.90	0.191 (0.267)	0.643
10	0.83	31.40	0.191 (0.603)	1.693
11	0.92	7.20	(0.191) 0.138	0.294
12	1.00	3.80	(0.191) 0.073	0.155
(Loss Rate Not Used)				
Sum =	100.0			Sum = 4.6
Flood volume = Effective rainfall 0.38(In)				
times area 1.3(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)				
Total soil loss = 0.12(In)				
Total soil loss = 0.013(Ac.Ft)				
Total rainfall = 0.50(In)				

Flood volume = 1851.3 Cubic Feet
 Total soil loss = 580.8 Cubic Feet

 Peak flow rate of this hydrograph = 1.433(CFS)

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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	0.0001	0.02	Q					
0+10	0.0009	0.11	Q					
0+15	0.0021	0.18	QV					
0+20	0.0036	0.22	Q V					
0+25	0.0053	0.24	Q V					
0+30	0.0071	0.27	Q V					
0+35	0.0093	0.31	Q V					
0+40	0.0118	0.36	Q V					
0+45	0.0149	0.46	Q V					
0+50	0.0205	0.81	Q			V		
0+55	0.0304	1.43	Q				V	
1+ 0	0.0365	0.89	Q					V
1+ 5	0.0398	0.48	Q					V
1+10	0.0413	0.22	Q					V
1+15	0.0420	0.09	Q					V
1+20	0.0422	0.04	Q					V
1+25	0.0424	0.02	Q					V
1+30	0.0425	0.01	Q					V
1+35	0.0425	0.00	Q					V
1+40	0.0425	0.00	Q					V

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchph1b32.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH DMA A2
Kimley-Horn
2 yr proposed

Drainage Area = 1.34(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.34(Ac.) = 0.002 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.104 Hr.
Lag time = 6.24 Min.
25% of lag time = 1.56 Min.
40% of lag time = 2.50 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]
1.34	0.80	1.07

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.34	1.80	2.41

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 0.800(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.800(In)

Sub-Area Data:

Area(Ac.) Runoff Index Impervious %
 1.340 56.00 0.810
 Total Area Entered = 1.34(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.810	0.191	1.000	0.191
						Sum (F) = 0.191

Area averaged mean soil loss (F) (In/Hr) = 0.191

Minimum soil loss rate ((In/Hr)) = 0.096

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.320

 Unit Hydrograph
 FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	80.128	9.037
2	0.167	160.256	48.467
3	0.250	240.385	24.442
4	0.333	320.513	9.714
5	0.417	400.641	4.868
6	0.500	480.769	1.848
7	0.583	560.897	0.741
8	0.667	641.026	0.548
9	0.750	721.154	0.334
		Sum = 100.000	Sum= 1.350

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	(0.191)	0.040
2	0.17	1.30	(0.191)	0.040
3	0.25	1.10	(0.191)	0.034
4	0.33	1.50	(0.191)	0.046
5	0.42	1.50	(0.191)	0.046
6	0.50	1.80	(0.191)	0.055
7	0.58	1.50	(0.191)	0.046
8	0.67	1.80	(0.191)	0.055
9	0.75	1.80	(0.191)	0.055
10	0.83	1.50	(0.191)	0.046
11	0.92	1.60	(0.191)	0.049
12	1.00	1.80	(0.191)	0.055
13	1.08	2.20	(0.191)	0.068
14	1.17	2.20	(0.191)	0.068
15	1.25	2.20	(0.191)	0.068
16	1.33	2.00	(0.191)	0.061
17	1.42	2.60	(0.191)	0.080
18	1.50	2.70	(0.191)	0.083
19	1.58	2.40	(0.191)	0.074
20	1.67	2.70	(0.191)	0.083
21	1.75	3.30	(0.191)	0.101

22	1.83	3.10	0.298	(0.191)	0.095	0.202
23	1.92	2.90	0.278	(0.191)	0.089	0.189
24	2.00	3.00	0.288	(0.191)	0.092	0.196
25	2.08	3.10	0.298	(0.191)	0.095	0.202
26	2.17	4.20	0.403	(0.191)	0.129	0.274
27	2.25	5.00	0.480	(0.191)	0.154	0.326
28	2.33	3.50	0.336	(0.191)	0.108	0.228
29	2.42	6.80	0.653	0.191	(0.209)	0.461
30	2.50	7.30	0.701	0.191	(0.224)	0.509
31	2.58	8.20	0.787	0.191	(0.252)	0.596
32	2.67	5.90	0.566	(0.191)	0.181	0.385
33	2.75	2.00	0.192	(0.191)	0.061	0.131
34	2.83	1.80	0.173	(0.191)	0.055	0.118
35	2.92	1.80	0.173	(0.191)	0.055	0.118
36	3.00	0.60	0.058	(0.191)	0.018	0.039

(Loss Rate Not Used)

Sum = 100.0 Sum = 6.6

Flood volume = Effective rainfall 0.55(In)
times area 1.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)

Total soil loss = 0.25(In)

Total soil loss = 0.028(Ac.Ft)

Total rainfall = 0.80(In)

Flood volume = 2691.1 Cubic Feet

Total soil loss = 1200.2 Cubic Feet

Peak flow rate of this hydrograph = 0.694(CFS)

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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	0.07	Q				
0+15	0.0012	0.09	Q				
0+20	0.0018	0.10	QV				
0+25	0.0026	0.12	QV				
0+30	0.0035	0.13	Q V				
0+35	0.0045	0.14	Q V				
0+40	0.0055	0.14	Q V				
0+45	0.0065	0.15	Q V				
0+50	0.0075	0.15	Q V				
0+55	0.0085	0.14	Q V				
1+ 0	0.0095	0.14	Q V				
1+ 5	0.0106	0.15	Q V				
1+10	0.0118	0.18	Q V				
1+15	0.0131	0.19	Q V				
1+20	0.0144	0.19	Q V				
1+25	0.0157	0.19	Q V				
1+30	0.0171	0.21	Q V				
1+35	0.0186	0.22	Q V				
1+40	0.0202	0.22	Q V				
1+45	0.0218	0.23	Q V				
1+50	0.0236	0.26	Q V				
1+55	0.0254	0.27	Q V				
2+ 0	0.0272	0.26	Q V				
2+ 5	0.0291	0.26	Q V				
2+10	0.0310	0.28	Q V				

2+15	0.0333	0.33	Q		V		
2+20	0.0359	0.38	Q		V		
2+25	0.0385	0.37	Q		V		
2+30	0.0420	0.51	Q		V		
2+35	0.0462	0.62	Q		V		
2+40	0.0510	0.69	Q		V		
2+45	0.0550	0.57	Q		V		
2+50	0.0574	0.36	Q		V		
2+55	0.0591	0.24	Q		V		
3+ 0	0.0604	0.19	Q		V		
3+ 5	0.0612	0.11	Q		V		
3+10	0.0615	0.05	Q		V		
3+15	0.0617	0.02	Q		V		
3+20	0.0617	0.01	Q		V		
3+25	0.0618	0.00	Q		V		
3+30	0.0618	0.00	Q		V		
3+35	0.0618	0.00	Q		V		
3+40	0.0618	0.00	Q		V		

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchph1b62.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH DMA A2
Kimley-Horn
2 yr proposed

Drainage Area = 1.34(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.34(Ac.) = 0.002 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.104 Hr.
Lag time = 6.24 Min.
25% of lag time = 1.56 Min.
40% of lag time = 2.50 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]
1.34	1.00	1.34

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.34	2.50	3.35

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 1.000(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.000(In)

Sub-Area Data:

Area(Ac.) Runoff Index Impervious %
 1.340 56.00 0.810
 Total Area Entered = 1.34(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.810	0.191	1.000	0.191
						Sum (F) = 0.191

Area averaged mean soil loss (F) (In/Hr) = 0.191
 Minimum soil loss rate ((In/Hr)) = 0.096
 (for 24 hour storm duration)
 Soil low loss rate (decimal) = 0.320

 Unit Hydrograph
 FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	80.128	9.037
2	0.167	160.256	48.467
3	0.250	240.385	24.442
4	0.333	320.513	9.714
5	0.417	400.641	4.868
6	0.500	480.769	1.848
7	0.583	560.897	0.741
8	0.667	641.026	0.548
9	0.750	721.154	0.334
		Sum = 100.000	Sum= 1.350

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	(0.191)	0.019
2	0.17	0.60	(0.191)	0.023
3	0.25	0.60	(0.191)	0.023
4	0.33	0.60	(0.191)	0.023
5	0.42	0.60	(0.191)	0.023
6	0.50	0.70	(0.191)	0.027
7	0.58	0.70	(0.191)	0.027
8	0.67	0.70	(0.191)	0.027
9	0.75	0.70	(0.191)	0.027
10	0.83	0.70	(0.191)	0.027
11	0.92	0.70	(0.191)	0.027
12	1.00	0.80	(0.191)	0.031
13	1.08	0.80	(0.191)	0.031
14	1.17	0.80	(0.191)	0.031
15	1.25	0.80	(0.191)	0.031
16	1.33	0.80	(0.191)	0.031
17	1.42	0.80	(0.191)	0.031
18	1.50	0.80	(0.191)	0.031
19	1.58	0.80	(0.191)	0.031
20	1.67	0.80	(0.191)	0.031
21	1.75	0.80	(0.191)	0.031

22	1.83	0.80	0.096	(0.191)	0.031	0.065
23	1.92	0.80	0.096	(0.191)	0.031	0.065
24	2.00	0.90	0.108	(0.191)	0.035	0.073
25	2.08	0.80	0.096	(0.191)	0.031	0.065
26	2.17	0.90	0.108	(0.191)	0.035	0.073
27	2.25	0.90	0.108	(0.191)	0.035	0.073
28	2.33	0.90	0.108	(0.191)	0.035	0.073
29	2.42	0.90	0.108	(0.191)	0.035	0.073
30	2.50	0.90	0.108	(0.191)	0.035	0.073
31	2.58	0.90	0.108	(0.191)	0.035	0.073
32	2.67	0.90	0.108	(0.191)	0.035	0.073
33	2.75	1.00	0.120	(0.191)	0.038	0.082
34	2.83	1.00	0.120	(0.191)	0.038	0.082
35	2.92	1.00	0.120	(0.191)	0.038	0.082
36	3.00	1.00	0.120	(0.191)	0.038	0.082
37	3.08	1.00	0.120	(0.191)	0.038	0.082
38	3.17	1.10	0.132	(0.191)	0.042	0.090
39	3.25	1.10	0.132	(0.191)	0.042	0.090
40	3.33	1.10	0.132	(0.191)	0.042	0.090
41	3.42	1.20	0.144	(0.191)	0.046	0.098
42	3.50	1.30	0.156	(0.191)	0.050	0.106
43	3.58	1.40	0.168	(0.191)	0.054	0.114
44	3.67	1.40	0.168	(0.191)	0.054	0.114
45	3.75	1.50	0.180	(0.191)	0.058	0.122
46	3.83	1.50	0.180	(0.191)	0.058	0.122
47	3.92	1.60	0.192	(0.191)	0.061	0.131
48	4.00	1.60	0.192	(0.191)	0.061	0.131
49	4.08	1.70	0.204	(0.191)	0.065	0.139
50	4.17	1.80	0.216	(0.191)	0.069	0.147
51	4.25	1.90	0.228	(0.191)	0.073	0.155
52	4.33	2.00	0.240	(0.191)	0.077	0.163
53	4.42	2.10	0.252	(0.191)	0.081	0.171
54	4.50	2.10	0.252	(0.191)	0.081	0.171
55	4.58	2.20	0.264	(0.191)	0.084	0.180
56	4.67	2.30	0.276	(0.191)	0.088	0.188
57	4.75	2.40	0.288	(0.191)	0.092	0.196
58	4.83	2.40	0.288	(0.191)	0.092	0.196
59	4.92	2.50	0.300	(0.191)	0.096	0.204
60	5.00	2.60	0.312	(0.191)	0.100	0.212
61	5.08	3.10	0.372	(0.191)	0.119	0.253
62	5.17	3.60	0.432	(0.191)	0.138	0.294
63	5.25	3.90	0.468	(0.191)	0.150	0.318
64	5.33	4.20	0.504	(0.191)	0.161	0.343
65	5.42	4.70	0.564	(0.191)	0.180	0.384
66	5.50	5.60	0.672	0.191 (0.215)		0.481
67	5.58	1.90	0.228	(0.191)	0.073	0.155
68	5.67	0.90	0.108	(0.191)	0.035	0.073
69	5.75	0.60	0.072	(0.191)	0.023	0.049
70	5.83	0.50	0.060	(0.191)	0.019	0.041
71	5.92	0.30	0.036	(0.191)	0.012	0.024
72	6.00	0.20	0.024	(0.191)	0.008	0.016

(Loss Rate Not Used)

Sum = 100.0

Sum = 8.2

Flood volume = Effective rainfall 0.68(In)

times area 1.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)

Total soil loss = 0.32(In)

Total soil loss = 0.036(Ac.Ft)

Total rainfall = 1.00(In)

Flood volume = 3317.3 Cubic Feet

Total soil loss = 1546.9 Cubic Feet

Peak flow rate of this hydrograph = 0.539(CFS)

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 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	0.0003	0.03	Q					
0+15	0.0006	0.05	Q					
0+20	0.0010	0.06	Q					
0+25	0.0015	0.06	Q					
0+30	0.0019	0.07	QV					
0+35	0.0024	0.07	QV					
0+40	0.0029	0.07	QV					
0+45	0.0034	0.08	QV					
0+50	0.0040	0.08	Q V					
0+55	0.0045	0.08	Q V					
1+ 0	0.0050	0.08	Q V					
1+ 5	0.0056	0.08	Q V					
1+10	0.0062	0.09	Q V					
1+15	0.0068	0.09	Q V					
1+20	0.0074	0.09	Q V					
1+25	0.0080	0.09	Q V					
1+30	0.0086	0.09	Q V					
1+35	0.0092	0.09	Q V					
1+40	0.0098	0.09	Q V					
1+45	0.0105	0.09	Q V					
1+50	0.0111	0.09	Q V					
1+55	0.0117	0.09	Q V					
2+ 0	0.0123	0.09	Q V					
2+ 5	0.0129	0.09	Q V					
2+10	0.0136	0.09	Q V					
2+15	0.0142	0.10	Q V					
2+20	0.0149	0.10	Q V					
2+25	0.0156	0.10	Q V					
2+30	0.0163	0.10	Q V					
2+35	0.0169	0.10	Q V					
2+40	0.0176	0.10	Q V					
2+45	0.0183	0.10	Q V					
2+50	0.0190	0.11	Q V					
2+55	0.0198	0.11	Q V					
3+ 0	0.0205	0.11	Q V					
3+ 5	0.0213	0.11	Q V					
3+10	0.0221	0.11	Q V					
3+15	0.0229	0.12	Q V					
3+20	0.0237	0.12	Q V					
3+25	0.0245	0.12	Q V					
3+30	0.0254	0.13	Q V					
3+35	0.0263	0.14	Q V					
3+40	0.0274	0.15	Q V					
3+45	0.0284	0.15	Q V					
3+50	0.0295	0.16	Q V					
3+55	0.0306	0.16	Q V					
4+ 0	0.0318	0.17	Q V					
4+ 5	0.0330	0.17	Q V					
4+10	0.0343	0.18	Q V					
4+15	0.0356	0.19	Q V					
4+20	0.0370	0.20	Q V					

4+25	0.0385	0.21	Q		V		
4+30	0.0400	0.22	Q		V		
4+35	0.0416	0.23	Q		V		
4+40	0.0432	0.24	Q		V		
4+45	0.0449	0.25	Q		V		
4+50	0.0467	0.26	Q		V		
4+55	0.0485	0.26	Q		V		
5+ 0	0.0503	0.27	Q		V		
5+ 5	0.0523	0.28	Q		V		
5+10	0.0545	0.32	Q		V		
5+15	0.0570	0.37	Q		V		
5+20	0.0598	0.40	Q		V		
5+25	0.0628	0.44	Q		V		
5+30	0.0662	0.49	Q		V		
5+35	0.0700	0.54	Q		V		
5+40	0.0724	0.36	Q		V		
5+45	0.0738	0.21	Q		V		
5+50	0.0747	0.13	Q		V		
5+55	0.0753	0.09	Q		V		
6+ 0	0.0757	0.06	Q		V		
6+ 5	0.0760	0.04	Q		V		
6+10	0.0761	0.02	Q		V		
6+15	0.0761	0.01	Q		V		
6+20	0.0761	0.00	Q		V		
6+25	0.0761	0.00	Q		V		
6+30	0.0762	0.00	Q		V		
6+35	0.0762	0.00	Q		V		
6+40	0.0762	0.00	Q		V		

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchph1b242.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH DMA A2
Kimley-Horn
2 yr proposed

Drainage Area = 1.34(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.34(Ac.) = 0.002 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.104 Hr.
Lag time = 6.24 Min.
25% of lag time = 1.56 Min.
40% of lag time = 2.50 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]
1.34	1.60	2.14

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.34	4.00	5.36

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 1.600(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.600(In)

Sub-Area Data:

Area(Ac.) Runoff Index Impervious %
 1.340 56.00 0.810
 Total Area Entered = 1.34(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.810	0.191	1.000	0.191
						Sum (F) = 0.191

Area averaged mean soil loss (F) (In/Hr) = 0.191
 Minimum soil loss rate ((In/Hr)) = 0.096
 (for 24 hour storm duration)
 Soil low loss rate (decimal) = 0.320

 Unit Hydrograph
 FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	80.128	9.037
2	0.167	160.256	48.467
3	0.250	240.385	24.442
4	0.333	320.513	9.714
5	0.417	400.641	4.868
6	0.500	480.769	1.848
7	0.583	560.897	0.741
8	0.667	641.026	0.548
9	0.750	721.154	0.334
		Sum = 100.000	Sum= 1.350

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	(0.339)	0.004
2	0.17	0.07	(0.338)	0.004
3	0.25	0.07	(0.337)	0.004
4	0.33	0.10	(0.335)	0.006
5	0.42	0.10	(0.334)	0.006
6	0.50	0.10	(0.333)	0.006
7	0.58	0.10	(0.331)	0.006
8	0.67	0.10	(0.330)	0.006
9	0.75	0.10	(0.329)	0.006
10	0.83	0.13	(0.327)	0.008
11	0.92	0.13	(0.326)	0.008
12	1.00	0.13	(0.325)	0.008
13	1.08	0.10	(0.324)	0.006
14	1.17	0.10	(0.322)	0.006
15	1.25	0.10	(0.321)	0.006
16	1.33	0.10	(0.320)	0.006
17	1.42	0.10	(0.318)	0.006
18	1.50	0.10	(0.317)	0.006
19	1.58	0.10	(0.316)	0.006
20	1.67	0.10	(0.315)	0.006
21	1.75	0.10	(0.313)	0.006

22	1.83	0.13	0.026	(0.312)	0.008	0.017
23	1.92	0.13	0.026	(0.311)	0.008	0.017
24	2.00	0.13	0.026	(0.310)	0.008	0.017
25	2.08	0.13	0.026	(0.308)	0.008	0.017
26	2.17	0.13	0.026	(0.307)	0.008	0.017
27	2.25	0.13	0.026	(0.306)	0.008	0.017
28	2.33	0.13	0.026	(0.305)	0.008	0.017
29	2.42	0.13	0.026	(0.303)	0.008	0.017
30	2.50	0.13	0.026	(0.302)	0.008	0.017
31	2.58	0.17	0.032	(0.301)	0.010	0.022
32	2.67	0.17	0.032	(0.300)	0.010	0.022
33	2.75	0.17	0.032	(0.298)	0.010	0.022
34	2.83	0.17	0.032	(0.297)	0.010	0.022
35	2.92	0.17	0.032	(0.296)	0.010	0.022
36	3.00	0.17	0.032	(0.295)	0.010	0.022
37	3.08	0.17	0.032	(0.294)	0.010	0.022
38	3.17	0.17	0.032	(0.292)	0.010	0.022
39	3.25	0.17	0.032	(0.291)	0.010	0.022
40	3.33	0.17	0.032	(0.290)	0.010	0.022
41	3.42	0.17	0.032	(0.289)	0.010	0.022
42	3.50	0.17	0.032	(0.288)	0.010	0.022
43	3.58	0.17	0.032	(0.286)	0.010	0.022
44	3.67	0.17	0.032	(0.285)	0.010	0.022
45	3.75	0.17	0.032	(0.284)	0.010	0.022
46	3.83	0.20	0.038	(0.283)	0.012	0.026
47	3.92	0.20	0.038	(0.282)	0.012	0.026
48	4.00	0.20	0.038	(0.280)	0.012	0.026
49	4.08	0.20	0.038	(0.279)	0.012	0.026
50	4.17	0.20	0.038	(0.278)	0.012	0.026
51	4.25	0.20	0.038	(0.277)	0.012	0.026
52	4.33	0.23	0.045	(0.276)	0.014	0.030
53	4.42	0.23	0.045	(0.274)	0.014	0.030
54	4.50	0.23	0.045	(0.273)	0.014	0.030
55	4.58	0.23	0.045	(0.272)	0.014	0.030
56	4.67	0.23	0.045	(0.271)	0.014	0.030
57	4.75	0.23	0.045	(0.270)	0.014	0.030
58	4.83	0.27	0.051	(0.269)	0.016	0.035
59	4.92	0.27	0.051	(0.267)	0.016	0.035
60	5.00	0.27	0.051	(0.266)	0.016	0.035
61	5.08	0.20	0.038	(0.265)	0.012	0.026
62	5.17	0.20	0.038	(0.264)	0.012	0.026
63	5.25	0.20	0.038	(0.263)	0.012	0.026
64	5.33	0.23	0.045	(0.262)	0.014	0.030
65	5.42	0.23	0.045	(0.260)	0.014	0.030
66	5.50	0.23	0.045	(0.259)	0.014	0.030
67	5.58	0.27	0.051	(0.258)	0.016	0.035
68	5.67	0.27	0.051	(0.257)	0.016	0.035
69	5.75	0.27	0.051	(0.256)	0.016	0.035
70	5.83	0.27	0.051	(0.255)	0.016	0.035
71	5.92	0.27	0.051	(0.254)	0.016	0.035
72	6.00	0.27	0.051	(0.253)	0.016	0.035
73	6.08	0.30	0.058	(0.251)	0.018	0.039
74	6.17	0.30	0.058	(0.250)	0.018	0.039
75	6.25	0.30	0.058	(0.249)	0.018	0.039
76	6.33	0.30	0.058	(0.248)	0.018	0.039
77	6.42	0.30	0.058	(0.247)	0.018	0.039
78	6.50	0.30	0.058	(0.246)	0.018	0.039
79	6.58	0.33	0.064	(0.245)	0.020	0.044
80	6.67	0.33	0.064	(0.244)	0.020	0.044
81	6.75	0.33	0.064	(0.243)	0.020	0.044
82	6.83	0.33	0.064	(0.241)	0.020	0.044
83	6.92	0.33	0.064	(0.240)	0.020	0.044

84	7.00	0.33	0.064	(0.239)	0.020	0.044
85	7.08	0.33	0.064	(0.238)	0.020	0.044
86	7.17	0.33	0.064	(0.237)	0.020	0.044
87	7.25	0.33	0.064	(0.236)	0.020	0.044
88	7.33	0.37	0.070	(0.235)	0.023	0.048
89	7.42	0.37	0.070	(0.234)	0.023	0.048
90	7.50	0.37	0.070	(0.233)	0.023	0.048
91	7.58	0.40	0.077	(0.232)	0.025	0.052
92	7.67	0.40	0.077	(0.231)	0.025	0.052
93	7.75	0.40	0.077	(0.230)	0.025	0.052
94	7.83	0.43	0.083	(0.229)	0.027	0.057
95	7.92	0.43	0.083	(0.227)	0.027	0.057
96	8.00	0.43	0.083	(0.226)	0.027	0.057
97	8.08	0.50	0.096	(0.225)	0.031	0.065
98	8.17	0.50	0.096	(0.224)	0.031	0.065
99	8.25	0.50	0.096	(0.223)	0.031	0.065
100	8.33	0.50	0.096	(0.222)	0.031	0.065
101	8.42	0.50	0.096	(0.221)	0.031	0.065
102	8.50	0.50	0.096	(0.220)	0.031	0.065
103	8.58	0.53	0.102	(0.219)	0.033	0.070
104	8.67	0.53	0.102	(0.218)	0.033	0.070
105	8.75	0.53	0.102	(0.217)	0.033	0.070
106	8.83	0.57	0.109	(0.216)	0.035	0.074
107	8.92	0.57	0.109	(0.215)	0.035	0.074
108	9.00	0.57	0.109	(0.214)	0.035	0.074
109	9.08	0.63	0.122	(0.213)	0.039	0.083
110	9.17	0.63	0.122	(0.212)	0.039	0.083
111	9.25	0.63	0.122	(0.211)	0.039	0.083
112	9.33	0.67	0.128	(0.210)	0.041	0.087
113	9.42	0.67	0.128	(0.209)	0.041	0.087
114	9.50	0.67	0.128	(0.208)	0.041	0.087
115	9.58	0.70	0.134	(0.207)	0.043	0.091
116	9.67	0.70	0.134	(0.206)	0.043	0.091
117	9.75	0.70	0.134	(0.205)	0.043	0.091
118	9.83	0.73	0.141	(0.204)	0.045	0.096
119	9.92	0.73	0.141	(0.203)	0.045	0.096
120	10.00	0.73	0.141	(0.202)	0.045	0.096
121	10.08	0.50	0.096	(0.201)	0.031	0.065
122	10.17	0.50	0.096	(0.200)	0.031	0.065
123	10.25	0.50	0.096	(0.199)	0.031	0.065
124	10.33	0.50	0.096	(0.198)	0.031	0.065
125	10.42	0.50	0.096	(0.197)	0.031	0.065
126	10.50	0.50	0.096	(0.196)	0.031	0.065
127	10.58	0.67	0.128	(0.195)	0.041	0.087
128	10.67	0.67	0.128	(0.194)	0.041	0.087
129	10.75	0.67	0.128	(0.193)	0.041	0.087
130	10.83	0.67	0.128	(0.192)	0.041	0.087
131	10.92	0.67	0.128	(0.191)	0.041	0.087
132	11.00	0.67	0.128	(0.191)	0.041	0.087
133	11.08	0.63	0.122	(0.190)	0.039	0.083
134	11.17	0.63	0.122	(0.189)	0.039	0.083
135	11.25	0.63	0.122	(0.188)	0.039	0.083
136	11.33	0.63	0.122	(0.187)	0.039	0.083
137	11.42	0.63	0.122	(0.186)	0.039	0.083
138	11.50	0.63	0.122	(0.185)	0.039	0.083
139	11.58	0.57	0.109	(0.184)	0.035	0.074
140	11.67	0.57	0.109	(0.183)	0.035	0.074
141	11.75	0.57	0.109	(0.182)	0.035	0.074
142	11.83	0.60	0.115	(0.181)	0.037	0.078
143	11.92	0.60	0.115	(0.180)	0.037	0.078
144	12.00	0.60	0.115	(0.179)	0.037	0.078
145	12.08	0.83	0.160	(0.179)	0.051	0.109

146	12.17	0.83	0.160	(0.178)	0.051	0.109
147	12.25	0.83	0.160	(0.177)	0.051	0.109
148	12.33	0.87	0.166	(0.176)	0.053	0.113
149	12.42	0.87	0.166	(0.175)	0.053	0.113
150	12.50	0.87	0.166	(0.174)	0.053	0.113
151	12.58	0.93	0.179	(0.173)	0.057	0.122
152	12.67	0.93	0.179	(0.172)	0.057	0.122
153	12.75	0.93	0.179	(0.172)	0.057	0.122
154	12.83	0.97	0.186	(0.171)	0.059	0.126
155	12.92	0.97	0.186	(0.170)	0.059	0.126
156	13.00	0.97	0.186	(0.169)	0.059	0.126
157	13.08	1.13	0.218	(0.168)	0.070	0.148
158	13.17	1.13	0.218	(0.167)	0.070	0.148
159	13.25	1.13	0.218	(0.166)	0.070	0.148
160	13.33	1.13	0.218	(0.166)	0.070	0.148
161	13.42	1.13	0.218	(0.165)	0.070	0.148
162	13.50	1.13	0.218	(0.164)	0.070	0.148
163	13.58	0.77	0.147	(0.163)	0.047	0.100
164	13.67	0.77	0.147	(0.162)	0.047	0.100
165	13.75	0.77	0.147	(0.161)	0.047	0.100
166	13.83	0.77	0.147	(0.161)	0.047	0.100
167	13.92	0.77	0.147	(0.160)	0.047	0.100
168	14.00	0.77	0.147	(0.159)	0.047	0.100
169	14.08	0.90	0.173	(0.158)	0.055	0.118
170	14.17	0.90	0.173	(0.157)	0.055	0.118
171	14.25	0.90	0.173	(0.157)	0.055	0.118
172	14.33	0.87	0.166	(0.156)	0.053	0.113
173	14.42	0.87	0.166	(0.155)	0.053	0.113
174	14.50	0.87	0.166	(0.154)	0.053	0.113
175	14.58	0.87	0.166	(0.153)	0.053	0.113
176	14.67	0.87	0.166	(0.153)	0.053	0.113
177	14.75	0.87	0.166	(0.152)	0.053	0.113
178	14.83	0.83	0.160	(0.151)	0.051	0.109
179	14.92	0.83	0.160	(0.150)	0.051	0.109
180	15.00	0.83	0.160	(0.149)	0.051	0.109
181	15.08	0.80	0.154	(0.149)	0.049	0.104
182	15.17	0.80	0.154	(0.148)	0.049	0.104
183	15.25	0.80	0.154	(0.147)	0.049	0.104
184	15.33	0.77	0.147	(0.146)	0.047	0.100
185	15.42	0.77	0.147	(0.146)	0.047	0.100
186	15.50	0.77	0.147	(0.145)	0.047	0.100
187	15.58	0.63	0.122	(0.144)	0.039	0.083
188	15.67	0.63	0.122	(0.143)	0.039	0.083
189	15.75	0.63	0.122	(0.143)	0.039	0.083
190	15.83	0.63	0.122	(0.142)	0.039	0.083
191	15.92	0.63	0.122	(0.141)	0.039	0.083
192	16.00	0.63	0.122	(0.141)	0.039	0.083
193	16.08	0.13	0.026	(0.140)	0.008	0.017
194	16.17	0.13	0.026	(0.139)	0.008	0.017
195	16.25	0.13	0.026	(0.138)	0.008	0.017
196	16.33	0.13	0.026	(0.138)	0.008	0.017
197	16.42	0.13	0.026	(0.137)	0.008	0.017
198	16.50	0.13	0.026	(0.136)	0.008	0.017
199	16.58	0.10	0.019	(0.136)	0.006	0.013
200	16.67	0.10	0.019	(0.135)	0.006	0.013
201	16.75	0.10	0.019	(0.134)	0.006	0.013
202	16.83	0.10	0.019	(0.134)	0.006	0.013
203	16.92	0.10	0.019	(0.133)	0.006	0.013
204	17.00	0.10	0.019	(0.132)	0.006	0.013
205	17.08	0.17	0.032	(0.131)	0.010	0.022
206	17.17	0.17	0.032	(0.131)	0.010	0.022
207	17.25	0.17	0.032	(0.130)	0.010	0.022

208	17.33	0.17	0.032	(0.130)	0.010	0.022
209	17.42	0.17	0.032	(0.129)	0.010	0.022
210	17.50	0.17	0.032	(0.128)	0.010	0.022
211	17.58	0.17	0.032	(0.128)	0.010	0.022
212	17.67	0.17	0.032	(0.127)	0.010	0.022
213	17.75	0.17	0.032	(0.126)	0.010	0.022
214	17.83	0.13	0.026	(0.126)	0.008	0.017
215	17.92	0.13	0.026	(0.125)	0.008	0.017
216	18.00	0.13	0.026	(0.124)	0.008	0.017
217	18.08	0.13	0.026	(0.124)	0.008	0.017
218	18.17	0.13	0.026	(0.123)	0.008	0.017
219	18.25	0.13	0.026	(0.123)	0.008	0.017
220	18.33	0.13	0.026	(0.122)	0.008	0.017
221	18.42	0.13	0.026	(0.121)	0.008	0.017
222	18.50	0.13	0.026	(0.121)	0.008	0.017
223	18.58	0.10	0.019	(0.120)	0.006	0.013
224	18.67	0.10	0.019	(0.120)	0.006	0.013
225	18.75	0.10	0.019	(0.119)	0.006	0.013
226	18.83	0.07	0.013	(0.119)	0.004	0.009
227	18.92	0.07	0.013	(0.118)	0.004	0.009
228	19.00	0.07	0.013	(0.117)	0.004	0.009
229	19.08	0.10	0.019	(0.117)	0.006	0.013
230	19.17	0.10	0.019	(0.116)	0.006	0.013
231	19.25	0.10	0.019	(0.116)	0.006	0.013
232	19.33	0.13	0.026	(0.115)	0.008	0.017
233	19.42	0.13	0.026	(0.115)	0.008	0.017
234	19.50	0.13	0.026	(0.114)	0.008	0.017
235	19.58	0.10	0.019	(0.114)	0.006	0.013
236	19.67	0.10	0.019	(0.113)	0.006	0.013
237	19.75	0.10	0.019	(0.113)	0.006	0.013
238	19.83	0.07	0.013	(0.112)	0.004	0.009
239	19.92	0.07	0.013	(0.112)	0.004	0.009
240	20.00	0.07	0.013	(0.111)	0.004	0.009
241	20.08	0.10	0.019	(0.111)	0.006	0.013
242	20.17	0.10	0.019	(0.110)	0.006	0.013
243	20.25	0.10	0.019	(0.110)	0.006	0.013
244	20.33	0.10	0.019	(0.109)	0.006	0.013
245	20.42	0.10	0.019	(0.109)	0.006	0.013
246	20.50	0.10	0.019	(0.108)	0.006	0.013
247	20.58	0.10	0.019	(0.108)	0.006	0.013
248	20.67	0.10	0.019	(0.107)	0.006	0.013
249	20.75	0.10	0.019	(0.107)	0.006	0.013
250	20.83	0.07	0.013	(0.106)	0.004	0.009
251	20.92	0.07	0.013	(0.106)	0.004	0.009
252	21.00	0.07	0.013	(0.106)	0.004	0.009
253	21.08	0.10	0.019	(0.105)	0.006	0.013
254	21.17	0.10	0.019	(0.105)	0.006	0.013
255	21.25	0.10	0.019	(0.104)	0.006	0.013
256	21.33	0.07	0.013	(0.104)	0.004	0.009
257	21.42	0.07	0.013	(0.104)	0.004	0.009
258	21.50	0.07	0.013	(0.103)	0.004	0.009
259	21.58	0.10	0.019	(0.103)	0.006	0.013
260	21.67	0.10	0.019	(0.102)	0.006	0.013
261	21.75	0.10	0.019	(0.102)	0.006	0.013
262	21.83	0.07	0.013	(0.102)	0.004	0.009
263	21.92	0.07	0.013	(0.101)	0.004	0.009
264	22.00	0.07	0.013	(0.101)	0.004	0.009
265	22.08	0.10	0.019	(0.101)	0.006	0.013
266	22.17	0.10	0.019	(0.100)	0.006	0.013
267	22.25	0.10	0.019	(0.100)	0.006	0.013
268	22.33	0.07	0.013	(0.100)	0.004	0.009
269	22.42	0.07	0.013	(0.099)	0.004	0.009

270	22.50	0.07	0.013	(0.099)	0.004	0.009
271	22.58	0.07	0.013	(0.099)	0.004	0.009
272	22.67	0.07	0.013	(0.099)	0.004	0.009
273	22.75	0.07	0.013	(0.098)	0.004	0.009
274	22.83	0.07	0.013	(0.098)	0.004	0.009
275	22.92	0.07	0.013	(0.098)	0.004	0.009
276	23.00	0.07	0.013	(0.098)	0.004	0.009
277	23.08	0.07	0.013	(0.097)	0.004	0.009
278	23.17	0.07	0.013	(0.097)	0.004	0.009
279	23.25	0.07	0.013	(0.097)	0.004	0.009
280	23.33	0.07	0.013	(0.097)	0.004	0.009
281	23.42	0.07	0.013	(0.097)	0.004	0.009
282	23.50	0.07	0.013	(0.096)	0.004	0.009
283	23.58	0.07	0.013	(0.096)	0.004	0.009
284	23.67	0.07	0.013	(0.096)	0.004	0.009
285	23.75	0.07	0.013	(0.096)	0.004	0.009
286	23.83	0.07	0.013	(0.096)	0.004	0.009
287	23.92	0.07	0.013	(0.096)	0.004	0.009
288	24.00	0.07	0.013	(0.096)	0.004	0.009

(Loss Rate Not Used)

Sum = 100.0

Sum = 13.1

Flood volume = Effective rainfall 1.09(In)

times area 1.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)

Total soil loss = 0.51(In)

Total soil loss = 0.057(Ac.Ft)

Total rainfall = 1.60(In)

Flood volume = 5292.2 Cubic Feet

Total soil loss = 2490.5 Cubic Feet

Peak flow rate of this hydrograph = 0.199(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	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0001	0.01	Q				
0+20	0.0002	0.01	Q				
0+25	0.0003	0.01	Q				
0+30	0.0004	0.02	Q				
0+35	0.0005	0.02	Q				
0+40	0.0006	0.02	Q				
0+45	0.0008	0.02	Q				
0+50	0.0009	0.02	Q				
0+55	0.0010	0.02	Q				
1+ 0	0.0012	0.02	Q				
1+ 5	0.0013	0.02	Q				
1+10	0.0015	0.02	Q				
1+15	0.0016	0.02	Q				
1+20	0.0017	0.02	Q				
1+25	0.0019	0.02	Q				
1+30	0.0020	0.02	Q				
1+35	0.0021	0.02	Q				
1+40	0.0022	0.02	Q				
1+45	0.0023	0.02	Q				
1+50	0.0025	0.02	Q				

1+55	0.0026	0.02	Q				
2+ 0	0.0028	0.02	Q				
2+ 5	0.0029	0.02	Q				
2+10	0.0031	0.02	QV				
2+15	0.0033	0.02	QV				
2+20	0.0034	0.02	QV				
2+25	0.0036	0.02	QV				
2+30	0.0037	0.02	QV				
2+35	0.0039	0.02	QV				
2+40	0.0041	0.03	QV				
2+45	0.0043	0.03	QV				
2+50	0.0045	0.03	QV				
2+55	0.0047	0.03	QV				
3+ 0	0.0049	0.03	QV				
3+ 5	0.0051	0.03	QV				
3+10	0.0053	0.03	QV				
3+15	0.0055	0.03	QV				
3+20	0.0057	0.03	QV				
3+25	0.0059	0.03	QV				
3+30	0.0061	0.03	Q V				
3+35	0.0063	0.03	Q V				
3+40	0.0065	0.03	Q V				
3+45	0.0067	0.03	Q V				
3+50	0.0069	0.03	Q V				
3+55	0.0071	0.03	Q V				
4+ 0	0.0074	0.03	Q V				
4+ 5	0.0076	0.03	Q V				
4+10	0.0079	0.04	Q V				
4+15	0.0081	0.04	Q V				
4+20	0.0083	0.04	Q V				
4+25	0.0086	0.04	Q V				
4+30	0.0089	0.04	Q V				
4+35	0.0092	0.04	Q V				
4+40	0.0095	0.04	Q V				
4+45	0.0097	0.04	Q V				
4+50	0.0100	0.04	Q V				
4+55	0.0103	0.04	Q V				
5+ 0	0.0106	0.05	Q V				
5+ 5	0.0110	0.05	Q V				
5+10	0.0112	0.04	Q V				
5+15	0.0115	0.04	Q V				
5+20	0.0117	0.04	Q V				
5+25	0.0120	0.04	Q V				
5+30	0.0123	0.04	Q V				
5+35	0.0126	0.04	Q V				
5+40	0.0129	0.04	Q V				
5+45	0.0132	0.05	Q V				
5+50	0.0135	0.05	Q V				
5+55	0.0138	0.05	Q V				
6+ 0	0.0142	0.05	Q V				
6+ 5	0.0145	0.05	Q V				
6+10	0.0148	0.05	Q V				
6+15	0.0152	0.05	Q V				
6+20	0.0156	0.05	Q V				
6+25	0.0159	0.05	Q V				
6+30	0.0163	0.05	Q V				
6+35	0.0167	0.05	Q V				
6+40	0.0170	0.06	Q V				
6+45	0.0174	0.06	Q V				
6+50	0.0178	0.06	Q V				
6+55	0.0182	0.06	Q V				
7+ 0	0.0186	0.06	Q V				

7+ 5	0.0190	0.06	Q	V					
7+10	0.0195	0.06	Q	V					
7+15	0.0199	0.06	Q	V					
7+20	0.0203	0.06	Q	V					
7+25	0.0207	0.06	Q	V					
7+30	0.0211	0.06	Q	V					
7+35	0.0216	0.06	Q	V					
7+40	0.0220	0.07	Q	V					
7+45	0.0225	0.07	Q	V					
7+50	0.0230	0.07	Q	V					
7+55	0.0235	0.07	Q	V					
8+ 0	0.0240	0.08	Q	V					
8+ 5	0.0246	0.08	Q	V					
8+10	0.0251	0.08	Q	V					
8+15	0.0257	0.09	Q	V					
8+20	0.0263	0.09	Q	V					
8+25	0.0269	0.09	Q	V					
8+30	0.0275	0.09	Q	V					
8+35	0.0282	0.09	Q	V					
8+40	0.0288	0.09	Q	V					
8+45	0.0294	0.09	Q	V					
8+50	0.0301	0.09	Q	V					
8+55	0.0307	0.10	Q	V					
9+ 0	0.0314	0.10	Q	V					
9+ 5	0.0321	0.10	Q	V					
9+10	0.0328	0.11	Q	V					
9+15	0.0336	0.11	Q	V					
9+20	0.0344	0.11	Q	V					
9+25	0.0352	0.11	Q	V					
9+30	0.0360	0.12	Q	V					
9+35	0.0368	0.12	Q	V					
9+40	0.0376	0.12	Q	V					
9+45	0.0384	0.12	Q	V					
9+50	0.0393	0.12	Q	V					
9+55	0.0402	0.13	Q	V					
10+ 0	0.0410	0.13	Q	V					
10+ 5	0.0419	0.13	Q	V					
10+10	0.0426	0.11	Q	V					
10+15	0.0433	0.10	Q	V					
10+20	0.0439	0.09	Q	V					
10+25	0.0445	0.09	Q	V					
10+30	0.0452	0.09	Q	V					
10+35	0.0458	0.09	Q	V					
10+40	0.0465	0.11	Q	V					
10+45	0.0473	0.11	Q	V					
10+50	0.0481	0.12	Q	V					
10+55	0.0489	0.12	Q	V					
11+ 0	0.0497	0.12	Q	V					
11+ 5	0.0505	0.12	Q	V					
11+10	0.0513	0.11	Q	V					
11+15	0.0521	0.11	Q	V					
11+20	0.0528	0.11	Q	V					
11+25	0.0536	0.11	Q	V					
11+30	0.0544	0.11	Q	V					
11+35	0.0551	0.11	Q	V					
11+40	0.0559	0.10	Q	V					
11+45	0.0566	0.10	Q	V					
11+50	0.0573	0.10	Q	V					
11+55	0.0580	0.10	Q	V					
12+ 0	0.0587	0.10	Q	V					
12+ 5	0.0594	0.11	Q	V					
12+10	0.0603	0.13	Q	V					

12+15	0.0613	0.14	Q		V		
12+20	0.0623	0.14	Q		V		
12+25	0.0633	0.15	Q		V		
12+30	0.0644	0.15	Q		V		
12+35	0.0654	0.15	Q		V		
12+40	0.0665	0.16	Q		V		
12+45	0.0676	0.16	Q		V		
12+50	0.0688	0.16	Q		V		
12+55	0.0699	0.17	Q		V		
13+ 0	0.0711	0.17	Q		V		
13+ 5	0.0723	0.17	Q		V		
13+10	0.0736	0.19	Q		V		
13+15	0.0749	0.19	Q		V		
13+20	0.0762	0.20	Q		V		
13+25	0.0776	0.20	Q		V		
13+30	0.0790	0.20	Q		V		
13+35	0.0803	0.19	Q		V		
13+40	0.0814	0.16	Q		V		
13+45	0.0825	0.15	Q		V		
13+50	0.0834	0.14	Q		V		
13+55	0.0844	0.14	Q		V		
14+ 0	0.0853	0.14	Q		V		
14+ 5	0.0863	0.14	Q		V		
14+10	0.0873	0.15	Q		V		
14+15	0.0884	0.15	Q		V		
14+20	0.0894	0.16	Q		V		
14+25	0.0905	0.15	Q		V		
14+30	0.0916	0.15	Q		V		
14+35	0.0926	0.15	Q		V		
14+40	0.0937	0.15	Q		V		
14+45	0.0947	0.15	Q		V		
14+50	0.0958	0.15	Q		V		
14+55	0.0968	0.15	Q		V		
15+ 0	0.0978	0.15	Q		V		
15+ 5	0.0988	0.15	Q		V		
15+10	0.0998	0.14	Q		V		
15+15	0.1008	0.14	Q		V		
15+20	0.1018	0.14	Q		V		
15+25	0.1027	0.14	Q		V		
15+30	0.1037	0.14	Q		V		
15+35	0.1046	0.13	Q		V		
15+40	0.1054	0.12	Q		V		
15+45	0.1062	0.12	Q		V		
15+50	0.1070	0.11	Q		V		
15+55	0.1078	0.11	Q		V		
16+ 0	0.1085	0.11	Q		V		
16+ 5	0.1093	0.10	Q		V		
16+10	0.1097	0.06	Q		V		
16+15	0.1100	0.04	Q		V		
16+20	0.1102	0.03	Q		V		
16+25	0.1104	0.03	Q		V		
16+30	0.1105	0.02	Q		V		
16+35	0.1107	0.02	Q		V		
16+40	0.1108	0.02	Q		V		
16+45	0.1110	0.02	Q		V		
16+50	0.1111	0.02	Q		V		
16+55	0.1112	0.02	Q		V		
17+ 0	0.1113	0.02	Q		V		
17+ 5	0.1115	0.02	Q		V		
17+10	0.1116	0.02	Q		V		
17+15	0.1118	0.03	Q		V		
17+20	0.1120	0.03	Q		V		

17+25	0.1122	0.03	Q				V
17+30	0.1124	0.03	Q				V
17+35	0.1126	0.03	Q				V
17+40	0.1128	0.03	Q				V
17+45	0.1130	0.03	Q				V
17+50	0.1132	0.03	Q				V
17+55	0.1134	0.03	Q				V
18+ 0	0.1136	0.02	Q				V
18+ 5	0.1137	0.02	Q				V
18+10	0.1139	0.02	Q				V
18+15	0.1141	0.02	Q				V
18+20	0.1142	0.02	Q				V
18+25	0.1144	0.02	Q				V
18+30	0.1145	0.02	Q				V
18+35	0.1147	0.02	Q				V
18+40	0.1148	0.02	Q				V
18+45	0.1150	0.02	Q				V
18+50	0.1151	0.02	Q				V
18+55	0.1152	0.01	Q				V
19+ 0	0.1153	0.01	Q				V
19+ 5	0.1154	0.01	Q				V
19+10	0.1155	0.02	Q				V
19+15	0.1156	0.02	Q				V
19+20	0.1157	0.02	Q				V
19+25	0.1159	0.02	Q				V
19+30	0.1160	0.02	Q				V
19+35	0.1162	0.02	Q				V
19+40	0.1163	0.02	Q				V
19+45	0.1164	0.02	Q				V
19+50	0.1165	0.02	Q				V
19+55	0.1166	0.01	Q				V
20+ 0	0.1167	0.01	Q				V
20+ 5	0.1168	0.01	Q				V
20+10	0.1169	0.02	Q				V
20+15	0.1170	0.02	Q				V
20+20	0.1172	0.02	Q				V
20+25	0.1173	0.02	Q				V
20+30	0.1174	0.02	Q				V
20+35	0.1175	0.02	Q				V
20+40	0.1176	0.02	Q				V
20+45	0.1178	0.02	Q				V
20+50	0.1179	0.02	Q				V
20+55	0.1180	0.01	Q				V
21+ 0	0.1181	0.01	Q				V
21+ 5	0.1182	0.01	Q				V
21+10	0.1183	0.02	Q				V
21+15	0.1184	0.02	Q				V
21+20	0.1185	0.02	Q				V
21+25	0.1186	0.01	Q				V
21+30	0.1187	0.01	Q				V
21+35	0.1188	0.01	Q				V
21+40	0.1189	0.02	Q				V
21+45	0.1190	0.02	Q				V
21+50	0.1191	0.02	Q				V
21+55	0.1192	0.01	Q				V
22+ 0	0.1193	0.01	Q				V
22+ 5	0.1194	0.01	Q				V
22+10	0.1195	0.02	Q				V
22+15	0.1196	0.02	Q				V
22+20	0.1197	0.02	Q				V
22+25	0.1198	0.01	Q				V
22+30	0.1199	0.01	Q				V

22+35	0.1200	0.01	Q				V
22+40	0.1201	0.01	Q				V
22+45	0.1201	0.01	Q				V
22+50	0.1202	0.01	Q				V
22+55	0.1203	0.01	Q				V
23+ 0	0.1204	0.01	Q				V
23+ 5	0.1205	0.01	Q				V
23+10	0.1205	0.01	Q				V
23+15	0.1206	0.01	Q				V
23+20	0.1207	0.01	Q				V
23+25	0.1208	0.01	Q				V
23+30	0.1209	0.01	Q				V
23+35	0.1210	0.01	Q				V
23+40	0.1210	0.01	Q				V
23+45	0.1211	0.01	Q				V
23+50	0.1212	0.01	Q				V
23+55	0.1213	0.01	Q				V
24+ 0	0.1214	0.01	Q				V
24+ 5	0.1214	0.01	Q				V
24+10	0.1215	0.00	Q				V
24+15	0.1215	0.00	Q				V
24+20	0.1215	0.00	Q				V
24+25	0.1215	0.00	Q				V
24+30	0.1215	0.00	Q				V
24+35	0.1215	0.00	Q				V
24+40	0.1215	0.00	Q				V

Unit Hydrograph Analysis

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

Program License Serial Number 6443

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

English Units used in output format

RCH DMA A2
Kimley-Horn
5 yr proposed

Drainage Area = 1.34(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.34(Ac.) = 0.002 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.104 Hr.
Lag time = 6.24 Min.
25% of lag time = 1.56 Min.
40% of lag time = 2.50 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]
1.34	0.50	0.67

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.34	1.10	1.47

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.100(In)

Point rain (area averaged) = 0.641(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.641(In)

Sub-Area Data:

Area(Ac.) Runoff Index Impervious %
 1.340 56.00 0.810
 Total Area Entered = 1.34(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.810	0.191	1.000	0.191
						Sum (F) = 0.191

Area averaged mean soil loss (F) (In/Hr) = 0.191

Minimum soil loss rate ((In/Hr)) = 0.096

(for 24 hour storm duration)

Soil loss rate (decimal) = 0.320

 Slope of intensity-duration curve for a 1 hour storm =0.5500

U n i t H y d r o g r a p h
 F O O T H I L L S - C u r v e

 Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	80.128	9.037
2	0.167	160.256	48.467
3	0.250	240.385	24.442
4	0.333	320.513	9.714
5	0.417	400.641	4.868
6	0.500	480.769	1.848
7	0.583	560.897	0.741
8	0.667	641.026	0.548
9	0.750	721.154	0.334
		Sum = 100.000	Sum= 1.350

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)		Effective (In/Hr)
			Max	Low	
1	0.08	3.30	0.254	(0.191)	0.081
2	0.17	4.20	0.323	(0.191)	0.103
3	0.25	4.40	0.338	(0.191)	0.108
4	0.33	4.80	0.369	(0.191)	0.118
5	0.42	5.20	0.400	(0.191)	0.128
6	0.50	6.20	0.477	(0.191)	0.152
7	0.58	6.80	0.523	(0.191)	0.167
8	0.67	8.80	0.676	0.191 (0.216)	0.485
9	0.75	13.90	1.068	0.191 (0.342)	0.877
10	0.83	31.40	2.414	0.191 (0.772)	2.222
11	0.92	7.20	0.553	(0.191)	0.177
12	1.00	3.80	0.292	(0.191)	0.093

(Loss Rate Not Used)

Sum = 100.0

Sum = 6.0

Flood volume = Effective rainfall 0.50(In)

times area 1.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)

Total soil loss = 0.14(In)

Total soil loss = 0.016(Ac.Ft)

Total rainfall = 0.64(In)

Flood volume = 2425.4 Cubic Feet
 Total soil loss = 690.3 Cubic Feet

 Peak flow rate of this hydrograph = 1.892(CFS)

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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	0.0001	0.02	Q					
0+10	0.0011	0.14	Q					
0+15	0.0027	0.23	QV					
0+20	0.0046	0.28	Q V					
0+25	0.0067	0.31	Q V					
0+30	0.0092	0.35	Q V					
0+35	0.0119	0.40	Q V					
0+40	0.0151	0.46	Q V					
0+45	0.0193	0.61	Q V					
0+50	0.0268	1.09	Q		V			
0+55	0.0398	1.89	Q			V		
1+ 0	0.0478	1.17	Q				V	
1+ 5	0.0521	0.62	Q					V
1+10	0.0542	0.29	Q					V
1+15	0.0550	0.12	Q					V
1+20	0.0553	0.05	Q					V
1+25	0.0555	0.03	Q					V
1+30	0.0557	0.01	Q					V
1+35	0.0557	0.00	Q					V
1+40	0.0557	0.00	Q					V

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchph1b35.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH DMA A2
Kimley-Horn
5 yr proposed

Drainage Area = 1.34(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.34(Ac.) = 0.002 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.104 Hr.
Lag time = 6.24 Min.
25% of lag time = 1.56 Min.
40% of lag time = 2.50 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]
1.34	0.80	1.07

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.34	1.80	2.41

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.034(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.034(In)

Sub-Area Data:

Area(Ac.) Runoff Index Impervious %
 1.340 56.00 0.810
 Total Area Entered = 1.34(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.810	0.191	1.000	0.191
						Sum (F) = 0.191

Area averaged mean soil loss (F) (In/Hr) = 0.191
 Minimum soil loss rate ((In/Hr)) = 0.096
 (for 24 hour storm duration)
 Soil low loss rate (decimal) = 0.320

 Unit Hydrograph
 FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	80.128	9.037
2	0.167	160.256	48.467
3	0.250	240.385	24.442
4	0.333	320.513	9.714
5	0.417	400.641	4.868
6	0.500	480.769	1.848
7	0.583	560.897	0.741
8	0.667	641.026	0.548
9	0.750	721.154	0.334
		Sum = 100.000	Sum= 1.350

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	(0.191)	0.110
2	0.17	1.30	(0.191)	0.110
3	0.25	1.10	(0.191)	0.093
4	0.33	1.50	(0.191)	0.127
5	0.42	1.50	(0.191)	0.127
6	0.50	1.80	(0.191)	0.152
7	0.58	1.50	(0.191)	0.127
8	0.67	1.80	(0.191)	0.152
9	0.75	1.80	(0.191)	0.152
10	0.83	1.50	(0.191)	0.127
11	0.92	1.60	(0.191)	0.135
12	1.00	1.80	(0.191)	0.152
13	1.08	2.20	(0.191)	0.186
14	1.17	2.20	(0.191)	0.186
15	1.25	2.20	(0.191)	0.186
16	1.33	2.00	(0.191)	0.169
17	1.42	2.60	(0.191)	0.219
18	1.50	2.70	(0.191)	0.228
19	1.58	2.40	(0.191)	0.203
20	1.67	2.70	(0.191)	0.228
21	1.75	3.30	(0.191)	0.278

22	1.83	3.10	0.385	(0.191)	0.123	0.262
23	1.92	2.90	0.360	(0.191)	0.115	0.245
24	2.00	3.00	0.372	(0.191)	0.119	0.253
25	2.08	3.10	0.385	(0.191)	0.123	0.262
26	2.17	4.20	0.521	(0.191)	0.167	0.354
27	2.25	5.00	0.621	0.191	(0.199)	0.429
28	2.33	3.50	0.434	(0.191)	0.139	0.295
29	2.42	6.80	0.844	0.191	(0.270)	0.653
30	2.50	7.30	0.906	0.191	(0.290)	0.715
31	2.58	8.20	1.018	0.191	(0.326)	0.826
32	2.67	5.90	0.732	0.191	(0.234)	0.541
33	2.75	2.00	0.248	(0.191)	0.079	0.169
34	2.83	1.80	0.223	(0.191)	0.071	0.152
35	2.92	1.80	0.223	(0.191)	0.071	0.152
36	3.00	0.60	0.074	(0.191)	0.024	0.051

(Loss Rate Not Used)

Sum = 100.0 Sum = 8.8

Flood volume = Effective rainfall 0.73(In)
times area 1.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)

Total soil loss = 0.30(In)

Total soil loss = 0.034(Ac.Ft)

Total rainfall = 1.03(In)

Flood volume = 3567.5 Cubic Feet

Total soil loss = 1463.1 Cubic Feet

Peak flow rate of this hydrograph = 0.966(CFS)

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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	0.0007	0.09	Q				
0+15	0.0015	0.12	Q				
0+20	0.0024	0.13	QV				
0+25	0.0034	0.15	QV				
0+30	0.0046	0.17	Q V				
0+35	0.0058	0.18	Q V				
0+40	0.0071	0.18	Q V				
0+45	0.0084	0.19	Q V				
0+50	0.0098	0.20	Q V				
0+55	0.0110	0.18	Q V				
1+ 0	0.0123	0.18	Q V				
1+ 5	0.0137	0.20	Q V				
1+10	0.0152	0.23	Q V				
1+15	0.0169	0.24	Q V				
1+20	0.0186	0.24	Q V				
1+25	0.0202	0.24	Q V				
1+30	0.0221	0.27	Q V				
1+35	0.0241	0.29	Q V				
1+40	0.0261	0.28	Q V				
1+45	0.0281	0.30	Q V				
1+50	0.0305	0.34	Q V				
1+55	0.0329	0.35	Q V				
2+ 0	0.0352	0.34	Q V				
2+ 5	0.0376	0.34	Q V				
2+10	0.0400	0.36	Q V				

2+15	0.0430	0.43	Q		V		
2+20	0.0464	0.50	Q		V		
2+25	0.0498	0.49	Q		V		
2+30	0.0547	0.70	Q		V		
2+35	0.0606	0.87	Q		V		
2+40	0.0673	0.97	Q		V		
2+45	0.0728	0.80	Q		V		
2+50	0.0761	0.49	Q		V		
2+55	0.0784	0.33	Q		V		
3+ 0	0.0801	0.25	Q				
3+ 5	0.0811	0.14	Q				
3+10	0.0816	0.07	Q				
3+15	0.0818	0.03	Q				
3+20	0.0818	0.01	Q				
3+25	0.0819	0.00	Q				
3+30	0.0819	0.00	Q				
3+35	0.0819	0.00	Q				
3+40	0.0819	0.00	Q				

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchph1b65.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH DMA A2
Kimley-Horn
5 yr proposed

Drainage Area = 1.34(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.34(Ac.) = 0.002 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.104 Hr.
Lag time = 6.24 Min.
25% of lag time = 1.56 Min.
40% of lag time = 2.50 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]
1.34	1.00	1.34

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.34	2.50	3.35

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 1.351(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.351(In)

Sub-Area Data:

Area(Ac.) Runoff Index Impervious %
 1.340 56.00 0.810
 Total Area Entered = 1.34(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.810	0.191	1.000	0.191
						Sum (F) = 0.191

Area averaged mean soil loss (F) (In/Hr) = 0.191
 Minimum soil loss rate ((In/Hr)) = 0.096
 (for 24 hour storm duration)
 Soil low loss rate (decimal) = 0.320

 Unit Hydrograph
 FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	80.128	9.037
2	0.167	160.256	48.467
3	0.250	240.385	24.442
4	0.333	320.513	9.714
5	0.417	400.641	4.868
6	0.500	480.769	1.848
7	0.583	560.897	0.741
8	0.667	641.026	0.548
9	0.750	721.154	0.334
		Sum = 100.000	Sum= 1.350

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	(0.191)	0.026
2	0.17	0.60	(0.191)	0.031
3	0.25	0.60	(0.191)	0.031
4	0.33	0.60	(0.191)	0.031
5	0.42	0.60	(0.191)	0.031
6	0.50	0.70	(0.191)	0.036
7	0.58	0.70	(0.191)	0.036
8	0.67	0.70	(0.191)	0.036
9	0.75	0.70	(0.191)	0.036
10	0.83	0.70	(0.191)	0.036
11	0.92	0.70	(0.191)	0.036
12	1.00	0.80	(0.191)	0.042
13	1.08	0.80	(0.191)	0.042
14	1.17	0.80	(0.191)	0.042
15	1.25	0.80	(0.191)	0.042
16	1.33	0.80	(0.191)	0.042
17	1.42	0.80	(0.191)	0.042
18	1.50	0.80	(0.191)	0.042
19	1.58	0.80	(0.191)	0.042
20	1.67	0.80	(0.191)	0.042
21	1.75	0.80	(0.191)	0.042

(Loss Rate Not Used)

Sum = 100.0

Sum = 11.2

Flood volume = Effective rainfall 0.93(In)

$$\text{times area} \quad 1.3(\text{Ac.})/[(\text{In})/(\text{Ft.})] = \quad 0.1(\text{Ac.Ft})$$
$$\text{Total soil loss} = 0.42(\text{In})$$

Total soil loss = 0.047 (Ac.Ft)

Total rainfall = 1.35(In)

Flood volume = 4546.5 Cubic Feet

Total soil loss = 2026.6 Cubic Feet

Peak flow rate of this hydrograph = 0.793(CFS)

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 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		0.01	Q				
0+10	0.0004		0.04	Q				
0+15	0.0008		0.07	Q				
0+20	0.0014		0.08	Q				
0+25	0.0020		0.09	Q				
0+30	0.0026		0.09	Q				
0+35	0.0033		0.10	QV				
0+40	0.0040		0.10	QV				
0+45	0.0047		0.10	QV				
0+50	0.0054		0.10	Q V				
0+55	0.0061		0.10	Q V				
1+ 0	0.0068		0.11	Q V				
1+ 5	0.0076		0.11	Q V				
1+10	0.0084		0.12	Q V				
1+15	0.0092		0.12	Q V				
1+20	0.0100		0.12	Q V				
1+25	0.0108		0.12	Q V				
1+30	0.0117		0.12	Q V				
1+35	0.0125		0.12	Q V				
1+40	0.0133		0.12	Q V				
1+45	0.0141		0.12	Q V				
1+50	0.0150		0.12	Q V				
1+55	0.0158		0.12	Q V				
2+ 0	0.0166		0.12	Q V				
2+ 5	0.0175		0.13	Q V				
2+10	0.0183		0.12	Q V				
2+15	0.0192		0.13	Q V				
2+20	0.0201		0.13	Q V				
2+25	0.0210		0.13	Q V				
2+30	0.0220		0.13	Q V				
2+35	0.0229		0.13	Q V				
2+40	0.0238		0.13	Q V				
2+45	0.0247		0.14	Q V				
2+50	0.0257		0.14	Q V				
2+55	0.0267		0.15	Q V				
3+ 0	0.0278		0.15	Q V				
3+ 5	0.0288		0.15	Q V				
3+10	0.0298		0.15	Q V				
3+15	0.0309		0.16	Q V				
3+20	0.0320		0.16	Q V				
3+25	0.0331		0.16	Q V				
3+30	0.0343		0.17	Q V				
3+35	0.0356		0.19	Q V				
3+40	0.0370		0.20	Q V				
3+45	0.0384		0.21	Q V				
3+50	0.0399		0.22	Q V				
3+55	0.0414		0.22	Q V				
4+ 0	0.0430		0.23	Q V				
4+ 5	0.0446		0.24	Q V				
4+10	0.0463		0.25	Q V				
4+15	0.0481		0.26	Q V				
4+20	0.0500		0.27	Q V				

4+25	0.0520	0.29	Q		V		
4+30	0.0540	0.30	Q		V		
4+35	0.0562	0.31	Q		V		
4+40	0.0584	0.32	Q		V		
4+45	0.0607	0.33	Q		V		
4+50	0.0631	0.35	Q		V		
4+55	0.0655	0.35	Q		V		
5+ 0	0.0680	0.37	Q		V		
5+ 5	0.0707	0.38	Q		V		
5+10	0.0737	0.43	Q		V		
5+15	0.0771	0.49	Q		V		
5+20	0.0809	0.56	Q		V		
5+25	0.0852	0.62	Q		V		
5+30	0.0902	0.72	Q		V		
5+35	0.0956	0.79	Q		V		
5+40	0.0991	0.51	Q		V		
5+45	0.1012	0.30	Q		V		
5+50	0.1024	0.18	Q		V		
5+55	0.1032	0.12	Q		V		
6+ 0	0.1038	0.08	Q		V		
6+ 5	0.1041	0.05	Q		V		
6+10	0.1043	0.02	Q		V		
6+15	0.1043	0.01	Q		V		
6+20	0.1044	0.00	Q		V		
6+25	0.1044	0.00	Q		V		
6+30	0.1044	0.00	Q		V		
6+35	0.1044	0.00	Q		V		
6+40	0.1044	0.00	Q		V		

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchph1b245.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH DMA A2
Kimley-Horn
5 yr proposed

Drainage Area = 1.34(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.34(Ac.) = 0.002 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.104 Hr.
Lag time = 6.24 Min.
25% of lag time = 1.56 Min.
40% of lag time = 2.50 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]
1.34	1.60	2.14

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.34	4.00	5.36

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 2.162(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.162(In)

Sub-Area Data:

Area(Ac.) Runoff Index Impervious %
 1.340 56.00 0.810
 Total Area Entered = 1.34(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	36.0	0.706	0.810	0.191	1.000	0.191
						Sum (F) = 0.191

Area averaged mean soil loss (F) (In/Hr) = 0.191
 Minimum soil loss rate ((In/Hr)) = 0.096
 (for 24 hour storm duration)
 Soil low loss rate (decimal) = 0.320

 Unit Hydrograph
 FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	80.128	9.037
2	0.167	160.256	48.467
3	0.250	240.385	24.442
4	0.333	320.513	9.714
5	0.417	400.641	4.868
6	0.500	480.769	1.848
7	0.583	560.897	0.741
8	0.667	641.026	0.548
9	0.750	721.154	0.334
		Sum = 100.000	Sum= 1.350

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	(0.339)	0.006
2	0.17	0.07	(0.338)	0.006
3	0.25	0.07	(0.337)	0.006
4	0.33	0.10	(0.335)	0.008
5	0.42	0.10	(0.334)	0.008
6	0.50	0.10	(0.333)	0.008
7	0.58	0.10	(0.331)	0.008
8	0.67	0.10	(0.330)	0.008
9	0.75	0.10	(0.329)	0.008
10	0.83	0.13	(0.327)	0.011
11	0.92	0.13	(0.326)	0.011
12	1.00	0.13	(0.325)	0.011
13	1.08	0.10	(0.324)	0.008
14	1.17	0.10	(0.322)	0.008
15	1.25	0.10	(0.321)	0.008
16	1.33	0.10	(0.320)	0.008
17	1.42	0.10	(0.318)	0.008
18	1.50	0.10	(0.317)	0.008
19	1.58	0.10	(0.316)	0.008
20	1.67	0.10	(0.315)	0.008
21	1.75	0.10	(0.313)	0.008

22	1.83	0.13	0.035	(0.312)	0.011	0.024
23	1.92	0.13	0.035	(0.311)	0.011	0.024
24	2.00	0.13	0.035	(0.310)	0.011	0.024
25	2.08	0.13	0.035	(0.308)	0.011	0.024
26	2.17	0.13	0.035	(0.307)	0.011	0.024
27	2.25	0.13	0.035	(0.306)	0.011	0.024
28	2.33	0.13	0.035	(0.305)	0.011	0.024
29	2.42	0.13	0.035	(0.303)	0.011	0.024
30	2.50	0.13	0.035	(0.302)	0.011	0.024
31	2.58	0.17	0.043	(0.301)	0.014	0.029
32	2.67	0.17	0.043	(0.300)	0.014	0.029
33	2.75	0.17	0.043	(0.298)	0.014	0.029
34	2.83	0.17	0.043	(0.297)	0.014	0.029
35	2.92	0.17	0.043	(0.296)	0.014	0.029
36	3.00	0.17	0.043	(0.295)	0.014	0.029
37	3.08	0.17	0.043	(0.294)	0.014	0.029
38	3.17	0.17	0.043	(0.292)	0.014	0.029
39	3.25	0.17	0.043	(0.291)	0.014	0.029
40	3.33	0.17	0.043	(0.290)	0.014	0.029
41	3.42	0.17	0.043	(0.289)	0.014	0.029
42	3.50	0.17	0.043	(0.288)	0.014	0.029
43	3.58	0.17	0.043	(0.286)	0.014	0.029
44	3.67	0.17	0.043	(0.285)	0.014	0.029
45	3.75	0.17	0.043	(0.284)	0.014	0.029
46	3.83	0.20	0.052	(0.283)	0.017	0.035
47	3.92	0.20	0.052	(0.282)	0.017	0.035
48	4.00	0.20	0.052	(0.280)	0.017	0.035
49	4.08	0.20	0.052	(0.279)	0.017	0.035
50	4.17	0.20	0.052	(0.278)	0.017	0.035
51	4.25	0.20	0.052	(0.277)	0.017	0.035
52	4.33	0.23	0.061	(0.276)	0.019	0.041
53	4.42	0.23	0.061	(0.274)	0.019	0.041
54	4.50	0.23	0.061	(0.273)	0.019	0.041
55	4.58	0.23	0.061	(0.272)	0.019	0.041
56	4.67	0.23	0.061	(0.271)	0.019	0.041
57	4.75	0.23	0.061	(0.270)	0.019	0.041
58	4.83	0.27	0.069	(0.269)	0.022	0.047
59	4.92	0.27	0.069	(0.267)	0.022	0.047
60	5.00	0.27	0.069	(0.266)	0.022	0.047
61	5.08	0.20	0.052	(0.265)	0.017	0.035
62	5.17	0.20	0.052	(0.264)	0.017	0.035
63	5.25	0.20	0.052	(0.263)	0.017	0.035
64	5.33	0.23	0.061	(0.262)	0.019	0.041
65	5.42	0.23	0.061	(0.260)	0.019	0.041
66	5.50	0.23	0.061	(0.259)	0.019	0.041
67	5.58	0.27	0.069	(0.258)	0.022	0.047
68	5.67	0.27	0.069	(0.257)	0.022	0.047
69	5.75	0.27	0.069	(0.256)	0.022	0.047
70	5.83	0.27	0.069	(0.255)	0.022	0.047
71	5.92	0.27	0.069	(0.254)	0.022	0.047
72	6.00	0.27	0.069	(0.253)	0.022	0.047
73	6.08	0.30	0.078	(0.251)	0.025	0.053
74	6.17	0.30	0.078	(0.250)	0.025	0.053
75	6.25	0.30	0.078	(0.249)	0.025	0.053
76	6.33	0.30	0.078	(0.248)	0.025	0.053
77	6.42	0.30	0.078	(0.247)	0.025	0.053
78	6.50	0.30	0.078	(0.246)	0.025	0.053
79	6.58	0.33	0.086	(0.245)	0.028	0.059
80	6.67	0.33	0.086	(0.244)	0.028	0.059
81	6.75	0.33	0.086	(0.243)	0.028	0.059
82	6.83	0.33	0.086	(0.241)	0.028	0.059
83	6.92	0.33	0.086	(0.240)	0.028	0.059

84	7.00	0.33	0.086	(0.239)	0.028	0.059
85	7.08	0.33	0.086	(0.238)	0.028	0.059
86	7.17	0.33	0.086	(0.237)	0.028	0.059
87	7.25	0.33	0.086	(0.236)	0.028	0.059
88	7.33	0.37	0.095	(0.235)	0.030	0.065
89	7.42	0.37	0.095	(0.234)	0.030	0.065
90	7.50	0.37	0.095	(0.233)	0.030	0.065
91	7.58	0.40	0.104	(0.232)	0.033	0.071
92	7.67	0.40	0.104	(0.231)	0.033	0.071
93	7.75	0.40	0.104	(0.230)	0.033	0.071
94	7.83	0.43	0.112	(0.229)	0.036	0.076
95	7.92	0.43	0.112	(0.227)	0.036	0.076
96	8.00	0.43	0.112	(0.226)	0.036	0.076
97	8.08	0.50	0.130	(0.225)	0.042	0.088
98	8.17	0.50	0.130	(0.224)	0.042	0.088
99	8.25	0.50	0.130	(0.223)	0.042	0.088
100	8.33	0.50	0.130	(0.222)	0.042	0.088
101	8.42	0.50	0.130	(0.221)	0.042	0.088
102	8.50	0.50	0.130	(0.220)	0.042	0.088
103	8.58	0.53	0.138	(0.219)	0.044	0.094
104	8.67	0.53	0.138	(0.218)	0.044	0.094
105	8.75	0.53	0.138	(0.217)	0.044	0.094
106	8.83	0.57	0.147	(0.216)	0.047	0.100
107	8.92	0.57	0.147	(0.215)	0.047	0.100
108	9.00	0.57	0.147	(0.214)	0.047	0.100
109	9.08	0.63	0.164	(0.213)	0.053	0.112
110	9.17	0.63	0.164	(0.212)	0.053	0.112
111	9.25	0.63	0.164	(0.211)	0.053	0.112
112	9.33	0.67	0.173	(0.210)	0.055	0.118
113	9.42	0.67	0.173	(0.209)	0.055	0.118
114	9.50	0.67	0.173	(0.208)	0.055	0.118
115	9.58	0.70	0.182	(0.207)	0.058	0.124
116	9.67	0.70	0.182	(0.206)	0.058	0.124
117	9.75	0.70	0.182	(0.205)	0.058	0.124
118	9.83	0.73	0.190	(0.204)	0.061	0.129
119	9.92	0.73	0.190	(0.203)	0.061	0.129
120	10.00	0.73	0.190	(0.202)	0.061	0.129
121	10.08	0.50	0.130	(0.201)	0.042	0.088
122	10.17	0.50	0.130	(0.200)	0.042	0.088
123	10.25	0.50	0.130	(0.199)	0.042	0.088
124	10.33	0.50	0.130	(0.198)	0.042	0.088
125	10.42	0.50	0.130	(0.197)	0.042	0.088
126	10.50	0.50	0.130	(0.196)	0.042	0.088
127	10.58	0.67	0.173	(0.195)	0.055	0.118
128	10.67	0.67	0.173	(0.194)	0.055	0.118
129	10.75	0.67	0.173	(0.193)	0.055	0.118
130	10.83	0.67	0.173	(0.192)	0.055	0.118
131	10.92	0.67	0.173	(0.191)	0.055	0.118
132	11.00	0.67	0.173	(0.191)	0.055	0.118
133	11.08	0.63	0.164	(0.190)	0.053	0.112
134	11.17	0.63	0.164	(0.189)	0.053	0.112
135	11.25	0.63	0.164	(0.188)	0.053	0.112
136	11.33	0.63	0.164	(0.187)	0.053	0.112
137	11.42	0.63	0.164	(0.186)	0.053	0.112
138	11.50	0.63	0.164	(0.185)	0.053	0.112
139	11.58	0.57	0.147	(0.184)	0.047	0.100
140	11.67	0.57	0.147	(0.183)	0.047	0.100
141	11.75	0.57	0.147	(0.182)	0.047	0.100
142	11.83	0.60	0.156	(0.181)	0.050	0.106
143	11.92	0.60	0.156	(0.180)	0.050	0.106
144	12.00	0.60	0.156	(0.179)	0.050	0.106
145	12.08	0.83	0.216	(0.179)	0.069	0.147

146	12.17	0.83	0.216	(0.178)	0.069	0.147
147	12.25	0.83	0.216	(0.177)	0.069	0.147
148	12.33	0.87	0.225	(0.176)	0.072	0.153
149	12.42	0.87	0.225	(0.175)	0.072	0.153
150	12.50	0.87	0.225	(0.174)	0.072	0.153
151	12.58	0.93	0.242	(0.173)	0.077	0.165
152	12.67	0.93	0.242	(0.172)	0.077	0.165
153	12.75	0.93	0.242	(0.172)	0.077	0.165
154	12.83	0.97	0.251	(0.171)	0.080	0.171
155	12.92	0.97	0.251	(0.170)	0.080	0.171
156	13.00	0.97	0.251	(0.169)	0.080	0.171
157	13.08	1.13	0.294	(0.168)	0.094	0.200
158	13.17	1.13	0.294	(0.167)	0.094	0.200
159	13.25	1.13	0.294	(0.166)	0.094	0.200
160	13.33	1.13	0.294	(0.166)	0.094	0.200
161	13.42	1.13	0.294	(0.165)	0.094	0.200
162	13.50	1.13	0.294	(0.164)	0.094	0.200
163	13.58	0.77	0.199	(0.163)	0.064	0.135
164	13.67	0.77	0.199	(0.162)	0.064	0.135
165	13.75	0.77	0.199	(0.161)	0.064	0.135
166	13.83	0.77	0.199	(0.161)	0.064	0.135
167	13.92	0.77	0.199	(0.160)	0.064	0.135
168	14.00	0.77	0.199	(0.159)	0.064	0.135
169	14.08	0.90	0.234	(0.158)	0.075	0.159
170	14.17	0.90	0.234	(0.157)	0.075	0.159
171	14.25	0.90	0.234	(0.157)	0.075	0.159
172	14.33	0.87	0.225	(0.156)	0.072	0.153
173	14.42	0.87	0.225	(0.155)	0.072	0.153
174	14.50	0.87	0.225	(0.154)	0.072	0.153
175	14.58	0.87	0.225	(0.153)	0.072	0.153
176	14.67	0.87	0.225	(0.153)	0.072	0.153
177	14.75	0.87	0.225	(0.152)	0.072	0.153
178	14.83	0.83	0.216	(0.151)	0.069	0.147
179	14.92	0.83	0.216	(0.150)	0.069	0.147
180	15.00	0.83	0.216	(0.149)	0.069	0.147
181	15.08	0.80	0.208	(0.149)	0.066	0.141
182	15.17	0.80	0.208	(0.148)	0.066	0.141
183	15.25	0.80	0.208	(0.147)	0.066	0.141
184	15.33	0.77	0.199	(0.146)	0.064	0.135
185	15.42	0.77	0.199	(0.146)	0.064	0.135
186	15.50	0.77	0.199	(0.145)	0.064	0.135
187	15.58	0.63	0.164	(0.144)	0.053	0.112
188	15.67	0.63	0.164	(0.143)	0.053	0.112
189	15.75	0.63	0.164	(0.143)	0.053	0.112
190	15.83	0.63	0.164	(0.142)	0.053	0.112
191	15.92	0.63	0.164	(0.141)	0.053	0.112
192	16.00	0.63	0.164	(0.141)	0.053	0.112
193	16.08	0.13	0.035	(0.140)	0.011	0.024
194	16.17	0.13	0.035	(0.139)	0.011	0.024
195	16.25	0.13	0.035	(0.138)	0.011	0.024
196	16.33	0.13	0.035	(0.138)	0.011	0.024
197	16.42	0.13	0.035	(0.137)	0.011	0.024
198	16.50	0.13	0.035	(0.136)	0.011	0.024
199	16.58	0.10	0.026	(0.136)	0.008	0.018
200	16.67	0.10	0.026	(0.135)	0.008	0.018
201	16.75	0.10	0.026	(0.134)	0.008	0.018
202	16.83	0.10	0.026	(0.134)	0.008	0.018
203	16.92	0.10	0.026	(0.133)	0.008	0.018
204	17.00	0.10	0.026	(0.132)	0.008	0.018
205	17.08	0.17	0.043	(0.131)	0.014	0.029
206	17.17	0.17	0.043	(0.131)	0.014	0.029
207	17.25	0.17	0.043	(0.130)	0.014	0.029

208	17.33	0.17	0.043	(0.130)	0.014	0.029
209	17.42	0.17	0.043	(0.129)	0.014	0.029
210	17.50	0.17	0.043	(0.128)	0.014	0.029
211	17.58	0.17	0.043	(0.128)	0.014	0.029
212	17.67	0.17	0.043	(0.127)	0.014	0.029
213	17.75	0.17	0.043	(0.126)	0.014	0.029
214	17.83	0.13	0.035	(0.126)	0.011	0.024
215	17.92	0.13	0.035	(0.125)	0.011	0.024
216	18.00	0.13	0.035	(0.124)	0.011	0.024
217	18.08	0.13	0.035	(0.124)	0.011	0.024
218	18.17	0.13	0.035	(0.123)	0.011	0.024
219	18.25	0.13	0.035	(0.123)	0.011	0.024
220	18.33	0.13	0.035	(0.122)	0.011	0.024
221	18.42	0.13	0.035	(0.121)	0.011	0.024
222	18.50	0.13	0.035	(0.121)	0.011	0.024
223	18.58	0.10	0.026	(0.120)	0.008	0.018
224	18.67	0.10	0.026	(0.120)	0.008	0.018
225	18.75	0.10	0.026	(0.119)	0.008	0.018
226	18.83	0.07	0.017	(0.119)	0.006	0.012
227	18.92	0.07	0.017	(0.118)	0.006	0.012
228	19.00	0.07	0.017	(0.117)	0.006	0.012
229	19.08	0.10	0.026	(0.117)	0.008	0.018
230	19.17	0.10	0.026	(0.116)	0.008	0.018
231	19.25	0.10	0.026	(0.116)	0.008	0.018
232	19.33	0.13	0.035	(0.115)	0.011	0.024
233	19.42	0.13	0.035	(0.115)	0.011	0.024
234	19.50	0.13	0.035	(0.114)	0.011	0.024
235	19.58	0.10	0.026	(0.114)	0.008	0.018
236	19.67	0.10	0.026	(0.113)	0.008	0.018
237	19.75	0.10	0.026	(0.113)	0.008	0.018
238	19.83	0.07	0.017	(0.112)	0.006	0.012
239	19.92	0.07	0.017	(0.112)	0.006	0.012
240	20.00	0.07	0.017	(0.111)	0.006	0.012
241	20.08	0.10	0.026	(0.111)	0.008	0.018
242	20.17	0.10	0.026	(0.110)	0.008	0.018
243	20.25	0.10	0.026	(0.110)	0.008	0.018
244	20.33	0.10	0.026	(0.109)	0.008	0.018
245	20.42	0.10	0.026	(0.109)	0.008	0.018
246	20.50	0.10	0.026	(0.108)	0.008	0.018
247	20.58	0.10	0.026	(0.108)	0.008	0.018
248	20.67	0.10	0.026	(0.107)	0.008	0.018
249	20.75	0.10	0.026	(0.107)	0.008	0.018
250	20.83	0.07	0.017	(0.106)	0.006	0.012
251	20.92	0.07	0.017	(0.106)	0.006	0.012
252	21.00	0.07	0.017	(0.106)	0.006	0.012
253	21.08	0.10	0.026	(0.105)	0.008	0.018
254	21.17	0.10	0.026	(0.105)	0.008	0.018
255	21.25	0.10	0.026	(0.104)	0.008	0.018
256	21.33	0.07	0.017	(0.104)	0.006	0.012
257	21.42	0.07	0.017	(0.104)	0.006	0.012
258	21.50	0.07	0.017	(0.103)	0.006	0.012
259	21.58	0.10	0.026	(0.103)	0.008	0.018
260	21.67	0.10	0.026	(0.102)	0.008	0.018
261	21.75	0.10	0.026	(0.102)	0.008	0.018
262	21.83	0.07	0.017	(0.102)	0.006	0.012
263	21.92	0.07	0.017	(0.101)	0.006	0.012
264	22.00	0.07	0.017	(0.101)	0.006	0.012
265	22.08	0.10	0.026	(0.101)	0.008	0.018
266	22.17	0.10	0.026	(0.100)	0.008	0.018
267	22.25	0.10	0.026	(0.100)	0.008	0.018
268	22.33	0.07	0.017	(0.100)	0.006	0.012
269	22.42	0.07	0.017	(0.099)	0.006	0.012

270	22.50	0.07	0.017	(0.099)	0.006	0.012
271	22.58	0.07	0.017	(0.099)	0.006	0.012
272	22.67	0.07	0.017	(0.099)	0.006	0.012
273	22.75	0.07	0.017	(0.098)	0.006	0.012
274	22.83	0.07	0.017	(0.098)	0.006	0.012
275	22.92	0.07	0.017	(0.098)	0.006	0.012
276	23.00	0.07	0.017	(0.098)	0.006	0.012
277	23.08	0.07	0.017	(0.097)	0.006	0.012
278	23.17	0.07	0.017	(0.097)	0.006	0.012
279	23.25	0.07	0.017	(0.097)	0.006	0.012
280	23.33	0.07	0.017	(0.097)	0.006	0.012
281	23.42	0.07	0.017	(0.097)	0.006	0.012
282	23.50	0.07	0.017	(0.096)	0.006	0.012
283	23.58	0.07	0.017	(0.096)	0.006	0.012
284	23.67	0.07	0.017	(0.096)	0.006	0.012
285	23.75	0.07	0.017	(0.096)	0.006	0.012
286	23.83	0.07	0.017	(0.096)	0.006	0.012
287	23.92	0.07	0.017	(0.096)	0.006	0.012
288	24.00	0.07	0.017	(0.096)	0.006	0.012

(Loss Rate Not Used)

Sum = 100.0

Sum = 17.6

Flood volume = Effective rainfall 1.47(In)

times area 1.3(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)

Total soil loss = 0.69(In)

Total soil loss = 0.077(Ac.Ft)

Total rainfall = 2.16(In)

Flood volume = 7151.6 Cubic Feet

Total soil loss = 3365.5 Cubic Feet

Peak flow rate of this hydrograph = 0.270(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	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0002	0.01	Q				
0+20	0.0003	0.02	Q				
0+25	0.0004	0.02	Q				
0+30	0.0006	0.02	Q				
0+35	0.0007	0.02	Q				
0+40	0.0009	0.02	Q				
0+45	0.0010	0.02	Q				
0+50	0.0012	0.02	Q				
0+55	0.0014	0.03	Q				
1+ 0	0.0016	0.03	Q				
1+ 5	0.0018	0.03	Q				
1+10	0.0020	0.03	Q				
1+15	0.0022	0.03	Q				
1+20	0.0024	0.02	Q				
1+25	0.0025	0.02	Q				
1+30	0.0027	0.02	Q				
1+35	0.0028	0.02	Q				
1+40	0.0030	0.02	Q				
1+45	0.0032	0.02	Q				
1+50	0.0033	0.02	Q				

1+55	0.0035	0.03	Q				
2+ 0	0.0037	0.03	Q				
2+ 5	0.0040	0.03	Q				
2+10	0.0042	0.03	QV				
2+15	0.0044	0.03	QV				
2+20	0.0046	0.03	QV				
2+25	0.0048	0.03	QV				
2+30	0.0051	0.03	QV				
2+35	0.0053	0.03	QV				
2+40	0.0055	0.04	QV				
2+45	0.0058	0.04	QV				
2+50	0.0061	0.04	QV				
2+55	0.0063	0.04	QV				
3+ 0	0.0066	0.04	QV				
3+ 5	0.0069	0.04	QV				
3+10	0.0072	0.04	QV				
3+15	0.0074	0.04	QV				
3+20	0.0077	0.04	QV				
3+25	0.0080	0.04	QV				
3+30	0.0082	0.04	Q V				
3+35	0.0085	0.04	Q V				
3+40	0.0088	0.04	Q V				
3+45	0.0091	0.04	Q V				
3+50	0.0093	0.04	Q V				
3+55	0.0097	0.04	Q V				
4+ 0	0.0100	0.05	Q V				
4+ 5	0.0103	0.05	Q V				
4+10	0.0106	0.05	Q V				
4+15	0.0109	0.05	Q V				
4+20	0.0113	0.05	Q V				
4+25	0.0116	0.05	Q V				
4+30	0.0120	0.05	Q V				
4+35	0.0124	0.05	Q V				
4+40	0.0128	0.06	Q V				
4+45	0.0132	0.06	Q V				
4+50	0.0135	0.06	Q V				
4+55	0.0140	0.06	Q V				
5+ 0	0.0144	0.06	Q V				
5+ 5	0.0148	0.06	Q V				
5+10	0.0152	0.05	Q V				
5+15	0.0155	0.05	Q V				
5+20	0.0159	0.05	Q V				
5+25	0.0162	0.05	Q V				
5+30	0.0166	0.05	Q V				
5+35	0.0170	0.06	Q V				
5+40	0.0174	0.06	Q V				
5+45	0.0178	0.06	Q V				
5+50	0.0183	0.06	Q V				
5+55	0.0187	0.06	Q V				
6+ 0	0.0191	0.06	Q V				
6+ 5	0.0196	0.06	Q V				
6+10	0.0201	0.07	Q V				
6+15	0.0205	0.07	Q V				
6+20	0.0210	0.07	Q V				
6+25	0.0215	0.07	Q V				
6+30	0.0220	0.07	Q V				
6+35	0.0225	0.07	Q V				
6+40	0.0230	0.08	Q V				
6+45	0.0236	0.08	Q V				
6+50	0.0241	0.08	Q V				
6+55	0.0246	0.08	Q V				
7+ 0	0.0252	0.08	Q V				

7+ 5	0.0257	0.08	Q	V						
7+10	0.0263	0.08	Q	V						
7+15	0.0268	0.08	Q	V						
7+20	0.0274	0.08	Q	V						
7+25	0.0280	0.08	Q	V						
7+30	0.0286	0.09	Q	V						
7+35	0.0292	0.09	Q	V						
7+40	0.0298	0.09	Q	V						
7+45	0.0304	0.09	Q	V						
7+50	0.0311	0.10	Q	V						
7+55	0.0318	0.10	Q	V						
8+ 0	0.0325	0.10	Q	V						
8+ 5	0.0332	0.10	Q	V						
8+10	0.0340	0.11	Q	V						
8+15	0.0348	0.12	Q	V						
8+20	0.0356	0.12	Q	V						
8+25	0.0364	0.12	Q	V						
8+30	0.0372	0.12	Q	V						
8+35	0.0380	0.12	Q	V						
8+40	0.0389	0.12	Q	V						
8+45	0.0398	0.13	Q	V						
8+50	0.0406	0.13	Q	V						
8+55	0.0415	0.13	Q	V						
9+ 0	0.0425	0.13	Q	V						
9+ 5	0.0434	0.14	Q	V						
9+10	0.0444	0.14	Q	V						
9+15	0.0454	0.15	Q	V						
9+20	0.0464	0.15	Q	V						
9+25	0.0475	0.15	Q	V						
9+30	0.0486	0.16	Q	V						
9+35	0.0497	0.16	Q	V						
9+40	0.0508	0.16	Q	V						
9+45	0.0519	0.17	Q	V						
9+50	0.0531	0.17	Q	V						
9+55	0.0543	0.17	Q	V						
10+ 0	0.0555	0.17	Q	V						
10+ 5	0.0566	0.17	Q	V						
10+10	0.0576	0.14	Q	V						
10+15	0.0585	0.13	Q	V						
10+20	0.0594	0.12	Q	V						
10+25	0.0602	0.12	Q	V						
10+30	0.0610	0.12	Q	V						
10+35	0.0619	0.12	Q	V						
10+40	0.0628	0.14	Q	V						
10+45	0.0639	0.15	Q	V						
10+50	0.0650	0.16	Q	V						
10+55	0.0660	0.16	Q	V						
11+ 0	0.0671	0.16	Q	V						
11+ 5	0.0682	0.16	Q	V						
11+10	0.0693	0.15	Q	V						
11+15	0.0703	0.15	Q	V						
11+20	0.0714	0.15	Q	V						
11+25	0.0724	0.15	Q	V						
11+30	0.0735	0.15	Q	V						
11+35	0.0745	0.15	Q	V						
11+40	0.0755	0.14	Q	V						
11+45	0.0764	0.14	Q	V						
11+50	0.0774	0.14	Q	V						
11+55	0.0783	0.14	Q	V						
12+ 0	0.0793	0.14	Q	V						
12+ 5	0.0803	0.15	Q	V						
12+10	0.0815	0.17	Q	V						

12+15	0.0828	0.19	Q		V		
12+20	0.0842	0.19	Q		V		
12+25	0.0856	0.20	Q		V		
12+30	0.0870	0.20	Q		V		
12+35	0.0884	0.21	Q		V		
12+40	0.0899	0.22	Q		V		
12+45	0.0914	0.22	Q		V		
12+50	0.0929	0.22	Q		V		
12+55	0.0945	0.23	Q		V		
13+ 0	0.0960	0.23	Q		V		
13+ 5	0.0976	0.23	Q		V		
13+10	0.0994	0.25	Q		V		
13+15	0.1012	0.26	Q		V		
13+20	0.1030	0.27	Q		V		
13+25	0.1049	0.27	Q		V		
13+30	0.1067	0.27	Q		V		
13+35	0.1086	0.26	Q		V		
13+40	0.1101	0.22	Q		V		
13+45	0.1114	0.20	Q		V		
13+50	0.1127	0.19	Q		V		
13+55	0.1140	0.19	Q		V		
14+ 0	0.1153	0.18	Q		V		
14+ 5	0.1166	0.19	Q		V		
14+10	0.1180	0.20	Q		V		
14+15	0.1194	0.21	Q		V		
14+20	0.1209	0.21	Q		V		
14+25	0.1223	0.21	Q		V		
14+30	0.1237	0.21	Q		V		
14+35	0.1251	0.21	Q		V		
14+40	0.1266	0.21	Q		V		
14+45	0.1280	0.21	Q		V		
14+50	0.1294	0.21	Q		V		
14+55	0.1308	0.20	Q		V		
15+ 0	0.1322	0.20	Q		V		
15+ 5	0.1335	0.20	Q		V		
15+10	0.1349	0.19	Q		V		
15+15	0.1362	0.19	Q		V		
15+20	0.1375	0.19	Q		V		
15+25	0.1388	0.19	Q		V		
15+30	0.1401	0.18	Q		V		
15+35	0.1413	0.18	Q		V		
15+40	0.1425	0.16	Q		V		
15+45	0.1435	0.16	Q		V		
15+50	0.1446	0.15	Q		V		
15+55	0.1456	0.15	Q		V		
16+ 0	0.1467	0.15	Q		V		
16+ 5	0.1477	0.14	Q		V		
16+10	0.1482	0.08	Q		V		
16+15	0.1486	0.05	Q		V		
16+20	0.1489	0.04	Q		V		
16+25	0.1491	0.04	Q		V		
16+30	0.1494	0.03	Q		V		
16+35	0.1496	0.03	Q		V		
16+40	0.1498	0.03	Q		V		
16+45	0.1499	0.03	Q		V		
16+50	0.1501	0.02	Q		V		
16+55	0.1503	0.02	Q		V		
17+ 0	0.1504	0.02	Q		V		
17+ 5	0.1506	0.03	Q		V		
17+10	0.1508	0.03	Q		V		
17+15	0.1511	0.04	Q		V		
17+20	0.1514	0.04	Q		V		

17+25	0.1516	0.04	Q				V
17+30	0.1519	0.04	Q				V
17+35	0.1522	0.04	Q				V
17+40	0.1524	0.04	Q				V
17+45	0.1527	0.04	Q				V
17+50	0.1530	0.04	Q				V
17+55	0.1532	0.04	Q				V
18+ 0	0.1535	0.03	Q				V
18+ 5	0.1537	0.03	Q				V
18+10	0.1539	0.03	Q				V
18+15	0.1541	0.03	Q				V
18+20	0.1543	0.03	Q				V
18+25	0.1546	0.03	Q				V
18+30	0.1548	0.03	Q				V
18+35	0.1550	0.03	Q				V
18+40	0.1552	0.03	Q				V
18+45	0.1554	0.03	Q				V
18+50	0.1555	0.02	Q				V
18+55	0.1557	0.02	Q				V
19+ 0	0.1558	0.02	Q				V
19+ 5	0.1559	0.02	Q				V
19+10	0.1560	0.02	Q				V
19+15	0.1562	0.02	Q				V
19+20	0.1564	0.02	Q				V
19+25	0.1566	0.03	Q				V
19+30	0.1568	0.03	Q				V
19+35	0.1570	0.03	Q				V
19+40	0.1572	0.03	Q				V
19+45	0.1573	0.03	Q				V
19+50	0.1575	0.02	Q				V
19+55	0.1576	0.02	Q				V
20+ 0	0.1577	0.02	Q				V
20+ 5	0.1579	0.02	Q				V
20+10	0.1580	0.02	Q				V
20+15	0.1582	0.02	Q				V
20+20	0.1583	0.02	Q				V
20+25	0.1585	0.02	Q				V
20+30	0.1587	0.02	Q				V
20+35	0.1588	0.02	Q				V
20+40	0.1590	0.02	Q				V
20+45	0.1591	0.02	Q				V
20+50	0.1593	0.02	Q				V
20+55	0.1594	0.02	Q				V
21+ 0	0.1596	0.02	Q				V
21+ 5	0.1597	0.02	Q				V
21+10	0.1598	0.02	Q				V
21+15	0.1600	0.02	Q				V
21+20	0.1601	0.02	Q				V
21+25	0.1603	0.02	Q				V
21+30	0.1604	0.02	Q				V
21+35	0.1605	0.02	Q				V
21+40	0.1606	0.02	Q				V
21+45	0.1608	0.02	Q				V
21+50	0.1609	0.02	Q				V
21+55	0.1611	0.02	Q				V
22+ 0	0.1612	0.02	Q				V
22+ 5	0.1613	0.02	Q				V
22+10	0.1615	0.02	Q				V
22+15	0.1616	0.02	Q				V
22+20	0.1618	0.02	Q				V
22+25	0.1619	0.02	Q				V
22+30	0.1620	0.02	Q				V

22+35	0.1621	0.02	Q				V
22+40	0.1622	0.02	Q				V
22+45	0.1624	0.02	Q				V
22+50	0.1625	0.02	Q				V
22+55	0.1626	0.02	Q				V
23+ 0	0.1627	0.02	Q				V
23+ 5	0.1628	0.02	Q				V
23+10	0.1629	0.02	Q				V
23+15	0.1630	0.02	Q				V
23+20	0.1631	0.02	Q				V
23+25	0.1632	0.02	Q				V
23+30	0.1633	0.02	Q				V
23+35	0.1634	0.02	Q				V
23+40	0.1636	0.02	Q				V
23+45	0.1637	0.02	Q				V
23+50	0.1638	0.02	Q				V
23+55	0.1639	0.02	Q				V
24+ 0	0.1640	0.02	Q				V
24+ 5	0.1641	0.01	Q				V
24+10	0.1641	0.01	Q				V
24+15	0.1642	0.00	Q				V
24+20	0.1642	0.00	Q				V
24+25	0.1642	0.00	Q				V
24+30	0.1642	0.00	Q				V
24+35	0.1642	0.00	Q				V
24+40	0.1642	0.00	Q				V

Unit Hydrograph Analysis

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

Program License Serial Number 6443

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

English Units used in output format

RCH DMA A2
Kimley-Horn
10 yr proposed

Drainage Area = 1.34(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.34(Ac.) = 0.002 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.104 Hr.
Lag time = 6.24 Min.
25% of lag time = 1.56 Min.
40% of lag time = 2.50 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]
1.34	0.50	0.67

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.34	1.10	1.47

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.100(In)

Point rain (area averaged) = 0.747(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.747(In)

Sub-Area Data:

Area(Ac.) Runoff Index Impervious %
 1.340 56.00 0.810
 Total Area Entered = 1.34(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	56.0	0.511	0.810	0.138	1.000	0.138
						Sum (F) = 0.138

Area averaged mean soil loss (F) (In/Hr) = 0.138

Minimum soil loss rate ((In/Hr)) = 0.069

(for 24 hour storm duration)

Soil loss rate (decimal) = 0.320

 Slope of intensity-duration curve for a 1 hour storm =0.5500

U n i t H y d r o g r a p h
 F O O T H I L L S - C u r v e

 Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	80.128	9.037
2	0.167	160.256	48.467
3	0.250	240.385	24.442
4	0.333	320.513	9.714
5	0.417	400.641	4.868
6	0.500	480.769	1.848
7	0.583	560.897	0.741
8	0.667	641.026	0.548
9	0.750	721.154	0.334
		Sum = 100.000	Sum= 1.350

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	3.30	0.296 (0.138)	0.095
2	0.17	4.20	0.376 (0.138)	0.120
3	0.25	4.40	0.394 (0.138)	0.126
4	0.33	4.80	0.430 (0.138)	0.138
5	0.42	5.20	0.466 0.138 (0.149)	0.328
6	0.50	6.20	0.556 0.138 (0.178)	0.417
7	0.58	6.80	0.609 0.138 (0.195)	0.471
8	0.67	8.80	0.789 0.138 (0.252)	0.650
9	0.75	13.90	1.246 0.138 (0.399)	1.107
10	0.83	31.40	2.814 0.138 (0.901)	2.676
11	0.92	7.20	0.645 0.138 (0.206)	0.507
12	1.00	3.80	0.341 (0.138)	0.109

(Loss Rate Not Used)

Sum = 100.0

Sum = 7.4

Flood volume = Effective rainfall 0.62(In)

times area 1.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)

Total soil loss = 0.13(In)

Total soil loss = 0.014(Ac.Ft)

Total rainfall = 0.75(In)

Flood volume = 3001.7 Cubic Feet
 Total soil loss = 631.1 Cubic Feet

 Peak flow rate of this hydrograph = 2.313(CFS)

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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	0.0002	0.00	0.02	Q				
0+10	0.0013	0.00	0.16	Q				
0+15	0.0031	0.00	0.27	Q				
0+20	0.0053	0.00	0.32	Q V				
0+25	0.0079	0.00	0.37	Q V				
0+30	0.0108	0.00	0.42	Q V				
0+35	0.0142	0.00	0.50	Q V				
0+40	0.0184	0.00	0.60	Q V				
0+45	0.0239	0.00	0.81	Q V				
0+50	0.0333	1.37	1.37	Q		V		
0+55	0.0493	2.31	2.31	Q			V	
1+ 0	0.0593	1.45	1.45	Q				V
1+ 5	0.0646	0.77	0.77	Q				V
1+10	0.0670	0.36	0.36	Q				V
1+15	0.0681	0.15	0.15	Q				V
1+20	0.0685	0.07	0.07	Q				V
1+25	0.0687	0.04	0.04	Q				V
1+30	0.0689	0.02	0.02	Q				V
1+35	0.0689	0.00	0.00	Q				V
1+40	0.0689	0.00	0.00	Q				V

Unit Hydrograph Analysis

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

Program License Serial Number 6443

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

English Units used in output format

RCH DMA A2
Kimley-Horn
10 yr proposed

Drainage Area = 1.34(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.34(Ac.) = 0.002 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.104 Hr.
Lag time = 6.24 Min.
25% of lag time = 1.56 Min.
40% of lag time = 2.50 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]
1.34	0.80	1.07

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.34	1.80	2.41

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.211(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.211(In)

Sub-Area Data:

Area(Ac.) Runoff Index Impervious %
 1.340 56.00 0.810
 Total Area Entered = 1.34(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	56.0	0.511	0.810	0.138	1.000	0.138
						Sum (F) = 0.138

Area averaged mean soil loss (F) (In/Hr) = 0.138

Minimum soil loss rate ((In/Hr)) = 0.069

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.320

 Unit Hydrograph
 FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	80.128	9.037
2	0.167	160.256	48.467
3	0.250	240.385	24.442
4	0.333	320.513	9.714
5	0.417	400.641	4.868
6	0.500	480.769	1.848
7	0.583	560.897	0.741
8	0.667	641.026	0.548
9	0.750	721.154	0.334
		Sum = 100.000	Sum= 1.350

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	(0.189)	0.129
2	0.17	1.30	(0.138)	0.129
3	0.25	1.10	(0.138)	0.109
4	0.33	1.50	(0.138)	0.148
5	0.42	1.50	(0.138)	0.148
6	0.50	1.80	(0.138)	0.178
7	0.58	1.50	(0.138)	0.148
8	0.67	1.80	(0.138)	0.178
9	0.75	1.80	(0.138)	0.178
10	0.83	1.50	(0.138)	0.148
11	0.92	1.60	(0.138)	0.158
12	1.00	1.80	(0.138)	0.178
13	1.08	2.20	(0.138)	0.217
14	1.17	2.20	(0.138)	0.217
15	1.25	2.20	(0.138)	0.217
16	1.33	2.00	(0.138)	0.198
17	1.42	2.60	(0.138)	0.257
18	1.50	2.70	(0.138)	0.267
19	1.58	2.40	(0.138)	0.237
20	1.67	2.70	(0.138)	0.267
21	1.75	3.30	0.138 (0.154)	0.341

22	1.83	3.10	0.451	0.138	(0.144)	0.312
23	1.92	2.90	0.422	(0.138)	0.135	0.287
24	2.00	3.00	0.436	0.138	(0.140)	0.298
25	2.08	3.10	0.451	0.138	(0.144)	0.312
26	2.17	4.20	0.611	0.138	(0.195)	0.472
27	2.25	5.00	0.727	0.138	(0.233)	0.588
28	2.33	3.50	0.509	0.138	(0.163)	0.370
29	2.42	6.80	0.989	0.138	(0.316)	0.850
30	2.50	7.30	1.061	0.138	(0.340)	0.923
31	2.58	8.20	1.192	0.138	(0.381)	1.054
32	2.67	5.90	0.858	0.138	(0.274)	0.719
33	2.75	2.00	0.291	(0.138)	0.093	0.198
34	2.83	1.80	0.262	(0.138)	0.084	0.178
35	2.92	1.80	0.262	(0.138)	0.084	0.178
36	3.00	0.60	0.087	(0.138)	0.028	0.059

(Loss Rate Not Used)

Sum = 100.0 Sum = 10.8

Flood volume = Effective rainfall 0.90(In)
times area 1.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)

Total soil loss = 0.31(In)

Total soil loss = 0.034(Ac.Ft)

Total rainfall = 1.21(In)

Flood volume = 4396.6 Cubic Feet

Total soil loss = 1495.9 Cubic Feet

Peak flow rate of this hydrograph = 1.242(CFS)

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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	0.02	Q				
0+10	0.0008	0.10	Q				
0+15	0.0018	0.14	Q				
0+20	0.0028	0.15	QV				
0+25	0.0040	0.18	QV				
0+30	0.0053	0.19	Q V				
0+35	0.0068	0.21	Q V				
0+40	0.0083	0.21	Q V				
0+45	0.0098	0.23	Q V				
0+50	0.0114	0.23	Q V				
0+55	0.0129	0.22	Q V				
1+ 0	0.0144	0.22	Q V				
1+ 5	0.0160	0.23	Q V				
1+10	0.0178	0.27	Q V				
1+15	0.0198	0.28	Q V				
1+20	0.0218	0.29	Q V				
1+25	0.0237	0.28	Q V				
1+30	0.0259	0.32	Q V				
1+35	0.0282	0.34	Q V				
1+40	0.0305	0.33	Q V				
1+45	0.0330	0.36	Q V				
1+50	0.0358	0.41	Q V				
1+55	0.0387	0.41	Q V				
2+ 0	0.0414	0.40	Q V				
2+ 5	0.0442	0.40	Q V				
2+10	0.0472	0.43	Q V				

2+15	0.0510	0.56	Q		V		
2+20	0.0556	0.66	Q		V		
2+25	0.0600	0.64	Q		V		
2+30	0.0662	0.91	Q		V		
2+35	0.0740	1.12	Q		V		
2+40	0.0825	1.24	Q		V		
2+45	0.0897	1.04	Q		V		
2+50	0.0939	0.62	Q		V		
2+55	0.0967	0.40	Q		V		
3+ 0	0.0988	0.30	Q		V		
3+ 5	0.1000	0.17	Q		V		
3+10	0.1005	0.08	Q		V		
3+15	0.1008	0.04	Q		V		
3+20	0.1009	0.01	Q		V		
3+25	0.1009	0.01	Q		V		
3+30	0.1009	0.00	Q		V		
3+35	0.1009	0.00	Q		V		
3+40	0.1009	0.00	Q		V		

Unit Hydrograph Analysis

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

Program License Serial Number 6443

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

English Units used in output format

RCH DMA A2
Kimley-Horn
10 yr proposed

Drainage Area = 1.34(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.34(Ac.) = 0.002 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.104 Hr.
Lag time = 6.24 Min.
25% of lag time = 1.56 Min.
40% of lag time = 2.50 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]
1.34	1.00	1.34

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.34	2.50	3.35

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 1.617(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.617(In)

Sub-Area Data:

Area(Ac.) Runoff Index Impervious %
 1.340 56.00 0.810
 Total Area Entered = 1.34(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	56.0	0.511	0.810	0.138	1.000	0.138
						Sum (F) = 0.138

Area averaged mean soil loss (F) (In/Hr) = 0.138
 Minimum soil loss rate ((In/Hr)) = 0.069
 (for 24 hour storm duration)
 Soil low loss rate (decimal) = 0.320

 Unit Hydrograph
 FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	80.128	9.037
2	0.167	160.256	48.467
3	0.250	240.385	24.442
4	0.333	320.513	9.714
5	0.417	400.641	4.868
6	0.500	480.769	1.848
7	0.583	560.897	0.741
8	0.667	641.026	0.548
9	0.750	721.154	0.334
		Sum = 100.000	Sum= 1.350

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	(0.138)	0.031
2	0.17	0.60	(0.138)	0.037
3	0.25	0.60	(0.138)	0.037
4	0.33	0.60	(0.138)	0.037
5	0.42	0.60	(0.138)	0.037
6	0.50	0.70	(0.138)	0.043
7	0.58	0.70	(0.138)	0.043
8	0.67	0.70	(0.138)	0.043
9	0.75	0.70	(0.138)	0.043
10	0.83	0.70	(0.138)	0.043
11	0.92	0.70	(0.138)	0.043
12	1.00	0.80	(0.138)	0.050
13	1.08	0.80	(0.138)	0.050
14	1.17	0.80	(0.138)	0.050
15	1.25	0.80	(0.138)	0.050
16	1.33	0.80	(0.138)	0.050
17	1.42	0.80	(0.138)	0.050
18	1.50	0.80	(0.138)	0.050
19	1.58	0.80	(0.138)	0.050
20	1.67	0.80	(0.138)	0.050
21	1.75	0.80	(0.138)	0.050

22	1.83	0.80	0.155	(0.138)	0.050	0.106
23	1.92	0.80	0.155	(0.138)	0.050	0.106
24	2.00	0.90	0.175	(0.138)	0.056	0.119
25	2.08	0.80	0.155	(0.138)	0.050	0.106
26	2.17	0.90	0.175	(0.138)	0.056	0.119
27	2.25	0.90	0.175	(0.138)	0.056	0.119
28	2.33	0.90	0.175	(0.138)	0.056	0.119
29	2.42	0.90	0.175	(0.138)	0.056	0.119
30	2.50	0.90	0.175	(0.138)	0.056	0.119
31	2.58	0.90	0.175	(0.138)	0.056	0.119
32	2.67	0.90	0.175	(0.138)	0.056	0.119
33	2.75	1.00	0.194	(0.138)	0.062	0.132
34	2.83	1.00	0.194	(0.138)	0.062	0.132
35	2.92	1.00	0.194	(0.138)	0.062	0.132
36	3.00	1.00	0.194	(0.138)	0.062	0.132
37	3.08	1.00	0.194	(0.138)	0.062	0.132
38	3.17	1.10	0.213	(0.138)	0.068	0.145
39	3.25	1.10	0.213	(0.138)	0.068	0.145
40	3.33	1.10	0.213	(0.138)	0.068	0.145
41	3.42	1.20	0.233	(0.138)	0.075	0.158
42	3.50	1.30	0.252	(0.138)	0.081	0.172
43	3.58	1.40	0.272	(0.138)	0.087	0.185
44	3.67	1.40	0.272	(0.138)	0.087	0.185
45	3.75	1.50	0.291	(0.138)	0.093	0.198
46	3.83	1.50	0.291	(0.138)	0.093	0.198
47	3.92	1.60	0.310	(0.138)	0.099	0.211
48	4.00	1.60	0.310	(0.138)	0.099	0.211
49	4.08	1.70	0.330	(0.138)	0.106	0.224
50	4.17	1.80	0.349	(0.138)	0.112	0.238
51	4.25	1.90	0.369	(0.138)	0.118	0.251
52	4.33	2.00	0.388	(0.138)	0.124	0.264
53	4.42	2.10	0.408	(0.138)	0.130	0.277
54	4.50	2.10	0.408	(0.138)	0.130	0.277
55	4.58	2.20	0.427	(0.138)	0.137	0.290
56	4.67	2.30	0.446	0.138 (0.143)		0.308
57	4.75	2.40	0.466	0.138 (0.149)		0.327
58	4.83	2.40	0.466	0.138 (0.149)		0.327
59	4.92	2.50	0.485	0.138 (0.155)		0.347
60	5.00	2.60	0.505	0.138 (0.161)		0.366
61	5.08	3.10	0.602	0.138 (0.193)		0.463
62	5.17	3.60	0.699	0.138 (0.224)		0.560
63	5.25	3.90	0.757	0.138 (0.242)		0.618
64	5.33	4.20	0.815	0.138 (0.261)		0.677
65	5.42	4.70	0.912	0.138 (0.292)		0.774
66	5.50	5.60	1.087	0.138 (0.348)		0.948
67	5.58	1.90	0.369	(0.138)	0.118	0.251
68	5.67	0.90	0.175	(0.138)	0.056	0.119
69	5.75	0.60	0.116	(0.138)	0.037	0.079
70	5.83	0.50	0.097	(0.138)	0.031	0.066
71	5.92	0.30	0.058	(0.138)	0.019	0.040
72	6.00	0.20	0.039	(0.138)	0.012	0.026

(Loss Rate Not Used)

Sum = 100.0 Sum = 14.0

Flood volume = Effective rainfall 1.17(In)
times area 1.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)

Total soil loss = 0.45(In)

Total soil loss = 0.050(Ac.Ft)

Total rainfall = 1.62(In)

Flood volume = 5670.5 Cubic Feet

Total soil loss = 2195.4 Cubic Feet

Peak flow rate of this hydrograph = 1.059(CFS)

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 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	0.0001		0.01	Q				
0+10	0.0004		0.05	Q				
0+15	0.0010		0.08	Q				
0+20	0.0017		0.10	Q				
0+25	0.0024		0.10	Q				
0+30	0.0031		0.11	Q				
0+35	0.0039		0.12	QV				
0+40	0.0047		0.12	QV				
0+45	0.0056		0.12	QV				
0+50	0.0064		0.12	QV				
0+55	0.0073		0.12	Q V				
1+ 0	0.0082		0.13	Q V				
1+ 5	0.0091		0.13	Q V				
1+10	0.0101		0.14	Q V				
1+15	0.0110		0.14	Q V				
1+20	0.0120		0.14	Q V				
1+25	0.0130		0.14	Q V				
1+30	0.0140		0.14	Q V				
1+35	0.0149		0.14	Q V				
1+40	0.0159		0.14	Q V				
1+45	0.0169		0.14	Q V				
1+50	0.0179		0.14	Q V				
1+55	0.0189		0.14	Q V				
2+ 0	0.0199		0.14	Q V				
2+ 5	0.0209		0.15	Q V				
2+10	0.0219		0.15	Q V				
2+15	0.0230		0.15	Q V				
2+20	0.0241		0.16	Q V				
2+25	0.0252		0.16	Q V				
2+30	0.0263		0.16	Q V				
2+35	0.0274		0.16	Q V				
2+40	0.0285		0.16	Q V				
2+45	0.0296		0.16	Q V				
2+50	0.0308		0.17	Q V				
2+55	0.0320		0.18	Q V				
3+ 0	0.0332		0.18	Q V				
3+ 5	0.0344		0.18	Q V				
3+10	0.0357		0.18	Q V				
3+15	0.0370		0.19	Q V				
3+20	0.0383		0.19	Q V				
3+25	0.0396		0.20	Q V				
3+30	0.0411		0.21	Q V				
3+35	0.0426		0.22	Q V				
3+40	0.0442		0.24	Q V				
3+45	0.0459		0.25	Q V				
3+50	0.0477		0.26	Q V				
3+55	0.0495		0.26	Q V				
4+ 0	0.0514		0.28	Q V				
4+ 5	0.0534		0.28	Q V				
4+10	0.0554		0.30	Q V				
4+15	0.0576		0.31	Q V				
4+20	0.0598		0.33	Q V				

4+25	0.0622	0.35	Q		V			
4+30	0.0647	0.36	Q		V			
4+35	0.0672	0.37	Q		V			
4+40	0.0699	0.38	Q		V			
4+45	0.0727	0.40	Q		V			
4+50	0.0756	0.42	Q		V			
4+55	0.0786	0.44	Q		V			
5+ 0	0.0817	0.46	Q		V			
5+ 5	0.0851	0.49	Q		V			
5+10	0.0891	0.57	Q		V			
5+15	0.0937	0.68	Q		V			
5+20	0.0991	0.77	Q		V			
5+25	0.1050	0.86	Q		V			
5+30	0.1118	0.98	Q		V			
5+35	0.1191	1.06	Q		V			
5+40	0.1236	0.66	Q		V			
5+45	0.1262	0.37	Q		V			
5+50	0.1278	0.23	Q		V			
5+55	0.1288	0.15	Q		V			
6+ 0	0.1294	0.09	Q		V			
6+ 5	0.1299	0.06	Q		V			
6+10	0.1301	0.03	Q		V			
6+15	0.1301	0.01	Q		V			
6+20	0.1302	0.00	Q		V			
6+25	0.1302	0.00	Q		V			
6+30	0.1302	0.00	Q		V			
6+35	0.1302	0.00	Q		V			
6+40	0.1302	0.00	Q		V			

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchph1b2410.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH DMA A2
Kimley-Horn
10 yr proposed

Drainage Area = 1.34(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.34(Ac.) = 0.002 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.104 Hr.
Lag time = 6.24 Min.
25% of lag time = 1.56 Min.
40% of lag time = 2.50 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]
1.34	1.60	2.14

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.34	4.00	5.36

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 2.587(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.587(In)

Sub-Area Data:

Area(Ac.) Runoff Index Impervious %
 1.340 56.00 0.810
 Total Area Entered = 1.34(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	56.0	0.511	0.810	0.138	1.000	0.138
						Sum (F) = 0.138

Area averaged mean soil loss (F) (In/Hr) = 0.138

Minimum soil loss rate ((In/Hr)) = 0.069

(for 24 hour storm duration)

Soil loss rate (decimal) = 0.320

 Unit Hydrograph
 FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	80.128	9.037
2	0.167	160.256	48.467
3	0.250	240.385	24.442
4	0.333	320.513	9.714
5	0.417	400.641	4.868
6	0.500	480.769	1.848
7	0.583	560.897	0.741
8	0.667	641.026	0.548
9	0.750	721.154	0.334
		Sum = 100.000	Sum= 1.350

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	(0.245)	0.007
2	0.17	0.07	(0.244)	0.007
3	0.25	0.07	(0.243)	0.007
4	0.33	0.10	(0.243)	0.010
5	0.42	0.10	(0.242)	0.010
6	0.50	0.10	(0.241)	0.010
7	0.58	0.10	(0.240)	0.010
8	0.67	0.10	(0.239)	0.010
9	0.75	0.10	(0.238)	0.010
10	0.83	0.13	(0.237)	0.013
11	0.92	0.13	(0.236)	0.013
12	1.00	0.13	(0.235)	0.013
13	1.08	0.10	(0.234)	0.010
14	1.17	0.10	(0.233)	0.010
15	1.25	0.10	(0.232)	0.010
16	1.33	0.10	(0.231)	0.010
17	1.42	0.10	(0.230)	0.010
18	1.50	0.10	(0.230)	0.010
19	1.58	0.10	(0.229)	0.010
20	1.67	0.10	(0.228)	0.010
21	1.75	0.10	(0.227)	0.010

22	1.83	0.13	0.041	(0.226)	0.013	0.028
23	1.92	0.13	0.041	(0.225)	0.013	0.028
24	2.00	0.13	0.041	(0.224)	0.013	0.028
25	2.08	0.13	0.041	(0.223)	0.013	0.028
26	2.17	0.13	0.041	(0.222)	0.013	0.028
27	2.25	0.13	0.041	(0.221)	0.013	0.028
28	2.33	0.13	0.041	(0.220)	0.013	0.028
29	2.42	0.13	0.041	(0.220)	0.013	0.028
30	2.50	0.13	0.041	(0.219)	0.013	0.028
31	2.58	0.17	0.052	(0.218)	0.017	0.035
32	2.67	0.17	0.052	(0.217)	0.017	0.035
33	2.75	0.17	0.052	(0.216)	0.017	0.035
34	2.83	0.17	0.052	(0.215)	0.017	0.035
35	2.92	0.17	0.052	(0.214)	0.017	0.035
36	3.00	0.17	0.052	(0.213)	0.017	0.035
37	3.08	0.17	0.052	(0.212)	0.017	0.035
38	3.17	0.17	0.052	(0.212)	0.017	0.035
39	3.25	0.17	0.052	(0.211)	0.017	0.035
40	3.33	0.17	0.052	(0.210)	0.017	0.035
41	3.42	0.17	0.052	(0.209)	0.017	0.035
42	3.50	0.17	0.052	(0.208)	0.017	0.035
43	3.58	0.17	0.052	(0.207)	0.017	0.035
44	3.67	0.17	0.052	(0.206)	0.017	0.035
45	3.75	0.17	0.052	(0.205)	0.017	0.035
46	3.83	0.20	0.062	(0.205)	0.020	0.042
47	3.92	0.20	0.062	(0.204)	0.020	0.042
48	4.00	0.20	0.062	(0.203)	0.020	0.042
49	4.08	0.20	0.062	(0.202)	0.020	0.042
50	4.17	0.20	0.062	(0.201)	0.020	0.042
51	4.25	0.20	0.062	(0.200)	0.020	0.042
52	4.33	0.23	0.072	(0.199)	0.023	0.049
53	4.42	0.23	0.072	(0.199)	0.023	0.049
54	4.50	0.23	0.072	(0.198)	0.023	0.049
55	4.58	0.23	0.072	(0.197)	0.023	0.049
56	4.67	0.23	0.072	(0.196)	0.023	0.049
57	4.75	0.23	0.072	(0.195)	0.023	0.049
58	4.83	0.27	0.083	(0.194)	0.026	0.056
59	4.92	0.27	0.083	(0.193)	0.026	0.056
60	5.00	0.27	0.083	(0.193)	0.026	0.056
61	5.08	0.20	0.062	(0.192)	0.020	0.042
62	5.17	0.20	0.062	(0.191)	0.020	0.042
63	5.25	0.20	0.062	(0.190)	0.020	0.042
64	5.33	0.23	0.072	(0.189)	0.023	0.049
65	5.42	0.23	0.072	(0.188)	0.023	0.049
66	5.50	0.23	0.072	(0.188)	0.023	0.049
67	5.58	0.27	0.083	(0.187)	0.026	0.056
68	5.67	0.27	0.083	(0.186)	0.026	0.056
69	5.75	0.27	0.083	(0.185)	0.026	0.056
70	5.83	0.27	0.083	(0.184)	0.026	0.056
71	5.92	0.27	0.083	(0.184)	0.026	0.056
72	6.00	0.27	0.083	(0.183)	0.026	0.056
73	6.08	0.30	0.093	(0.182)	0.030	0.063
74	6.17	0.30	0.093	(0.181)	0.030	0.063
75	6.25	0.30	0.093	(0.180)	0.030	0.063
76	6.33	0.30	0.093	(0.179)	0.030	0.063
77	6.42	0.30	0.093	(0.179)	0.030	0.063
78	6.50	0.30	0.093	(0.178)	0.030	0.063
79	6.58	0.33	0.103	(0.177)	0.033	0.070
80	6.67	0.33	0.103	(0.176)	0.033	0.070
81	6.75	0.33	0.103	(0.175)	0.033	0.070
82	6.83	0.33	0.103	(0.175)	0.033	0.070
83	6.92	0.33	0.103	(0.174)	0.033	0.070

84	7.00	0.33	0.103	(0.173)	0.033	0.070
85	7.08	0.33	0.103	(0.172)	0.033	0.070
86	7.17	0.33	0.103	(0.172)	0.033	0.070
87	7.25	0.33	0.103	(0.171)	0.033	0.070
88	7.33	0.37	0.114	(0.170)	0.036	0.077
89	7.42	0.37	0.114	(0.169)	0.036	0.077
90	7.50	0.37	0.114	(0.168)	0.036	0.077
91	7.58	0.40	0.124	(0.168)	0.040	0.084
92	7.67	0.40	0.124	(0.167)	0.040	0.084
93	7.75	0.40	0.124	(0.166)	0.040	0.084
94	7.83	0.43	0.135	(0.165)	0.043	0.091
95	7.92	0.43	0.135	(0.165)	0.043	0.091
96	8.00	0.43	0.135	(0.164)	0.043	0.091
97	8.08	0.50	0.155	(0.163)	0.050	0.106
98	8.17	0.50	0.155	(0.162)	0.050	0.106
99	8.25	0.50	0.155	(0.162)	0.050	0.106
100	8.33	0.50	0.155	(0.161)	0.050	0.106
101	8.42	0.50	0.155	(0.160)	0.050	0.106
102	8.50	0.50	0.155	(0.159)	0.050	0.106
103	8.58	0.53	0.166	(0.159)	0.053	0.113
104	8.67	0.53	0.166	(0.158)	0.053	0.113
105	8.75	0.53	0.166	(0.157)	0.053	0.113
106	8.83	0.57	0.176	(0.156)	0.056	0.120
107	8.92	0.57	0.176	(0.156)	0.056	0.120
108	9.00	0.57	0.176	(0.155)	0.056	0.120
109	9.08	0.63	0.197	(0.154)	0.063	0.134
110	9.17	0.63	0.197	(0.153)	0.063	0.134
111	9.25	0.63	0.197	(0.153)	0.063	0.134
112	9.33	0.67	0.207	(0.152)	0.066	0.141
113	9.42	0.67	0.207	(0.151)	0.066	0.141
114	9.50	0.67	0.207	(0.150)	0.066	0.141
115	9.58	0.70	0.217	(0.150)	0.070	0.148
116	9.67	0.70	0.217	(0.149)	0.070	0.148
117	9.75	0.70	0.217	(0.148)	0.070	0.148
118	9.83	0.73	0.228	(0.148)	0.073	0.155
119	9.92	0.73	0.228	(0.147)	0.073	0.155
120	10.00	0.73	0.228	(0.146)	0.073	0.155
121	10.08	0.50	0.155	(0.145)	0.050	0.106
122	10.17	0.50	0.155	(0.145)	0.050	0.106
123	10.25	0.50	0.155	(0.144)	0.050	0.106
124	10.33	0.50	0.155	(0.143)	0.050	0.106
125	10.42	0.50	0.155	(0.143)	0.050	0.106
126	10.50	0.50	0.155	(0.142)	0.050	0.106
127	10.58	0.67	0.207	(0.141)	0.066	0.141
128	10.67	0.67	0.207	(0.141)	0.066	0.141
129	10.75	0.67	0.207	(0.140)	0.066	0.141
130	10.83	0.67	0.207	(0.139)	0.066	0.141
131	10.92	0.67	0.207	(0.139)	0.066	0.141
132	11.00	0.67	0.207	(0.138)	0.066	0.141
133	11.08	0.63	0.197	(0.137)	0.063	0.134
134	11.17	0.63	0.197	(0.136)	0.063	0.134
135	11.25	0.63	0.197	(0.136)	0.063	0.134
136	11.33	0.63	0.197	(0.135)	0.063	0.134
137	11.42	0.63	0.197	(0.134)	0.063	0.134
138	11.50	0.63	0.197	(0.134)	0.063	0.134
139	11.58	0.57	0.176	(0.133)	0.056	0.120
140	11.67	0.57	0.176	(0.132)	0.056	0.120
141	11.75	0.57	0.176	(0.132)	0.056	0.120
142	11.83	0.60	0.186	(0.131)	0.060	0.127
143	11.92	0.60	0.186	(0.131)	0.060	0.127
144	12.00	0.60	0.186	(0.130)	0.060	0.127
145	12.08	0.83	0.259	(0.129)	0.083	0.176

146	12.17	0.83	0.259	(0.129)	0.083	0.176
147	12.25	0.83	0.259	(0.128)	0.083	0.176
148	12.33	0.87	0.269	(0.127)	0.086	0.183
149	12.42	0.87	0.269	(0.127)	0.086	0.183
150	12.50	0.87	0.269	(0.126)	0.086	0.183
151	12.58	0.93	0.290	(0.125)	0.093	0.197
152	12.67	0.93	0.290	(0.125)	0.093	0.197
153	12.75	0.93	0.290	(0.124)	0.093	0.197
154	12.83	0.97	0.300	(0.123)	0.096	0.204
155	12.92	0.97	0.300	(0.123)	0.096	0.204
156	13.00	0.97	0.300	(0.122)	0.096	0.204
157	13.08	1.13	0.352	(0.122)	0.113	0.239
158	13.17	1.13	0.352	(0.121)	0.113	0.239
159	13.25	1.13	0.352	(0.120)	0.113	0.239
160	13.33	1.13	0.352	(0.120)	0.113	0.239
161	13.42	1.13	0.352	(0.119)	0.113	0.239
162	13.50	1.13	0.352	(0.119)	0.113	0.239
163	13.58	0.77	0.238	(0.118)	0.076	0.162
164	13.67	0.77	0.238	(0.117)	0.076	0.162
165	13.75	0.77	0.238	(0.117)	0.076	0.162
166	13.83	0.77	0.238	(0.116)	0.076	0.162
167	13.92	0.77	0.238	(0.116)	0.076	0.162
168	14.00	0.77	0.238	(0.115)	0.076	0.162
169	14.08	0.90	0.279	(0.114)	0.089	0.190
170	14.17	0.90	0.279	(0.114)	0.089	0.190
171	14.25	0.90	0.279	(0.113)	0.089	0.190
172	14.33	0.87	0.269	(0.113)	0.086	0.183
173	14.42	0.87	0.269	(0.112)	0.086	0.183
174	14.50	0.87	0.269	(0.112)	0.086	0.183
175	14.58	0.87	0.269	(0.111)	0.086	0.183
176	14.67	0.87	0.269	(0.110)	0.086	0.183
177	14.75	0.87	0.269	(0.110)	0.086	0.183
178	14.83	0.83	0.259	(0.109)	0.083	0.176
179	14.92	0.83	0.259	(0.109)	0.083	0.176
180	15.00	0.83	0.259	(0.108)	0.083	0.176
181	15.08	0.80	0.248	(0.108)	0.079	0.169
182	15.17	0.80	0.248	(0.107)	0.079	0.169
183	15.25	0.80	0.248	(0.106)	0.079	0.169
184	15.33	0.77	0.238	(0.106)	0.076	0.162
185	15.42	0.77	0.238	(0.105)	0.076	0.162
186	15.50	0.77	0.238	(0.105)	0.076	0.162
187	15.58	0.63	0.197	(0.104)	0.063	0.134
188	15.67	0.63	0.197	(0.104)	0.063	0.134
189	15.75	0.63	0.197	(0.103)	0.063	0.134
190	15.83	0.63	0.197	(0.103)	0.063	0.134
191	15.92	0.63	0.197	(0.102)	0.063	0.134
192	16.00	0.63	0.197	(0.102)	0.063	0.134
193	16.08	0.13	0.041	(0.101)	0.013	0.028
194	16.17	0.13	0.041	(0.101)	0.013	0.028
195	16.25	0.13	0.041	(0.100)	0.013	0.028
196	16.33	0.13	0.041	(0.100)	0.013	0.028
197	16.42	0.13	0.041	(0.099)	0.013	0.028
198	16.50	0.13	0.041	(0.099)	0.013	0.028
199	16.58	0.10	0.031	(0.098)	0.010	0.021
200	16.67	0.10	0.031	(0.098)	0.010	0.021
201	16.75	0.10	0.031	(0.097)	0.010	0.021
202	16.83	0.10	0.031	(0.097)	0.010	0.021
203	16.92	0.10	0.031	(0.096)	0.010	0.021
204	17.00	0.10	0.031	(0.096)	0.010	0.021
205	17.08	0.17	0.052	(0.095)	0.017	0.035
206	17.17	0.17	0.052	(0.095)	0.017	0.035
207	17.25	0.17	0.052	(0.094)	0.017	0.035

208	17.33	0.17	0.052	(0.094)	0.017	0.035
209	17.42	0.17	0.052	(0.093)	0.017	0.035
210	17.50	0.17	0.052	(0.093)	0.017	0.035
211	17.58	0.17	0.052	(0.092)	0.017	0.035
212	17.67	0.17	0.052	(0.092)	0.017	0.035
213	17.75	0.17	0.052	(0.091)	0.017	0.035
214	17.83	0.13	0.041	(0.091)	0.013	0.028
215	17.92	0.13	0.041	(0.090)	0.013	0.028
216	18.00	0.13	0.041	(0.090)	0.013	0.028
217	18.08	0.13	0.041	(0.090)	0.013	0.028
218	18.17	0.13	0.041	(0.089)	0.013	0.028
219	18.25	0.13	0.041	(0.089)	0.013	0.028
220	18.33	0.13	0.041	(0.088)	0.013	0.028
221	18.42	0.13	0.041	(0.088)	0.013	0.028
222	18.50	0.13	0.041	(0.087)	0.013	0.028
223	18.58	0.10	0.031	(0.087)	0.010	0.021
224	18.67	0.10	0.031	(0.087)	0.010	0.021
225	18.75	0.10	0.031	(0.086)	0.010	0.021
226	18.83	0.07	0.021	(0.086)	0.007	0.014
227	18.92	0.07	0.021	(0.085)	0.007	0.014
228	19.00	0.07	0.021	(0.085)	0.007	0.014
229	19.08	0.10	0.031	(0.085)	0.010	0.021
230	19.17	0.10	0.031	(0.084)	0.010	0.021
231	19.25	0.10	0.031	(0.084)	0.010	0.021
232	19.33	0.13	0.041	(0.083)	0.013	0.028
233	19.42	0.13	0.041	(0.083)	0.013	0.028
234	19.50	0.13	0.041	(0.083)	0.013	0.028
235	19.58	0.10	0.031	(0.082)	0.010	0.021
236	19.67	0.10	0.031	(0.082)	0.010	0.021
237	19.75	0.10	0.031	(0.081)	0.010	0.021
238	19.83	0.07	0.021	(0.081)	0.007	0.014
239	19.92	0.07	0.021	(0.081)	0.007	0.014
240	20.00	0.07	0.021	(0.080)	0.007	0.014
241	20.08	0.10	0.031	(0.080)	0.010	0.021
242	20.17	0.10	0.031	(0.080)	0.010	0.021
243	20.25	0.10	0.031	(0.079)	0.010	0.021
244	20.33	0.10	0.031	(0.079)	0.010	0.021
245	20.42	0.10	0.031	(0.079)	0.010	0.021
246	20.50	0.10	0.031	(0.078)	0.010	0.021
247	20.58	0.10	0.031	(0.078)	0.010	0.021
248	20.67	0.10	0.031	(0.078)	0.010	0.021
249	20.75	0.10	0.031	(0.077)	0.010	0.021
250	20.83	0.07	0.021	(0.077)	0.007	0.014
251	20.92	0.07	0.021	(0.077)	0.007	0.014
252	21.00	0.07	0.021	(0.076)	0.007	0.014
253	21.08	0.10	0.031	(0.076)	0.010	0.021
254	21.17	0.10	0.031	(0.076)	0.010	0.021
255	21.25	0.10	0.031	(0.076)	0.010	0.021
256	21.33	0.07	0.021	(0.075)	0.007	0.014
257	21.42	0.07	0.021	(0.075)	0.007	0.014
258	21.50	0.07	0.021	(0.075)	0.007	0.014
259	21.58	0.10	0.031	(0.074)	0.010	0.021
260	21.67	0.10	0.031	(0.074)	0.010	0.021
261	21.75	0.10	0.031	(0.074)	0.010	0.021
262	21.83	0.07	0.021	(0.074)	0.007	0.014
263	21.92	0.07	0.021	(0.073)	0.007	0.014
264	22.00	0.07	0.021	(0.073)	0.007	0.014
265	22.08	0.10	0.031	(0.073)	0.010	0.021
266	22.17	0.10	0.031	(0.073)	0.010	0.021
267	22.25	0.10	0.031	(0.072)	0.010	0.021
268	22.33	0.07	0.021	(0.072)	0.007	0.014
269	22.42	0.07	0.021	(0.072)	0.007	0.014

270	22.50	0.07	0.021	(0.072)	0.007	0.014
271	22.58	0.07	0.021	(0.072)	0.007	0.014
272	22.67	0.07	0.021	(0.071)	0.007	0.014
273	22.75	0.07	0.021	(0.071)	0.007	0.014
274	22.83	0.07	0.021	(0.071)	0.007	0.014
275	22.92	0.07	0.021	(0.071)	0.007	0.014
276	23.00	0.07	0.021	(0.071)	0.007	0.014
277	23.08	0.07	0.021	(0.070)	0.007	0.014
278	23.17	0.07	0.021	(0.070)	0.007	0.014
279	23.25	0.07	0.021	(0.070)	0.007	0.014
280	23.33	0.07	0.021	(0.070)	0.007	0.014
281	23.42	0.07	0.021	(0.070)	0.007	0.014
282	23.50	0.07	0.021	(0.070)	0.007	0.014
283	23.58	0.07	0.021	(0.070)	0.007	0.014
284	23.67	0.07	0.021	(0.069)	0.007	0.014
285	23.75	0.07	0.021	(0.069)	0.007	0.014
286	23.83	0.07	0.021	(0.069)	0.007	0.014
287	23.92	0.07	0.021	(0.069)	0.007	0.014
288	24.00	0.07	0.021	(0.069)	0.007	0.014

(Loss Rate Not Used)

Sum = 100.0

Sum = 21.1

Flood volume = Effective rainfall 1.76(In)

times area 1.3(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)

Total soil loss = 0.83(In)

Total soil loss = 0.092(Ac.Ft)

Total rainfall = 2.59(In)

Flood volume = 8558.1 Cubic Feet

Total soil loss = 4027.4 Cubic Feet

Peak flow rate of this hydrograph = 0.323(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	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0002	0.02	Q				
0+20	0.0003	0.02	Q				
0+25	0.0005	0.02	Q				
0+30	0.0007	0.03	Q				
0+35	0.0009	0.03	Q				
0+40	0.0011	0.03	Q				
0+45	0.0012	0.03	Q				
0+50	0.0014	0.03	Q				
0+55	0.0017	0.03	Q				
1+ 0	0.0019	0.04	Q				
1+ 5	0.0022	0.04	Q				
1+10	0.0024	0.03	Q				
1+15	0.0026	0.03	Q				
1+20	0.0028	0.03	Q				
1+25	0.0030	0.03	Q				
1+30	0.0032	0.03	Q				
1+35	0.0034	0.03	Q				
1+40	0.0036	0.03	Q				
1+45	0.0038	0.03	Q				
1+50	0.0040	0.03	Q				

1+55	0.0042	0.03	Q				
2+ 0	0.0045	0.04	Q				
2+ 5	0.0047	0.04	Q				
2+10	0.0050	0.04	QV				
2+15	0.0053	0.04	QV				
2+20	0.0055	0.04	QV				
2+25	0.0058	0.04	QV				
2+30	0.0060	0.04	QV				
2+35	0.0063	0.04	QV				
2+40	0.0066	0.04	QV				
2+45	0.0069	0.05	QV				
2+50	0.0073	0.05	QV				
2+55	0.0076	0.05	QV				
3+ 0	0.0079	0.05	QV				
3+ 5	0.0082	0.05	QV				
3+10	0.0086	0.05	QV				
3+15	0.0089	0.05	QV				
3+20	0.0092	0.05	QV				
3+25	0.0095	0.05	QV				
3+30	0.0099	0.05	Q V				
3+35	0.0102	0.05	Q V				
3+40	0.0105	0.05	Q V				
3+45	0.0109	0.05	Q V				
3+50	0.0112	0.05	Q V				
3+55	0.0115	0.05	Q V				
4+ 0	0.0119	0.06	Q V				
4+ 5	0.0123	0.06	Q V				
4+10	0.0127	0.06	Q V				
4+15	0.0131	0.06	Q V				
4+20	0.0135	0.06	Q V				
4+25	0.0139	0.06	Q V				
4+30	0.0144	0.06	Q V				
4+35	0.0148	0.07	Q V				
4+40	0.0153	0.07	Q V				
4+45	0.0157	0.07	Q V				
4+50	0.0162	0.07	Q V				
4+55	0.0167	0.07	Q V				
5+ 0	0.0172	0.07	Q V				
5+ 5	0.0177	0.07	Q V				
5+10	0.0182	0.06	Q V				
5+15	0.0186	0.06	Q V				
5+20	0.0190	0.06	Q V				
5+25	0.0194	0.06	Q V				
5+30	0.0199	0.07	Q V				
5+35	0.0203	0.07	Q V				
5+40	0.0208	0.07	Q V				
5+45	0.0213	0.07	Q V				
5+50	0.0219	0.08	Q V				
5+55	0.0224	0.08	Q V				
6+ 0	0.0229	0.08	Q V				
6+ 5	0.0234	0.08	Q V				
6+10	0.0240	0.08	Q V				
6+15	0.0246	0.08	Q V				
6+20	0.0252	0.08	Q V				
6+25	0.0257	0.09	Q V				
6+30	0.0263	0.09	Q V				
6+35	0.0269	0.09	Q V				
6+40	0.0276	0.09	Q V				
6+45	0.0282	0.09	Q V				
6+50	0.0288	0.09	Q V				
6+55	0.0295	0.09	Q V				
7+ 0	0.0302	0.09	Q V				

7+ 5	0.0308	0.10	Q	V					
7+10	0.0315	0.10	Q	V					
7+15	0.0321	0.10	Q	V					
7+20	0.0328	0.10	Q	V					
7+25	0.0335	0.10	Q	V					
7+30	0.0342	0.10	Q	V					
7+35	0.0349	0.10	Q	V					
7+40	0.0357	0.11	Q	V					
7+45	0.0364	0.11	Q	V					
7+50	0.0372	0.11	Q	V					
7+55	0.0380	0.12	Q	V					
8+ 0	0.0389	0.12	Q	V					
8+ 5	0.0397	0.12	Q	V					
8+10	0.0407	0.13	Q	V					
8+15	0.0416	0.14	Q	V					
8+20	0.0426	0.14	Q	V					
8+25	0.0436	0.14	Q	V					
8+30	0.0445	0.14	Q	V					
8+35	0.0455	0.14	Q	V					
8+40	0.0465	0.15	Q	V					
8+45	0.0476	0.15	Q	V					
8+50	0.0486	0.15	Q	V					
8+55	0.0497	0.16	Q	V					
9+ 0	0.0508	0.16	Q	V					
9+ 5	0.0519	0.16	Q	V					
9+10	0.0531	0.17	Q	V					
9+15	0.0543	0.18	Q	V					
9+20	0.0556	0.18	Q	V					
9+25	0.0569	0.19	Q	V					
9+30	0.0582	0.19	Q	V					
9+35	0.0595	0.19	Q	V					
9+40	0.0608	0.20	Q	V					
9+45	0.0622	0.20	Q	V					
9+50	0.0635	0.20	Q	V					
9+55	0.0650	0.20	Q	V					
10+ 0	0.0664	0.21	Q	V					
10+ 5	0.0678	0.20	Q	V					
10+10	0.0689	0.17	Q	V					
10+15	0.0700	0.15	Q	V					
10+20	0.0710	0.15	Q	V					
10+25	0.0720	0.14	Q	V					
10+30	0.0730	0.14	Q	V					
10+35	0.0740	0.15	Q	V					
10+40	0.0752	0.17	Q	V					
10+45	0.0765	0.18	Q	V					
10+50	0.0777	0.19	Q	V					
10+55	0.0790	0.19	Q	V					
11+ 0	0.0803	0.19	Q	V					
11+ 5	0.0816	0.19	Q	V					
11+10	0.0829	0.18	Q	V					
11+15	0.0842	0.18	Q	V					
11+20	0.0854	0.18	Q	V					
11+25	0.0867	0.18	Q	V					
11+30	0.0879	0.18	Q	V					
11+35	0.0891	0.18	Q	V					
11+40	0.0903	0.17	Q	V					
11+45	0.0915	0.17	Q	V					
11+50	0.0926	0.16	Q	V					
11+55	0.0937	0.17	Q	V					
12+ 0	0.0949	0.17	Q	V					
12+ 5	0.0961	0.18	Q	V					
12+10	0.0976	0.21	Q	V					

12+15	0.0991	0.23	Q		V		
12+20	0.1007	0.23	Q		V		
12+25	0.1024	0.24	Q		V		
12+30	0.1041	0.24	Q		V		
12+35	0.1058	0.25	Q		V		
12+40	0.1075	0.26	Q		V		
12+45	0.1094	0.26	Q		V		
12+50	0.1112	0.27	Q		V		
12+55	0.1130	0.27	Q		V		
13+ 0	0.1149	0.27	Q		V		
13+ 5	0.1169	0.28	Q		V		
13+10	0.1189	0.30	Q		V		
13+15	0.1211	0.31	Q		V		
13+20	0.1233	0.32	Q		V		
13+25	0.1255	0.32	Q		V		
13+30	0.1277	0.32	Q		V		
13+35	0.1299	0.31	Q		V		
13+40	0.1317	0.26	Q		V		
13+45	0.1333	0.24	Q		V		
13+50	0.1349	0.23	Q		V		
13+55	0.1364	0.22	Q		V		
14+ 0	0.1380	0.22	Q		V		
14+ 5	0.1395	0.22	Q		V		
14+10	0.1412	0.24	Q		V		
14+15	0.1429	0.25	Q		V		
14+20	0.1446	0.25	Q		V		
14+25	0.1463	0.25	Q		V		
14+30	0.1481	0.25	Q		V		
14+35	0.1498	0.25	Q		V		
14+40	0.1515	0.25	Q		V		
14+45	0.1532	0.25	Q		V		
14+50	0.1549	0.25	Q		V		
14+55	0.1565	0.24	Q		V		
15+ 0	0.1582	0.24	Q			V	
15+ 5	0.1598	0.24	Q			V	
15+10	0.1614	0.23	Q			V	
15+15	0.1630	0.23	Q			V	
15+20	0.1646	0.23	Q			V	
15+25	0.1661	0.22	Q			V	
15+30	0.1676	0.22	Q			V	
15+35	0.1691	0.22	Q			V	
15+40	0.1705	0.20	Q			V	
15+45	0.1718	0.19	Q			V	
15+50	0.1730	0.18	Q			V	
15+55	0.1743	0.18	Q			V	
16+ 0	0.1755	0.18	Q			V	
16+ 5	0.1767	0.17	Q			V	
16+10	0.1774	0.10	Q			V	
16+15	0.1778	0.06	Q			V	
16+20	0.1782	0.05	Q			V	
16+25	0.1785	0.04	Q			V	
16+30	0.1787	0.04	Q			V	
16+35	0.1790	0.04	Q			V	
16+40	0.1792	0.03	Q			V	
16+45	0.1794	0.03	Q			V	
16+50	0.1796	0.03	Q			V	
16+55	0.1798	0.03	Q			V	
17+ 0	0.1800	0.03	Q			V	
17+ 5	0.1802	0.03	Q			V	
17+10	0.1805	0.04	Q			V	
17+15	0.1808	0.04	Q			V	
17+20	0.1811	0.05	Q			V	

17+25	0.1815	0.05	Q				V
17+30	0.1818	0.05	Q				V
17+35	0.1821	0.05	Q				V
17+40	0.1824	0.05	Q				V
17+45	0.1828	0.05	Q				V
17+50	0.1831	0.05	Q				V
17+55	0.1834	0.04	Q				V
18+ 0	0.1836	0.04	Q				V
18+ 5	0.1839	0.04	Q				V
18+10	0.1842	0.04	Q				V
18+15	0.1844	0.04	Q				V
18+20	0.1847	0.04	Q				V
18+25	0.1850	0.04	Q				V
18+30	0.1852	0.04	Q				V
18+35	0.1855	0.04	Q				V
18+40	0.1857	0.03	Q				V
18+45	0.1859	0.03	Q				V
18+50	0.1861	0.03	Q				V
18+55	0.1863	0.02	Q				V
19+ 0	0.1864	0.02	Q				V
19+ 5	0.1866	0.02	Q				V
19+10	0.1867	0.02	Q				V
19+15	0.1869	0.03	Q				V
19+20	0.1871	0.03	Q				V
19+25	0.1873	0.03	Q				V
19+30	0.1876	0.04	Q				V
19+35	0.1878	0.04	Q				V
19+40	0.1881	0.03	Q				V
19+45	0.1883	0.03	Q				V
19+50	0.1885	0.03	Q				V
19+55	0.1886	0.02	Q				V
20+ 0	0.1888	0.02	Q				V
20+ 5	0.1889	0.02	Q				V
20+10	0.1891	0.02	Q				V
20+15	0.1893	0.03	Q				V
20+20	0.1895	0.03	Q				V
20+25	0.1897	0.03	Q				V
20+30	0.1899	0.03	Q				V
20+35	0.1901	0.03	Q				V
20+40	0.1902	0.03	Q				V
20+45	0.1904	0.03	Q				V
20+50	0.1906	0.03	Q				V
20+55	0.1908	0.02	Q				V
21+ 0	0.1909	0.02	Q				V
21+ 5	0.1911	0.02	Q				V
21+10	0.1912	0.02	Q				V
21+15	0.1914	0.03	Q				V
21+20	0.1916	0.03	Q				V
21+25	0.1918	0.02	Q				V
21+30	0.1919	0.02	Q				V
21+35	0.1921	0.02	Q				V
21+40	0.1922	0.02	Q				V
21+45	0.1924	0.03	Q				V
21+50	0.1926	0.03	Q				V
21+55	0.1928	0.02	Q				V
22+ 0	0.1929	0.02	Q				V
22+ 5	0.1930	0.02	Q				V
22+10	0.1932	0.02	Q				V
22+15	0.1934	0.03	Q				V
22+20	0.1936	0.03	Q				V
22+25	0.1937	0.02	Q				V
22+30	0.1939	0.02	Q				V

22+35	0.1940	0.02	Q				V
22+40	0.1942	0.02	Q				V
22+45	0.1943	0.02	Q				V
22+50	0.1944	0.02	Q				V
22+55	0.1945	0.02	Q				V
23+ 0	0.1947	0.02	Q				V
23+ 5	0.1948	0.02	Q				V
23+10	0.1949	0.02	Q				V
23+15	0.1951	0.02	Q				V
23+20	0.1952	0.02	Q				V
23+25	0.1953	0.02	Q				V
23+30	0.1955	0.02	Q				V
23+35	0.1956	0.02	Q				V
23+40	0.1957	0.02	Q				V
23+45	0.1959	0.02	Q				V
23+50	0.1960	0.02	Q				V
23+55	0.1961	0.02	Q				V
24+ 0	0.1963	0.02	Q				V
24+ 5	0.1964	0.02	Q				V
24+10	0.1964	0.01	Q				V
24+15	0.1964	0.00	Q				V
24+20	0.1965	0.00	Q				V
24+25	0.1965	0.00	Q				V
24+30	0.1965	0.00	Q				V
24+35	0.1965	0.00	Q				V
24+40	0.1965	0.00	Q				V

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchph1b1100.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH DMA A2
Kimley-Horn
100 yr proposed

Drainage Area = 1.34(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.34(Ac.) = 0.002 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.104 Hr.
Lag time = 6.24 Min.
25% of lag time = 1.56 Min.
40% of lag time = 2.50 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]
1.34	0.50	0.67

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.34	1.10	1.47

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.100(In)

Point rain (area averaged) = 1.100(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.100(In)

Sub-Area Data:

Area(Ac.) Runoff Index Impervious %
 1.340 56.00 0.810
 Total Area Entered = 1.34(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-3	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	74.8	0.305	0.810	0.083	1.000	0.083
						Sum (F) = 0.083

Area averaged mean soil loss (F) (In/Hr) = 0.083

Minimum soil loss rate ((In/Hr)) = 0.041

(for 24 hour storm duration)

Soil loss rate (decimal) = 0.320

 Slope of intensity-duration curve for a 1 hour storm =0.5500

U n i t H y d r o g r a p h
 F O O T H I L L S - C u r v e

 Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	80.128	9.037
2	0.167	160.256	48.467
3	0.250	240.385	24.442
4	0.333	320.513	9.714
5	0.417	400.641	4.868
6	0.500	480.769	1.848
7	0.583	560.897	0.741
8	0.667	641.026	0.548
9	0.750	721.154	0.334
		Sum = 100.000	Sum= 1.350

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	3.30	0.436 0.083 (0.139)	0.353
2	0.17	4.20	0.554 0.083 (0.177)	0.472
3	0.25	4.40	0.581 0.083 (0.186)	0.498
4	0.33	4.80	0.634 0.083 (0.203)	0.551
5	0.42	5.20	0.686 0.083 (0.220)	0.604
6	0.50	6.20	0.818 0.083 (0.262)	0.736
7	0.58	6.80	0.898 0.083 (0.287)	0.815
8	0.67	8.80	1.162 0.083 (0.372)	1.079
9	0.75	13.90	1.835 0.083 (0.587)	1.752
10	0.83	31.40	4.145 0.083 (1.326)	4.062
11	0.92	7.20	0.950 0.083 (0.304)	0.868
12	1.00	3.80	0.502 0.083 (0.161)	0.419

(Loss Rate Not Used)

Sum = 100.0

Sum = 12.2

Flood volume = Effective rainfall 1.02(In)

times area 1.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)

Total soil loss = 0.08(In)

Total soil loss = 0.009(Ac.Ft)

Total rainfall = 1.10(In)

Flood volume = 4948.0 Cubic Feet
 Total soil loss = 402.5 Cubic Feet

 Peak flow rate of this hydrograph = 3.571(CFS)

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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	0.0023	0.29	VQ					
0+15	0.0056	0.49	Q					
0+20	0.0097	0.60	QV					
0+25	0.0144	0.68	Q V					
0+30	0.0198	0.77	Q V					
0+35	0.0260	0.90	Q V					
0+40	0.0332	1.04	Q V					
0+45	0.0425	1.35	Q V					
0+50	0.0575	2.18	Q V					
0+55	0.0821	3.57	Q V					
1+ 0	0.0979	2.30	Q					
1+ 5	0.1065	1.25	Q					
1+10	0.1105	0.58	Q					
1+15	0.1122	0.24	Q					
1+20	0.1129	0.11	Q					
1+25	0.1133	0.06	Q					
1+30	0.1135	0.03	Q					
1+35	0.1136	0.01	Q					
1+40	0.1136	0.00	Q					

Unit Hydrograph Analysis

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Study date 10/07/24 File: rchph1b24100.out

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

Program License Serial Number 6443

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

English Units used in output format

RCH DMA A2
Kimley-Horn
100 yr proposed

Drainage Area = 1.34(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.34(Ac.) = 0.002 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.104 Hr.
Lag time = 6.24 Min.
25% of lag time = 1.56 Min.
40% of lag time = 2.50 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]
1.34	1.60	2.14

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.34	4.00	5.36

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 4.000(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.000(In)

Sub-Area Data:

Area(Ac.) Runoff Index Impervious %
 1.340 56.00 0.810
 Total Area Entered = 1.34(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-3	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
56.0	74.8	0.305	0.810	0.083	1.000	0.083
						Sum (F) = 0.083

Area averaged mean soil loss (F) (In/Hr) = 0.083

Minimum soil loss rate ((In/Hr)) = 0.041

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.320

 Unit Hydrograph
 FOOTHILL S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	80.128	9.037
2	0.167	160.256	48.467
3	0.250	240.385	24.442
4	0.333	320.513	9.714
5	0.417	400.641	4.868
6	0.500	480.769	1.848
7	0.583	560.897	0.741
8	0.667	641.026	0.548
9	0.750	721.154	0.334
		Sum = 100.000	Sum= 1.350

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	(0.147)	0.010
2	0.17	0.07	(0.146)	0.010
3	0.25	0.07	(0.146)	0.010
4	0.33	0.10	(0.145)	0.015
5	0.42	0.10	(0.144)	0.015
6	0.50	0.10	(0.144)	0.015
7	0.58	0.10	(0.143)	0.015
8	0.67	0.10	(0.143)	0.015
9	0.75	0.10	(0.142)	0.015
10	0.83	0.13	(0.142)	0.020
11	0.92	0.13	(0.141)	0.020
12	1.00	0.13	(0.141)	0.020
13	1.08	0.10	(0.140)	0.015
14	1.17	0.10	(0.139)	0.015
15	1.25	0.10	(0.139)	0.015
16	1.33	0.10	(0.138)	0.015
17	1.42	0.10	(0.138)	0.015
18	1.50	0.10	(0.137)	0.015
19	1.58	0.10	(0.137)	0.015
20	1.67	0.10	(0.136)	0.015
21	1.75	0.10	(0.136)	0.015

22	1.83	0.13	0.064	(0.135)	0.020	0.044
23	1.92	0.13	0.064	(0.134)	0.020	0.044
24	2.00	0.13	0.064	(0.134)	0.020	0.044
25	2.08	0.13	0.064	(0.133)	0.020	0.044
26	2.17	0.13	0.064	(0.133)	0.020	0.044
27	2.25	0.13	0.064	(0.132)	0.020	0.044
28	2.33	0.13	0.064	(0.132)	0.020	0.044
29	2.42	0.13	0.064	(0.131)	0.020	0.044
30	2.50	0.13	0.064	(0.131)	0.020	0.044
31	2.58	0.17	0.080	(0.130)	0.026	0.054
32	2.67	0.17	0.080	(0.130)	0.026	0.054
33	2.75	0.17	0.080	(0.129)	0.026	0.054
34	2.83	0.17	0.080	(0.129)	0.026	0.054
35	2.92	0.17	0.080	(0.128)	0.026	0.054
36	3.00	0.17	0.080	(0.128)	0.026	0.054
37	3.08	0.17	0.080	(0.127)	0.026	0.054
38	3.17	0.17	0.080	(0.126)	0.026	0.054
39	3.25	0.17	0.080	(0.126)	0.026	0.054
40	3.33	0.17	0.080	(0.125)	0.026	0.054
41	3.42	0.17	0.080	(0.125)	0.026	0.054
42	3.50	0.17	0.080	(0.124)	0.026	0.054
43	3.58	0.17	0.080	(0.124)	0.026	0.054
44	3.67	0.17	0.080	(0.123)	0.026	0.054
45	3.75	0.17	0.080	(0.123)	0.026	0.054
46	3.83	0.20	0.096	(0.122)	0.031	0.065
47	3.92	0.20	0.096	(0.122)	0.031	0.065
48	4.00	0.20	0.096	(0.121)	0.031	0.065
49	4.08	0.20	0.096	(0.121)	0.031	0.065
50	4.17	0.20	0.096	(0.120)	0.031	0.065
51	4.25	0.20	0.096	(0.120)	0.031	0.065
52	4.33	0.23	0.112	(0.119)	0.036	0.076
53	4.42	0.23	0.112	(0.119)	0.036	0.076
54	4.50	0.23	0.112	(0.118)	0.036	0.076
55	4.58	0.23	0.112	(0.118)	0.036	0.076
56	4.67	0.23	0.112	(0.117)	0.036	0.076
57	4.75	0.23	0.112	(0.117)	0.036	0.076
58	4.83	0.27	0.128	(0.116)	0.041	0.087
59	4.92	0.27	0.128	(0.116)	0.041	0.087
60	5.00	0.27	0.128	(0.115)	0.041	0.087
61	5.08	0.20	0.096	(0.115)	0.031	0.065
62	5.17	0.20	0.096	(0.114)	0.031	0.065
63	5.25	0.20	0.096	(0.114)	0.031	0.065
64	5.33	0.23	0.112	(0.113)	0.036	0.076
65	5.42	0.23	0.112	(0.113)	0.036	0.076
66	5.50	0.23	0.112	(0.112)	0.036	0.076
67	5.58	0.27	0.128	(0.112)	0.041	0.087
68	5.67	0.27	0.128	(0.111)	0.041	0.087
69	5.75	0.27	0.128	(0.111)	0.041	0.087
70	5.83	0.27	0.128	(0.110)	0.041	0.087
71	5.92	0.27	0.128	(0.110)	0.041	0.087
72	6.00	0.27	0.128	(0.109)	0.041	0.087
73	6.08	0.30	0.144	(0.109)	0.046	0.098
74	6.17	0.30	0.144	(0.108)	0.046	0.098
75	6.25	0.30	0.144	(0.108)	0.046	0.098
76	6.33	0.30	0.144	(0.107)	0.046	0.098
77	6.42	0.30	0.144	(0.107)	0.046	0.098
78	6.50	0.30	0.144	(0.106)	0.046	0.098
79	6.58	0.33	0.160	(0.106)	0.051	0.109
80	6.67	0.33	0.160	(0.105)	0.051	0.109
81	6.75	0.33	0.160	(0.105)	0.051	0.109
82	6.83	0.33	0.160	(0.104)	0.051	0.109
83	6.92	0.33	0.160	(0.104)	0.051	0.109

84	7.00	0.33	0.160	(0.103)	0.051	0.109
85	7.08	0.33	0.160	(0.103)	0.051	0.109
86	7.17	0.33	0.160	(0.103)	0.051	0.109
87	7.25	0.33	0.160	(0.102)	0.051	0.109
88	7.33	0.37	0.176	(0.102)	0.056	0.120
89	7.42	0.37	0.176	(0.101)	0.056	0.120
90	7.50	0.37	0.176	(0.101)	0.056	0.120
91	7.58	0.40	0.192	(0.100)	0.061	0.131
92	7.67	0.40	0.192	(0.100)	0.061	0.131
93	7.75	0.40	0.192	(0.099)	0.061	0.131
94	7.83	0.43	0.208	(0.099)	0.067	0.141
95	7.92	0.43	0.208	(0.098)	0.067	0.141
96	8.00	0.43	0.208	(0.098)	0.067	0.141
97	8.08	0.50	0.240	(0.097)	0.077	0.163
98	8.17	0.50	0.240	(0.097)	0.077	0.163
99	8.25	0.50	0.240	(0.097)	0.077	0.163
100	8.33	0.50	0.240	(0.096)	0.077	0.163
101	8.42	0.50	0.240	(0.096)	0.077	0.163
102	8.50	0.50	0.240	(0.095)	0.077	0.163
103	8.58	0.53	0.256	(0.095)	0.082	0.174
104	8.67	0.53	0.256	(0.094)	0.082	0.174
105	8.75	0.53	0.256	(0.094)	0.082	0.174
106	8.83	0.57	0.272	(0.093)	0.087	0.185
107	8.92	0.57	0.272	(0.093)	0.087	0.185
108	9.00	0.57	0.272	(0.093)	0.087	0.185
109	9.08	0.63	0.304	0.092 (0.097)		0.212
110	9.17	0.63	0.304	0.092 (0.097)		0.212
111	9.25	0.63	0.304	0.091 (0.097)		0.213
112	9.33	0.67	0.320	0.091 (0.102)		0.229
113	9.42	0.67	0.320	0.090 (0.102)		0.230
114	9.50	0.67	0.320	0.090 (0.102)		0.230
115	9.58	0.70	0.336	0.090 (0.108)		0.246
116	9.67	0.70	0.336	0.089 (0.108)		0.247
117	9.75	0.70	0.336	0.089 (0.108)		0.247
118	9.83	0.73	0.352	0.088 (0.113)		0.264
119	9.92	0.73	0.352	0.088 (0.113)		0.264
120	10.00	0.73	0.352	0.087 (0.113)		0.265
121	10.08	0.50	0.240	(0.087)	0.077	0.163
122	10.17	0.50	0.240	(0.087)	0.077	0.163
123	10.25	0.50	0.240	(0.086)	0.077	0.163
124	10.33	0.50	0.240	(0.086)	0.077	0.163
125	10.42	0.50	0.240	(0.085)	0.077	0.163
126	10.50	0.50	0.240	(0.085)	0.077	0.163
127	10.58	0.67	0.320	0.084 (0.102)		0.236
128	10.67	0.67	0.320	0.084 (0.102)		0.236
129	10.75	0.67	0.320	0.084 (0.102)		0.236
130	10.83	0.67	0.320	0.083 (0.102)		0.237
131	10.92	0.67	0.320	0.083 (0.102)		0.237
132	11.00	0.67	0.320	0.082 (0.102)		0.238
133	11.08	0.63	0.304	0.082 (0.097)		0.222
134	11.17	0.63	0.304	0.082 (0.097)		0.222
135	11.25	0.63	0.304	0.081 (0.097)		0.223
136	11.33	0.63	0.304	0.081 (0.097)		0.223
137	11.42	0.63	0.304	0.080 (0.097)		0.224
138	11.50	0.63	0.304	0.080 (0.097)		0.224
139	11.58	0.57	0.272	0.080 (0.087)		0.192
140	11.67	0.57	0.272	0.079 (0.087)		0.193
141	11.75	0.57	0.272	0.079 (0.087)		0.193
142	11.83	0.60	0.288	0.078 (0.092)		0.210
143	11.92	0.60	0.288	0.078 (0.092)		0.210
144	12.00	0.60	0.288	0.078 (0.092)		0.210
145	12.08	0.83	0.400	0.077 (0.128)		0.323

146	12.17	0.83	0.400	0.077	(0.128)	0.323
147	12.25	0.83	0.400	0.076	(0.128)	0.324
148	12.33	0.87	0.416	0.076	(0.133)	0.340
149	12.42	0.87	0.416	0.076	(0.133)	0.340
150	12.50	0.87	0.416	0.075	(0.133)	0.341
151	12.58	0.93	0.448	0.075	(0.143)	0.373
152	12.67	0.93	0.448	0.075	(0.143)	0.373
153	12.75	0.93	0.448	0.074	(0.143)	0.374
154	12.83	0.97	0.464	0.074	(0.148)	0.390
155	12.92	0.97	0.464	0.073	(0.148)	0.391
156	13.00	0.97	0.464	0.073	(0.148)	0.391
157	13.08	1.13	0.544	0.073	(0.174)	0.471
158	13.17	1.13	0.544	0.072	(0.174)	0.472
159	13.25	1.13	0.544	0.072	(0.174)	0.472
160	13.33	1.13	0.544	0.072	(0.174)	0.472
161	13.42	1.13	0.544	0.071	(0.174)	0.473
162	13.50	1.13	0.544	0.071	(0.174)	0.473
163	13.58	0.77	0.368	0.071	(0.118)	0.297
164	13.67	0.77	0.368	0.070	(0.118)	0.298
165	13.75	0.77	0.368	0.070	(0.118)	0.298
166	13.83	0.77	0.368	0.069	(0.118)	0.299
167	13.92	0.77	0.368	0.069	(0.118)	0.299
168	14.00	0.77	0.368	0.069	(0.118)	0.299
169	14.08	0.90	0.432	0.068	(0.138)	0.364
170	14.17	0.90	0.432	0.068	(0.138)	0.364
171	14.25	0.90	0.432	0.068	(0.138)	0.364
172	14.33	0.87	0.416	0.067	(0.133)	0.349
173	14.42	0.87	0.416	0.067	(0.133)	0.349
174	14.50	0.87	0.416	0.067	(0.133)	0.349
175	14.58	0.87	0.416	0.066	(0.133)	0.350
176	14.67	0.87	0.416	0.066	(0.133)	0.350
177	14.75	0.87	0.416	0.066	(0.133)	0.350
178	14.83	0.83	0.400	0.065	(0.128)	0.335
179	14.92	0.83	0.400	0.065	(0.128)	0.335
180	15.00	0.83	0.400	0.065	(0.128)	0.335
181	15.08	0.80	0.384	0.064	(0.123)	0.320
182	15.17	0.80	0.384	0.064	(0.123)	0.320
183	15.25	0.80	0.384	0.064	(0.123)	0.320
184	15.33	0.77	0.368	0.063	(0.118)	0.305
185	15.42	0.77	0.368	0.063	(0.118)	0.305
186	15.50	0.77	0.368	0.063	(0.118)	0.305
187	15.58	0.63	0.304	0.062	(0.097)	0.242
188	15.67	0.63	0.304	0.062	(0.097)	0.242
189	15.75	0.63	0.304	0.062	(0.097)	0.242
190	15.83	0.63	0.304	0.061	(0.097)	0.243
191	15.92	0.63	0.304	0.061	(0.097)	0.243
192	16.00	0.63	0.304	0.061	(0.097)	0.243
193	16.08	0.13	0.064	(0.060)	0.020	0.044
194	16.17	0.13	0.064	(0.060)	0.020	0.044
195	16.25	0.13	0.064	(0.060)	0.020	0.044
196	16.33	0.13	0.064	(0.060)	0.020	0.044
197	16.42	0.13	0.064	(0.059)	0.020	0.044
198	16.50	0.13	0.064	(0.059)	0.020	0.044
199	16.58	0.10	0.048	(0.059)	0.015	0.033
200	16.67	0.10	0.048	(0.058)	0.015	0.033
201	16.75	0.10	0.048	(0.058)	0.015	0.033
202	16.83	0.10	0.048	(0.058)	0.015	0.033
203	16.92	0.10	0.048	(0.057)	0.015	0.033
204	17.00	0.10	0.048	(0.057)	0.015	0.033
205	17.08	0.17	0.080	(0.057)	0.026	0.054
206	17.17	0.17	0.080	(0.057)	0.026	0.054
207	17.25	0.17	0.080	(0.056)	0.026	0.054

208	17.33	0.17	0.080	(0.056)	0.026	0.054
209	17.42	0.17	0.080	(0.056)	0.026	0.054
210	17.50	0.17	0.080	(0.055)	0.026	0.054
211	17.58	0.17	0.080	(0.055)	0.026	0.054
212	17.67	0.17	0.080	(0.055)	0.026	0.054
213	17.75	0.17	0.080	(0.055)	0.026	0.054
214	17.83	0.13	0.064	(0.054)	0.020	0.044
215	17.92	0.13	0.064	(0.054)	0.020	0.044
216	18.00	0.13	0.064	(0.054)	0.020	0.044
217	18.08	0.13	0.064	(0.054)	0.020	0.044
218	18.17	0.13	0.064	(0.053)	0.020	0.044
219	18.25	0.13	0.064	(0.053)	0.020	0.044
220	18.33	0.13	0.064	(0.053)	0.020	0.044
221	18.42	0.13	0.064	(0.053)	0.020	0.044
222	18.50	0.13	0.064	(0.052)	0.020	0.044
223	18.58	0.10	0.048	(0.052)	0.015	0.033
224	18.67	0.10	0.048	(0.052)	0.015	0.033
225	18.75	0.10	0.048	(0.052)	0.015	0.033
226	18.83	0.07	0.032	(0.051)	0.010	0.022
227	18.92	0.07	0.032	(0.051)	0.010	0.022
228	19.00	0.07	0.032	(0.051)	0.010	0.022
229	19.08	0.10	0.048	(0.051)	0.015	0.033
230	19.17	0.10	0.048	(0.050)	0.015	0.033
231	19.25	0.10	0.048	(0.050)	0.015	0.033
232	19.33	0.13	0.064	(0.050)	0.020	0.044
233	19.42	0.13	0.064	(0.050)	0.020	0.044
234	19.50	0.13	0.064	(0.049)	0.020	0.044
235	19.58	0.10	0.048	(0.049)	0.015	0.033
236	19.67	0.10	0.048	(0.049)	0.015	0.033
237	19.75	0.10	0.048	(0.049)	0.015	0.033
238	19.83	0.07	0.032	(0.048)	0.010	0.022
239	19.92	0.07	0.032	(0.048)	0.010	0.022
240	20.00	0.07	0.032	(0.048)	0.010	0.022
241	20.08	0.10	0.048	(0.048)	0.015	0.033
242	20.17	0.10	0.048	(0.048)	0.015	0.033
243	20.25	0.10	0.048	(0.047)	0.015	0.033
244	20.33	0.10	0.048	(0.047)	0.015	0.033
245	20.42	0.10	0.048	(0.047)	0.015	0.033
246	20.50	0.10	0.048	(0.047)	0.015	0.033
247	20.58	0.10	0.048	(0.047)	0.015	0.033
248	20.67	0.10	0.048	(0.046)	0.015	0.033
249	20.75	0.10	0.048	(0.046)	0.015	0.033
250	20.83	0.07	0.032	(0.046)	0.010	0.022
251	20.92	0.07	0.032	(0.046)	0.010	0.022
252	21.00	0.07	0.032	(0.046)	0.010	0.022
253	21.08	0.10	0.048	(0.045)	0.015	0.033
254	21.17	0.10	0.048	(0.045)	0.015	0.033
255	21.25	0.10	0.048	(0.045)	0.015	0.033
256	21.33	0.07	0.032	(0.045)	0.010	0.022
257	21.42	0.07	0.032	(0.045)	0.010	0.022
258	21.50	0.07	0.032	(0.045)	0.010	0.022
259	21.58	0.10	0.048	(0.044)	0.015	0.033
260	21.67	0.10	0.048	(0.044)	0.015	0.033
261	21.75	0.10	0.048	(0.044)	0.015	0.033
262	21.83	0.07	0.032	(0.044)	0.010	0.022
263	21.92	0.07	0.032	(0.044)	0.010	0.022
264	22.00	0.07	0.032	(0.044)	0.010	0.022
265	22.08	0.10	0.048	(0.044)	0.015	0.033
266	22.17	0.10	0.048	(0.043)	0.015	0.033
267	22.25	0.10	0.048	(0.043)	0.015	0.033
268	22.33	0.07	0.032	(0.043)	0.010	0.022
269	22.42	0.07	0.032	(0.043)	0.010	0.022

270	22.50	0.07	0.032	(0.043)	0.010	0.022
271	22.58	0.07	0.032	(0.043)	0.010	0.022
272	22.67	0.07	0.032	(0.043)	0.010	0.022
273	22.75	0.07	0.032	(0.043)	0.010	0.022
274	22.83	0.07	0.032	(0.042)	0.010	0.022
275	22.92	0.07	0.032	(0.042)	0.010	0.022
276	23.00	0.07	0.032	(0.042)	0.010	0.022
277	23.08	0.07	0.032	(0.042)	0.010	0.022
278	23.17	0.07	0.032	(0.042)	0.010	0.022
279	23.25	0.07	0.032	(0.042)	0.010	0.022
280	23.33	0.07	0.032	(0.042)	0.010	0.022
281	23.42	0.07	0.032	(0.042)	0.010	0.022
282	23.50	0.07	0.032	(0.042)	0.010	0.022
283	23.58	0.07	0.032	(0.042)	0.010	0.022
284	23.67	0.07	0.032	(0.042)	0.010	0.022
285	23.75	0.07	0.032	(0.041)	0.010	0.022
286	23.83	0.07	0.032	(0.041)	0.010	0.022
287	23.92	0.07	0.032	(0.041)	0.010	0.022
288	24.00	0.07	0.032	(0.041)	0.010	0.022

(Loss Rate Not Used)

Sum = 100.0

Sum = 36.1

Flood volume = Effective rainfall 3.01(In)

times area 1.3(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)

Total soil loss = 0.99(In)

Total soil loss = 0.111(Ac.Ft)

Total rainfall = 4.00(In)

Flood volume = 14639.0 Cubic Feet

Total soil loss = 4817.8 Cubic Feet

Peak flow rate of this hydrograph = 0.637(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	0.0000	0.00	Q				
0+10	0.0001	0.02	Q				
0+15	0.0003	0.02	Q				
0+20	0.0005	0.03	Q				
0+25	0.0007	0.04	Q				
0+30	0.0010	0.04	Q				
0+35	0.0013	0.04	Q				
0+40	0.0016	0.04	Q				
0+45	0.0019	0.04	Q				
0+50	0.0022	0.05	Q				
0+55	0.0026	0.05	Q				
1+ 0	0.0030	0.06	Q				
1+ 5	0.0034	0.06	Q				
1+10	0.0037	0.05	Q				
1+15	0.0040	0.05	Q				
1+20	0.0043	0.05	Q				
1+25	0.0047	0.04	Q				
1+30	0.0050	0.04	Q				
1+35	0.0053	0.04	Q				
1+40	0.0056	0.04	Q				
1+45	0.0059	0.04	Q				
1+50	0.0062	0.05	Q				

1+55	0.0065	0.05	Q				
2+ 0	0.0069	0.06	Q				
2+ 5	0.0073	0.06	Q				
2+10	0.0077	0.06	Q				
2+15	0.0081	0.06	Q				
2+20	0.0085	0.06	QV				
2+25	0.0089	0.06	QV				
2+30	0.0094	0.06	QV				
2+35	0.0098	0.06	QV				
2+40	0.0102	0.07	QV				
2+45	0.0107	0.07	QV				
2+50	0.0112	0.07	QV				
2+55	0.0117	0.07	QV				
3+ 0	0.0122	0.07	QV				
3+ 5	0.0127	0.07	QV				
3+10	0.0132	0.07	QV				
3+15	0.0137	0.07	QV				
3+20	0.0142	0.07	QV				
3+25	0.0148	0.07	QV				
3+30	0.0153	0.07	QV				
3+35	0.0158	0.07	QV				
3+40	0.0163	0.07	QV				
3+45	0.0168	0.07	QV				
3+50	0.0173	0.07	Q V				
3+55	0.0179	0.08	Q V				
4+ 0	0.0184	0.09	Q V				
4+ 5	0.0190	0.09	Q V				
4+10	0.0196	0.09	Q V				
4+15	0.0203	0.09	Q V				
4+20	0.0209	0.09	Q V				
4+25	0.0215	0.10	Q V				
4+30	0.0222	0.10	Q V				
4+35	0.0229	0.10	Q V				
4+40	0.0236	0.10	Q V				
4+45	0.0243	0.10	Q V				
4+50	0.0251	0.10	Q V				
4+55	0.0258	0.11	Q V				
5+ 0	0.0266	0.11	Q V				
5+ 5	0.0274	0.11	Q V				
5+10	0.0281	0.10	Q V				
5+15	0.0287	0.09	Q V				
5+20	0.0294	0.09	Q V				
5+25	0.0300	0.10	Q V				
5+30	0.0307	0.10	Q V				
5+35	0.0314	0.10	Q V				
5+40	0.0322	0.11	Q V				
5+45	0.0330	0.11	Q V				
5+50	0.0338	0.12	Q V				
5+55	0.0346	0.12	Q V				
6+ 0	0.0354	0.12	Q V				
6+ 5	0.0362	0.12	Q V				
6+10	0.0371	0.13	Q V				
6+15	0.0380	0.13	Q V				
6+20	0.0389	0.13	Q V				
6+25	0.0398	0.13	Q V				
6+30	0.0407	0.13	Q V				
6+35	0.0416	0.13	Q V				
6+40	0.0426	0.14	Q V				
6+45	0.0436	0.14	Q V				
6+50	0.0446	0.15	Q V				
6+55	0.0456	0.15	Q V				
7+ 0	0.0466	0.15	Q V				

7+ 5	0.0476	0.15	Q	V					
7+10	0.0486	0.15	Q	V					
7+15	0.0496	0.15	Q	V					
7+20	0.0507	0.15	Q	V					
7+25	0.0517	0.16	Q	V					
7+30	0.0528	0.16	Q	V					
7+35	0.0540	0.16	Q	V					
7+40	0.0551	0.17	Q	V					
7+45	0.0563	0.17	Q	V					
7+50	0.0575	0.18	Q	V					
7+55	0.0588	0.18	Q	V					
8+ 0	0.0601	0.19	Q	V					
8+ 5	0.0614	0.19	Q	V					
8+10	0.0628	0.21	Q	V					
8+15	0.0643	0.21	Q	V					
8+20	0.0658	0.22	Q	V					
8+25	0.0673	0.22	Q	V					
8+30	0.0689	0.22	Q	V					
8+35	0.0704	0.22	Q	V					
8+40	0.0720	0.23	Q	V					
8+45	0.0736	0.23	Q	V					
8+50	0.0752	0.24	Q	V					
8+55	0.0769	0.24	Q	V					
9+ 0	0.0786	0.25	Q	V					
9+ 5	0.0803	0.25	Q	V					
9+10	0.0822	0.27	Q	V					
9+15	0.0841	0.28	Q	V					
9+20	0.0860	0.29	Q	V					
9+25	0.0881	0.30	Q	V					
9+30	0.0902	0.31	Q	V					
9+35	0.0923	0.31	Q	V					
9+40	0.0946	0.32	Q	V					
9+45	0.0968	0.33	Q	V					
9+50	0.0991	0.33	Q	V					
9+55	0.1015	0.35	Q	V					
10+ 0	0.1039	0.35	Q	V					
10+ 5	0.1063	0.34	Q	V					
10+10	0.1082	0.28	Q	V					
10+15	0.1099	0.24	Q	V					
10+20	0.1115	0.23	Q	V					
10+25	0.1130	0.23	Q	V					
10+30	0.1146	0.22	Q	V					
10+35	0.1162	0.23	Q	V					
10+40	0.1181	0.28	Q	V					
10+45	0.1202	0.30	Q	V					
10+50	0.1223	0.31	Q	V					
10+55	0.1245	0.32	Q	V					
11+ 0	0.1267	0.32	Q	V					
11+ 5	0.1289	0.32	Q	V					
11+10	0.1310	0.31	Q	V					
11+15	0.1331	0.30	Q	V					
11+20	0.1352	0.30	Q	V					
11+25	0.1372	0.30	Q	V					
11+30	0.1393	0.30	Q	V					
11+35	0.1414	0.30	Q	V					
11+40	0.1433	0.28	Q	V					
11+45	0.1451	0.27	Q	V					
11+50	0.1470	0.27	Q	V					
11+55	0.1489	0.28	Q	V					
12+ 0	0.1508	0.28	Q	V					
12+ 5	0.1528	0.30	Q	V					
12+10	0.1554	0.37	Q	V					

12+15	0.1582	0.41	Q		V				
12+20	0.1611	0.43	Q		V				
12+25	0.1642	0.44	Q		V				
12+30	0.1673	0.45	Q		V				
12+35	0.1705	0.46	Q		V				
12+40	0.1738	0.48	Q		V				
12+45	0.1772	0.50	Q		V				
12+50	0.1807	0.50	Q		V				
12+55	0.1843	0.52	Q		V				
13+ 0	0.1879	0.52	Q		V				
13+ 5	0.1915	0.54	Q		V				
13+10	0.1956	0.59	Q		V				
13+15	0.1999	0.62	Q		V				
13+20	0.2042	0.63	Q		V				
13+25	0.2085	0.63	Q		V				
13+30	0.2129	0.64	Q		V				
13+35	0.2172	0.62	Q		V				
13+40	0.2206	0.50	Q		V				
13+45	0.2237	0.45	Q		V				
13+50	0.2266	0.42	Q		V				
13+55	0.2294	0.41	Q		V				
14+ 0	0.2323	0.41	Q		V				
14+ 5	0.2351	0.41	Q		V				
14+10	0.2382	0.46	Q		V				
14+15	0.2415	0.48	Q		V				
14+20	0.2448	0.48	Q		V				
14+25	0.2481	0.48	Q		V				
14+30	0.2514	0.47	Q		V				
14+35	0.2546	0.47	Q		V				
14+40	0.2579	0.47	Q		V				
14+45	0.2612	0.47	Q		V				
14+50	0.2644	0.47	Q		V				
14+55	0.2676	0.46	Q		V				
15+ 0	0.2707	0.46	Q		V				
15+ 5	0.2738	0.45	Q		V				
15+10	0.2769	0.44	Q		V				
15+15	0.2799	0.44	Q		V				
15+20	0.2829	0.43	Q		V				
15+25	0.2858	0.42	Q		V				
15+30	0.2886	0.42	Q		V				
15+35	0.2914	0.41	Q		V				
15+40	0.2939	0.36	Q		V				
15+45	0.2963	0.34	Q		V				
15+50	0.2986	0.33	Q		V				
15+55	0.3009	0.33	Q		V				
16+ 0	0.3031	0.33	Q		V				
16+ 5	0.3052	0.30	Q		V				
16+10	0.3064	0.17	Q		V				
16+15	0.3072	0.11	Q		V				
16+20	0.3077	0.08	Q		V				
16+25	0.3082	0.07	Q		V				
16+30	0.3086	0.06	Q		V				
16+35	0.3091	0.06	Q		V				
16+40	0.3094	0.05	Q		V				
16+45	0.3097	0.05	Q		V				
16+50	0.3100	0.05	Q		V				
16+55	0.3103	0.04	Q		V				
17+ 0	0.3107	0.04	Q		V				
17+ 5	0.3110	0.05	Q		V				
17+10	0.3114	0.06	Q		V				
17+15	0.3119	0.07	Q		V				
17+20	0.3124	0.07	Q		V				

17+25	0.3129	0.07	Q				V
17+30	0.3134	0.07	Q				V
17+35	0.3139	0.07	Q				V
17+40	0.3144	0.07	Q				V
17+45	0.3149	0.07	Q				V
17+50	0.3154	0.07	Q				V
17+55	0.3158	0.07	Q				V
18+ 0	0.3162	0.06	Q				V
18+ 5	0.3167	0.06	Q				V
18+10	0.3171	0.06	Q				V
18+15	0.3175	0.06	Q				V
18+20	0.3179	0.06	Q				V
18+25	0.3183	0.06	Q				V
18+30	0.3187	0.06	Q				V
18+35	0.3191	0.06	Q				V
18+40	0.3194	0.05	Q				V
18+45	0.3198	0.05	Q				V
18+50	0.3201	0.04	Q				V
18+55	0.3203	0.04	Q				V
19+ 0	0.3205	0.03	Q				V
19+ 5	0.3207	0.03	Q				V
19+10	0.3210	0.04	Q				V
19+15	0.3213	0.04	Q				V
19+20	0.3216	0.04	Q				V
19+25	0.3220	0.05	Q				V
19+30	0.3223	0.06	Q				V
19+35	0.3227	0.06	Q				V
19+40	0.3231	0.05	Q				V
19+45	0.3234	0.05	Q				V
19+50	0.3237	0.04	Q				V
19+55	0.3239	0.04	Q				V
20+ 0	0.3242	0.03	Q				V
20+ 5	0.3244	0.03	Q				V
20+10	0.3247	0.04	Q				V
20+15	0.3249	0.04	Q				V
20+20	0.3252	0.04	Q				V
20+25	0.3255	0.04	Q				V
20+30	0.3258	0.04	Q				V
20+35	0.3261	0.04	Q				V
20+40	0.3264	0.04	Q				V
20+45	0.3268	0.04	Q				V
20+50	0.3270	0.04	Q				V
20+55	0.3273	0.04	Q				V
21+ 0	0.3275	0.03	Q				V
21+ 5	0.3277	0.03	Q				V
21+10	0.3280	0.04	Q				V
21+15	0.3283	0.04	Q				V
21+20	0.3286	0.04	Q				V
21+25	0.3288	0.04	Q				V
21+30	0.3290	0.03	Q				V
21+35	0.3293	0.03	Q				V
21+40	0.3295	0.04	Q				V
21+45	0.3298	0.04	Q				V
21+50	0.3301	0.04	Q				V
21+55	0.3303	0.04	Q				V
22+ 0	0.3306	0.03	Q				V
22+ 5	0.3308	0.03	Q				V
22+10	0.3310	0.04	Q				V
22+15	0.3313	0.04	Q				V
22+20	0.3316	0.04	Q				V
22+25	0.3319	0.04	Q				V
22+30	0.3321	0.03	Q				V

22+35	0.3323	0.03	Q				V
22+40	0.3325	0.03	Q				V
22+45	0.3327	0.03	Q				V
22+50	0.3329	0.03	Q				V
22+55	0.3331	0.03	Q				V
23+ 0	0.3333	0.03	Q				V
23+ 5	0.3335	0.03	Q				V
23+10	0.3337	0.03	Q				V
23+15	0.3339	0.03	Q				V
23+20	0.3341	0.03	Q				V
23+25	0.3343	0.03	Q				V
23+30	0.3345	0.03	Q				V
23+35	0.3347	0.03	Q				V
23+40	0.3349	0.03	Q				V
23+45	0.3351	0.03	Q				V
23+50	0.3353	0.03	Q				V
23+55	0.3355	0.03	Q				V
24+ 0	0.3357	0.03	Q				V
24+ 5	0.3359	0.03	Q				V
24+10	0.3360	0.01	Q				V
24+15	0.3360	0.01	Q				V
24+20	0.3361	0.00	Q				V
24+25	0.3361	0.00	Q				V
24+30	0.3361	0.00	Q				V
24+35	0.3361	0.00	Q				V
24+40	0.3361	0.00	Q				V

Appendix I - Basin Routing Analysis

Detention Basin Infiltration Calculation

Project Name: RCH Garage Expansion

Completed by: BY

Reviewed by: LAC

Date: 24-Jan-24

Updated: 15-Oct-24

County: Riverside

BMP	Measured Infiltration Rate	Design Factor of Safety	Design Infiltration Rate	Detention Basin Infiltration Area	In/Hr to Ft/Sec Conversion Value	Constant Infiltration Rate
	(in/hr)		(in/hr)	(sf)		(cf/sec)
BMP 1	2.775	2.00	1.39	1647	43200	0.053

Drawdown Calculations

Project Name: RCH Garage Expansion

Completed by: BY

Reviewed by: LAC

Date: 24-Jan-24

Updated: 15-Oct-24

County: San Bernardino

BMP	Design Infiltration Rate	Design Infiltration Rate Converted	Detention Basin Infiltration Area	Volume to Infiltrate	Drawdown Time
	(in/hr)	(ft/hr)	(sf)	(cf)	(hrs)
BMP 1	1.388	0.116	1647	2745	14.415



Date: 10/7/2024
Project Name: BMP 1 - 55739 (10-7-2024 22-50-45)

CMP: Underground Detention System Storage Volume Estimation

City / County:
State:

Designed By:
Company:
Telephone:

=Adjustable Input Cells

Contech Engineered Solutions, LLC is pleased to offer the following estimate of storage volume for the above named project. The results are submitted as an estimate only, without liability on the part of Contech Engineered Solutions, LLC for accuracy or suitability to any particular application and are subject to verification of the Engineer of Record. This tool is only applicable for rectangular shaped systems.

Summary of Inputs

System Information		Backfill Information		Pipe & Analysis Information	
Out-to-out length (ft):	61.0	Backfill Porosity (%):	40%	System Diameter (in):	84
Out-to-out width (ft):	27.0	Depth Above Pipe (in):	12.0	Pipe Spacing (in):	36
Number of Manifolds (ea):	1.0	Depth Below Pipe (in):	12.0	Incremental Analysis (in):	2
Number of Barrels (ea):	3.0	Width At Ends (ft):	1.0	System Invert (Elevation):	0
		Width At Sides (ft):	1.0		

Storage Volume Estimation

System		Pipe		Stone		Total System		Miscellaneous	
Depth (ft)	Elevation (ft)	Incremental Storage (cf)	Cumulative Storage (cf)	Incremental Storage (cf)	Cumulative Storage (cf)	Incremental Storage (cf)	Cumulative Storage (cf)	Percent Open Storage (%)	Ave. Surface Area (sf)
0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	730.8
0.17	0.16	0.0	0.0	121.8	121.8	121.8	121.8	0.0%	730.8
0.33	0.33	0.0	0.0	121.8	243.6	121.8	243.6	0.0%	730.8
0.50	0.50	0.0	0.0	121.8	365.4	121.8	365.4	0.0%	730.8
0.67	0.66	0.0	0.0	121.8	487.2	121.8	487.2	0.0%	730.8
0.83	0.83	0.0	0.0	121.8	609.0	121.8	609.0	0.0%	730.8
1.00	1.00	0.0	0.0	121.8	730.8	121.8	730.8	0.0%	730.8
1.17	1.16	45.0	45.0	103.8	834.6	148.8	879.6	5.1%	972.8
1.33	1.33	81.4	126.5	89.2	923.8	170.7	1,050.3	12.0%	1,068.9
1.50	1.50	104.1	230.6	80.1	1,004.0	184.3	1,234.6	18.7%	1,139.7
1.67	1.66	121.8	352.4	73.1	1,077.1	194.9	1,429.4	24.7%	1,196.8
1.83	1.83	136.3	488.7	67.3	1,144.3	203.6	1,633.0	29.9%	1,244.9
2.00	2.00	148.7	637.4	62.3	1,206.6	211.0	1,844.0	34.6%	1,286.3
2.17	2.16	159.4	796.8	58.0	1,264.7	217.5	2,061.5	38.7%	1,322.5
2.33	2.33	168.9	965.7	54.3	1,318.9	223.1	2,284.6	42.3%	1,354.2
2.50	2.50	177.1	1,142.8	50.9	1,369.9	228.1	2,512.7	45.5%	1,382.2
2.67	2.66	184.5	1,327.3	48.0	1,417.9	232.5	2,745.2	48.3%	1,407.0
2.83	2.83	190.9	1,518.2	45.4	1,463.3	236.4	2,981.5	50.9%	1,428.8
3.00	3.00	196.6	1,714.8	43.2	1,506.5	239.8	3,221.3	53.2%	1,448.0
3.17	3.16	201.6	1,916.4	41.2	1,547.6	242.8	3,464.1	55.3%	1,464.7
3.33	3.33	205.9	2,122.4	39.4	1,587.1	245.4	3,709.4	57.2%	1,479.2
3.50	3.50	209.6	2,332.0	37.9	1,625.0	247.6	3,957.0	58.9%	1,491.5
3.67	3.66	212.8	2,544.8	36.7	1,661.7	249.5	4,206.5	60.5%	1,501.8
3.83	3.83	215.4	2,760.1	35.7	1,697.3	251.0	4,457.5	61.9%	1,510.1
4.00	4.00	217.4	2,977.5	34.8	1,732.2	252.2	4,709.7	63.2%	1,516.5
4.17	4.16	218.9	3,196.5	34.2	1,766.4	253.1	4,962.9	64.4%	1,521.0
4.33	4.33	219.9	3,416.4	33.8	1,800.3	253.7	5,216.6	65.5%	1,523.7
4.50	4.50	220.4	3,636.8	33.6	1,833.9	254.0	5,470.7	66.5%	1,524.6
4.67	4.66	220.4	3,857.2	33.6	1,867.5	254.0	5,724.7	67.4%	1,523.7
4.83	4.83	219.9	4,077.1	33.8	1,901.4	253.7	5,978.5	68.2%	1,521.0
5.00	5.00	218.9	4,296.0	34.2	1,935.6	253.1	6,231.6	68.9%	1,516.5
5.17	5.16	217.4	4,513.4	34.8	1,970.4	252.2	6,483.9	69.6%	1,510.1
5.33	5.33	215.4	4,728.8	35.7	2,006.1	251.0	6,734.9	70.2%	1,501.8
5.50	5.50	212.8	4,941.6	36.7	2,042.8	249.5	6,984.3	70.8%	1,491.5
5.67	5.66	209.6	5,151.2	37.9	2,080.7	247.6	7,231.9	71.2%	1,479.2
5.83	5.83	205.9	5,357.1	39.4	2,120.1	245.4	7,477.3	71.6%	1,464.7
6.00	6.00	201.6	5,558.7	41.2	2,161.3	242.8	7,720.0	72.0%	1,448.0

Water
Quality
Volume
Provided

These results are submitted to you as a guideline only, without liability on the part of CONTECH Engineered Solutions, LLC for accuracy or suitability to any particular application, and are subject to your verification.

6.17	6.16	196.6	5,755.4	43.2	2,204.5	239.8	7,959.8	72.3%	1,428.8
6.33	6.33	190.9	5,946.3	45.4	2,249.9	236.4	8,196.2	72.5%	1,407.0
6.50	6.50	184.5	6,130.7	48.0	2,297.9	232.5	8,428.6	72.7%	1,382.2
6.67	6.66	177.1	6,307.9	50.9	2,348.8	228.1	8,656.7	72.9%	1,354.2
6.83	6.83	168.9	6,476.7	54.3	2,403.1	223.1	8,879.8	72.9%	1,322.5
7.00	7.00	159.4	6,636.2	58.0	2,461.1	217.5	9,097.3	72.9%	1,286.3
7.17	7.16	148.7	6,784.9	62.3	2,523.4	211.0	9,308.3	72.9%	1,244.9
7.33	7.33	136.3	6,921.2	67.3	2,590.7	203.6	9,511.9	72.8%	1,196.8
7.50	7.50	121.8	7,043.0	73.1	2,663.8	194.9	9,706.8	72.6%	1,139.7
7.67	7.66	104.1	7,147.1	80.1	2,744.0	184.3	9,891.1	72.3%	1,068.9
7.83	7.83	81.4	7,228.5	89.2	2,833.2	170.7	10,061.7	71.8%	972.8
8.00	8.00	45.0	7,273.6	103.8	2,937.0	148.8	10,210.5	71.2%	730.8
8.17	8.16	0.0	7,273.6	121.8	3,058.8	121.8	10,332.3	70.4%	730.8
8.33	8.33	0.0	7,273.6	121.8	3,180.6	121.8	10,454.1	69.6%	730.8
8.50	8.50	0.0	7,273.6	121.8	3,302.4	121.8	10,575.9	68.8%	730.8
8.67	8.66	0.0	7,273.6	121.8	3,424.2	121.8	10,697.7	68.0%	730.8
8.83	8.83	0.0	7,273.6	121.8	3,546.0	121.8	10,819.5	67.2%	730.8
9.00	9.00	0.0	7,273.6	121.8	3,667.8	121.8	10,941.3	66.5%	730.8

These results are submitted to you as a guideline only, without liability on the part of CONTECH Engineered Solutions, LLC for accuracy or suitability to any particular application, and are subject to your verification.

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
Study date: 01/21/25

RCH GARAGE
2-YEAR 1-HOUR
DMA-A BMP-1
KIMLEY-HORN

Program License Serial Number 6443

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

From study/file name: RCHPH1A12.rte
*****HYDROGRAPH DATA*****
Number of intervals = 19
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2.060 (CFS)
Total volume = 0.059 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000

+++++
Process from Point/Station 0.000 to Point/Station 0.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 19
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

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

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-0*dt/2) (Ac.Ft)	(S+0*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.500	0.008	0.001	0.008	0.008
1.000	0.017	0.001	0.017	0.017
1.500	0.028	0.000	0.028	0.028
2.000	0.042	0.000	0.042	0.042
2.500	0.058	0.000	0.058	0.058
3.000	0.074	0.078	0.074	0.074
3.500	0.091	0.140	0.091	0.091
4.000	0.108	0.182	0.107	0.109
4.500	0.126	0.216	0.125	0.127
5.000	0.143	0.245	0.142	0.144
5.500	0.160	0.271	0.159	0.161
6.000	0.177	0.295	0.176	0.178
6.500	0.194	0.317	0.193	0.195
7.000	0.209	0.337	0.208	0.210
7.500	0.223	0.357	0.222	0.224
8.000	0.234	0.443	0.232	0.236
8.500	0.243	0.493	0.241	0.245
9.000	0.251	0.534	0.249	0.253
10.000	0.252	4.346	0.237	0.267

Hydrograph Detention Basin Routing

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

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.5	1.03	1.55	2.06	Depth (Ft.)
0.083	0.03	0.00	0.000	0					0.01
0.167	0.17	0.00	0.001	0 I					0.05
0.250	0.27	0.00	0.002	0 I					0.14
0.333	0.32	0.00	0.004	0 I					0.27
0.417	0.36	0.00	0.007	0 I					0.41
0.500	0.39	0.00	0.009	0 I					0.57
0.583	0.45	0.00	0.012	0 I					0.73
0.667	0.52	0.00	0.015	0 I					0.91
0.750	0.67	0.00	0.020	0 I					1.11
0.833	1.16	0.00	0.026	0 I		I			1.40
0.917	2.06	0.00	0.037	0 I				I	1.82
1.000	1.15	0.00	0.048	0 I		I			2.19
1.083	0.62	0.00	0.054	0 I					2.38
1.167	0.26	0.00	0.057	0 I					2.47
1.250	0.10	0.00	0.058	0 I					2.51
1.333	0.05	0.00	0.059	0					2.52
1.417	0.02	0.00	0.059	0					2.53
1.500	0.00	0.01	0.059	0					2.53

1.583	0.00	0.01	0.059	0					2.53
1.667	0.00	0.01	0.059	0					2.53
1.750	0.00	0.00	0.059	0					2.53
1.833	0.00	0.00	0.059	0					2.53
1.917	0.00	0.00	0.059	0					2.53
2.000	0.00	0.00	0.059	0					2.53
2.083	0.00	0.00	0.059	0					2.53
2.167	0.00	0.00	0.059	0					2.53
2.250	0.00	0.00	0.059	0					2.53
2.333	0.00	0.00	0.059	0					2.52
2.417	0.00	0.00	0.059	0					2.52
2.500	0.00	0.00	0.059	0					2.52
2.583	0.00	0.00	0.059	0					2.52
2.667	0.00	0.00	0.059	0					2.52
2.750	0.00	0.00	0.059	0					2.52
2.833	0.00	0.00	0.059	0					2.52
2.917	0.00	0.00	0.059	0					2.52
3.000	0.00	0.00	0.059	0					2.52
3.083	0.00	0.00	0.059	0					2.52
3.167	0.00	0.00	0.059	0					2.52
3.250	0.00	0.00	0.059	0					2.52
3.333	0.00	0.00	0.059	0					2.52
3.417	0.00	0.00	0.059	0					2.52
3.500	0.00	0.00	0.058	0					2.52
3.583	0.00	0.00	0.058	0					2.51
3.667	0.00	0.00	0.058	0					2.51
3.750	0.00	0.00	0.058	0					2.51
3.833	0.00	0.00	0.058	0					2.51
3.917	0.00	0.00	0.058	0					2.51
4.000	0.00	0.00	0.058	0					2.51
4.083	0.00	0.00	0.058	0					2.51
4.167	0.00	0.00	0.058	0					2.51
4.250	0.00	0.00	0.058	0					2.51
4.333	0.00	0.00	0.058	0					2.51
4.417	0.00	0.00	0.058	0					2.51
4.500	0.00	0.00	0.058	0					2.51
4.583	0.00	0.00	0.058	0					2.51
4.667	0.00	0.00	0.058	0					2.51
4.750	0.00	0.00	0.058	0					2.51
4.833	0.00	0.00	0.058	0					2.51
4.917	0.00	0.00	0.058	0					2.51
5.000	0.00	0.00	0.058	0					2.51
5.083	0.00	0.00	0.058	0					2.51
5.167	0.00	0.00	0.058	0					2.51
5.250	0.00	0.00	0.058	0					2.51
5.333	0.00	0.00	0.058	0					2.51
5.417	0.00	0.00	0.058	0					2.51
5.500	0.00	0.00	0.058	0					2.51
5.583	0.00	0.00	0.058	0					2.51
5.667	0.00	0.00	0.058	0					2.51
5.750	0.00	0.00	0.058	0					2.51

Remaining water in basin = 0.06 (Ac.Ft)

```
*****HYDROGRAPH DATA*****
      Number of intervals = 69
      Time interval = 5.0 (Min.)
      Maximum/Peak flow rate = 0.005 (CFS)
      Total volume = 0.001 (Ac.Ft)
      Status of hydrographs being held in storage
            Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
      Peak (CFS)    0.000    0.000    0.000    0.000    0.000
      Vol (Ac.Ft)   0.000    0.000    0.000    0.000    0.000
*****
```

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
Study date: 01/21/25

RCH GARAGE
2-YEAR 3-HOUR
DMA-A BMP-1
KIMLEY-HORN

Program License Serial Number 6443

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

From study/file name: RCHPH1A32.rte
*****HYDROGRAPH DATA*****
Number of intervals = 43
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.935 (CFS)
Total volume = 0.087 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000

+++++
Process from Point/Station 0.000 to Point/Station 0.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 43
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

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

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-0*dt/2) (Ac.Ft)	(S+0*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.500	0.008	0.001	0.008	0.008
1.000	0.017	0.001	0.017	0.017
1.500	0.028	0.000	0.028	0.028
2.000	0.042	0.000	0.042	0.042
2.500	0.058	0.000	0.058	0.058
3.000	0.074	0.078	0.074	0.074
3.500	0.091	0.140	0.091	0.091
4.000	0.108	0.182	0.107	0.109
4.500	0.126	0.216	0.125	0.127
5.000	0.143	0.245	0.142	0.144
5.500	0.160	0.271	0.159	0.161
6.000	0.177	0.295	0.176	0.178
6.500	0.194	0.317	0.193	0.195
7.000	0.209	0.337	0.208	0.210
7.500	0.223	0.357	0.222	0.224
8.000	0.234	0.443	0.232	0.236
8.500	0.243	0.493	0.241	0.245
9.000	0.251	0.534	0.249	0.253
10.000	0.252	4.346	0.237	0.267

Hydrograph Detention Basin Routing

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

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.2	0.47	0.70	0.93	Depth (Ft.)
0.083	0.02	0.00	0.000	0					0.00
0.167	0.10	0.00	0.000	0	I				0.03
0.250	0.14	0.00	0.001	0	I				0.08
0.333	0.14	0.00	0.002	0	I				0.14
0.417	0.17	0.00	0.003	0	I				0.21
0.500	0.18	0.00	0.005	0	I				0.28
0.583	0.20	0.00	0.006	0	I				0.37
0.667	0.20	0.00	0.007	0	I				0.45
0.750	0.22	0.00	0.009	0	I				0.54
0.833	0.22	0.00	0.010	0	I				0.62
0.917	0.20	0.00	0.012	0	I				0.70
1.000	0.20	0.00	0.013	0	I				0.78
1.083	0.22	0.00	0.014	0	I				0.86
1.167	0.25	0.00	0.016	0	I				0.95
1.250	0.27	0.00	0.018	0	I				1.04
1.333	0.27	0.00	0.020	0	I				1.12
1.417	0.27	0.00	0.022	0	I				1.21
1.500	0.30	0.00	0.024	0	I				1.30

1.583	0.32	0.00	0.026	0	I				1.40
1.667	0.31	0.00	0.028	0	I				1.49
1.750	0.34	0.00	0.030	0	I				1.58
1.833	0.38	0.00	0.033	0	I				1.66
1.917	0.38	0.00	0.035	0	I				1.76
2.000	0.37	0.00	0.038	0	I				1.85
2.083	0.38	0.00	0.040	0	I				1.94
2.167	0.40	0.00	0.043	0	I				2.03
2.250	0.49	0.00	0.046	0		I			2.13
2.333	0.55	0.00	0.050	0		I			2.24
2.417	0.53	0.00	0.053	0		I			2.36
2.500	0.73	0.00	0.058	0			I		2.49
2.583	0.85	0.02	0.063	0				I	2.66
2.667	0.93	0.05	0.069	0				I	2.84
2.750	0.77	0.08	0.074	0			I		3.01
2.833	0.46	0.09	0.078	0		I			3.12
2.917	0.32	0.10	0.080	0	I				3.18
3.000	0.25	0.10	0.081	0	I				3.22
3.083	0.14	0.11	0.082	0	I				3.23
3.167	0.06	0.11	0.082	0	I				3.23
3.250	0.02	0.11	0.081	0					3.22
3.333	0.01	0.10	0.081	0					3.20
3.417	0.00	0.10	0.080	0					3.18
3.500	0.00	0.10	0.080	0					3.16
3.583	0.00	0.10	0.079	0					3.14
3.667	0.00	0.09	0.078	0					3.12
3.750	0.00	0.09	0.078	0					3.11
3.833	0.00	0.09	0.077	0					3.09
3.917	0.00	0.09	0.076	0					3.07
4.000	0.00	0.08	0.076	0					3.05
4.083	0.00	0.08	0.075	0					3.04
4.167	0.00	0.08	0.075	0					3.02
4.250	0.00	0.08	0.074	0					3.00
4.333	0.00	0.08	0.074	0					2.99
4.417	0.00	0.07	0.073	0					2.97
4.500	0.00	0.07	0.073	0					2.95
4.583	0.00	0.07	0.072	0					2.94
4.667	0.00	0.07	0.072	0					2.93
4.750	0.00	0.06	0.071	0					2.91
4.833	0.00	0.06	0.071	0					2.90
4.917	0.00	0.06	0.070	0					2.88
5.000	0.00	0.06	0.070	0					2.87
5.083	0.00	0.06	0.070	0					2.86
5.167	0.00	0.05	0.069	0					2.85
5.250	0.00	0.05	0.069	0					2.84
5.333	0.00	0.05	0.068	0					2.83
5.417	0.00	0.05	0.068	0					2.81
5.500	0.00	0.05	0.068	0					2.80
5.583	0.00	0.05	0.067	0					2.79
5.667	0.00	0.04	0.067	0					2.78
5.750	0.00	0.04	0.067	0					2.77

5.833	0.00	0.04	0.067	IO					2.77
5.917	0.00	0.04	0.066	IO					2.76
6.000	0.00	0.04	0.066	IO					2.75
6.083	0.00	0.04	0.066	IO					2.74
6.167	0.00	0.04	0.065	IO					2.73
6.250	0.00	0.04	0.065	IO					2.72
6.333	0.00	0.03	0.065	IO					2.72
6.417	0.00	0.03	0.065	IO					2.71
6.500	0.00	0.03	0.065	IO					2.70
6.583	0.00	0.03	0.064	IO					2.70
6.667	0.00	0.03	0.064	IO					2.69
6.750	0.00	0.03	0.064	O					2.68
6.833	0.00	0.03	0.064	O					2.68
6.917	0.00	0.03	0.063	O					2.67
7.000	0.00	0.03	0.063	O					2.67
7.083	0.00	0.03	0.063	O					2.66
7.167	0.00	0.02	0.063	O					2.66
7.250	0.00	0.02	0.063	O					2.65
7.333	0.00	0.02	0.063	O					2.65
7.417	0.00	0.02	0.062	O					2.64
7.500	0.00	0.02	0.062	O					2.64
7.583	0.00	0.02	0.062	O					2.63
7.667	0.00	0.02	0.062	O					2.63
7.750	0.00	0.02	0.062	O					2.62
7.833	0.00	0.02	0.062	O					2.62
7.917	0.00	0.02	0.062	O					2.61
8.000	0.00	0.02	0.062	O					2.61
8.083	0.00	0.02	0.061	O					2.61
8.167	0.00	0.02	0.061	O					2.60
8.250	0.00	0.02	0.061	O					2.60
8.333	0.00	0.02	0.061	O					2.60
8.417	0.00	0.01	0.061	O					2.59
8.500	0.00	0.01	0.061	O					2.59
8.583	0.00	0.01	0.061	O					2.59
8.667	0.00	0.01	0.061	O					2.58
8.750	0.00	0.01	0.061	O					2.58
8.833	0.00	0.01	0.061	O					2.58
8.917	0.00	0.01	0.060	O					2.58
9.000	0.00	0.01	0.060	O					2.57
9.083	0.00	0.01	0.060	O					2.57
9.167	0.00	0.01	0.060	O					2.57
9.250	0.00	0.01	0.060	O					2.57
9.333	0.00	0.01	0.060	O					2.56
9.417	0.00	0.01	0.060	O					2.56
9.500	0.00	0.01	0.060	O					2.56
9.583	0.00	0.01	0.060	O					2.56
9.667	0.00	0.01	0.060	O					2.56
9.750	0.00	0.01	0.060	O					2.55
9.833	0.00	0.01	0.060	O					2.55
9.917	0.00	0.01	0.060	O					2.55
10.000	0.00	0.01	0.060	O					2.55

10.083	0.00	0.01	0.060	0					2.55
10.167	0.00	0.01	0.059	0					2.55
10.250	0.00	0.01	0.059	0					2.54
10.333	0.00	0.01	0.059	0					2.54
10.417	0.00	0.01	0.059	0					2.54
10.500	0.00	0.01	0.059	0					2.54
10.583	0.00	0.01	0.059	0					2.54
10.667	0.00	0.01	0.059	0					2.54
10.750	0.00	0.01	0.059	0					2.54
10.833	0.00	0.01	0.059	0					2.54
10.917	0.00	0.01	0.059	0					2.53
11.000	0.00	0.01	0.059	0					2.53
11.083	0.00	0.01	0.059	0					2.53
11.167	0.00	0.00	0.059	0					2.53
11.250	0.00	0.00	0.059	0					2.53
11.333	0.00	0.00	0.059	0					2.53
11.417	0.00	0.00	0.059	0					2.53
11.500	0.00	0.00	0.059	0					2.53
11.583	0.00	0.00	0.059	0					2.53
11.667	0.00	0.00	0.059	0					2.53
11.750	0.00	0.00	0.059	0					2.52
11.833	0.00	0.00	0.059	0					2.52
11.917	0.00	0.00	0.059	0					2.52
12.000	0.00	0.00	0.059	0					2.52
12.083	0.00	0.00	0.059	0					2.52
12.167	0.00	0.00	0.059	0					2.52
12.250	0.00	0.00	0.059	0					2.52
12.333	0.00	0.00	0.059	0					2.52
12.417	0.00	0.00	0.059	0					2.52
12.500	0.00	0.00	0.059	0					2.52
12.583	0.00	0.00	0.059	0					2.52
12.667	0.00	0.00	0.059	0					2.52
12.750	0.00	0.00	0.059	0					2.52
12.833	0.00	0.00	0.059	0					2.52
12.917	0.00	0.00	0.058	0					2.52
13.000	0.00	0.00	0.058	0					2.51
13.083	0.00	0.00	0.058	0					2.51
13.167	0.00	0.00	0.058	0					2.51
13.250	0.00	0.00	0.058	0					2.51
13.333	0.00	0.00	0.058	0					2.51
13.417	0.00	0.00	0.058	0					2.51
13.500	0.00	0.00	0.058	0					2.51
13.583	0.00	0.00	0.058	0					2.51
13.667	0.00	0.00	0.058	0					2.51
13.750	0.00	0.00	0.058	0					2.51
13.833	0.00	0.00	0.058	0					2.51
13.917	0.00	0.00	0.058	0					2.51
14.000	0.00	0.00	0.058	0					2.51
14.083	0.00	0.00	0.058	0					2.51
14.167	0.00	0.00	0.058	0					2.51
14.250	0.00	0.00	0.058	0					2.51

14.333	0.00	0.00	0.058	0					2.51
14.417	0.00	0.00	0.058	0					2.51
14.500	0.00	0.00	0.058	0					2.51
14.583	0.00	0.00	0.058	0					2.51
14.667	0.00	0.00	0.058	0					2.51
14.750	0.00	0.00	0.058	0					2.51
14.833	0.00	0.00	0.058	0					2.51
14.917	0.00	0.00	0.058	0					2.51
15.000	0.00	0.00	0.058	0					2.51
15.083	0.00	0.00	0.058	0					2.51

Remaining water in basin = 0.06 (Ac.Ft)

```

*****HYDROGRAPH DATA*****
      Number of intervals = 181
      Time interval = 5.0 (Min.)
      Maximum/Peak flow rate = 0.107 (CFS)
      Total volume = 0.029 (Ac.Ft)
      Status of hydrographs being held in storage
            Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
      Peak (CFS)      0.000      0.000      0.000      0.000      0.000
      Vol (Ac.Ft)      0.000      0.000      0.000      0.000      0.000
*****

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FLOOD HYDROGRAPH ROUTING PROGRAM
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Study date: 01/21/25

RCH GARAGE
2-YEAR 6-HOUR
DMA-A BMP-1
KIMLEY-HORN

Program License Serial Number 6443

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

From study/file name: RCHPH1A62.rte
*****HYDROGRAPH DATA*****
Number of intervals = 79
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.748 (CFS)
Total volume = 0.108 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000

+++++
Process from Point/Station 0.000 to Point/Station 0.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 79
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

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

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-0*dt/2) (Ac.Ft)	(S+0*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.500	0.008	0.001	0.008	0.008
1.000	0.017	0.001	0.017	0.017
1.500	0.028	0.000	0.028	0.028
2.000	0.042	0.000	0.042	0.042
2.500	0.058	0.000	0.058	0.058
3.000	0.074	0.078	0.074	0.074
3.500	0.091	0.140	0.091	0.091
4.000	0.108	0.182	0.107	0.109
4.500	0.126	0.216	0.125	0.127
5.000	0.143	0.245	0.142	0.144
5.500	0.160	0.271	0.159	0.161
6.000	0.177	0.295	0.176	0.178
6.500	0.194	0.317	0.193	0.195
7.000	0.209	0.337	0.208	0.210
7.500	0.223	0.357	0.222	0.224
8.000	0.234	0.443	0.232	0.236
8.500	0.243	0.493	0.241	0.245
9.000	0.251	0.534	0.249	0.253
10.000	0.252	4.346	0.237	0.267

Hydrograph Detention Basin Routing

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

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.2	0.37	0.56	0.75	Depth (Ft.)
0.083	0.01	0.00	0.000	0					0.00
0.167	0.05	0.00	0.000	0 I					0.01
0.250	0.08	0.00	0.001	0 I					0.04
0.333	0.09	0.00	0.001	0 I					0.08
0.417	0.09	0.00	0.002	0 I					0.12
0.500	0.09	0.00	0.002	0 I					0.16
0.583	0.10	0.00	0.003	0 I					0.20
0.667	0.11	0.00	0.004	0 I					0.24
0.750	0.11	0.00	0.005	0 I					0.29
0.833	0.11	0.00	0.005	0 I					0.34
0.917	0.11	0.00	0.006	0 I					0.38
1.000	0.11	0.00	0.007	0 I					0.43
1.083	0.12	0.00	0.008	0 I					0.48
1.167	0.12	0.00	0.009	0 I					0.53
1.250	0.12	0.00	0.009	0 I					0.58
1.333	0.13	0.00	0.010	0 I					0.62
1.417	0.13	0.00	0.011	0 I					0.67
1.500	0.13	0.00	0.012	0 I					0.72

1.583	0.13	0.00	0.013	0	I						0.77
1.667	0.13	0.00	0.014	0	I						0.81
1.750	0.13	0.00	0.015	0	I						0.86
1.833	0.13	0.00	0.015	0	I						0.91
1.917	0.13	0.00	0.016	0	I						0.96
2.000	0.13	0.00	0.017	0	I						1.00
2.083	0.13	0.00	0.018	0	I						1.04
2.167	0.13	0.00	0.019	0	I						1.09
2.250	0.14	0.00	0.020	0	I						1.13
2.333	0.14	0.00	0.021	0	I						1.17
2.417	0.14	0.00	0.022	0	I						1.21
2.500	0.14	0.00	0.023	0	I						1.26
2.583	0.14	0.00	0.024	0	I						1.30
2.667	0.14	0.00	0.025	0	I						1.35
2.750	0.14	0.00	0.026	0	I						1.39
2.833	0.15	0.00	0.027	0	I						1.44
2.917	0.15	0.00	0.028	0	I						1.48
3.000	0.16	0.00	0.029	0	I						1.53
3.083	0.16	0.00	0.030	0	I						1.56
3.167	0.16	0.00	0.031	0	I						1.60
3.250	0.17	0.00	0.032	0	I						1.64
3.333	0.17	0.00	0.033	0	I						1.69
3.417	0.17	0.00	0.034	0	I						1.73
3.500	0.18	0.00	0.036	0	I						1.77
3.583	0.20	0.00	0.037	0	I						1.82
3.667	0.21	0.00	0.038	0	I						1.87
3.750	0.22	0.00	0.040	0	I						1.92
3.833	0.23	0.00	0.041	0	I						1.98
3.917	0.23	0.00	0.043	0	I						2.03
4.000	0.24	0.00	0.045	0	I						2.08
4.083	0.25	0.00	0.046	0	I						2.13
4.167	0.26	0.00	0.048	0	I						2.19
4.250	0.28	0.00	0.050	0	I						2.25
4.333	0.29	0.00	0.052	0	I						2.31
4.417	0.31	0.00	0.054	0	I						2.37
4.500	0.32	0.00	0.056	0	I						2.44
4.583	0.33	0.00	0.058	0	I						2.51
4.667	0.34	0.01	0.061	0	I						2.58
4.750	0.35	0.02	0.063	0	I						2.65
4.833	0.37	0.03	0.065	0	I						2.72
4.917	0.38	0.05	0.067	0	I						2.79
5.000	0.39	0.06	0.070	0	I						2.86
5.083	0.41	0.07	0.072	0	I						2.94
5.167	0.46	0.08	0.074	0	I						3.01
5.250	0.53	0.09	0.077	0	I						3.10
5.333	0.58	0.10	0.080	0	I						3.19
5.417	0.64	0.11	0.084	0	I						3.29
5.500	0.71	0.13	0.088	0	I						3.40
5.583	0.75	0.14	0.092	0	I						3.52
5.667	0.47	0.15	0.095	0	I						3.62
5.750	0.27	0.15	0.096	0	I						3.66

5.833	0.17	0.15	0.097		0I						3.67
5.917	0.11	0.15	0.097		I 0						3.67
6.000	0.07	0.15	0.096		I 0						3.66
6.083	0.05	0.15	0.096		I 0						3.64
6.167	0.02	0.15	0.095	I	0						3.62
6.250	0.01	0.15	0.094	I	0						3.59
6.333	0.00	0.14	0.093	I	0						3.56
6.417	0.00	0.14	0.092	I	0						3.53
6.500	0.00	0.14	0.091	I	0						3.50
6.583	0.00	0.14	0.090	I	0						3.47
6.667	0.00	0.13	0.089	I	0						3.45
6.750	0.00	0.13	0.088	I	0						3.42
6.833	0.00	0.13	0.087	I	0						3.39
6.917	0.00	0.12	0.087	I	0						3.37
7.000	0.00	0.12	0.086	I	0						3.34
7.083	0.00	0.12	0.085	I	0						3.32
7.167	0.00	0.11	0.084	I	0						3.30
7.250	0.00	0.11	0.083	I	0						3.27
7.333	0.00	0.11	0.083	I	0						3.25
7.417	0.00	0.11	0.082	I	0						3.23
7.500	0.00	0.10	0.081	I	0						3.21
7.583	0.00	0.10	0.080	I	0						3.19
7.667	0.00	0.10	0.080	I	0						3.17
7.750	0.00	0.10	0.079	I	0						3.15
7.833	0.00	0.09	0.078	I	0						3.13
7.917	0.00	0.09	0.078	I	0						3.11
8.000	0.00	0.09	0.077	I	0						3.09
8.083	0.00	0.09	0.076	I	0						3.07
8.167	0.00	0.08	0.076	I	0						3.06
8.250	0.00	0.08	0.075	I	0						3.04
8.333	0.00	0.08	0.075	I	0						3.02
8.417	0.00	0.08	0.074	I	0						3.01
8.500	0.00	0.08	0.074	I	0						2.99
8.583	0.00	0.07	0.073	I	0						2.97
8.667	0.00	0.07	0.073	I	0						2.96
8.750	0.00	0.07	0.072	I	0						2.94
8.833	0.00	0.07	0.072	I	0						2.93
8.917	0.00	0.06	0.071	I	0						2.91
9.000	0.00	0.06	0.071	I	0						2.90
9.083	0.00	0.06	0.070	I	0						2.89
9.167	0.00	0.06	0.070	I	0						2.87
9.250	0.00	0.06	0.070	I	0						2.86
9.333	0.00	0.05	0.069	I	0						2.85
9.417	0.00	0.05	0.069	I	0						2.84
9.500	0.00	0.05	0.068	I	0						2.83
9.583	0.00	0.05	0.068	I	0						2.82
9.667	0.00	0.05	0.068	I	0						2.81
9.750	0.00	0.05	0.067	IO							2.80
9.833	0.00	0.04	0.067	IO							2.79
9.917	0.00	0.04	0.067	IO							2.78
10.000	0.00	0.04	0.067	IO							2.77

10.083	0.00	0.04	0.066	IO					2.76
10.167	0.00	0.04	0.066	IO					2.75
10.250	0.00	0.04	0.066	IO					2.74
10.333	0.00	0.04	0.065	IO					2.73
10.417	0.00	0.04	0.065	IO					2.73
10.500	0.00	0.03	0.065	IO					2.72
10.583	0.00	0.03	0.065	IO					2.71
10.667	0.00	0.03	0.065	IO					2.70
10.750	0.00	0.03	0.064	IO					2.70
10.833	0.00	0.03	0.064	IO					2.69
10.917	0.00	0.03	0.064	IO					2.68
11.000	0.00	0.03	0.064	IO					2.68
11.083	0.00	0.03	0.064	IO					2.67
11.167	0.00	0.03	0.063	IO					2.67
11.250	0.00	0.03	0.063	IO					2.66
11.333	0.00	0.02	0.063	IO					2.66
11.417	0.00	0.02	0.063	IO					2.65
11.500	0.00	0.02	0.063	0					2.65
11.583	0.00	0.02	0.063	0					2.64
11.667	0.00	0.02	0.062	0					2.64
11.750	0.00	0.02	0.062	0					2.63
11.833	0.00	0.02	0.062	0					2.63
11.917	0.00	0.02	0.062	0					2.62
12.000	0.00	0.02	0.062	0					2.62
12.083	0.00	0.02	0.062	0					2.62
12.167	0.00	0.02	0.062	0					2.61
12.250	0.00	0.02	0.061	0					2.61
12.333	0.00	0.02	0.061	0					2.60
12.417	0.00	0.02	0.061	0					2.60
12.500	0.00	0.02	0.061	0					2.60
12.583	0.00	0.01	0.061	0					2.59
12.667	0.00	0.01	0.061	0					2.59
12.750	0.00	0.01	0.061	0					2.59
12.833	0.00	0.01	0.061	0					2.59
12.917	0.00	0.01	0.061	0					2.58
13.000	0.00	0.01	0.061	0					2.58
13.083	0.00	0.01	0.060	0					2.58
13.167	0.00	0.01	0.060	0					2.57
13.250	0.00	0.01	0.060	0					2.57
13.333	0.00	0.01	0.060	0					2.57
13.417	0.00	0.01	0.060	0					2.57
13.500	0.00	0.01	0.060	0					2.57
13.583	0.00	0.01	0.060	0					2.56
13.667	0.00	0.01	0.060	0					2.56
13.750	0.00	0.01	0.060	0					2.56
13.833	0.00	0.01	0.060	0					2.56
13.917	0.00	0.01	0.060	0					2.56
14.000	0.00	0.01	0.060	0					2.55
14.083	0.00	0.01	0.060	0					2.55
14.167	0.00	0.01	0.060	0					2.55
14.250	0.00	0.01	0.060	0					2.55

14.333	0.00	0.01	0.059	0					2.55
14.417	0.00	0.01	0.059	0					2.55
14.500	0.00	0.01	0.059	0					2.54
14.583	0.00	0.01	0.059	0					2.54
14.667	0.00	0.01	0.059	0					2.54
14.750	0.00	0.01	0.059	0					2.54
14.833	0.00	0.01	0.059	0					2.54
14.917	0.00	0.01	0.059	0					2.54
15.000	0.00	0.01	0.059	0					2.54
15.083	0.00	0.01	0.059	0					2.53
15.167	0.00	0.01	0.059	0					2.53
15.250	0.00	0.01	0.059	0					2.53
15.333	0.00	0.00	0.059	0					2.53
15.417	0.00	0.00	0.059	0					2.53
15.500	0.00	0.00	0.059	0					2.53
15.583	0.00	0.00	0.059	0					2.53
15.667	0.00	0.00	0.059	0					2.53
15.750	0.00	0.00	0.059	0					2.53
15.833	0.00	0.00	0.059	0					2.53
15.917	0.00	0.00	0.059	0					2.52
16.000	0.00	0.00	0.059	0					2.52
16.083	0.00	0.00	0.059	0					2.52
16.167	0.00	0.00	0.059	0					2.52
16.250	0.00	0.00	0.059	0					2.52
16.333	0.00	0.00	0.059	0					2.52
16.417	0.00	0.00	0.059	0					2.52
16.500	0.00	0.00	0.059	0					2.52
16.583	0.00	0.00	0.059	0					2.52
16.667	0.00	0.00	0.059	0					2.52
16.750	0.00	0.00	0.059	0					2.52
16.833	0.00	0.00	0.059	0					2.52
16.917	0.00	0.00	0.059	0					2.52
17.000	0.00	0.00	0.059	0					2.52
17.083	0.00	0.00	0.058	0					2.52
17.167	0.00	0.00	0.058	0					2.51
17.250	0.00	0.00	0.058	0					2.51
17.333	0.00	0.00	0.058	0					2.51
17.417	0.00	0.00	0.058	0					2.51
17.500	0.00	0.00	0.058	0					2.51
17.583	0.00	0.00	0.058	0					2.51
17.667	0.00	0.00	0.058	0					2.51
17.750	0.00	0.00	0.058	0					2.51
17.833	0.00	0.00	0.058	0					2.51
17.917	0.00	0.00	0.058	0					2.51
18.000	0.00	0.00	0.058	0					2.51
18.083	0.00	0.00	0.058	0					2.51
18.167	0.00	0.00	0.058	0					2.51
18.250	0.00	0.00	0.058	0					2.51
18.333	0.00	0.00	0.058	0					2.51
18.417	0.00	0.00	0.058	0					2.51
18.500	0.00	0.00	0.058	0					2.51

18.583	0.00	0.00	0.058	0					2.51
18.667	0.00	0.00	0.058	0					2.51
18.750	0.00	0.00	0.058	0					2.51
18.833	0.00	0.00	0.058	0					2.51
18.917	0.00	0.00	0.058	0					2.51
19.000	0.00	0.00	0.058	0					2.51
19.083	0.00	0.00	0.058	0					2.51
19.167	0.00	0.00	0.058	0					2.51
19.250	0.00	0.00	0.058	0					2.51
19.333	0.00	0.00	0.058	0					2.51

Remaining water in basin = 0.06 (Ac.Ft)

```
*****HYDROGRAPH DATA*****
      Number of intervals = 232
      Time interval = 5.0 (Min.)
      Maximum/Peak flow rate = 0.155 (CFS)
      Total volume = 0.050 (Ac.Ft)
      Status of hydrographs being held in storage
            Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
      Peak (CFS)      0.000      0.000      0.000      0.000      0.000
      Vol (Ac.Ft)      0.000      0.000      0.000      0.000      0.000
*****
```

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
Study date: 01/21/25

RCH GARAGE
2-YEAR 24-HOUR
DMA-A BMP-1
KIMLEY-HORN

Program License Serial Number 6443

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

From study/file name: RCHPH1A242.rte
*****HYDROGRAPH DATA*****
Number of intervals = 295
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.284 (CFS)
Total volume = 0.173 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000

+++++
Process from Point/Station 0.000 to Point/Station 0.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 295
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

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

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-0*dt/2) (Ac.Ft)	(S+0*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.500	0.008	0.001	0.008	0.008
1.000	0.017	0.001	0.017	0.017
1.500	0.028	0.000	0.028	0.028
2.000	0.042	0.000	0.042	0.042
2.500	0.058	0.000	0.058	0.058
3.000	0.074	0.078	0.074	0.074
3.500	0.091	0.140	0.091	0.091
4.000	0.108	0.182	0.107	0.109
4.500	0.126	0.216	0.125	0.127
5.000	0.143	0.245	0.142	0.144
5.500	0.160	0.271	0.159	0.161
6.000	0.177	0.295	0.176	0.178
6.500	0.194	0.317	0.193	0.195
7.000	0.209	0.337	0.208	0.210
7.500	0.223	0.357	0.222	0.224
8.000	0.234	0.443	0.232	0.236
8.500	0.243	0.493	0.241	0.245
9.000	0.251	0.534	0.249	0.253
10.000	0.252	4.346	0.237	0.267

Hydrograph Detention Basin Routing

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

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.1	0.14	0.21	0.28	Depth (Ft.)
0.083	0.00	0.00	0.000	O					0.00
0.167	0.01	0.00	0.000	O I					0.00
0.250	0.01	0.00	0.000	O I					0.01
0.333	0.02	0.00	0.000	O I					0.02
0.417	0.02	0.00	0.000	O I					0.02
0.500	0.02	0.00	0.001	O I					0.03
0.583	0.02	0.00	0.001	O I					0.04
0.667	0.02	0.00	0.001	O I					0.05
0.750	0.03	0.00	0.001	O I					0.06
0.833	0.03	0.00	0.001	O I					0.08
0.917	0.03	0.00	0.001	O I					0.09
1.000	0.03	0.00	0.002	O I					0.10
1.083	0.03	0.00	0.002	O I					0.11
1.167	0.03	0.00	0.002	O I					0.13
1.250	0.03	0.00	0.002	O I					0.14
1.333	0.03	0.00	0.002	O I					0.15
1.417	0.03	0.00	0.003	O I					0.16
1.500	0.03	0.00	0.003	O I					0.17

1.583	0.03	0.00	0.003	0	I						0.18
1.667	0.03	0.00	0.003	0	I						0.19
1.750	0.03	0.00	0.003	0	I						0.20
1.833	0.03	0.00	0.003	0	I						0.21
1.917	0.03	0.00	0.004	0	I						0.23
2.000	0.03	0.00	0.004	0	I						0.24
2.083	0.03	0.00	0.004	0	I						0.25
2.167	0.03	0.00	0.004	0	I						0.27
2.250	0.03	0.00	0.005	0	I						0.28
2.333	0.03	0.00	0.005	0	I						0.30
2.417	0.03	0.00	0.005	0	I						0.31
2.500	0.03	0.00	0.005	0	I						0.32
2.583	0.03	0.00	0.005	0	I						0.34
2.667	0.04	0.00	0.006	0	I						0.35
2.750	0.04	0.00	0.006	0	I						0.37
2.833	0.04	0.00	0.006	0	I						0.39
2.917	0.04	0.00	0.006	0	I						0.41
3.000	0.04	0.00	0.007	0	I						0.42
3.083	0.04	0.00	0.007	0	I						0.44
3.167	0.04	0.00	0.007	0	I						0.46
3.250	0.04	0.00	0.008	0	I						0.48
3.333	0.04	0.00	0.008	0	I						0.49
3.417	0.04	0.00	0.008	0	I						0.51
3.500	0.04	0.00	0.008	0	I						0.53
3.583	0.04	0.00	0.009	0	I						0.54
3.667	0.04	0.00	0.009	0	I						0.56
3.750	0.04	0.00	0.009	0	I						0.57
3.833	0.04	0.00	0.010	0	I						0.59
3.917	0.05	0.00	0.010	0	I						0.61
4.000	0.05	0.00	0.010	0	I						0.62
4.083	0.05	0.00	0.011	0	I						0.64
4.167	0.05	0.00	0.011	0	I						0.66
4.250	0.05	0.00	0.011	0	I						0.68
4.333	0.05	0.00	0.012	0	I						0.70
4.417	0.06	0.00	0.012	0	I						0.72
4.500	0.06	0.00	0.012	0	I						0.74
4.583	0.06	0.00	0.013	0	I						0.76
4.667	0.06	0.00	0.013	0	I						0.78
4.750	0.06	0.00	0.014	0	I						0.81
4.833	0.06	0.00	0.014	0	I						0.83
4.917	0.06	0.00	0.014	0	I						0.85
5.000	0.07	0.00	0.015	0	I						0.88
5.083	0.06	0.00	0.015	0	I						0.90
5.167	0.06	0.00	0.016	0	I						0.92
5.250	0.05	0.00	0.016	0	I						0.94
5.333	0.05	0.00	0.016	0	I						0.96
5.417	0.06	0.00	0.017	0	I						0.98
5.500	0.06	0.00	0.017	0	I						1.00
5.583	0.06	0.00	0.017	0	I						1.02
5.667	0.06	0.00	0.018	0	I						1.04
5.750	0.07	0.00	0.018	0	I						1.06

5.833	0.07	0.00	0.019	0	I							1.08
5.917	0.07	0.00	0.019	0	I							1.10
6.000	0.07	0.00	0.020	0	I							1.12
6.083	0.07	0.00	0.020	0	I							1.14
6.167	0.07	0.00	0.021	0	I							1.17
6.250	0.07	0.00	0.021	0	I							1.19
6.333	0.07	0.00	0.022	0	I							1.21
6.417	0.08	0.00	0.022	0	I							1.23
6.500	0.08	0.00	0.023	0	I							1.26
6.583	0.08	0.00	0.023	0	I							1.28
6.667	0.08	0.00	0.024	0	I							1.31
6.750	0.08	0.00	0.024	0	I							1.33
6.833	0.08	0.00	0.025	0	I							1.36
6.917	0.08	0.00	0.025	0	I							1.38
7.000	0.08	0.00	0.026	0	I							1.41
7.083	0.08	0.00	0.027	0	I							1.44
7.167	0.08	0.00	0.027	0	I							1.46
7.250	0.08	0.00	0.028	0	I							1.49
7.333	0.08	0.00	0.028	0	I							1.51
7.417	0.09	0.00	0.029	0	I							1.53
7.500	0.09	0.00	0.030	0	I							1.55
7.583	0.09	0.00	0.030	0	I							1.58
7.667	0.10	0.00	0.031	0	I							1.60
7.750	0.10	0.00	0.031	0	I							1.62
7.833	0.10	0.00	0.032	0	I							1.65
7.917	0.11	0.00	0.033	0	I							1.67
8.000	0.11	0.00	0.034	0	I							1.70
8.083	0.11	0.00	0.034	0	I							1.73
8.167	0.12	0.00	0.035	0	I							1.76
8.250	0.12	0.00	0.036	0	I							1.79
8.333	0.12	0.00	0.037	0	I							1.82
8.417	0.13	0.00	0.038	0	I							1.85
8.500	0.13	0.00	0.039	0	I							1.88
8.583	0.13	0.00	0.039	0	I							1.91
8.667	0.13	0.00	0.040	0	I							1.94
8.750	0.13	0.00	0.041	0	I							1.97
8.833	0.13	0.00	0.042	0	I							2.01
8.917	0.14	0.00	0.043	0	I							2.03
9.000	0.14	0.00	0.044	0	I							2.06
9.083	0.14	0.00	0.045	0	I							2.10
9.167	0.15	0.00	0.046	0	I							2.13
9.250	0.16	0.00	0.047	0	I							2.16
9.333	0.16	0.00	0.048	0	I							2.19
9.417	0.16	0.00	0.049	0	I							2.23
9.500	0.17	0.00	0.050	0	I							2.26
9.583	0.17	0.00	0.052	0	I							2.30
9.667	0.17	0.00	0.053	0	I							2.34
9.750	0.17	0.00	0.054	0	I							2.37
9.833	0.18	0.00	0.055	0	I							2.41
9.917	0.18	0.00	0.056	0	I							2.45
10.000	0.18	0.00	0.058	0	I							2.49

10.083	0.18	0.00	0.059	0			I		2.53
10.167	0.15	0.01	0.060	0			I		2.56
10.250	0.13	0.01	0.061	0			I		2.59
10.333	0.13	0.02	0.062	0			I		2.61
10.417	0.13	0.02	0.062	0			I		2.64
10.500	0.13	0.03	0.063	0			I		2.66
10.583	0.13	0.03	0.064	0			I		2.68
10.667	0.15	0.03	0.065	0			I		2.71
10.750	0.16	0.04	0.065	0			I		2.73
10.833	0.16	0.04	0.066	0			I		2.76
10.917	0.17	0.04	0.067	0			I		2.79
11.000	0.17	0.05	0.068	0			I		2.81
11.083	0.17	0.05	0.069	0			I		2.84
11.167	0.16	0.06	0.070	0			I		2.86
11.250	0.16	0.06	0.070	0			I		2.88
11.333	0.16	0.06	0.071	0			I		2.90
11.417	0.16	0.07	0.072	0			I		2.92
11.500	0.16	0.07	0.072	0			I		2.94
11.583	0.16	0.07	0.073	0			I		2.96
11.667	0.15	0.07	0.073	0			I		2.98
11.750	0.15	0.08	0.074	0			I		3.00
11.833	0.14	0.08	0.074	0			I		3.01
11.917	0.15	0.08	0.075	0			I		3.02
12.000	0.15	0.08	0.075	0			I		3.04
12.083	0.16	0.08	0.076	0			I		3.05
12.167	0.19	0.09	0.076	0			I		3.07
12.250	0.20	0.09	0.077	0			I		3.09
12.333	0.21	0.09	0.078	0			I		3.11
12.417	0.21	0.09	0.079	0			I		3.14
12.500	0.22	0.10	0.079	0			I		3.16
12.583	0.22	0.10	0.080	0			I		3.18
12.667	0.23	0.10	0.081	0			I		3.21
12.750	0.23	0.11	0.082	0			I		3.23
12.833	0.23	0.11	0.083	0			I		3.26
12.917	0.24	0.11	0.084	0			I		3.28
13.000	0.24	0.12	0.085	0			I		3.31
13.083	0.25	0.12	0.085	0			I		3.34
13.167	0.27	0.12	0.086	0			I		3.36
13.250	0.28	0.13	0.087	0			I		3.39
13.333	0.28	0.13	0.088	0			I		3.42
13.417	0.28	0.13	0.089	0			I		3.45
13.500	0.28	0.14	0.090	0			I		3.48
13.583	0.27	0.14	0.091	0			I		3.51
13.667	0.23	0.14	0.092	0			I		3.53
13.750	0.21	0.14	0.093	0			I		3.55
13.833	0.20	0.15	0.093	0			I		3.56
13.917	0.20	0.15	0.093	0			I		3.57
14.000	0.19	0.15	0.094	0			I		3.58
14.083	0.20	0.15	0.094	0			I		3.59
14.167	0.21	0.15	0.095	0			I		3.60
14.250	0.22	0.15	0.095	0			I		3.62

14.333	0.22	0.15	0.095			0	I	3.63
14.417	0.22	0.15	0.096			0	I	3.65
14.500	0.22	0.15	0.096			0	I	3.66
14.583	0.22	0.15	0.097			0	I	3.67
14.667	0.22	0.16	0.097			0	I	3.68
14.750	0.22	0.16	0.098			0	I	3.70
14.833	0.22	0.16	0.098			0	I	3.71
14.917	0.21	0.16	0.099			0	I	3.72
15.000	0.21	0.16	0.099			0	I	3.73
15.083	0.21	0.16	0.099			0	I	3.74
15.167	0.20	0.16	0.100			0	I	3.75
15.250	0.20	0.16	0.100			0	I	3.76
15.333	0.20	0.16	0.100			0	I	3.77
15.417	0.20	0.16	0.100			0	I	3.78
15.500	0.19	0.16	0.101			0	I	3.78
15.583	0.19	0.16	0.101			0	I	3.79
15.667	0.17	0.16	0.101			0	I	3.79
15.750	0.16	0.16	0.101			0		3.79
15.833	0.16	0.16	0.101			0		3.79
15.917	0.16	0.16	0.101			0		3.79
16.000	0.16	0.16	0.101			0		3.79
16.083	0.15	0.16	0.101			0		3.79
16.167	0.08	0.16	0.100		I	0		3.78
16.250	0.05	0.16	0.100		I	0		3.76
16.333	0.04	0.16	0.099		I	0		3.73
16.417	0.04	0.16	0.098		I	0		3.71
16.500	0.04	0.16	0.097		I	0		3.69
16.583	0.03	0.15	0.096		I	0		3.66
16.667	0.03	0.15	0.096		I	0		3.64
16.750	0.03	0.15	0.095		I	0		3.61
16.833	0.03	0.15	0.094		I	0		3.59
16.917	0.03	0.15	0.093		I	0		3.56
17.000	0.03	0.14	0.092		I	0		3.54
17.083	0.03	0.14	0.092		I	0		3.51
17.167	0.04	0.14	0.091		I	0		3.49
17.250	0.04	0.14	0.090		I	0		3.47
17.333	0.04	0.13	0.089		I	0		3.45
17.417	0.04	0.13	0.089		I	0		3.43
17.500	0.04	0.13	0.088		I	0		3.42
17.583	0.04	0.13	0.088		I	0		3.40
17.667	0.04	0.13	0.087		I	0		3.38
17.750	0.04	0.12	0.086		I	0		3.37
17.833	0.04	0.12	0.086		I	0		3.35
17.917	0.04	0.12	0.085		I	0		3.33
18.000	0.03	0.12	0.085		I	0		3.32
18.083	0.03	0.12	0.084		I	0		3.30
18.167	0.03	0.11	0.084		I	0		3.28
18.250	0.03	0.11	0.083		I	0		3.27
18.333	0.03	0.11	0.083		I	0		3.25
18.417	0.03	0.11	0.082		I	0		3.24
18.500	0.03	0.11	0.082		I	0		3.22

18.583	0.03	0.10	0.081	I	0				3.21
18.667	0.03	0.10	0.081	I	0				3.19
18.750	0.03	0.10	0.080	I	0				3.18
18.833	0.02	0.10	0.080	I	0				3.16
18.917	0.02	0.10	0.079	I	0				3.15
19.000	0.02	0.09	0.078	I	0				3.13
19.083	0.02	0.09	0.078	I	0				3.12
19.167	0.02	0.09	0.077	I	0				3.10
19.250	0.02	0.09	0.077	I	0				3.09
19.333	0.03	0.09	0.077	I	0				3.08
19.417	0.03	0.09	0.076	I	0				3.06
19.500	0.03	0.08	0.076	I	0				3.05
19.583	0.03	0.08	0.075	I	0				3.04
19.667	0.03	0.08	0.075	I	0				3.03
19.750	0.03	0.08	0.075	I	0				3.02
19.833	0.02	0.08	0.074	I	0				3.01
19.917	0.02	0.08	0.074	I	0				3.00
20.000	0.02	0.08	0.074	I	0				2.99
20.083	0.02	0.07	0.073	I	0				2.97
20.167	0.02	0.07	0.073	I	0				2.96
20.250	0.02	0.07	0.072	I	0				2.95
20.333	0.02	0.07	0.072	I	0				2.94
20.417	0.02	0.07	0.072	I	0				2.93
20.500	0.03	0.07	0.072	I	0				2.92
20.583	0.03	0.06	0.071	I	0				2.92
20.667	0.03	0.06	0.071	I	0				2.91
20.750	0.03	0.06	0.071	I	0				2.90
20.833	0.02	0.06	0.071	I	0				2.89
20.917	0.02	0.06	0.070	I	0				2.88
21.000	0.02	0.06	0.070	I	0				2.87
21.083	0.02	0.06	0.070	I	0				2.87
21.167	0.02	0.06	0.069	I	0				2.86
21.250	0.02	0.05	0.069	I	0				2.85
21.333	0.02	0.05	0.069	I	0				2.84
21.417	0.02	0.05	0.069	I	0				2.84
21.500	0.02	0.05	0.069	I	0				2.83
21.583	0.02	0.05	0.068	I	0				2.82
21.667	0.02	0.05	0.068	I	0				2.82
21.750	0.02	0.05	0.068	I	0				2.81
21.833	0.02	0.05	0.068	I	0				2.81
21.917	0.02	0.05	0.068	I	0				2.80
22.000	0.02	0.05	0.067	I	0				2.79
22.083	0.02	0.05	0.067	I	0				2.79
22.167	0.02	0.04	0.067	I	0				2.78
22.250	0.02	0.04	0.067	I	0				2.78
22.333	0.02	0.04	0.067	I	0				2.77
22.417	0.02	0.04	0.067	I	0				2.77
22.500	0.02	0.04	0.066	I	0				2.77
22.583	0.02	0.04	0.066	I	0				2.76
22.667	0.02	0.04	0.066	I	0				2.76
22.750	0.02	0.04	0.066	I	0				2.75

22.833	0.02	0.04	0.066	I 0					2.75
22.917	0.02	0.04	0.066	I 0					2.74
23.000	0.02	0.04	0.066	I 0					2.74
23.083	0.02	0.04	0.065	I 0					2.73
23.167	0.02	0.04	0.065	I 0					2.73
23.250	0.02	0.04	0.065	I 0					2.72
23.333	0.02	0.03	0.065	I 0					2.72
23.417	0.02	0.03	0.065	I 0					2.72
23.500	0.02	0.03	0.065	I 0					2.71
23.583	0.02	0.03	0.065	I 0					2.71
23.667	0.02	0.03	0.065	I 0					2.71
23.750	0.02	0.03	0.064	I 0					2.70
23.833	0.02	0.03	0.064	I 0					2.70
23.917	0.02	0.03	0.064	I 0					2.70
24.000	0.02	0.03	0.064	I 0					2.69
24.083	0.01	0.03	0.064	I 0					2.69
24.167	0.01	0.03	0.064	I 0					2.69
24.250	0.00	0.03	0.064	I 0					2.68
24.333	0.00	0.03	0.064	I 0					2.68
24.417	0.00	0.03	0.063	I 0					2.67
24.500	0.00	0.03	0.063	I 0					2.66
24.583	0.00	0.02	0.063	I 0					2.66
24.667	0.00	0.02	0.063	I 0					2.65
24.750	0.00	0.02	0.063	I 0					2.65
24.833	0.00	0.02	0.063	I 0					2.64
24.917	0.00	0.02	0.062	I 0					2.64
25.000	0.00	0.02	0.062	I 0					2.63
25.083	0.00	0.02	0.062	I 0					2.63
25.167	0.00	0.02	0.062	I 0					2.63
25.250	0.00	0.02	0.062	I 0					2.62
25.333	0.00	0.02	0.062	I 0					2.62
25.417	0.00	0.02	0.062	IO					2.61
25.500	0.00	0.02	0.062	IO					2.61
25.583	0.00	0.02	0.061	IO					2.61
25.667	0.00	0.02	0.061	IO					2.60
25.750	0.00	0.02	0.061	IO					2.60
25.833	0.00	0.02	0.061	IO					2.60
25.917	0.00	0.01	0.061	IO					2.59
26.000	0.00	0.01	0.061	IO					2.59
26.083	0.00	0.01	0.061	IO					2.59
26.167	0.00	0.01	0.061	IO					2.58
26.250	0.00	0.01	0.061	IO					2.58
26.333	0.00	0.01	0.061	IO					2.58
26.417	0.00	0.01	0.060	IO					2.58
26.500	0.00	0.01	0.060	IO					2.57
26.583	0.00	0.01	0.060	IO					2.57
26.667	0.00	0.01	0.060	IO					2.57
26.750	0.00	0.01	0.060	IO					2.57
26.833	0.00	0.01	0.060	IO					2.56
26.917	0.00	0.01	0.060	IO					2.56
27.000	0.00	0.01	0.060	IO					2.56

27.083	0.00	0.01	0.060	IO					2.56
27.167	0.00	0.01	0.060	0					2.56
27.250	0.00	0.01	0.060	0					2.55
27.333	0.00	0.01	0.060	0					2.55
27.417	0.00	0.01	0.060	0					2.55
27.500	0.00	0.01	0.060	0					2.55
27.583	0.00	0.01	0.060	0					2.55
27.667	0.00	0.01	0.059	0					2.55
27.750	0.00	0.01	0.059	0					2.54
27.833	0.00	0.01	0.059	0					2.54
27.917	0.00	0.01	0.059	0					2.54
28.000	0.00	0.01	0.059	0					2.54
28.083	0.00	0.01	0.059	0					2.54
28.167	0.00	0.01	0.059	0					2.54
28.250	0.00	0.01	0.059	0					2.54
28.333	0.00	0.01	0.059	0					2.54
28.417	0.00	0.01	0.059	0					2.53
28.500	0.00	0.01	0.059	0					2.53
28.583	0.00	0.00	0.059	0					2.53
28.667	0.00	0.00	0.059	0					2.53
28.750	0.00	0.00	0.059	0					2.53
28.833	0.00	0.00	0.059	0					2.53
28.917	0.00	0.00	0.059	0					2.53
29.000	0.00	0.00	0.059	0					2.53
29.083	0.00	0.00	0.059	0					2.53
29.167	0.00	0.00	0.059	0					2.53
29.250	0.00	0.00	0.059	0					2.52
29.333	0.00	0.00	0.059	0					2.52
29.417	0.00	0.00	0.059	0					2.52
29.500	0.00	0.00	0.059	0					2.52
29.583	0.00	0.00	0.059	0					2.52
29.667	0.00	0.00	0.059	0					2.52
29.750	0.00	0.00	0.059	0					2.52
29.833	0.00	0.00	0.059	0					2.52
29.917	0.00	0.00	0.059	0					2.52
30.000	0.00	0.00	0.059	0					2.52
30.083	0.00	0.00	0.059	0					2.52
30.167	0.00	0.00	0.059	0					2.52
30.250	0.00	0.00	0.059	0					2.52
30.333	0.00	0.00	0.059	0					2.52
30.417	0.00	0.00	0.058	0					2.52
30.500	0.00	0.00	0.058	0					2.51
30.583	0.00	0.00	0.058	0					2.51
30.667	0.00	0.00	0.058	0					2.51
30.750	0.00	0.00	0.058	0					2.51
30.833	0.00	0.00	0.058	0					2.51
30.917	0.00	0.00	0.058	0					2.51
31.000	0.00	0.00	0.058	0					2.51
31.083	0.00	0.00	0.058	0					2.51
31.167	0.00	0.00	0.058	0					2.51
31.250	0.00	0.00	0.058	0					2.51

31.333	0.00	0.00	0.058	0					2.51
31.417	0.00	0.00	0.058	0					2.51
31.500	0.00	0.00	0.058	0					2.51
31.583	0.00	0.00	0.058	0					2.51
31.667	0.00	0.00	0.058	0					2.51
31.750	0.00	0.00	0.058	0					2.51
31.833	0.00	0.00	0.058	0					2.51
31.917	0.00	0.00	0.058	0					2.51
32.000	0.00	0.00	0.058	0					2.51
32.083	0.00	0.00	0.058	0					2.51
32.167	0.00	0.00	0.058	0					2.51
32.250	0.00	0.00	0.058	0					2.51
32.333	0.00	0.00	0.058	0					2.51
32.417	0.00	0.00	0.058	0					2.51
32.500	0.00	0.00	0.058	0					2.51
32.583	0.00	0.00	0.058	0					2.51

Remaining water in basin = 0.06 (Ac.Ft)

```

*****HYDROGRAPH DATA*****
      Number of intervals = 391
      Time interval = 5.0 (Min.)
      Maximum/Peak flow rate = 0.164 (CFS)
      Total volume = 0.115 (Ac.Ft)
      Status of hydrographs being held in storage
      Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
      Peak (CFS) 0.000 0.000 0.000 0.000 0.000
      Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000
*****

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FLOOD HYDROGRAPH ROUTING PROGRAM
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Study date: 01/21/25

RCH GARAGE
5-YR 1-HR
DMA-A BMP-1
KIMLEY-HORN

Program License Serial Number 6443

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

From study/file name: RCHPH1A15.rte
*****HYDROGRAPH DATA*****
Number of intervals = 19
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 2.737 (CFS)
Total volume = 0.078 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000

+++++
Process from Point/Station 0.000 to Point/Station 0.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 19
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

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

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-0*dt/2) (Ac.Ft)	(S+0*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.500	0.008	0.001	0.008	0.008
1.000	0.017	0.001	0.017	0.017
1.500	0.028	0.000	0.028	0.028
2.000	0.042	0.000	0.042	0.042
2.500	0.058	0.000	0.058	0.058
3.000	0.074	0.078	0.074	0.074
3.500	0.091	0.140	0.091	0.091
4.000	0.108	0.182	0.107	0.109
4.500	0.126	0.216	0.125	0.127
5.000	0.143	0.245	0.142	0.144
5.500	0.160	0.271	0.159	0.161
6.000	0.177	0.295	0.176	0.178
6.500	0.194	0.317	0.193	0.195
7.000	0.209	0.337	0.208	0.210
7.500	0.223	0.357	0.222	0.224
8.000	0.234	0.443	0.232	0.236
8.500	0.243	0.493	0.241	0.245
9.000	0.251	0.534	0.249	0.253
10.000	0.252	4.346	0.237	0.267

Hydrograph Detention Basin Routing

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

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.7	1.37	2.05	2.74	Depth (Ft.)
0.083	0.04	0.00	0.000	0					0.01
0.167	0.22	0.00	0.001	0 I					0.06
0.250	0.34	0.00	0.003	0 I					0.18
0.333	0.40	0.00	0.005	0 I					0.34
0.417	0.46	0.00	0.008	0 I					0.53
0.500	0.51	0.00	0.012	0 I					0.71
0.583	0.58	0.00	0.015	0 I					0.92
0.667	0.66	0.00	0.020	0 I					1.13
0.750	0.87	0.00	0.025	0	I				1.37
0.833	1.57	0.00	0.033	0		I			1.70
0.917	2.74	0.00	0.048	0				I	2.20
1.000	1.51	0.02	0.063	0		I			2.65
1.083	0.81	0.06	0.071	0	I				2.89
1.167	0.34	0.08	0.074	0 I					3.00
1.250	0.13	0.08	0.075	0 I					3.03
1.333	0.06	0.08	0.075	0					3.03
1.417	0.03	0.08	0.075	0					3.03
1.500	0.01	0.08	0.075	0					3.02

1.583	0.00	0.08	0.074	0					3.00
1.667	0.00	0.08	0.073	0					2.98
1.750	0.00	0.07	0.073	0					2.97
1.833	0.00	0.07	0.072	0					2.95
1.917	0.00	0.07	0.072	0					2.94
2.000	0.00	0.07	0.072	0					2.92
2.083	0.00	0.06	0.071	0					2.91
2.167	0.00	0.06	0.071	0					2.90
2.250	0.00	0.06	0.070	0					2.88
2.333	0.00	0.06	0.070	0					2.87
2.417	0.00	0.06	0.069	0					2.86
2.500	0.00	0.05	0.069	0					2.85
2.583	0.00	0.05	0.069	0					2.83
2.667	0.00	0.05	0.068	0					2.82
2.750	0.00	0.05	0.068	0					2.81
2.833	0.00	0.05	0.068	0					2.80
2.917	0.00	0.05	0.067	0					2.79
3.000	0.00	0.04	0.067	0					2.78
3.083	0.00	0.04	0.067	0					2.77
3.167	0.00	0.04	0.066	0					2.76
3.250	0.00	0.04	0.066	0					2.76
3.333	0.00	0.04	0.066	0					2.75
3.417	0.00	0.04	0.066	0					2.74
3.500	0.00	0.04	0.065	0					2.73
3.583	0.00	0.03	0.065	0					2.72
3.667	0.00	0.03	0.065	0					2.72
3.750	0.00	0.03	0.065	0					2.71
3.833	0.00	0.03	0.064	0					2.70
3.917	0.00	0.03	0.064	0					2.70
4.000	0.00	0.03	0.064	0					2.69
4.083	0.00	0.03	0.064	0					2.68
4.167	0.00	0.03	0.064	0					2.68
4.250	0.00	0.03	0.063	0					2.67
4.333	0.00	0.03	0.063	0					2.67
4.417	0.00	0.02	0.063	0					2.66
4.500	0.00	0.02	0.063	0					2.65
4.583	0.00	0.02	0.063	0					2.65
4.667	0.00	0.02	0.063	0					2.64
4.750	0.00	0.02	0.062	0					2.64
4.833	0.00	0.02	0.062	0					2.64
4.917	0.00	0.02	0.062	0					2.63
5.000	0.00	0.02	0.062	0					2.63
5.083	0.00	0.02	0.062	0					2.62
5.167	0.00	0.02	0.062	0					2.62
5.250	0.00	0.02	0.062	0					2.61
5.333	0.00	0.02	0.062	0					2.61
5.417	0.00	0.02	0.061	0					2.61
5.500	0.00	0.02	0.061	0					2.60
5.583	0.00	0.02	0.061	0					2.60
5.667	0.00	0.02	0.061	0					2.60
5.750	0.00	0.01	0.061	0					2.59

5.833	0.00	0.01	0.061	0					2.59
5.917	0.00	0.01	0.061	0					2.59
6.000	0.00	0.01	0.061	0					2.58
6.083	0.00	0.01	0.061	0					2.58
6.167	0.00	0.01	0.061	0					2.58
6.250	0.00	0.01	0.060	0					2.58
6.333	0.00	0.01	0.060	0					2.57
6.417	0.00	0.01	0.060	0					2.57
6.500	0.00	0.01	0.060	0					2.57
6.583	0.00	0.01	0.060	0					2.57
6.667	0.00	0.01	0.060	0					2.56
6.750	0.00	0.01	0.060	0					2.56
6.833	0.00	0.01	0.060	0					2.56
6.917	0.00	0.01	0.060	0					2.56
7.000	0.00	0.01	0.060	0					2.56
7.083	0.00	0.01	0.060	0					2.55
7.167	0.00	0.01	0.060	0					2.55
7.250	0.00	0.01	0.060	0					2.55
7.333	0.00	0.01	0.060	0					2.55
7.417	0.00	0.01	0.060	0					2.55
7.500	0.00	0.01	0.059	0					2.55
7.583	0.00	0.01	0.059	0					2.54
7.667	0.00	0.01	0.059	0					2.54
7.750	0.00	0.01	0.059	0					2.54
7.833	0.00	0.01	0.059	0					2.54
7.917	0.00	0.01	0.059	0					2.54
8.000	0.00	0.01	0.059	0					2.54
8.083	0.00	0.01	0.059	0					2.54
8.167	0.00	0.01	0.059	0					2.54
8.250	0.00	0.01	0.059	0					2.53
8.333	0.00	0.01	0.059	0					2.53
8.417	0.00	0.00	0.059	0					2.53
8.500	0.00	0.00	0.059	0					2.53
8.583	0.00	0.00	0.059	0					2.53
8.667	0.00	0.00	0.059	0					2.53
8.750	0.00	0.00	0.059	0					2.53
8.833	0.00	0.00	0.059	0					2.53
8.917	0.00	0.00	0.059	0					2.53
9.000	0.00	0.00	0.059	0					2.53
9.083	0.00	0.00	0.059	0					2.52
9.167	0.00	0.00	0.059	0					2.52
9.250	0.00	0.00	0.059	0					2.52
9.333	0.00	0.00	0.059	0					2.52
9.417	0.00	0.00	0.059	0					2.52
9.500	0.00	0.00	0.059	0					2.52
9.583	0.00	0.00	0.059	0					2.52
9.667	0.00	0.00	0.059	0					2.52
9.750	0.00	0.00	0.059	0					2.52
9.833	0.00	0.00	0.059	0					2.52
9.917	0.00	0.00	0.059	0					2.52
10.000	0.00	0.00	0.059	0					2.52

10.083	0.00	0.00	0.059	0					2.52
10.167	0.00	0.00	0.059	0					2.52
10.250	0.00	0.00	0.058	0					2.52
10.333	0.00	0.00	0.058	0					2.51
10.417	0.00	0.00	0.058	0					2.51
10.500	0.00	0.00	0.058	0					2.51
10.583	0.00	0.00	0.058	0					2.51
10.667	0.00	0.00	0.058	0					2.51
10.750	0.00	0.00	0.058	0					2.51
10.833	0.00	0.00	0.058	0					2.51
10.917	0.00	0.00	0.058	0					2.51
11.000	0.00	0.00	0.058	0					2.51
11.083	0.00	0.00	0.058	0					2.51
11.167	0.00	0.00	0.058	0					2.51
11.250	0.00	0.00	0.058	0					2.51
11.333	0.00	0.00	0.058	0					2.51
11.417	0.00	0.00	0.058	0					2.51
11.500	0.00	0.00	0.058	0					2.51
11.583	0.00	0.00	0.058	0					2.51
11.667	0.00	0.00	0.058	0					2.51
11.750	0.00	0.00	0.058	0					2.51
11.833	0.00	0.00	0.058	0					2.51
11.917	0.00	0.00	0.058	0					2.51
12.000	0.00	0.00	0.058	0					2.51
12.083	0.00	0.00	0.058	0					2.51
12.167	0.00	0.00	0.058	0					2.51
12.250	0.00	0.00	0.058	0					2.51
12.333	0.00	0.00	0.058	0					2.51
12.417	0.00	0.00	0.058	0					2.51

Remaining water in basin = 0.06 (Ac.Ft)

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*****HYDROGRAPH DATA*****
      Number of intervals = 149
      Time interval = 5.0 (Min.)
      Maximum/Peak flow rate = 0.082 (CFS)
      Total volume = 0.019 (Ac.Ft)
      Status of hydrographs being held in storage
      Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
      Peak (CFS) 0.000 0.000 0.000 0.000 0.000
      Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000
*****

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FLOOD HYDROGRAPH ROUTING PROGRAM
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Study date: 01/21/25

RCH GARAGE
5-YR 3-HR
DMA-A BMP-1
KIMLEY-HORN

Program License Serial Number 6443

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

From study/file name: RCHPH1A35.rte
*****HYDROGRAPH DATA*****
Number of intervals = 43
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 1.305 (CFS)
Total volume = 0.114 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000

+++++
Process from Point/Station 0.000 to Point/Station 0.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 43
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

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

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-0*dt/2) (Ac.Ft)	(S+0*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.500	0.008	0.001	0.008	0.008
1.000	0.017	0.001	0.017	0.017
1.500	0.028	0.000	0.028	0.028
2.000	0.042	0.000	0.042	0.042
2.500	0.058	0.000	0.058	0.058
3.000	0.074	0.078	0.074	0.074
3.500	0.091	0.140	0.091	0.091
4.000	0.108	0.182	0.107	0.109
4.500	0.126	0.216	0.125	0.127
5.000	0.143	0.245	0.142	0.144
5.500	0.160	0.271	0.159	0.161
6.000	0.177	0.295	0.176	0.178
6.500	0.194	0.317	0.193	0.195
7.000	0.209	0.337	0.208	0.210
7.500	0.223	0.357	0.222	0.224
8.000	0.234	0.443	0.232	0.236
8.500	0.243	0.493	0.241	0.245
9.000	0.251	0.534	0.249	0.253
10.000	0.252	4.346	0.237	0.267

Hydrograph Detention Basin Routing

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

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.3	0.65	0.98	1.31	Depth (Ft.)
0.083	0.02	0.00	0.000	0					0.00
0.167	0.13	0.00	0.001	0 I					0.04
0.250	0.18	0.00	0.002	0 I					0.11
0.333	0.18	0.00	0.003	0 I					0.18
0.417	0.22	0.00	0.004	0 I					0.27
0.500	0.24	0.00	0.006	0 I					0.37
0.583	0.26	0.00	0.008	0 I					0.48
0.667	0.26	0.00	0.009	0 I					0.58
0.750	0.28	0.00	0.011	0 I					0.68
0.833	0.28	0.00	0.013	0 I					0.79
0.917	0.26	0.00	0.015	0 I					0.89
1.000	0.26	0.00	0.017	0 I					0.99
1.083	0.29	0.00	0.019	0 I					1.08
1.167	0.33	0.00	0.021	0 I					1.17
1.250	0.35	0.00	0.023	0 I					1.28
1.333	0.35	0.00	0.026	0 I					1.39
1.417	0.35	0.00	0.028	0 I					1.50
1.500	0.39	0.00	0.030	0 I					1.59

1.583	0.41	0.00	0.033	0		I					1.69
1.667	0.41	0.00	0.036	0		I					1.79
1.750	0.44	0.00	0.039	0		I					1.89
1.833	0.49	0.00	0.042	0			I				2.01
1.917	0.49	0.00	0.046	0			I				2.11
2.000	0.48	0.00	0.049	0			I				2.22
2.083	0.49	0.00	0.052	0			I				2.32
2.167	0.52	0.00	0.056	0			I				2.43
2.250	0.63	0.01	0.060	0				I			2.55
2.333	0.71	0.03	0.064	0					I		2.69
2.417	0.69	0.05	0.069	0					I		2.83
2.500	0.98	0.08	0.074	0						I	3.00
2.583	1.18	0.10	0.081	0						I	3.20
2.667	1.31	0.13	0.089	0						I	3.43
2.750	1.04	0.15	0.096	0					I		3.64
2.833	0.61	0.16	0.100	0			I				3.77
2.917	0.42	0.17	0.103	0		I					3.84
3.000	0.33	0.17	0.104	0	I						3.88
3.083	0.18	0.17	0.105	0							3.90
3.167	0.08	0.17	0.104	0	I						3.89
3.250	0.03	0.17	0.103	0	I						3.87
3.333	0.01	0.17	0.102	0	I						3.84
3.417	0.00	0.17	0.101	0	I						3.81
3.500	0.00	0.16	0.100	0	I						3.77
3.583	0.00	0.16	0.099	0	I						3.74
3.667	0.00	0.16	0.098	0	I						3.71
3.750	0.00	0.15	0.097	0	I						3.68
3.833	0.00	0.15	0.096	0	I						3.65
3.917	0.00	0.15	0.095	0	I						3.61
4.000	0.00	0.15	0.094	0	I						3.58
4.083	0.00	0.14	0.093	0	I						3.56
4.167	0.00	0.14	0.092	0	I						3.53
4.250	0.00	0.14	0.091	0	I						3.50
4.333	0.00	0.14	0.090	0	I						3.47
4.417	0.00	0.13	0.089	0	I						3.44
4.500	0.00	0.13	0.088	0	I						3.42
4.583	0.00	0.13	0.087	0	I						3.39
4.667	0.00	0.12	0.086	0	I						3.36
4.750	0.00	0.12	0.086	0	I						3.34
4.833	0.00	0.12	0.085	0	I						3.32
4.917	0.00	0.11	0.084	0	I						3.29
5.000	0.00	0.11	0.083	0	I						3.27
5.083	0.00	0.11	0.082	0	I						3.25
5.167	0.00	0.11	0.082	0	I						3.23
5.250	0.00	0.10	0.081	0	I						3.20
5.333	0.00	0.10	0.080	0	I						3.18
5.417	0.00	0.10	0.080	0	I						3.16
5.500	0.00	0.10	0.079	0	I						3.14
5.583	0.00	0.09	0.078	0	I						3.12
5.667	0.00	0.09	0.078	0	I						3.11
5.750	0.00	0.09	0.077	0	I						3.09

5.833	0.00	0.09	0.076	I 0					3.07
5.917	0.00	0.08	0.076	I 0					3.05
6.000	0.00	0.08	0.075	I 0					3.04
6.083	0.00	0.08	0.075	IO					3.02
6.167	0.00	0.08	0.074	IO					3.00
6.250	0.00	0.08	0.074	IO					2.99
6.333	0.00	0.07	0.073	IO					2.97
6.417	0.00	0.07	0.073	IO					2.96
6.500	0.00	0.07	0.072	IO					2.94
6.583	0.00	0.07	0.072	IO					2.93
6.667	0.00	0.06	0.071	IO					2.91
6.750	0.00	0.06	0.071	IO					2.90
6.833	0.00	0.06	0.070	IO					2.88
6.917	0.00	0.06	0.070	IO					2.87
7.000	0.00	0.06	0.070	IO					2.86
7.083	0.00	0.05	0.069	IO					2.85
7.167	0.00	0.05	0.069	IO					2.84
7.250	0.00	0.05	0.068	IO					2.83
7.333	0.00	0.05	0.068	IO					2.81
7.417	0.00	0.05	0.068	IO					2.80
7.500	0.00	0.05	0.067	IO					2.79
7.583	0.00	0.04	0.067	IO					2.78
7.667	0.00	0.04	0.067	IO					2.78
7.750	0.00	0.04	0.067	IO					2.77
7.833	0.00	0.04	0.066	0					2.76
7.917	0.00	0.04	0.066	0					2.75
8.000	0.00	0.04	0.066	0					2.74
8.083	0.00	0.04	0.065	0					2.73
8.167	0.00	0.04	0.065	0					2.72
8.250	0.00	0.03	0.065	0					2.72
8.333	0.00	0.03	0.065	0					2.71
8.417	0.00	0.03	0.065	0					2.70
8.500	0.00	0.03	0.064	0					2.70
8.583	0.00	0.03	0.064	0					2.69
8.667	0.00	0.03	0.064	0					2.68
8.750	0.00	0.03	0.064	0					2.68
8.833	0.00	0.03	0.064	0					2.67
8.917	0.00	0.03	0.063	0					2.67
9.000	0.00	0.03	0.063	0					2.66
9.083	0.00	0.02	0.063	0					2.66
9.167	0.00	0.02	0.063	0					2.65
9.250	0.00	0.02	0.063	0					2.65
9.333	0.00	0.02	0.062	0					2.64
9.417	0.00	0.02	0.062	0					2.64
9.500	0.00	0.02	0.062	0					2.63
9.583	0.00	0.02	0.062	0					2.63
9.667	0.00	0.02	0.062	0					2.62
9.750	0.00	0.02	0.062	0					2.62
9.833	0.00	0.02	0.062	0					2.61
9.917	0.00	0.02	0.062	0					2.61
10.000	0.00	0.02	0.061	0					2.61

10.083	0.00	0.02	0.061	0					2.60
10.167	0.00	0.02	0.061	0					2.60
10.250	0.00	0.02	0.061	0					2.60
10.333	0.00	0.01	0.061	0					2.59
10.417	0.00	0.01	0.061	0					2.59
10.500	0.00	0.01	0.061	0					2.59
10.583	0.00	0.01	0.061	0					2.58
10.667	0.00	0.01	0.061	0					2.58
10.750	0.00	0.01	0.061	0					2.58
10.833	0.00	0.01	0.060	0					2.58
10.917	0.00	0.01	0.060	0					2.57
11.000	0.00	0.01	0.060	0					2.57
11.083	0.00	0.01	0.060	0					2.57
11.167	0.00	0.01	0.060	0					2.57
11.250	0.00	0.01	0.060	0					2.56
11.333	0.00	0.01	0.060	0					2.56
11.417	0.00	0.01	0.060	0					2.56
11.500	0.00	0.01	0.060	0					2.56
11.583	0.00	0.01	0.060	0					2.56
11.667	0.00	0.01	0.060	0					2.55
11.750	0.00	0.01	0.060	0					2.55
11.833	0.00	0.01	0.060	0					2.55
11.917	0.00	0.01	0.060	0					2.55
12.000	0.00	0.01	0.060	0					2.55
12.083	0.00	0.01	0.059	0					2.55
12.167	0.00	0.01	0.059	0					2.54
12.250	0.00	0.01	0.059	0					2.54
12.333	0.00	0.01	0.059	0					2.54
12.417	0.00	0.01	0.059	0					2.54
12.500	0.00	0.01	0.059	0					2.54
12.583	0.00	0.01	0.059	0					2.54
12.667	0.00	0.01	0.059	0					2.54
12.750	0.00	0.01	0.059	0					2.54
12.833	0.00	0.01	0.059	0					2.53
12.917	0.00	0.01	0.059	0					2.53
13.000	0.00	0.01	0.059	0					2.53
13.083	0.00	0.00	0.059	0					2.53
13.167	0.00	0.00	0.059	0					2.53
13.250	0.00	0.00	0.059	0					2.53
13.333	0.00	0.00	0.059	0					2.53
13.417	0.00	0.00	0.059	0					2.53
13.500	0.00	0.00	0.059	0					2.53
13.583	0.00	0.00	0.059	0					2.53
13.667	0.00	0.00	0.059	0					2.52
13.750	0.00	0.00	0.059	0					2.52
13.833	0.00	0.00	0.059	0					2.52
13.917	0.00	0.00	0.059	0					2.52
14.000	0.00	0.00	0.059	0					2.52
14.083	0.00	0.00	0.059	0					2.52
14.167	0.00	0.00	0.059	0					2.52
14.250	0.00	0.00	0.059	0					2.52

14.333	0.00	0.00	0.059	0					2.52
14.417	0.00	0.00	0.059	0					2.52
14.500	0.00	0.00	0.059	0					2.52
14.583	0.00	0.00	0.059	0					2.52
14.667	0.00	0.00	0.059	0					2.52
14.750	0.00	0.00	0.059	0					2.52
14.833	0.00	0.00	0.058	0					2.52
14.917	0.00	0.00	0.058	0					2.51
15.000	0.00	0.00	0.058	0					2.51
15.083	0.00	0.00	0.058	0					2.51
15.167	0.00	0.00	0.058	0					2.51
15.250	0.00	0.00	0.058	0					2.51
15.333	0.00	0.00	0.058	0					2.51
15.417	0.00	0.00	0.058	0					2.51
15.500	0.00	0.00	0.058	0					2.51
15.583	0.00	0.00	0.058	0					2.51
15.667	0.00	0.00	0.058	0					2.51
15.750	0.00	0.00	0.058	0					2.51
15.833	0.00	0.00	0.058	0					2.51
15.917	0.00	0.00	0.058	0					2.51
16.000	0.00	0.00	0.058	0					2.51
16.083	0.00	0.00	0.058	0					2.51
16.167	0.00	0.00	0.058	0					2.51
16.250	0.00	0.00	0.058	0					2.51
16.333	0.00	0.00	0.058	0					2.51
16.417	0.00	0.00	0.058	0					2.51
16.500	0.00	0.00	0.058	0					2.51
16.583	0.00	0.00	0.058	0					2.51
16.667	0.00	0.00	0.058	0					2.51
16.750	0.00	0.00	0.058	0					2.51
16.833	0.00	0.00	0.058	0					2.51
16.917	0.00	0.00	0.058	0					2.51
17.000	0.00	0.00	0.058	0					2.51

Remaining water in basin = 0.06 (Ac.Ft)

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*****HYDROGRAPH DATA*****
      Number of intervals = 204
      Time interval = 5.0 (Min.)
      Maximum/Peak flow rate = 0.174 (CFS)
      Total volume = 0.056 (Ac.Ft)
      Status of hydrographs being held in storage
      Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
      Peak (CFS) 0.000 0.000 0.000 0.000 0.000
      Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000
*****

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FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
Study date: 01/21/25

RCH GARAGE
5-YR 6-HR
DMA-A BMP-1
KIMLEY-HORN

Program License Serial Number 6443

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

From study/file name: RCHPH1A65.rte
*****HYDROGRAPH DATA*****
Number of intervals = 79
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 1.061 (CFS)
Total volume = 0.147 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000

+++++
Process from Point/Station 0.000 to Point/Station 0.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 79
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

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

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-0*dt/2) (Ac.Ft)	(S+0*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.500	0.008	0.001	0.008	0.008
1.000	0.017	0.001	0.017	0.017
1.500	0.028	0.000	0.028	0.028
2.000	0.042	0.000	0.042	0.042
2.500	0.058	0.000	0.058	0.058
3.000	0.074	0.078	0.074	0.074
3.500	0.091	0.140	0.091	0.091
4.000	0.108	0.182	0.107	0.109
4.500	0.126	0.216	0.125	0.127
5.000	0.143	0.245	0.142	0.144
5.500	0.160	0.271	0.159	0.161
6.000	0.177	0.295	0.176	0.178
6.500	0.194	0.317	0.193	0.195
7.000	0.209	0.337	0.208	0.210
7.500	0.223	0.357	0.222	0.224
8.000	0.234	0.443	0.232	0.236
8.500	0.243	0.493	0.241	0.245
9.000	0.251	0.534	0.249	0.253
10.000	0.252	4.346	0.237	0.267

Hydrograph Detention Basin Routing

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

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.3	0.53	0.80	1.06	Depth (Ft.)
0.083	0.01	0.00	0.000	0					0.00
0.167	0.07	0.00	0.000	0 I					0.02
0.250	0.10	0.00	0.001	0 I					0.06
0.333	0.12	0.00	0.002	0 I					0.10
0.417	0.12	0.00	0.002	0 I					0.16
0.500	0.13	0.00	0.003	0 I					0.21
0.583	0.14	0.00	0.004	0 I					0.27
0.667	0.15	0.00	0.005	0 I					0.33
0.750	0.15	0.00	0.006	0 I					0.39
0.833	0.15	0.00	0.007	0 I					0.45
0.917	0.15	0.00	0.008	0 I					0.52
1.000	0.15	0.00	0.009	0 I					0.57
1.083	0.16	0.00	0.010	0 I					0.63
1.167	0.17	0.00	0.012	0 I					0.69
1.250	0.17	0.00	0.013	0 I					0.76
1.333	0.17	0.00	0.014	0 I					0.82
1.417	0.17	0.00	0.015	0 I					0.89
1.500	0.17	0.00	0.016	0 I					0.95

1.583	0.17	0.00	0.017	0	I						1.01
1.667	0.17	0.00	0.018	0	I						1.07
1.750	0.17	0.00	0.020	0	I						1.12
1.833	0.17	0.00	0.021	0	I						1.17
1.917	0.17	0.00	0.022	0	I						1.23
2.000	0.17	0.00	0.023	0	I						1.28
2.083	0.18	0.00	0.024	0	I						1.33
2.167	0.18	0.00	0.026	0	I						1.39
2.250	0.19	0.00	0.027	0	I						1.45
2.333	0.19	0.00	0.028	0	I						1.50
2.417	0.19	0.00	0.029	0	I						1.55
2.500	0.19	0.00	0.031	0	I						1.60
2.583	0.19	0.00	0.032	0	I						1.64
2.667	0.19	0.00	0.033	0	I						1.69
2.750	0.19	0.00	0.035	0	I						1.74
2.833	0.20	0.00	0.036	0	I						1.79
2.917	0.21	0.00	0.037	0	I						1.84
3.000	0.21	0.00	0.039	0	I						1.89
3.083	0.21	0.00	0.040	0	I						1.94
3.167	0.21	0.00	0.042	0	I						1.99
3.250	0.23	0.00	0.043	0	I						2.04
3.333	0.23	0.00	0.045	0	I						2.09
3.417	0.23	0.00	0.047	0	I						2.14
3.500	0.25	0.00	0.048	0	I						2.19
3.583	0.27	0.00	0.050	0	I						2.25
3.667	0.28	0.00	0.052	0	I						2.31
3.750	0.29	0.00	0.054	0	I						2.37
3.833	0.31	0.00	0.056	0	I						2.44
3.917	0.32	0.00	0.058	0	I						2.50
4.000	0.33	0.01	0.060	0	I						2.57
4.083	0.34	0.02	0.062	0	I						2.64
4.167	0.35	0.03	0.065	0	I						2.71
4.250	0.37	0.04	0.067	0	I						2.78
4.333	0.39	0.05	0.069	0	I						2.85
4.417	0.41	0.07	0.072	0	I						2.92
4.500	0.43	0.08	0.074	0	I						3.00
4.583	0.44	0.09	0.076	0	I						3.07
4.667	0.46	0.10	0.079	0	I						3.14
4.750	0.48	0.11	0.081	0	I						3.22
4.833	0.50	0.11	0.084	0	I						3.30
4.917	0.51	0.12	0.087	0	I						3.37
5.000	0.52	0.13	0.089	0	I						3.45
5.083	0.55	0.14	0.092	0	I						3.53
5.167	0.63	0.15	0.095	0	I						3.62
5.250	0.71	0.16	0.099	0	I						3.73
5.333	0.79	0.17	0.103	0	I						3.85
5.417	0.86	0.18	0.107	0	I						3.98
5.500	0.97	0.19	0.112	0	I						4.12
5.583	1.06	0.20	0.118	0	I						4.28
5.667	0.65	0.21	0.122	0	I						4.40
5.750	0.37	0.21	0.124	0	I						4.46

5.833	0.23	0.21	0.125		0						4.47
5.917	0.15	0.21	0.125		I 0						4.47
6.000	0.10	0.21	0.124		I 0						4.45
6.083	0.06	0.21	0.123		I 0						4.43
6.167	0.02	0.21	0.122	I	0						4.40
6.250	0.01	0.21	0.121	I	0						4.36
6.333	0.00	0.20	0.120	I	0						4.32
6.417	0.00	0.20	0.118	I	0						4.28
6.500	0.00	0.20	0.117	I	0						4.24
6.583	0.00	0.20	0.115	I	0						4.21
6.667	0.00	0.19	0.114	I	0						4.17
6.750	0.00	0.19	0.113	I	0						4.13
6.833	0.00	0.19	0.111	I	0						4.10
6.917	0.00	0.19	0.110	I	0						4.06
7.000	0.00	0.18	0.109	I	0						4.03
7.083	0.00	0.18	0.108	I	0						3.99
7.167	0.00	0.18	0.106	I	0						3.95
7.250	0.00	0.18	0.105	I	0						3.92
7.333	0.00	0.17	0.104	I	0						3.88
7.417	0.00	0.17	0.103	I	0						3.85
7.500	0.00	0.17	0.102	I	0						3.81
7.583	0.00	0.16	0.101	I	0						3.78
7.667	0.00	0.16	0.099	I	0						3.75
7.750	0.00	0.16	0.098	I	0						3.72
7.833	0.00	0.16	0.097	I	0						3.68
7.917	0.00	0.15	0.096	I	0						3.65
8.000	0.00	0.15	0.095	I	0						3.62
8.083	0.00	0.15	0.094	I	0						3.59
8.167	0.00	0.15	0.093	I	0						3.56
8.250	0.00	0.14	0.092	I	0						3.53
8.333	0.00	0.14	0.091	I	0						3.50
8.417	0.00	0.14	0.090	I	0						3.48
8.500	0.00	0.13	0.089	I	0						3.45
8.583	0.00	0.13	0.088	I	0						3.42
8.667	0.00	0.13	0.087	I	0						3.40
8.750	0.00	0.12	0.087	I	0						3.37
8.833	0.00	0.12	0.086	I	0						3.35
8.917	0.00	0.12	0.085	I	0						3.32
9.000	0.00	0.11	0.084	I	0						3.30
9.083	0.00	0.11	0.083	I	0						3.27
9.167	0.00	0.11	0.083	I	0						3.25
9.250	0.00	0.11	0.082	I	0						3.23
9.333	0.00	0.10	0.081	I	0						3.21
9.417	0.00	0.10	0.080	I	0						3.19
9.500	0.00	0.10	0.080	I	0						3.17
9.583	0.00	0.10	0.079	I	0						3.15
9.667	0.00	0.09	0.078	I	0						3.13
9.750	0.00	0.09	0.078	I	0						3.11
9.833	0.00	0.09	0.077	I	0						3.09
9.917	0.00	0.09	0.077	I	0						3.07
10.000	0.00	0.09	0.076	I	0						3.06

10.083	0.00	0.08	0.075	I 0					3.04
10.167	0.00	0.08	0.075	I 0					3.02
10.250	0.00	0.08	0.074	I 0					3.01
10.333	0.00	0.08	0.074	I 0					2.99
10.417	0.00	0.07	0.073	I 0					2.97
10.500	0.00	0.07	0.073	I 0					2.96
10.583	0.00	0.07	0.072	I 0					2.94
10.667	0.00	0.07	0.072	I 0					2.93
10.750	0.00	0.06	0.071	IO					2.91
10.833	0.00	0.06	0.071	IO					2.90
10.917	0.00	0.06	0.070	IO					2.89
11.000	0.00	0.06	0.070	IO					2.88
11.083	0.00	0.06	0.070	IO					2.86
11.167	0.00	0.05	0.069	IO					2.85
11.250	0.00	0.05	0.069	IO					2.84
11.333	0.00	0.05	0.068	IO					2.83
11.417	0.00	0.05	0.068	IO					2.82
11.500	0.00	0.05	0.068	IO					2.81
11.583	0.00	0.05	0.067	IO					2.80
11.667	0.00	0.04	0.067	IO					2.79
11.750	0.00	0.04	0.067	IO					2.78
11.833	0.00	0.04	0.067	IO					2.77
11.917	0.00	0.04	0.066	IO					2.76
12.000	0.00	0.04	0.066	IO					2.75
12.083	0.00	0.04	0.066	IO					2.74
12.167	0.00	0.04	0.066	IO					2.73
12.250	0.00	0.04	0.065	IO					2.73
12.333	0.00	0.03	0.065	IO					2.72
12.417	0.00	0.03	0.065	0					2.71
12.500	0.00	0.03	0.065	0					2.70
12.583	0.00	0.03	0.064	0					2.70
12.667	0.00	0.03	0.064	0					2.69
12.750	0.00	0.03	0.064	0					2.69
12.833	0.00	0.03	0.064	0					2.68
12.917	0.00	0.03	0.064	0					2.67
13.000	0.00	0.03	0.063	0					2.67
13.083	0.00	0.03	0.063	0					2.66
13.167	0.00	0.02	0.063	0					2.66
13.250	0.00	0.02	0.063	0					2.65
13.333	0.00	0.02	0.063	0					2.65
13.417	0.00	0.02	0.063	0					2.64
13.500	0.00	0.02	0.062	0					2.64
13.583	0.00	0.02	0.062	0					2.63
13.667	0.00	0.02	0.062	0					2.63
13.750	0.00	0.02	0.062	0					2.62
13.833	0.00	0.02	0.062	0					2.62
13.917	0.00	0.02	0.062	0					2.62
14.000	0.00	0.02	0.062	0					2.61
14.083	0.00	0.02	0.061	0					2.61
14.167	0.00	0.02	0.061	0					2.60
14.250	0.00	0.02	0.061	0					2.60

14.333	0.00	0.02	0.061	0					2.60
14.417	0.00	0.01	0.061	0					2.59
14.500	0.00	0.01	0.061	0					2.59
14.583	0.00	0.01	0.061	0					2.59
14.667	0.00	0.01	0.061	0					2.59
14.750	0.00	0.01	0.061	0					2.58
14.833	0.00	0.01	0.061	0					2.58
14.917	0.00	0.01	0.060	0					2.58
15.000	0.00	0.01	0.060	0					2.57
15.083	0.00	0.01	0.060	0					2.57
15.167	0.00	0.01	0.060	0					2.57
15.250	0.00	0.01	0.060	0					2.57
15.333	0.00	0.01	0.060	0					2.57
15.417	0.00	0.01	0.060	0					2.56
15.500	0.00	0.01	0.060	0					2.56
15.583	0.00	0.01	0.060	0					2.56
15.667	0.00	0.01	0.060	0					2.56
15.750	0.00	0.01	0.060	0					2.56
15.833	0.00	0.01	0.060	0					2.55
15.917	0.00	0.01	0.060	0					2.55
16.000	0.00	0.01	0.060	0					2.55
16.083	0.00	0.01	0.060	0					2.55
16.167	0.00	0.01	0.059	0					2.55
16.250	0.00	0.01	0.059	0					2.55
16.333	0.00	0.01	0.059	0					2.54
16.417	0.00	0.01	0.059	0					2.54
16.500	0.00	0.01	0.059	0					2.54
16.583	0.00	0.01	0.059	0					2.54
16.667	0.00	0.01	0.059	0					2.54
16.750	0.00	0.01	0.059	0					2.54
16.833	0.00	0.01	0.059	0					2.54
16.917	0.00	0.01	0.059	0					2.53
17.000	0.00	0.01	0.059	0					2.53
17.083	0.00	0.01	0.059	0					2.53
17.167	0.00	0.00	0.059	0					2.53
17.250	0.00	0.00	0.059	0					2.53
17.333	0.00	0.00	0.059	0					2.53
17.417	0.00	0.00	0.059	0					2.53
17.500	0.00	0.00	0.059	0					2.53
17.583	0.00	0.00	0.059	0					2.53
17.667	0.00	0.00	0.059	0					2.53
17.750	0.00	0.00	0.059	0					2.52
17.833	0.00	0.00	0.059	0					2.52
17.917	0.00	0.00	0.059	0					2.52
18.000	0.00	0.00	0.059	0					2.52
18.083	0.00	0.00	0.059	0					2.52
18.167	0.00	0.00	0.059	0					2.52
18.250	0.00	0.00	0.059	0					2.52
18.333	0.00	0.00	0.059	0					2.52
18.417	0.00	0.00	0.059	0					2.52
18.500	0.00	0.00	0.059	0					2.52

18.583	0.00	0.00	0.059	0					2.52
18.667	0.00	0.00	0.059	0					2.52
18.750	0.00	0.00	0.059	0					2.52
18.833	0.00	0.00	0.059	0					2.52
18.917	0.00	0.00	0.058	0					2.52
19.000	0.00	0.00	0.058	0					2.51
19.083	0.00	0.00	0.058	0					2.51
19.167	0.00	0.00	0.058	0					2.51
19.250	0.00	0.00	0.058	0					2.51
19.333	0.00	0.00	0.058	0					2.51
19.417	0.00	0.00	0.058	0					2.51
19.500	0.00	0.00	0.058	0					2.51
19.583	0.00	0.00	0.058	0					2.51
19.667	0.00	0.00	0.058	0					2.51
19.750	0.00	0.00	0.058	0					2.51
19.833	0.00	0.00	0.058	0					2.51
19.917	0.00	0.00	0.058	0					2.51
20.000	0.00	0.00	0.058	0					2.51
20.083	0.00	0.00	0.058	0					2.51
20.167	0.00	0.00	0.058	0					2.51
20.250	0.00	0.00	0.058	0					2.51
20.333	0.00	0.00	0.058	0					2.51
20.417	0.00	0.00	0.058	0					2.51
20.500	0.00	0.00	0.058	0					2.51
20.583	0.00	0.00	0.058	0					2.51
20.667	0.00	0.00	0.058	0					2.51
20.750	0.00	0.00	0.058	0					2.51
20.833	0.00	0.00	0.058	0					2.51
20.917	0.00	0.00	0.058	0					2.51
21.000	0.00	0.00	0.058	0					2.51
21.083	0.00	0.00	0.058	0					2.51
21.167	0.00	0.00	0.058	0					2.51

Remaining water in basin = 0.06 (Ac.Ft)

```

*****HYDROGRAPH DATA*****
      Number of intervals = 254
      Time interval = 5.0 (Min.)
      Maximum/Peak flow rate = 0.214 (CFS)
      Total volume = 0.089 (Ac.Ft)
      Status of hydrographs being held in storage
          Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
      Peak (CFS) 0.000 0.000 0.000 0.000 0.000
      Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000
*****

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FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
Study date: 01/21/25

RCH GARAGE
5-YR 24-HR
DMA-A BMP-1
KIMLEY-HORN

Program License Serial Number 6443

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

From study/file name: RCHPH1A245.rte
*****HYDROGRAPH DATA*****
Number of intervals = 295
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.384 (CFS)
Total volume = 0.234 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000

+++++
Process from Point/Station 0.000 to Point/Station 0.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 295
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

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

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-0*dt/2) (Ac.Ft)	(S+0*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.500	0.008	0.001	0.008	0.008
1.000	0.017	0.001	0.017	0.017
1.500	0.028	0.000	0.028	0.028
2.000	0.042	0.000	0.042	0.042
2.500	0.058	0.000	0.058	0.058
3.000	0.074	0.078	0.074	0.074
3.500	0.091	0.140	0.091	0.091
4.000	0.108	0.182	0.107	0.109
4.500	0.126	0.216	0.125	0.127
5.000	0.143	0.245	0.142	0.144
5.500	0.160	0.271	0.159	0.161
6.000	0.177	0.295	0.176	0.178
6.500	0.194	0.317	0.193	0.195
7.000	0.209	0.337	0.208	0.210
7.500	0.223	0.357	0.222	0.224
8.000	0.234	0.443	0.232	0.236
8.500	0.243	0.493	0.241	0.245
9.000	0.251	0.534	0.249	0.253
10.000	0.252	4.346	0.237	0.267

Hydrograph Detention Basin Routing

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

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.1	0.19	0.29	0.38	Depth (Ft.)
0.083	0.00	0.00	0.000	0					0.00
0.167	0.01	0.00	0.000	O I					0.00
0.250	0.02	0.00	0.000	O I					0.01
0.333	0.02	0.00	0.000	O I					0.02
0.417	0.03	0.00	0.001	O I					0.03
0.500	0.03	0.00	0.001	O I					0.04
0.583	0.03	0.00	0.001	O I					0.06
0.667	0.03	0.00	0.001	O I					0.07
0.750	0.03	0.00	0.001	O I					0.09
0.833	0.04	0.00	0.002	O I					0.10
0.917	0.04	0.00	0.002	O I					0.12
1.000	0.04	0.00	0.002	O I					0.14
1.083	0.04	0.00	0.002	O I					0.16
1.167	0.04	0.00	0.003	O I					0.17
1.250	0.04	0.00	0.003	O I					0.19
1.333	0.03	0.00	0.003	O I					0.20
1.417	0.03	0.00	0.003	O I					0.22
1.500	0.03	0.00	0.004	O I					0.23

1.583	0.03	0.00	0.004	0	I						0.25
1.667	0.03	0.00	0.004	0	I						0.26
1.750	0.03	0.00	0.004	0	I						0.28
1.833	0.04	0.00	0.005	0	I						0.29
1.917	0.04	0.00	0.005	0	I						0.31
2.000	0.04	0.00	0.005	0	I						0.32
2.083	0.04	0.00	0.005	0	I						0.34
2.167	0.05	0.00	0.006	0	I						0.36
2.250	0.05	0.00	0.006	0	I						0.38
2.333	0.05	0.00	0.006	0	I						0.40
2.417	0.05	0.00	0.007	0	I						0.42
2.500	0.05	0.00	0.007	0	I						0.44
2.583	0.05	0.00	0.007	0	I						0.46
2.667	0.05	0.00	0.008	0	I						0.48
2.750	0.05	0.00	0.008	0	I						0.50
2.833	0.06	0.00	0.008	0	I						0.52
2.917	0.06	0.00	0.009	0	I						0.54
3.000	0.06	0.00	0.009	0	I						0.56
3.083	0.06	0.00	0.010	0	I						0.59
3.167	0.06	0.00	0.010	0	I						0.61
3.250	0.06	0.00	0.010	0	I						0.63
3.333	0.06	0.00	0.011	0	I						0.65
3.417	0.06	0.00	0.011	0	I						0.67
3.500	0.06	0.00	0.011	0	I						0.69
3.583	0.06	0.00	0.012	0	I						0.71
3.667	0.06	0.00	0.012	0	I						0.73
3.750	0.06	0.00	0.013	0	I						0.76
3.833	0.06	0.00	0.013	0	I						0.78
3.917	0.06	0.00	0.013	0	I						0.80
4.000	0.07	0.00	0.014	0	I						0.82
4.083	0.07	0.00	0.014	0	I						0.85
4.167	0.07	0.00	0.015	0	I						0.88
4.250	0.07	0.00	0.015	0	I						0.90
4.333	0.07	0.00	0.016	0	I						0.93
4.417	0.08	0.00	0.016	0	I						0.95
4.500	0.08	0.00	0.017	0	I						0.98
4.583	0.08	0.00	0.017	0	I						1.01
4.667	0.08	0.00	0.018	0	I						1.03
4.750	0.08	0.00	0.018	0	I						1.06
4.833	0.08	0.00	0.019	0	I						1.08
4.917	0.09	0.00	0.019	0	I						1.11
5.000	0.09	0.00	0.020	0	I						1.14
5.083	0.09	0.00	0.021	0	I						1.16
5.167	0.08	0.00	0.021	0	I						1.19
5.250	0.07	0.00	0.022	0	I						1.21
5.333	0.07	0.00	0.022	0	I						1.23
5.417	0.08	0.00	0.023	0	I						1.26
5.500	0.08	0.00	0.023	0	I						1.28
5.583	0.08	0.00	0.024	0	I						1.31
5.667	0.09	0.00	0.024	0	I						1.33
5.750	0.09	0.00	0.025	0	I						1.36

5.833	0.09	0.00	0.026	0	I							1.39
5.917	0.09	0.00	0.026	0	I							1.41
6.000	0.09	0.00	0.027	0	I							1.44
6.083	0.09	0.00	0.027	0	I							1.47
6.167	0.10	0.00	0.028	0	I							1.50
6.250	0.10	0.00	0.029	0	I							1.53
6.333	0.10	0.00	0.029	0	I							1.55
6.417	0.10	0.00	0.030	0	I							1.57
6.500	0.10	0.00	0.031	0	I							1.60
6.583	0.10	0.00	0.032	0	I							1.63
6.667	0.11	0.00	0.032	0		I						1.65
6.750	0.11	0.00	0.033	0		I						1.68
6.833	0.11	0.00	0.034	0		I						1.71
6.917	0.11	0.00	0.035	0		I						1.73
7.000	0.11	0.00	0.035	0		I						1.76
7.083	0.11	0.00	0.036	0		I						1.79
7.167	0.11	0.00	0.037	0		I						1.82
7.250	0.11	0.00	0.038	0		I						1.85
7.333	0.11	0.00	0.038	0		I						1.87
7.417	0.12	0.00	0.039	0		I						1.90
7.500	0.12	0.00	0.040	0		I						1.93
7.583	0.13	0.00	0.041	0		I						1.96
7.667	0.13	0.00	0.042	0		I						1.99
7.750	0.13	0.00	0.043	0		I						2.02
7.833	0.14	0.00	0.044	0		I						2.05
7.917	0.14	0.00	0.045	0		I						2.08
8.000	0.15	0.00	0.046	0		I						2.11
8.083	0.15	0.00	0.047	0		I						2.15
8.167	0.16	0.00	0.048	0		I						2.18
8.250	0.17	0.00	0.049	0		I						2.21
8.333	0.17	0.00	0.050	0		I						2.25
8.417	0.17	0.00	0.051	0		I						2.29
8.500	0.17	0.00	0.052	0		I						2.32
8.583	0.17	0.00	0.053	0		I						2.36
8.667	0.18	0.00	0.055	0		I						2.40
8.750	0.18	0.00	0.056	0		I						2.43
8.833	0.18	0.00	0.057	0		I						2.47
8.917	0.19	0.00	0.058	0		I						2.51
9.000	0.19	0.01	0.060	0		I						2.55
9.083	0.19	0.01	0.061	0		I						2.59
9.167	0.21	0.02	0.062	0		I						2.63
9.250	0.21	0.03	0.063	0		I						2.67
9.333	0.21	0.03	0.065	0		I						2.71
9.417	0.22	0.04	0.066	0		I						2.75
9.500	0.22	0.05	0.067	0		I						2.79
9.583	0.23	0.05	0.068	0		I						2.83
9.667	0.23	0.06	0.070	0		I						2.87
9.750	0.24	0.06	0.071	0		I						2.90
9.833	0.24	0.07	0.072	0		I						2.94
9.917	0.24	0.07	0.073	0		I						2.98
10.000	0.25	0.08	0.074	0		I						3.01

10.083	0.24	0.08	0.076	0		I		3.04
10.167	0.20	0.09	0.076	0		I		3.07
10.250	0.18	0.09	0.077	0		I		3.09
10.333	0.17	0.09	0.078	0		I		3.11
10.417	0.17	0.09	0.078	0		I		3.13
10.500	0.17	0.10	0.079	0		I		3.14
10.583	0.18	0.10	0.079	0		I		3.16
10.667	0.21	0.10	0.080	0		I		3.18
10.750	0.22	0.10	0.081	0		I		3.20
10.833	0.22	0.11	0.082	0		I		3.22
10.917	0.23	0.11	0.082	0		I		3.25
11.000	0.23	0.11	0.083	0		I		3.27
11.083	0.23	0.11	0.084	0		I		3.29
11.167	0.22	0.12	0.085	0		I		3.31
11.250	0.22	0.12	0.085	0		I		3.33
11.333	0.22	0.12	0.086	0		I		3.35
11.417	0.22	0.12	0.087	0		I		3.37
11.500	0.22	0.13	0.087	0		I		3.39
11.583	0.21	0.13	0.088	0		I		3.41
11.667	0.20	0.13	0.088	0		I		3.42
11.750	0.20	0.13	0.089	0		I		3.44
11.833	0.20	0.13	0.089	0		I		3.45
11.917	0.20	0.14	0.090	0		I		3.46
12.000	0.20	0.14	0.090	0		I		3.48
12.083	0.21	0.14	0.091	0		I		3.49
12.167	0.25	0.14	0.091	0		I		3.51
12.250	0.27	0.14	0.092	0		I		3.53
12.333	0.28	0.15	0.093	0		I		3.56
12.417	0.29	0.15	0.094	0		I		3.59
12.500	0.29	0.15	0.095	0		I		3.62
12.583	0.30	0.15	0.096	0		I		3.65
12.667	0.31	0.15	0.097	0		I		3.68
12.750	0.31	0.16	0.098	0		I		3.71
12.833	0.32	0.16	0.099	0		I		3.74
12.917	0.32	0.16	0.100	0		I		3.77
13.000	0.33	0.17	0.101	0		I		3.80
13.083	0.33	0.17	0.102	0		I		3.84
13.167	0.36	0.17	0.104	0			I	3.87
13.250	0.38	0.17	0.105	0			I	3.91
13.333	0.38	0.18	0.106	0			I	3.95
13.417	0.38	0.18	0.108	0			I	3.99
13.500	0.38	0.18	0.109	0			I	4.03
13.583	0.37	0.19	0.111	0			I	4.07
13.667	0.31	0.19	0.112	0		I		4.10
13.750	0.28	0.19	0.112	0		I		4.12
13.833	0.27	0.19	0.113	0		I		4.13
13.917	0.26	0.19	0.113	0		I		4.15
14.000	0.26	0.19	0.114	0		I		4.16
14.083	0.27	0.19	0.114	0		I		4.18
14.167	0.29	0.20	0.115	0		I		4.19
14.250	0.30	0.20	0.116	0		I		4.21

14.333	0.30	0.20	0.116			0	I	4.23
14.417	0.30	0.20	0.117			0	I	4.25
14.500	0.30	0.20	0.118			0	I	4.27
14.583	0.29	0.20	0.118			0	I	4.29
14.667	0.29	0.20	0.119			0	I	4.30
14.750	0.29	0.20	0.120			0	I	4.32
14.833	0.29	0.21	0.120			0	I	4.34
14.917	0.29	0.21	0.121			0	I	4.36
15.000	0.28	0.21	0.121			0	I	4.37
15.083	0.28	0.21	0.122			0	I	4.38
15.167	0.28	0.21	0.122			0	I	4.40
15.250	0.27	0.21	0.123			0	I	4.41
15.333	0.27	0.21	0.123			0	I	4.42
15.417	0.26	0.21	0.124			0	I	4.43
15.500	0.26	0.21	0.124			0	I	4.44
15.583	0.26	0.21	0.124			0	I	4.45
15.667	0.23	0.21	0.125			0	I	4.46
15.750	0.22	0.21	0.125			0	I	4.46
15.833	0.22	0.21	0.125			0	I	4.46
15.917	0.22	0.21	0.125			0	I	4.46
16.000	0.22	0.21	0.125			0		4.46
16.083	0.20	0.21	0.125			0		4.46
16.167	0.11	0.21	0.124		I	0		4.45
16.250	0.07	0.21	0.123		I	0		4.43
16.333	0.06	0.21	0.122		I	0		4.40
16.417	0.05	0.21	0.121		I	0		4.37
16.500	0.05	0.21	0.120		I	0		4.34
16.583	0.05	0.20	0.119		I	0		4.31
16.667	0.04	0.20	0.118		I	0		4.28
16.750	0.04	0.20	0.117		I	0		4.25
16.833	0.03	0.20	0.116		I	0		4.22
16.917	0.03	0.19	0.115		I	0		4.19
17.000	0.03	0.19	0.114		I	0		4.16
17.083	0.04	0.19	0.113		I	0		4.13
17.167	0.05	0.19	0.111		I	0		4.10
17.250	0.05	0.19	0.111		I	0		4.07
17.333	0.06	0.19	0.110		I	0		4.05
17.417	0.06	0.18	0.109		I	0		4.02
17.500	0.06	0.18	0.108		I	0		4.00
17.583	0.06	0.18	0.107		I	0		3.97
17.667	0.06	0.18	0.106		I	0		3.95
17.750	0.06	0.18	0.105		I	0		3.92
17.833	0.06	0.17	0.105		I	0		3.90
17.917	0.05	0.17	0.104		I	0		3.87
18.000	0.05	0.17	0.103		I	0		3.85
18.083	0.05	0.17	0.102		I	0		3.82
18.167	0.05	0.17	0.101		I	0		3.80
18.250	0.05	0.16	0.100		I	0		3.78
18.333	0.05	0.16	0.100		I	0		3.75
18.417	0.05	0.16	0.099		I	0		3.73
18.500	0.05	0.16	0.098		I	0		3.71

18.583	0.04	0.16	0.097	I	0				3.68
18.667	0.04	0.15	0.096	I	0				3.66
18.750	0.04	0.15	0.096	I	0				3.64
18.833	0.03	0.15	0.095	I	0				3.61
18.917	0.03	0.15	0.094	I	0				3.59
19.000	0.02	0.15	0.093	I	0				3.57
19.083	0.02	0.14	0.092	I	0				3.54
19.167	0.03	0.14	0.092	I	0				3.52
19.250	0.03	0.14	0.091	I	0				3.50
19.333	0.03	0.14	0.090	I	0				3.47
19.417	0.04	0.13	0.089	I	0				3.45
19.500	0.04	0.13	0.089	I	0				3.44
19.583	0.04	0.13	0.088	I	0				3.42
19.667	0.04	0.13	0.088	I	0				3.40
19.750	0.04	0.13	0.087	I	0				3.38
19.833	0.03	0.12	0.086	I	0				3.36
19.917	0.03	0.12	0.086	I	0				3.35
20.000	0.02	0.12	0.085	I	0				3.33
20.083	0.02	0.12	0.084	I	0				3.31
20.167	0.03	0.11	0.084	I	0				3.29
20.250	0.03	0.11	0.083	I	0				3.27
20.333	0.03	0.11	0.083	I	0				3.26
20.417	0.03	0.11	0.082	I	0				3.24
20.500	0.03	0.11	0.082	I	0				3.23
20.583	0.03	0.10	0.081	I	0				3.21
20.667	0.03	0.10	0.081	I	0				3.20
20.750	0.03	0.10	0.080	I	0				3.19
20.833	0.03	0.10	0.080	I	0				3.17
20.917	0.03	0.10	0.079	I	0				3.16
21.000	0.02	0.10	0.079	I	0				3.14
21.083	0.02	0.09	0.078	I	0				3.13
21.167	0.03	0.09	0.078	I	0				3.12
21.250	0.03	0.09	0.078	I	0				3.10
21.333	0.03	0.09	0.077	I	0				3.09
21.417	0.03	0.09	0.077	I	0				3.08
21.500	0.02	0.09	0.076	I	0				3.07
21.583	0.02	0.08	0.076	I	0				3.05
21.667	0.03	0.08	0.075	I	0				3.04
21.750	0.03	0.08	0.075	I	0				3.03
21.833	0.03	0.08	0.075	I	0				3.02
21.917	0.03	0.08	0.074	I	0				3.01
22.000	0.02	0.08	0.074	I	0				3.00
22.083	0.02	0.08	0.074	I	0				2.99
22.167	0.03	0.07	0.073	I	0				2.98
22.250	0.03	0.07	0.073	I	0				2.97
22.333	0.03	0.07	0.073	I	0				2.96
22.417	0.03	0.07	0.073	I	0				2.95
22.500	0.02	0.07	0.072	I	0				2.94
22.583	0.02	0.07	0.072	I	0				2.93
22.667	0.02	0.07	0.072	I	0				2.92
22.750	0.02	0.06	0.071	I	0				2.92

22.833	0.02	0.06	0.071	I	0					2.91
22.917	0.02	0.06	0.071	I	0					2.90
23.000	0.02	0.06	0.070	I	0					2.89
23.083	0.02	0.06	0.070	I	0					2.88
23.167	0.02	0.06	0.070	I	0					2.87
23.250	0.02	0.06	0.070	I	0					2.87
23.333	0.02	0.06	0.069	I	0					2.86
23.417	0.02	0.05	0.069	I	0					2.85
23.500	0.02	0.05	0.069	I	0					2.84
23.583	0.02	0.05	0.069	I	0					2.84
23.667	0.02	0.05	0.069	I	0					2.83
23.750	0.02	0.05	0.068	I	0					2.83
23.833	0.02	0.05	0.068	I	0					2.82
23.917	0.02	0.05	0.068	I	0					2.81
24.000	0.02	0.05	0.068	I	0					2.81
24.083	0.02	0.05	0.068	I	0					2.80
24.167	0.01	0.05	0.067	I	0					2.80
24.250	0.00	0.04	0.067	I	0					2.79
24.333	0.00	0.04	0.067	I	0					2.78
24.417	0.00	0.04	0.067	I	0					2.77
24.500	0.00	0.04	0.066	I	0					2.76
24.583	0.00	0.04	0.066	I	0					2.75
24.667	0.00	0.04	0.066	I	0					2.74
24.750	0.00	0.04	0.066	I	0					2.74
24.833	0.00	0.04	0.065	I	0					2.73
24.917	0.00	0.03	0.065	I	0					2.72
25.000	0.00	0.03	0.065	I	0					2.71
25.083	0.00	0.03	0.065	I	0					2.71
25.167	0.00	0.03	0.064	I	0					2.70
25.250	0.00	0.03	0.064	I	0					2.69
25.333	0.00	0.03	0.064	I	0					2.69
25.417	0.00	0.03	0.064	I	0					2.68
25.500	0.00	0.03	0.064	I	0					2.67
25.583	0.00	0.03	0.063	I	0					2.67
25.667	0.00	0.03	0.063	I	0					2.66
25.750	0.00	0.02	0.063	I	0					2.66
25.833	0.00	0.02	0.063	IO						2.65
25.917	0.00	0.02	0.063	IO						2.65
26.000	0.00	0.02	0.063	IO						2.64
26.083	0.00	0.02	0.062	IO						2.64
26.167	0.00	0.02	0.062	IO						2.63
26.250	0.00	0.02	0.062	IO						2.63
26.333	0.00	0.02	0.062	IO						2.62
26.417	0.00	0.02	0.062	IO						2.62
26.500	0.00	0.02	0.062	IO						2.62
26.583	0.00	0.02	0.062	IO						2.61
26.667	0.00	0.02	0.061	IO						2.61
26.750	0.00	0.02	0.061	IO						2.61
26.833	0.00	0.02	0.061	IO						2.60
26.917	0.00	0.02	0.061	IO						2.60
27.000	0.00	0.01	0.061	IO						2.60

27.083	0.00	0.01	0.061	IO					2.59
27.167	0.00	0.01	0.061	IO					2.59
27.250	0.00	0.01	0.061	IO					2.59
27.333	0.00	0.01	0.061	IO					2.58
27.417	0.00	0.01	0.061	IO					2.58
27.500	0.00	0.01	0.060	IO					2.58
27.583	0.00	0.01	0.060	0					2.58
27.667	0.00	0.01	0.060	0					2.57
27.750	0.00	0.01	0.060	0					2.57
27.833	0.00	0.01	0.060	0					2.57
27.917	0.00	0.01	0.060	0					2.57
28.000	0.00	0.01	0.060	0					2.56
28.083	0.00	0.01	0.060	0					2.56
28.167	0.00	0.01	0.060	0					2.56
28.250	0.00	0.01	0.060	0					2.56
28.333	0.00	0.01	0.060	0					2.56
28.417	0.00	0.01	0.060	0					2.55
28.500	0.00	0.01	0.060	0					2.55
28.583	0.00	0.01	0.060	0					2.55
28.667	0.00	0.01	0.060	0					2.55
28.750	0.00	0.01	0.060	0					2.55
28.833	0.00	0.01	0.059	0					2.55
28.917	0.00	0.01	0.059	0					2.54
29.000	0.00	0.01	0.059	0					2.54
29.083	0.00	0.01	0.059	0					2.54
29.167	0.00	0.01	0.059	0					2.54
29.250	0.00	0.01	0.059	0					2.54
29.333	0.00	0.01	0.059	0					2.54
29.417	0.00	0.01	0.059	0					2.54
29.500	0.00	0.01	0.059	0					2.53
29.583	0.00	0.01	0.059	0					2.53
29.667	0.00	0.01	0.059	0					2.53
29.750	0.00	0.00	0.059	0					2.53
29.833	0.00	0.00	0.059	0					2.53
29.917	0.00	0.00	0.059	0					2.53
30.000	0.00	0.00	0.059	0					2.53
30.083	0.00	0.00	0.059	0					2.53
30.167	0.00	0.00	0.059	0					2.53
30.250	0.00	0.00	0.059	0					2.53
30.333	0.00	0.00	0.059	0					2.52
30.417	0.00	0.00	0.059	0					2.52
30.500	0.00	0.00	0.059	0					2.52
30.583	0.00	0.00	0.059	0					2.52
30.667	0.00	0.00	0.059	0					2.52
30.750	0.00	0.00	0.059	0					2.52
30.833	0.00	0.00	0.059	0					2.52
30.917	0.00	0.00	0.059	0					2.52
31.000	0.00	0.00	0.059	0					2.52
31.083	0.00	0.00	0.059	0					2.52
31.167	0.00	0.00	0.059	0					2.52
31.250	0.00	0.00	0.059	0					2.52

31.333	0.00	0.00	0.059	0					2.52
31.417	0.00	0.00	0.059	0					2.52
31.500	0.00	0.00	0.058	0					2.52
31.583	0.00	0.00	0.058	0					2.52
31.667	0.00	0.00	0.058	0					2.51
31.750	0.00	0.00	0.058	0					2.51
31.833	0.00	0.00	0.058	0					2.51
31.917	0.00	0.00	0.058	0					2.51
32.000	0.00	0.00	0.058	0					2.51
32.083	0.00	0.00	0.058	0					2.51
32.167	0.00	0.00	0.058	0					2.51
32.250	0.00	0.00	0.058	0					2.51
32.333	0.00	0.00	0.058	0					2.51
32.417	0.00	0.00	0.058	0					2.51
32.500	0.00	0.00	0.058	0					2.51
32.583	0.00	0.00	0.058	0					2.51
32.667	0.00	0.00	0.058	0					2.51
32.750	0.00	0.00	0.058	0					2.51
32.833	0.00	0.00	0.058	0					2.51
32.917	0.00	0.00	0.058	0					2.51
33.000	0.00	0.00	0.058	0					2.51
33.083	0.00	0.00	0.058	0					2.51
33.167	0.00	0.00	0.058	0					2.51
33.250	0.00	0.00	0.058	0					2.51
33.333	0.00	0.00	0.058	0					2.51
33.417	0.00	0.00	0.058	0					2.51
33.500	0.00	0.00	0.058	0					2.51
33.583	0.00	0.00	0.058	0					2.51
33.667	0.00	0.00	0.058	0					2.51
33.750	0.00	0.00	0.058	0					2.51

Remaining water in basin = 0.06 (Ac.Ft)

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*****HYDROGRAPH DATA*****
      Number of intervals = 405
      Time interval = 5.0 (Min.)
      Maximum/Peak flow rate = 0.214 (CFS)
      Total volume = 0.176 (Ac.Ft)
      Status of hydrographs being held in storage
      Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
      Peak (CFS) 0.000 0.000 0.000 0.000 0.000
      Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000
*****

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FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
Study date: 01/21/25

RCH GARAGE
10-YR 1-HR
DMA-A BMP-1
KIMLEY-HORN

Program License Serial Number 6443

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

From study/file name: RCHPH1A110.rte
*****HYDROGRAPH DATA*****
Number of intervals = 19
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 3.365 (CFS)
Total volume = 0.095 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000

+++++
Process from Point/Station 0.000 to Point/Station 0.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 19
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

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

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-0*dt/2) (Ac.Ft)	(S+0*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.500	0.008	0.001	0.008	0.008
1.000	0.017	0.001	0.017	0.017
1.500	0.028	0.000	0.028	0.028
2.000	0.042	0.000	0.042	0.042
2.500	0.058	0.000	0.058	0.058
3.000	0.074	0.078	0.074	0.074
3.500	0.091	0.140	0.091	0.091
4.000	0.108	0.182	0.107	0.109
4.500	0.126	0.216	0.125	0.127
5.000	0.143	0.245	0.142	0.144
5.500	0.160	0.271	0.159	0.161
6.000	0.177	0.295	0.176	0.178
6.500	0.194	0.317	0.193	0.195
7.000	0.209	0.337	0.208	0.210
7.500	0.223	0.357	0.222	0.224
8.000	0.234	0.443	0.232	0.236
8.500	0.243	0.493	0.241	0.245
9.000	0.251	0.534	0.249	0.253
10.000	0.252	4.346	0.237	0.267

Hydrograph Detention Basin Routing

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

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.8	1.68	2.52	3.36	Depth (Ft.)
0.083	0.04	0.00	0.000	0					0.01
0.167	0.26	0.00	0.001	0 I					0.07
0.250	0.40	0.00	0.003	0 I					0.21
0.333	0.47	0.00	0.006	0 I					0.40
0.417	0.53	0.00	0.010	0 I					0.60
0.500	0.59	0.00	0.014	0 I					0.82
0.583	0.68	0.00	0.018	0 I					1.05
0.667	0.81	0.00	0.023	0 I					1.28
0.750	1.12	0.00	0.030	0	I				1.57
0.833	2.00	0.00	0.041	0		I			1.95
0.917	3.36	0.01	0.059	0				I	2.53
1.000	1.87	0.09	0.077	0		I			3.08
1.083	0.98	0.12	0.086	0	I				3.35
1.167	0.41	0.14	0.090	0 I					3.47
1.250	0.16	0.14	0.091	0					3.50
1.333	0.07	0.14	0.091	IO					3.49
1.417	0.04	0.14	0.090	IO					3.47
1.500	0.01	0.13	0.089	IO					3.45

1.583	0.00	0.13	0.088	IO					3.43
1.667	0.00	0.13	0.088	IO					3.40
1.750	0.00	0.12	0.087	IO					3.37
1.833	0.00	0.12	0.086	IO					3.35
1.917	0.00	0.12	0.085	IO					3.32
2.000	0.00	0.12	0.084	IO					3.30
2.083	0.00	0.11	0.083	IO					3.28
2.167	0.00	0.11	0.083	IO					3.26
2.250	0.00	0.11	0.082	IO					3.23
2.333	0.00	0.10	0.081	0					3.21
2.417	0.00	0.10	0.081	0					3.19
2.500	0.00	0.10	0.080	0					3.17
2.583	0.00	0.10	0.079	0					3.15
2.667	0.00	0.09	0.078	0					3.13
2.750	0.00	0.09	0.078	0					3.11
2.833	0.00	0.09	0.077	0					3.09
2.917	0.00	0.09	0.077	0					3.08
3.000	0.00	0.09	0.076	0					3.06
3.083	0.00	0.08	0.075	0					3.04
3.167	0.00	0.08	0.075	0					3.03
3.250	0.00	0.08	0.074	0					3.01
3.333	0.00	0.08	0.074	0					2.99
3.417	0.00	0.07	0.073	0					2.98
3.500	0.00	0.07	0.073	0					2.96
3.583	0.00	0.07	0.072	0					2.95
3.667	0.00	0.07	0.072	0					2.93
3.750	0.00	0.07	0.071	0					2.92
3.833	0.00	0.06	0.071	0					2.90
3.917	0.00	0.06	0.070	0					2.89
4.000	0.00	0.06	0.070	0					2.88
4.083	0.00	0.06	0.070	0					2.86
4.167	0.00	0.05	0.069	0					2.85
4.250	0.00	0.05	0.069	0					2.84
4.333	0.00	0.05	0.069	0					2.83
4.417	0.00	0.05	0.068	0					2.82
4.500	0.00	0.05	0.068	0					2.81
4.583	0.00	0.05	0.068	0					2.80
4.667	0.00	0.04	0.067	0					2.79
4.750	0.00	0.04	0.067	0					2.78
4.833	0.00	0.04	0.067	0					2.77
4.917	0.00	0.04	0.066	0					2.76
5.000	0.00	0.04	0.066	0					2.75
5.083	0.00	0.04	0.066	0					2.74
5.167	0.00	0.04	0.066	0					2.74
5.250	0.00	0.04	0.065	0					2.73
5.333	0.00	0.03	0.065	0					2.72
5.417	0.00	0.03	0.065	0					2.71
5.500	0.00	0.03	0.065	0					2.71
5.583	0.00	0.03	0.064	0					2.70
5.667	0.00	0.03	0.064	0					2.69
5.750	0.00	0.03	0.064	0					2.69

5.833	0.00	0.03	0.064	0					2.68
5.917	0.00	0.03	0.064	0					2.67
6.000	0.00	0.03	0.063	0					2.67
6.083	0.00	0.03	0.063	0					2.66
6.167	0.00	0.02	0.063	0					2.66
6.250	0.00	0.02	0.063	0					2.65
6.333	0.00	0.02	0.063	0					2.65
6.417	0.00	0.02	0.063	0					2.64
6.500	0.00	0.02	0.062	0					2.64
6.583	0.00	0.02	0.062	0					2.63
6.667	0.00	0.02	0.062	0					2.63
6.750	0.00	0.02	0.062	0					2.62
6.833	0.00	0.02	0.062	0					2.62
6.917	0.00	0.02	0.062	0					2.62
7.000	0.00	0.02	0.062	0					2.61
7.083	0.00	0.02	0.061	0					2.61
7.167	0.00	0.02	0.061	0					2.61
7.250	0.00	0.02	0.061	0					2.60
7.333	0.00	0.02	0.061	0					2.60
7.417	0.00	0.01	0.061	0					2.60
7.500	0.00	0.01	0.061	0					2.59
7.583	0.00	0.01	0.061	0					2.59
7.667	0.00	0.01	0.061	0					2.59
7.750	0.00	0.01	0.061	0					2.58
7.833	0.00	0.01	0.061	0					2.58
7.917	0.00	0.01	0.060	0					2.58
8.000	0.00	0.01	0.060	0					2.58
8.083	0.00	0.01	0.060	0					2.57
8.167	0.00	0.01	0.060	0					2.57
8.250	0.00	0.01	0.060	0					2.57
8.333	0.00	0.01	0.060	0					2.57
8.417	0.00	0.01	0.060	0					2.56
8.500	0.00	0.01	0.060	0					2.56
8.583	0.00	0.01	0.060	0					2.56
8.667	0.00	0.01	0.060	0					2.56
8.750	0.00	0.01	0.060	0					2.56
8.833	0.00	0.01	0.060	0					2.55
8.917	0.00	0.01	0.060	0					2.55
9.000	0.00	0.01	0.060	0					2.55
9.083	0.00	0.01	0.060	0					2.55
9.167	0.00	0.01	0.060	0					2.55
9.250	0.00	0.01	0.059	0					2.55
9.333	0.00	0.01	0.059	0					2.54
9.417	0.00	0.01	0.059	0					2.54
9.500	0.00	0.01	0.059	0					2.54
9.583	0.00	0.01	0.059	0					2.54
9.667	0.00	0.01	0.059	0					2.54
9.750	0.00	0.01	0.059	0					2.54
9.833	0.00	0.01	0.059	0					2.54
9.917	0.00	0.01	0.059	0					2.53
10.000	0.00	0.01	0.059	0					2.53

10.083	0.00	0.01	0.059	0					2.53
10.167	0.00	0.00	0.059	0					2.53
10.250	0.00	0.00	0.059	0					2.53
10.333	0.00	0.00	0.059	0					2.53
10.417	0.00	0.00	0.059	0					2.53
10.500	0.00	0.00	0.059	0					2.53
10.583	0.00	0.00	0.059	0					2.53
10.667	0.00	0.00	0.059	0					2.53
10.750	0.00	0.00	0.059	0					2.52
10.833	0.00	0.00	0.059	0					2.52
10.917	0.00	0.00	0.059	0					2.52
11.000	0.00	0.00	0.059	0					2.52
11.083	0.00	0.00	0.059	0					2.52
11.167	0.00	0.00	0.059	0					2.52
11.250	0.00	0.00	0.059	0					2.52
11.333	0.00	0.00	0.059	0					2.52
11.417	0.00	0.00	0.059	0					2.52
11.500	0.00	0.00	0.059	0					2.52
11.583	0.00	0.00	0.059	0					2.52
11.667	0.00	0.00	0.059	0					2.52
11.750	0.00	0.00	0.059	0					2.52
11.833	0.00	0.00	0.059	0					2.52
11.917	0.00	0.00	0.058	0					2.52
12.000	0.00	0.00	0.058	0					2.52
12.083	0.00	0.00	0.058	0					2.51
12.167	0.00	0.00	0.058	0					2.51
12.250	0.00	0.00	0.058	0					2.51
12.333	0.00	0.00	0.058	0					2.51
12.417	0.00	0.00	0.058	0					2.51
12.500	0.00	0.00	0.058	0					2.51
12.583	0.00	0.00	0.058	0					2.51
12.667	0.00	0.00	0.058	0					2.51
12.750	0.00	0.00	0.058	0					2.51
12.833	0.00	0.00	0.058	0					2.51
12.917	0.00	0.00	0.058	0					2.51
13.000	0.00	0.00	0.058	0					2.51
13.083	0.00	0.00	0.058	0					2.51
13.167	0.00	0.00	0.058	0					2.51
13.250	0.00	0.00	0.058	0					2.51
13.333	0.00	0.00	0.058	0					2.51
13.417	0.00	0.00	0.058	0					2.51
13.500	0.00	0.00	0.058	0					2.51
13.583	0.00	0.00	0.058	0					2.51
13.667	0.00	0.00	0.058	0					2.51
13.750	0.00	0.00	0.058	0					2.51
13.833	0.00	0.00	0.058	0					2.51
13.917	0.00	0.00	0.058	0					2.51
14.000	0.00	0.00	0.058	0					2.51
14.083	0.00	0.00	0.058	0					2.51
14.167	0.00	0.00	0.058	0					2.51

Remaining water in basin = 0.06 (Ac.Ft)

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

Number of intervals = 170

Time interval = 5.0 (Min.)

Maximum/Peak flow rate = 0.139 (CFS)

Total volume = 0.037 (Ac.Ft)

Status of hydrographs being held in storage

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

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
Study date: 01/21/25

RCH GARAGE
10-YR 3-HR
DMA-A BMP-1
KIMLEY-HORN

Program License Serial Number 6443

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

From study/file name: RCHPH1A310.rte
*****HYDROGRAPH DATA*****
Number of intervals = 43
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 1.724 (CFS)
Total volume = 0.140 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000

+++++
Process from Point/Station 0.000 to Point/Station 0.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 43
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

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

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-0*dt/2) (Ac.Ft)	(S+0*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.500	0.008	0.001	0.008	0.008
1.000	0.017	0.001	0.017	0.017
1.500	0.028	0.000	0.028	0.028
2.000	0.042	0.000	0.042	0.042
2.500	0.058	0.000	0.058	0.058
3.000	0.074	0.078	0.074	0.074
3.500	0.091	0.140	0.091	0.091
4.000	0.108	0.182	0.107	0.109
4.500	0.126	0.216	0.125	0.127
5.000	0.143	0.245	0.142	0.144
5.500	0.160	0.271	0.159	0.161
6.000	0.177	0.295	0.176	0.178
6.500	0.194	0.317	0.193	0.195
7.000	0.209	0.337	0.208	0.210
7.500	0.223	0.357	0.222	0.224
8.000	0.234	0.443	0.232	0.236
8.500	0.243	0.493	0.241	0.245
9.000	0.251	0.534	0.249	0.253
10.000	0.252	4.346	0.237	0.267

Hydrograph Detention Basin Routing

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

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.4	0.86	1.29	1.72	Depth (Ft.)
0.083	0.03	0.00	0.000	0					0.01
0.167	0.16	0.00	0.001	0 I					0.05
0.250	0.21	0.00	0.002	0 I					0.12
0.333	0.22	0.00	0.003	0 I					0.21
0.417	0.26	0.00	0.005	0 I					0.32
0.500	0.28	0.00	0.007	0 I					0.43
0.583	0.31	0.00	0.009	0 I					0.55
0.667	0.30	0.00	0.011	0 I					0.67
0.750	0.33	0.00	0.013	0 I					0.79
0.833	0.33	0.00	0.015	0 I					0.91
0.917	0.31	0.00	0.018	0 I					1.03
1.000	0.31	0.00	0.020	0 I					1.12
1.083	0.34	0.00	0.022	0 I					1.22
1.167	0.38	0.00	0.024	0 I					1.34
1.250	0.41	0.00	0.027	0 I					1.46
1.333	0.41	0.00	0.030	0 I					1.57
1.417	0.40	0.00	0.033	0 I					1.67
1.500	0.46	0.00	0.036	0 I					1.78

1.583	0.49	0.00	0.039	0		I				1.89
1.667	0.47	0.00	0.042	0		I				2.01
1.750	0.51	0.00	0.046	0		I				2.11
1.833	0.58	0.00	0.049	0		I				2.23
1.917	0.58	0.00	0.053	0		I				2.36
2.000	0.57	0.00	0.057	0		I				2.48
2.083	0.57	0.02	0.061	0		I				2.60
2.167	0.61	0.03	0.065	0		I				2.72
2.250	0.77	0.06	0.070	0		I				2.86
2.333	0.90	0.08	0.075	0		I				3.02
2.417	0.86	0.10	0.080	0		I				3.18
2.500	1.29	0.12	0.087	0		I		I		3.38
2.583	1.56	0.15	0.096	0		I		I		3.64
2.667	1.72	0.18	0.106	0		I		I		3.94
2.750	1.39	0.20	0.115	0		I		I		4.20
2.833	0.79	0.21	0.121	0		I		I		4.37
2.917	0.53	0.21	0.124	0		I		I		4.46
3.000	0.40	0.22	0.126	0		I		I		4.51
3.083	0.22	0.22	0.127	0		I		I		4.52
3.167	0.09	0.22	0.126	I 0		I		I		4.51
3.250	0.04	0.21	0.125	I 0		I		I		4.48
3.333	0.01	0.21	0.124	I 0		I		I		4.45
3.417	0.01	0.21	0.123	I 0		I		I		4.41
3.500	0.00	0.21	0.121	I 0		I		I		4.37
3.583	0.00	0.20	0.120	I 0		I		I		4.33
3.667	0.00	0.20	0.118	I 0		I		I		4.29
3.750	0.00	0.20	0.117	I 0		I		I		4.25
3.833	0.00	0.20	0.116	I 0		I		I		4.21
3.917	0.00	0.19	0.114	I 0		I		I		4.18
4.000	0.00	0.19	0.113	I 0		I		I		4.14
4.083	0.00	0.19	0.112	I 0		I		I		4.10
4.167	0.00	0.19	0.110	I 0		I		I		4.07
4.250	0.00	0.18	0.109	I 0		I		I		4.03
4.333	0.00	0.18	0.108	I 0		I		I		4.00
4.417	0.00	0.18	0.107	I 0		I		I		3.96
4.500	0.00	0.18	0.105	I 0		I		I		3.92
4.583	0.00	0.17	0.104	I 0		I		I		3.89
4.667	0.00	0.17	0.103	I 0		I		I		3.85
4.750	0.00	0.17	0.102	I 0		I		I		3.82
4.833	0.00	0.16	0.101	I 0		I		I		3.79
4.917	0.00	0.16	0.100	I 0		I		I		3.75
5.000	0.00	0.16	0.099	I 0		I		I		3.72
5.083	0.00	0.16	0.097	I 0		I		I		3.69
5.167	0.00	0.15	0.096	I 0		I		I		3.66
5.250	0.00	0.15	0.095	I 0		I		I		3.63
5.333	0.00	0.15	0.094	I 0		I		I		3.60
5.417	0.00	0.15	0.093	I 0		I		I		3.57
5.500	0.00	0.14	0.092	I 0		I		I		3.54
5.583	0.00	0.14	0.091	I 0		I		I		3.51
5.667	0.00	0.14	0.090	I 0		I		I		3.48
5.750	0.00	0.13	0.089	I 0		I		I		3.45

5.833	0.00	0.13	0.089	I 0					3.43
5.917	0.00	0.13	0.088	I 0					3.40
6.000	0.00	0.12	0.087	I 0					3.38
6.083	0.00	0.12	0.086	I 0					3.35
6.167	0.00	0.12	0.085	I 0					3.33
6.250	0.00	0.12	0.084	I 0					3.30
6.333	0.00	0.11	0.083	I 0					3.28
6.417	0.00	0.11	0.083	I 0					3.26
6.500	0.00	0.11	0.082	IO					3.23
6.583	0.00	0.10	0.081	IO					3.21
6.667	0.00	0.10	0.081	IO					3.19
6.750	0.00	0.10	0.080	IO					3.17
6.833	0.00	0.10	0.079	IO					3.15
6.917	0.00	0.09	0.079	IO					3.13
7.000	0.00	0.09	0.078	IO					3.11
7.083	0.00	0.09	0.077	IO					3.10
7.167	0.00	0.09	0.077	IO					3.08
7.250	0.00	0.09	0.076	IO					3.06
7.333	0.00	0.08	0.075	IO					3.04
7.417	0.00	0.08	0.075	IO					3.03
7.500	0.00	0.08	0.074	IO					3.01
7.583	0.00	0.08	0.074	IO					2.99
7.667	0.00	0.07	0.073	IO					2.98
7.750	0.00	0.07	0.073	IO					2.96
7.833	0.00	0.07	0.072	IO					2.95
7.917	0.00	0.07	0.072	IO					2.93
8.000	0.00	0.07	0.071	IO					2.92
8.083	0.00	0.06	0.071	IO					2.90
8.167	0.00	0.06	0.070	IO					2.89
8.250	0.00	0.06	0.070	IO					2.88
8.333	0.00	0.06	0.070	IO					2.86
8.417	0.00	0.06	0.069	IO					2.85
8.500	0.00	0.05	0.069	0					2.84
8.583	0.00	0.05	0.069	0					2.83
8.667	0.00	0.05	0.068	0					2.82
8.750	0.00	0.05	0.068	0					2.81
8.833	0.00	0.05	0.068	0					2.80
8.917	0.00	0.05	0.067	0					2.79
9.000	0.00	0.04	0.067	0					2.78
9.083	0.00	0.04	0.067	0					2.77
9.167	0.00	0.04	0.066	0					2.76
9.250	0.00	0.04	0.066	0					2.75
9.333	0.00	0.04	0.066	0					2.74
9.417	0.00	0.04	0.066	0					2.74
9.500	0.00	0.04	0.065	0					2.73
9.583	0.00	0.03	0.065	0					2.72
9.667	0.00	0.03	0.065	0					2.71
9.750	0.00	0.03	0.065	0					2.71
9.833	0.00	0.03	0.064	0					2.70
9.917	0.00	0.03	0.064	0					2.69
10.000	0.00	0.03	0.064	0					2.69

10.083	0.00	0.03	0.064	0					2.68
10.167	0.00	0.03	0.064	0					2.67
10.250	0.00	0.03	0.063	0					2.67
10.333	0.00	0.03	0.063	0					2.66
10.417	0.00	0.02	0.063	0					2.66
10.500	0.00	0.02	0.063	0					2.65
10.583	0.00	0.02	0.063	0					2.65
10.667	0.00	0.02	0.063	0					2.64
10.750	0.00	0.02	0.062	0					2.64
10.833	0.00	0.02	0.062	0					2.63
10.917	0.00	0.02	0.062	0					2.63
11.000	0.00	0.02	0.062	0					2.62
11.083	0.00	0.02	0.062	0					2.62
11.167	0.00	0.02	0.062	0					2.62
11.250	0.00	0.02	0.062	0					2.61
11.333	0.00	0.02	0.061	0					2.61
11.417	0.00	0.02	0.061	0					2.61
11.500	0.00	0.02	0.061	0					2.60
11.583	0.00	0.02	0.061	0					2.60
11.667	0.00	0.01	0.061	0					2.60
11.750	0.00	0.01	0.061	0					2.59
11.833	0.00	0.01	0.061	0					2.59
11.917	0.00	0.01	0.061	0					2.59
12.000	0.00	0.01	0.061	0					2.58
12.083	0.00	0.01	0.061	0					2.58
12.167	0.00	0.01	0.060	0					2.58
12.250	0.00	0.01	0.060	0					2.58
12.333	0.00	0.01	0.060	0					2.57
12.417	0.00	0.01	0.060	0					2.57
12.500	0.00	0.01	0.060	0					2.57
12.583	0.00	0.01	0.060	0					2.57
12.667	0.00	0.01	0.060	0					2.56
12.750	0.00	0.01	0.060	0					2.56
12.833	0.00	0.01	0.060	0					2.56
12.917	0.00	0.01	0.060	0					2.56
13.000	0.00	0.01	0.060	0					2.56
13.083	0.00	0.01	0.060	0					2.55
13.167	0.00	0.01	0.060	0					2.55
13.250	0.00	0.01	0.060	0					2.55
13.333	0.00	0.01	0.060	0					2.55
13.417	0.00	0.01	0.060	0					2.55
13.500	0.00	0.01	0.059	0					2.55
13.583	0.00	0.01	0.059	0					2.54
13.667	0.00	0.01	0.059	0					2.54
13.750	0.00	0.01	0.059	0					2.54
13.833	0.00	0.01	0.059	0					2.54
13.917	0.00	0.01	0.059	0					2.54
14.000	0.00	0.01	0.059	0					2.54
14.083	0.00	0.01	0.059	0					2.54
14.167	0.00	0.01	0.059	0					2.53
14.250	0.00	0.01	0.059	0					2.53

14.333	0.00	0.01	0.059	0					2.53
14.417	0.00	0.00	0.059	0					2.53
14.500	0.00	0.00	0.059	0					2.53
14.583	0.00	0.00	0.059	0					2.53
14.667	0.00	0.00	0.059	0					2.53
14.750	0.00	0.00	0.059	0					2.53
14.833	0.00	0.00	0.059	0					2.53
14.917	0.00	0.00	0.059	0					2.53
15.000	0.00	0.00	0.059	0					2.52
15.083	0.00	0.00	0.059	0					2.52
15.167	0.00	0.00	0.059	0					2.52
15.250	0.00	0.00	0.059	0					2.52
15.333	0.00	0.00	0.059	0					2.52
15.417	0.00	0.00	0.059	0					2.52
15.500	0.00	0.00	0.059	0					2.52
15.583	0.00	0.00	0.059	0					2.52
15.667	0.00	0.00	0.059	0					2.52
15.750	0.00	0.00	0.059	0					2.52
15.833	0.00	0.00	0.059	0					2.52
15.917	0.00	0.00	0.059	0					2.52
16.000	0.00	0.00	0.059	0					2.52
16.083	0.00	0.00	0.059	0					2.52
16.167	0.00	0.00	0.058	0					2.52
16.250	0.00	0.00	0.058	0					2.52
16.333	0.00	0.00	0.058	0					2.51
16.417	0.00	0.00	0.058	0					2.51
16.500	0.00	0.00	0.058	0					2.51
16.583	0.00	0.00	0.058	0					2.51
16.667	0.00	0.00	0.058	0					2.51
16.750	0.00	0.00	0.058	0					2.51
16.833	0.00	0.00	0.058	0					2.51
16.917	0.00	0.00	0.058	0					2.51
17.000	0.00	0.00	0.058	0					2.51
17.083	0.00	0.00	0.058	0					2.51
17.167	0.00	0.00	0.058	0					2.51
17.250	0.00	0.00	0.058	0					2.51
17.333	0.00	0.00	0.058	0					2.51
17.417	0.00	0.00	0.058	0					2.51
17.500	0.00	0.00	0.058	0					2.51
17.583	0.00	0.00	0.058	0					2.51
17.667	0.00	0.00	0.058	0					2.51
17.750	0.00	0.00	0.058	0					2.51
17.833	0.00	0.00	0.058	0					2.51
17.917	0.00	0.00	0.058	0					2.51
18.000	0.00	0.00	0.058	0					2.51
18.083	0.00	0.00	0.058	0					2.51
18.167	0.00	0.00	0.058	0					2.51
18.250	0.00	0.00	0.058	0					2.51
18.333	0.00	0.00	0.058	0					2.51
18.417	0.00	0.00	0.058	0					2.51

Remaining water in basin = 0.06 (Ac.Ft)

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

Number of intervals = 221

Time interval = 5.0 (Min.)

Maximum/Peak flow rate = 0.217 (CFS)

Total volume = 0.082 (Ac.Ft)

Status of hydrographs being held in storage

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

FLOOD HYDROGRAPH ROUTING PROGRAM
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Study date: 01/21/25

RCH GARAGE
10-YR 6-HR
DMA-A BMP-1
KIMLEY-HORN

Program License Serial Number 6443

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

From study/file name: RCHPH1A610.rte
*****HYDROGRAPH DATA*****
Number of intervals = 79
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 1.454 (CFS)
Total volume = 0.182 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000

+++++
Process from Point/Station 0.000 to Point/Station 0.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 79
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

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

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-0*dt/2) (Ac.Ft)	(S+0*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.500	0.008	0.001	0.008	0.008
1.000	0.017	0.001	0.017	0.017
1.500	0.028	0.000	0.028	0.028
2.000	0.042	0.000	0.042	0.042
2.500	0.058	0.000	0.058	0.058
3.000	0.074	0.078	0.074	0.074
3.500	0.091	0.140	0.091	0.091
4.000	0.108	0.182	0.107	0.109
4.500	0.126	0.216	0.125	0.127
5.000	0.143	0.245	0.142	0.144
5.500	0.160	0.271	0.159	0.161
6.000	0.177	0.295	0.176	0.178
6.500	0.194	0.317	0.193	0.195
7.000	0.209	0.337	0.208	0.210
7.500	0.223	0.357	0.222	0.224
8.000	0.234	0.443	0.232	0.236
8.500	0.243	0.493	0.241	0.245
9.000	0.251	0.534	0.249	0.253
10.000	0.252	4.346	0.237	0.267

Hydrograph Detention Basin Routing

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

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.4	0.73	1.09	1.45	Depth (Ft.)
0.083	0.01	0.00	0.000	O					0.00
0.167	0.08	0.00	0.000	O I					0.02
0.250	0.12	0.00	0.001	O I					0.07
0.333	0.14	0.00	0.002	O I					0.13
0.417	0.15	0.00	0.003	O I					0.19
0.500	0.15	0.00	0.004	O I					0.25
0.583	0.17	0.00	0.005	O I					0.32
0.667	0.17	0.00	0.006	O I					0.39
0.750	0.18	0.00	0.007	O I					0.47
0.833	0.18	0.00	0.009	O I					0.54
0.917	0.18	0.00	0.010	O I					0.61
1.000	0.18	0.00	0.011	O I					0.67
1.083	0.19	0.00	0.012	O I					0.75
1.167	0.20	0.00	0.014	O I					0.82
1.250	0.20	0.00	0.015	O I					0.90
1.333	0.20	0.00	0.017	O I					0.97
1.417	0.20	0.00	0.018	O I					1.04
1.500	0.20	0.00	0.019	O I					1.11

1.583	0.20	0.00	0.021	0	I								1.17
1.667	0.20	0.00	0.022	0	I								1.23
1.750	0.20	0.00	0.024	0	I								1.30
1.833	0.20	0.00	0.025	0	I								1.36
1.917	0.20	0.00	0.026	0	I								1.42
2.000	0.21	0.00	0.028	0	I								1.49
2.083	0.22	0.00	0.029	0	I								1.54
2.167	0.21	0.00	0.031	0	I								1.59
2.250	0.22	0.00	0.032	0	I								1.65
2.333	0.23	0.00	0.034	0	I								1.70
2.417	0.23	0.00	0.035	0	I								1.76
2.500	0.23	0.00	0.037	0	I								1.81
2.583	0.23	0.00	0.038	0	I								1.87
2.667	0.23	0.00	0.040	0	I								1.93
2.750	0.23	0.00	0.042	0	I								1.98
2.833	0.24	0.00	0.043	0	I								2.04
2.917	0.25	0.00	0.045	0	I								2.09
3.000	0.25	0.00	0.047	0	I								2.14
3.083	0.25	0.00	0.048	0	I								2.20
3.167	0.26	0.00	0.050	0	I								2.25
3.250	0.27	0.00	0.052	0	I								2.31
3.333	0.28	0.00	0.054	0	I								2.37
3.417	0.28	0.00	0.056	0	I								2.43
3.500	0.30	0.00	0.058	0	I								2.49
3.583	0.32	0.01	0.060	0	I								2.56
3.667	0.34	0.02	0.062	0	I								2.62
3.750	0.35	0.03	0.064	0	I								2.69
3.833	0.37	0.04	0.066	0	I								2.76
3.917	0.38	0.05	0.069	0	I								2.83
4.000	0.40	0.06	0.071	0	I								2.91
4.083	0.40	0.07	0.073	0	I								2.98
4.167	0.42	0.08	0.076	0	I								3.05
4.250	0.45	0.09	0.078	0	I								3.12
4.333	0.47	0.10	0.080	0	I								3.19
4.417	0.50	0.11	0.083	0	I								3.27
4.500	0.52	0.12	0.086	0	I								3.34
4.583	0.53	0.13	0.088	0	I								3.43
4.667	0.55	0.14	0.091	0	I								3.51
4.750	0.57	0.15	0.094	0	I								3.59
4.833	0.59	0.16	0.097	0	I								3.68
4.917	0.61	0.16	0.100	0	I								3.77
5.000	0.63	0.17	0.103	0	I								3.86
5.083	0.66	0.18	0.106	0	I								3.96
5.167	0.78	0.19	0.110	0	I								4.06
5.250	0.92	0.19	0.115	0	I								4.19
5.333	1.05	0.20	0.120	0	I								4.34
5.417	1.18	0.22	0.126	0	I								4.51
5.500	1.36	0.23	0.134	0	I								4.72
5.583	1.45	0.24	0.142	0	I								4.96
5.667	0.86	0.25	0.148	0	I								5.14
5.750	0.48	0.26	0.151	0	I								5.23

5.833	0.29	0.26	0.152		OI						5.25
5.917	0.18	0.26	0.151		IO						5.25
6.000	0.12	0.26	0.151		I 0						5.23
6.083	0.08	0.26	0.150		I 0						5.19
6.167	0.03	0.25	0.148	I	0						5.15
6.250	0.01	0.25	0.147	I	0						5.11
6.333	0.00	0.25	0.145	I	0						5.06
6.417	0.00	0.25	0.143	I	0						5.01
6.500	0.00	0.24	0.142	I	0						4.96
6.583	0.00	0.24	0.140	I	0						4.91
6.667	0.00	0.24	0.138	I	0						4.86
6.750	0.00	0.23	0.137	I	0						4.81
6.833	0.00	0.23	0.135	I	0						4.77
6.917	0.00	0.23	0.134	I	0						4.72
7.000	0.00	0.23	0.132	I	0						4.67
7.083	0.00	0.22	0.130	I	0						4.63
7.167	0.00	0.22	0.129	I	0						4.58
7.250	0.00	0.22	0.127	I	0						4.54
7.333	0.00	0.22	0.126	I	0						4.50
7.417	0.00	0.21	0.124	I	0						4.45
7.500	0.00	0.21	0.123	I	0						4.41
7.583	0.00	0.21	0.121	I	0						4.37
7.667	0.00	0.20	0.120	I	0						4.34
7.750	0.00	0.20	0.119	I	0						4.30
7.833	0.00	0.20	0.117	I	0						4.26
7.917	0.00	0.20	0.116	I	0						4.22
8.000	0.00	0.19	0.115	I	0						4.18
8.083	0.00	0.19	0.113	I	0						4.15
8.167	0.00	0.19	0.112	I	0						4.11
8.250	0.00	0.19	0.111	I	0						4.07
8.333	0.00	0.18	0.109	I	0						4.04
8.417	0.00	0.18	0.108	I	0						4.00
8.500	0.00	0.18	0.107	I	0						3.97
8.583	0.00	0.18	0.106	I	0						3.93
8.667	0.00	0.17	0.104	I	0						3.89
8.750	0.00	0.17	0.103	I	0						3.86
8.833	0.00	0.17	0.102	I	0						3.83
8.917	0.00	0.16	0.101	I	0						3.79
9.000	0.00	0.16	0.100	I	0						3.76
9.083	0.00	0.16	0.099	I	0						3.73
9.167	0.00	0.16	0.098	I	0						3.69
9.250	0.00	0.15	0.097	I	0						3.66
9.333	0.00	0.15	0.095	I	0						3.63
9.417	0.00	0.15	0.094	I	0						3.60
9.500	0.00	0.15	0.093	I	0						3.57
9.583	0.00	0.14	0.092	I	0						3.54
9.667	0.00	0.14	0.091	I	0						3.51
9.750	0.00	0.14	0.091	I	0						3.49
9.833	0.00	0.13	0.090	I	0						3.46
9.917	0.00	0.13	0.089	I	0						3.43
10.000	0.00	0.13	0.088	I	0						3.40

10.083	0.00	0.12	0.087	I 0					3.38
10.167	0.00	0.12	0.086	I 0					3.35
10.250	0.00	0.12	0.085	I 0					3.33
10.333	0.00	0.12	0.084	I 0					3.31
10.417	0.00	0.11	0.084	I 0					3.28
10.500	0.00	0.11	0.083	I 0					3.26
10.583	0.00	0.11	0.082	I 0					3.24
10.667	0.00	0.10	0.081	I 0					3.22
10.750	0.00	0.10	0.081	I 0					3.20
10.833	0.00	0.10	0.080	I 0					3.18
10.917	0.00	0.10	0.079	I 0					3.16
11.000	0.00	0.09	0.079	I 0					3.14
11.083	0.00	0.09	0.078	I 0					3.12
11.167	0.00	0.09	0.077	IO					3.10
11.250	0.00	0.09	0.077	IO					3.08
11.333	0.00	0.09	0.076	IO					3.06
11.417	0.00	0.08	0.076	IO					3.05
11.500	0.00	0.08	0.075	IO					3.03
11.583	0.00	0.08	0.074	IO					3.01
11.667	0.00	0.08	0.074	IO					3.00
11.750	0.00	0.07	0.073	IO					2.98
11.833	0.00	0.07	0.073	IO					2.96
11.917	0.00	0.07	0.072	IO					2.95
12.000	0.00	0.07	0.072	IO					2.93
12.083	0.00	0.07	0.071	IO					2.92
12.167	0.00	0.06	0.071	IO					2.91
12.250	0.00	0.06	0.071	IO					2.89
12.333	0.00	0.06	0.070	IO					2.88
12.417	0.00	0.06	0.070	IO					2.87
12.500	0.00	0.06	0.069	IO					2.85
12.583	0.00	0.05	0.069	IO					2.84
12.667	0.00	0.05	0.069	IO					2.83
12.750	0.00	0.05	0.068	IO					2.82
12.833	0.00	0.05	0.068	IO					2.81
12.917	0.00	0.05	0.068	IO					2.80
13.000	0.00	0.05	0.067	0					2.79
13.083	0.00	0.04	0.067	0					2.78
13.167	0.00	0.04	0.067	0					2.77
13.250	0.00	0.04	0.066	0					2.76
13.333	0.00	0.04	0.066	0					2.75
13.417	0.00	0.04	0.066	0					2.75
13.500	0.00	0.04	0.066	0					2.74
13.583	0.00	0.04	0.065	0					2.73
13.667	0.00	0.03	0.065	0					2.72
13.750	0.00	0.03	0.065	0					2.71
13.833	0.00	0.03	0.065	0					2.71
13.917	0.00	0.03	0.064	0					2.70
14.000	0.00	0.03	0.064	0					2.69
14.083	0.00	0.03	0.064	0					2.69
14.167	0.00	0.03	0.064	0					2.68
14.250	0.00	0.03	0.064	0					2.68

14.333	0.00	0.03	0.063	0					2.67
14.417	0.00	0.03	0.063	0					2.66
14.500	0.00	0.02	0.063	0					2.66
14.583	0.00	0.02	0.063	0					2.65
14.667	0.00	0.02	0.063	0					2.65
14.750	0.00	0.02	0.063	0					2.64
14.833	0.00	0.02	0.062	0					2.64
14.917	0.00	0.02	0.062	0					2.63
15.000	0.00	0.02	0.062	0					2.63
15.083	0.00	0.02	0.062	0					2.63
15.167	0.00	0.02	0.062	0					2.62
15.250	0.00	0.02	0.062	0					2.62
15.333	0.00	0.02	0.062	0					2.61
15.417	0.00	0.02	0.062	0					2.61
15.500	0.00	0.02	0.061	0					2.61
15.583	0.00	0.02	0.061	0					2.60
15.667	0.00	0.02	0.061	0					2.60
15.750	0.00	0.01	0.061	0					2.60
15.833	0.00	0.01	0.061	0					2.59
15.917	0.00	0.01	0.061	0					2.59
16.000	0.00	0.01	0.061	0					2.59
16.083	0.00	0.01	0.061	0					2.58
16.167	0.00	0.01	0.061	0					2.58
16.250	0.00	0.01	0.061	0					2.58
16.333	0.00	0.01	0.060	0					2.58
16.417	0.00	0.01	0.060	0					2.57
16.500	0.00	0.01	0.060	0					2.57
16.583	0.00	0.01	0.060	0					2.57
16.667	0.00	0.01	0.060	0					2.57
16.750	0.00	0.01	0.060	0					2.56
16.833	0.00	0.01	0.060	0					2.56
16.917	0.00	0.01	0.060	0					2.56
17.000	0.00	0.01	0.060	0					2.56
17.083	0.00	0.01	0.060	0					2.56
17.167	0.00	0.01	0.060	0					2.55
17.250	0.00	0.01	0.060	0					2.55
17.333	0.00	0.01	0.060	0					2.55
17.417	0.00	0.01	0.060	0					2.55
17.500	0.00	0.01	0.060	0					2.55
17.583	0.00	0.01	0.059	0					2.55
17.667	0.00	0.01	0.059	0					2.54
17.750	0.00	0.01	0.059	0					2.54
17.833	0.00	0.01	0.059	0					2.54
17.917	0.00	0.01	0.059	0					2.54
18.000	0.00	0.01	0.059	0					2.54
18.083	0.00	0.01	0.059	0					2.54
18.167	0.00	0.01	0.059	0					2.54
18.250	0.00	0.01	0.059	0					2.53
18.333	0.00	0.01	0.059	0					2.53
18.417	0.00	0.01	0.059	0					2.53
18.500	0.00	0.00	0.059	0					2.53

18.583	0.00	0.00	0.059	0					2.53
18.667	0.00	0.00	0.059	0					2.53
18.750	0.00	0.00	0.059	0					2.53
18.833	0.00	0.00	0.059	0					2.53
18.917	0.00	0.00	0.059	0					2.53
19.000	0.00	0.00	0.059	0					2.53
19.083	0.00	0.00	0.059	0					2.52
19.167	0.00	0.00	0.059	0					2.52
19.250	0.00	0.00	0.059	0					2.52
19.333	0.00	0.00	0.059	0					2.52
19.417	0.00	0.00	0.059	0					2.52
19.500	0.00	0.00	0.059	0					2.52
19.583	0.00	0.00	0.059	0					2.52
19.667	0.00	0.00	0.059	0					2.52
19.750	0.00	0.00	0.059	0					2.52
19.833	0.00	0.00	0.059	0					2.52
19.917	0.00	0.00	0.059	0					2.52
20.000	0.00	0.00	0.059	0					2.52
20.083	0.00	0.00	0.059	0					2.52
20.167	0.00	0.00	0.059	0					2.52
20.250	0.00	0.00	0.058	0					2.52
20.333	0.00	0.00	0.058	0					2.52
20.417	0.00	0.00	0.058	0					2.51
20.500	0.00	0.00	0.058	0					2.51
20.583	0.00	0.00	0.058	0					2.51
20.667	0.00	0.00	0.058	0					2.51
20.750	0.00	0.00	0.058	0					2.51
20.833	0.00	0.00	0.058	0					2.51
20.917	0.00	0.00	0.058	0					2.51
21.000	0.00	0.00	0.058	0					2.51
21.083	0.00	0.00	0.058	0					2.51
21.167	0.00	0.00	0.058	0					2.51
21.250	0.00	0.00	0.058	0					2.51
21.333	0.00	0.00	0.058	0					2.51
21.417	0.00	0.00	0.058	0					2.51
21.500	0.00	0.00	0.058	0					2.51
21.583	0.00	0.00	0.058	0					2.51
21.667	0.00	0.00	0.058	0					2.51
21.750	0.00	0.00	0.058	0					2.51
21.833	0.00	0.00	0.058	0					2.51
21.917	0.00	0.00	0.058	0					2.51
22.000	0.00	0.00	0.058	0					2.51
22.083	0.00	0.00	0.058	0					2.51
22.167	0.00	0.00	0.058	0					2.51
22.250	0.00	0.00	0.058	0					2.51
22.333	0.00	0.00	0.058	0					2.51
22.417	0.00	0.00	0.058	0					2.51
22.500	0.00	0.00	0.058	0					2.51

Remaining water in basin = 0.06 (Ac.Ft)

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*****HYDROGRAPH DATA*****
      Number of intervals = 270
      Time interval = 5.0 (Min.)
      Maximum/Peak flow rate = 0.258 (CFS)
      Total volume = 0.124 (Ac.Ft)
      Status of hydrographs being held in storage
            Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
      Peak (CFS)    0.000    0.000    0.000    0.000    0.000
      Vol (Ac.Ft)   0.000    0.000    0.000    0.000    0.000
*****

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FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
Study date: 01/21/25

RCH GARAGE
10-YEAR 24-HR
DMA-A BMP-1
KIMLEY-HORN

Program License Serial Number 6443

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

From study/file name: rchph1a2410.rte
*****HYDROGRAPH DATA*****
Number of intervals = 295
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.460 (CFS)
Total volume = 0.280 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000

+++++
Process from Point/Station 0.000 to Point/Station 0.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 295
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

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

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-0*dt/2) (Ac.Ft)	(S+0*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.500	0.008	0.001	0.008	0.008
1.000	0.017	0.001	0.017	0.017
1.500	0.028	0.001	0.028	0.028
2.000	0.042	0.000	0.042	0.042
2.500	0.058	0.000	0.058	0.058
3.000	0.074	0.078	0.074	0.074
3.500	0.091	0.140	0.091	0.091
4.000	0.108	0.182	0.107	0.109
4.500	0.126	0.216	0.125	0.127
5.000	0.143	0.245	0.142	0.144
5.500	0.160	0.271	0.159	0.161
6.000	0.177	0.295	0.176	0.178
6.500	0.194	0.317	0.193	0.195
7.000	0.209	0.337	0.208	0.210
7.500	0.223	0.357	0.222	0.224
8.000	0.234	0.443	0.232	0.236
8.500	0.243	0.493	0.241	0.245
9.000	0.251	0.534	0.249	0.253
10.000	0.252	4.346	0.237	0.267

Hydrograph Detention Basin Routing

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

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.1	0.23	0.35	0.46	Depth (Ft.)
0.083	0.00	0.00	0.000	O					0.00
0.167	0.02	0.00	0.000	O I					0.00
0.250	0.02	0.00	0.000	O I					0.01
0.333	0.03	0.00	0.000	O I					0.02
0.417	0.04	0.00	0.001	O I					0.04
0.500	0.04	0.00	0.001	O I					0.05
0.583	0.04	0.00	0.001	O I					0.07
0.667	0.04	0.00	0.001	O I					0.09
0.750	0.04	0.00	0.002	O I					0.10
0.833	0.04	0.00	0.002	O I					0.12
0.917	0.05	0.00	0.002	O I					0.14
1.000	0.05	0.00	0.003	O I					0.16
1.083	0.05	0.00	0.003	O I					0.19
1.167	0.05	0.00	0.003	O I					0.21
1.250	0.04	0.00	0.004	O I					0.23
1.333	0.04	0.00	0.004	O I					0.24
1.417	0.04	0.00	0.004	O I					0.26
1.500	0.04	0.00	0.004	O I					0.28

1.583	0.04	0.00	0.005	0	I						0.30
1.667	0.04	0.00	0.005	0	I						0.31
1.750	0.04	0.00	0.005	0	I						0.33
1.833	0.04	0.00	0.006	0	I						0.35
1.917	0.05	0.00	0.006	0	I						0.37
2.000	0.05	0.00	0.006	0	I						0.39
2.083	0.05	0.00	0.007	0	I						0.41
2.167	0.05	0.00	0.007	0	I						0.43
2.250	0.05	0.00	0.007	0	I						0.46
2.333	0.05	0.00	0.008	0	I						0.48
2.417	0.05	0.00	0.008	0	I						0.50
2.500	0.05	0.00	0.008	0	I						0.52
2.583	0.06	0.00	0.009	0	I						0.54
2.667	0.06	0.00	0.009	0	I						0.56
2.750	0.07	0.00	0.010	0	I						0.59
2.833	0.07	0.00	0.010	0	I						0.61
2.917	0.07	0.00	0.011	0	I						0.64
3.000	0.07	0.00	0.011	0	I						0.66
3.083	0.07	0.00	0.011	0	I						0.69
3.167	0.07	0.00	0.012	0	I						0.72
3.250	0.07	0.00	0.012	0	I						0.74
3.333	0.07	0.00	0.013	0	I						0.77
3.417	0.07	0.00	0.013	0	I						0.79
3.500	0.07	0.00	0.014	0	I						0.82
3.583	0.07	0.00	0.014	0	I						0.84
3.667	0.07	0.00	0.015	0	I						0.87
3.750	0.07	0.00	0.015	0	I						0.89
3.833	0.07	0.00	0.016	0	I						0.92
3.917	0.08	0.00	0.016	0	I						0.95
4.000	0.08	0.00	0.017	0	I						0.98
4.083	0.08	0.00	0.017	0	I						1.01
4.167	0.08	0.00	0.018	0	I						1.03
4.250	0.08	0.00	0.018	0	I						1.06
4.333	0.08	0.00	0.019	0	I						1.08
4.417	0.09	0.00	0.019	0	I						1.11
4.500	0.09	0.00	0.020	0	I						1.14
4.583	0.09	0.00	0.021	0	I						1.17
4.667	0.09	0.00	0.021	0	I						1.19
4.750	0.09	0.00	0.022	0	I						1.22
4.833	0.10	0.00	0.023	0	I						1.25
4.917	0.10	0.00	0.023	0	I						1.28
5.000	0.11	0.00	0.024	0	I						1.32
5.083	0.10	0.00	0.025	0	I						1.35
5.167	0.09	0.00	0.025	0	I						1.38
5.250	0.09	0.00	0.026	0	I						1.41
5.333	0.08	0.00	0.027	0	I						1.43
5.417	0.09	0.00	0.027	0	I						1.46
5.500	0.09	0.00	0.028	0	I						1.49
5.583	0.10	0.00	0.028	0	I						1.51
5.667	0.10	0.00	0.029	0	I						1.54
5.750	0.11	0.00	0.030	0	I						1.56

5.833	0.11	0.00	0.031	0	I					1.59
5.917	0.11	0.00	0.031	0	I					1.62
6.000	0.11	0.00	0.032	0	I					1.64
6.083	0.11	0.00	0.033	0	I					1.67
6.167	0.12	0.00	0.034	0	I					1.70
6.250	0.12	0.00	0.034	0	I					1.73
6.333	0.12	0.00	0.035	0	I					1.76
6.417	0.12	0.00	0.036	0	I					1.79
6.500	0.12	0.00	0.037	0	I					1.82
6.583	0.12	0.00	0.038	0	I					1.85
6.667	0.13	0.00	0.039	0	I					1.88
6.750	0.13	0.00	0.039	0	I					1.91
6.833	0.13	0.00	0.040	0	I					1.94
6.917	0.14	0.00	0.041	0	I					1.98
7.000	0.14	0.00	0.042	0	I					2.01
7.083	0.14	0.00	0.043	0	I					2.04
7.167	0.14	0.00	0.044	0	I					2.07
7.250	0.14	0.00	0.045	0	I					2.09
7.333	0.14	0.00	0.046	0	I					2.12
7.417	0.14	0.00	0.047	0	I					2.15
7.500	0.15	0.00	0.048	0	I					2.19
7.583	0.15	0.00	0.049	0	I					2.22
7.667	0.16	0.00	0.050	0	I					2.25
7.750	0.16	0.00	0.051	0	I					2.28
7.833	0.16	0.00	0.052	0	I					2.32
7.917	0.17	0.00	0.053	0	I					2.36
8.000	0.17	0.00	0.055	0	I					2.39
8.083	0.18	0.00	0.056	0	I					2.43
8.167	0.19	0.00	0.057	0	I					2.47
8.250	0.20	0.00	0.058	0	I					2.51
8.333	0.20	0.01	0.060	0	I					2.55
8.417	0.20	0.01	0.061	0	I					2.60
8.500	0.20	0.02	0.062	0	I					2.64
8.583	0.20	0.03	0.064	0	I					2.67
8.667	0.21	0.03	0.065	0	I					2.71
8.750	0.21	0.04	0.066	0	I					2.75
8.833	0.22	0.04	0.067	0	I					2.79
8.917	0.23	0.05	0.068	0	I					2.83
9.000	0.23	0.06	0.070	0	I					2.86
9.083	0.23	0.06	0.071	0	I					2.90
9.167	0.25	0.07	0.072	0	I					2.94
9.250	0.25	0.07	0.073	0	I					2.98
9.333	0.26	0.08	0.074	0	I					3.01
9.417	0.27	0.08	0.076	0	I					3.05
9.500	0.27	0.09	0.077	0	I					3.09
9.583	0.27	0.09	0.078	0	I					3.12
9.667	0.28	0.10	0.079	0	I					3.16
9.750	0.28	0.10	0.081	0	I					3.20
9.833	0.29	0.11	0.082	0	I					3.23
9.917	0.29	0.11	0.083	0	I					3.27
10.000	0.30	0.12	0.084	0	I					3.30

10.083	0.29	0.12	0.086	0	I		3.34
10.167	0.24	0.12	0.087	0	I		3.37
10.250	0.22	0.13	0.087	0	I		3.39
10.333	0.21	0.13	0.088	0	I		3.41
10.417	0.21	0.13	0.088	0	I		3.42
10.500	0.20	0.13	0.089	0	I		3.44
10.583	0.21	0.13	0.089	0	I		3.45
10.667	0.25	0.14	0.090	0	I		3.47
10.750	0.26	0.14	0.091	0	I		3.49
10.833	0.27	0.14	0.092	0	I		3.52
10.917	0.27	0.14	0.093	0	I		3.55
11.000	0.27	0.15	0.093	0	I		3.57
11.083	0.27	0.15	0.094	0	I		3.60
11.167	0.26	0.15	0.095	0	I		3.62
11.250	0.26	0.15	0.096	0	I		3.64
11.333	0.26	0.15	0.097	0	I		3.66
11.417	0.26	0.16	0.097	0	I		3.68
11.500	0.26	0.16	0.098	0	I		3.70
11.583	0.25	0.16	0.099	0	I		3.72
11.667	0.24	0.16	0.099	0	I		3.74
11.750	0.23	0.16	0.100	0	I		3.76
11.833	0.23	0.16	0.100	0	I		3.77
11.917	0.24	0.16	0.101	0	I		3.79
12.000	0.24	0.17	0.101	0	I		3.80
12.083	0.25	0.17	0.102	0	I		3.82
12.167	0.30	0.17	0.103	0	I		3.84
12.250	0.32	0.17	0.104	0	I		3.87
12.333	0.33	0.17	0.105	0	I		3.90
12.417	0.35	0.18	0.106	0	I		3.94
12.500	0.35	0.18	0.107	0	I		3.97
12.583	0.35	0.18	0.108	0	I		4.00
12.667	0.37	0.18	0.109	0	I		4.04
12.750	0.38	0.19	0.111	0	I		4.07
12.833	0.38	0.19	0.112	0	I		4.11
12.917	0.39	0.19	0.113	0	I		4.15
13.000	0.39	0.19	0.115	0	I		4.18
13.083	0.40	0.20	0.116	0	I		4.22
13.167	0.44	0.20	0.118	0	I		4.26
13.250	0.45	0.20	0.119	0	I		4.31
13.333	0.46	0.21	0.121	0	I		4.36
13.417	0.46	0.21	0.123	0	I		4.41
13.500	0.46	0.21	0.124	0	I		4.45
13.583	0.44	0.22	0.126	0	I		4.50
13.667	0.37	0.22	0.127	0	I		4.54
13.750	0.33	0.22	0.128	0	I		4.56
13.833	0.32	0.22	0.129	0	I		4.59
13.917	0.32	0.22	0.130	0	I		4.61
14.000	0.31	0.22	0.130	0	I		4.62
14.083	0.32	0.22	0.131	0	I		4.64
14.167	0.35	0.23	0.132	0	I		4.66
14.250	0.36	0.23	0.132	0	I		4.69

14.333	0.36	0.23	0.133			0		I		4.72
14.417	0.36	0.23	0.134			0		I		4.74
14.500	0.35	0.23	0.135			0		I		4.77
14.583	0.35	0.23	0.136			0		I		4.79
14.667	0.35	0.23	0.137			0		I		4.82
14.750	0.35	0.24	0.138			0		I		4.84
14.833	0.35	0.24	0.138			0		I		4.86
14.917	0.34	0.24	0.139			0		I		4.89
15.000	0.34	0.24	0.140			0		I		4.91
15.083	0.34	0.24	0.141			0		I		4.93
15.167	0.33	0.24	0.141			0		I		4.95
15.250	0.33	0.24	0.142			0		I		4.96
15.333	0.32	0.24	0.142			0		I		4.98
15.417	0.32	0.24	0.143			0		I		5.00
15.500	0.31	0.25	0.143			0		I		5.01
15.583	0.31	0.25	0.144			0		I		5.02
15.667	0.28	0.25	0.144			0		I		5.03
15.750	0.27	0.25	0.144			0		I		5.04
15.833	0.26	0.25	0.144			0		I		5.04
15.917	0.26	0.25	0.144			0		I		5.04
16.000	0.26	0.25	0.145			0				5.05
16.083	0.24	0.25	0.145			0				5.05
16.167	0.13	0.25	0.144		I	0				5.03
16.250	0.09	0.25	0.143		I	0				5.00
16.333	0.07	0.24	0.142		I	0				4.97
16.417	0.06	0.24	0.141		I	0				4.93
16.500	0.06	0.24	0.139		I	0				4.90
16.583	0.05	0.24	0.138		I	0				4.86
16.667	0.05	0.23	0.137		I	0				4.82
16.750	0.04	0.23	0.136		I	0				4.78
16.833	0.04	0.23	0.134		I	0				4.75
16.917	0.04	0.23	0.133		I	0				4.71
17.000	0.04	0.23	0.132		I	0				4.67
17.083	0.04	0.22	0.131		I	0				4.63
17.167	0.06	0.22	0.129		I	0				4.60
17.250	0.06	0.22	0.128		I	0				4.57
17.333	0.07	0.22	0.127		I	0				4.53
17.417	0.07	0.22	0.126		I	0				4.50
17.500	0.07	0.21	0.125		I	0				4.48
17.583	0.07	0.21	0.124		I	0				4.45
17.667	0.07	0.21	0.123		I	0				4.42
17.750	0.07	0.21	0.122		I	0				4.39
17.833	0.07	0.21	0.121		I	0				4.37
17.917	0.06	0.21	0.120		I	0				4.34
18.000	0.06	0.20	0.119		I	0				4.31
18.083	0.06	0.20	0.118		I	0				4.28
18.167	0.05	0.20	0.117		I	0				4.25
18.250	0.05	0.20	0.116		I	0				4.23
18.333	0.05	0.20	0.115		I	0				4.20
18.417	0.05	0.19	0.114		I	0				4.17
18.500	0.05	0.19	0.113		I	0				4.15

18.583	0.05	0.19	0.112	I	0			4.12
18.667	0.05	0.19	0.111	I	0			4.09
18.750	0.04	0.19	0.110	I	0			4.07
18.833	0.04	0.18	0.109	I	0			4.04
18.917	0.03	0.18	0.108	I	0			4.01
19.000	0.03	0.18	0.107	I	0			3.98
19.083	0.03	0.18	0.106	I	0			3.95
19.167	0.04	0.18	0.105	I	0			3.92
19.250	0.04	0.17	0.104	I	0			3.89
19.333	0.04	0.17	0.103	I	0			3.87
19.417	0.05	0.17	0.103	I	0			3.84
19.500	0.05	0.17	0.102	I	0			3.82
19.583	0.05	0.16	0.101	I	0			3.79
19.667	0.05	0.16	0.100	I	0			3.77
19.750	0.04	0.16	0.099	I	0			3.75
19.833	0.04	0.16	0.099	I	0			3.72
19.917	0.03	0.16	0.098	I	0			3.70
20.000	0.03	0.15	0.097	I	0			3.67
20.083	0.03	0.15	0.096	I	0			3.65
20.167	0.04	0.15	0.095	I	0			3.62
20.250	0.04	0.15	0.094	I	0			3.60
20.333	0.04	0.15	0.094	I	0			3.58
20.417	0.04	0.14	0.093	I	0			3.56
20.500	0.04	0.14	0.092	I	0			3.54
20.583	0.04	0.14	0.092	I	0			3.52
20.667	0.04	0.14	0.091	I	0			3.50
20.750	0.04	0.14	0.090	I	0			3.48
20.833	0.04	0.13	0.090	I	0			3.46
20.917	0.03	0.13	0.089	I	0			3.44
21.000	0.03	0.13	0.088	I	0			3.42
21.083	0.03	0.13	0.087	I	0			3.40
21.167	0.04	0.12	0.087	I	0			3.38
21.250	0.04	0.12	0.086	I	0			3.36
21.333	0.04	0.12	0.086	I	0			3.34
21.417	0.03	0.12	0.085	I	0			3.33
21.500	0.03	0.12	0.085	I	0			3.31
21.583	0.03	0.11	0.084	I	0			3.29
21.667	0.04	0.11	0.083	I	0			3.28
21.750	0.04	0.11	0.083	I	0			3.26
21.833	0.04	0.11	0.082	I	0			3.25
21.917	0.03	0.11	0.082	I	0			3.23
22.000	0.03	0.10	0.081	I	0			3.22
22.083	0.03	0.10	0.081	I	0			3.20
22.167	0.04	0.10	0.080	I	0			3.19
22.250	0.04	0.10	0.080	I	0			3.17
22.333	0.04	0.10	0.080	I	0			3.16
22.417	0.03	0.10	0.079	I	0			3.15
22.500	0.03	0.09	0.079	I	0			3.14
22.583	0.03	0.09	0.078	I	0			3.12
22.667	0.03	0.09	0.078	I	0			3.11
22.750	0.03	0.09	0.077	I	0			3.10

22.833	0.03	0.09	0.077	I	0					3.08
22.917	0.03	0.09	0.076	I	0					3.07
23.000	0.03	0.09	0.076	I	0					3.06
23.083	0.03	0.08	0.076	I	0					3.05
23.167	0.03	0.08	0.075	I	0					3.04
23.250	0.03	0.08	0.075	I	0					3.03
23.333	0.03	0.08	0.075	I	0					3.01
23.417	0.03	0.08	0.074	I	0					3.00
23.500	0.03	0.08	0.074	I	0					2.99
23.583	0.03	0.08	0.073	I	0					2.98
23.667	0.03	0.07	0.073	I	0					2.97
23.750	0.03	0.07	0.073	I	0					2.96
23.833	0.03	0.07	0.073	I	0					2.95
23.917	0.03	0.07	0.072	I	0					2.94
24.000	0.03	0.07	0.072	I	0					2.94
24.083	0.02	0.07	0.072	I	0					2.93
24.167	0.01	0.06	0.071	I	0					2.92
24.250	0.00	0.06	0.071	I	0					2.90
24.333	0.00	0.06	0.071	I	0					2.89
24.417	0.00	0.06	0.070	I	0					2.88
24.500	0.00	0.06	0.070	I	0					2.87
24.583	0.00	0.06	0.069	I	0					2.85
24.667	0.00	0.05	0.069	I	0					2.84
24.750	0.00	0.05	0.069	I	0					2.83
24.833	0.00	0.05	0.068	I	0					2.82
24.917	0.00	0.05	0.068	I	0					2.81
25.000	0.00	0.05	0.068	I	0					2.80
25.083	0.00	0.05	0.067	I	0					2.79
25.167	0.00	0.04	0.067	I	0					2.78
25.250	0.00	0.04	0.067	I	0					2.77
25.333	0.00	0.04	0.066	I	0					2.76
25.417	0.00	0.04	0.066	I	0					2.75
25.500	0.00	0.04	0.066	I	0					2.74
25.583	0.00	0.04	0.066	I	0					2.74
25.667	0.00	0.04	0.065	I	0					2.73
25.750	0.00	0.03	0.065	I	0					2.72
25.833	0.00	0.03	0.065	I	0					2.71
25.917	0.00	0.03	0.065	I	0					2.71
26.000	0.00	0.03	0.064	I	0					2.70
26.083	0.00	0.03	0.064	I	0					2.69
26.167	0.00	0.03	0.064	I	0					2.69
26.250	0.00	0.03	0.064	IO						2.68
26.333	0.00	0.03	0.064	IO						2.67
26.417	0.00	0.03	0.063	IO						2.67
26.500	0.00	0.03	0.063	IO						2.66
26.583	0.00	0.02	0.063	IO						2.66
26.667	0.00	0.02	0.063	IO						2.65
26.750	0.00	0.02	0.063	IO						2.65
26.833	0.00	0.02	0.063	IO						2.64
26.917	0.00	0.02	0.062	IO						2.64
27.000	0.00	0.02	0.062	IO						2.63

27.083	0.00	0.02	0.062	IO					2.63
27.167	0.00	0.02	0.062	IO					2.62
27.250	0.00	0.02	0.062	IO					2.62
27.333	0.00	0.02	0.062	IO					2.62
27.417	0.00	0.02	0.062	IO					2.61
27.500	0.00	0.02	0.061	IO					2.61
27.583	0.00	0.02	0.061	IO					2.61
27.667	0.00	0.02	0.061	IO					2.60
27.750	0.00	0.02	0.061	IO					2.60
27.833	0.00	0.01	0.061	IO					2.60
27.917	0.00	0.01	0.061	IO					2.59
28.000	0.00	0.01	0.061	O					2.59
28.083	0.00	0.01	0.061	O					2.59
28.167	0.00	0.01	0.061	O					2.58
28.250	0.00	0.01	0.061	O					2.58
28.333	0.00	0.01	0.060	O					2.58
28.417	0.00	0.01	0.060	O					2.58
28.500	0.00	0.01	0.060	O					2.57
28.583	0.00	0.01	0.060	O					2.57
28.667	0.00	0.01	0.060	O					2.57
28.750	0.00	0.01	0.060	O					2.57
28.833	0.00	0.01	0.060	O					2.56
28.917	0.00	0.01	0.060	O					2.56
29.000	0.00	0.01	0.060	O					2.56
29.083	0.00	0.01	0.060	O					2.56
29.167	0.00	0.01	0.060	O					2.56
29.250	0.00	0.01	0.060	O					2.55
29.333	0.00	0.01	0.060	O					2.55
29.417	0.00	0.01	0.060	O					2.55
29.500	0.00	0.01	0.060	O					2.55
29.583	0.00	0.01	0.060	O					2.55
29.667	0.00	0.01	0.059	O					2.55
29.750	0.00	0.01	0.059	O					2.54
29.833	0.00	0.01	0.059	O					2.54
29.917	0.00	0.01	0.059	O					2.54
30.000	0.00	0.01	0.059	O					2.54
30.083	0.00	0.01	0.059	O					2.54
30.167	0.00	0.01	0.059	O					2.54
30.250	0.00	0.01	0.059	O					2.54
30.333	0.00	0.01	0.059	O					2.53
30.417	0.00	0.01	0.059	O					2.53
30.500	0.00	0.01	0.059	O					2.53
30.583	0.00	0.00	0.059	O					2.53
30.667	0.00	0.00	0.059	O					2.53
30.750	0.00	0.00	0.059	O					2.53
30.833	0.00	0.00	0.059	O					2.53
30.917	0.00	0.00	0.059	O					2.53
31.000	0.00	0.00	0.059	O					2.53
31.083	0.00	0.00	0.059	O					2.53
31.167	0.00	0.00	0.059	O					2.52
31.250	0.00	0.00	0.059	O					2.52

31.333	0.00	0.00	0.059	0					2.52
31.417	0.00	0.00	0.059	0					2.52
31.500	0.00	0.00	0.059	0					2.52
31.583	0.00	0.00	0.059	0					2.52
31.667	0.00	0.00	0.059	0					2.52
31.750	0.00	0.00	0.059	0					2.52
31.833	0.00	0.00	0.059	0					2.52
31.917	0.00	0.00	0.059	0					2.52
32.000	0.00	0.00	0.059	0					2.52
32.083	0.00	0.00	0.059	0					2.52
32.167	0.00	0.00	0.059	0					2.52
32.250	0.00	0.00	0.059	0					2.52
32.333	0.00	0.00	0.058	0					2.52
32.417	0.00	0.00	0.058	0					2.52
32.500	0.00	0.00	0.058	0					2.51
32.583	0.00	0.00	0.058	0					2.51
32.667	0.00	0.00	0.058	0					2.51
32.750	0.00	0.00	0.058	0					2.51
32.833	0.00	0.00	0.058	0					2.51
32.917	0.00	0.00	0.058	0					2.51
33.000	0.00	0.00	0.058	0					2.51
33.083	0.00	0.00	0.058	0					2.51
33.167	0.00	0.00	0.058	0					2.51
33.250	0.00	0.00	0.058	0					2.51
33.333	0.00	0.00	0.058	0					2.51
33.417	0.00	0.00	0.058	0					2.51
33.500	0.00	0.00	0.058	0					2.51
33.583	0.00	0.00	0.058	0					2.51
33.667	0.00	0.00	0.058	0					2.51
33.750	0.00	0.00	0.058	0					2.51
33.833	0.00	0.00	0.058	0					2.51
33.917	0.00	0.00	0.058	0					2.51
34.000	0.00	0.00	0.058	0					2.51
34.083	0.00	0.00	0.058	0					2.51
34.167	0.00	0.00	0.058	0					2.51
34.250	0.00	0.00	0.058	0					2.51
34.333	0.00	0.00	0.058	0					2.51
34.417	0.00	0.00	0.058	0					2.51
34.500	0.00	0.00	0.058	0					2.51
34.583	0.00	0.00	0.058	0					2.51

Remaining water in basin = 0.06 (Ac.Ft)

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

Number of intervals = 415

Time interval = 5.0 (Min.)

Maximum/Peak flow rate = 0.247 (CFS)

Total volume = 0.222 (Ac.Ft)

Status of hydrographs being held in storage

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

FLOOD HYDROGRAPH ROUTING PROGRAM
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Study date: 01/21/25

RCH GARAGE
100-YR 1-HR
DMA-A BMP-1
KIMLEY-HORN

Program License Serial Number 6443

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

From study/file name: rchph1a1100.rte
*****HYDROGRAPH DATA*****
Number of intervals = 19
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 5.250 (CFS)
Total volume = 0.158 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000

+++++
Process from Point/Station 0.000 to Point/Station 0.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 19
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

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

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-0*dt/2) (Ac.Ft)	(S+0*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.500	0.008	0.001	0.008	0.008
1.000	0.017	0.001	0.017	0.017
1.500	0.028	0.000	0.028	0.028
2.000	0.042	0.000	0.042	0.042
2.500	0.058	0.000	0.058	0.058
3.000	0.074	0.078	0.074	0.074
3.500	0.091	0.140	0.091	0.091
4.000	0.108	0.182	0.107	0.109
4.500	0.126	0.216	0.125	0.127
5.000	0.143	0.245	0.142	0.144
5.500	0.160	0.271	0.159	0.161
6.000	0.177	0.295	0.176	0.178
6.500	0.194	0.317	0.193	0.195
7.000	0.209	0.337	0.208	0.210
7.500	0.223	0.357	0.222	0.224
8.000	0.234	0.443	0.232	0.236
8.500	0.243	0.493	0.241	0.245
9.000	0.251	0.534	0.249	0.253
10.000	0.252	4.346	0.237	0.267

Hydrograph Detention Basin Routing

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

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	1.3	2.63	3.94	5.25	Depth (Ft.)
0.083	0.07	0.00	0.000	0					0.01
0.167	0.43	0.00	0.002	0 I					0.12
0.250	0.69	0.00	0.006	0 I					0.36
0.333	0.83	0.00	0.011	0 I					0.67
0.417	0.95	0.00	0.017	0 I					1.01
0.500	1.08	0.00	0.024	0 I					1.33
0.583	1.27	0.00	0.032	0 I					1.65
0.667	1.48	0.00	0.042	0 I					1.99
0.750	1.94	0.00	0.053	0	I				2.36
0.833	3.24	0.06	0.071	0		I			2.91
0.917	5.25	0.16	0.100	0				I	3.75
1.000	3.02	0.22	0.127	0		I			4.52
1.083	1.61	0.24	0.141	0	I				4.95
1.167	0.68	0.25	0.147	0 I					5.13
1.250	0.26	0.25	0.149	0					5.17
1.333	0.12	0.25	0.148	0					5.16
1.417	0.06	0.25	0.147	0					5.12
1.500	0.01	0.25	0.146	0					5.08

1.583	0.00	0.25	0.144	IO					5.03
1.667	0.00	0.24	0.142	IO					4.98
1.750	0.00	0.24	0.141	IO					4.94
1.833	0.00	0.24	0.139	IO					4.89
1.917	0.00	0.24	0.138	IO					4.84
2.000	0.00	0.23	0.136	IO					4.79
2.083	0.00	0.23	0.134	IO					4.74
2.167	0.00	0.23	0.133	IO					4.70
2.250	0.00	0.22	0.131	IO					4.65
2.333	0.00	0.22	0.130	IO					4.61
2.417	0.00	0.22	0.128	IO					4.56
2.500	0.00	0.22	0.127	IO					4.52
2.583	0.00	0.21	0.125	IO					4.48
2.667	0.00	0.21	0.124	IO					4.43
2.750	0.00	0.21	0.122	IO					4.39
2.833	0.00	0.21	0.121	IO					4.35
2.917	0.00	0.20	0.119	IO					4.32
3.000	0.00	0.20	0.118	IO					4.28
3.083	0.00	0.20	0.117	IO					4.24
3.167	0.00	0.20	0.115	IO					4.20
3.250	0.00	0.19	0.114	IO					4.16
3.333	0.00	0.19	0.113	IO					4.13
3.417	0.00	0.19	0.111	IO					4.09
3.500	0.00	0.19	0.110	IO					4.06
3.583	0.00	0.18	0.109	IO					4.02
3.667	0.00	0.18	0.107	IO					3.98
3.750	0.00	0.18	0.106	IO					3.95
3.833	0.00	0.17	0.105	IO					3.91
3.917	0.00	0.17	0.104	IO					3.88
4.000	0.00	0.17	0.103	IO					3.84
4.083	0.00	0.17	0.101	IO					3.81
4.167	0.00	0.16	0.100	0					3.78
4.250	0.00	0.16	0.099	0					3.74
4.333	0.00	0.16	0.098	0					3.71
4.417	0.00	0.16	0.097	0					3.68
4.500	0.00	0.15	0.096	0					3.65
4.583	0.00	0.15	0.095	0					3.62
4.667	0.00	0.15	0.094	0					3.59
4.750	0.00	0.14	0.093	0					3.56
4.833	0.00	0.14	0.092	0					3.53
4.917	0.00	0.14	0.091	0					3.50
5.000	0.00	0.14	0.090	0					3.47
5.083	0.00	0.13	0.089	0					3.44
5.167	0.00	0.13	0.088	0					3.42
5.250	0.00	0.13	0.087	0					3.39
5.333	0.00	0.12	0.086	0					3.37
5.417	0.00	0.12	0.086	0					3.34
5.500	0.00	0.12	0.085	0					3.32
5.583	0.00	0.11	0.084	0					3.29
5.667	0.00	0.11	0.083	0					3.27
5.750	0.00	0.11	0.082	0					3.25

5.833	0.00	0.11	0.082	0					3.23
5.917	0.00	0.10	0.081	0					3.21
6.000	0.00	0.10	0.080	0					3.19
6.083	0.00	0.10	0.080	0					3.17
6.167	0.00	0.10	0.079	0					3.15
6.250	0.00	0.09	0.078	0					3.13
6.333	0.00	0.09	0.078	0					3.11
6.417	0.00	0.09	0.077	0					3.09
6.500	0.00	0.09	0.076	0					3.07
6.583	0.00	0.08	0.076	0					3.05
6.667	0.00	0.08	0.075	0					3.04
6.750	0.00	0.08	0.075	0					3.02
6.833	0.00	0.08	0.074	0					3.00
6.917	0.00	0.08	0.074	0					2.99
7.000	0.00	0.07	0.073	0					2.97
7.083	0.00	0.07	0.073	0					2.96
7.167	0.00	0.07	0.072	0					2.94
7.250	0.00	0.07	0.072	0					2.93
7.333	0.00	0.06	0.071	0					2.91
7.417	0.00	0.06	0.071	0					2.90
7.500	0.00	0.06	0.070	0					2.89
7.583	0.00	0.06	0.070	0					2.87
7.667	0.00	0.06	0.070	0					2.86
7.750	0.00	0.05	0.069	0					2.85
7.833	0.00	0.05	0.069	0					2.84
7.917	0.00	0.05	0.068	0					2.83
8.000	0.00	0.05	0.068	0					2.82
8.083	0.00	0.05	0.068	0					2.80
8.167	0.00	0.05	0.067	0					2.79
8.250	0.00	0.04	0.067	0					2.79
8.333	0.00	0.04	0.067	0					2.78
8.417	0.00	0.04	0.067	0					2.77
8.500	0.00	0.04	0.066	0					2.76
8.583	0.00	0.04	0.066	0					2.75
8.667	0.00	0.04	0.066	0					2.74
8.750	0.00	0.04	0.065	0					2.73
8.833	0.00	0.04	0.065	0					2.73
8.917	0.00	0.03	0.065	0					2.72
9.000	0.00	0.03	0.065	0					2.71
9.083	0.00	0.03	0.065	0					2.70
9.167	0.00	0.03	0.064	0					2.70
9.250	0.00	0.03	0.064	0					2.69
9.333	0.00	0.03	0.064	0					2.68
9.417	0.00	0.03	0.064	0					2.68
9.500	0.00	0.03	0.064	0					2.67
9.583	0.00	0.03	0.063	0					2.67
9.667	0.00	0.03	0.063	0					2.66
9.750	0.00	0.02	0.063	0					2.66
9.833	0.00	0.02	0.063	0					2.65
9.917	0.00	0.02	0.063	0					2.65
10.000	0.00	0.02	0.063	0					2.64

10.083	0.00	0.02	0.062	0					2.64
10.167	0.00	0.02	0.062	0					2.63
10.250	0.00	0.02	0.062	0					2.63
10.333	0.00	0.02	0.062	0					2.62
10.417	0.00	0.02	0.062	0					2.62
10.500	0.00	0.02	0.062	0					2.62
10.583	0.00	0.02	0.062	0					2.61
10.667	0.00	0.02	0.061	0					2.61
10.750	0.00	0.02	0.061	0					2.60
10.833	0.00	0.02	0.061	0					2.60
10.917	0.00	0.02	0.061	0					2.60
11.000	0.00	0.01	0.061	0					2.59
11.083	0.00	0.01	0.061	0					2.59
11.167	0.00	0.01	0.061	0					2.59
11.250	0.00	0.01	0.061	0					2.59
11.333	0.00	0.01	0.061	0					2.58
11.417	0.00	0.01	0.061	0					2.58
11.500	0.00	0.01	0.060	0					2.58
11.583	0.00	0.01	0.060	0					2.57
11.667	0.00	0.01	0.060	0					2.57
11.750	0.00	0.01	0.060	0					2.57
11.833	0.00	0.01	0.060	0					2.57
11.917	0.00	0.01	0.060	0					2.57
12.000	0.00	0.01	0.060	0					2.56
12.083	0.00	0.01	0.060	0					2.56
12.167	0.00	0.01	0.060	0					2.56
12.250	0.00	0.01	0.060	0					2.56
12.333	0.00	0.01	0.060	0					2.56
12.417	0.00	0.01	0.060	0					2.55
12.500	0.00	0.01	0.060	0					2.55
12.583	0.00	0.01	0.060	0					2.55
12.667	0.00	0.01	0.060	0					2.55
12.750	0.00	0.01	0.059	0					2.55
12.833	0.00	0.01	0.059	0					2.54
12.917	0.00	0.01	0.059	0					2.54
13.000	0.00	0.01	0.059	0					2.54
13.083	0.00	0.01	0.059	0					2.54
13.167	0.00	0.01	0.059	0					2.54
13.250	0.00	0.01	0.059	0					2.54
13.333	0.00	0.01	0.059	0					2.54
13.417	0.00	0.01	0.059	0					2.54
13.500	0.00	0.01	0.059	0					2.53
13.583	0.00	0.01	0.059	0					2.53
13.667	0.00	0.01	0.059	0					2.53
13.750	0.00	0.00	0.059	0					2.53
13.833	0.00	0.00	0.059	0					2.53
13.917	0.00	0.00	0.059	0					2.53
14.000	0.00	0.00	0.059	0					2.53
14.083	0.00	0.00	0.059	0					2.53
14.167	0.00	0.00	0.059	0					2.53
14.250	0.00	0.00	0.059	0					2.53

14.333	0.00	0.00	0.059	0					2.52
14.417	0.00	0.00	0.059	0					2.52
14.500	0.00	0.00	0.059	0					2.52
14.583	0.00	0.00	0.059	0					2.52
14.667	0.00	0.00	0.059	0					2.52
14.750	0.00	0.00	0.059	0					2.52
14.833	0.00	0.00	0.059	0					2.52
14.917	0.00	0.00	0.059	0					2.52
15.000	0.00	0.00	0.059	0					2.52
15.083	0.00	0.00	0.059	0					2.52
15.167	0.00	0.00	0.059	0					2.52
15.250	0.00	0.00	0.059	0					2.52
15.333	0.00	0.00	0.059	0					2.52
15.417	0.00	0.00	0.059	0					2.52
15.500	0.00	0.00	0.058	0					2.52
15.583	0.00	0.00	0.058	0					2.51
15.667	0.00	0.00	0.058	0					2.51
15.750	0.00	0.00	0.058	0					2.51
15.833	0.00	0.00	0.058	0					2.51
15.917	0.00	0.00	0.058	0					2.51
16.000	0.00	0.00	0.058	0					2.51
16.083	0.00	0.00	0.058	0					2.51
16.167	0.00	0.00	0.058	0					2.51
16.250	0.00	0.00	0.058	0					2.51
16.333	0.00	0.00	0.058	0					2.51
16.417	0.00	0.00	0.058	0					2.51
16.500	0.00	0.00	0.058	0					2.51
16.583	0.00	0.00	0.058	0					2.51
16.667	0.00	0.00	0.058	0					2.51
16.750	0.00	0.00	0.058	0					2.51
16.833	0.00	0.00	0.058	0					2.51
16.917	0.00	0.00	0.058	0					2.51
17.000	0.00	0.00	0.058	0					2.51
17.083	0.00	0.00	0.058	0					2.51
17.167	0.00	0.00	0.058	0					2.51
17.250	0.00	0.00	0.058	0					2.51
17.333	0.00	0.00	0.058	0					2.51
17.417	0.00	0.00	0.058	0					2.51
17.500	0.00	0.00	0.058	0					2.51
17.583	0.00	0.00	0.058	0					2.51
17.667	0.00	0.00	0.058	0					2.51
17.750	0.00	0.00	0.058	0					2.51

Remaining water in basin = 0.06 (Ac.Ft)

*****HYDROGRAPH DATA*****
Number of intervals = 213
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.254 (CFS)

Total volume = 0.100 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018
Study date: 01/21/25

RCH GARAGE
100-YEAR 24-HR
DMA-A BMP-1
KIMLEY-HORN

Program License Serial Number 6443

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

From study/file name: RCHPH1A24100.rte
*****HYDROGRAPH DATA*****
Number of intervals = 295
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 0.872 (CFS)
Total volume = 0.461 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000

+++++
Process from Point/Station 0.000 to Point/Station 0.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 295
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 0.00(Ft.)

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

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
0.500	0.008	0.001	0.008	0.008
1.000	0.017	0.001	0.017	0.017
1.500	0.028	0.000	0.028	0.028
2.000	0.042	0.000	0.042	0.042
2.500	0.058	0.000	0.058	0.058
3.000	0.074	0.078	0.074	0.074
3.500	0.091	0.140	0.091	0.091
4.000	0.108	0.182	0.107	0.109
4.500	0.126	0.216	0.125	0.127
5.000	0.143	0.245	0.142	0.144
5.500	0.160	0.271	0.159	0.161
6.000	0.177	0.295	0.176	0.178
6.500	0.194	0.317	0.193	0.195
7.000	0.209	0.337	0.208	0.210
7.500	0.223	0.357	0.222	0.224
8.000	0.234	0.443	0.232	0.236
8.500	0.243	0.493	0.241	0.245
9.000	0.251	0.534	0.249	0.253
10.000	0.252	4.346	0.237	0.267

Hydrograph Detention Basin Routing

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

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	0.2	0.44	0.65	0.87	Depth (Ft.)
0.083	0.00	0.00	0.000	O					0.00
0.167	0.03	0.00	0.000	O					0.01
0.250	0.04	0.00	0.000	O I					0.02
0.333	0.04	0.00	0.001	O I					0.04
0.417	0.05	0.00	0.001	O I					0.06
0.500	0.06	0.00	0.001	O I					0.08
0.583	0.06	0.00	0.002	O I					0.11
0.667	0.06	0.00	0.002	O I					0.13
0.750	0.06	0.00	0.003	O I					0.16
0.833	0.06	0.00	0.003	O I					0.19
0.917	0.08	0.00	0.004	O I					0.22
1.000	0.08	0.00	0.004	O I					0.25
1.083	0.08	0.00	0.005	O I					0.29
1.167	0.07	0.00	0.005	O I					0.32
1.250	0.07	0.00	0.006	O I					0.35
1.333	0.06	0.00	0.006	O I					0.38
1.417	0.06	0.00	0.006	O I					0.40
1.500	0.06	0.00	0.007	O I					0.43

1.583	0.06	0.00	0.007	0	I						0.46
1.667	0.06	0.00	0.008	0	I						0.48
1.750	0.06	0.00	0.008	0	I						0.51
1.833	0.07	0.00	0.009	0	I						0.53
1.917	0.08	0.00	0.009	0	I						0.56
2.000	0.08	0.00	0.010	0	I						0.59
2.083	0.08	0.00	0.010	0	I						0.62
2.167	0.08	0.00	0.011	0	I						0.65
2.250	0.08	0.00	0.011	0	I						0.68
2.333	0.08	0.00	0.012	0	I						0.71
2.417	0.08	0.00	0.012	0	I						0.75
2.500	0.08	0.00	0.013	0	I						0.78
2.583	0.09	0.00	0.014	0	I						0.81
2.667	0.10	0.00	0.014	0	I						0.84
2.750	0.10	0.00	0.015	0	I						0.88
2.833	0.10	0.00	0.016	0	I						0.92
2.917	0.10	0.00	0.016	0	I						0.96
3.000	0.10	0.00	0.017	0	I						1.00
3.083	0.10	0.00	0.018	0	I						1.03
3.167	0.10	0.00	0.018	0	I						1.06
3.250	0.10	0.00	0.019	0	I						1.10
3.333	0.10	0.00	0.020	0	I						1.13
3.417	0.10	0.00	0.021	0	I						1.16
3.500	0.10	0.00	0.021	0	I						1.19
3.583	0.10	0.00	0.022	0	I						1.23
3.667	0.10	0.00	0.023	0	I						1.26
3.750	0.10	0.00	0.023	0	I						1.29
3.833	0.11	0.00	0.024	0	I						1.33
3.917	0.12	0.00	0.025	0	I						1.36
4.000	0.12	0.00	0.026	0	I						1.40
4.083	0.12	0.00	0.027	0	I						1.44
4.167	0.13	0.00	0.027	0	I						1.48
4.250	0.13	0.00	0.028	0	I						1.51
4.333	0.13	0.00	0.029	0	I						1.54
4.417	0.14	0.00	0.030	0	I						1.58
4.500	0.14	0.00	0.031	0	I						1.61
4.583	0.15	0.00	0.032	0	I						1.65
4.667	0.15	0.00	0.033	0	I						1.68
4.750	0.15	0.00	0.034	0	I						1.72
4.833	0.15	0.00	0.035	0	I						1.75
4.917	0.16	0.00	0.036	0	I						1.79
5.000	0.16	0.00	0.037	0	I						1.83
5.083	0.16	0.00	0.038	0	I						1.87
5.167	0.14	0.00	0.039	0	I						1.91
5.250	0.13	0.00	0.040	0	I						1.94
5.333	0.13	0.00	0.041	0	I						1.98
5.417	0.14	0.00	0.042	0	I						2.01
5.500	0.14	0.00	0.043	0	I						2.04
5.583	0.15	0.00	0.044	0	I						2.07
5.667	0.16	0.00	0.045	0	I						2.10
5.750	0.16	0.00	0.046	0	I						2.14

5.833	0.17	0.00	0.048	0	I					2.17
5.917	0.17	0.00	0.049	0	I					2.21
6.000	0.17	0.00	0.050	0	I					2.24
6.083	0.17	0.00	0.051	0	I					2.28
6.167	0.18	0.00	0.052	0	I					2.32
6.250	0.19	0.00	0.053	0	I					2.36
6.333	0.19	0.00	0.055	0	I					2.40
6.417	0.19	0.00	0.056	0	I					2.44
6.500	0.19	0.00	0.057	0	I					2.48
6.583	0.19	0.00	0.059	0	I					2.52
6.667	0.20	0.01	0.060	0	I					2.56
6.750	0.21	0.02	0.061	0	I					2.60
6.833	0.21	0.02	0.063	0	I					2.64
6.917	0.21	0.03	0.064	0	I					2.68
7.000	0.21	0.03	0.065	0	I					2.72
7.083	0.21	0.04	0.066	0	I					2.76
7.167	0.21	0.05	0.067	0	I					2.79
7.250	0.21	0.05	0.068	0	I					2.83
7.333	0.21	0.06	0.070	0	I					2.86
7.417	0.22	0.06	0.071	0	I					2.90
7.500	0.23	0.07	0.072	0	I					2.93
7.583	0.23	0.07	0.073	0	I					2.96
7.667	0.24	0.08	0.074	0	I					3.00
7.750	0.25	0.08	0.075	0	I					3.03
7.833	0.25	0.09	0.076	0	I					3.07
7.917	0.26	0.09	0.077	0	I					3.10
8.000	0.27	0.09	0.079	0	I					3.14
8.083	0.28	0.10	0.080	0	I					3.17
8.167	0.30	0.10	0.081	0	I					3.21
8.250	0.31	0.11	0.082	0	I					3.25
8.333	0.31	0.11	0.084	0	I					3.29
8.417	0.31	0.12	0.085	0	I					3.33
8.500	0.31	0.12	0.087	0	I					3.37
8.583	0.32	0.13	0.088	0	I					3.41
8.667	0.33	0.13	0.089	0	I					3.44
8.750	0.33	0.14	0.090	0	I					3.48
8.833	0.34	0.14	0.092	0	I					3.52
8.917	0.35	0.15	0.093	0	I					3.56
9.000	0.35	0.15	0.095	0	I					3.60
9.083	0.36	0.15	0.096	0	I					3.65
9.167	0.38	0.16	0.097	0	I					3.69
9.250	0.39	0.16	0.099	0	I					3.74
9.333	0.40	0.16	0.101	0	I					3.78
9.417	0.41	0.17	0.102	0	I					3.83
9.500	0.42	0.17	0.104	0	I					3.88
9.583	0.42	0.18	0.106	0	I					3.93
9.667	0.43	0.18	0.107	0	I					3.98
9.750	0.44	0.18	0.109	0	I					4.03
9.833	0.44	0.19	0.111	0	I					4.08
9.917	0.45	0.19	0.113	0	I					4.13
10.000	0.46	0.19	0.114	0	I					4.18

10.083	0.45	0.20	0.116	0	I			4.23
10.167	0.37	0.20	0.118	0	I			4.27
10.250	0.34	0.20	0.119	0	I			4.30
10.333	0.32	0.20	0.120	0	I			4.32
10.417	0.32	0.21	0.120	0	I			4.34
10.500	0.32	0.21	0.121	0	I			4.36
10.583	0.33	0.21	0.122	0	I			4.39
10.667	0.38	0.21	0.123	0	I			4.41
10.750	0.40	0.21	0.124	0	I			4.45
10.833	0.41	0.22	0.125	0	I			4.49
10.917	0.42	0.22	0.127	0	I			4.52
11.000	0.42	0.22	0.128	0	I			4.57
11.083	0.42	0.22	0.130	0	I			4.60
11.167	0.41	0.22	0.131	0	I			4.64
11.250	0.40	0.23	0.132	0	I			4.68
11.333	0.40	0.23	0.133	0	I			4.71
11.417	0.40	0.23	0.134	0	I			4.75
11.500	0.40	0.23	0.136	0	I			4.78
11.583	0.39	0.23	0.137	0	I			4.82
11.667	0.37	0.24	0.138	0	I			4.85
11.750	0.36	0.24	0.139	0	I			4.87
11.833	0.36	0.24	0.139	0	I			4.90
11.917	0.37	0.24	0.140	0	I			4.92
12.000	0.37	0.24	0.141	0	I			4.95
12.083	0.40	0.24	0.142	0	I			4.98
12.167	0.51	0.25	0.144	0	I			5.02
12.250	0.55	0.25	0.146	0	I			5.08
12.333	0.57	0.25	0.148	0	I			5.14
12.417	0.60	0.26	0.150	0	I			5.21
12.500	0.61	0.26	0.152	0	I			5.28
12.583	0.62	0.26	0.155	0	I			5.35
12.667	0.66	0.27	0.157	0	I			5.42
12.750	0.67	0.27	0.160	0	I			5.50
12.833	0.68	0.28	0.163	0	I			5.59
12.917	0.70	0.28	0.166	0	I			5.67
13.000	0.71	0.28	0.169	0	I			5.76
13.083	0.73	0.29	0.172	0	I			5.84
13.167	0.81	0.29	0.175	0	I			5.94
13.250	0.85	0.30	0.179	0	I			6.05
13.333	0.86	0.30	0.182	0	I			6.16
13.417	0.87	0.31	0.186	0	I			6.28
13.500	0.87	0.31	0.190	0	I			6.39
13.583	0.84	0.32	0.194	0	I			6.50
13.667	0.66	0.32	0.197	0	I			6.60
13.750	0.59	0.32	0.199	0	I			6.67
13.833	0.56	0.33	0.201	0	I			6.72
13.917	0.55	0.33	0.202	0	I			6.78
14.000	0.54	0.33	0.204	0	I			6.83
14.083	0.56	0.33	0.205	0	I			6.88
14.167	0.62	0.33	0.207	0	I			6.93
14.250	0.65	0.34	0.209	0	I			7.00

14.333	0.66	0.34	0.211			0		I		7.08
14.417	0.64	0.34	0.213			0		I		7.16
14.500	0.64	0.35	0.215			0		I		7.23
14.583	0.64	0.35	0.217			0		I		7.30
14.667	0.64	0.35	0.219			0		I		7.37
14.750	0.64	0.35	0.221			0		I		7.44
14.833	0.64	0.36	0.223			0		I		7.51
14.917	0.62	0.37	0.225			0		I		7.60
15.000	0.62	0.39	0.227			0		I		7.67
15.083	0.61	0.40	0.228			0		I		7.74
15.167	0.59	0.41	0.230			0		I		7.80
15.250	0.59	0.42	0.231			0		I		7.86
15.333	0.58	0.43	0.232			0		I		7.91
15.417	0.57	0.44	0.233			0		I		7.95
15.500	0.56	0.44	0.234			0		I		7.99
15.583	0.54	0.45	0.235			0	I			8.03
15.667	0.48	0.45	0.235			0	I			8.06
15.750	0.45	0.45	0.235			0				8.06
15.833	0.44	0.45	0.235			0				8.06
15.917	0.44	0.45	0.235			0				8.06
16.000	0.44	0.45	0.235			0				8.06
16.083	0.40	0.45	0.235			I	0			8.04
16.167	0.21	0.44	0.234		I		0			7.99
16.250	0.14	0.43	0.232		I		0			7.91
16.333	0.11	0.41	0.230		I		0			7.82
16.417	0.09	0.40	0.228		I		0			7.72
16.500	0.09	0.38	0.226		I		0			7.63
16.583	0.08	0.36	0.224		I		0			7.54
16.667	0.07	0.36	0.222		I		0			7.46
16.750	0.07	0.35	0.220		I		0			7.39
16.833	0.06	0.35	0.218		I		0			7.32
16.917	0.06	0.35	0.216		I		0			7.25
17.000	0.06	0.34	0.214		I		0			7.18
17.083	0.07	0.34	0.212		I		0			7.11
17.167	0.09	0.34	0.210		I		0			7.05
17.250	0.10	0.34	0.209		I		0			6.99
17.333	0.10	0.33	0.207		I		0			6.94
17.417	0.10	0.33	0.206		I		0			6.88
17.500	0.10	0.33	0.204		I		0			6.83
17.583	0.10	0.33	0.202		I		0			6.78
17.667	0.10	0.33	0.201		I		0			6.73
17.750	0.10	0.32	0.199		I		0			6.68
17.833	0.10	0.32	0.198		I		0			6.63
17.917	0.09	0.32	0.196		I		0			6.58
18.000	0.09	0.32	0.195		I		0			6.52
18.083	0.09	0.32	0.193		I		0			6.47
18.167	0.08	0.31	0.192		I		0			6.43
18.250	0.08	0.31	0.190		I		0			6.38
18.333	0.08	0.31	0.188		I		0			6.34
18.417	0.08	0.31	0.187		I		0			6.29
18.500	0.08	0.31	0.185		I		0			6.24

18.583	0.08	0.30	0.184	I	0				6.20
18.667	0.07	0.30	0.182	I	0				6.15
18.750	0.07	0.30	0.181	I	0				6.11
18.833	0.06	0.30	0.179	I	0				6.06
18.917	0.05	0.30	0.177	I	0				6.01
19.000	0.05	0.29	0.176	I	0				5.96
19.083	0.05	0.29	0.174	I	0				5.91
19.167	0.06	0.29	0.172	I	0				5.86
19.250	0.06	0.29	0.171	I	0				5.82
19.333	0.06	0.28	0.169	I	0				5.77
19.417	0.08	0.28	0.168	I	0				5.73
19.500	0.08	0.28	0.166	I	0				5.69
19.583	0.08	0.28	0.165	I	0				5.65
19.667	0.07	0.28	0.164	I	0				5.60
19.750	0.07	0.27	0.162	I	0				5.56
19.833	0.06	0.27	0.161	I	0				5.52
19.917	0.05	0.27	0.159	I	0				5.48
20.000	0.05	0.27	0.158	I	0				5.43
20.083	0.05	0.27	0.156	I	0				5.39
20.167	0.06	0.26	0.155	I	0				5.34
20.250	0.06	0.26	0.153	I	0				5.30
20.333	0.06	0.26	0.152	I	0				5.26
20.417	0.06	0.26	0.151	I	0				5.22
20.500	0.06	0.25	0.149	I	0				5.18
20.583	0.06	0.25	0.148	I	0				5.15
20.667	0.06	0.25	0.147	I	0				5.11
20.750	0.06	0.25	0.145	I	0				5.07
20.833	0.06	0.25	0.144	I	0				5.03
20.917	0.05	0.24	0.143	I	0				4.99
21.000	0.05	0.24	0.141	I	0				4.95
21.083	0.05	0.24	0.140	I	0				4.91
21.167	0.06	0.24	0.139	I	0				4.88
21.250	0.06	0.24	0.138	I	0				4.84
21.333	0.06	0.23	0.136	I	0				4.80
21.417	0.05	0.23	0.135	I	0				4.77
21.500	0.04	0.23	0.134	I	0				4.73
21.583	0.05	0.23	0.133	I	0				4.69
21.667	0.06	0.23	0.131	I	0				4.66
21.750	0.06	0.22	0.130	I	0				4.62
21.833	0.06	0.22	0.129	I	0				4.59
21.917	0.05	0.22	0.128	I	0				4.56
22.000	0.04	0.22	0.127	I	0				4.52
22.083	0.05	0.22	0.126	I	0				4.49
22.167	0.06	0.21	0.124	I	0				4.46
22.250	0.06	0.21	0.123	I	0				4.43
22.333	0.06	0.21	0.122	I	0				4.40
22.417	0.05	0.21	0.121	I	0				4.37
22.500	0.04	0.21	0.120	I	0				4.34
22.583	0.04	0.20	0.119	I	0				4.31
22.667	0.04	0.20	0.118	I	0				4.28
22.750	0.04	0.20	0.117	I	0				4.25

22.833	0.04	0.20	0.116	I	0					4.22
22.917	0.04	0.19	0.115	I	0					4.19
23.000	0.04	0.19	0.114	I	0					4.16
23.083	0.04	0.19	0.113	I	0					4.13
23.167	0.04	0.19	0.112	I	0					4.10
23.250	0.04	0.19	0.111	I	0					4.07
23.333	0.04	0.19	0.110	I	0					4.05
23.417	0.04	0.18	0.109	I	0					4.02
23.500	0.04	0.18	0.108	I	0					3.99
23.583	0.04	0.18	0.107	I	0					3.96
23.667	0.04	0.18	0.106	I	0					3.94
23.750	0.04	0.17	0.105	I	0					3.91
23.833	0.04	0.17	0.104	I	0					3.88
23.917	0.04	0.17	0.103	I	0					3.86
24.000	0.04	0.17	0.102	I	0					3.83
24.083	0.04	0.17	0.101	I	0					3.81
24.167	0.02	0.16	0.100	I	0					3.78
24.250	0.01	0.16	0.099	I	0					3.75
24.333	0.00	0.16	0.098	I	0					3.72
24.417	0.00	0.16	0.097	I	0					3.68
24.500	0.00	0.15	0.096	I	0					3.65
24.583	0.00	0.15	0.095	I	0					3.62
24.667	0.00	0.15	0.094	I	0					3.59
24.750	0.00	0.15	0.093	I	0					3.56
24.833	0.00	0.14	0.092	I	0					3.53
24.917	0.00	0.14	0.091	I	0					3.51
25.000	0.00	0.14	0.090	I	0					3.48
25.083	0.00	0.13	0.089	I	0					3.45
25.167	0.00	0.13	0.088	I	0					3.42
25.250	0.00	0.13	0.087	I	0					3.40
25.333	0.00	0.12	0.087	I	0					3.37
25.417	0.00	0.12	0.086	I	0					3.35
25.500	0.00	0.12	0.085	I	0					3.32
25.583	0.00	0.12	0.084	I	0					3.30
25.667	0.00	0.11	0.083	I	0					3.28
25.750	0.00	0.11	0.083	I	0					3.25
25.833	0.00	0.11	0.082	I	0					3.23
25.917	0.00	0.10	0.081	I	0					3.21
26.000	0.00	0.10	0.080	I	0					3.19
26.083	0.00	0.10	0.080	I	0					3.17
26.167	0.00	0.10	0.079	I	0					3.15
26.250	0.00	0.09	0.078	I	0					3.13
26.333	0.00	0.09	0.078	I	0					3.11
26.417	0.00	0.09	0.077	I	0					3.09
26.500	0.00	0.09	0.077	I	0					3.07
26.583	0.00	0.09	0.076	I	0					3.06
26.667	0.00	0.08	0.075	I	0					3.04
26.750	0.00	0.08	0.075	I	0					3.02
26.833	0.00	0.08	0.074	I	0					3.01
26.917	0.00	0.08	0.074	I	0					2.99
27.000	0.00	0.07	0.073	I	0					2.97

27.083	0.00	0.07	0.073	I 0					2.96
27.167	0.00	0.07	0.072	I 0					2.94
27.250	0.00	0.07	0.072	I 0					2.93
27.333	0.00	0.06	0.071	I 0					2.92
27.417	0.00	0.06	0.071	I 0					2.90
27.500	0.00	0.06	0.070	I 0					2.89
27.583	0.00	0.06	0.070	I 0					2.88
27.667	0.00	0.06	0.070	I 0					2.86
27.750	0.00	0.05	0.069	I 0					2.85
27.833	0.00	0.05	0.069	IO					2.84
27.917	0.00	0.05	0.069	IO					2.83
28.000	0.00	0.05	0.068	IO					2.82
28.083	0.00	0.05	0.068	IO					2.81
28.167	0.00	0.05	0.067	IO					2.80
28.250	0.00	0.04	0.067	IO					2.79
28.333	0.00	0.04	0.067	IO					2.78
28.417	0.00	0.04	0.067	IO					2.77
28.500	0.00	0.04	0.066	IO					2.76
28.583	0.00	0.04	0.066	IO					2.75
28.667	0.00	0.04	0.066	IO					2.74
28.750	0.00	0.04	0.066	IO					2.73
28.833	0.00	0.04	0.065	IO					2.73
28.917	0.00	0.03	0.065	IO					2.72
29.000	0.00	0.03	0.065	IO					2.71
29.083	0.00	0.03	0.065	IO					2.71
29.167	0.00	0.03	0.064	IO					2.70
29.250	0.00	0.03	0.064	IO					2.69
29.333	0.00	0.03	0.064	IO					2.69
29.417	0.00	0.03	0.064	IO					2.68
29.500	0.00	0.03	0.064	0					2.67
29.583	0.00	0.03	0.063	0					2.67
29.667	0.00	0.03	0.063	0					2.66
29.750	0.00	0.02	0.063	0					2.66
29.833	0.00	0.02	0.063	0					2.65
29.917	0.00	0.02	0.063	0					2.65
30.000	0.00	0.02	0.063	0					2.64
30.083	0.00	0.02	0.062	0					2.64
30.167	0.00	0.02	0.062	0					2.63
30.250	0.00	0.02	0.062	0					2.63
30.333	0.00	0.02	0.062	0					2.62
30.417	0.00	0.02	0.062	0					2.62
30.500	0.00	0.02	0.062	0					2.62
30.583	0.00	0.02	0.062	0					2.61
30.667	0.00	0.02	0.061	0					2.61
30.750	0.00	0.02	0.061	0					2.60
30.833	0.00	0.02	0.061	0					2.60
30.917	0.00	0.02	0.061	0					2.60
31.000	0.00	0.01	0.061	0					2.59
31.083	0.00	0.01	0.061	0					2.59
31.167	0.00	0.01	0.061	0					2.59
31.250	0.00	0.01	0.061	0					2.59

31.333	0.00	0.01	0.061	0					2.58
31.417	0.00	0.01	0.061	0					2.58
31.500	0.00	0.01	0.060	0					2.58
31.583	0.00	0.01	0.060	0					2.57
31.667	0.00	0.01	0.060	0					2.57
31.750	0.00	0.01	0.060	0					2.57
31.833	0.00	0.01	0.060	0					2.57
31.917	0.00	0.01	0.060	0					2.57
32.000	0.00	0.01	0.060	0					2.56
32.083	0.00	0.01	0.060	0					2.56
32.167	0.00	0.01	0.060	0					2.56
32.250	0.00	0.01	0.060	0					2.56
32.333	0.00	0.01	0.060	0					2.56
32.417	0.00	0.01	0.060	0					2.55
32.500	0.00	0.01	0.060	0					2.55
32.583	0.00	0.01	0.060	0					2.55
32.667	0.00	0.01	0.060	0					2.55
32.750	0.00	0.01	0.059	0					2.55
32.833	0.00	0.01	0.059	0					2.55
32.917	0.00	0.01	0.059	0					2.54
33.000	0.00	0.01	0.059	0					2.54
33.083	0.00	0.01	0.059	0					2.54
33.167	0.00	0.01	0.059	0					2.54
33.250	0.00	0.01	0.059	0					2.54
33.333	0.00	0.01	0.059	0					2.54
33.417	0.00	0.01	0.059	0					2.54
33.500	0.00	0.01	0.059	0					2.53
33.583	0.00	0.01	0.059	0					2.53
33.667	0.00	0.01	0.059	0					2.53
33.750	0.00	0.00	0.059	0					2.53
33.833	0.00	0.00	0.059	0					2.53
33.917	0.00	0.00	0.059	0					2.53
34.000	0.00	0.00	0.059	0					2.53
34.083	0.00	0.00	0.059	0					2.53
34.167	0.00	0.00	0.059	0					2.53
34.250	0.00	0.00	0.059	0					2.53
34.333	0.00	0.00	0.059	0					2.52
34.417	0.00	0.00	0.059	0					2.52
34.500	0.00	0.00	0.059	0					2.52
34.583	0.00	0.00	0.059	0					2.52
34.667	0.00	0.00	0.059	0					2.52
34.750	0.00	0.00	0.059	0					2.52
34.833	0.00	0.00	0.059	0					2.52
34.917	0.00	0.00	0.059	0					2.52
35.000	0.00	0.00	0.059	0					2.52
35.083	0.00	0.00	0.059	0					2.52
35.167	0.00	0.00	0.059	0					2.52
35.250	0.00	0.00	0.059	0					2.52
35.333	0.00	0.00	0.059	0					2.52
35.417	0.00	0.00	0.059	0					2.52
35.500	0.00	0.00	0.058	0					2.52

35.583	0.00	0.00	0.058	0					2.51
35.667	0.00	0.00	0.058	0					2.51
35.750	0.00	0.00	0.058	0					2.51
35.833	0.00	0.00	0.058	0					2.51
35.917	0.00	0.00	0.058	0					2.51
36.000	0.00	0.00	0.058	0					2.51
36.083	0.00	0.00	0.058	0					2.51
36.167	0.00	0.00	0.058	0					2.51
36.250	0.00	0.00	0.058	0					2.51
36.333	0.00	0.00	0.058	0					2.51
36.417	0.00	0.00	0.058	0					2.51
36.500	0.00	0.00	0.058	0					2.51
36.583	0.00	0.00	0.058	0					2.51
36.667	0.00	0.00	0.058	0					2.51
36.750	0.00	0.00	0.058	0					2.51
36.833	0.00	0.00	0.058	0					2.51
36.917	0.00	0.00	0.058	0					2.51
37.000	0.00	0.00	0.058	0					2.51
37.083	0.00	0.00	0.058	0					2.51
37.167	0.00	0.00	0.058	0					2.51
37.250	0.00	0.00	0.058	0					2.51
37.333	0.00	0.00	0.058	0					2.51
37.417	0.00	0.00	0.058	0					2.51
37.500	0.00	0.00	0.058	0					2.51
37.583	0.00	0.00	0.058	0					2.51
37.667	0.00	0.00	0.058	0					2.51
37.750	0.00	0.00	0.058	0					2.51

Remaining water in basin = 0.06 (Ac.Ft)

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

Number of intervals = 453

Time interval = 5.0 (Min.)

Maximum/Peak flow rate = 0.449 (CFS)

Total volume = 0.403 (Ac.Ft)

Status of hydrographs being held in storage

Stream 1 Stream 2 Stream 3 Stream 4 Stream 5

Peak (CFS) 0.000 0.000 0.000 0.000 0.000

Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000

Appendix J - Sizing Calculations

10 yr Gutter - B1

Project Description	
Solve For	Spread
Input Data	
Channel Slope	1.000 %
Discharge	2.05 cfs
Gutter Width	1.0 ft
Gutter Cross Slope	2.200 %
Road Cross Slope	1.800 %
Roughness Coefficient	0.015
Results	
Spread	9.8 ft
Flow Area	0.9 ft ²
Depth	2.2 in
Gutter Depression	0.0 in
Velocity	2.35 ft/s

Grate Inlet In Sag - A1

Project Description	
Solve For	Spread
Input Data	
Discharge	0.25 cfs
Gutter Width	0.00 ft
Gutter Cross Slope	0.000 %
Road Cross Slope	1.100 %
Grate Width	0.40 ft
Grate Length	0.4 ft
Local Depression	1.0 in
Local Depression Width	1.0 in
Grate Type	P-50 mm (P-1 -7/8")
Clogging	50.0 %
Results	
Spread	34.4 ft
Depth	4.5 in
Gutter Depression	0.0 in
Total Depression	1.0 in
Open Grate Area	0.1 ft ²
Active Grate Weir Length	0.8 ft

Grate Inlet On Grade - A2

Project Description	
Solve For	Efficiency
Input Data	
Discharge	0.08 cfs
Slope	1.000 %
Gutter Width	0.00 ft
Gutter Cross Slope	0.000 %
Road Cross Slope	9.800 %
Roughness Coefficient	0.023
Grate Width	1.00 ft
Grate Length	1.0 ft
Grate Type	P-50 mm (P-1 -7/8")
Clogging	50.0 %
Options	
Grate Flow Option	Exclude None
Results	
Efficiency	99.35 %
Intercepted Flow	0.08 cfs
Bypass Flow	0.00 cfs
Spread	1.2 ft
Depth	1.4 in
Flow Area	0.1 ft ²
Gutter Depression	0.0 in
Total Depression	0.0 in
Velocity	1.16 ft/s
Splash Over Velocity	4.08 ft/s
Frontal Flow Factor	1.000
Side Flow Factor	0.092
Grate Flow Ratio	0.993
Active Grate Length	0.5 ft

Slotted Drain Inlet On Grade - A5

Project Description	
Solve For	Efficiency
Input Data	
Discharge	0.50 cfs
Slope	1.300 %
Gutter Width	0.00 ft
Gutter Cross Slope	0.000 %
Road Cross Slope	2.200 %
Roughness Coefficient	0.015
Slot Length	32.0 ft
Local Depression	0.0 in
Local Depression Width	0.0 in
Results	
Efficiency	100.00 %
Intercepted Flow	0.50 cfs
Bypass Flow	0.00 cfs
Spread	4.9 ft
Depth	1.3 in
Flow Area	0.3 ft ²
Gutter Depression	0.0 in
Total Depression	0.0 in
Velocity	1.92 ft/s
Equivalent Cross Slope	2.200 %
Length Factor	2.140
Total Interception Length	15.0 ft

Slotted Drain Inlet On Grade - A4

Project Description	
Solve For	Efficiency
Input Data	
Discharge	0.03 cfs
Slope	2.000 %
Gutter Width	0.00 ft
Gutter Cross Slope	0.000 %
Road Cross Slope	0.200 %
Roughness Coefficient	0.015
Slot Length	23.0 ft
Local Depression	0.0 in
Local Depression Width	0.0 in
Results	
Efficiency	100.00 %
Intercepted Flow	0.03 cfs
Bypass Flow	0.00 cfs
Spread	7.0 ft
Depth	0.2 in
Flow Area	0.0 ft ²
Gutter Depression	0.0 in
Total Depression	0.0 in
Velocity	0.61 ft/s
Equivalent Cross Slope	0.200 %
Length Factor	1.045
Total Interception Length	22.0 ft

Grate Inlet On Grade - A4

Project Description	
Solve For	Efficiency
Input Data	
Discharge	0.38 cfs
Slope	2.900 %
Gutter Width	2.00 ft
Gutter Cross Slope	3.000 %
Road Cross Slope	3.000 %
Roughness Coefficient	0.023
Grate Width	2.00 ft
Grate Length	2.0 ft
Grate Type	P-50 mm (P-1 -7/8")
Clogging	50.0 %
Options	
Grate Flow Option	Exclude None
Results	
Efficiency	88.68 %
Intercepted Flow	0.34 cfs
Bypass Flow	0.04 cfs
Spread	3.7 ft
Depth	1.3 in
Flow Area	0.2 ft ²
Gutter Depression	0.0 in
Total Depression	0.0 in
Velocity	1.90 ft/s
Splash Over Velocity	5.66 ft/s
Frontal Flow Factor	1.000
Side Flow Factor	0.059
Grate Flow Ratio	0.880
Active Grate Length	1.0 ft

10 yr Gutter - A5

Project Description	
Solve For	Spread
Input Data	
Channel Slope	1.000 %
Discharge	0.93 cfs
Gutter Width	1.0 ft
Gutter Cross Slope	3.000 %
Road Cross Slope	3.000 %
Roughness Coefficient	0.015
Results	
Spread	5.3 ft
Flow Area	0.4 ft ²
Depth	1.9 in
Gutter Depression	0.0 in
Velocity	2.20 ft/s

Grate Inlet In Sag - A6

Project Description	
Solve For	Spread
Input Data	
Discharge	0.08 cfs
Gutter Width	0.00 ft
Gutter Cross Slope	0.000 %
Road Cross Slope	1.100 %
Grate Width	0.40 ft
Grate Length	0.4 ft
Local Depression	1.0 in
Local Depression Width	1.0 in
Grate Type	P-50 mm (P-1 -7/8")
Clogging	50.0 %
Results	
Spread	7.3 ft
Depth	1.0 in
Gutter Depression	0.0 in
Total Depression	1.0 in
Open Grate Area	0.1 ft ²
Active Grate Weir Length	0.8 ft

Grate Inlet In Sag - A7

Project Description	
Solve For	Spread
Input Data	
Discharge	0.06 cfs
Gutter Width	0.00 ft
Gutter Cross Slope	0.000 %
Road Cross Slope	1.100 %
Grate Width	0.40 ft
Grate Length	0.4 ft
Local Depression	1.0 in
Local Depression Width	1.0 in
Grate Type	P-50 mm (P-1 -7/8")
Clogging	50.0 %
Results	
Spread	6.1 ft
Depth	0.8 in
Gutter Depression	0.0 in
Total Depression	1.0 in
Open Grate Area	0.1 ft ²
Active Grate Weir Length	0.8 ft

Combination Inlet In Sag - B1

Project Description	
Solve For	Spread
Input Data	
Discharge	3.31 cfs
Gutter Width	2.00 ft
Gutter Cross Slope	2.200 %
Road Cross Slope	1.800 %
Local Depression	0.0 in
Local Depression Width	0.0 in
Grate Width	2.00 ft
Grate Length	4.0 ft
Grate Type	P-50 mm (P-1 -7/8")
Clogging	50.0 %
Curb Opening Length	4.0 ft
Opening Height	0.5 ft
Curb Throat Type	Horizontal
Throat Incline Angle	90.00 degrees
Options	
Calculation Option	Use Both
Results	
Spread	19.5 ft
Depth	4.3 in
Gutter Depression	0.1 in
Total Depression	0.1 in
Open Grate Area	3.6 ft ²
Active Grate Weir Length	6.0 ft

Appendix K - Supporting Material

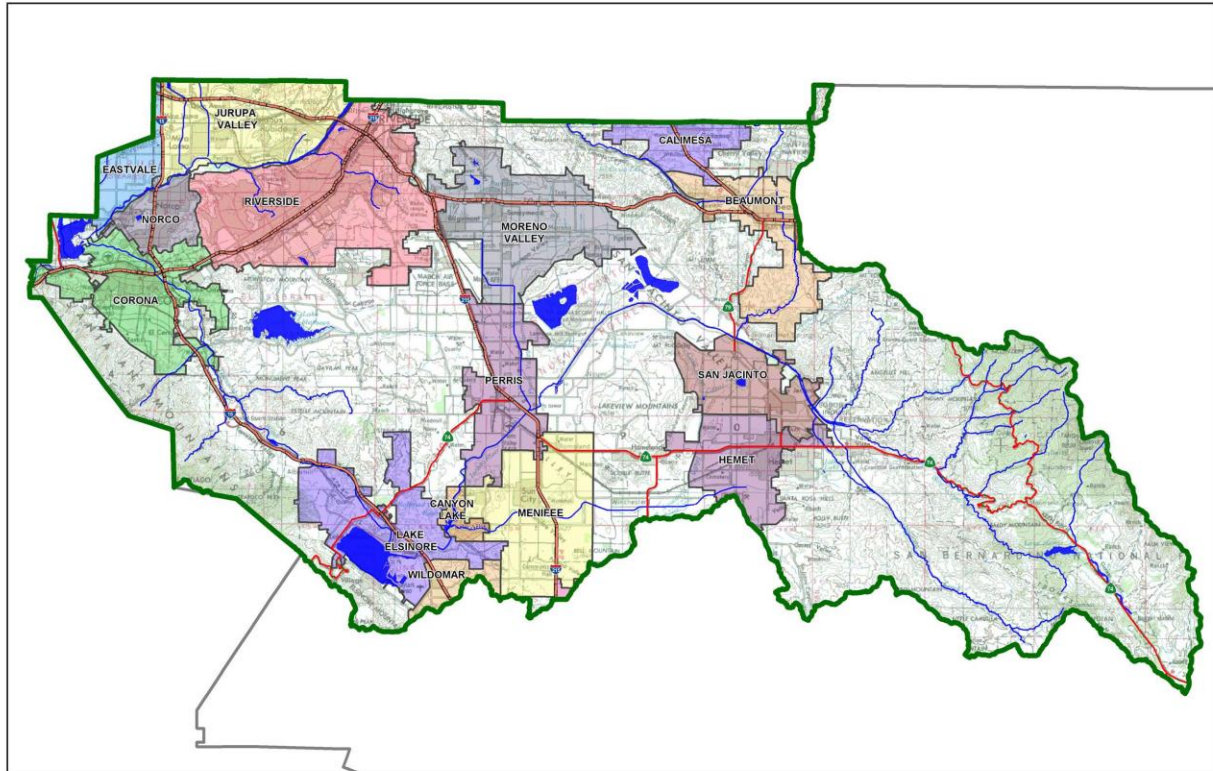
Project Specific Water Quality Management Plan

A Template for Projects located within the **Santa Ana Watershed** Region of Riverside County

Project Title: Riverside Community Hospital Brockton Parking Garage (Phase 1)

Development No: GP-2024-10767

Design Review/Case No: PR-2024-001701



Contact Information:

Prepared for:

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- ☒ Preliminary
☐ Final

Original Date Prepared: 10/10/2024

Revision Date(s): 3/14/2025

*Prepared for Compliance with
Regional Board Order No. **R8-2010-0033***

OWNER'S CERTIFICATION

This Project-Specific Water Quality Management Plan (WQMP) has been prepared for HCA / Riverside Community Hospital by Kimley-Horn and Associates, Inc. for the Riverside Community Hospital Parking Garage.

This WQMP is intended to comply with the requirements of the City of Riverside The Riverside Community Hospital Garage Improvements, Planning Case No. PR-2024-001701 which includes the requirement for the preparation and implementation of a Project-Specific WQMP.

The undersigned, while owning the property/project described in the preceding paragraph, shall be responsible for the implementation and funding of this WQMP and will ensure that this WQMP is amended as appropriate to reflect up-to-date conditions on the site. In addition, the property owner accepts responsibility for interim operation and maintenance of Stormwater BMPs until such time as this responsibility is formally transferred to a subsequent owner. This WQMP will be reviewed with the facility operator, facility supervisors, employees, tenants, maintenance and service contractors, or any other party (or parties) having responsibility for implementing portions of this WQMP. At least one copy of this WQMP will be maintained at the project site or project office in perpetuity. The undersigned is authorized to certify and to approve implementation of this WQMP. The undersigned is aware that implementation of this WQMP is enforceable under the City of Riverside Water Quality Ordinance (Municipal Code Section 14.12.315).

"I, the undersigned, certify under penalty of law that the provisions of this WQMP have been reviewed and accepted and that the WQMP will be transferred to future successors in interest."

Owner's Signature

Date

Owner's Printed Name

Owner's Title/Position

PREPARER'S CERTIFICATION

"The selection, sizing and design of stormwater treatment and other stormwater quality and quantity control measures in this plan meet the requirements of Regional Water Quality Control Board Order No. **R8-2010-0033** and any subsequent amendments thereto."



Preparer's Signature

3/14/2025

Date

Nikki Kerry, P.E.

Preparer's Printed Name

Registered Civil Engineer

Preparer's Title/Position



Preparer's Licensure:

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Section A: Project and Site Information

Riverside Community Hospital in the City of Riverside, California has been providing healthcare services to the community since 1925, when the first building was constructed on its campus located at 4445 Magnolia Avenue. The site is fully developed with buildings, surface parking, and parking structures.

This proposed Project consists of the addition of a multi-level parking garage to the Riverside Community Hospital campus. It is located at the northwest corner of the site, near the intersection of Brockton Avenue and 14th Street. Phase 1 of the project includes solely the addition of the parking garage labeled DMA A1 in the WQMP Exhibit in Appendix A. The southern portion of the site will be developed into a gravel lot with a proposed concrete pad during Phase 1. During Phase 2, south of the parking garage will be a proposed parking lot and drive aisle that will be constructed alongside additional tower improvements in the center of the Campus during a later date. The calculations for water quality were done taking into account the Phase 2 developments as the design capture volume is expected to be higher due to higher impervious values. The drainage areas identified in the WQMP exhibit are covered in this WQMP, all shaded areas outside of the drainage are limits are proposed improvements that will be analyzed in a future WQMP report. The proposed underground infiltration system (PR-BMP-1) will be tributary to DMA A1. Flows from PR-BMP-1 will overflow via orifice and outlet to the existing onsite storm drain system (EX-BMP-A) which ultimately overflows to an existing 24" lateral along Tesquesquite Ave.

PROJECT INFORMATION	
Type of Project:	Redevelopment, Parking Garage
Ward Area:	1
Community Name:	Northside
Development Name:	Riverside Community Hospital Brockton Parking Garage
PROJECT LOCATION	
Latitude & Longitude (DMS): 33°58'35" N, 117°22'58" W	
Project Watershed and Sub-Watershed: Santa Ana, Santa Ana River, Reach 3	
APN(s): 217-060-009, 217-060-020, 217-060-028, 217-060-027, 217-060-026, 217-060-024	
Map Book and Page No.: Map Grid – 685 F5	
PROJECT CHARACTERISTICS	
Proposed or Potential Land Use(s)	Parking Garage
Proposed or Potential SIC Code(s)	NAICS 812930/SIC 7521
Area of Impervious Project Footprint (SF)	142,294 sq ft
Total Area of <u>proposed</u> Impervious Surfaces within the Project Limits (SF)/or Replacement	83,069 sq ft
Does the project consist of offsite road improvements?	☐ Y ☒ N
Does the project propose to construct unpaved roads?	☐ Y ☒ N
Is the project part of a larger common plan of development (phased project)?	☒ Y ☐ N
EXISTING SITE CHARACTERISTICS	
Total area of <u>existing</u> Impervious Surfaces within the project limits (SF)	117,667 sq ft
Is the project located within any MSHCP Criteria Cell?	☐ Y ☒ N
If so, identify the Cell number:	N/A
Are there any natural hydrologic features on the project site?	☐ Y ☒ N
Is a Geotechnical Report attached?	☒ Y ☐ N
If no Geotech. Report, list the NRCS soils type(s) present on the site (A, B, C and/or D)	Soil Group B
What is the Water Quality Design Storm Depth for the project?	0.55

A.1 Maps and Site Plans

Appendix 1 includes a map of the local vicinity and existing site. In addition, located in Appendix 1, the WQMP Site Plan includes the following:

- Drainage Management Areas
- Proposed Structural BMPs
- Drainage Path
- Drainage Infrastructure, Inlets, Overflows
- Source Control BMPs
- Buildings, Roof Lines, Downspouts
- Impervious Surfaces
- Standard Labeling

A.2 Receiving Waters

In order of upstream to downstream, the receiving waters that the project site is tributary to are as follows below. A map of the receiving waters is included in Appendix 1.

Table A.1 Identification of Receiving Waters

Receiving Waters	EPA Approved 303(d) List Impairments	Designated Beneficial Uses	Proximity to RARE Beneficial Use
Santa Ana River, Reach 3	Pathogens, Copper, Lead	AGR, GWR, REC1, REC2, WARM, WILD, RARE	1 Mile
Santa Ana River, Reach 2	Enterococcus, Total Coliform, (E. coli), Fecal Coliform	Water Contact Recreation, Warm Freshwater Habitat	N/A
Santa Ana River, Reach 1	pH, Fecal Coliform	Water Contact Recreation, Estuarine Habitat	N/A
Prado Basin Management Zone	pH	RARE, REC1, REC2, WARM, WILD	12 Miles

A.3 Additional Permits/Approvals required for the Project:

Table A.2 Other Applicable Permits

Agency	Permit Required	
State Department of Fish and Game, 1602 Streambed Alteration Agreement	☐ Y	☒ N
State Water Resources Control Board, Clean Water Act (CWA) Section 401 Water Quality Cert.	☐ Y	☒ N
US Army Corps of Engineers, CWA Section 404 Permit	☐ Y	☒ N
US Fish and Wildlife, Endangered Species Act Section 7 Biological Opinion	☐ Y	☒ N
Statewide Construction General Permit Coverage	☒ Y	☐ N
Statewide Industrial General Permit Coverage	☐ Y	☒ N
Western Riverside MSHCP Consistency Approval (e.g., JPR, DBESP)	☐ Y	☒ N
City of Riverside Conditional Use Permit	☐ Y	☒ N
City of Riverside Design Review	☒ Y	☐ N
City of Riverside Building Permit	☒ Y	☐ N
City of Riverside Grading Permit	☒ Y	☐ N
City of Riverside Construction Permit	☒ Y	☐ N

Section B: Optimize Site Utilization (LID Principles)

Site Optimization

Does the project identify and preserve existing drainage patterns? If so, how? If not, why?

Yes, existing drainage patterns are expected to be maintained in general. Stormwater runoff generated from the site utilizes one of five outfall locations, as identified and labeled on the Campus Drainage Plans in the appendix.

The new Brockton parking garage (DMA A1) will connect to the exiting onsite storm drain labeled Outfall #2. From there flows will continue through the existing onsite storm drain until reaching outfall #1. A 24-inch storm drain lateral in the southwest quadrant of the Brockton and Tequesquite intersection serves as Outfall #1. This lateral connects to an existing 12'x7' RCB storm drain in Tequesquite. Runoff from the western portion of the site including all parking structures is piped to this location via the on-site storm drainage system. The drive-in area to the proposed parking garage along Brockton Ave consists of 0.02 acres, noted as DMA B. This area makes up 1% of the total site and can be considered de-minimis area as it consists of less than 5% of the total site. DMA B matches existing conditions drainage patterns via sheet flow to Brockton Ave. Drainage has been captured on-site to the maximum extent possible (MEP).

Does the project identify and protect existing vegetation? If so, how? If not, why?

The subject site is currently highly developed and consists of mostly impervious surfaces such as roofs, pavement, and sidewalks with only limited amounts of pervious landscaped areas within planting beds or along the site perimeter. Due to the reconfiguration of the site to accommodate the proposed redevelopment, most of the existing landscaped areas within the limits of disturbance cannot be protected. However, new landscaped areas will be provided with proposed construction.

Does the project identify and preserve natural infiltration capacity? If so, how? If not, why?

There are minimal areas on-site with natural infiltration capacity. To the extent practicable, these few areas will be preserved. Otherwise, new landscaped areas will provide some natural infiltration capacity.

Does the project identify and minimize impervious area? If so, how? If not, why?

Yes, the proposed parking garage has a high floor area ratio, which reduces the amount of impervious area by providing for more square footage within the same impervious footprint.

Does the project identify and disperse runoff to adjacent pervious areas? If so, how? If not, why?

Yes, where feasible, stormwater runoff will drain away from structures into adjacent pervious landscaped areas.

Section C: Delineate Drainage Management Areas (DMAs)

Table C.1 DMA Classifications

DMA Name or ID	Surface Type(s) ¹	Area (Sq. Ft.)	DMA Type
A1	Concrete or Asphalt	61,184	Type 'D' – Area that drains to BMP
A1	Ornamental Landscaping	22,080	Type 'D' – Area that drains to BMP

¹Reference Table 2-1 in the WQMP Guidance Document to populate this column

Table C.2 Type 'A', Self-Treating Areas

DMA Name or ID	Area (Sq. Ft.)	Stabilization Type	Irrigation Type (if any)
N/A			

Table C.3 Type 'B', Self-Retaining Areas

Self-Retaining Area				Type 'C' DMAs that are draining to the Self-Retaining Area		
DMA Name/ ID	Post-project surface type	Area (square feet)	Storm Depth (inches)	DMA Name / ID	[C] from Table C.4 = [C]	Required Retention Depth (inches)
		[A]	[B]			
N/A						

$$[D] = [B] + \frac{[B] \cdot [C]}{[A]}$$

Table C.4 Type 'C', Areas that Drain to Self-Retaining Areas

DMA					Receiving Self-Retaining DMA		
DMA Name/ ID	Area (square feet)	Post-project surface type	Runoff factor	Product	DMA name /ID	Area (square feet)	Ratio
	[A]			[C] = [A] x [B]		[D]	[C]/[D]
N/A							

Table C.5 Type 'D', Areas Draining to BMPs

DMA Name or ID	BMP Name or ID
DMA A1	PR-BMP-1

Note: More than one drainage management area can drain to a single LID BMP, however, one drainage management area may not drain to more than one BMP.

Section D: Implement LID BMPs

D.1 Infiltration Applicability

Is there an approved downstream 'Highest and Best Use' for stormwater runoff (Chapter 2.4.4 of the WQMP Guidance Document)? ☐ Y ☒ N

Geotechnical Report

A Geotechnical Report is required by the City of Riverside to confirm present and past site characteristics that may affect the use of Infiltration BMPs, see Appendix 3.

Is this project classified as a small project consistent with the requirements of Chapter 2 of the WQMP Guidance Document? ☐ Y ☒ N (Greater than 5 acres/50,000 sf impervious area)

Infiltration Feasibility

Table D.1 Infiltration Feasibility

Does the project site...	YES	NO
...have any DMAs with a seasonal high groundwater mark shallower than 10 feet?		X
If Yes, list affected DMAs:		
...have any DMAs located within 100 feet of a water supply well?		X
If Yes, list affected DMAs:		
...have any areas identified by the geotechnical report as posing a public safety risk where infiltration of stormwater could have a negative impact?		X
If Yes, list affected DMAs:		
...have measured in-situ infiltration rates of less than 1.6 inches / hour?		X
If Yes, list affected DMAs:		
...have significant cut and/or fill conditions that would preclude in-situ testing of infiltration rates at the final infiltration surface?		X
If Yes, list affected DMAs:		
...geotechnical report identify other site-specific factors that would preclude effective and safe infiltration?		X
Describe here:		

D.2 Harvest and Use Assessment

The following conditions apply:

- ☐ Reclaimed water will be used for the non-potable water demands for the project.
- ☐ Downstream water rights may be impacted by Harvest and Use as approved by the Regional Board (verify with the City of Riverside).
- X The Design Capture Volume will be addressed using Infiltration Only BMPs. (Harvest and Use BMPs are still encouraged, but are not required as the Design Capture Volume will be infiltrated or evapotranspired).

Irrigation Use Feasibility

Step 1: *Total Area of Irrigated Landscape (Acres):* N/A

Type of Landscaping (Conservation Design or Active Turf): N/A

Step 2: *Total Area of Impervious Surfaces (Acres):* N/A

Step 3: The Project *EIATIA factor:* N/A

Step 4: *Minimum required irrigated area (Acres):* NA

Step 5:

Minimum required irrigated area (acres) (Step 4)	Available Irrigated Landscape (acres) (Step 1)
N/A	N/A

Toilet Use Feasibility

Step 1: *Projected Number of Daily Toilet Users: N/A*

Project Type: N/A

Step 2: *Total Area of Impervious Surfaces: N/A*

Step 3: *The Project TUTIA factor: N/A*

Step 4: *Minimum number of toilet users: N/A*

Step 5:

Minimum required Toilet Users (Step 4)	Projected number of toilet users (Step 1)
N/A	NA

Other Non-Potable Use Feasibility

Step 1: *Average Daily Demand: N/A*

Step 2: *Total Area of Impervious Surfaces: N/A*

Step 3: *The project factor: N/A*

Step 4: *Minimum required use: N/A*

Step 5:

Minimum required non-potable use (Step 4)	Projected average daily use (Step 1)
N/A	N/A

D.3 Bioretention and Biotreatment Assessment

Other LID Bioretention and Biotreatment BMPs as described in Chapter 2.4.7 of the WQMP Guidance Document are feasible on nearly all development sites with sufficient advance planning.

For the project, the following applies:

- ☐ [] LID Bioretention/Biotreatment BMPs will be used for some or all DMAs of the project as noted below in Section D.4
- ☐ [] A site-specific analysis demonstrating the technical infeasibility of all LID BMPs has been performed and is included in Appendix 5.
- ☒ [x] None of the above.

D.4 Feasibility Assessment Summaries

Table D.2 LID Prioritization Summary Matrix

DMA Name/ID	LID BMP Hierarchy				No LID (Alternative Compliance)
	1. Infiltration	2. Harvest and use	3. Bioretention	4. Biotreatment	
A1	☒	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐

D.5 LID BMP Sizing

Table D.3 DCV Calculations for LID BMPs

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	Underground Infiltration System PR-BMP-1		
	[A]		[B]	[C]	[A] x [C]			
A1	61,184	Concrete or Asphalt	1.0	0.89	54,576.1	Design Storm Depth (in)	Design Capture Volume, V_{BMP} (cubic feet)	Proposed Volume on Plans (cubic feet)
A1	22,080	Ornamental Landscaping	0.1	.11	2,438.9			
	$A_T = \Sigma[A] = 83,264$				57,015	0.55	2613.2	2745.2 (Volume to be retained below outlet)

[B], [C] is obtained as described in Section 2.3.1 of the WQMP Guidance Document

[E] is obtained from Exhibit A in the WQMP Guidance Document

[G] is obtained from a design procedure sheet, such as in LID BMP Design Handbook and placed in Appendix 6

Section E: Alternative Compliance (LID Waiver Program)

LID BMPs are expected to be feasible on virtually all projects. Where LID BMPs have been demonstrated to be infeasible as documented in Section D, other Treatment Control BMPs must be used (subject to LID waiver approval by the Regional Board). For the project, the following applies:

- X LID Principles and LID BMPs have been incorporated into the site design to fully address all Drainage Management Areas. No alternative compliance measures are required for this project and thus this Section is not required to be completed.

- Or -

- ☐ The following Drainage Management Areas are unable to be addressed using LID BMPs. A site-specific analysis demonstrating technical infeasibility of LID BMPs has been approved by the Regional Board and included in Appendix 5. Additionally, no downstream regional and/or sub-regional LID BMPs exist or are available for use by the project. The following alternative compliance measures on the following pages are being implemented to ensure that any pollutant loads expected to be discharged by not incorporating LID BMPs, are fully mitigated.

Section F: Hydromodification

F.1 Hydrologic Conditions of Concern (HCOC) Analysis

This project does not create a Hydrologic Condition of Concern, meeting the criteria for HCOC Exemption as shown below:

HCOC EXEMPTION 1: The Priority Development Project disturbs less than one acre. The City of Riverside has the discretion to require a Project-Specific WQMP to address HCOCs on projects less than one acre on a case by case basis. The disturbed area calculation should include all disturbances associated with larger common plans of development.

Does the project qualify for this HCOC Exemption? ☐ Y ☒ N

HCOC EXEMPTION 2: The volume and time of concentration¹ of storm water runoff for the post-development condition is not significantly different from the pre-development condition for a 2-year return frequency storm (a difference of 5% or less is considered insignificant) using one of the following methods to calculate:

- Riverside County Hydrology Manual
- Technical Release 55 (TR-55): Urban Hydrology for Small Watersheds (NRCS 1986), or derivatives thereof, such as the Santa Barbara Urban Hydrograph Method
- Other methods acceptable to the City of Riverside

Does the project qualify for this HCOC Exemption? ☐ Y ☒ N

Results included in Table F.1 below and hydrologic analysis is included in Appendix 7.

Table F.1 Hydrologic Conditions of Concern Summary

	2 year – 24 hour		
	Pre-condition	Post-condition	% Difference
Time of Concentration			
Volume (Cubic Feet)			

¹ Time of concentration is defined as the time after the beginning of the rainfall when all portions of the drainage basin are contributing to flow at the outlet.

HCOC EXEMPTION 3: All downstream conveyance channels to an adequate sump (for example, Prado Dam, Santa Ana River, etc.) that will receive runoff from the project are engineered and regularly maintained to ensure design flow capacity; no sensitive stream habitat areas will be adversely affected; or are not identified on the Co-Permittees Hydromodification Sensitivity Maps.

Does the project qualify for this HCOC Exemption? ☒ Y ☐ N

If yes, HCOC criteria do not apply and note below which adequate sump applies to this HCOC qualifier:

HCOC Exemption 3 is satisfied because all outfalls discharge into an engineered, fully-hardened, and maintained conveyance system to the Santa Ana River as identified on the map in the appendix.

F.2 HCOC Mitigation

As an alternative to the HCOC Exemption Criteria above, HCOC criteria is considered mitigated if the project meets one of the following conditions, as indicated:

- ☐ a. Additional LID BMPS are implemented onsite or offsite to mitigate potential erosion or habitat impacts as a result of HCOCs. This can be conducted by an evaluation of site-specific conditions utilizing accepted professional methodologies published by entities such as the California Stormwater Quality Association (CASQA), the Southern California Coastal Water Research Project (SCCRWP), or other City of Riverside approved methodologies for site-specific HCOC analysis.
- ☐ b. The project is developed consistent with an approved Watershed Action Plan that addresses HCOC in Receiving Waters.
- ☐ c. Mimicking the pre-development hydrograph with the post-development hydrograph, for a 2-year return frequency storm. Generally, the hydrologic conditions of concern are not significant, if the post-development hydrograph is no more than 10% greater than pre-development hydrograph. In cases where excess volume cannot be infiltrated or captured and reused, discharge from the site must be limited to a flow rate no greater than 110% of the pre-development 2-year peak flow.
- ☒ d. None of the above.

Section G: Source Control BMPs

The following table identifies the potential sources of runoff pollutants for this project and specifies how they are addressed through permanent controls and operational BMPs:

Table G.1 Permanent and Operational Source Control Measures

Potential Sources of Runoff pollutants	Permanent Structural Source Control BMPs	Operational Source Control BMPs
Bacterial Indicators	TC-11 Infiltration Basin	SC-10 Non-Stormwater Discharges, SC-40 Contaminated or Erodible Areas, SC-41 Building and Grounds Maintenance, SC-44 Drainage System Maintenance
Metals	TC-11 Infiltration Basin	SC-10 Non-Stormwater Discharges, SC-11 Spill Prevention, Control and Cleanup, SC-40 Contaminated or Erodible Areas, SC-41 Building and Grounds Maintenance, SC-42 Building Repair and Construction, SC-43 Parking/Storage Area Maintenance
Nutrients	TC-11 Infiltration Basin	SC-10 Non-Stormwater Discharges, SC-40 Contaminated or Erodible Areas, SC-41 Building and Grounds Maintenance,
Toxic Organic Compounds	TC-11 Infiltration Basin	SC-10 Non-Stormwater Discharges, SC-11 Spill Prevention, Control and Cleanup, SC-40 Contaminated or Erodible Areas, SC-42 Building Repair and Construction, SC-43 Parking/Storage Area Maintenance
Sediments	TC-11 Infiltration Basin	SC-40 Contaminated or Erodible Areas, SC-41 Building and Grounds Maintenance, SC-42 Building Repair and Construction, SC-43 Parking/Storage Area Maintenance, SC-44 Drainage System Maintenance
Trash and Debris	TC-11 Infiltration Basin	SC-42 Building Repair and Construction, SC-43 Parking/Storage Area Maintenance, SC-44 Drainage System Maintenance
Oil and Grease	TC-11 Infiltration Basin	SC-10 Non-Stormwater Discharges, SC-11 Spill Prevention, Control and Cleanup, SC-40 Contaminated or Erodible Areas, SC-42 Building Repair and Construction, SC-43 Parking/Storage Area Maintenance

Section H: Construction Plan Checklist

Table H.1 Construction Plan Cross-reference

BMP No. or ID	BMP Identifier and Description	Corresponding Plan Sheet(s)	Latitude / Longitude
PR-BMP-1	Underground Infiltration Chamber	WQMP Exhibit	33° 58'37.89"N 117° 23'02.24"W

Section I: Operation, Maintenance and Funding

As required by the City of Riverside, the following operation, maintenance, and funding details are provided, as summarized:

1. A means to finance and implement facility maintenance in perpetuity, including replacement cost.
2. Acceptance of responsibility for maintenance from the time the BMPs are constructed until responsibility for operation and maintenance is legally transferred.
3. An outline of general maintenance requirements for the Stormwater BMPs selected.
4. Figures delineating and designating pervious and impervious areas, location, and type of Stormwater BMP, and tables of pervious and impervious areas served by each facility.
5. A separate list and location of self-retaining areas or areas addressed by LID Principles that do not require specialized O&M or inspections but will require typical landscape maintenance as noted in Chapter 5, pages 85-86, in the WQMP Guidance.

See Appendix 9 for a detailed Stormwater BMP Operation and Maintenance Plan that sets forth a maintenance schedule for each of the Stormwater BMPs built on-site, and an agreement assigning responsibility for maintenance and providing for inspections and certification.

Maintenance Mechanism: Riverside Community Hospital Facilities Management shall be responsible for maintenance.

Will the proposed BMPs be maintained by a Home Owners' Association (HOA) or Property Owners Association (POA)?

☐ Y ☒ N

Operation and Maintenance Plan and Maintenance Mechanism is included in Appendix 9. Educational materials for those personnel that will be maintaining the proposed BMPs within this Project-Specific WQMP are in Appendix 10.

Appendix 1: Maps and Site Plans

Location Map, WQMP Site Plan, and Receiving Waters Map

