CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director

Mayor Timothy M. Keller

May 15, 2020

Ron Hensley, P.E.
THE Group
300 Branding Iron Rd. SE
Rio Rancho, NM 87124

RE: **Sage Park Subdivision**
Sage and Coors SW
Grading and Drainage Plan
Engineer's Stamp Date: 3/20/20
Hydrology File: L10D030

Dear Mr. Hensley,

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Based on the submittal received on 4/17/20, this Grading and Drainage Plan cannot be approved until the following corrections are made:

Prior to Preliminary Plat and Grading Permit:

1. Please provide County permission for the work on their property and the right to discharge to the Sage Pond. This pond is on County property. Please also provide any documentation that states what the pond's function is or what areas it was built to serve and the ownership and maintenance responsibility.

2. The drainage basin numbering shown in your initial report and your supplemental report do not match. Please keep your numbering scheme consistent. Also the land treatments do not match between the reports in the basin that contains this development.

3. In the initial report the acreage for Basin 5 is incorrect. Please correct and recheck your calculations to ensure all values are correct.

4. Provide waterblocks, 0.87' minimum (or energy and flow depth calculations) for the following intersections: San Ignacio & Thyme, Parsley & Sage.

5. On the Plat, provide a drainage easement over the ponds and annotate using the Plat Drainage Easement Note. This note replaces the need for a separate drainage covenant.

6. As a reminder, if the project total area of disturbance (including the staging area and any work within the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted

to the Stormwater Quality Engineer (Doug Hughes, PE, jhughes@cabq.gov, 924-3420) 14 days prior to any earth disturbance.

7. Additional comments may be forthcoming, based on the outcome of the above remarks and level of detail shown on plans.

If you have any questions, please contact me at 924-3986 or earmijo@cabq.gov.

Sincerely,

Ernest Armijo, P.E.
Principal Engineer, Planning Dept.
Development Review Services

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 11/2018)

Project Title: SAGE PARK SUBDIVISION Building Permit #: _____ Hydrology File #: L10D030

DRB#: 2019-003169 EPC#: _____ Work Order#: _____

Legal Description: TRACT 401, UNIT 3, ATRISCO GRANT

City Address: SAGE SW

Applicant: THE Group Contact: Ron Hensley

Address: 300 Branding Iron Rd. SE, Rio Rancho, NM 87124

Phone#: 505-410-1622 Fax#: _____ E-mail: ron@thegroup.cc

Owner: CLEARBROOK LLC Contact: Scott Henry

Address: 8801 Jefferson NE Bldg. A, ALBUQUERQUE, NM 87113

Phone#: 505-858-1800 Fax#: _____ E-mail: scotth@stillbrooke.com

TYPE OF SUBMITTAL: ✓ PLAT (62 # OF LOTS) ____ RESIDENCE ____ DRB SITE ____ ADMIN SITE

IS THIS A RESUBMITTAL?: ✓ Yes _____ No

DEPARTMENT: ____ TRAFFIC/ TRANSPORTATION ✓ HYDROLOGY/ DRAINAGE

Check all that Apply:

TYPE OF SUBMITTAL:

____ ENGINEER/ARCHITECT CERTIFICATION
____ PAD CERTIFICATION
____ CONCEPTUAL G & D PLAN
✓ GRADING PLAN
____ DRAINAGE MASTER PLAN
✓ DRAINAGE REPORT
____ FLOODPLAIN DEVELOPMENT PERMIT APPLIC
____ ELEVATION CERTIFICATE
____ CLOMR/LOMR
____ TRAFFIC CIRCULATION LAYOUT (TCL)
____ TRAFFIC IMPACT STUDY (TIS)
____ OTHER (SPECIFY) _____
____ PRE-DESIGN MEETING?

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

____ BUILDING PERMIT APPROVAL
____ CERTIFICATE OF OCCUPANCY
✓ PRELIMINARY PLAT APPROVAL
____ SITE PLAN FOR SUB'D APPROVAL
____ SITE PLAN FOR BLDG. PERMIT APPROVAL
____ FINAL PLAT APPROVAL
____ SIA/ RELEASE OF FINANCIAL GUARANTEE
____ FOUNDATION PERMIT APPROVAL
✓ GRADING PERMIT APPROVAL
____ SO-19 APPROVAL
____ PAVING PERMIT APPROVAL
____ GRADING/ PAD CERTIFICATION
____ WORK ORDER APPROVAL
____ CLOMR/LOMR
____ FLOODPLAIN DEVELOPMENT PERMIT
____ OTHER (SPECIFY) _____

DATE SUBMITTED: 3/25/20 By: THE Group / Ron Hensley

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

THE group

The HENSLEY ENGINEERING GROUP

March 25, 2020

Hydrology Development
City of Albuquerque
PO Box 1293
Albuquerque, NM 87103

Re: Sage Park Subdivision – Grading and Drainage Plan

We are requesting a review of the attached plans and reports in support of the Preliminary Plat and Grading Permit of Sage Park Subdivision and the construction of required improvements. The subdivision is a replat of "Tract 401, Town of Atrisco Grant, Unit 3" submittal covers the impact of the development on existing drainage infrastructure. The previous comments have been addressed and the submittal is in compliance with City requirements.

Please contact me at 410-1622 or via email if you have any questions or comments.

Sincerely,

Ron E. Hensley

Ron E. Hensley P.E.
ron@thegroup.cc

L10D030
DRAINAGE REPORT
FOR
SAGE PARK SUBDIVISION
ALBUQUERQUE, NM
March 2020

Prepared By

The HENSLEY ENGINEERING GROUP
Ron E. Hensley P.E.
300 Branding Iron Road S.E.
Rio Rancho, NM 87124

Contents

ATTACHMENTS

SAGE PARK GRADING PLAN

SAGE PARK DRAINAGE PLAN

I. PURPOSE

This report is submitted in support for the Grading and Drainage Plan of Sage Park Subdivision. The subdivision consists of 62 residential lots with two park areas on 9.76 acres. The report provides a description and summary of the hydrology and hydraulic conditions of the drainage design of the subdivision improvements

II. INTRODUCTION

The proposed subdivision is in the basin of and adjacent to Sage Pond, shown below, that is located at the intersection of Sage Road and Coors Blvd. The pond was constructed in association with the extension and widening of Coors Blvd. The intent of the pond, as designed and constructed circa 1988 under City project North / South Coors Connection #189389, is to capture all flows within the area east of the Amole channel to Coors Blvd encompassing approximately 50 acres. Runoff from the basin surface flows to the southwest with the area north of San Ygnacio Road combining with Coors runoff to be captured by the storm drain with outflow to Sage Pond. The pond and downstream system are currently maintained by the City.

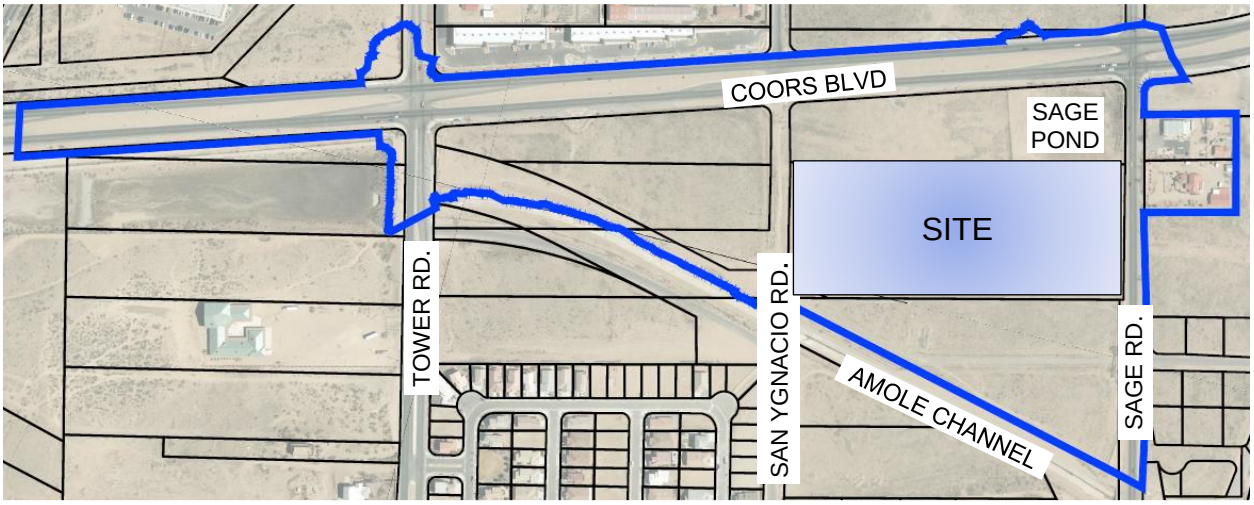


Figure 1 - Sage Pond Basin

An analysis of the drainage conditions of the Sage Pond basin, Drainage Supplement Sage Park Subdivision for SAGE / COORS Pond Capacity & Discharge Analysis, is attached to this report. The supplement demonstrates the downstream capacity of the City maintained system. The supplement analysis demonstrates that runoff from the fully developed basin can be accommodated by the pond and downstream facilities. The acceptable discharge from the area of the basin is enumerated at rate of 3.74 cfs/ac. In accordance with the analysis, the discharge from the site should not exceed 36.51 cfs and a volume of 1.74 ac.ft.

III. HYDROLOGY

This report provides the existing and proposed runoff conditions for the Sage Pond Basin. The table below summarizes the runoff from the existing conditions as depicted on the attached Sage Park Drainage Plan.

BASIN	AREA (ACRES)	LAND TREATMENT PERCENTAGES BY TYPE				YIELD (CFS/AC)	Q^{100} (CFS)	V^{100-24} (AC.FT.)
1	14.88	0	0	10	90	3.82	56.76	2.74
2	2.61	0	0	10	90	3.82	9.97	0.48
3	8.49	0	100	0	0	1.72	14.61	1.52
4	6.36	0	100	0	0	1.72	10.95	1.52
5	6.36	0	100	0	0	1.72	16.79	1.14
6	3.82	0	100	0	0	1.72	6.58	0.36
7	1.99	0	100	0	0	3.75	7.46	2.42
8	1.63	0	0	100	85	1.72	2.02	0.29
TOTAL	49.55					2.53	125.43	5.25

Table 1 - Sage Park / Sage Pond Existing Runoff Summary

The proposed development of the site is 62 residential lots with 2 HOA Tracts. The impervious land use percentage is calculated at 65 percent per DPM Eq. a-4:

$$. 7 * \sqrt{\left((7 * 7) + (5 * 7)\right)} \approx 65\% \; N = 7 \; .$$

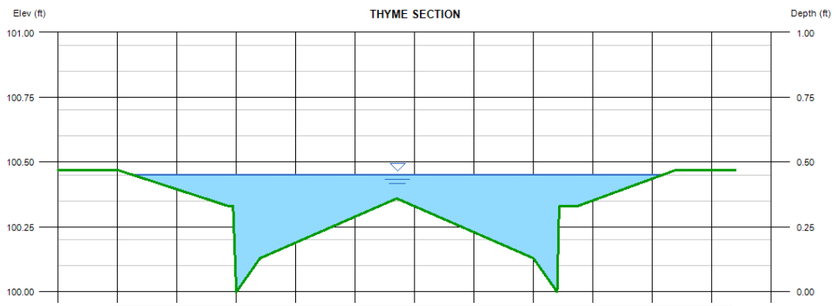
The remainder of the basin is analyzed estimating full development of the remaining tracts with then basin. The table below summarizes the runoff from the proposed conditions as depicted on the attached Sage Park Drainage Plan.

BASIN	AREA (ACRES)	LAND TREATMENT PERCENTAGES BY TYPE				YIELD (CFS/AC)	Q^{100} (CFS)	V^{100-24} (AC.FT.)
1	14.88	0	0	10	90	3.82	56.76	2.74
2	2.61	0	0	10	90	3.82	9.97	0.48
3	8.49	0	0	15	85	3.74	31.78	1.52
4	6.36	0	0	15	85	3.74	23.82	1.52
P1	3.75	0	15	20	65	3.33	12.46	1.14
P2	0.54	0	100	0	0	1.73	0.93	1.14
P3	5.12	0	15	20	65	3.33	17.02	1.14
P4	0.35	0	100	0	0	2.51	0.88	1.14
6	3.82	0	0	15	85	3.74	14.32	0.36
7	1.99	0	0	15	85	3.74	7.46	2.42
8	1.63	0	0	15	85	3.74	6.13	0.29
TOTAL	49.55					3.53	174.90	8.43

Table 2 - Sage Park / Sage Pond Proposed Runoff Summary

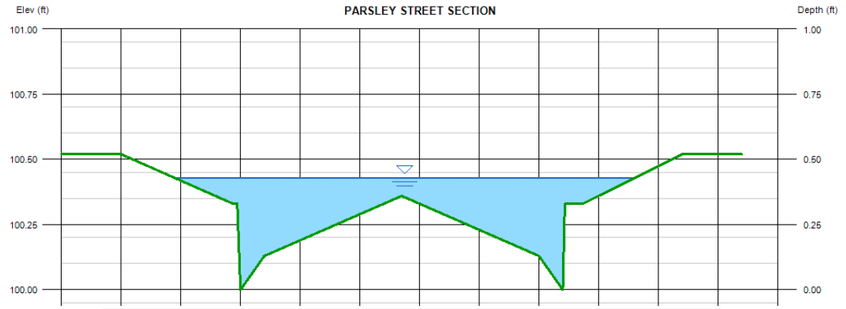
IV. HYDRAULICS

Per the requirements of the DPM, street flows and conjugate depth do not exceed 0.2 feet above curb height and are contained within the street right-of-way. All flows are subcritical and compliance with this requirement is demonstrated in the figures on the following page.



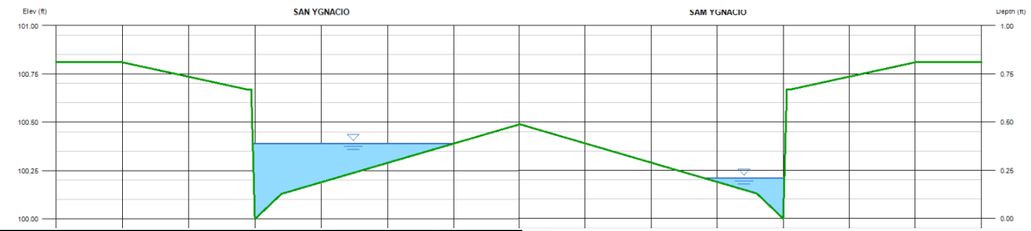
Depth (ft)	Q (cfs)	Area *(sqft)*	Veloc. *(ft/s)*	Wp *(ft)*	Yc *(ft)*	TopWidth *(ft)*	Energy *(ft)*
0.45	17.02	7.515	2.26	44.84	0.45	44.47	0.53

Figure 2 Thyme Street Section



Depth (ft)	Q (cfs)	Area *(sqft)*	Veloc. *(ft/s)*	Wp *(ft)*	Yc *(ft)*	TopWidth *(ft)*	Energy *(ft)*
0.43	13.38	6.485	2.06	38.99	0.42	38.62	0.50

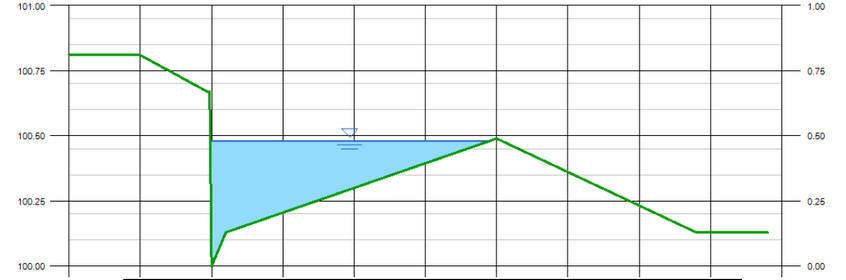
Figure 3 Parsley Street Section



Depth (ft)	Q (cfs)	Area *(sqft)*	Veloc. *(ft/s)*	Wp *(ft)*	Yc *(ft)*	TopWidth (ft)	Energy (ft)
0.39	7.70	2.372	3.25	15.43	0.45	15.16	0.55

Depth (ft)	Q (cfs)	Area *(sqft)*	Veloc. *(ft/s)*	Wp *(ft)*	Yc *(ft)*	TopWidth (ft)	Energy (ft)
0.21	0.78	0.459	1.70	6.23	0.22	6.09	0.25

Figure 4 San Ygnacio Street Section



Depth (ft)	Q (cfs)	Area *(sqft)*	Veloc. *(ft/s)*	Wp *(ft)*	Yc *(ft)*	TopWidth *(ft)*	Energy *(ft)*
0.48	27.15	12.11	2.24	66.70	0.47	66.37	0.56

Figure 5 Sage Street Section

V. SUMMARY AND CONCLUSION

Runoff from the proposed Sage Park Subdivision is contained within the proposed improvements, and adequate downstream capacity of City maintained improvements has been demonstrated.

VI. APPENDIX

Existing Runoff Calculations / AHYMO

```
*  Project SAGE PARK
*  EXISTING CONDITIONS
*  100 YEAR 24 HOUR RAINFALL TABLE
RAINFALL              TYPE=2  RAIN QUARTER=0
                      RAIN ONE=1.87 IN  RAIN SIX=2.20 IN
                      RAIN DAY=2.66 IN  DT=0.03333 HRS
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*S  COMPUTE HYD BASIN UNSER STORM DRAIN
COMPUTE NM HYD        ID=1  HYDNO=101  AREA=0.023247 SQ MI
                      PER A=0 PER B=0 PER C=10 PER D=90
                      TP=.1667 HR MASS RAIN=-1
PRINT HYD             ID=1   CODE=1
*
*S  COMPUTE HYD BASIN SAGE ROAD
COMPUTE NM HYD        ID=2  HYDNO=102  AREA=0.004078 SQ MI
                      PER A=0 PER B=0 PER C=10 PER D=90
                      TP=.1667 HR MASS RAIN=-1
PRINT HYD             ID=2   CODE=1
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*S  COMPUTE HYD BASIN TRACT 359 TO 361
COMPUTE NM HYD        ID=3  HYDNO=103  AREA=0.013268 SQ MI
                      PER A=0 PER B=100 PER C=0 PER D=0
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PRINT HYD             ID=3   CODE=1
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*S  COMPUTE HYD BASIN TRACT 400A
COMPUTE NM HYD        ID=4  HYDNO=104  AREA=0.009943 SQ MI
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                      TP=.1667 HR MASS RAIN=-1
PRINT HYD             ID=4   CODE=1
*
*S  COMPUTE HYD BASIN SAGE PARK TRACT 401
COMPUTE NM HYD        ID=5  HYDNO=105  AREA=0.015250 SQ MI
                      PER A=0 PER B=100 PER C=0 PER D=0
                      TP=.1667 HR MASS RAIN=-1
PRINT HYD             ID=5   CODE=1

*S  COMPUTE HYD BASIN TRACT 402A
COMPUTE NM HYD        ID=6  HYDNO=105  AREA=0.005974 SQ MI
                      PER A=0 PER B=100 PER C=0 PER D=0
                      TP=.1667 HR MASS RAIN=-1
PRINT HYD             ID=6   CODE=1
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*S  COMPUTE HYD BASIN DEVELOPED LOTS
COMPUTE NM HYD        ID=7  HYDNO=107  AREA=0.003108 SQ MI
                      PER A=0 PER B=0 PER C=15 PER D=85
                      TP=.1667 HR MASS RAIN=-1
PRINT HYD             ID=7   CODE=1
*
*S  COMPUTE HYD BASIN POND TRACT 402B
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COMPUTE NM HYD        ID=8  HYDNO=107  AREA=0.002554 SQ MI
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                      TP=.1667 HR MASS RAIN=-1
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*

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                      ID=1 ID=2
PRINT HYD             ID=10 CODE=5
*
ADD HYD               ID=11 HYDNO=201
                      ID=10 ID=3
PRINT HYD             ID=11 CODE=5
*
ADD HYD               ID=12 HYDNO=301
                      ID=11 ID=4
PRINT HYD             ID=12 CODE=5
*
ADD HYD               ID=13 HYDNO=301
                      ID=12 ID=5
PRINT HYD             ID=13 CODE=5
*
ADD HYD               ID=14 HYDNO=301
                      ID=13 ID=6
PRINT HYD             ID=14 CODE=5
*
ADD HYD               ID=15 HYDNO=301
                      ID=14 ID=7
PRINT HYD             ID=15 CODE=5
*
ADD HYD               ID=16 HYDNO=301
                      ID=15 ID=8
PRINT HYD             ID=16 CODE=5
*
************************************************************
ROUTE RESERVOIR       ID=20 HYD=301 INFLOW ID=16 CODE=5
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                       (CFS)            (AC-FT)        (FT
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                 0.85        0.0153         4999
                 1.27        0.1487         5000
                 1.57        0.9548         5001
                 1.81        1.9868         5002
                 2.03        3.1062         5003
                 2.23        4.2974         5004
                 2.41        5.5558         5005
                 2.50        6.2122         5005.5
                 2.66        7.6172         5006.5
                 3.17        7.7668         5006.6
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*S COMPUTE HYD BASIN TRACT 400A										
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COMPUTE NM HYD	105.00	-	6	.00597	6.58	.213	.66738	1.567	1.721	PER IMP= .00
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ADD HYD	301.00	11& 4	12	.05054	92.04	4.046	1.50099	1.533	2.846	
ADD HYD	301.00	12& 5	13	.06579	108.67	4.588	1.30775	1.533	2.581	
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ADD HYD	301.00	14& 7	15	.07487	122.64	5.156	1.29127	1.533	2.560	
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                           RAIN DAY=2.66 IN  DT=0.03333 HRS

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                        2.2711  2.2722  2.2734  2.2745  2.2757  2.2768  2.2779
                        2.2791  2.2802  2.2813  2.2825  2.2836  2.2847  2.2858
                        2.2870  2.2881  2.2892  2.2903  2.2914  2.2925  2.2936
                        2.2947  2.2958  2.2969  2.2980  2.2991  2.3002  2.3013
                        2.3024  2.3035  2.3046  2.3057  2.3067  2.3078  2.3089
                        2.3100  2.3110  2.3121  2.3132  2.3142  2.3153  2.3164
                        2.3174  2.3185  2.3195  2.3206  2.3216  2.3227  2.3237
                        2.3248  2.3258  2.3269  2.3279  2.3290  2.3300  2.3310
                        2.3321  2.3331  2.3341  2.3352  2.3362  2.3372  2.3382
                        2.3392  2.3403  2.3413  2.3423  2.3433  2.3443  2.3453
                        2.3463  2.3473  2.3483  2.3493  2.3503  2.3513  2.3523
```

```
                    2.3533  2.3543  2.3553  2.3563  2.3573  2.3583  2.3593
                    2.3603  2.3612  2.3622  2.3632  2.3642  2.3651  2.3661
                    2.3671  2.3681  2.3690  2.3700  2.3710  2.3719  2.3729
                    2.3738  2.3748  2.3758  2.3767  2.3777  2.3786  2.3796
                    2.3805  2.3815  2.3824  2.3834  2.3843  2.3852  2.3862
                    2.3871  2.3881  2.3890  2.3899  2.3909  2.3918  2.3927
                    2.3936  2.3946  2.3955  2.3964  2.3973  2.3983  2.3992
                    2.4001  2.4010  2.4019  2.4028  2.4038  2.4047  2.4056
                    2.4065  2.4074  2.4083  2.4092  2.4101  2.4110  2.4119
                    2.4128  2.4137  2.4146  2.4155  2.4164  2.4173  2.4181
                    2.4190  2.4199  2.4208  2.4217  2.4226  2.4234  2.4243
                    2.4252  2.4261  2.4270  2.4278  2.4287  2.4296  2.4304
                    2.4313  2.4322  2.4331  2.4339  2.4348  2.4356  2.4365
                    2.4374  2.4382  2.4391  2.4399  2.4408  2.4416  2.4425
                    2.4434  2.4442  2.4450  2.4459  2.4467  2.4476  2.4484
                    2.4493  2.4501  2.4510  2.4518  2.4526  2.4535  2.4543
                    2.4551  2.4560  2.4568  2.4576  2.4585  2.4593  2.4601
                    2.4609  2.4618  2.4626  2.4634  2.4642  2.4651  2.4659
                    2.4667  2.4675  2.4683  2.4691  2.4700  2.4708  2.4716
                    2.4724  2.4732  2.4740  2.4748  2.4756  2.4764  2.4772
                    2.4780  2.4788  2.4796  2.4804  2.4812  2.4820  2.4828
                    2.4836  2.4844  2.4852  2.4860  2.4868  2.4876  2.4884
                    2.4892  2.4899  2.4907  2.4915  2.4923  2.4931  2.4939
                    2.4946  2.4954  2.4962  2.4970  2.4978  2.4985  2.4993
                    2.5001  2.5008  2.5016  2.5024  2.5032  2.5039  2.5047
                    2.5055  2.5062  2.5070  2.5078  2.5085  2.5093  2.5100
                    2.5108  2.5116  2.5123  2.5131  2.5138  2.5146  2.5153
                    2.5161  2.5168  2.5176  2.5183  2.5191  2.5198  2.5206
                    2.5213  2.5221  2.5228  2.5236  2.5243  2.5250  2.5258
                    2.5265  2.5273  2.5280  2.5287  2.5295  2.5302  2.5309
                    2.5317  2.5324  2.5331  2.5339  2.5346  2.5353  2.5361
                    2.5368  2.5375  2.5382  2.5390  2.5397  2.5404  2.5411
                    2.5418  2.5426  2.5433  2.5440  2.5447  2.5454  2.5462
                    2.5469  2.5476  2.5483  2.5490  2.5497  2.5504  2.5511
                    2.5518  2.5526  2.5533  2.5540  2.5547  2.5554  2.5561
                    2.5568  2.5575  2.5582  2.5589  2.5596  2.5603  2.5610
                    2.5617  2.5624  2.5631  2.5638  2.5645  2.5652  2.5659
                    2.5665  2.5672  2.5679  2.5686  2.5693  2.5700  2.5707
                    2.5714  2.5721  2.5727  2.5734  2.5741  2.5748  2.5755
                    2.5761  2.5768  2.5775  2.5782  2.5789  2.5795  2.5802
                    2.5809  2.5816  2.5822  2.5829  2.5836

     ************************************************************

     *S  COMPUTE HYD BASIN UNSER STORM DRAIN
     COMPUTE NM HYD        ID=1  HYDNO=101  AREA=0.023247 SQ MI
                           PER A=0 PER B=0 PER C=10 PER D=90
                           TP=.1667 HR MASS RAIN=-1

          K =   .090852HR    TP =   .166700HR    K/TP RATIO =   .545000     SHAPE
CONSTANT, N =  7.106420
          UNIT PEAK =   66.052    CFS   UNIT VOLUME =    1.000       B =   526.28
P60 = 1.8700
          AREA =      .020922 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330


          K =   .132393HR    TP =   .166700HR    K/TP RATIO =   .794199     SHAPE
CONSTANT, N =  4.514851
```

```
          UNIT PEAK =   5.4128    CFS   UNIT VOLUME =    .9977       B =   388.14
P60 = 1.8700
          AREA =      .002325 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330

     PRINT HYD             ID=1   CODE=1

                                      PARTIAL HYDROGRAPH   101.00


         RUNOFF VOLUME =     2.20911 INCHES     =       2.7389 ACRE-FEET
         PEAK DISCHARGE RATE =      56.76 CFS  AT   1.533 HOURS   BASIN AREA =   .0232
SQ. MI.



     *
     *S  COMPUTE HYD BASIN SAGE ROAD
     COMPUTE NM HYD        ID=2  HYDNO=102  AREA=0.004078 SQ MI
                           PER A=0 PER B=0 PER C=10 PER D=90
                           TP=.1667 HR MASS RAIN=-1

          K =   .090852HR    TP =   .166700HR    K/TP RATIO =   .545000     SHAPE
CONSTANT, N =  7.106420
          UNIT PEAK =   11.587    CFS   UNIT VOLUME =    .9992       B =   526.28
P60 = 1.8700
          AREA =      .003670 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330


          K =   .132393HR    TP =   .166700HR    K/TP RATIO =   .794199     SHAPE
CONSTANT, N =  4.514851
          UNIT PEAK =   .94952    CFS   UNIT VOLUME =    .9861       B =   388.14
P60 = 1.8700
          AREA =      .000408 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330

     PRINT HYD             ID=2   CODE=1

                                      PARTIAL HYDROGRAPH   102.00


         RUNOFF VOLUME =     2.20913 INCHES     =        .4805 ACRE-FEET
         PEAK DISCHARGE RATE =       9.97 CFS  AT   1.533 HOURS   BASIN AREA =   .0041
SQ. MI.



     *
     *S  COMPUTE HYD BASIN TRACT 359 TO 361
     COMPUTE NM HYD        ID=3  HYDNO=103  AREA=0.013268 SQ MI
                           PER A=0 PER B=100 PER C=0 PER D=0
                           TP=.1667 HR MASS RAIN=-1

          K =   .163814HR    TP =   .166700HR    K/TP RATIO =   .982685     SHAPE
CONSTANT, N =  3.593454
```

```
          UNIT PEAK =   26.034    CFS   UNIT VOLUME =    .9996       B =   327.09
P60 = 1.8700
          AREA =      .013268 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330

     PRINT HYD             ID=3   CODE=1

                                       PARTIAL HYDROGRAPH   103.00


         RUNOFF VOLUME =      .66738 INCHES     =        .4723 ACRE-FEET
         PEAK DISCHARGE RATE =      14.61 CFS  AT   1.567 HOURS   BASIN AREA =   .0133
SQ. MI.



     *
     *S  COMPUTE HYD BASIN TRACT 400A
     COMPUTE NM HYD        ID=4  HYDNO=104  AREA=0.009943 SQ MI
                           PER A=0 PER B=100 PER C=0 PER D=0
                           TP=.1667 HR MASS RAIN=-1

          K =   .163814HR    TP =   .166700HR    K/TP RATIO =   .982685     SHAPE
CONSTANT, N =  3.593454
          UNIT PEAK =   19.509    CFS   UNIT VOLUME =    .9994       B =   327.09
P60 = 1.8700
          AREA =      .009943 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330

     PRINT HYD             ID=4   CODE=1

                                       PARTIAL HYDROGRAPH   104.00


         RUNOFF VOLUME =      .66738 INCHES     =        .3539 ACRE-FEET
         PEAK DISCHARGE RATE =      10.95 CFS  AT   1.567 HOURS   BASIN AREA =   .0099
SQ. MI.



     *
     *S  COMPUTE HYD BASIN SAGE PARK TRACT 401
     COMPUTE NM HYD        ID=5  HYDNO=105  AREA=0.015250 SQ MI
                           PER A=0 PER B=100 PER C=0 PER D=0
                           TP=.1667 HR MASS RAIN=-1

          K =   .163814HR    TP =   .166700HR    K/TP RATIO =   .982685     SHAPE
CONSTANT, N =  3.593454
          UNIT PEAK =   29.923    CFS   UNIT VOLUME =    .9997       B =   327.09
P60 = 1.8700
          AREA =      .015250 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330

     PRINT HYD             ID=5   CODE=1

                                       PARTIAL HYDROGRAPH   105.00
```

```
         RUNOFF VOLUME =      .66738 INCHES     =        .5428 ACRE-FEET
         PEAK DISCHARGE RATE =      16.79 CFS  AT   1.567 HOURS   BASIN AREA =   .0153
SQ. MI.



     *S  COMPUTE HYD BASIN TRACT 402A
     COMPUTE NM HYD        ID=6  HYDNO=105  AREA=0.005974 SQ MI
                           PER A=0 PER B=100 PER C=0 PER D=0
                           TP=.1667 HR MASS RAIN=-1

          K =   .163814HR    TP =   .166700HR    K/TP RATIO =   .982685     SHAPE
CONSTANT, N =  3.593454
          UNIT PEAK =   11.722    CFS   UNIT VOLUME =    .9989       B =   327.09
P60 = 1.8700
          AREA =      .005974 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330

     PRINT HYD             ID=6   CODE=1

                                       PARTIAL HYDROGRAPH   105.00


         RUNOFF VOLUME =      .66738 INCHES     =        .2126 ACRE-FEET
         PEAK DISCHARGE RATE =       6.58 CFS  AT   1.567 HOURS   BASIN AREA =   .0060
SQ. MI.



     *
     *S  COMPUTE HYD BASIN DEVELOPED LOTS
     COMPUTE NM HYD        ID=7  HYDNO=107  AREA=0.003108 SQ MI
                           PER A=0 PER B=0 PER C=15 PER D=85
                           TP=.1667 HR MASS RAIN=-1

          K =   .090852HR    TP =   .166700HR    K/TP RATIO =   .545000     SHAPE
CONSTANT, N =  7.106420
          UNIT PEAK =   8.3402    CFS   UNIT VOLUME =    .9988       B =   526.28
P60 = 1.8700
          AREA =      .002642 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330


          K =   .132393HR    TP =   .166700HR    K/TP RATIO =   .794199     SHAPE
CONSTANT, N =  4.514851
          UNIT PEAK =   1.0855    CFS   UNIT VOLUME =    .9883       B =   388.14
P60 = 1.8700
          AREA =      .000466 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330

     PRINT HYD             ID=7   CODE=1

                                       PARTIAL HYDROGRAPH   107.00
```

```
         RUNOFF VOLUME =     2.14166 INCHES     =         .3550 ACRE-FEET
         PEAK DISCHARGE RATE =       7.46 CFS  AT   1.533 HOURS   BASIN AREA =   .0031
SQ. MI.



     *
     *S  COMPUTE HYD BASIN POND TRACT 402B
     COMPUTE NM HYD        ID=8  HYDNO=107  AREA=0.002554 SQ MI
                           PER A=0 PER B=100 PER C=0 PER D=0
                           TP=.1667 HR MASS RAIN=-1

          K =   .163814HR    TP =   .166700HR    K/TP RATIO =   .982685     SHAPE
CONSTANT, N =  3.593454
          UNIT PEAK =   5.0113    CFS   UNIT VOLUME =    .9973       B =   327.09
P60 = 1.8700
          AREA =      .002554 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330

     PRINT HYD             ID=8   CODE=1

                                       PARTIAL HYDROGRAPH   107.00


         RUNOFF VOLUME =      .66738 INCHES     =         .0909 ACRE-FEET
         PEAK DISCHARGE RATE =       2.82 CFS  AT   1.567 HOURS   BASIN AREA =   .0026
SQ. MI.



     *

     ADD HYD               ID=10 HYDNO=201
                           ID=1 ID=2
     PRINT HYD             ID=10 CODE=5

                                       PARTIAL HYDROGRAPH   201.00

          TIME      FLOW           TIME      FLOW           TIME      FLOW
TIME      FLOW           TIME      FLOW
           HRS       CFS            HRS       CFS            HRS       CFS
HRS       CFS            HRS       CFS
          .000        .0          4.000        .4          7.999        .6
11.999        .4         15.998        .4
          .167        .0          4.166        .4          8.166        .5
12.165        .4         16.165        .4
          .333        .0          4.333        .4          8.332        .5
12.332        .4         16.332        .4
          .500        .0          4.500        .4          8.499        .5
12.499        .4         16.498        .4
          .667        .0          4.666        .4          8.666        .5
12.665        .4         16.665        .4
          .833        .0          4.833        .4          8.832        .5
12.832        .4         16.832        .4
         1.000        .0          4.999        .4          8.999        .5
12.999        .4         16.998        .4
         1.167        .1          5.166        .4          9.166        .5
13.165        .4         17.165        .4
```

```
          1.333      14.4          5.333        .4          9.332        .5
13.332        .4         17.332        .4
          1.500      62.8          5.499        .4          9.499        .5
13.499        .4         17.498        .4
          1.667      43.5          5.666        .5          9.666        .5
13.665        .4         17.665        .3
          1.833      26.2          5.833        .5          9.832        .5
13.832        .4         17.832        .3
          2.000      19.3          5.999        .5          9.999        .5
13.999        .4         17.998        .3
          2.166      11.0          6.166        .6         10.166        .5
14.165        .4         18.165        .3
          2.333       4.9          6.333        .6         10.332        .5
14.332        .4         18.331        .3
          2.500       3.1          6.499        .6         10.499        .5
14.499        .4         18.498        .3
          2.666       2.1          6.666        .6         10.666        .5
14.665        .4         18.665        .3
          2.833       1.5          6.833        .6         10.832        .5
14.832        .4         18.831        .3
          3.000       1.0          6.999        .6         10.999        .5
14.998        .4         18.998        .3
          3.166        .8          7.166        .6         11.166        .5
15.165        .4         19.165        .3
          3.333        .6          7.333        .6         11.332        .5
15.332        .4         19.331        .3
          3.500        .5          7.499        .6         11.499        .5
15.498        .4         19.498        .3
          3.666        .5          7.666        .6         11.665        .5
15.665        .4         19.665        .3
          3.833        .4          7.833        .6         11.832        .4
15.832        .4         19.831        .3

         RUNOFF VOLUME =     2.20911 INCHES     =       3.2194 ACRE-FEET
         PEAK DISCHARGE RATE =      66.73 CFS  AT   1.533 HOURS   BASIN AREA =   .0273
SQ. MI.


     *
     ADD HYD              ID=11 HYDNO=201
                          ID=10 ID=3
     PRINT HYD            ID=11 CODE=5

                                        PARTIAL HYDROGRAPH   201.00

          TIME      FLOW          TIME      FLOW          TIME      FLOW
TIME      FLOW          TIME      FLOW
           HRS       CFS           HRS       CFS           HRS       CFS
HRS       CFS           HRS       CFS
           .000        .0          4.000        .4          7.999        .6
11.999        .4         15.998        .4
           .167        .0          4.166        .4          8.166        .5
12.165        .4         16.165        .4
           .333        .0          4.333        .4          8.332        .5
12.332        .4         16.332        .4
           .500        .0          4.500        .4          8.499        .5
12.499        .4         16.498        .4
           .667        .0          4.666        .4          8.666        .5
12.665        .4         16.665        .4
           .833        .0          4.833        .4          8.832        .5
12.832        .4         16.832        .4
```

```
          1.000        .0          4.999        .4          8.999        .5
12.999        .4          16.998        .4
          1.167        .1          5.166        .4          9.166        .5
13.165        .4          17.165        .4
          1.333      14.6          5.333        .4          9.332        .5
13.332        .4          17.332        .4
          1.500      75.8          5.499        .4          9.499        .5
13.499        .4          17.498        .4
          1.667      54.4          5.666        .5          9.666        .5
13.665        .4          17.665        .3
          1.833      30.8          5.833        .5          9.832        .5
13.832        .4          17.832        .3
          2.000      21.1          5.999        .5          9.999        .5
13.999        .4          17.998        .3
          2.166      12.1          6.166        .6         10.166        .5
14.165        .4          18.165        .3
          2.333       5.8          6.333        .6         10.332        .5
14.332        .4          18.331        .3
          2.500       3.7          6.499        .6         10.499        .5
14.499        .4          18.498        .3
          2.666       2.5          6.666        .6         10.666        .5
14.665        .4          18.665        .3
          2.833       1.7          6.833        .6         10.832        .5
14.832        .4          18.831        .3
          3.000       1.3          6.999        .6         10.999        .5
14.998        .4          18.998        .3
          3.166        .9          7.166        .6         11.166        .5
15.165        .4          19.165        .3
          3.333        .7          7.333        .6         11.332        .5
15.332        .4          19.331        .3
          3.500        .6          7.499        .6         11.499        .5
15.498        .4          19.498        .3
          3.666        .5          7.666        .6         11.665        .5
15.665        .4          19.665        .3
          3.833        .5          7.833        .6         11.832        .4
15.832        .4          19.831        .3

         RUNOFF VOLUME =     1.70518 INCHES     =       3.6916 ACRE-FEET
         PEAK DISCHARGE RATE =      81.20 CFS  AT   1.533 HOURS   BASIN AREA =   .0406
SQ. MI.


     *
     ADD HYD              ID=12 HYDNO=301
                          ID=11 ID=4
     PRINT HYD            ID=12 CODE=5

                                                HYDROGRAPH FROM AREA   301.00

          TIME      FLOW          TIME      FLOW          TIME      FLOW
TIME      FLOW          TIME      FLOW
           HRS       CFS           HRS       CFS           HRS       CFS
HRS       CFS           HRS       CFS
           .000        .0          4.000        .5          7.999        .6
11.999        .4          15.998        .4
           .167        .0          4.166        .4          8.166        .5
12.165        .4          16.165        .4
           .333        .0          4.333        .4          8.332        .5
12.332        .4          16.332        .4
           .500        .0          4.500        .4          8.499        .5
12.499        .4          16.498        .4
```

```
          .667        .0          4.666        .4          8.666        .5
12.665        .4          16.665        .4
          .833        .0          4.833        .4          8.832        .5
12.832        .4          16.832        .4
         1.000        .0          4.999        .4          8.999        .5
12.999        .4          16.998        .4
         1.167        .1          5.166        .4          9.166        .5
13.165        .4          17.165        .4
         1.333      14.7          5.333        .4          9.332        .5
13.332        .4          17.332        .4
         1.500      85.6          5.499        .4          9.499        .5
13.499        .4          17.498        .4
         1.667      62.6          5.666        .5          9.666        .5
13.665        .4          17.665        .3
         1.833      34.2          5.833        .5          9.832        .5
13.832        .4          17.832        .3
         2.000      22.5          5.999        .5          9.999        .5
13.999        .4          17.998        .3
         2.166      13.0          6.166        .6         10.166        .5
14.165        .4          18.165        .3
         2.333       6.4          6.333        .6         10.332        .5
14.332        .4          18.331        .3
         2.500       4.1          6.499        .6         10.499        .5
14.499        .4          18.498        .3
         2.666       2.8          6.666        .6         10.666        .5
14.665        .4          18.665        .3
         2.833       2.0          6.833        .6         10.832        .5
14.832        .4          18.831        .3
         3.000       1.4          6.999        .6         10.999        .5
14.998        .4          18.998        .3
         3.166       1.1          7.166        .6         11.166        .5
15.165        .4          19.165        .3
         3.333        .8          7.333        .6         11.332        .5
15.332        .4          19.331        .3
         3.500        .7          7.499        .6         11.499        .5
15.498        .4          19.498        .3
         3.666        .6          7.666        .6         11.665        .5
15.665        .4          19.665        .3
         3.833        .5          7.833        .6         11.832        .4
15.832        .4          19.831        .3

         RUNOFF VOLUME =     1.50099 INCHES     =       4.0455 ACRE-FEET
         PEAK DISCHARGE RATE =      92.04 CFS  AT   1.533 HOURS   BASIN AREA =   .0505
SQ. MI.


     *
     ADD HYD              ID=13 HYDNO=301
                          ID=12 ID=5
     PRINT HYD            ID=13 CODE=5

                                                 HYDROGRAPH FROM AREA   301.00

          TIME      FLOW           TIME      FLOW           TIME      FLOW
TIME      FLOW           TIME      FLOW
           HRS       CFS            HRS       CFS            HRS       CFS
HRS       CFS            HRS       CFS
          .000        .0          4.000        .5          7.999        .6
11.999        .4          15.998        .4
          .167        .0          4.166        .5          8.166        .5
12.165        .4          16.165        .4
```

```
          .333        .0          4.333        .4          8.332        .5
12.332        .4          16.332        .4
          .500        .0          4.500        .4          8.499        .5
12.499        .4          16.498        .4
          .667        .0          4.666        .4          8.666        .5
12.665        .4          16.665        .4
          .833        .0          4.833        .4          8.832        .5
12.832        .4          16.832        .4
         1.000        .0          4.999        .4          8.999        .5
12.999        .4          16.998        .4
         1.167        .1          5.166        .4          9.166        .5
13.165        .4          17.165        .4
         1.333       14.9         5.333        .4          9.332        .5
13.332        .4          17.332        .4
         1.500      100.6          5.499        .4          9.499        .5
13.499        .4          17.498        .4
         1.667       75.2          5.666        .5          9.666        .5
13.665        .4          17.665        .3
         1.833       39.5          5.833        .5          9.832        .5
13.832        .4          17.832        .3
         2.000       24.6          5.999        .5          9.999        .5
13.999        .4          17.998        .3
         2.166       14.3          6.166        .6         10.166        .5
14.165        .4          18.165        .3
         2.333        7.3          6.333        .6         10.332        .5
14.332        .4          18.331        .3
         2.500        4.8          6.499        .6         10.499        .5
14.499        .4          18.498        .3
         2.666        3.3          6.666        .6         10.666        .5
14.665        .4          18.665        .3
         2.833        2.3          6.833        .6         10.832        .5
14.832        .4          18.831        .3
         3.000        1.7          6.999        .6         10.999        .5
14.998        .4          18.998        .3
         3.166        1.2          7.166        .6         11.166        .5
15.165        .4          19.165        .3
         3.333        1.0          7.333        .6         11.332        .5
15.332        .4          19.331        .3
         3.500         .8          7.499        .6         11.499        .5
15.498        .4          19.498        .3
         3.666         .6          7.666        .6         11.665        .5
15.665        .4          19.665        .3
         3.833         .5          7.833        .6         11.832        .4
15.832        .4          19.831        .3

         RUNOFF VOLUME =     1.30775 INCHES     =       4.5883 ACRE-FEET
         PEAK DISCHARGE RATE =     108.67 CFS  AT   1.533 HOURS   BASIN AREA =    .0658
SQ. MI.


     *
     ADD HYD              ID=14 HYDNO=301
                          ID=13 ID=6
     PRINT HYD            ID=14 CODE=5

                                                HYDROGRAPH FROM AREA   301.00

          TIME      FLOW           TIME      FLOW           TIME      FLOW
TIME      FLOW           TIME      FLOW
           HRS       CFS            HRS       CFS            HRS       CFS
HRS       CFS            HRS       CFS
```

```
          .000        .0          4.000        .5          7.999        .6
11.999        .4         15.998        .4
          .167        .0          4.166        .5          8.166        .5
12.165        .4         16.165        .4
          .333        .0          4.333        .4          8.332        .5
12.332        .4         16.332        .4
          .500        .0          4.500        .4          8.499        .5
12.499        .4         16.498        .4
          .667        .0          4.666        .4          8.666        .5
12.665        .4         16.665        .4
          .833        .0          4.833        .4          8.832        .5
12.832        .4         16.832        .4
         1.000        .0          4.999        .4          8.999        .5
12.999        .4         16.998        .4
         1.167        .1          5.166        .4          9.166        .5
13.165        .4         17.165        .4
         1.333      15.0          5.333        .4          9.332        .5
13.332        .4         17.332        .4
         1.500     106.5          5.499        .4          9.499        .5
13.499        .4         17.498        .4
         1.667      80.1          5.666        .5          9.666        .5
13.665        .4         17.665        .3
         1.833      41.5          5.833        .5          9.832        .5
13.832        .4         17.832        .3
         2.000      25.5          5.999        .5          9.999        .5
13.999        .4         17.998        .3
         2.166      14.9          6.166        .6         10.166        .5
14.165        .4         18.165        .3
         2.333       7.7          6.333        .6         10.332        .5
14.332        .4         18.331        .3
         2.500       5.1          6.499        .6         10.499        .5
14.499        .4         18.498        .3
         2.666       3.5          6.666        .6         10.666        .5
14.665        .4         18.665        .3
         2.833       2.4          6.833        .6         10.832        .5
14.832        .4         18.831        .3
         3.000       1.8          6.999        .6         10.999        .5
14.998        .4         18.998        .3
         3.166       1.3          7.166        .6         11.166        .5
15.165        .4         19.165        .3
         3.333       1.0          7.333        .6         11.332        .5
15.332        .4         19.331        .3
         3.500        .8          7.499        .6         11.499        .5
15.498        .4         19.498        .3
         3.666        .7          7.666        .6         11.665        .5
15.665        .4         19.665        .3
         3.833        .6          7.833        .6         11.832        .4
15.832        .4         19.831        .3

         RUNOFF VOLUME =     1.25444 INCHES     =       4.8010 ACRE-FEET
         PEAK DISCHARGE RATE =     115.18 CFS  AT   1.533 HOURS   BASIN AREA =    .0718
SQ. MI.


     *
     ADD HYD              ID=15 HYDNO=301
                          ID=14 ID=7
     PRINT HYD            ID=15 CODE=5

                                              HYDROGRAPH FROM AREA   301.00
```

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	4.000	.5	7.999	.6
11.999	.5	15.998	.4		
.167	.0	4.166	.5	8.166	.6
12.165	.5	16.165	.4		
.333	.0	4.333	.5	8.332	.6
12.332	.5	16.332	.4		
.500	.0	4.500	.5	8.499	.6
12.499	.5	16.498	.4		
.667	.0	4.666	.4	8.666	.6
12.665	.5	16.665	.4		
.833	.0	4.833	.4	8.832	.6
12.832	.5	16.832	.4		
1.000	.0	4.999	.4	8.999	.6
12.999	.5	16.998	.4		
1.167	.1	5.166	.5	9.166	.6
13.165	.5	17.165	.4		
1.333	16.6	5.333	.5	9.332	.6
13.332	.5	17.332	.4		
1.500	113.5	5.499	.5	9.499	.6
13.499	.5	17.498	.4		
1.667	85.0	5.666	.5	9.666	.6
13.665	.5	17.665	.4		
1.833	44.5	5.833	.5	9.832	.6
13.832	.5	17.832	.4		
2.000	27.6	5.999	.6	9.999	.5
13.999	.4	17.998	.4		
2.166	16.1	6.166	.6	10.166	.5
14.165	.4	18.165	.4		
2.333	8.2	6.333	.7	10.332	.5
14.332	.4	18.331	.4		
2.500	5.4	6.499	.7	10.499	.5
14.499	.4	18.498	.4		
2.666	3.7	6.666	.7	10.666	.5
14.665	.4	18.665	.4		
2.833	2.6	6.833	.7	10.832	.5
14.832	.4	18.831	.4		
3.000	1.9	6.999	.7	10.999	.5
14.998	.4	18.998	.4		
3.166	1.4	7.166	.6	11.166	.5
15.165	.4	19.165	.4		
3.333	1.1	7.333	.6	11.332	.5
15.332	.4	19.331	.4		
3.500	.9	7.499	.6	11.499	.5
15.498	.4	19.498	.4		
3.666	.7	7.666	.6	11.665	.5
15.665	.4	19.665	.4		
3.833	.6	7.833	.6	11.832	.5
15.832	.4	19.831	.4		

RUNOFF VOLUME = 1.29127 INCHES = 5.1560 ACRE-FEET
PEAK DISCHARGE RATE = 122.64 CFS AT 1.533 HOURS BASIN AREA = .0749 SQ. MI.

```
*
ADD HYD              ID=16 HYDNO=301
                     ID=15 ID=8
```

PRINT HYD ID=16 CODE=5

HYDROGRAPH FROM AREA 301.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	4.000	.5	7.999	.6	11.999	.5
.167	.0	4.166	.5	8.166	.6	12.165	.5
.333	.0	4.333	.5	8.332	.6	12.332	.5
.500	.0	4.500	.5	8.499	.6	12.499	.5
.667	.0	4.666	.4	8.666	.6	12.665	.5
.833	.0	4.833	.4	8.832	.6	12.832	.5
1.000	.0	4.999	.4	8.999	.6	12.999	.5
1.167	.1	5.166	.5	9.166	.6	13.165	.5
1.333	16.6	5.333	.5	9.332	.6	13.332	.5
1.500	116.0	5.499	.5	9.499	.6	13.499	.5
1.667	87.1	5.666	.5	9.666	.6	13.665	.5
1.833	45.3	5.833	.5	9.832	.6	13.832	.5
2.000	27.9	5.999	.6	9.999	.5	13.999	.4
2.166	16.3	6.166	.6	10.166	.5	14.165	.4
2.333	8.4	6.333	.7	10.332	.5	14.332	.4
2.500	5.5	6.499	.7	10.499	.5	14.499	.4
2.666	3.8	6.666	.7	10.666	.5	14.665	.4
2.833	2.7	6.833	.7	10.832	.5	14.832	.4
3.000	1.9	6.999	.7	10.999	.5	14.998	.4
3.166	1.4	7.166	.6	11.166	.5	15.165	.4
3.333	1.1	7.333	.6	11.332	.5	15.332	.4
3.500	.9	7.499	.6	11.499	.5	15.498	.4
3.666	.7	7.666	.6	11.665	.5	15.665	.4
3.833	.6	7.833	.6	11.832	.5	15.832	.4

RUNOFF VOLUME = 1.27069 INCHES = 5.2469 ACRE-FEET
PEAK DISCHARGE RATE = 125.43 CFS AT 1.533 HOURS BASIN AREA = .0774 SQ. MI.

```
*
************************************************************
ROUTE RESERVOIR       ID=20 HYD=301 INFLOW ID=16 CODE=5
                      OUTFLOW          STORAGE        ELEV
                       (CFS)           (AC-FT)        (FT
                            0.00         0.0000         4998
                            0.85         0.0153         4999
                            1.27         0.1487         5000
                            1.57         0.9548         5001
                            1.81         1.9868         5002
                            2.03         3.1062         5003
                            2.23         4.2974         5004
                            2.41         5.5558         5005
                            2.50         6.2122         5005.5
                            2.66         7.6172         5006.5
                            3.17         7.7668         5006.6
                            8.28         8.3754         5007
                      PRINT HYD             ID=20 CODE=5

  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *

    TIME      INFLOW    ELEV      VOLUME    OUTFLOW
    (HRS)     (CFS)     (FEET)    (AC-FT)   (CFS)

      .00        .00   4998.00       .000       .00
      .17        .00   4998.00       .000       .00
      .33        .00   4998.00       .000       .00
      .50        .00   4998.00       .000       .00
      .67        .00   4998.00       .000       .00
      .83        .00   4998.00       .000       .00
     1.00        .00   4998.00       .000       .00
     1.17        .07   4998.01       .000       .01
     1.33      16.59   4999.37       .064      1.00
     1.50     116.04   5000.91       .886      1.54
     1.67      87.08   5002.38      2.414      1.89
     1.83      45.35   5003.13      3.259      2.06
     2.00      27.93   5003.51      3.717      2.13
     2.17      16.29   5003.75      3.999      2.18
     2.33       8.39   5003.86      4.128      2.20
     2.50       5.52   5003.91      4.192      2.21
     2.67       3.79   5003.94      4.225      2.22
     2.83       2.66   5003.95      4.238      2.22
     3.00       1.90   5003.95      4.238      2.22
     3.17       1.40   5003.94      4.230      2.22
     3.33       1.08   5003.93      4.217      2.22
     3.50        .87   5003.92      4.200      2.21
     3.67        .72   5003.90      4.180      2.21
     3.83        .62   5003.88      4.159      2.21
     4.00        .55   5003.86      4.136      2.20
     4.17        .51   5003.85      4.113      2.20
     4.33        .48   5003.83      4.090      2.20
     4.50        .46   5003.81      4.066      2.19
     4.67        .45   5003.79      4.042      2.19
     4.83        .44   5003.77      4.018      2.18
     5.00        .45   5003.75      3.994      2.18
     5.17        .46   5003.73      3.971      2.18
     5.33        .48   5003.71      3.947      2.17
     5.50        .49   5003.69      3.924      2.17
     5.67        .51   5003.67      3.901      2.16
     5.83        .53   5003.65      3.878      2.16
     6.00        .55   5003.63      3.856      2.16
```

6.17	.61	5003.61	3.834	2.15
6.33	.66	5003.59	3.814	2.15
6.50	.67	5003.58	3.793	2.15
6.67	.66	5003.56	3.773	2.14
6.83	.66	5003.54	3.752	2.14
7.00	.65	5003.53	3.732	2.14
7.17	.64	5003.51	3.711	2.13
7.33	.64	5003.49	3.691	2.13
7.50	.63	5003.47	3.670	2.12
7.67	.63	5003.46	3.650	2.12
7.83	.62	5003.44	3.629	2.12
8.00	.61	5003.42	3.609	2.11
8.17	.61	5003.40	3.588	2.11
8.33	.60	5003.39	3.567	2.11
8.50	.60	5003.37	3.546	2.10
8.67	.59	5003.35	3.526	2.10
8.83	.58	5003.33	3.505	2.10
9.00	.58	5003.32	3.484	2.09
9.17	.57	5003.30	3.463	2.09

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
9.33	.57	5003.28	3.442	2.09
9.50	.56	5003.26	3.421	2.08
9.67	.56	5003.25	3.400	2.08
9.83	.55	5003.23	3.379	2.08
10.00	.55	5003.21	3.358	2.07
10.17	.54	5003.19	3.337	2.07
10.33	.53	5003.18	3.316	2.07
10.50	.53	5003.16	3.295	2.06
10.67	.53	5003.14	3.274	2.06
10.83	.52	5003.12	3.253	2.05
11.00	.52	5003.10	3.232	2.05
11.17	.51	5003.09	3.210	2.05
11.33	.51	5003.07	3.189	2.04
11.50	.50	5003.05	3.168	2.04
11.67	.50	5003.03	3.147	2.04
11.83	.50	5003.02	3.126	2.03
12.00	.49	5003.00	3.105	2.03
12.17	.49	5002.98	3.083	2.03
12.33	.48	5002.96	3.062	2.02
12.50	.48	5002.94	3.041	2.02
12.67	.48	5002.92	3.020	2.01
12.83	.47	5002.90	2.999	2.01
13.00	.47	5002.89	2.978	2.00
13.17	.47	5002.87	2.956	2.00
13.33	.46	5002.85	2.935	2.00
13.50	.46	5002.83	2.914	1.99
13.67	.46	5002.81	2.893	1.99
13.83	.45	5002.79	2.872	1.98
14.00	.45	5002.77	2.851	1.98
14.17	.45	5002.75	2.830	1.98
14.33	.44	5002.73	2.809	1.97
14.50	.44	5002.72	2.788	1.97
14.67	.44	5002.70	2.767	1.96
14.83	.43	5002.68	2.745	1.96
15.00	.43	5002.66	2.724	1.95
15.17	.42	5002.64	2.703	1.95
15.33	.42	5002.62	2.682	1.95
15.50	.42	5002.60	2.661	1.94
15.67	.42	5002.58	2.641	1.94

```
        15.83        .41   5002.57      2.620      1.93
        16.00        .41   5002.55      2.599      1.93
        16.17        .41   5002.53      2.578      1.93
        16.33        .41   5002.51      2.557      1.92
        16.50        .41   5002.49      2.536      1.92
        16.67        .40   5002.47      2.515      1.91
        16.83        .40   5002.45      2.494      1.91
        17.00        .40   5002.44      2.474      1.91
        17.16        .40   5002.42      2.453      1.90
        17.33        .39   5002.40      2.432      1.90
        17.50        .39   5002.38      2.411      1.89
        17.66        .39   5002.36      2.391      1.89
        17.83        .39   5002.34      2.370      1.89
        18.00        .38   5002.32      2.349      1.88
        18.16        .38   5002.31      2.329      1.88
        18.33        .38   5002.29      2.308      1.87
        18.50        .37   5002.27      2.288      1.87

       TIME      INFLOW    ELEV      VOLUME    OUTFLOW
       (HRS)     (CFS)     (FEET)    (AC-FT)   (CFS)

       18.66        .38   5002.25      2.267      1.87
       18.83        .37   5002.23      2.246      1.86
       19.00        .37   5002.21      2.226      1.86
       19.16        .37   5002.20      2.205      1.85
       19.33        .36   5002.18      2.185      1.85
       19.50        .36   5002.16      2.165      1.84
       19.66        .36   5002.14      2.144      1.84
       19.83        .36   5002.12      2.124      1.84
 PEAK DISCHARGE =        2.220 CFS - PEAK OCCURS AT HOUR    2.93
 MAXIMUM WATER SURFACE ELEVATION =     5003.952
 MAXIMUM STORAGE =        4.2395 AC-FT      INCREMENTAL TIME=     .033330HRS

**********************************************************
*
FINISH

    NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 21:02:40
```

Proposed Runoff Calculations / AHYMO

```
*  Project SAGE PARK
*  PROPOSED Conditions
*  100 YEAR 24 HOUR RAINFALL TABLE
RAINFALL              TYPE=2  RAIN QUARTER=0
                      RAIN ONE=1.87 IN  RAIN SIX=2.20 IN
                      RAIN DAY=2.66 IN  DT=0.03333 HRS
************************************************************

*S  COMPUTE HYD BASIN UNSER STORM DRAIN
COMPUTE NM HYD        ID=1  HYDNO=101  AREA=0.023247 SQ MI
                      PER A=0 PER B=0 PER C=10 PER D=90
                      TP=.1667 HR MASS RAIN=-1
PRINT HYD             ID=1   CODE=1
*
*S  COMPUTE HYD BASIN SAGE ROAD
COMPUTE NM HYD        ID=2  HYDNO=102  AREA=0.004078 SQ MI
                      PER A=0 PER B=0 PER C=10 PER D=90
                      TP=.1667 HR MASS RAIN=-1
PRINT HYD             ID=2   CODE=1
*
*S  COMPUTE HYD BASIN TRACT 359 TO 361
COMPUTE NM HYD        ID=3  HYDNO=103  AREA=0.013268 SQ MI
                      PER A=0 PER B=0 PER C=15 PER D=85
                      TP=.1667 HR MASS RAIN=-1
PRINT HYD             ID=3   CODE=1
*
*S  COMPUTE HYD BASIN TRACT 400A
COMPUTE NM HYD        ID=4  HYDNO=104  AREA=0.009943 SQ MI
                      PER A=0 PER B=0 PER C=15 PER D=85
                      TP=.1667 HR MASS RAIN=-1
PRINT HYD             ID=4   CODE=1
*
*S  COMPUTE HYD BASIN P1
COMPUTE NM HYD        ID=51  HYDNO=201  AREA=0.005854 SQ MI
                      PER A=0 PER B=15 PER C=20 PER D=65
                      TP=.1667 HR MASS RAIN=-1
PRINT HYD             ID=51   CODE=5

*S  COMPUTE HYD BASIN P2
COMPUTE NM HYD        ID=52  HYDNO=202  AREA=0.000837 SQ MI
                      PER A=0 PER B=100 PER C=0 PER D=0
                      TP=.1667 HR MASS RAIN=-1
PRINT HYD             ID=52   CODE=5

*S  COMPUTE HYD BASIN P3
COMPUTE NM HYD        ID=53  HYDNO=203  AREA=0.008001 SQ MI
                      PER A=0 PER B=15 PER C=20 PER D=65
                      TP=.1667 HR MASS RAIN=-1
PRINT HYD             ID=3   CODE=5

*S  COMPUTE HYD BASIN P4
COMPUTE NM HYD        ID=54  HYDNO=204  AREA=0.000551 SQ MI
                      PER A=0 PER B=0 PER C=100 PER D=0
                      TP=.1667 HR MASS RAIN=-1
```

```
PRINT HYD             ID=54   CODE=5
************************************************************
ADD HYD               ID=61 HYDNO=301
                      ID=51 ID=52
PRINT HYD             ID=61 CODE=5

ADD HYD               ID=62 HYDNO=302
                      ID=61 ID=53
PRINT HYD             ID=62 CODE=5

ADD HYD               ID=63 HYDNO=303
                      ID=62 ID=54
PRINT HYD             ID=63 CODE=5
************************************************************
ROUTE RESERVOIR       ID=99 HYD=305 INFLOW ID=63 CODE=5
                      OUTFLOW           STORAGE        ELEV
                       (CFS)            (AC-FT)        (FT)
                  0.00            0.0            5001
                  0.01         0.1687         5004.6
                  0.85         0.1687         5004.7
                  6.74         0.2042         5005
                  44.13        0.3100         5006
                       PRINT HYD             ID=99 CODE=5
************************************************************
*
*S  COMPUTE HYD BASIN SAGE PARK TRACT 402A
COMPUTE NM HYD        ID=6  HYDNO=105  AREA=0.005974 SQ MI
                      PER A=0 PER B=0 PER C=15 PER D=85
                      TP=.1667 HR MASS RAIN=-1
PRINT HYD             ID=6   CODE=1
*
*S  COMPUTE HYD BASIN DEVELOPED LOTS
COMPUTE NM HYD        ID=7  HYDNO=107  AREA=0.003108 SQ MI
                      PER A=0 PER B=0 PER C=15 PER D=85
                      TP=.1667 HR MASS RAIN=-1
PRINT HYD             ID=7   CODE=1
*
*S  COMPUTE HYD BASIN POND TRACT 402B
COMPUTE NM HYD        ID=8  HYDNO=107  AREA=0.002554 SQ MI
                      PER A=0 PER B=0 PER C=15 PER D=85
                      TP=.1667 HR MASS RAIN=-1
PRINT HYD             ID=8   CODE=1

ADD HYD               ID=10 HYDNO=201
                      ID=1 ID=2
PRINT HYD             ID=10 CODE=5
*
ADD HYD               ID=11 HYDNO=201
                      ID=10 ID=3
PRINT HYD             ID=11 CODE=5
*
ADD HYD               ID=12 HYDNO=301
                      ID=11 ID=4
PRINT HYD             ID=12 CODE=5
*
ADD HYD               ID=13 HYDNO=301
```

```
                      ID=12 ID=99
PRINT HYD             ID=13 CODE=5
*
ADD HYD               ID=14 HYDNO=301
                      ID=13 ID=6
PRINT HYD             ID=14 CODE=5
*
ADD HYD               ID=15 HYDNO=301
                      ID=14 ID=7
PRINT HYD             ID=15 CODE=5
*
ADD HYD               ID=16 HYDNO=301
                      ID=15 ID=8
PRINT HYD             ID=16 CODE=5
*
************************************************************
ROUTE RESERVOIR       ID=20 HYD=301 INFLOW ID=16 CODE=5
                      OUTFLOW           STORAGE        ELEV
                       (CFS)            (AC-FT)        (FT
                 0.00        0.0000         4998
                 0.85        0.0153         4999
                 1.27        0.1487         5000
                 1.57        0.9548         5001
                 1.81        1.9868         5002
                 2.03        3.1062         5003
                 2.23        4.2974         5004
                 2.41        5.5558         5005
                 2.50        6.2122         5005.5
                 2.66        7.6172         5006.5
                 3.17        7.7668         5006.6
                 8.28        8.3754         5007
                     PRINT HYD             ID=20 CODE=5
************************************************************
*
FINISH
```

```
AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) -                        - VERSION:  1997.02c      RUN DATE (MON/DAY/YR) =03/24/2020
INPUT FILE = C:\DOCUME~1\Ron\Desktop\AHYMOR~1\SAGEPA~2.HMI                                 USER NO.= AHYMO-I-9702c01000Q29-AH

                            FROM  TO                   PEAK         RUNOFF              TIME TO    CFS      PAGE =   1
                HYDROGRAPH   ID   ID         AREA     DISCHARGE      VOLUME      RUNOFF    PEAK     PER
COMMAND       IDENTIFICATION  NO.  NO.      (SQ MI)     (CFS)       (AC-FT)    (INCHES)  (HOURS)   ACRE     NOTATION

RAINFALL  TYPE= 2                                                                                          RAIN24=   2.660
*S  COMPUTE HYD BASIN UNSER STORM DRAIN
COMPUTE NM HYD        101.00   -     1        .02325       56.76       2.739      2.20911    1.533    3.815 PER IMP=  90.00
*S  COMPUTE HYD BASIN SAGE ROAD
COMPUTE NM HYD        102.00   -     2        .00408        9.97        .480      2.20913    1.533    3.821 PER IMP=  90.00
*S  COMPUTE HYD BASIN TRACT 359 TO 361
COMPUTE NM HYD        103.00   -     3        .01327       31.78       1.515      2.14163    1.533    3.742 PER IMP=  85.00
*S  COMPUTE HYD BASIN TRACT 400A
COMPUTE NM HYD        104.00   -     4        .00994       23.82       1.136      2.14163    1.533    3.743 PER IMP=  85.00
*S  COMPUTE HYD BASIN P1
COMPUTE NM HYD        201.00   -    51        .00585       12.46        .567      1.81729    1.533    3.326 PER IMP=  65.00
*S  COMPUTE HYD BASIN P2
COMPUTE NM HYD        202.00   -    52        .00084         .93        .030       .66738    1.567    1.734 PER IMP=    .00
*S  COMPUTE HYD BASIN P3
COMPUTE NM HYD        203.00   -    53        .00800       17.02        .775      1.81729    1.533    3.325 PER IMP=  65.00
*S  COMPUTE HYD BASIN P4
COMPUTE NM HYD        204.00   -    54        .00055         .88        .029       .99441    1.533    2.509 PER IMP=    .00
ADD HYD               301.00 51&52  61        .00669       13.38        .597      1.67343    1.533    3.125
ADD HYD               302.00 61&53  62        .01469       30.41       1.373      1.75177    1.533    3.234
ADD HYD               303.00 62&54  63        .01524       31.29       1.402      1.72439    1.533    3.207
ROUTE RESERVOIR       305.00   63   99        .01524       28.90       1.233      1.51674    1.600    2.962 AC-FT=     .267
*S  COMPUTE HYD BASIN SAGE PARK TRACT 402A
COMPUTE NM HYD        105.00   -     6        .00597       14.32        .682      2.14164    1.533    3.745 PER IMP=  85.00
*S  COMPUTE HYD BASIN DEVELOPED LOTS
COMPUTE NM HYD        107.00   -     7        .00311        7.46        .355      2.14166    1.533    3.749 PER IMP=  85.00
*S  COMPUTE HYD BASIN POND TRACT 402B
COMPUTE NM HYD        107.00   -     8        .00255        6.13        .292      2.14166    1.533    3.751 PER IMP=  85.00
ADD HYD               201.00  1& 2  10        .02733       66.73       3.219      2.20911    1.533    3.816
ADD HYD               201.00 10& 3  11        .04059       98.51       4.735      2.18705    1.533    3.792
ADD HYD               301.00 11& 4  12        .05054      122.33       5.871      2.17812    1.533    3.782
ADD HYD               301.00 12&99  13        .06578      147.00       7.104      2.02486    1.533    3.492
ADD HYD               301.00 13& 6  14        .07175      161.31       7.786      2.03458    1.533    3.513
ADD HYD               301.00 14& 7  15        .07486      168.77       8.141      2.03902    1.533    3.523
ADD HYD               301.00 15& 8  16        .07742      174.90       8.433      2.04241    1.533    3.530
ROUTE RESERVOIR       301.00   16   20        .07742        2.53       3.721       .90131    3.066     .051 AC-FT=    6.500
FINISH
```

```
         AHYMO PROGRAM (AHYMO_97) -                          - Version:  1997.02c
              RUN DATE (MON/DAY/YR) = 03/24/2020
              START TIME (HR:MIN:SEC) = 21:50:26     USER NO.= AHYMO-I-9702c01000Q29-
AH
              INPUT FILE = C:\DOCUME~1\Ron\Desktop\AHYMOR~1\SAGEPA~2.HMI

     *  Project SAGE PARK
     *  PROPOSED Conditions
     *  100 YEAR 24 HOUR RAINFALL TABLE
     RAINFALL              TYPE=2  RAIN QUARTER=0
                           RAIN ONE=1.87 IN  RAIN SIX=2.20 IN
                           RAIN DAY=2.66 IN  DT=0.03333 HRS

                      COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 -
PEAK AT 1.40 HR.
                      DT =    .033330 HOURS       END TIME =    19.964670 HOURS
                         .0000   .0016   .0033   .0050   .0067   .0085   .0103
                         .0122   .0141   .0160   .0180   .0201   .0222   .0243
                         .0266   .0289   .0312   .0337   .0362   .0388   .0415
                         .0443   .0472   .0502   .0534   .0567   .0601   .0637
                         .0675   .0715   .0758   .0809   .0865   .0924   .1050
                         .1334   .1771   .2398   .3254   .4379   .5814   .7600
                         .9780  1.1804  1.2649  1.3363  1.3997  1.4575  1.5106
                        1.5600  1.6061  1.6493  1.6900  1.7284  1.7646  1.7989
                        1.8314  1.8623  1.8915  1.9193  1.9456  1.9518  1.9576
                        1.9630  1.9682  1.9732  1.9780  1.9825  1.9869  1.9912
                        1.9953  1.9993  2.0031  2.0068  2.0104  2.0140  2.0174
                        2.0207  2.0240  2.0272  2.0303  2.0333  2.0363  2.0392
                        2.0420  2.0448  2.0475  2.0502  2.0528  2.0554  2.0580
                        2.0605  2.0629  2.0653  2.0677  2.0700  2.0723  2.0746
                        2.0768  2.0790  2.0812  2.0833  2.0855  2.0875  2.0896
                        2.0916  2.0936  2.0956  2.0976  2.0995  2.1014  2.1033
                        2.1051  2.1070  2.1088  2.1106  2.1124  2.1141  2.1159
                        2.1176  2.1193  2.1210  2.1227  2.1244  2.1260  2.1276
                        2.1292  2.1308  2.1324  2.1340  2.1355  2.1371  2.1386
                        2.1401  2.1416  2.1431  2.1446  2.1460  2.1475  2.1489
                        2.1504  2.1518  2.1532  2.1546  2.1560  2.1573  2.1587
                        2.1600  2.1614  2.1627  2.1640  2.1654  2.1667  2.1680
                        2.1692  2.1705  2.1718  2.1731  2.1743  2.1756  2.1768
                        2.1780  2.1792  2.1804  2.1817  2.1829  2.1840  2.1852
                        2.1864  2.1876  2.1887  2.1899  2.1910  2.1922  2.1933
                        2.1944  2.1956  2.1967  2.1978  2.1989  2.2000  2.2013
                        2.2026  2.2039  2.2052  2.2065  2.2078  2.2091  2.2103
                        2.2116  2.2129  2.2142  2.2155  2.2167  2.2180  2.2193
                        2.2205  2.2218  2.2230  2.2243  2.2255  2.2268  2.2280
                        2.2293  2.2305  2.2318  2.2330  2.2342  2.2354  2.2367
                        2.2379  2.2391  2.2403  2.2415  2.2428  2.2440  2.2452
                        2.2464  2.2476  2.2488  2.2500  2.2512  2.2524  2.2536
                        2.2547  2.2559  2.2571  2.2583  2.2595  2.2606  2.2618
                        2.2630  2.2641  2.2653  2.2665  2.2676  2.2688  2.2699
                        2.2711  2.2722  2.2734  2.2745  2.2757  2.2768  2.2779
                        2.2791  2.2802  2.2813  2.2825  2.2836  2.2847  2.2858
                        2.2870  2.2881  2.2892  2.2903  2.2914  2.2925  2.2936
                        2.2947  2.2958  2.2969  2.2980  2.2991  2.3002  2.3013
                        2.3024  2.3035  2.3046  2.3057  2.3067  2.3078  2.3089
                        2.3100  2.3110  2.3121  2.3132  2.3142  2.3153  2.3164
                        2.3174  2.3185  2.3195  2.3206  2.3216  2.3227  2.3237
                        2.3248  2.3258  2.3269  2.3279  2.3290  2.3300  2.3310
                        2.3321  2.3331  2.3341  2.3352  2.3362  2.3372  2.3382
                        2.3392  2.3403  2.3413  2.3423  2.3433  2.3443  2.3453
                        2.3463  2.3473  2.3483  2.3493  2.3503  2.3513  2.3523
```

```
                    2.3533  2.3543  2.3553  2.3563  2.3573  2.3583  2.3593
                    2.3603  2.3612  2.3622  2.3632  2.3642  2.3651  2.3661
                    2.3671  2.3681  2.3690  2.3700  2.3710  2.3719  2.3729
                    2.3738  2.3748  2.3758  2.3767  2.3777  2.3786  2.3796
                    2.3805  2.3815  2.3824  2.3834  2.3843  2.3852  2.3862
                    2.3871  2.3881  2.3890  2.3899  2.3909  2.3918  2.3927
                    2.3936  2.3946  2.3955  2.3964  2.3973  2.3983  2.3992
                    2.4001  2.4010  2.4019  2.4028  2.4038  2.4047  2.4056
                    2.4065  2.4074  2.4083  2.4092  2.4101  2.4110  2.4119
                    2.4128  2.4137  2.4146  2.4155  2.4164  2.4173  2.4181
                    2.4190  2.4199  2.4208  2.4217  2.4226  2.4234  2.4243
                    2.4252  2.4261  2.4270  2.4278  2.4287  2.4296  2.4304
                    2.4313  2.4322  2.4331  2.4339  2.4348  2.4356  2.4365
                    2.4374  2.4382  2.4391  2.4399  2.4408  2.4416  2.4425
                    2.4434  2.4442  2.4450  2.4459  2.4467  2.4476  2.4484
                    2.4493  2.4501  2.4510  2.4518  2.4526  2.4535  2.4543
                    2.4551  2.4560  2.4568  2.4576  2.4585  2.4593  2.4601
                    2.4609  2.4618  2.4626  2.4634  2.4642  2.4651  2.4659
                    2.4667  2.4675  2.4683  2.4691  2.4700  2.4708  2.4716
                    2.4724  2.4732  2.4740  2.4748  2.4756  2.4764  2.4772
                    2.4780  2.4788  2.4796  2.4804  2.4812  2.4820  2.4828
                    2.4836  2.4844  2.4852  2.4860  2.4868  2.4876  2.4884
                    2.4892  2.4899  2.4907  2.4915  2.4923  2.4931  2.4939
                    2.4946  2.4954  2.4962  2.4970  2.4978  2.4985  2.4993
                    2.5001  2.5008  2.5016  2.5024  2.5032  2.5039  2.5047
                    2.5055  2.5062  2.5070  2.5078  2.5085  2.5093  2.5100
                    2.5108  2.5116  2.5123  2.5131  2.5138  2.5146  2.5153
                    2.5161  2.5168  2.5176  2.5183  2.5191  2.5198  2.5206
                    2.5213  2.5221  2.5228  2.5236  2.5243  2.5250  2.5258
                    2.5265  2.5273  2.5280  2.5287  2.5295  2.5302  2.5309
                    2.5317  2.5324  2.5331  2.5339  2.5346  2.5353  2.5361
                    2.5368  2.5375  2.5382  2.5390  2.5397  2.5404  2.5411
                    2.5418  2.5426  2.5433  2.5440  2.5447  2.5454  2.5462
                    2.5469  2.5476  2.5483  2.5490  2.5497  2.5504  2.5511
                    2.5518  2.5526  2.5533  2.5540  2.5547  2.5554  2.5561
                    2.5568  2.5575  2.5582  2.5589  2.5596  2.5603  2.5610
                    2.5617  2.5624  2.5631  2.5638  2.5645  2.5652  2.5659
                    2.5665  2.5672  2.5679  2.5686  2.5693  2.5700  2.5707
                    2.5714  2.5721  2.5727  2.5734  2.5741  2.5748  2.5755
                    2.5761  2.5768  2.5775  2.5782  2.5789  2.5795  2.5802
                    2.5809  2.5816  2.5822  2.5829  2.5836

     ************************************************************

     *S  COMPUTE HYD BASIN UNSER STORM DRAIN
     COMPUTE NM HYD        ID=1  HYDNO=101  AREA=0.023247 SQ MI
                           PER A=0 PER B=0 PER C=10 PER D=90
                           TP=.1667 HR MASS RAIN=-1

          K =   .090852HR    TP =   .166700HR    K/TP RATIO =   .545000     SHAPE
CONSTANT, N =  7.106420
          UNIT PEAK =   66.052    CFS   UNIT VOLUME =    1.000       B =   526.28
P60 = 1.8700
          AREA =      .020922 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330


          K =   .132393HR    TP =   .166700HR    K/TP RATIO =   .794199     SHAPE
CONSTANT, N =  4.514851
```

```
          UNIT PEAK =   5.4128    CFS   UNIT VOLUME =    .9977       B =   388.14
P60 = 1.8700
          AREA =      .002325 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330

     PRINT HYD             ID=1   CODE=1

                                      PARTIAL HYDROGRAPH   101.00


         RUNOFF VOLUME =     2.20911 INCHES     =       2.7389 ACRE-FEET
         PEAK DISCHARGE RATE =      56.76 CFS  AT   1.533 HOURS   BASIN AREA =   .0232
SQ. MI.



     *
     *S  COMPUTE HYD BASIN SAGE ROAD
     COMPUTE NM HYD        ID=2  HYDNO=102  AREA=0.004078 SQ MI
                           PER A=0 PER B=0 PER C=10 PER D=90
                           TP=.1667 HR MASS RAIN=-1

          K =   .090852HR    TP =   .166700HR    K/TP RATIO =   .545000     SHAPE
CONSTANT, N =  7.106420
          UNIT PEAK =   11.587    CFS   UNIT VOLUME =    .9992       B =   526.28
P60 = 1.8700
          AREA =      .003670 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330


          K =   .132393HR    TP =   .166700HR    K/TP RATIO =   .794199     SHAPE
CONSTANT, N =  4.514851
          UNIT PEAK =   .94952    CFS   UNIT VOLUME =    .9861       B =   388.14
P60 = 1.8700
          AREA =      .000408 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330

     PRINT HYD             ID=2   CODE=1

                                      PARTIAL HYDROGRAPH   102.00


         RUNOFF VOLUME =     2.20913 INCHES     =        .4805 ACRE-FEET
         PEAK DISCHARGE RATE =       9.97 CFS  AT   1.533 HOURS   BASIN AREA =   .0041
SQ. MI.



     *
     *S  COMPUTE HYD BASIN TRACT 359 TO 361
     COMPUTE NM HYD        ID=3  HYDNO=103  AREA=0.013268 SQ MI
                           PER A=0 PER B=0 PER C=15 PER D=85
                           TP=.1667 HR MASS RAIN=-1

          K =   .090852HR    TP =   .166700HR    K/TP RATIO =   .545000     SHAPE
CONSTANT, N =  7.106420
```

```
          UNIT PEAK =   35.604    CFS   UNIT VOLUME =    .9999       B =   526.28
P60 = 1.8700
          AREA =      .011278 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330


          K =   .132393HR    TP =   .166700HR    K/TP RATIO =   .794199     SHAPE
CONSTANT, N =  4.514851
          UNIT PEAK =   4.6340    CFS   UNIT VOLUME =    .9973       B =   388.14
P60 = 1.8700
          AREA =      .001990 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330

     PRINT HYD             ID=3   CODE=1

                                      PARTIAL HYDROGRAPH   103.00


         RUNOFF VOLUME =     2.14163 INCHES     =       1.5155 ACRE-FEET
         PEAK DISCHARGE RATE =      31.78 CFS  AT   1.533 HOURS   BASIN AREA =   .0133
SQ. MI.



     *
     *S  COMPUTE HYD BASIN TRACT 400A
     COMPUTE NM HYD        ID=4  HYDNO=104  AREA=0.009943 SQ MI
                           PER A=0 PER B=0 PER C=15 PER D=85
                           TP=.1667 HR MASS RAIN=-1

          K =   .090852HR    TP =   .166700HR    K/TP RATIO =   .545000     SHAPE
CONSTANT, N =  7.106420
          UNIT PEAK =   26.682    CFS   UNIT VOLUME =    .9998       B =   526.28
P60 = 1.8700
          AREA =      .008452 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330


          K =   .132393HR    TP =   .166700HR    K/TP RATIO =   .794199     SHAPE
CONSTANT, N =  4.514851
          UNIT PEAK =   3.4727    CFS   UNIT VOLUME =    .9965       B =   388.14
P60 = 1.8700
          AREA =      .001491 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330

     PRINT HYD             ID=4   CODE=1

                                      PARTIAL HYDROGRAPH   104.00


         RUNOFF VOLUME =     2.14163 INCHES     =       1.1357 ACRE-FEET
         PEAK DISCHARGE RATE =      23.82 CFS  AT   1.533 HOURS   BASIN AREA =   .0099
SQ. MI.
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```
     *
     *S  COMPUTE HYD BASIN P1
     COMPUTE NM HYD        ID=51  HYDNO=201  AREA=0.005854 SQ MI
                           PER A=0 PER B=15 PER C=20 PER D=65
                           TP=.1667 HR MASS RAIN=-1

          K =   .090852HR    TP =   .166700HR    K/TP RATIO =   .545000     SHAPE
CONSTANT, N =  7.106420
          UNIT PEAK =   12.013    CFS   UNIT VOLUME =    .9992       B =   526.28
P60 = 1.8700
          AREA =      .003805 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330


          K =   .145859HR    TP =   .166700HR    K/TP RATIO =   .874979     SHAPE
CONSTANT, N =  4.058425
          UNIT PEAK =   4.4130    CFS   UNIT VOLUME =    .9971       B =   359.05
P60 = 1.8700
          AREA =      .002049 SQ MI    IA =    .41429 INCHES    INF =   1.01000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330

     PRINT HYD             ID=51   CODE=5

                                        PARTIAL HYDROGRAPH   201.00

          TIME      FLOW           TIME      FLOW           TIME      FLOW
TIME      FLOW           TIME      FLOW
           HRS       CFS            HRS       CFS            HRS       CFS
HRS       CFS            HRS       CFS
           .000        .0          4.000        .1          7.999        .1
11.999       .1          15.998       .1
           .167        .0          4.166        .1          8.166        .1
12.165       .1          16.165       .1
           .333        .0          4.333        .1          8.332        .1
12.332       .1          16.332       .1
           .500        .0          4.500        .1          8.499        .1
12.499       .1          16.498       .1
           .667        .0          4.666        .1          8.666        .1
12.665       .1          16.665       .1
           .833        .0          4.833        .1          8.832        .1
12.832       .1          16.832       .1
          1.000        .0          4.999        .1          8.999        .1
12.999       .1          16.998       .1
          1.167        .0          5.166        .1          9.166        .1
13.165       .1          17.165       .1
          1.333       2.3          5.333        .1          9.332        .1
13.332       .1          17.332       .1
          1.500      11.7           5.499        .1          9.499        .1
13.499       .1          17.498       .1
          1.667       8.3          5.666        .1          9.666        .1
13.665       .1          17.665       .1
          1.833       4.8          5.833        .1          9.832        .1
13.832       .1          17.832       .1
          2.000       3.3          5.999        .1          9.999        .1
13.999       .1          17.998       .1
```

```
         2.166       1.9          6.166        .1          10.166        .1
14.165        .1          18.165        .1
         2.333        .9          6.333        .1          10.332        .1
14.332        .1          18.331        .1
         2.500        .6          6.499        .1          10.499        .1
14.499        .1          18.498        .1
         2.666        .4          6.666        .1          10.666        .1
14.665        .1          18.665        .1
         2.833        .3          6.833        .1          10.832        .1
14.832        .1          18.831        .1
         3.000        .2          6.999        .1          10.999        .1
14.998        .1          18.998        .1
         3.166        .1          7.166        .1          11.166        .1
15.165        .1          19.165        .1
         3.333        .1          7.333        .1          11.332        .1
15.332        .1          19.331        .1
         3.500        .1          7.499        .1          11.499        .1
15.498        .1          19.498        .1
         3.666        .1          7.666        .1          11.665        .1
15.665        .1          19.665        .1
         3.833        .1          7.833        .1          11.832        .1
15.832        .1          19.831        .1

         RUNOFF VOLUME =     1.81729 INCHES     =        .5674 ACRE-FEET
         PEAK DISCHARGE RATE =      12.46 CFS  AT   1.533 HOURS   BASIN AREA =   .0059
SQ. MI.



     *S  COMPUTE HYD BASIN P2
     COMPUTE NM HYD        ID=52  HYDNO=202  AREA=0.000837 SQ MI
                           PER A=0 PER B=100 PER C=0 PER D=0
                           TP=.1667 HR MASS RAIN=-1

          K =   .163814HR    TP =   .166700HR    K/TP RATIO =   .982685     SHAPE
CONSTANT, N =  3.593454
          UNIT PEAK =   1.6423    CFS   UNIT VOLUME =    .9917       B =   327.09
P60 = 1.8700
          AREA =      .000837 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330

     PRINT HYD             ID=52   CODE=5

                                       PARTIAL HYDROGRAPH   202.00

          TIME      FLOW           TIME      FLOW           TIME      FLOW
TIME      FLOW           TIME      FLOW
           HRS       CFS            HRS       CFS            HRS       CFS
HRS       CFS            HRS       CFS
           .000        .0            .833        .0          1.667        .7
2.500        .0          3.333        .0
           .167        .0          1.000        .0          1.833        .3
2.666        .0
           .333        .0          1.167        .0          2.000        .1
2.833        .0
           .500        .0          1.333        .0          2.166        .1
3.000        .0
           .667        .0          1.500        .8          2.333        .1
3.166        .0
```

```
         RUNOFF VOLUME =      .66738 INCHES     =        .0298 ACRE-FEET
         PEAK DISCHARGE RATE =        .93 CFS  AT   1.567 HOURS   BASIN AREA =   .0008
SQ. MI.



     *S  COMPUTE HYD BASIN P3
     COMPUTE NM HYD        ID=53  HYDNO=203  AREA=0.008001 SQ MI
                           PER A=0 PER B=15 PER C=20 PER D=65
                           TP=.1667 HR MASS RAIN=-1

          K =   .090852HR    TP =   .166700HR    K/TP RATIO =   .545000     SHAPE
CONSTANT, N =  7.106420
          UNIT PEAK =   16.419    CFS   UNIT VOLUME =    .9996       B =   526.28
P60 = 1.8700
          AREA =      .005201 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330


          K =   .145859HR    TP =   .166700HR    K/TP RATIO =   .874979     SHAPE
CONSTANT, N =  4.058425
          UNIT PEAK =   6.0315    CFS   UNIT VOLUME =    .9979       B =   359.05
P60 = 1.8700
          AREA =      .002800 SQ MI    IA =    .41429 INCHES    INF =   1.01000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330

     PRINT HYD             ID=3   CODE=5

                                        PARTIAL HYDROGRAPH   103.00

          TIME      FLOW           TIME      FLOW           TIME      FLOW
TIME      FLOW           TIME      FLOW
           HRS       CFS            HRS       CFS            HRS       CFS
HRS       CFS            HRS       CFS
          .000        .0          4.000        .2          7.999        .3
11.999       .2         15.998        .2
          .167        .0          4.166        .2          8.166        .3
12.165       .2         16.165        .2
          .333        .0          4.333        .2          8.332        .2
12.332       .2         16.332        .2
          .500        .0          4.500        .2          8.499        .2
12.499       .2         16.498        .2
          .667        .0          4.666        .2          8.666        .2
12.665       .2         16.665        .2
          .833        .0          4.833        .2          8.832        .2
12.832       .2         16.832        .2
         1.000        .0          4.999        .2          8.999        .2
12.999       .2         16.998        .2
         1.167        .0          5.166        .2          9.166        .2
13.165       .2         17.165        .2
         1.333       6.6          5.333        .2          9.332        .2
13.332       .2         17.332        .2
         1.500      29.9           5.499        .2          9.499        .2
13.499       .2         17.498        .2
         1.667      20.8           5.666        .2          9.666        .2
13.665       .2         17.665        .2
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          1.833      12.4          5.833        .2          9.832        .2
13.832        .2         17.832        .2
          2.000       9.1          5.999        .2          9.999        .2
13.999        .2         17.998        .2
          2.166       5.1          6.166        .3         10.166        .2
14.165        .2         18.165        .2
          2.333       2.3          6.333        .3         10.332        .2
14.332        .2         18.331        .2
          2.500       1.5          6.499        .3         10.499        .2
14.499        .2         18.498        .2
          2.666       1.0          6.666        .3         10.666        .2
14.665        .2         18.665        .2
          2.833        .7          6.833        .3         10.832        .2
14.832        .2         18.831        .2
          3.000        .5          6.999        .3         10.999        .2
14.998        .2         18.998        .2
          3.166        .4          7.166        .3         11.166        .2
15.165        .2         19.165        .2
          3.333        .3          7.333        .3         11.332        .2
15.332        .2         19.331        .2
          3.500        .2          7.499        .3         11.499        .2
15.498        .2         19.498        .2
          3.666        .2          7.666        .3         11.665        .2
15.665        .2         19.665        .1
          3.833        .2          7.833        .3         11.832        .2
15.832        .2         19.831        .1

         RUNOFF VOLUME =     2.14163 INCHES     =       1.5155 ACRE-FEET
         PEAK DISCHARGE RATE =      31.78 CFS  AT   1.533 HOURS   BASIN AREA =    .0133
SQ. MI.



     *S  COMPUTE HYD BASIN P4
     COMPUTE NM HYD        ID=54  HYDNO=204  AREA=0.000551 SQ MI
                           PER A=0 PER B=0 PER C=100 PER D=0
                           TP=.1667 HR MASS RAIN=-1

          K =   .132393HR    TP =   .166700HR    K/TP RATIO =   .794199     SHAPE
CONSTANT, N =  4.514851
          UNIT PEAK =   1.2829    CFS   UNIT VOLUME =    .9901       B =   388.14
P60 = 1.8700
          AREA =      .000551 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330

     PRINT HYD             ID=54   CODE=5

                                        PARTIAL HYDROGRAPH   204.00

          TIME      FLOW           TIME      FLOW           TIME      FLOW
TIME      FLOW           TIME      FLOW
           HRS       CFS            HRS       CFS            HRS       CFS
HRS       CFS            HRS       CFS
          .000        .0           .667        .0          1.333        .0
2.000        .2          2.666        .0
          .167        .0           .833        .0          1.500        .8
2.166        .1          2.833        .0
          .333        .0          1.000        .0          1.667        .6
2.333        .0          3.000        .0
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          .500        .0          1.167        .0          1.833        .3
2.500        .0

         RUNOFF VOLUME =      .99441 INCHES     =        .0292 ACRE-FEET
         PEAK DISCHARGE RATE =        .88 CFS  AT   1.533 HOURS   BASIN AREA =   .0006
SQ. MI.


     ************************************************************
     ADD HYD              ID=61 HYDNO=301
                          ID=51 ID=52
     PRINT HYD            ID=61 CODE=5

                                                  HYDROGRAPH FROM AREA   301.00

          TIME      FLOW           TIME      FLOW           TIME      FLOW
TIME      FLOW           TIME      FLOW
           HRS       CFS            HRS       CFS            HRS       CFS
HRS       CFS            HRS       CFS
           .000        .0           4.000        .1          7.999        .1
11.999       .1          15.998       .1
           .167        .0           4.166        .1          8.166        .1
12.165       .1          16.165       .1
           .333        .0           4.333        .1          8.332        .1
12.332       .1          16.332       .1
           .500        .0           4.500        .1          8.499        .1
12.499       .1          16.498       .1
           .667        .0           4.666        .1          8.666        .1
12.665       .1          16.665       .1
           .833        .0           4.833        .1          8.832        .1
12.832       .1          16.832       .1
          1.000        .0           4.999        .1          8.999        .1
12.999       .1          16.998       .1
          1.167        .0           5.166        .1          9.166        .1
13.165       .1          17.165       .1
          1.333       2.3           5.333        .1          9.332        .1
13.332       .1          17.332       .1
          1.500      12.5            5.499        .1          9.499        .1
13.499       .1          17.498       .1
          1.667       9.0           5.666        .1          9.666        .1
13.665       .1          17.665       .1
          1.833       5.1           5.833        .1          9.832        .1
13.832       .1          17.832       .1
          2.000       3.4           5.999        .1          9.999        .1
13.999       .1          17.998       .1
          2.166       1.9           6.166        .1         10.166        .1
14.165       .1          18.165       .1
          2.333        .9           6.333        .1         10.332        .1
14.332       .1          18.331       .1
          2.500        .6           6.499        .1         10.499        .1
14.499       .1          18.498       .1
          2.666        .4           6.666        .1         10.666        .1
14.665       .1          18.665       .1
          2.833        .3           6.833        .1         10.832        .1
14.832       .1          18.831       .1
          3.000        .2           6.999        .1         10.999        .1
14.998       .1          18.998       .1
          3.166        .1           7.166        .1         11.166        .1
15.165       .1          19.165       .1
          3.333        .1           7.333        .1         11.332        .1
15.332       .1          19.331       .1
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         3.500        .1          7.499        .1         11.499        .1
15.498        .1         19.498        .1
         3.666        .1          7.666        .1         11.665        .1
15.665        .1         19.665        .1
         3.833        .1          7.833        .1         11.832        .1
15.832        .1         19.831        .1

        RUNOFF VOLUME =     1.67343 INCHES     =        .5972 ACRE-FEET
        PEAK DISCHARGE RATE =      13.38 CFS  AT   1.533 HOURS   BASIN AREA =    .0067
SQ. MI.



     ADD HYD              ID=62 HYDNO=302
                          ID=61 ID=53
     PRINT HYD            ID=62 CODE=5

                                                  HYDROGRAPH FROM AREA   302.00

          TIME      FLOW           TIME      FLOW           TIME      FLOW
TIME      FLOW           TIME      FLOW
           HRS       CFS            HRS       CFS            HRS       CFS
HRS       CFS            HRS       CFS
           .000        .0          4.000        .2          7.999        .2
11.999        .2         15.998        .1
           .167        .0          4.166        .1          8.166        .2
12.165        .2         16.165        .1
           .333        .0          4.333        .1          8.332        .2
12.332        .2         16.332        .1
           .500        .0          4.500        .1          8.499        .2
12.499        .2         16.498        .1
           .667        .0          4.666        .1          8.666        .2
12.665        .2         16.665        .1
           .833        .0          4.833        .1          8.832        .2
12.832        .2         16.832        .1
          1.000        .0          4.999        .1          8.999        .2
12.999        .2         16.998        .1
          1.167        .0          5.166        .2          9.166        .2
13.165        .2         17.165        .1
          1.333       5.4          5.333        .2          9.332        .2
13.332        .2         17.332        .1
          1.500      28.4           5.499        .2          9.499        .2
13.499        .2         17.498        .1
          1.667      20.4           5.666        .2          9.666        .2
13.665        .2         17.665        .1
          1.833      11.6           5.833        .2          9.832        .2
13.832        .1         17.832        .1
          2.000       7.9           5.999        .2          9.999        .2
13.999        .1         17.998        .1
          2.166       4.5           6.166        .2         10.166        .2
14.165        .1         18.165        .1
          2.333       2.1           6.333        .2         10.332        .2
14.332        .1         18.331        .1
          2.500       1.4           6.499        .2         10.499        .2
14.499        .1         18.498        .1
          2.666        .9           6.666        .2         10.666        .2
14.665        .1         18.665        .1
          2.833        .6           6.833        .2         10.832        .2
14.832        .1         18.831        .1
          3.000        .5           6.999        .2         10.999        .2
14.998        .1         18.998        .1
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         3.166        .3          7.166        .2          11.166        .2
15.165        .1          19.165        .1
         3.333        .3          7.333        .2          11.332        .2
15.332        .1          19.331        .1
         3.500        .2          7.499        .2          11.499        .2
15.498        .1          19.498        .1
         3.666        .2          7.666        .2          11.665        .2
15.665        .1          19.665        .1
         3.833        .2          7.833        .2          11.832        .2
15.832        .1          19.831        .1

         RUNOFF VOLUME =     1.75177 INCHES     =       1.3726 ACRE-FEET
         PEAK DISCHARGE RATE =      30.41 CFS  AT   1.533 HOURS   BASIN AREA =    .0147
SQ. MI.



     ADD HYD              ID=63 HYDNO=303
                          ID=62 ID=54
     PRINT HYD            ID=63 CODE=5

                                                  HYDROGRAPH FROM AREA   303.00

          TIME      FLOW           TIME      FLOW           TIME      FLOW
TIME      FLOW           TIME      FLOW
           HRS       CFS            HRS       CFS            HRS       CFS
HRS       CFS            HRS       CFS
           .000        .0           4.000        .2          7.999        .2
11.999        .2          15.998        .1
           .167        .0           4.166        .1          8.166        .2
12.165        .2          16.165        .1
           .333        .0           4.333        .1          8.332        .2
12.332        .2          16.332        .1
           .500        .0           4.500        .1          8.499        .2
12.499        .2          16.498        .1
           .667        .0           4.666        .1          8.666        .2
12.665        .2          16.665        .1
           .833        .0           4.833        .1          8.832        .2
12.832        .2          16.832        .1
         1.000        .0           4.999        .1          8.999        .2
12.999        .2          16.998        .1
         1.167        .0           5.166        .2          9.166        .2
13.165        .2          17.165        .1
         1.333       5.4           5.333        .2          9.332        .2
13.332        .2          17.332        .1
         1.500      29.2           5.499        .2          9.499        .2
13.499        .2          17.498        .1
         1.667      21.0           5.666        .2          9.666        .2
13.665        .2          17.665        .1
         1.833      11.9           5.833        .2          9.832        .2
13.832        .1          17.832        .1
         2.000       8.0           5.999        .2          9.999        .2
13.999        .1          17.998        .1
         2.166       4.6           6.166        .2         10.166        .2
14.165        .1          18.165        .1
         2.333       2.2           6.333        .2         10.332        .2
14.332        .1          18.331        .1
         2.500       1.4           6.499        .2         10.499        .2
14.499        .1          18.498        .1
         2.666        .9           6.666        .2         10.666        .2
14.665        .1          18.665        .1
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         2.833        .7          6.833        .2          10.832        .2
14.832        .1          18.831        .1
         3.000        .5          6.999        .2          10.999        .2
14.998        .1          18.998        .1
         3.166        .3          7.166        .2          11.166        .2
15.165        .1          19.165        .1
         3.333        .3          7.333        .2          11.332        .2
15.332        .1          19.331        .1
         3.500        .2          7.499        .2          11.499        .2
15.498        .1          19.498        .1
         3.666        .2          7.666        .2          11.665        .2
15.665        .1          19.665        .1
         3.833        .2          7.833        .2          11.832        .2
15.832        .1          19.831        .1

         RUNOFF VOLUME =     1.72439 INCHES     =       1.4018 ACRE-FEET
         PEAK DISCHARGE RATE =      31.29 CFS  AT   1.533 HOURS   BASIN AREA =    .0152
SQ. MI.


     ************************************************************
     ROUTE RESERVOIR       ID=99 HYD=305 INFLOW ID=63 CODE=5
                           OUTFLOW           STORAGE        ELEV
                            (CFS)            (AC-FT)        (FT)
                                 0.00            0.0            5001
                                 0.01         0.1687          5004.6
                                 0.85         0.1687          5004.7
                                 6.74         0.2042          5005
                                44.13         0.3100          5006
                           PRINT HYD             ID=99 CODE=5

       *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *

          TIME      INFLOW    ELEV      VOLUME    OUTFLOW
          (HRS)     (CFS)     (FEET)    (AC-FT)   (CFS)

            .00        .00   5001.00       .000       .00
            .17        .00   5001.00       .000       .00
            .33        .00   5001.00       .000       .00
            .50        .00   5001.00       .000       .00
            .67        .00   5001.00       .000       .00
            .83        .00   5001.00       .000       .00
           1.00        .00   5001.00       .000       .00
           1.17        .02   5001.00       .000       .00
           1.33       5.41   5001.50       .023       .00
           1.50      29.22   5005.20       .225     14.06
           1.67      21.00   5005.46       .253     24.09
           1.83      11.86   5005.17       .223     13.21
           2.00       8.02   5005.05       .210      8.65
           2.17       4.57   5004.96       .199      5.90
           2.33       2.18   5004.81       .182      3.06
           2.50       1.39   5004.75       .174      1.76
           2.67        .94   5004.71       .170      1.14
           2.83        .65   5004.67       .169       .57
           3.00        .46   5004.66       .169       .54
           3.17        .34   5004.63       .169       .26
           3.33        .26   5004.64       .169       .34
           3.50        .21   5004.61       .169       .13
           3.67        .18   5004.63       .169       .26
           3.83        .16   5004.61       .169       .08
           4.00        .15   5004.63       .169       .23
```

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
4.17	.15	5004.61	.169	.07
4.33	.14	5004.63	.169	.22
4.50	.14	5004.61	.169	.06
4.67	.14	5004.63	.169	.22
4.83	.15	5004.61	.169	.07
5.00	.15	5004.63	.169	.23
5.17	.15	5004.61	.169	.07
5.33	.16	5004.63	.169	.24
5.50	.16	5004.61	.169	.08
5.67	.17	5004.63	.169	.25
5.83	.17	5004.61	.169	.09
6.00	.18	5004.63	.169	.26
6.17	.20	5004.61	.169	.12
6.33	.22	5004.63	.169	.30
6.50	.22	5004.62	.169	.14
6.67	.22	5004.63	.169	.30
6.83	.22	5004.62	.169	.14
7.00	.22	5004.63	.169	.30
7.17	.21	5004.61	.169	.13
7.33	.21	5004.63	.169	.29
7.50	.21	5004.61	.169	.13
7.67	.21	5004.63	.169	.29
7.83	.20	5004.61	.169	.12
8.00	.20	5004.63	.169	.28
8.17	.20	5004.61	.169	.12
8.33	.20	5004.63	.169	.28
8.50	.20	5004.61	.169	.12
8.67	.19	5004.63	.169	.27
8.83	.19	5004.61	.169	.11
9.00	.19	5004.63	.169	.27
9.17	.19	5004.61	.169	.11
9.33	.19	5004.63	.169	.27
9.50	.18	5004.61	.169	.10
9.67	.18	5004.63	.169	.26
9.83	.18	5004.61	.169	.10
10.00	.18	5004.63	.169	.26
10.17	.18	5004.61	.169	.10
10.33	.18	5004.63	.169	.26
10.50	.17	5004.61	.169	.09
10.67	.17	5004.63	.169	.25
10.83	.17	5004.61	.169	.09
11.00	.17	5004.63	.169	.25
11.17	.17	5004.61	.169	.09
11.33	.17	5004.63	.169	.25
11.50	.17	5004.61	.169	.09
11.67	.16	5004.63	.169	.24
11.83	.16	5004.61	.169	.08
12.00	.16	5004.63	.169	.24
12.17	.16	5004.61	.169	.08
12.33	.16	5004.63	.169	.24
12.50	.16	5004.61	.169	.08
12.67	.16	5004.63	.169	.24
12.83	.16	5004.61	.169	.08
13.00	.15	5004.63	.169	.24
13.17	.15	5004.61	.169	.07
13.33	.15	5004.63	.169	.23
13.50	.15	5004.61	.169	.07
13.67	.15	5004.63	.169	.23

```
          TIME      INFLOW    ELEV      VOLUME    OUTFLOW
          (HRS)     (CFS)     (FEET)    (AC-FT)   (CFS)

          13.83        .15   5004.61       .169       .07
          14.00        .15   5004.63       .169       .23
          14.17        .15   5004.61       .169       .07
          14.33        .15   5004.63       .169       .23
          14.50        .14   5004.61       .169       .06
          14.67        .14   5004.63       .169       .22
          14.83        .14   5004.61       .169       .06
          15.00        .14   5004.63       .169       .22
          15.17        .14   5004.61       .169       .06
          15.33        .14   5004.63       .169       .22
          15.50        .14   5004.61       .169       .06
          15.67        .14   5004.63       .169       .22
          15.83        .14   5004.61       .169       .06
          16.00        .14   5004.62       .169       .22
          16.17        .14   5004.61       .169       .06
          16.33        .14   5004.62       .169       .22
          16.50        .13   5004.61       .169       .05
          16.67        .13   5004.62       .169       .21
          16.83        .13   5004.60       .169       .05
          17.00        .13   5004.62       .169       .21
          17.16        .13   5004.60       .169       .05
          17.33        .13   5004.62       .169       .21
          17.50        .13   5004.60       .169       .05
          17.66        .13   5004.62       .169       .21
          17.83        .13   5004.60       .169       .05
          18.00        .13   5004.62       .169       .21
          18.16        .13   5004.60       .169       .05
          18.33        .13   5004.62       .169       .21
          18.50        .12   5004.60       .169       .04
          18.66        .12   5004.62       .169       .20
          18.83        .12   5004.60       .169       .04
          19.00        .12   5004.62       .169       .20
          19.16        .12   5004.60       .169       .04
          19.33        .12   5004.62       .169       .20
          19.50        .12   5004.60       .169       .04
          19.66        .12   5004.62       .169       .20
          19.83        .12   5004.60       .169       .04
       PEAK DISCHARGE =       28.899 CFS - PEAK OCCURS AT HOUR    1.60
       MAXIMUM WATER SURFACE ELEVATION =     5005.593
       MAXIMUM STORAGE =         .2669 AC-FT      INCREMENTAL TIME=     .033330HRS

     ************************************************************
     *
     *S  COMPUTE HYD BASIN SAGE PARK TRACT 402A
     COMPUTE NM HYD        ID=6  HYDNO=105  AREA=0.005974 SQ MI
                           PER A=0 PER B=0 PER C=15 PER D=85
                           TP=.1667 HR MASS RAIN=-1

          K =   .090852HR    TP =   .166700HR    K/TP RATIO =   .545000     SHAPE
CONSTANT, N =  7.106420
          UNIT PEAK =   16.031    CFS   UNIT VOLUME =    .9996       B =   526.28
P60 = 1.8700
          AREA =      .005078 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330
```

```
          K =   .132393HR    TP =   .166700HR    K/TP RATIO =   .794199     SHAPE
CONSTANT, N =  4.514851
          UNIT PEAK =   2.0865    CFS   UNIT VOLUME =    .9935       B =   388.14
P60 = 1.8700
          AREA =      .000896 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330

     PRINT HYD             ID=6   CODE=1

                                      PARTIAL HYDROGRAPH   105.00


         RUNOFF VOLUME =     2.14164 INCHES     =        .6824 ACRE-FEET
         PEAK DISCHARGE RATE =      14.32 CFS  AT   1.533 HOURS   BASIN AREA =   .0060
SQ. MI.



     *
     *S  COMPUTE HYD BASIN DEVELOPED LOTS
     COMPUTE NM HYD        ID=7  HYDNO=107  AREA=0.003108 SQ MI
                           PER A=0 PER B=0 PER C=15 PER D=85
                           TP=.1667 HR MASS RAIN=-1

          K =   .090852HR    TP =   .166700HR    K/TP RATIO =   .545000     SHAPE
CONSTANT, N =  7.106420
          UNIT PEAK =   8.3402    CFS   UNIT VOLUME =    .9988       B =   526.28
P60 = 1.8700
          AREA =      .002642 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330


          K =   .132393HR    TP =   .166700HR    K/TP RATIO =   .794199     SHAPE
CONSTANT, N =  4.514851
          UNIT PEAK =   1.0855    CFS   UNIT VOLUME =    .9883       B =   388.14
P60 = 1.8700
          AREA =      .000466 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330

     PRINT HYD             ID=7   CODE=1

                                      PARTIAL HYDROGRAPH   107.00


         RUNOFF VOLUME =     2.14166 INCHES     =        .3550 ACRE-FEET
         PEAK DISCHARGE RATE =       7.46 CFS  AT   1.533 HOURS   BASIN AREA =   .0031
SQ. MI.



     *
     *S  COMPUTE HYD BASIN POND TRACT 402B
     COMPUTE NM HYD        ID=8  HYDNO=107  AREA=0.002554 SQ MI
                           PER A=0 PER B=0 PER C=15 PER D=85
                           TP=.1667 HR MASS RAIN=-1
```

```
          K =   .090852HR    TP =   .166700HR    K/TP RATIO =   .545000     SHAPE
CONSTANT, N =  7.106420
          UNIT PEAK =   6.8536    CFS   UNIT VOLUME =    .9986       B =   526.28
P60 = 1.8700
          AREA =      .002171 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330


          K =   .132393HR    TP =   .166700HR    K/TP RATIO =   .794199     SHAPE
CONSTANT, N =  4.514851
          UNIT PEAK =   .89201    CFS   UNIT VOLUME =    .9849       B =   388.14
P60 = 1.8700
          AREA =      .000383 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES
PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
.033330

     PRINT HYD             ID=8   CODE=1

                                      PARTIAL HYDROGRAPH   107.00


         RUNOFF VOLUME =     2.14166 INCHES     =        .2917 ACRE-FEET
         PEAK DISCHARGE RATE =       6.13 CFS  AT   1.533 HOURS   BASIN AREA =   .0026
SQ. MI.



     ADD HYD               ID=10 HYDNO=201
                           ID=1 ID=2
     PRINT HYD             ID=10 CODE=5

                                      PARTIAL HYDROGRAPH   201.00

          TIME      FLOW           TIME      FLOW           TIME      FLOW
TIME      FLOW           TIME      FLOW
           HRS       CFS            HRS       CFS            HRS       CFS
HRS       CFS            HRS       CFS
          .000        .0          4.000        .4          7.999        .6
11.999        .4         15.998        .4
          .167        .0          4.166        .4          8.166        .5
12.165        .4         16.165        .4
          .333        .0          4.333        .4          8.332        .5
12.332        .4         16.332        .4
          .500        .0          4.500        .4          8.499        .5
12.499        .4         16.498        .4
          .667        .0          4.666        .4          8.666        .5
12.665        .4         16.665        .4
          .833        .0          4.833        .4          8.832        .5
12.832        .4         16.832        .4
         1.000        .0          4.999        .4          8.999        .5
12.999        .4         16.998        .4
         1.167        .1          5.166        .4          9.166        .5
13.165        .4         17.165        .4
         1.333      14.4          5.333        .4          9.332        .5
13.332        .4         17.332        .4
         1.500      62.8          5.499        .4          9.499        .5
13.499        .4         17.498        .4
```

```
          1.667      43.5          5.666        .5          9.666        .5
13.665        .4         17.665        .3
          1.833      26.2          5.833        .5          9.832        .5
13.832        .4         17.832        .3
          2.000      19.3          5.999        .5          9.999        .5
13.999        .4         17.998        .3
          2.166      11.0          6.166        .6         10.166        .5
14.165        .4         18.165        .3
          2.333       4.9          6.333        .6         10.332        .5
14.332        .4         18.331        .3
          2.500       3.1          6.499        .6         10.499        .5
14.499        .4         18.498        .3
          2.666       2.1          6.666        .6         10.666        .5
14.665        .4         18.665        .3
          2.833       1.5          6.833        .6         10.832        .5
14.832        .4         18.831        .3
          3.000       1.0          6.999        .6         10.999        .5
14.998        .4         18.998        .3
          3.166        .8          7.166        .6         11.166        .5
15.165        .4         19.165        .3
          3.333        .6          7.333        .6         11.332        .5
15.332        .4         19.331        .3
          3.500        .5          7.499        .6         11.499        .5
15.498        .4         19.498        .3
          3.666        .5          7.666        .6         11.665        .5
15.665        .4         19.665        .3
          3.833        .4          7.833        .6         11.832        .4
15.832        .4         19.831        .3

         RUNOFF VOLUME =     2.20911 INCHES     =       3.2194 ACRE-FEET
         PEAK DISCHARGE RATE =      66.73 CFS  AT   1.533 HOURS   BASIN AREA =   .0273
SQ. MI.


     *
     ADD HYD              ID=11 HYDNO=201
                          ID=10 ID=3
     PRINT HYD            ID=11 CODE=5

                                        PARTIAL HYDROGRAPH   201.00

          TIME      FLOW           TIME      FLOW           TIME      FLOW
TIME      FLOW           TIME      FLOW
           HRS       CFS            HRS       CFS            HRS       CFS
HRS       CFS            HRS       CFS
          .000        .0          4.000        .6          7.999        .8
11.999       .6         15.998        .5
          .167        .0          4.166        .6          8.166        .8
12.165       .6         16.165        .5
          .333        .0          4.333        .6          8.332        .8
12.332       .6         16.332        .5
          .500        .0          4.500        .6          8.499        .8
12.499       .6         16.498        .5
          .667        .0          4.666        .6          8.666        .8
12.665       .6         16.665        .5
          .833        .0          4.833        .6          8.832        .8
12.832       .6         16.832        .5
         1.000        .0          4.999        .6          8.999        .8
12.999       .6         16.998        .5
         1.167        .1          5.166        .6          9.166        .8
13.165       .6         17.165        .5
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          1.333      21.0          5.333        .6          9.332        .7
13.332        .6         17.332        .5
          1.500      92.7          5.499        .6          9.499        .7
13.499        .6         17.498        .5
          1.667      64.3          5.666        .7          9.666        .7
13.665        .6         17.665        .5
          1.833      38.6          5.833        .7          9.832        .7
13.832        .6         17.832        .5
          2.000      28.4          5.999        .7          9.999        .7
13.999        .6         17.998        .5
          2.166      16.1          6.166        .8         10.166        .7
14.165        .6         18.165        .5
          2.333       7.3          6.333        .9         10.332        .7
14.332        .6         18.331        .5
          2.500       4.6          6.499        .9         10.499        .7
14.499        .6         18.498        .5
          2.666       3.1          6.666        .9         10.666        .7
14.665        .6         18.665        .5
          2.833       2.1          6.833        .9         10.832        .7
14.832        .6         18.831        .5
          3.000       1.5          6.999        .9         10.999        .7
14.998        .6         18.998        .5
          3.166       1.2          7.166        .8         11.166        .7
15.165        .6         19.165        .5
          3.333        .9          7.333        .8         11.332        .7
15.332        .6         19.331        .5
          3.500        .8          7.499        .8         11.499        .7
15.498        .6         19.498        .5
          3.666        .7          7.666        .8         11.665        .7
15.665        .6         19.665        .5
          3.833        .6          7.833        .8         11.832        .7
15.832        .5         19.831        .5

         RUNOFF VOLUME =     2.18705 INCHES     =       4.7349 ACRE-FEET
         PEAK DISCHARGE RATE =      98.51 CFS  AT   1.533 HOURS   BASIN AREA =   .0406
SQ. MI.


     *
     ADD HYD              ID=12 HYDNO=301
                          ID=11 ID=4
     PRINT HYD            ID=12 CODE=5

                                                HYDROGRAPH FROM AREA   301.00

          TIME      FLOW           TIME      FLOW           TIME      FLOW
TIME      FLOW           TIME      FLOW
           HRS       CFS            HRS       CFS            HRS       CFS
HRS       CFS            HRS       CFS
           .000        .0           4.000        .7          7.999       1.0
11.999        .8         15.998        .7
           .167        .0           4.166        .7          8.166       1.0
12.165        .8         16.165        .7
           .333        .0           4.333        .7          8.332       1.0
12.332        .8         16.332        .7
           .500        .0           4.500        .7          8.499       1.0
12.499        .8         16.498        .7
           .667        .0           4.666        .7          8.666       1.0
12.665        .8         16.665        .7
           .833        .0           4.833        .7          8.832        .9
12.832        .8         16.832        .6
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         1.000        .0          4.999        .7          8.999        .9
12.999        .8          16.998        .6
         1.167        .1          5.166        .8          9.166        .9
13.165        .8          17.165        .6
         1.333      26.0          5.333        .8          9.332        .9
13.332        .7          17.332        .6
         1.500     115.1          5.499        .8          9.499        .9
13.499        .7          17.498        .6
         1.667      79.9          5.666        .8          9.666        .9
13.665        .7          17.665        .6
         1.833      48.0          5.833        .9          9.832        .9
13.832        .7          17.832        .6
         2.000      35.2          5.999        .9          9.999        .9
13.999        .7          17.998        .6
         2.166      20.0          6.166       1.0         10.166        .9
14.165        .7          18.165        .6
         2.333       9.0          6.333       1.1         10.332        .9
14.332        .7          18.331        .6
         2.500       5.7          6.499       1.1         10.499        .9
14.499        .7          18.498        .6
         2.666       3.8          6.666       1.1         10.666        .9
14.665        .7          18.665        .6
         2.833       2.6          6.833       1.1         10.832        .9
14.832        .7          18.831        .6
         3.000       1.9          6.999       1.1         10.999        .8
14.998        .7          18.998        .6
         3.166       1.5          7.166       1.0         11.166        .8
15.165        .7          19.165        .6
         3.333       1.2          7.333       1.0         11.332        .8
15.332        .7          19.331        .6
         3.500       1.0          7.499       1.0         11.499        .8
15.498        .7          19.498        .6
         3.666        .9          7.666       1.0         11.665        .8
15.665        .7          19.665        .6
         3.833        .8          7.833       1.0         11.832        .8
15.832        .7          19.831        .6

         RUNOFF VOLUME =     2.17812 INCHES     =       5.8705 ACRE-FEET
         PEAK DISCHARGE RATE =     122.33 CFS  AT   1.533 HOURS   BASIN AREA =   .0505
SQ. MI.



     *
     ADD HYD              ID=13 HYDNO=301
                          ID=12 ID=99
     PRINT HYD            ID=13 CODE=5

                                                 HYDROGRAPH FROM AREA   301.00

         TIME      FLOW          TIME      FLOW          TIME      FLOW
TIME     FLOW          TIME      FLOW
          HRS       CFS           HRS       CFS           HRS       CFS
HRS      CFS           HRS       CFS
          .000        .0          4.000       1.0         7.999       1.3
11.999      1.0         15.998        .9
          .167        .0          4.166        .8         8.166       1.1
12.165       .9         16.165        .7
          .333        .0          4.333        .9         8.332       1.3
12.332      1.0         16.332        .9
          .500        .0          4.500        .8         8.499       1.1
12.499       .9         16.498        .7
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          .667        .0          4.666        .9          8.666       1.2
12.665       1.0         16.665        .9
          .833        .0          4.833        .8          8.832       1.1
12.832        .8         16.832        .7
         1.000        .0          4.999       1.0          8.999       1.2
12.999       1.0         16.998        .9
         1.167        .1          5.166        .8          9.166       1.0
13.165        .8         17.165        .7
         1.333      26.0          5.333       1.0          9.332       1.2
13.332       1.0         17.332        .8
         1.500     129.1          5.499        .9          9.499       1.0
13.499        .8         17.498        .7
         1.667     104.0          5.666       1.1          9.666       1.2
13.665       1.0         17.665        .8
         1.833      61.2          5.833       1.0          9.832       1.0
13.832        .8         17.832        .7
         2.000      43.8          5.999       1.2          9.999       1.2
13.999       1.0         17.998        .8
         2.166      25.9          6.166       1.1         10.166       1.0
14.165        .8         18.165        .7
         2.333      12.1          6.333       1.4         10.332       1.1
14.332        .9         18.331        .8
         2.500       7.4          6.499       1.2         10.499       1.0
14.499        .8         18.498        .6
         2.666       4.9          6.666       1.4         10.666       1.1
14.665        .9         18.665        .8
         2.833       3.2          6.833       1.2         10.832        .9
14.832        .8         18.831        .6
         3.000       2.5          6.999       1.4         10.999       1.1
14.998        .9         18.998        .8
         3.166       1.7          7.166       1.2         11.166        .9
15.165        .8         19.165        .6
         3.333       1.5          7.333       1.3         11.332       1.1
15.332        .9         19.331        .8
         3.500       1.1          7.499       1.2         11.499        .9
15.498        .7         19.498        .6
         3.666       1.1          7.666       1.3         11.665       1.1
15.665        .9         19.665        .8
         3.833        .9          7.833       1.1         11.832        .9
15.832        .7         19.831        .6

         RUNOFF VOLUME =     2.02486 INCHES     =       7.1036 ACRE-FEET
         PEAK DISCHARGE RATE =     147.00 CFS  AT   1.533 HOURS   BASIN AREA =   .0658
SQ. MI.


     *
     ADD HYD              ID=14 HYDNO=301
                          ID=13 ID=6
     PRINT HYD            ID=14 CODE=5

                                                HYDROGRAPH FROM AREA   301.00

          TIME      FLOW           TIME      FLOW           TIME      FLOW
TIME      FLOW           TIME      FLOW
           HRS       CFS            HRS       CFS            HRS       CFS
HRS       CFS            HRS       CFS
          .000        .0          4.000       1.1          7.999       1.4
11.999       1.1         15.998       1.0
          .167        .0          4.166        .9          8.166       1.2
12.165       1.0         16.165        .8
```

```
          .333        .0          4.333       1.0          8.332       1.4
12.332       1.1         16.332       1.0
          .500        .0          4.500        .8          8.499       1.2
12.499        .9         16.498        .8
          .667        .0          4.666       1.0          8.666       1.3
12.665       1.1         16.665        .9
          .833        .0          4.833        .9          8.832       1.2
12.832        .9         16.832        .8
         1.000        .0          4.999       1.0          8.999       1.3
12.999       1.1         16.998        .9
         1.167        .1          5.166        .9          9.166       1.1
13.165        .9         17.165        .8
         1.333      29.0          5.333       1.1          9.332       1.3
13.332       1.1         17.332        .9
         1.500     142.6          5.499       1.0          9.499       1.1
13.499        .9         17.498        .8
         1.667     113.3          5.666       1.2          9.666       1.3
13.665       1.1         17.665        .9
         1.833      66.8          5.833       1.1          9.832       1.1
13.832        .9         17.832        .7
         2.000      47.9          5.999       1.3          9.999       1.3
13.999       1.0         17.998        .9
         2.166      28.2          6.166       1.2         10.166       1.1
14.165        .9         18.165        .7
         2.333      13.1          6.333       1.5         10.332       1.2
14.332       1.0         18.331        .9
         2.500       8.1          6.499       1.3         10.499       1.1
14.499        .9         18.498        .7
         2.666       5.4          6.666       1.5         10.666       1.2
14.665       1.0         18.665        .9
         2.833       3.5          6.833       1.3         10.832       1.0
14.832        .8         18.831        .7
         3.000       2.7          6.999       1.5         10.999       1.2
14.998       1.0         18.998        .9
         3.166       1.9          7.166       1.3         11.166       1.0
15.165        .8         19.165        .7
         3.333       1.6          7.333       1.5         11.332       1.2
15.332       1.0         19.331        .9
         3.500       1.2          7.499       1.3         11.499       1.0
15.498        .8         19.498        .7
         3.666       1.2          7.666       1.4         11.665       1.1
15.665       1.0         19.665        .9
         3.833       1.0          7.833       1.2         11.832       1.0
15.832        .8         19.831        .7

         RUNOFF VOLUME =     2.03458 INCHES     =       7.7859 ACRE-FEET
         PEAK DISCHARGE RATE =     161.31 CFS  AT   1.533 HOURS   BASIN AREA =    .0718
SQ. MI.


     *
     ADD HYD              ID=15 HYDNO=301
                          ID=14 ID=7
     PRINT HYD            ID=15 CODE=5

                                                HYDROGRAPH FROM AREA   301.00

          TIME      FLOW           TIME      FLOW           TIME      FLOW
TIME      FLOW           TIME      FLOW
           HRS       CFS            HRS       CFS            HRS       CFS
HRS       CFS            HRS       CFS
```

```
          .000        .0          4.000       1.1          7.999       1.5
11.999      1.2         15.998      1.0
          .167        .0          4.166        .9          8.166       1.3
12.165      1.0         16.165       .8
          .333        .0          4.333       1.0          8.332       1.4
12.332      1.2         16.332      1.0
          .500        .0          4.500        .9          8.499       1.3
12.499      1.0         16.498       .8
          .667        .0          4.666       1.1          8.666       1.4
12.665      1.1         16.665      1.0
          .833        .0          4.833        .9          8.832       1.2
12.832      1.0         16.832       .8
         1.000        .0          4.999       1.1          8.999       1.4
12.999      1.1         16.998      1.0
         1.167        .1          5.166       1.0          9.166       1.2
13.165      1.0         17.165       .8
         1.333      30.6          5.333       1.1          9.332       1.3
13.332      1.1         17.332      1.0
         1.500     149.6          5.499       1.0          9.499       1.2
13.499       .9         17.498       .8
         1.667     118.2          5.666       1.2          9.666       1.3
13.665      1.1         17.665       .9
         1.833      69.7          5.833       1.1          9.832       1.2
13.832       .9         17.832       .8
         2.000      50.0          5.999       1.3          9.999       1.3
13.999      1.1         17.998       .9
         2.166      29.4          6.166       1.3         10.166       1.1
14.165       .9         18.165       .8
         2.333      13.7          6.333       1.6         10.332       1.3
14.332      1.1         18.331       .9
         2.500       8.4          6.499       1.4         10.499       1.1
14.499       .9         18.498       .8
         2.666       5.6          6.666       1.6         10.666       1.3
14.665      1.1         18.665       .9
         2.833       3.7          6.833       1.4         10.832       1.1
14.832       .9         18.831       .7
         3.000       2.8          6.999       1.5         10.999       1.2
14.998      1.0         18.998       .9
         3.166       1.9          7.166       1.4         11.166       1.1
15.165       .9         19.165       .7
         3.333       1.7          7.333       1.5         11.332       1.2
15.332      1.0         19.331       .9
         3.500       1.3          7.499       1.3         11.499       1.0
15.498       .9         19.498       .7
         3.666       1.3          7.666       1.5         11.665       1.2
15.665      1.0         19.665       .9
         3.833       1.0          7.833       1.3         11.832       1.0
15.832       .8         19.831       .7

         RUNOFF VOLUME =     2.03902 INCHES     =       8.1409 ACRE-FEET
         PEAK DISCHARGE RATE =     168.77 CFS  AT   1.533 HOURS   BASIN AREA =   .0749
SQ. MI.


     *
     ADD HYD              ID=16 HYDNO=301
                          ID=15 ID=8
     PRINT HYD            ID=16 CODE=5

                                              HYDROGRAPH FROM AREA   301.00
```

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	4.000	1.1	7.999	1.5
11.999	1.2	15.998	1.0		
.167	.0	4.166	.9	8.166	1.3
12.165	1.1	16.165	.9		
.333	.0	4.333	1.1	8.332	1.5
12.332	1.2	16.332	1.0		
.500	.0	4.500	.9	8.499	1.3
12.499	1.0	16.498	.9		
.667	.0	4.666	1.1	8.666	1.4
12.665	1.2	16.665	1.0		
.833	.0	4.833	.9	8.832	1.3
12.832	1.0	16.832	.8		
1.000	.0	4.999	1.1	8.999	1.4
12.999	1.2	16.998	1.0		
1.167	.1	5.166	1.0	9.166	1.2
13.165	1.0	17.165	.8		
1.333	31.8	5.333	1.2	9.332	1.4
13.332	1.1	17.332	1.0		
1.500	155.4	5.499	1.1	9.499	1.2
13.499	1.0	17.498	.8		
1.667	122.2	5.666	1.3	9.666	1.4
13.665	1.1	17.665	1.0		
1.833	72.1	5.833	1.1	9.832	1.2
13.832	1.0	17.832	.8		
2.000	51.8	5.999	1.4	9.999	1.3
13.999	1.1	17.998	1.0		
2.166	30.4	6.166	1.3	10.166	1.2
14.165	1.0	18.165	.8		
2.333	14.1	6.333	1.6	10.332	1.3
14.332	1.1	18.331	1.0		
2.500	8.7	6.499	1.5	10.499	1.1
14.499	.9	18.498	.8		
2.666	5.8	6.666	1.6	10.666	1.3
14.665	1.1	18.665	1.0		
2.833	3.8	6.833	1.4	10.832	1.1
14.832	.9	18.831	.8		
3.000	2.9	6.999	1.6	10.999	1.3
14.998	1.1	18.998	.9		
3.166	2.0	7.166	1.4	11.166	1.1
15.165	.9	19.165	.8		
3.333	1.7	7.333	1.6	11.332	1.3
15.332	1.1	19.331	.9		
3.500	1.3	7.499	1.4	11.499	1.1
15.498	.9	19.498	.8		
3.666	1.3	7.666	1.5	11.665	1.2
15.665	1.1	19.665	.9		
3.833	1.0	7.833	1.4	11.832	1.1
15.832	.9	19.831	.8		

RUNOFF VOLUME = 2.04241 INCHES = 8.4326 ACRE-FEET
PEAK DISCHARGE RATE = 174.90 CFS AT 1.533 HOURS BASIN AREA = .0774 SQ. MI.

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*
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ROUTE RESERVOIR       ID=20 HYD=301 INFLOW ID=16 CODE=5
```

OUTFLOW (CFS)	STORAGE (AC-FT)	ELEV (FT
0.00	0.0000	4998
0.85	0.0153	4999
1.27	0.1487	5000
1.57	0.9548	5001
1.81	1.9868	5002
2.03	3.1062	5003
2.23	4.2974	5004
2.41	5.5558	5005
2.50	6.2122	5005.5
2.66	7.6172	5006.5
3.17	7.7668	5006.6
8.28	8.3754	5007

PRINT HYD ID=20 CODE=5

* * * * * * * * * * * * * * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	4998.00	.000	.00
.17	.00	4998.00	.000	.00
.33	.00	4998.00	.000	.00
.50	.00	4998.00	.000	.00
.67	.00	4998.00	.000	.00
.83	.00	4998.00	.000	.00
1.00	.00	4998.00	.000	.00
1.17	.14	4998.01	.000	.01
1.33	31.84	4999.87	.131	1.21
1.50	155.36	5001.31	1.279	1.65
1.67	122.23	5003.26	3.420	2.08
1.83	72.08	5004.29	4.666	2.28
2.00	51.77	5004.94	5.475	2.40
2.17	30.38	5005.36	6.025	2.47
2.33	14.13	5005.55	6.276	2.51
2.50	8.73	5005.63	6.394	2.52
2.67	5.80	5005.67	6.458	2.53
2.83	3.81	5005.70	6.489	2.53
3.00	2.87	5005.70	6.500	2.53
3.17	2.01	5005.70	6.498	2.53
3.33	1.74	5005.70	6.489	2.53
3.50	1.31	5005.69	6.475	2.53
3.67	1.30	5005.67	6.458	2.53
3.83	1.03	5005.66	6.439	2.53
4.00	1.13	5005.65	6.419	2.52
4.17	.95	5005.63	6.399	2.52
4.33	1.08	5005.62	6.378	2.52
4.50	.92	5005.60	6.357	2.52
4.67	1.09	5005.59	6.336	2.51
4.83	.95	5005.57	6.316	2.51
5.00	1.12	5005.56	6.295	2.51
5.17	1.00	5005.54	6.275	2.51
5.33	1.19	5005.53	6.256	2.50
5.50	1.05	5005.52	6.237	2.50
5.67	1.26	5005.50	6.218	2.50
5.83	1.15	5005.49	6.200	2.50
6.00	1.36	5005.48	6.183	2.50
6.17	1.34	5005.47	6.167	2.49
6.33	1.61	5005.46	6.153	2.49
6.50	1.46	5005.45	6.140	2.49
6.67	1.61	5005.44	6.127	2.49

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
6.83	1.45	5005.43	6.114	2.49
7.00	1.59	5005.42	6.101	2.48
7.17	1.41	5005.40	6.087	2.48
7.33	1.57	5005.39	6.074	2.48
7.50	1.39	5005.38	6.060	2.48
7.67	1.53	5005.37	6.046	2.48
7.83	1.36	5005.36	6.032	2.48
8.00	1.50	5005.35	6.017	2.47
8.17	1.33	5005.34	6.003	2.47
8.33	1.47	5005.33	5.988	2.47
8.50	1.30	5005.32	5.973	2.47
8.67	1.44	5005.31	5.958	2.47
8.83	1.27	5005.29	5.943	2.46
9.00	1.43	5005.28	5.927	2.46
9.17	1.25	5005.27	5.912	2.46
9.33	1.39	5005.26	5.896	2.46
9.50	1.22	5005.25	5.880	2.45
9.67	1.37	5005.23	5.864	2.45
9.83	1.20	5005.22	5.848	2.45
10.00	1.35	5005.21	5.832	2.45
10.17	1.18	5005.20	5.816	2.45
10.33	1.32	5005.19	5.799	2.44
10.50	1.15	5005.17	5.783	2.44
10.67	1.31	5005.16	5.766	2.44
10.83	1.13	5005.15	5.749	2.44
11.00	1.28	5005.13	5.732	2.43
11.17	1.11	5005.12	5.715	2.43
11.33	1.26	5005.11	5.698	2.43
11.50	1.09	5005.10	5.681	2.43
11.67	1.24	5005.08	5.663	2.42
11.83	1.07	5005.07	5.646	2.42
12.00	1.22	5005.06	5.628	2.42
12.17	1.06	5005.04	5.611	2.42
12.33	1.20	5005.03	5.593	2.42
12.50	1.03	5005.01	5.575	2.41
12.67	1.18	5005.00	5.557	2.41
12.83	1.02	5004.99	5.539	2.41
13.00	1.17	5004.97	5.521	2.41
13.17	1.00	5004.96	5.503	2.40
13.33	1.15	5004.94	5.485	2.40
13.50	.99	5004.93	5.466	2.40
13.67	1.14	5004.91	5.448	2.39
13.83	.97	5004.90	5.429	2.39
14.00	1.12	5004.88	5.411	2.39
14.17	.96	5004.87	5.392	2.39
14.33	1.10	5004.85	5.374	2.38
14.50	.94	5004.84	5.355	2.38
14.67	1.09	5004.83	5.336	2.38
14.83	.92	5004.81	5.317	2.38
15.00	1.08	5004.80	5.298	2.37
15.17	.90	5004.78	5.279	2.37
15.33	1.06	5004.77	5.260	2.37
15.50	.90	5004.75	5.241	2.36
15.67	1.06	5004.73	5.222	2.36
15.83	.88	5004.72	5.203	2.36
16.00	1.04	5004.70	5.183	2.36
16.17	.87	5004.69	5.164	2.35
16.33	1.03	5004.67	5.145	2.35

```
      TIME      INFLOW    ELEV      VOLUME    OUTFLOW
      (HRS)     (CFS)     (FEET)    (AC-FT)   (CFS)

      16.50       .86   5004.66      5.125      2.35
      16.67      1.01   5004.64      5.106      2.35
      16.83       .84   5004.63      5.087      2.34
      17.00      1.00   5004.61      5.067      2.34
      17.16       .84   5004.60      5.047      2.34
      17.33       .99   5004.58      5.028      2.33
      17.50       .82   5004.56      5.008      2.33
      17.66       .98   5004.55      4.988      2.33
      17.83       .81   5004.53      4.969      2.33
      18.00       .96   5004.52      4.949      2.32
      18.16       .80   5004.50      4.929      2.32
      18.33       .96   5004.49      4.909      2.32
      18.50       .78   5004.47      4.890      2.31
      18.66       .95   5004.45      4.870      2.31
      18.83       .78   5004.44      4.850      2.31
      19.00       .94   5004.42      4.830      2.31
      19.16       .77   5004.41      4.810      2.30
      19.33       .92   5004.39      4.790      2.30
      19.50       .76   5004.38      4.770      2.30
      19.66       .92   5004.36      4.750      2.29
      19.83       .75   5004.34      4.730      2.29
 PEAK DISCHARGE =        2.533 CFS - PEAK OCCURS AT HOUR    3.07
 MAXIMUM WATER SURFACE ELEVATION =     5005.705
 MAXIMUM STORAGE =        6.5002 AC-FT      INCREMENTAL TIME=     .033330HRS

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*
FINISH

    NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 21:50:26
```
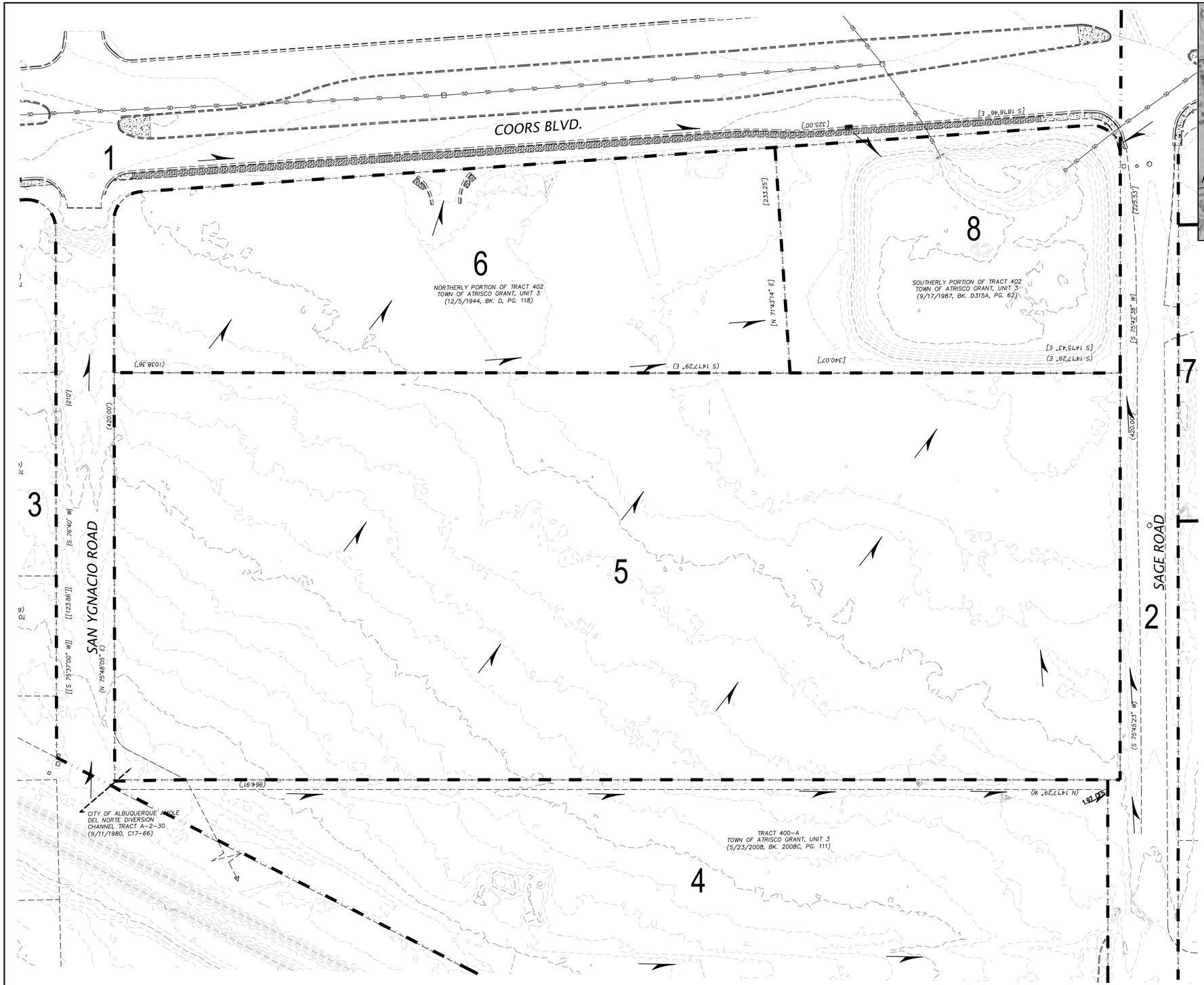
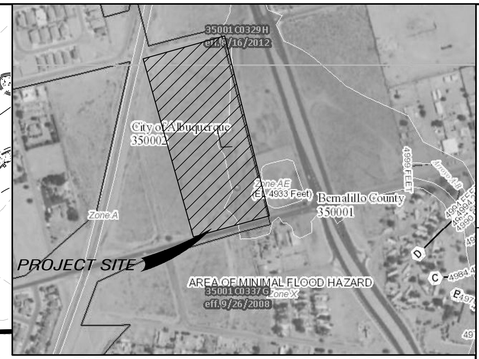





FIRM MAP NO. 35001C0337G

DRAINAGE INFORMATION

LOCATION & DESCRIPTION

THE PROPOSED SITE IS A TRACT ENCOMPASSING APPROXIMATELY 10 ACRES LOCATED ON THE NORTH SIDE OF SAGE ROAD WEST OF COORS BLVD. ADJACENT TO THE CITY LIMITS AS SEEN ON THE VICINITY MAP. THE SITE IS UNDEVELOPED. THE ADJACENT PROPERTIES ARE UNDEVELOPED.

FLOODPLAIN STATUS

THIS PROJECT, AS SHOWN ON FEMA'S FLOOD INSURANCE RATE MAP 35001C0337G, DATED 9/26/2008 IS NOT WITHIN A DESIGNATED 100-YEAR FLOODPLAIN. AN EXHIBIT WITH THE SITE SHOWN ON THE FIRM PANEL IS INCLUDED ON THIS SHEET.

METHODOLOGY

THE HYDROLOGY FOR THIS PROJECT WAS ANALYZED USING AHYMO SOFTWARE.

PRECIPITATION

THE 100-YR 6-HR DURATION STORM WAS USED AS THE DESIGN STORM FOR THIS ANALYSIS. THIS SITE IS WITHIN ZONE 1 AS IDENTIFIED IN THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL, SECTION 22.2.

EXISTING DRAINAGE

THE SITE CURRENTLY DISCHARGES RUNOFF TO THE EXISTING POND ADJACENT TO THE SOUTHEAST CORNER OF THE SITE. THE POND IS A REGIONAL FACILITY CONSTRUCTED WITH THE COORS STORM DRAIN TO CAPTURE EXCESS FLOWS FROM COORS BLVD. AND LAND BOUNDED TO THE WEST BY THE AMOLE DIVERSION CHANNEL.

HYDROLOGIC DATA – EXISTING

BASINS	AREA (acres)	LAND TREATMENT PERCENTAGES BY TYPE				YIELD (cfs/ac)	Q^{100} (cfs)	V^{100-24} (acft)
		A	B	C	D			
1	14.88	0	0	10	90	3.82	56.76	2.74
2	2.61	0	0	10	90	3.82	9.97	0.48
3	8.49	0	100	0	0	1.72	14.61	0.47
4	6.36	0	100	0	0	1.72	10.95	0.35
5	9.76	0	100	0	0	1.72	16.79	0.54
6	3.82	0	100	0	0	1.72	6.58	0.21
7	1.99	0	0	15	85	3.75	7.46	0.36
8	1.63	0	0	100	0	1.72	2.82	0.09

50' 0 25' 50' 100'
(IN FEET)

THE group
THE HENSLEY ENGINEERING GROUP
300 BRANDING IRON RD. SE
RIO RANCHO, NEW MEXICO 87124
Phone:(505) 410-1622

AS BUILT INFORMATION
CONTRACTOR — DATE
WORK STARTED ON — DATE
ACCEPTANCE BY — DATE
CERTIFICATION BY — DATE
VERIFICATION BY — DATE
DRAWINGS CORRECTED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

BENCH MARKS

SURVEY INFORMATION
FIELD NOTES BY — DATE
NO.

ENGINEER'S SEAL
RON E. HENSLEY
NEW MEXICO
21850
REGISTERED PROFESSIONAL ENGINEER
MAR. 20, 2020

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	

DESIGNED BY REH — DATE DEC. 2019
DRAWN BY REH — DATE JAN. 2020
CHECKED BY REH — DATE JAN. 2020

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

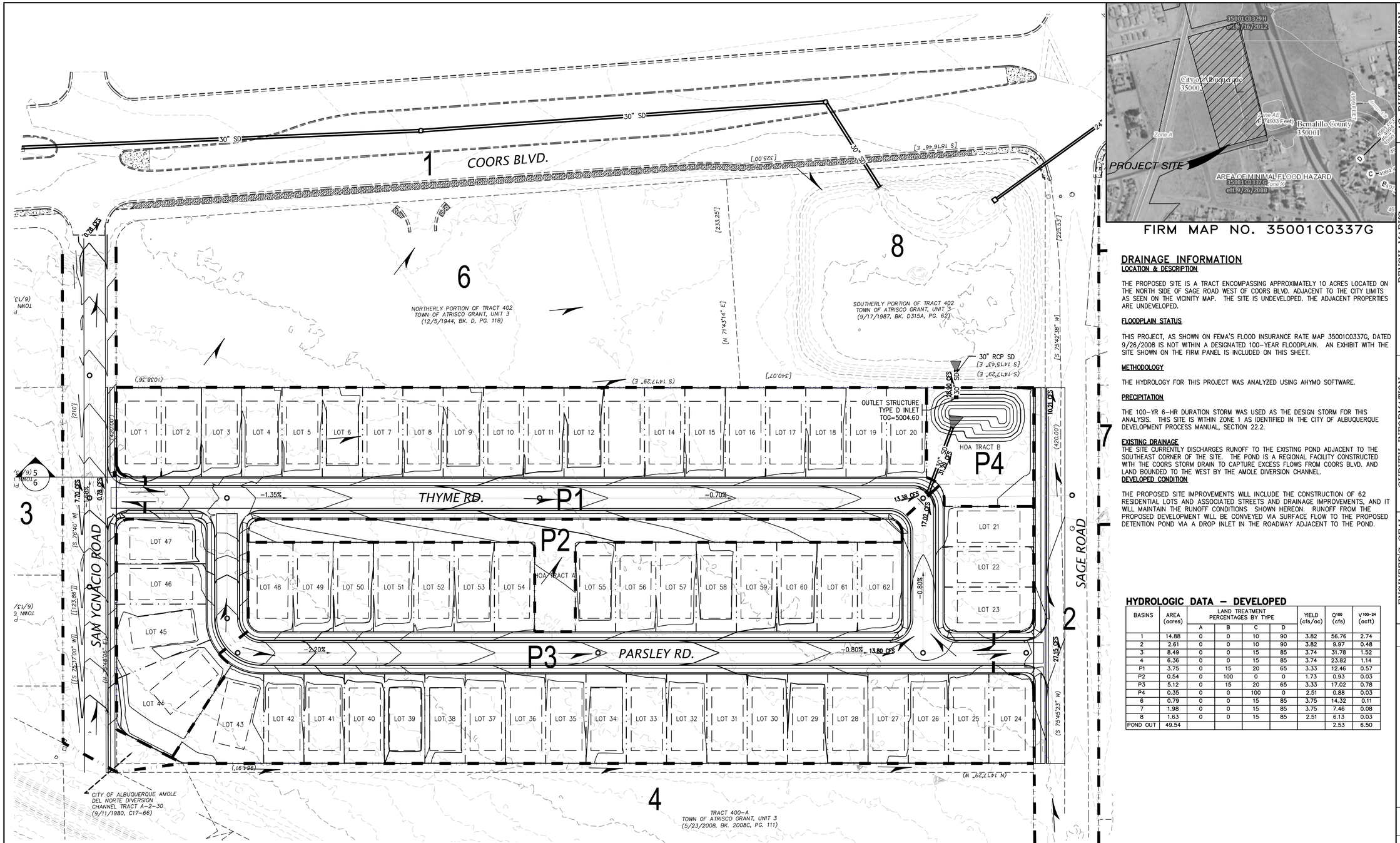
SAGE PARK SUBDIVISION

DRAINAGE PLAN

EXISTING DRAINAGE / BASIN MAP

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST DESIGN UPDATE	Mo./DAY/YR.	Mo./DAY/YR.

DRB No. 2019-003169
CITY PROJECT No.
ZONE MAP NO. L-10-Z
SHEET 1 OF 2



FIRM MAP NO. 35001C0337G

DRAINAGE INFORMATION

LOCATION & DESCRIPTION

THE PROPOSED SITE IS A TRACT ENCOMPASSING APPROXIMATELY 10 ACRES LOCATED ON THE NORTH SIDE OF SAGE ROAD WEST OF COORS BLVD. ADJACENT TO THE CITY LIMITS AS SEEN ON THE VICINITY MAP. THE SITE IS UNDEVELOPED. THE ADJACENT PROPERTIES ARE UNDEVELOPED.

FLOODPLAIN STATUS

THIS PROJECT, AS SHOWN ON FEMA'S FLOOD INSURANCE RATE MAP 35001C0337G, DATED 9/26/2008 IS NOT WITHIN A DESIGNATED 100-YEAR FLOODPLAIN. AN EXHIBIT WITH THE SITE SHOWN ON THE FIRM PANEL IS INCLUDED ON THIS SHEET.

METHODOLOGY

THE HYDROLOGY FOR THIS PROJECT WAS ANALYZED USING AHYMO SOFTWARE.

PRECIPITATION

THE 100-YR 6-HR DURATION STORM WAS USED AS THE DESIGN STORM FOR THIS ANALYSIS. THIS SITE IS WITHIN ZONE 1 AS IDENTIFIED IN THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL, SECTION 22.2.

EXISTING DRAINAGE

THE SITE CURRENTLY DISCHARGES RUNOFF TO THE EXISTING POND ADJACENT TO THE SOUTHEAST CORNER OF THE SITE. THE POND IS A REGIONAL FACILITY CONSTRUCTED WITH THE COORS STORM DRAIN TO CAPTURE EXCESS FLOWS FROM COORS BLVD. AND LAND BOUNDED TO THE WEST BY THE AMOLE DIVERSION CHANNEL.

DEVELOPED CONDITION

THE PROPOSED SITE IMPROVEMENTS WILL INCLUDE THE CONSTRUCTION OF 62 RESIDENTIAL LOTS AND ASSOCIATED STREETS AND DRAINAGE IMPROVEMENTS, AND IT WILL MAINTAIN THE RUNOFF CONDITIONS SHOWN HEREON. RUNOFF FROM THE PROPOSED DEVELOPMENT WILL BE CONVEYED VIA SURFACE FLOW TO THE PROPOSED DETENTION POND VIA A DROP INLET IN THE ROADWAY ADJACENT TO THE POND.

HYDROLOGIC DATA – DEVELOPED

BASINS	AREA (acres)	LAND TREATMENT PERCENTAGES BY TYPE				YIELD (cfs/ac)	Q_{100} (cfs)	V_{100-24} (acft)
		A	B	C	D			
1	14.88	0	0	10	90	3.82	56.76	2.74
2	2.61	0	0	10	90	3.82	9.97	0.48
3	8.49	0	0	15	85	3.74	31.78	1.52
4	6.36	0	0	15	85	3.74	23.82	1.14
P1	3.75	0	15	20	65	3.33	12.46	0.57
P2	0.54	0	100	0	0	1.73	0.93	0.03
P3	5.12	0	15	20	65	3.33	17.02	0.78
P4	0.35	0	0	100	0	2.51	0.88	0.03
6	0.79	0	0	15	85	3.75	14.32	0.11
7	1.98	0	0	15	85	3.75	7.46	0.08
8	1.63	0	0	15	85	2.51	6.13	0.03
POND OUT	49.54						2.53	6.50

50' 0 25' 50' 100'
(IN FEET)

THE group
THE HENSLEY ENGINEERING GROUP
300 BRANDING IRON RD. SE
RIO RANCHO, NEW MEXICO 87124
Phone:(505) 410-1622

DRB No. 2019-003169

CITY PROJECT No.

ZONE MAP NO. L-10-Z

SHEET 2 OF 2

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

BENCH MARKS

AS BUILT INFORMATION
CONTRACTOR — DATE
WORK STARTED ON
ACCEPTANCE BY — DATE
CERTIFICATION BY — DATE
DRAWINGS CORRECTED BY — DATE

MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

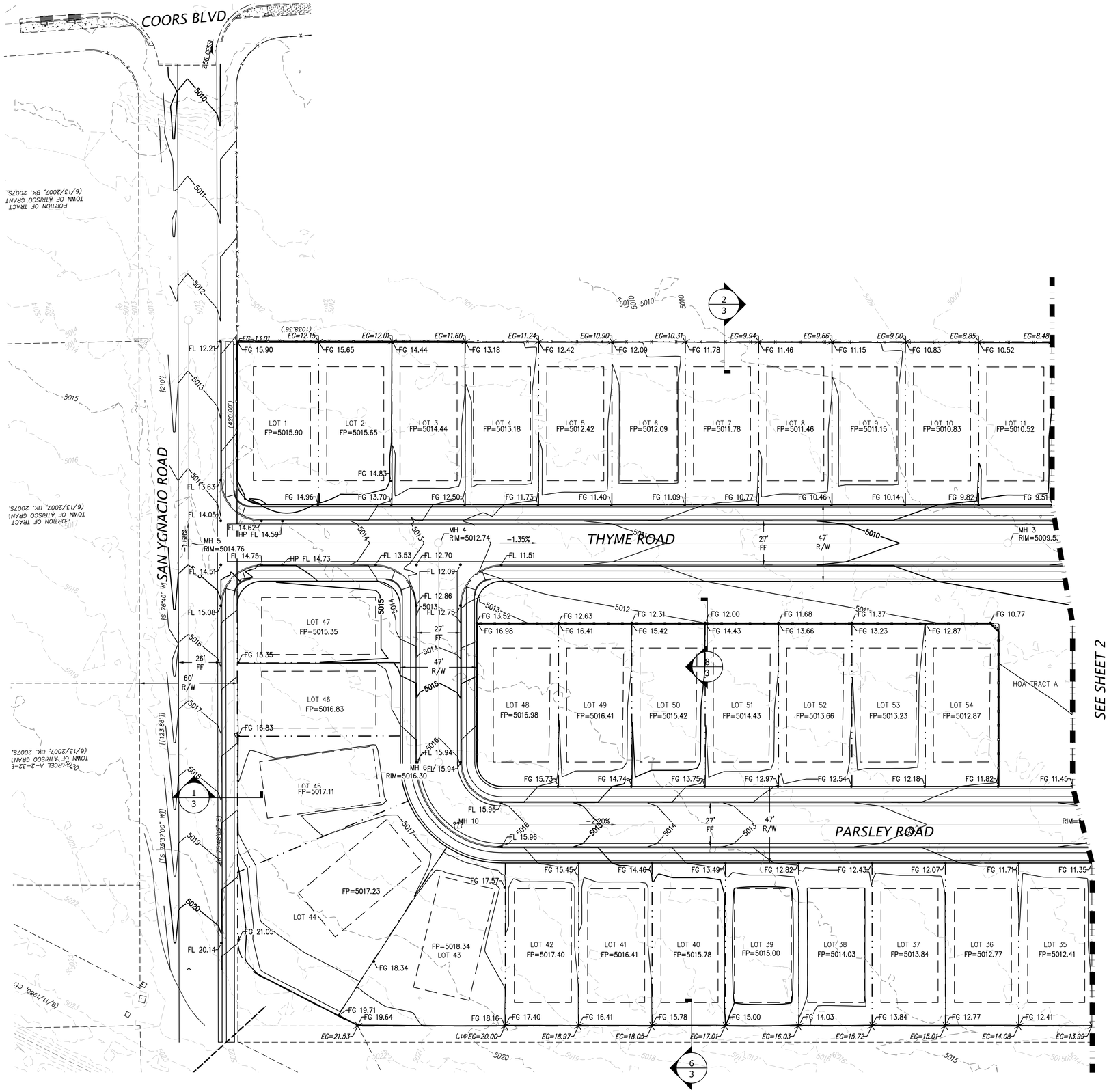
ENGINEER'S SEAL
RON E. HENSLEY
NEW MEXICO
21850
REGISTERED PROFESSIONAL ENGINEER
MAR. 20, 2020

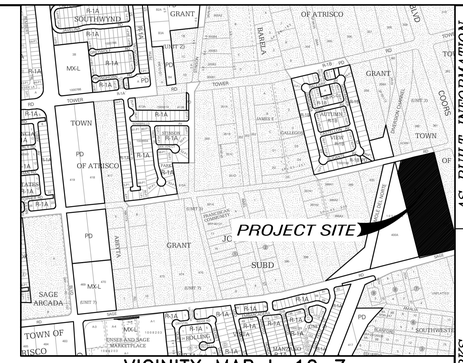
REMARKS
REVISIONS
DESIGN
NO. | DATE | BY
DESIGNED BY REH — DATE DEC. 2019
DRAWN BY REH — DATE JAN. 2020
CHECKED BY REH — DATE JAN. 2020

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

SAGE PARK SUBDIVISION
DRAINAGE PLAN
PROPOSED DRAINAGE / BASIN MAP

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST DESIGN UPDATE	Mo./DAY/YR.	Mo./DAY/YR.





VICINITY MAP L-10-Z

NOTES

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4. ALL DISTURBED AREAS OUTSIDE THE BUILDING PAD MUST BE RESEEDED OR LANDSCAPED

5. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, (260-1990) FOR LOCATION OF EXISTING UTILITIES.

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EROSION CONTROL NOTES

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LEGEND

- FLOW ARROW
- 4.00% SLOPE ARROW
- EL=11.28 PROPOSED ELEVATION
- 66.33 EXISTING ELEVATION
- GRADE BREAK
- 9999 EXISTING CONTOUR
- 9999 EXISTING CONTOUR
- PROPOSED EASEMENT
- EXISTING WALL
- PROPOSED WALL

THE group
THE HENSLEY ENGINEERING GROUP
300 BRANDING IRON RD, SE
RIO RANCHO, NEW MEXICO 87124
Phone:(505) 410-1622

AS BUILT INFORMATION

CONTRACTOR — DATE
WORK STARTED ON — DATE
ACCEPTANCE BY — DATE
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MICRO-FILM INFORMATION

RECORDED BY — DATE
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X=1547745.03
Y=1547745.68 (NAD 83)
ELEV=5010.76 (NAVD 1988)

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL
RON E. HENSLEY
NEW MEXICO
21850
REGISTERED PROFESSIONAL ENGINEER
MAR. 20, 2020

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	
		DATE DEC. 2019	REH
		DATE JAN. 2020	REH
		DATE JAN. 2020	REH

DESIGNED BY REH
DRAWN BY REH
CHECKED BY REH

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

SAGE PARK SUBDIVISION
GRADING PLAN
GRADING PLAN 1 OF 2

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST DESIGN UPDATE	Mo./DAY/YR.	Mo./DAY/YR.

30' 0 15' 30' 60'
(IN FEET)

DRB No.	CITY PROJECT No.	ZONE MAP NO.	SHEET	OF
2019-003169		L-10-Z	1	3

REQUIRED WATER QUALITY VOLUME

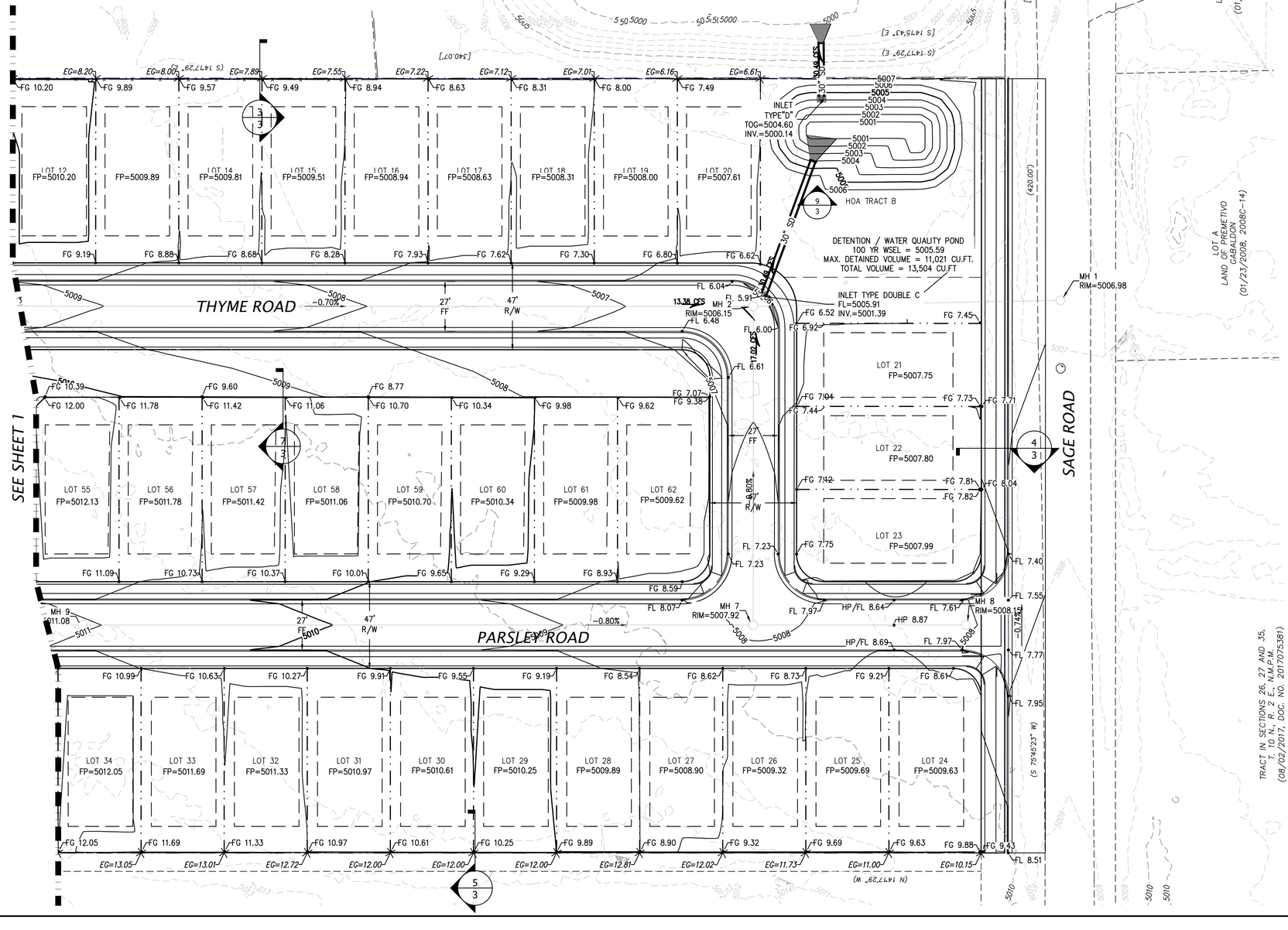
LOT DRAINAGE AS DEPICTED ON THIS PLAN SHALL BE MAINTAINED.

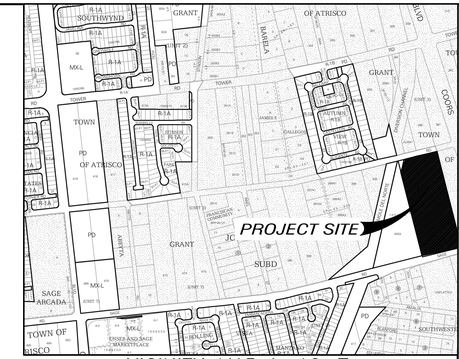
SITE DEPICTED HEREON SHALL BE RESPONSIBLE FOR MAINTAINING FIRST FLUSH RUNOFF RETENTION ON THE SITE IMMEDIATELY PRIOR TO DISCHARGE. THE VOLUME SHALL BE EQUAL TO: IMPERVIOUS AREA * (0.44-0.10)/12 IN CUBIC FEET.

IMPERVIOUS AREA = 247,884 SQ.FT.

REQUIRED VOLUME = 247,884 * (0.44-0.10)/12 = 7,023 CU.FT.

VOLUME PROVIDED = 7,347 CU.FT.





VICINITY MAP L-10-Z

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- EXISTING WALL
- PROPOSED WALL

THE group
THE HENSLEY ENGINEERING GROUP
300 BRANDING IRON RD. SE
RIO RANCHO, NEW MEXICO 87124
Phone:(505) 410-1622

AS BUILT INFORMATION

CONTRACTOR — DATE
WORK STARTED ON — DATE
ACCEPTANCE BY — DATE
VERIFICATION BY — DATE
DRAWINGS CORRECTED BY — DATE

MICRO-FILM INFORMATION

RECORDED BY — DATE
NO.

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SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL

RON E. HENSLEY — NEW MEXICO — 21850 — REGISTERED PROFESSIONAL ENGINEER
MAR. 20, 2020

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	
			DATE DEC. 2019
			DATE JAN. 2020
			DATE JAN. 2020

DESIGNED BY REH
DRAWN BY REH
CHECKED BY REH

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

SAGE PARK SUBDIVISION

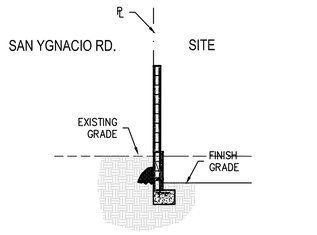
GRADING PLAN

GRADING PLAN 2 OF 2

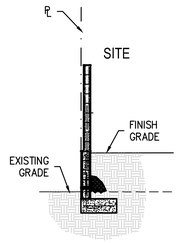
DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST DESIGN UPDATE	Mo./DAY/YR.	Mo./DAY/YR.

30' 0 15' 30' 60'
(IN FEET)

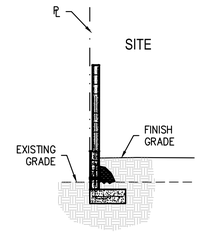
DRB No. 2019-003169
CITY PROJECT No.
ZONE MAP NO. L-10-Z
SHEET 2 OF 3



1 SECTION AT PROPERTY LINE
Scale: 1"=5'



2 SECTION AT PROPERTY LINE
Scale: 1"=5'



3 SECTION AT PROPERTY LINE
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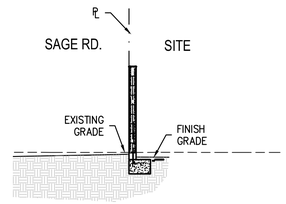

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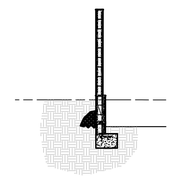

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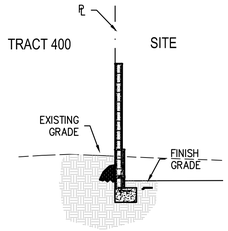
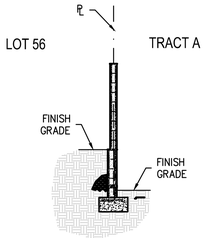
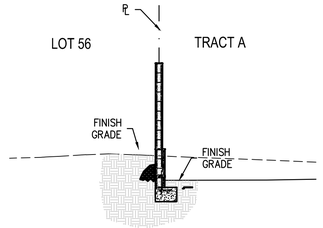
Scale: 1"=5'



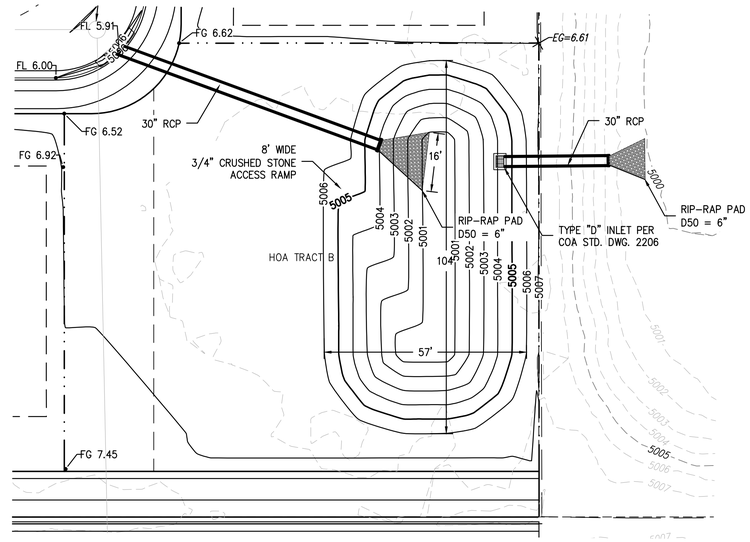
6 SECTION AT PROPERTY LINE
Scale: 1"=5'



7 SECTION AT PROPERTY LINE
Scale: 1"=5'



8 SECTION AT PROPERTY LINE
Scale: 1"=5'



9 POND PLAN
Scale: 1"=20'

AS BUILT INFORMATION

CONTRACTOR
WORK STARTED BY — DATE
WORK STARTED ON — DATE
ACCEPTANCE BY — DATE
FIELD VERIFICATION BY — DATE
DRAWINGS CORRECTED BY — DATE

MICRO-FILM INFORMATION

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RON E. HENSLEY
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REGISTERED PROFESSIONAL ENGINEER
MAR. 20, 2020

NO.	DATE	REMARKS	BY
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		DESIGN	

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CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

SAGE PARK SUBDIVISION

GRADING PLAN

GRADING SECTIONS AND DETAILS

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST DESIGN UPDATE	Mo./DAY/YR.	Mo./DAY/YR.

DRB No. 2019-003169
CITY PROJECT No.
ZONE MAP NO. L-10-Z
SHEET 3 OF 3

L10D030
DRAINAGE SUPPLEMENT
SAGE PARK SUBDIVISION
FOR
SAGE / COORS POND
CAPACITY & DISCHARGE ANALYSIS
ALBUQUERQUE, NM
March 2020

Prepared By

The HENSLEY ENGINEERING GROUP
Ron E. Hensley P.E.
300 Branding Iron Road S.E.
Rio Rancho, NM 87124

Contents

ATTACHMENT

Sage Pond Basin Map.pdf

I. PURPOSE

This report is submitted in support for the Grading and Drainage Plan of Sage Park Subdivision. The report provides a description and summary of the hydrology and hydraulic conditions of the drainage design of Sage Pond depicted below

II. INTRODUCTION

The Sage Pond, shown below, is located at the intersection of Sage Road and Coors Blvd. The pond was constructed in association with the extension and widening of Coors Blvd. The intent of the pond, as designed and constructed circa 1988 under City project North / South Coors Connection #189389, is to capture all flows within the area east of the Amole channel to Coors Blvd encompassing approximately 50 acres. Runoff from the basin surface flows to the southwest with the area north of San Ygnacio Road combining with Coors runoff to be captured by the storm drain with outflow to Sage Pond.

Figure 1 - Sage Pond 2014

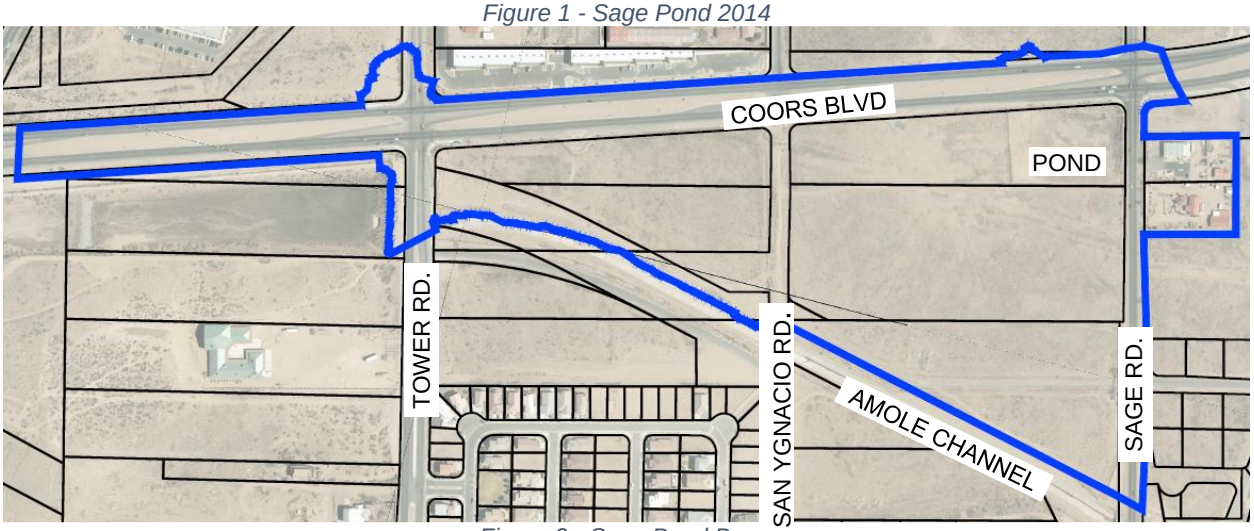

Figure 2 - Sage Pond Basin

III. HYDROLOGY

This report assumes a fully developed condition of the basin being analyzed. The table below summarizes the runoff from the conditions as depicted on the attached Basin Map.

BASIN	AREA (ACRES)	LAND TREATMENT PERCENTAGES BY TYPE				YIELD (CFS/AC)	Q^{100} (CFS)	$V^{100\text{-}24}$ (AC.FT.)
1	14.88	0	0	10	90	3.82	56.76	2.74
2	2.61	0	0	10	90	3.82	9.97	0.48
3	8.49	0	0	15	85	3.74	31.78	1.52
4	6.36	0	0	15	85	3.74	23.82	1.14
5	1.99	0	0	15	85	3.74	7.46	0.36
6	13.58	0	0	15	85	3.74	50.81	2.42
7	1.63	0	0	15	85	3.74	6.13	0.29
TOTAL	49.55					3.78	186.73	8.94

Table 1 - SAGE POND RUNOFF SUMMARY

IV. HYDRAULICS

The Sage Pond was constructed to have a maximum depth of 9.5 feet with a maximum volume of 8.4-acre feet.

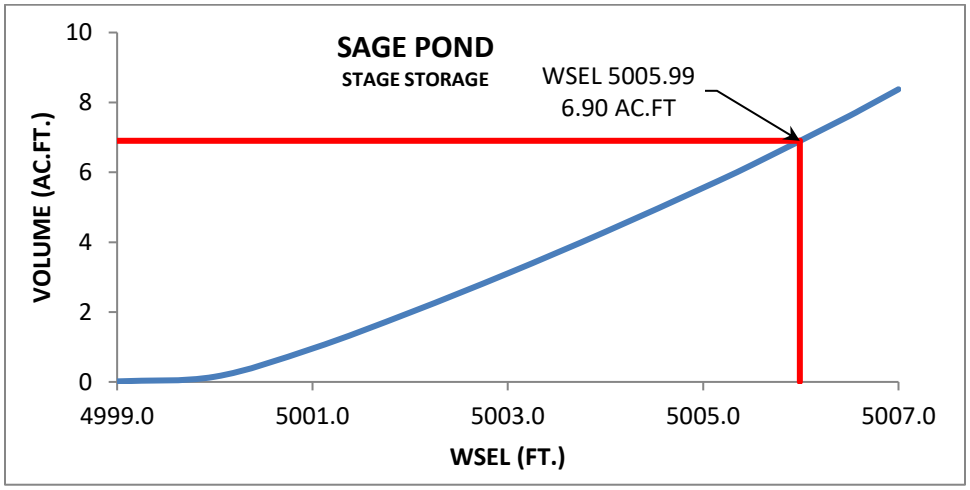

Figure 3 – Sage Pond Storage Curve

As outlined above, the pond has a high volume to basin area ratio. The detained volume is in excess of 75% of the total developed runoff from the basin. This is due to the design of the outflow restriction. The limited capacity of the downstream storm drain from the pond discharge required limiting the outflow from the pond to minimal levels.

As shown above, the outfall restriction detains 6.9 acre feet to 80% of the pond capacity with a WSEL 1 foot below the pond rim. The hydraulic analysis of the following section demonstrates how the discharge is limited to less than 3 cfs within an overflow elevation of 5006.00.

As shown below, the majority of the runoff from the basin is detained with an average discharge rate from the pond of 1.82 cfs. This rate discharges approximately half of the runoff during the duration of the storm. The remaining detained volume is discharged over the following 24 hours.

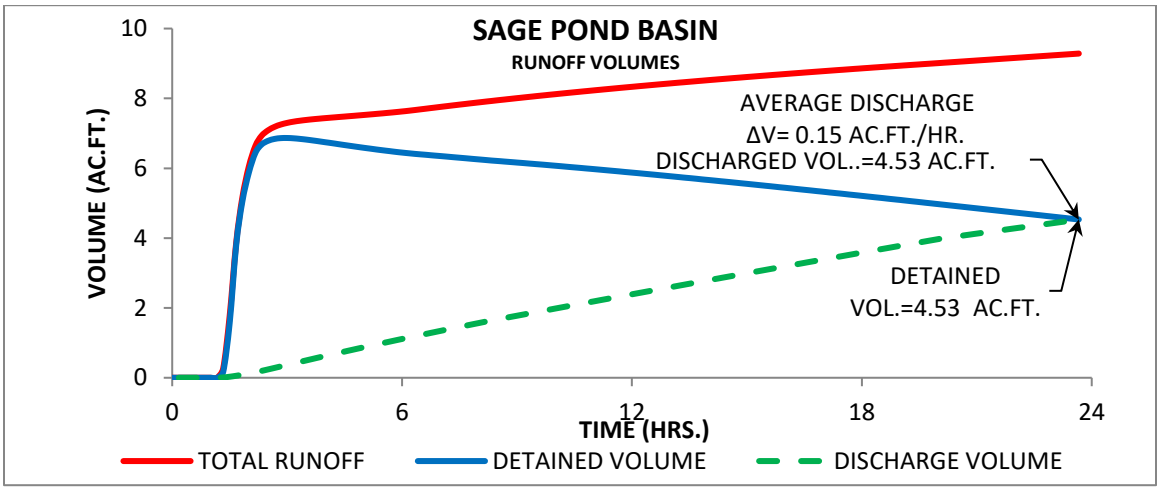

Figure 4 – Runoff Volume vs. Detained and Discharge Volume

The pond outflow and over flow structure, as detailed on the attached Sage Pond Basin Map, consists of an 18" CMP standpipe projecting from the junction box of the 24" RCP outflow pipe. As shown below, the rating curve of the outflow is based on the flow through 28 1-½ inch orifice openings in the side of the CMP standpipe.

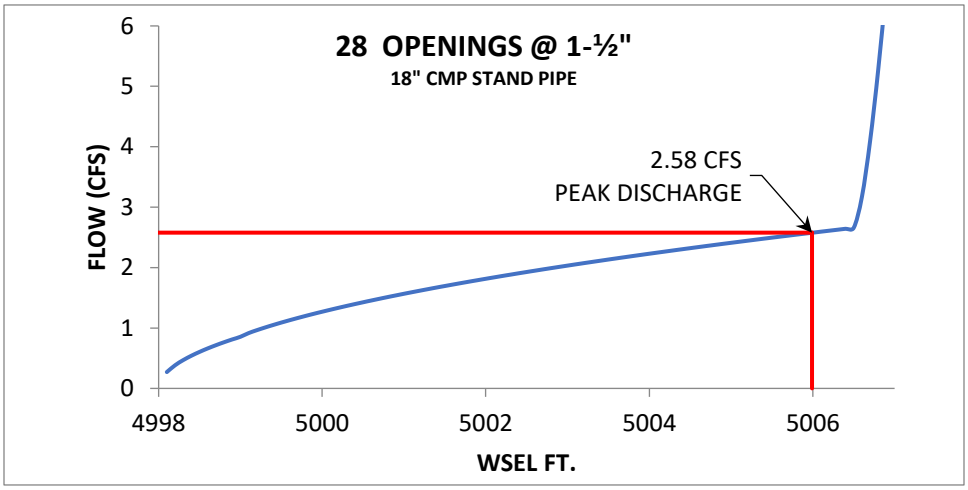

Figure 5 – Pond Discharge Rating Curve

V. CURRENT CONDITION HYDRAULICS

As depicted below, the Sage / Coors Pond was modified in approximately. The maintenance plug was removed from the outfall structure to fully open the 24” RCP as the control for discharge.

Figure 6 - Damaged Outfall``````````

``` Figure 7 - Erosion from Modified Outfall

Given the original design and the flow constraints of the downstream storm drain, this change seems inappropriate. As can be seen in the figure below, this discharge configuration has essentially minimized the outflow restriction leading to a discharge rate in excess of 25 cfs. The rate of discharge detains a minimal volume within the pond.

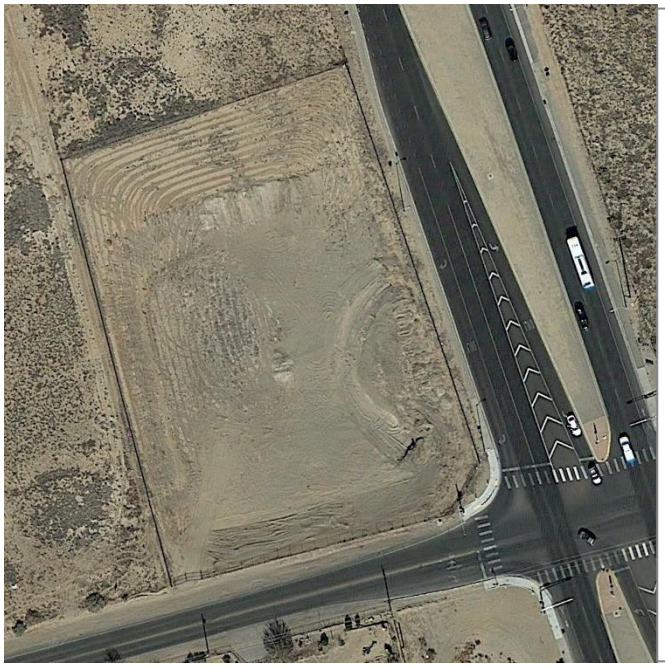

Figure 8 Sage Pond 2017

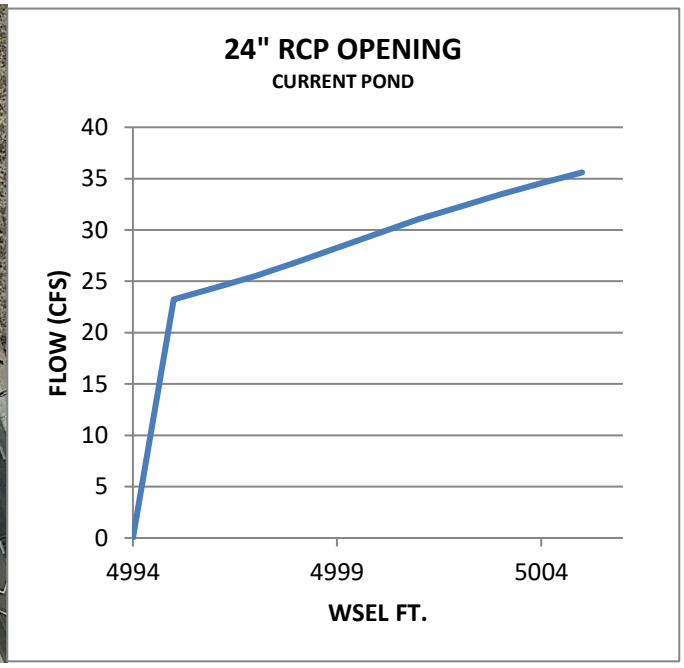

Figure 9 Sage Pond Modified Discharge Curve

The erosion due to the removal of the maintenance plug is apparent in the above figures and is detrimental to the drainage system.

VI. SUMMARY AND CONCLUSION

The Sage Pond, as designed, functions adequately to accept the prescribed flows from the basin. However, the design condition must be restored to provide protections of the downstream system.

VII. APPENDIX

Runoff Calculations / AHYMO

```
*  Project SAGE POND
*  DESIGNED 24 HOUR RAINFALL TABLE
RAINFALL              TYPE=2  RAIN QUARTER=0
                      RAIN ONE=1.87 IN  RAIN SIX=2.20 IN
                      RAIN DAY=2.66 IN  DT=0.03333 HRS
************************************************************

*S  COMPUTE HYD BASIN UNSER STORM DRAIN
COMPUTE NM HYD        ID=1  HYDNO=101  AREA=0.023247 SQ MI
                      PER A=0 PER B=0 PER C=10 PER D=90
                      TP=.1667 HR MASS RAIN=-1
PRINT HYD             ID=1   CODE=1
*
*S  COMPUTE HYD BASIN SAGE ROAD
COMPUTE NM HYD        ID=2  HYDNO=102  AREA=0.004078 SQ MI
                      PER A=0 PER B=0 PER C=10 PER D=90
                      TP=.1667 HR MASS RAIN=-1
PRINT HYD             ID=2   CODE=1
*
*S  COMPUTE HYD BASIN TRACTS 359 TO 361
COMPUTE NM HYD        ID=3  HYDNO=103  AREA=0.013268 SQ MI
                      PER A=0 PER B=0 PER C=15 PER D=85
                      TP=.1667 HR MASS RAIN=-1
PRINT HYD             ID=3   CODE=1
*
*S  COMPUTE HYD BASIN TRACT 400A
COMPUTE NM HYD        ID=4  HYDNO=104  AREA=0.009943 SQ MI
                      PER A=0 PER B=0 PER C=15 PER D=85
                      TP=.1667 HR MASS RAIN=-1
PRINT HYD             ID=3   CODE=1
*
*S  COMPUTE HYD BASIN TRACT DEVELOPED LOTS
COMPUTE NM HYD        ID=5  HYDNO=105  AREA=0.003108 SQ MI
                      PER A=0 PER B=0 PER C=15 PER D=85
                      TP=.1667 HR MASS RAIN=-1
PRINT HYD             ID=5   CODE=1
*
*S  COMPUTE HYD BASIN TRACTSS 401 AND 402A

COMPUTE NM HYD        ID=6  HYDNO=106  AREA=0.02122 SQ MI
                      PER A=0 PER B=0 PER C=15 PER D=85
                      TP=.1667 HR MASS RAIN=-1
PRINT HYD             ID=6   CODE=1
*
*S  COMPUTE HYD BASIN POND
COMPUTE NM HYD        ID=7  HYDNO=107  AREA=0.002554 SQ MI
                      PER A=0 PER B=0 PER C=15 PER D=85
                      TP=.1667 HR MASS RAIN=-1
PRINT HYD             ID=7   CODE=1
```

```
*
ADD HYD               ID=10 HYDNO=201
                      ID=1 ID=2
PRINT HYD             ID=10 CODE=5
*
ADD HYD               ID=11 HYDNO=201
                      ID=10 ID=3
PRINT HYD             ID=11 CODE=5
*
ADD HYD               ID=12 HYDNO=301
                      ID=11 ID=4
PRINT HYD             ID=12 CODE=5
*
ADD HYD               ID=13 HYDNO=301
                      ID=12 ID=5
PRINT HYD             ID=13 CODE=5
*
ADD HYD               ID=14 HYDNO=301
                      ID=13 ID=6
PRINT HYD             ID=14 CODE=5
*
ADD HYD               ID=15 HYDNO=301
                      ID=14 ID=7
PRINT HYD             ID=15 CODE=5
*
************************************************************
ROUTE RESERVOIR       ID=20 HYD=301 INFLOW ID=15 CODE=5
          OUTFLOW      STORAGE        ELEV
           (CFS)        (AC-FT)        (FT)
            0.00        0.0000         4998
            0.85        0.0153         4999
            1.27        0.1487         5000
            1.57        0.9548         5001
            1.81        1.9868         5002
            2.03        3.1062         5003
            2.23        4.2974         5004
            2.41        5.5558         5005
            2.50        6.2122         5005.5
            2.66        7.6172         5006.5
            3.17        7.7668         5006.6
            8.28        8.3754         5007
                       PRINT HYD             ID=20 CODE=5
************************************************************
*
FINISH
```

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AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) -                        - VERSION:  1997.02c      RUN DATE (MON/DAY/YR) =03/14/2020
INPUT FILE = C:\DOCUME~1\Ron\Desktop\SAGEPO~1.HMI                                        USER NO.= AHYMO-I-9702c01000Q29-AH

                            FROM  TO                  PEAK        RUNOFF              TIME TO    CFS      PAGE =   1
                HYDROGRAPH   ID   ID        AREA     DISCHARGE     VOLUME     RUNOFF     PEAK     PER
COMMAND       IDENTIFICATION  NO.  NO.     (SQ MI)     (CFS)      (AC-FT)   (INCHES)  (HOURS)    ACRE     NOTATION

RAINFALL  TYPE= 2                                                                                      RAIN24=   2.660
*S  COMPUTE HYD BASIN UNSER STORM DRAIN
COMPUTE NM HYD        101.00   -     1       .02325       56.76      2.739     2.20911    1.533    3.815 PER IMP=  90.00
*S  COMPUTE HYD BASIN SAGE ROAD
COMPUTE NM HYD        102.00   -     2       .00408        9.97       .480     2.20913    1.533    3.821 PER IMP=  90.00
*S  COMPUTE HYD BASIN TRACTS 359 TO 361
COMPUTE NM HYD        103.00   -     3       .01327       31.78      1.515     2.14163    1.533    3.742 PER IMP=  85.00
*S  COMPUTE HYD BASIN TRACT 400A
COMPUTE NM HYD        104.00   -     4       .00994       23.82      1.136     2.14163    1.533    3.743 PER IMP=  85.00
*S  COMPUTE HYD BASIN TRACT DEVELOPED LOTS
COMPUTE NM HYD        105.00   -     5       .00311        7.46       .355     2.14166    1.533    3.749 PER IMP=  85.00
*S  COMPUTE HYD BASIN TRACTS 401 AND 402A
COMPUTE NM HYD        106.00   -     6       .02122       50.81      2.424     2.14162    1.533    3.741 PER IMP=  85.00
*S  COMPUTE HYD BASIN POND
COMPUTE NM HYD        107.00   -     7       .00255        6.13       .292     2.14166    1.533    3.751 PER IMP=  85.00
ADD HYD               201.00  1& 2  10       .02733       66.73      3.219     2.20911    1.533    3.816
ADD HYD               201.00 10& 3  11       .04059       98.51      4.735     2.18705    1.533    3.792
ADD HYD               301.00 11& 4  12       .05054      122.33      5.871     2.17812    1.533    3.782
ADD HYD               301.00 12& 5  13       .05364      129.79      6.226     2.17600    1.533    3.780
ADD HYD               301.00 13& 6  14       .07486      180.60      8.649     2.16626    1.533    3.769
ADD HYD               301.00 14& 7  15       .07742      186.73      8.941     2.16545    1.533    3.769
ROUTE RESERVOIR       301.00   15   20       .07742        2.58      3.807      .92193    3.066     .052 AC-FT=    6.901
FINISH
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    AHYMO PROGRAM (AHYMO_97) -                          - Version:  1997.02c
         RUN DATE (MON/DAY/YR) = 03/14/2020
         START TIME (HR:MIN:SEC) = 19:52:43     USER NO.= AHYMO-I-9702c01000Q29-AH
         INPUT FILE = C:\DOCUME~1\Ron\Desktop\SAGEPO~1.HMI

*  Project SAGE POND
*  DESIGNED 24 HOUR RAINFALL TABLE
RAINFALL              TYPE=2  RAIN QUARTER=0
                      RAIN ONE=1.87 IN  RAIN SIX=2.20 IN
                      RAIN DAY=2.66 IN  DT=0.03333 HRS

                 COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
                 DT =    .033330 HOURS       END TIME =    19.964670 HOURS
                    .0000   .0016   .0033   .0050   .0067   .0085   .0103
                    .0122   .0141   .0160   .0180   .0201   .0222   .0243
                    .0266   .0289   .0312   .0337   .0362   .0388   .0415
                    .0443   .0472   .0502   .0534   .0567   .0601   .0637
                    .0675   .0715   .0758   .0809   .0865   .0924   .1050
                    .1334   .1771   .2398   .3254   .4379   .5814   .7600
                    .9780  1.1804  1.2649  1.3363  1.3997  1.4575  1.5106
                   1.5600  1.6061  1.6493  1.6900  1.7284  1.7646  1.7989
                   1.8314  1.8623  1.8915  1.9193  1.9456  1.9518  1.9576
                   1.9630  1.9682  1.9732  1.9780  1.9825  1.9869  1.9912
                   1.9953  1.9993  2.0031  2.0068  2.0104  2.0140  2.0174
                   2.0207  2.0240  2.0272  2.0303  2.0333  2.0363  2.0392
                   2.0420  2.0448  2.0475  2.0502  2.0528  2.0554  2.0580
                   2.0605  2.0629  2.0653  2.0677  2.0700  2.0723  2.0746
                   2.0768  2.0790  2.0812  2.0833  2.0855  2.0875  2.0896
                   2.0916  2.0936  2.0956  2.0976  2.0995  2.1014  2.1033
                   2.1051  2.1070  2.1088  2.1106  2.1124  2.1141  2.1159
                   2.1176  2.1193  2.1210  2.1227  2.1244  2.1260  2.1276
                   2.1292  2.1308  2.1324  2.1340  2.1355  2.1371  2.1386
                   2.1401  2.1416  2.1431  2.1446  2.1460  2.1475  2.1489
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                   2.1600  2.1614  2.1627  2.1640  2.1654  2.1667  2.1680
                   2.1692  2.1705  2.1718  2.1731  2.1743  2.1756  2.1768
                   2.1780  2.1792  2.1804  2.1817  2.1829  2.1840  2.1852
                   2.1864  2.1876  2.1887  2.1899  2.1910  2.1922  2.1933
                   2.1944  2.1956  2.1967  2.1978  2.1989  2.2000  2.2013
                   2.2026  2.2039  2.2052  2.2065  2.2078  2.2091  2.2103
                   2.2116  2.2129  2.2142  2.2155  2.2167  2.2180  2.2193
                   2.2205  2.2218  2.2230  2.2243  2.2255  2.2268  2.2280
                   2.2293  2.2305  2.2318  2.2330  2.2342  2.2354  2.2367
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2.2379	2.2391	2.2403	2.2415	2.2428	2.2440	2.2452
2.2464	2.2476	2.2488	2.2500	2.2512	2.2524	2.2536
2.2547	2.2559	2.2571	2.2583	2.2595	2.2606	2.2618
2.2630	2.2641	2.2653	2.2665	2.2676	2.2688	2.2699
2.2711	2.2722	2.2734	2.2745	2.2757	2.2768	2.2779
2.2791	2.2802	2.2813	2.2825	2.2836	2.2847	2.2858
2.2870	2.2881	2.2892	2.2903	2.2914	2.2925	2.2936
2.2947	2.2958	2.2969	2.2980	2.2991	2.3002	2.3013
2.3024	2.3035	2.3046	2.3057	2.3067	2.3078	2.3089
2.3100	2.3110	2.3121	2.3132	2.3142	2.3153	2.3164
2.3174	2.3185	2.3195	2.3206	2.3216	2.3227	2.3237
2.3248	2.3258	2.3269	2.3279	2.3290	2.3300	2.3310
2.3321	2.3331	2.3341	2.3352	2.3362	2.3372	2.3382
2.3392	2.3403	2.3413	2.3423	2.3433	2.3443	2.3453
2.3463	2.3473	2.3483	2.3493	2.3503	2.3513	2.3523
2.3533	2.3543	2.3553	2.3563	2.3573	2.3583	2.3593
2.3603	2.3612	2.3622	2.3632	2.3642	2.3651	2.3661
2.3671	2.3681	2.3690	2.3700	2.3710	2.3719	2.3729
2.3738	2.3748	2.3758	2.3767	2.3777	2.3786	2.3796
2.3805	2.3815	2.3824	2.3834	2.3843	2.3852	2.3862
2.3871	2.3881	2.3890	2.3899	2.3909	2.3918	2.3927
2.3936	2.3946	2.3955	2.3964	2.3973	2.3983	2.3992
2.4001	2.4010	2.4019	2.4028	2.4038	2.4047	2.4056
2.4065	2.4074	2.4083	2.4092	2.4101	2.4110	2.4119
2.4128	2.4137	2.4146	2.4155	2.4164	2.4173	2.4181
2.4190	2.4199	2.4208	2.4217	2.4226	2.4234	2.4243
2.4252	2.4261	2.4270	2.4278	2.4287	2.4296	2.4304
2.4313	2.4322	2.4331	2.4339	2.4348	2.4356	2.4365
2.4374	2.4382	2.4391	2.4399	2.4408	2.4416	2.4425
2.4434	2.4442	2.4450	2.4459	2.4467	2.4476	2.4484
2.4493	2.4501	2.4510	2.4518	2.4526	2.4535	2.4543
2.4551	2.4560	2.4568	2.4576	2.4585	2.4593	2.4601
2.4609	2.4618	2.4626	2.4634	2.4642	2.4651	2.4659
2.4667	2.4675	2.4683	2.4691	2.4700	2.4708	2.4716
2.4724	2.4732	2.4740	2.4748	2.4756	2.4764	2.4772
2.4780	2.4788	2.4796	2.4804	2.4812	2.4820	2.4828
2.4836	2.4844	2.4852	2.4860	2.4868	2.4876	2.4884
2.4892	2.4899	2.4907	2.4915	2.4923	2.4931	2.4939
2.4946	2.4954	2.4962	2.4970	2.4978	2.4985	2.4993
2.5001	2.5008	2.5016	2.5024	2.5032	2.5039	2.5047
2.5055	2.5062	2.5070	2.5078	2.5085	2.5093	2.5100
2.5108	2.5116	2.5123	2.5131	2.5138	2.5146	2.5153
2.5161	2.5168	2.5176	2.5183	2.5191	2.5198	2.5206

```
                2.5213  2.5221  2.5228  2.5236  2.5243  2.5250  2.5258
                2.5265  2.5273  2.5280  2.5287  2.5295  2.5302  2.5309
                2.5317  2.5324  2.5331  2.5339  2.5346  2.5353  2.5361
                2.5368  2.5375  2.5382  2.5390  2.5397  2.5404  2.5411
                2.5418  2.5426  2.5433  2.5440  2.5447  2.5454  2.5462
                2.5469  2.5476  2.5483  2.5490  2.5497  2.5504  2.5511
                2.5518  2.5526  2.5533  2.5540  2.5547  2.5554  2.5561
                2.5568  2.5575  2.5582  2.5589  2.5596  2.5603  2.5610
                2.5617  2.5624  2.5631  2.5638  2.5645  2.5652  2.5659
                2.5665  2.5672  2.5679  2.5686  2.5693  2.5700  2.5707
                2.5714  2.5721  2.5727  2.5734  2.5741  2.5748  2.5755
                2.5761  2.5768  2.5775  2.5782  2.5789  2.5795  2.5802
                2.5809  2.5816  2.5822  2.5829  2.5836

**********************************************************

*S  COMPUTE HYD BASIN UNSER STORM DRAIN
COMPUTE NM HYD        ID=1  HYDNO=101  AREA=0.023247 SQ MI
                      PER A=0 PER B=0 PER C=10 PER D=90
                      TP=.1667 HR MASS RAIN=-1

     K =   .090852HR    TP =   .166700HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   66.052    CFS   UNIT VOLUME =    1.000       B =   526.28      P60 = 1.8700
     AREA =      .020922 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


     K =   .132393HR    TP =   .166700HR    K/TP RATIO =   .794199     SHAPE CONSTANT, N =  4.514851
     UNIT PEAK =   5.4128    CFS   UNIT VOLUME =    .9977       B =   388.14      P60 = 1.8700
     AREA =      .002325 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

PRINT HYD             ID=1   CODE=1

                                  PARTIAL HYDROGRAPH   101.00


    RUNOFF VOLUME =     2.20911 INCHES     =       2.7389 ACRE-FEET
    PEAK DISCHARGE RATE =      56.76 CFS  AT   1.533 HOURS   BASIN AREA =   .0232 SQ. MI.



*
```

```
*S  COMPUTE HYD BASIN SAGE ROAD
COMPUTE NM HYD        ID=2  HYDNO=102  AREA=0.004078 SQ MI
                      PER A=0 PER B=0 PER C=10 PER D=90
                      TP=.1667 HR MASS RAIN=-1

     K =   .090852HR    TP =   .166700HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   11.587    CFS   UNIT VOLUME =    .9992       B =   526.28      P60 = 1.8700
     AREA =      .003670 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


     K =   .132393HR    TP =   .166700HR    K/TP RATIO =   .794199     SHAPE CONSTANT, N =  4.514851
     UNIT PEAK =   .94952    CFS   UNIT VOLUME =    .9861       B =   388.14      P60 = 1.8700
     AREA =      .000408 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

PRINT HYD             ID=2   CODE=1

                                  PARTIAL HYDROGRAPH   102.00


    RUNOFF VOLUME =     2.20913 INCHES     =        .4805 ACRE-FEET
    PEAK DISCHARGE RATE =       9.97 CFS  AT   1.533 HOURS   BASIN AREA =   .0041 SQ. MI.



*
*S  COMPUTE HYD BASIN TRACT A
COMPUTE NM HYD        ID=3  HYDNO=103  AREA=0.013268 SQ MI
                      PER A=0 PER B=0 PER C=15 PER D=85
                      TP=.1667 HR MASS RAIN=-1

     K =   .090852HR    TP =   .166700HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   35.604    CFS   UNIT VOLUME =    .9999       B =   526.28      P60 = 1.8700
     AREA =      .011278 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


     K =   .132393HR    TP =   .166700HR    K/TP RATIO =   .794199     SHAPE CONSTANT, N =  4.514851
     UNIT PEAK =   4.6340    CFS   UNIT VOLUME =    .9973       B =   388.14      P60 = 1.8700
     AREA =      .001990 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330
```

```
PRINT HYD             ID=3   CODE=1

                                    PARTIAL HYDROGRAPH   103.00


    RUNOFF VOLUME =     2.14163 INCHES     =       1.5155 ACRE-FEET
    PEAK DISCHARGE RATE =      31.78 CFS  AT   1.533 HOURS   BASIN AREA =   .0133 SQ. MI.



*
*S  COMPUTE HYD BASIN TRACT B
COMPUTE NM HYD        ID=4  HYDNO=104  AREA=0.009943 SQ MI
                      PER A=0 PER B=0 PER C=15 PER D=85
                      TP=.1667 HR MASS RAIN=-1

     K =   .090852HR    TP =   .166700HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   26.682    CFS   UNIT VOLUME =    .9998       B =   526.28      P60 = 1.8700
     AREA =      .008452 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


     K =   .132393HR    TP =   .166700HR    K/TP RATIO =   .794199     SHAPE CONSTANT, N =  4.514851
     UNIT PEAK =   3.4727    CFS   UNIT VOLUME =    .9965       B =   388.14      P60 = 1.8700
     AREA =      .001491 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

PRINT HYD             ID=3   CODE=1

                                    PARTIAL HYDROGRAPH   103.00


    RUNOFF VOLUME =     2.14163 INCHES     =       1.5155 ACRE-FEET
    PEAK DISCHARGE RATE =      31.78 CFS  AT   1.533 HOURS   BASIN AREA =   .0133 SQ. MI.



*
*S  COMPUTE HYD BASIN TRACT C
COMPUTE NM HYD        ID=5  HYDNO=105  AREA=0.003108 SQ MI
                      PER A=0 PER B=0 PER C=15 PER D=85
                      TP=.1667 HR MASS RAIN=-1
```

```
     K =   .090852HR    TP =   .166700HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   8.3402    CFS   UNIT VOLUME =    .9988       B =   526.28      P60 = 1.8700
     AREA =      .002642 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


     K =   .132393HR    TP =   .166700HR    K/TP RATIO =   .794199     SHAPE CONSTANT, N =  4.514851
     UNIT PEAK =   1.0855    CFS   UNIT VOLUME =    .9883       B =   388.14      P60 = 1.8700
     AREA =      .000466 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

PRINT HYD             ID=5   CODE=1

                                  PARTIAL HYDROGRAPH   105.00


    RUNOFF VOLUME =     2.14166 INCHES     =        .3550 ACRE-FEET
    PEAK DISCHARGE RATE =       7.46 CFS  AT   1.533 HOURS   BASIN AREA =   .0031 SQ. MI.



*
*S  COMPUTE HYD BASIN TRACT D
COMPUTE NM HYD        ID=6  HYDNO=106  AREA=0.02122 SQ MI
                      PER A=0 PER B=0 PER C=15 PER D=85
                      TP=.1667 HR MASS RAIN=-1

     K =   .090852HR    TP =   .166700HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   56.943    CFS   UNIT VOLUME =    1.000       B =   526.28      P60 = 1.8700
     AREA =      .018037 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


     K =   .132393HR    TP =   .166700HR    K/TP RATIO =   .794199     SHAPE CONSTANT, N =  4.514851
     UNIT PEAK =   7.4113    CFS   UNIT VOLUME =    .9984       B =   388.14      P60 = 1.8700
     AREA =      .003183 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

PRINT HYD             ID=6   CODE=1

                                  PARTIAL HYDROGRAPH   106.00
```

```
    RUNOFF VOLUME =     2.14162 INCHES     =       2.4237 ACRE-FEET
    PEAK DISCHARGE RATE =      50.81 CFS  AT   1.533 HOURS   BASIN AREA =   .0212 SQ. MI.



*
*S  COMPUTE HYD BASIN POND
COMPUTE NM HYD        ID=7  HYDNO=107  AREA=0.002554 SQ MI
                      PER A=0 PER B=0 PER C=15 PER D=85
                      TP=.1667 HR MASS RAIN=-1

     K =   .090852HR    TP =   .166700HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   6.8536    CFS   UNIT VOLUME =    .9986       B =   526.28      P60 = 1.8700
     AREA =      .002171 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


     K =   .132393HR    TP =   .166700HR    K/TP RATIO =   .794199     SHAPE CONSTANT, N =  4.514851
     UNIT PEAK =   .89201    CFS   UNIT VOLUME =    .9849       B =   388.14      P60 = 1.8700
     AREA =      .000383 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

PRINT HYD             ID=7   CODE=1

                                  PARTIAL HYDROGRAPH   107.00


    RUNOFF VOLUME =     2.14166 INCHES     =        .2917 ACRE-FEET
    PEAK DISCHARGE RATE =       6.13 CFS  AT   1.533 HOURS   BASIN AREA =   .0026 SQ. MI.



*
ADD HYD               ID=10 HYDNO=201
                      ID=1 ID=2
PRINT HYD             ID=10 CODE=5

                                  PARTIAL HYDROGRAPH   201.00

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
      .000        .0          4.000        .4          7.999        .6         11.999        .4         15.998        .4
      .167        .0          4.166        .4          8.166        .5         12.165        .4         16.165        .4
```

.333	.0	4.333	.4	8.332	.5	12.332	.4	16.332	.4
.500	.0	4.500	.4	8.499	.5	12.499	.4	16.498	.4
.667	.0	4.666	.4	8.666	.5	12.665	.4	16.665	.4
.833	.0	4.833	.4	8.832	.5	12.832	.4	16.832	.4
1.000	.0	4.999	.4	8.999	.5	12.999	.4	16.998	.4
1.167	.1	5.166	.4	9.166	.5	13.165	.4	17.165	.4
1.333	14.4	5.333	.4	9.332	.5	13.332	.4	17.332	.4
1.500	62.8	5.499	.4	9.499	.5	13.499	.4	17.498	.4
1.667	43.5	5.666	.5	9.666	.5	13.665	.4	17.665	.3
1.833	26.2	5.833	.5	9.832	.5	13.832	.4	17.832	.3
2.000	19.3	5.999	.5	9.999	.5	13.999	.4	17.998	.3
2.166	11.0	6.166	.6	10.166	.5	14.165	.4	18.165	.3
2.333	4.9	6.333	.6	10.332	.5	14.332	.4	18.331	.3
2.500	3.1	6.499	.6	10.499	.5	14.499	.4	18.498	.3
2.666	2.1	6.666	.6	10.666	.5	14.665	.4	18.665	.3
2.833	1.5	6.833	.6	10.832	.5	14.832	.4	18.831	.3
3.000	1.0	6.999	.6	10.999	.5	14.998	.4	18.998	.3
3.166	.8	7.166	.6	11.166	.5	15.165	.4	19.165	.3
3.333	.6	7.333	.6	11.332	.5	15.332	.4	19.331	.3
3.500	.5	7.499	.6	11.499	.5	15.498	.4	19.498	.3
3.666	.5	7.666	.6	11.665	.5	15.665	.4	19.665	.3
3.833	.4	7.833	.6	11.832	.4	15.832	.4	19.831	.3

RUNOFF VOLUME = 2.20911 INCHES = 3.2194 ACRE-FEET
PEAK DISCHARGE RATE = 66.73 CFS AT 1.533 HOURS BASIN AREA = .0273 SQ. MI.

```
*
ADD HYD              ID=11 HYDNO=201
                     ID=10 ID=3
PRINT HYD            ID=11 CODE=5
```

PARTIAL HYDROGRAPH 201.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	4.000	.6	7.999	.8	11.999	.6	15.998	.5
.167	.0	4.166	.6	8.166	.8	12.165	.6	16.165	.5
.333	.0	4.333	.6	8.332	.8	12.332	.6	16.332	.5
.500	.0	4.500	.6	8.499	.8	12.499	.6	16.498	.5
.667	.0	4.666	.6	8.666	.8	12.665	.6	16.665	.5
.833	.0	4.833	.6	8.832	.8	12.832	.6	16.832	.5

1.000	.0	4.999	.6	8.999	.8	12.999	.6	16.998	.5
1.167	.1	5.166	.6	9.166	.8	13.165	.6	17.165	.5
1.333	21.0	5.333	.6	9.332	.7	13.332	.6	17.332	.5
1.500	92.7	5.499	.6	9.499	.7	13.499	.6	17.498	.5
1.667	64.3	5.666	.7	9.666	.7	13.665	.6	17.665	.5
1.833	38.6	5.833	.7	9.832	.7	13.832	.6	17.832	.5
2.000	28.4	5.999	.7	9.999	.7	13.999	.6	17.998	.5
2.166	16.1	6.166	.8	10.166	.7	14.165	.6	18.165	.5
2.333	7.3	6.333	.9	10.332	.7	14.332	.6	18.331	.5
2.500	4.6	6.499	.9	10.499	.7	14.499	.6	18.498	.5
2.666	3.1	6.666	.9	10.666	.7	14.665	.6	18.665	.5
2.833	2.1	6.833	.9	10.832	.7	14.832	.6	18.831	.5
3.000	1.5	6.999	.9	10.999	.7	14.998	.6	18.998	.5
3.166	1.2	7.166	.8	11.166	.7	15.165	.6	19.165	.5
3.333	.9	7.333	.8	11.332	.7	15.332	.6	19.331	.5
3.500	.8	7.499	.8	11.499	.7	15.498	.6	19.498	.5
3.666	.7	7.666	.8	11.665	.7	15.665	.6	19.665	.5
3.833	.6	7.833	.8	11.832	.7	15.832	.5	19.831	.5

RUNOFF VOLUME = 2.18705 INCHES = 4.7349 ACRE-FEET
PEAK DISCHARGE RATE = 98.51 CFS AT 1.533 HOURS BASIN AREA = .0406 SQ. MI.

```
*
ADD HYD              ID=12 HYDNO=301
                     ID=11 ID=4
PRINT HYD            ID=12 CODE=5
```

HYDROGRAPH FROM AREA 301.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	4.000	.7	7.999	1.0	11.999	.8	15.998	.7
.167	.0	4.166	.7	8.166	1.0	12.165	.8	16.165	.7
.333	.0	4.333	.7	8.332	1.0	12.332	.8	16.332	.7
.500	.0	4.500	.7	8.499	1.0	12.499	.8	16.498	.7
.667	.0	4.666	.7	8.666	1.0	12.665	.8	16.665	.7
.833	.0	4.833	.7	8.832	.9	12.832	.8	16.832	.6
1.000	.0	4.999	.7	8.999	.9	12.999	.8	16.998	.6
1.167	.1	5.166	.8	9.166	.9	13.165	.8	17.165	.6
1.333	26.0	5.333	.8	9.332	.9	13.332	.7	17.332	.6
1.500	115.1	5.499	.8	9.499	.9	13.499	.7	17.498	.6

1.667	79.9	5.666	.8	9.666	.9	13.665	.7	17.665	.6
1.833	48.0	5.833	.9	9.832	.9	13.832	.7	17.832	.6
2.000	35.2	5.999	.9	9.999	.9	13.999	.7	17.998	.6
2.166	20.0	6.166	1.0	10.166	.9	14.165	.7	18.165	.6
2.333	9.0	6.333	1.1	10.332	.9	14.332	.7	18.331	.6
2.500	5.7	6.499	1.1	10.499	.9	14.499	.7	18.498	.6
2.666	3.8	6.666	1.1	10.666	.9	14.665	.7	18.665	.6
2.833	2.6	6.833	1.1	10.832	.9	14.832	.7	18.831	.6
3.000	1.9	6.999	1.1	10.999	.8	14.998	.7	18.998	.6
3.166	1.5	7.166	1.0	11.166	.8	15.165	.7	19.165	.6
3.333	1.2	7.333	1.0	11.332	.8	15.332	.7	19.331	.6
3.500	1.0	7.499	1.0	11.499	.8	15.498	.7	19.498	.6
3.666	.9	7.666	1.0	11.665	.8	15.665	.7	19.665	.6
3.833	.8	7.833	1.0	11.832	.8	15.832	.7	19.831	.6

RUNOFF VOLUME = 2.17812 INCHES = 5.8705 ACRE-FEET
PEAK DISCHARGE RATE = 122.33 CFS AT 1.533 HOURS BASIN AREA = .0505 SQ. MI.

```
*
ADD HYD              ID=13 HYDNO=301
                     ID=12 ID=5
PRINT HYD            ID=13 CODE=5
```

HYDROGRAPH FROM AREA 301.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	4.000	.8	7.999	1.1	11.999	.8	15.998	.7
.167	.0	4.166	.8	8.166	1.0	12.165	.8	16.165	.7
.333	.0	4.333	.7	8.332	1.0	12.332	.8	16.332	.7
.500	.0	4.500	.7	8.499	1.0	12.499	.8	16.498	.7
.667	.0	4.666	.7	8.666	1.0	12.665	.8	16.665	.7
.833	.0	4.833	.8	8.832	1.0	12.832	.8	16.832	.7
1.000	.0	4.999	.8	8.999	1.0	12.999	.8	16.998	.7
1.167	.1	5.166	.8	9.166	1.0	13.165	.8	17.165	.7
1.333	27.6	5.333	.8	9.332	1.0	13.332	.8	17.332	.7
1.500	122.1	5.499	.8	9.499	1.0	13.499	.8	17.498	.7
1.667	84.8	5.666	.9	9.666	1.0	13.665	.8	17.665	.7
1.833	50.9	5.833	.9	9.832	1.0	13.832	.8	17.832	.7
2.000	37.3	5.999	1.0	9.999	.9	13.999	.8	17.998	.7
2.166	21.2	6.166	1.1	10.166	.9	14.165	.8	18.165	.7

2.333	9.6	6.333	1.1	10.332	.9	14.332	.8	18.331	.7
2.500	6.0	6.499	1.1	10.499	.9	14.499	.8	18.498	.6
2.666	4.0	6.666	1.1	10.666	.9	14.665	.8	18.665	.6
2.833	2.8	6.833	1.1	10.832	.9	14.832	.7	18.831	.6
3.000	2.0	6.999	1.1	10.999	.9	14.998	.7	18.998	.6
3.166	1.5	7.166	1.1	11.166	.9	15.165	.7	19.165	.6
3.333	1.2	7.333	1.1	11.332	.9	15.332	.7	19.331	.6
3.500	1.0	7.499	1.1	11.499	.9	15.498	.7	19.498	.6
3.666	.9	7.666	1.1	11.665	.9	15.665	.7	19.665	.6
3.833	.8	7.833	1.1	11.832	.9	15.832	.7	19.831	.6

RUNOFF VOLUME = 2.17600 INCHES = 6.2255 ACRE-FEET
PEAK DISCHARGE RATE = 129.79 CFS AT 1.533 HOURS BASIN AREA = .0536 SQ. MI.

```
*
ADD HYD              ID=14 HYDNO=301
                     ID=13 ID=6
PRINT HYD            ID=14 CODE=5
```

HYDROGRAPH FROM AREA 301.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	4.000	1.1	7.999	1.5	11.999	1.2	15.998	1.0
.167	.0	4.166	1.1	8.166	1.4	12.165	1.2	16.165	1.0
.333	.0	4.333	1.0	8.332	1.4	12.332	1.2	16.332	1.0
.500	.0	4.500	1.0	8.499	1.4	12.499	1.1	16.498	1.0
.667	.0	4.666	1.0	8.666	1.4	12.665	1.1	16.665	1.0
.833	.0	4.833	1.1	8.832	1.4	12.832	1.1	16.832	1.0
1.000	.0	4.999	1.1	8.999	1.4	12.999	1.1	16.998	.9
1.167	.2	5.166	1.1	9.166	1.4	13.165	1.1	17.165	.9
1.333	38.2	5.333	1.1	9.332	1.3	13.332	1.1	17.332	.9
1.500	169.8	5.499	1.2	9.499	1.3	13.499	1.1	17.498	.9
1.667	118.0	5.666	1.2	9.666	1.3	13.665	1.1	17.665	.9
1.833	70.7	5.833	1.3	9.832	1.3	13.832	1.1	17.832	.9
2.000	51.8	5.999	1.3	9.999	1.3	13.999	1.1	17.998	.9
2.166	29.4	6.166	1.5	10.166	1.3	14.165	1.1	18.165	.9
2.333	13.3	6.333	1.6	10.332	1.3	14.332	1.1	18.331	.9
2.500	8.4	6.499	1.6	10.499	1.3	14.499	1.0	18.498	.9
2.666	5.6	6.666	1.6	10.666	1.3	14.665	1.0	18.665	.9
2.833	3.9	6.833	1.6	10.832	1.2	14.832	1.0	18.831	.9

3.000	2.8	6.999	1.6	10.999	1.2	14.998	1.0	18.998	.9
3.166	2.1	7.166	1.5	11.166	1.2	15.165	1.0	19.165	.9
3.333	1.7	7.333	1.5	11.332	1.2	15.332	1.0	19.331	.9
3.500	1.4	7.499	1.5	11.499	1.2	15.498	1.0	19.498	.9
3.666	1.3	7.666	1.5	11.665	1.2	15.665	1.0	19.665	.9
3.833	1.1	7.833	1.5	11.832	1.2	15.832	1.0	19.831	.9

RUNOFF VOLUME = 2.16626 INCHES = 8.6493 ACRE-FEET
PEAK DISCHARGE RATE = 180.60 CFS AT 1.533 HOURS BASIN AREA = .0749 SQ. MI.

```
*
ADD HYD              ID=15 HYDNO=301
                     ID=14 ID=7
PRINT HYD            ID=15 CODE=5
```

HYDROGRAPH FROM AREA 301.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	4.000	1.1	7.999	1.5	11.999	1.2	15.998	1.0
.167	.0	4.166	1.1	8.166	1.5	12.165	1.2	16.165	1.0
.333	.0	4.333	1.1	8.332	1.5	12.332	1.2	16.332	1.0
.500	.0	4.500	1.1	8.499	1.5	12.499	1.2	16.498	1.0
.667	.0	4.666	1.1	8.666	1.4	12.665	1.2	16.665	1.0
.833	.0	4.833	1.1	8.832	1.4	12.832	1.2	16.832	1.0
1.000	.0	4.999	1.1	8.999	1.4	12.999	1.2	16.998	1.0
1.167	.2	5.166	1.1	9.166	1.4	13.165	1.1	17.165	1.0
1.333	39.5	5.333	1.2	9.332	1.4	13.332	1.1	17.332	1.0
1.500	175.6	5.499	1.2	9.499	1.4	13.499	1.1	17.498	1.0
1.667	122.0	5.666	1.3	9.666	1.4	13.665	1.1	17.665	1.0
1.833	73.1	5.833	1.3	9.832	1.4	13.832	1.1	17.832	1.0
2.000	53.5	5.999	1.4	9.999	1.3	13.999	1.1	17.998	.9
2.166	30.4	6.166	1.5	10.166	1.3	14.165	1.1	18.165	.9
2.333	13.7	6.333	1.6	10.332	1.3	14.332	1.1	18.331	.9
2.500	8.7	6.499	1.6	10.499	1.3	14.499	1.1	18.498	.9
2.666	5.8	6.666	1.6	10.666	1.3	14.665	1.1	18.665	.9
2.833	4.0	6.833	1.6	10.832	1.3	14.832	1.1	18.831	.9
3.000	2.9	6.999	1.6	10.999	1.3	14.998	1.1	18.998	.9
3.166	2.2	7.166	1.6	11.166	1.3	15.165	1.0	19.165	.9
3.333	1.8	7.333	1.6	11.332	1.3	15.332	1.0	19.331	.9
3.500	1.5	7.499	1.6	11.499	1.2	15.498	1.0	19.498	.9

```
     3.666       1.3          7.666       1.5          11.665       1.2          15.665       1.0          19.665        .9
     3.833       1.2          7.833       1.5          11.832       1.2          15.832       1.0          19.831        .9

    RUNOFF VOLUME =     2.16545 INCHES     =       8.9410 ACRE-FEET
    PEAK DISCHARGE RATE =     186.73 CFS  AT   1.533 HOURS   BASIN AREA =   .0774 SQ. MI.


*
************************************************************
ROUTE RESERVOIR       ID=20 HYD=301 INFLOW ID=15 CODE=5
     OUTFLOW       STORAGE        ELEV
      (CFS)        (AC-FT)        (FT)
        0.00         0.0000         4998
        0.85         0.0153         4999
        1.27         0.1487         5000
        1.57         0.9548         5001
        1.81         1.9868         5002
        2.03         3.1062         5003
        2.23         4.2974         5004
        2.41         5.5558         5005
        2.50         6.2122         5005.5
        2.66         7.6172         5006.5
        3.17         7.7668         5006.6
        8.28         8.3754         5007
PRINT HYD             ID=20 CODE=5

  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *

    TIME      INFLOW    ELEV      VOLUME    OUTFLOW
    (HRS)     (CFS)     (FEET)    (AC-FT)   (CFS)

      .00        .00   4998.00       .000       .00
      .17        .00   4998.00       .000       .00
      .33        .00   4998.00       .000       .00
      .50        .00   4998.00       .000       .00
      .67        .00   4998.00       .000       .00
      .83        .00   4998.00       .000       .00
     1.00        .00   4998.00       .000       .00
     1.17        .18   4998.02       .000       .01
     1.33      39.47   5000.02       .164      1.28
     1.50     175.60   5001.59      1.565      1.71
     1.67     122.01   5003.58      3.792      2.15
```

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
1.83	73.13	5004.59	5.040	2.34
2.00	53.52	5005.24	5.869	2.45
2.17	30.38	5005.66	6.436	2.53
2.33	13.75	5005.83	6.680	2.55
2.50	8.66	5005.91	6.795	2.57
2.67	5.79	5005.96	6.857	2.57
2.83	4.03	5005.98	6.889	2.58
3.00	2.90	5005.99	6.900	2.58
3.17	2.20	5005.99	6.900	2.58
3.33	1.76	5005.98	6.891	2.58
3.50	1.48	5005.97	6.878	2.58
3.67	1.30	5005.96	6.861	2.57
3.83	1.19	5005.95	6.843	2.57
4.00	1.12	5005.94	6.823	2.57
4.17	1.09	5005.92	6.803	2.57
4.33	1.07	5005.91	6.783	2.56
4.50	1.07	5005.89	6.762	2.56
4.67	1.07	5005.88	6.741	2.56
4.83	1.09	5005.86	6.721	2.56
5.00	1.10	5005.85	6.701	2.56
5.17	1.14	5005.83	6.681	2.55
5.33	1.18	5005.82	6.662	2.55
5.50	1.20	5005.81	6.643	2.55
5.67	1.25	5005.79	6.625	2.55
5.83	1.30	5005.78	6.608	2.55
6.00	1.36	5005.77	6.591	2.54
6.17	1.51	5005.76	6.575	2.54
6.33	1.62	5005.75	6.562	2.54
6.50	1.64	5005.74	6.550	2.54
6.67	1.63	5005.73	6.537	2.54
6.83	1.62	5005.72	6.525	2.54
7.00	1.61	5005.71	6.512	2.53
7.17	1.59	5005.70	6.499	2.53
7.33	1.58	5005.69	6.486	2.53
7.50	1.56	5005.69	6.473	2.53
7.67	1.55	5005.68	6.459	2.53
7.83	1.53	5005.67	6.446	2.53
8.00	1.51	5005.66	6.432	2.53
8.17	1.50	5005.65	6.418	2.52

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
8.33	1.48	5005.64	6.404	2.52
8.50	1.47	5005.63	6.389	2.52
8.67	1.44	5005.62	6.375	2.52
8.83	1.44	5005.60	6.360	2.52
9.00	1.43	5005.59	6.345	2.52
9.17	1.41	5005.58	6.330	2.51
9.33	1.39	5005.57	6.314	2.51
9.50	1.38	5005.56	6.299	2.51
9.67	1.37	5005.55	6.283	2.51
9.83	1.36	5005.54	6.268	2.51
10.00	1.35	5005.53	6.252	2.50
10.17	1.33	5005.52	6.236	2.50
10.33	1.31	5005.51	6.219	2.50
10.50	1.30	5005.49	6.203	2.50
10.67	1.30	5005.48	6.187	2.50
10.83	1.29	5005.47	6.170	2.49
11.00	1.27	5005.46	6.153	2.49
11.17	1.27	5005.44	6.137	2.49
11.33	1.25	5005.43	6.120	2.49
11.50	1.24	5005.42	6.103	2.48
11.67	1.23	5005.40	6.085	2.48
11.83	1.22	5005.39	6.068	2.48
12.00	1.21	5005.38	6.051	2.48
12.17	1.21	5005.36	6.033	2.48
12.33	1.19	5005.35	6.016	2.47
12.50	1.18	5005.34	5.998	2.47
12.67	1.17	5005.32	5.980	2.47
12.83	1.17	5005.31	5.962	2.47
13.00	1.16	5005.30	5.944	2.46
13.17	1.15	5005.28	5.926	2.46
13.33	1.14	5005.27	5.908	2.46
13.50	1.13	5005.25	5.890	2.46
13.67	1.12	5005.24	5.872	2.45
13.83	1.12	5005.23	5.853	2.45
14.00	1.10	5005.21	5.835	2.45
14.17	1.10	5005.20	5.816	2.45
14.33	1.09	5005.18	5.798	2.44
14.50	1.08	5005.17	5.779	2.44
14.67	1.07	5005.16	5.760	2.44

```
    TIME      INFLOW    ELEV      VOLUME    OUTFLOW
    (HRS)     (CFS)     (FEET)    (AC-FT)   (CFS)

    14.83       1.06   5005.14      5.742      2.44
    15.00       1.06   5005.13      5.723      2.43
    15.17       1.05   5005.11      5.704      2.43
    15.33       1.04   5005.10      5.685      2.43
    15.50       1.04   5005.08      5.666      2.43
    15.67       1.04   5005.07      5.647      2.42
    15.83       1.02   5005.05      5.627      2.42
    16.00       1.01   5005.04      5.608      2.42
    16.17       1.01   5005.02      5.589      2.41
    16.33       1.01   5005.01      5.569      2.41
    16.50       1.00   5005.00      5.550      2.41
    16.67        .99   5004.98      5.531      2.41
    16.83        .98   5004.96      5.511      2.40
    17.00        .98   5004.95      5.491      2.40
    17.16        .98   5004.93      5.472      2.40
    17.33        .96   5004.92      5.452      2.40
    17.50        .96   5004.90      5.432      2.39
    17.66        .96   5004.89      5.413      2.39
    17.83        .95   5004.87      5.393      2.39
    18.00        .94   5004.85      5.373      2.38
    18.16        .94   5004.84      5.353      2.38
    18.33        .94   5004.82      5.333      2.38
    18.50        .92   5004.81      5.313      2.38
    18.66        .93   5004.79      5.293      2.37
    18.83        .91   5004.78      5.273      2.37
    19.00        .91   5004.76      5.253      2.37
    19.16        .91   5004.74      5.233      2.36
    19.33        .90   5004.73      5.213      2.36
    19.50        .90   5004.71      5.193      2.36
    19.66        .89   5004.70      5.173      2.36
    19.83        .89   5004.68      5.153      2.35
 PEAK DISCHARGE =        2.578 CFS - PEAK OCCURS AT HOUR    3.07
 MAXIMUM WATER SURFACE ELEVATION =     5005.990
 MAXIMUM STORAGE =        6.9011 AC-FT      INCREMENTAL TIME=     .033330HRS

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*
FINISH
    NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 19:52:44
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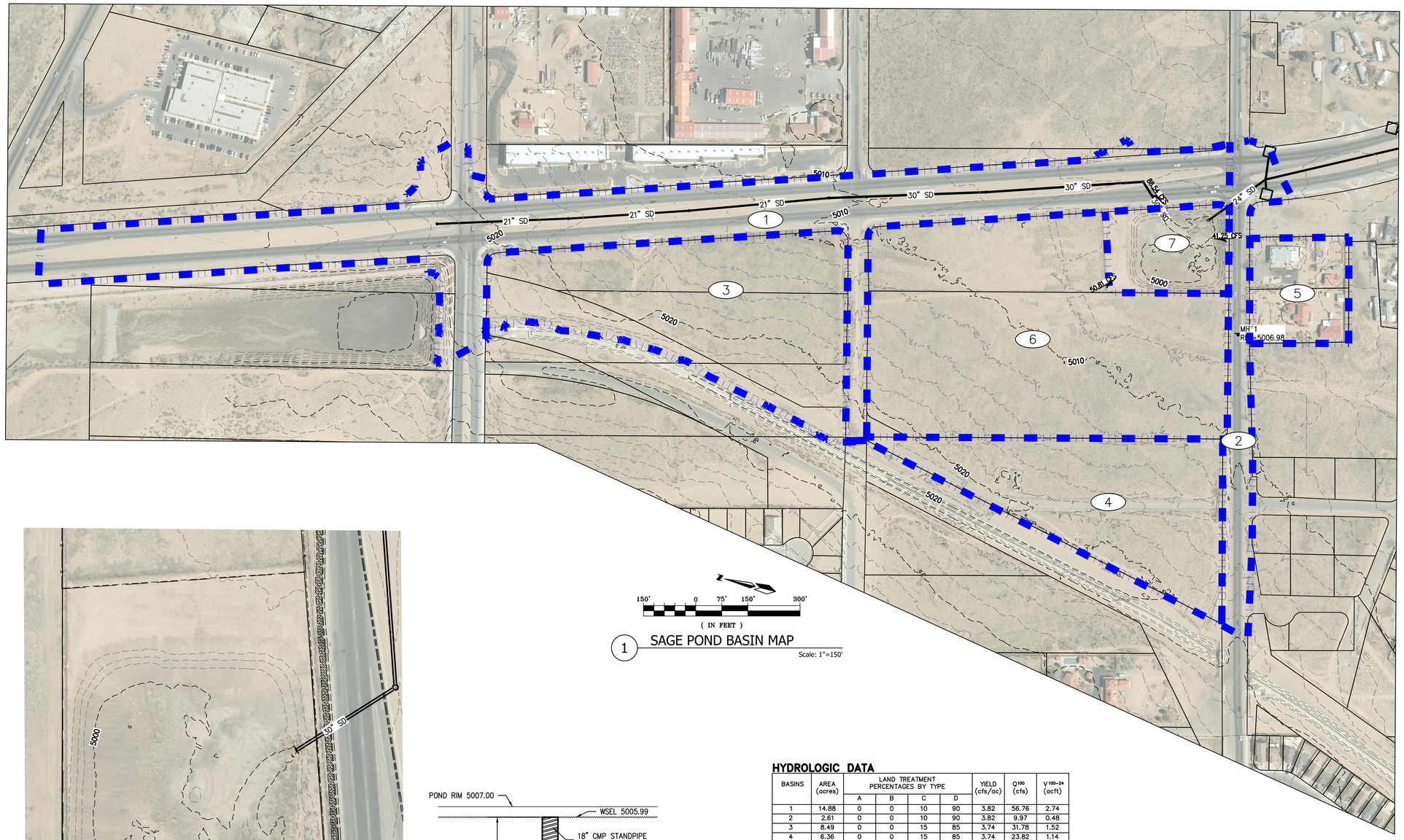
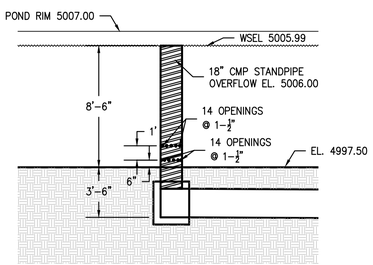


1 SAGE POND BASIN MAP

Scale: 1"=150'

2 SAGE POND

Scale: 1"=50'



3 OUTFALL SECTION

Scale: 1"=5'

HYDROLOGIC DATA

BASINS	AREA (acres)	LAND TREATMENT PERCENTAGES BY TYPE				YIELD (cfs/ac)	Q^{100} (cfs)	V^{100-24} (acft)
		A	B	C	D			
1	14.88	0	0	10	90	3.82	56.76	2.74
2	2.61	0	0	10	90	3.82	9.97	0.48
3	8.49	0	0	15	85	3.74	31.78	1.52
4	6.36	0	0	15	85	3.74	23.82	1.14
5	1.99	0	0	15	85	3.74	7.46	0.36
6	13.58	0	0	15	85	3.74	50.81	2.42
7	1.63	0	0	15	85	3.74	6.13	0.29
total	49.55					3.78	186.73	8.94

AS BUILT INFORMATION

CONTRACTOR DATE
WORK STARTED BY
WORK STARTED ON
ACCEPTANCE BY DATE
EQUIPMENT
VERIFICATION BY DATE
DRAWINGS
CORRECTED BY DATE

MICRO-FILM INFORMATION

RECORDED BY DATE
NO.

BENCH MARKS

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL

RON E. HENSLEY NEW MEXICO 21850

JAN. 30, 2020

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	
		DESIGNED BY DATE DEC. 2019	REH
		DRAWN BY DATE JAN. 2020	REH
		CHECKED BY DATE JAN. 2020	REH

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

SAGE PARK SUBDIVISION

A REPLAT OF TRACT 401, TOWN OF ATRISCO GRANT UNIT 3

BASIN MAP / DRAINAGE CONDITIONS

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST DESIGN UPDATE	Mo./DAY/YR.	Mo./DAY/YR.

THE group
THE HENSLEY ENGINEERING GROUP
300 BRANDING IRON RD. SE
RIO RANCHO, NEW MEXICO 87124
Phone:(505) 410-1622

DRB No.	CITY PROJECT No.	ZONE MAP NO.	SHEET	OF
2019-003169		L-10-Z	1	6