

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

Based on the re-submittal received on 5/15/20, this Grading and Drainage Plan is approved for Grading Permit and Preliminary Plat.

Albuquerque

Prior to Final Plat:

NM 87103

www.cabq.gov

1. On the Final 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.
2. 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.

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



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 **H**ENSLEY **E**NGINEERING **G**ROUP

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 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

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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.

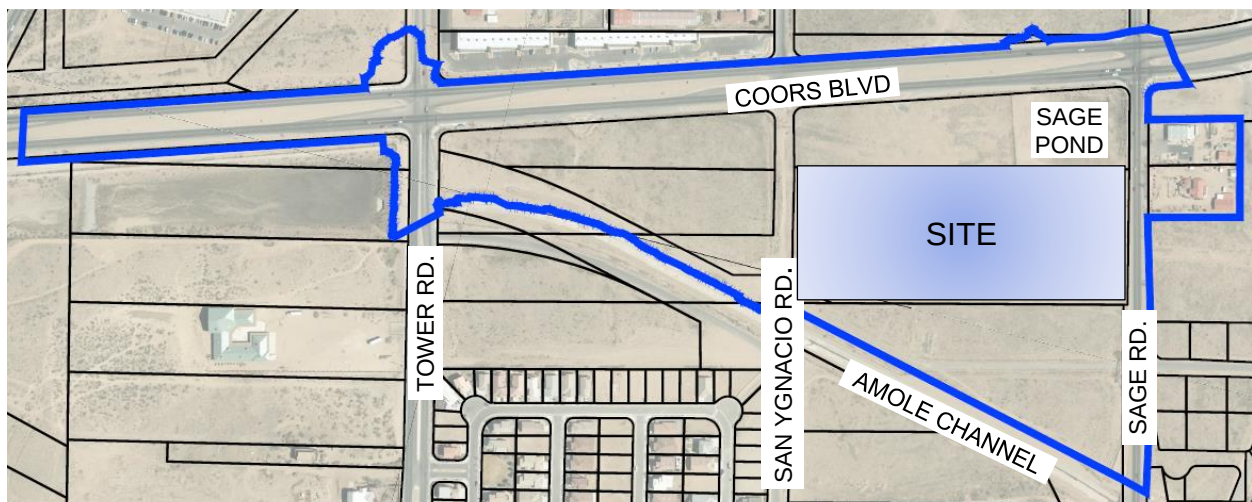


Figure 1 - Sage Pond Basin

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	9.76	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:

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

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 in compliance with this requirement as demonstrated in Figures 2 and 3 on the following page. Figures 3 and 4 depict the flow conditions at the intersections with the adjacent streets to demonstrate water block requirements.

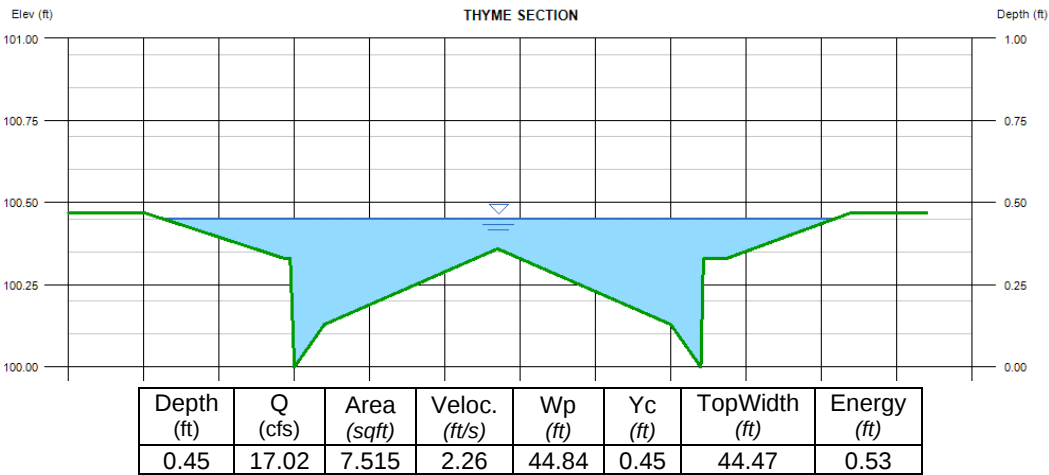


Figure 2 Thyme Street Section

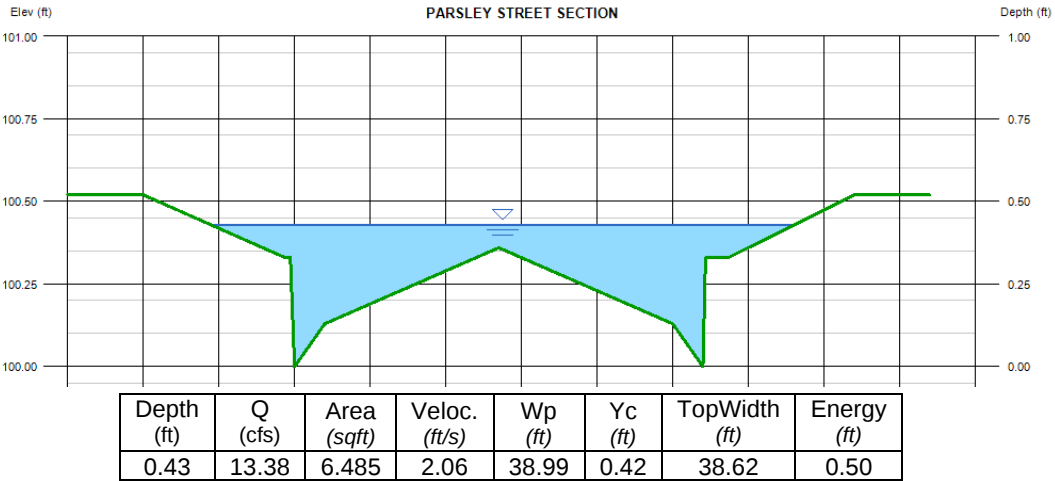


Figure 3 Parsley Street Section

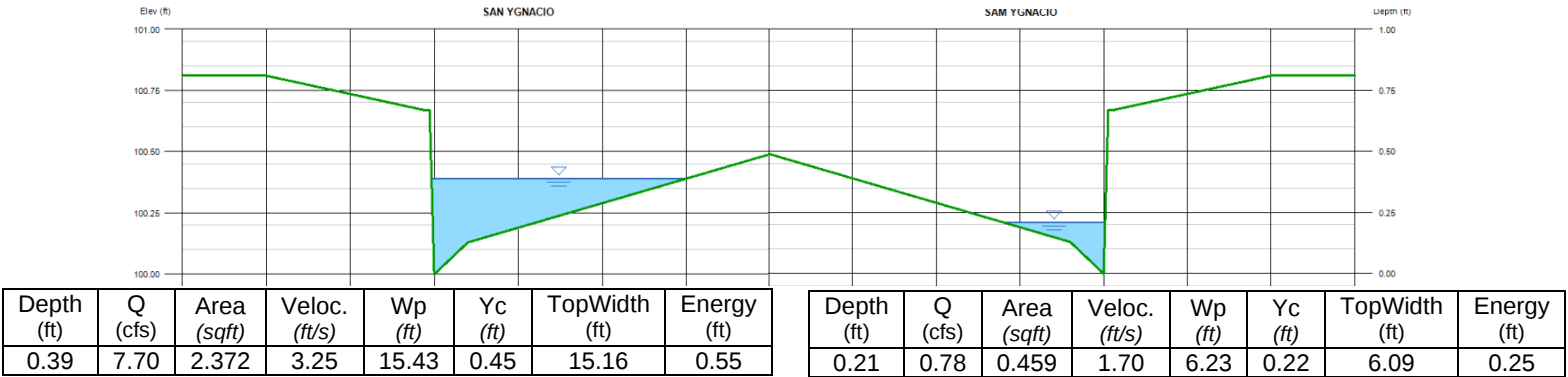


Figure 4 San Ygnacio Street Section

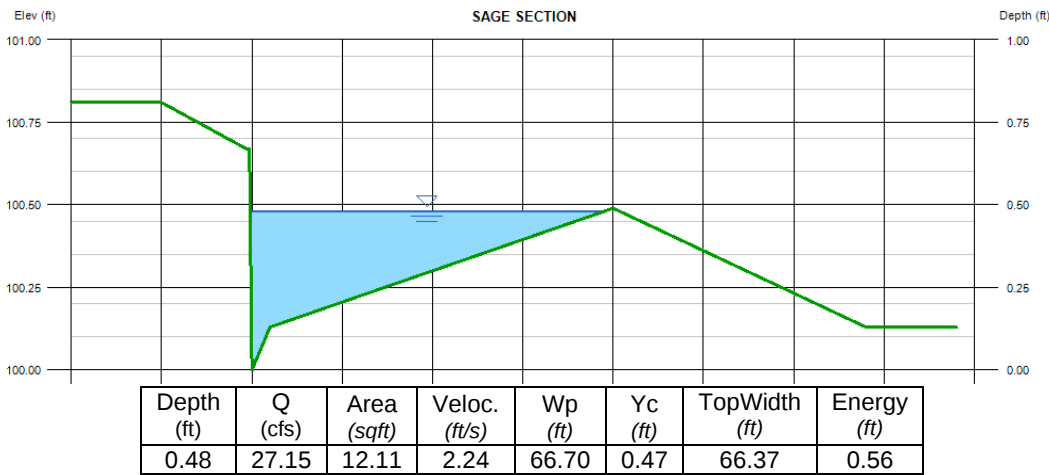


Figure 5 Sage Street Section

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
*****

*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=100 PER C=0 PER D=0
                  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
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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
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PRINT HYD         ID=6  CODE=1
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                  TP=.1667 HR MASS RAIN=-1

PRINT HYD         ID=7  CODE=1
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*S COMPUTE HYD BASIN POND TRACT 402B
```

DRAINAGE REPORT – SAGE PARK SUBDIVISION

COMPUTE NM HYD ID=8 HYDNO=107 AREA=0.002554 SQ MI
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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
	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

DRAINAGE REPORT – SAGE PARK SUBDIVISION

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) -
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- VERSION: 1997.02c

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*S COMPUTE HYD BASIN TRACT 359 TO 361										
COMPUTE NM HYD	103.00	-	3	.01327	14.61	.472	.66738	1.567	1.720	PER IMP= .00
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*S COMPUTE HYD BASIN DEVELOPED LOTS										
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ADD HYD	201.00	10&	3 11	.04059	81.20	3.692	1.70518	1.533	3.126	
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	
ADD HYD	301.00	13&	6 14	.07176	115.18	4.801	1.25444	1.533	2.508	
ADD HYD	301.00	14&	7 15	.07487	122.64	5.156	1.29127	1.533	2.560	
ADD HYD	301.00	15&	8 16	.07742	125.43	5.247	1.27069	1.533	2.531	
ROUTE RESERVOIR	301.00	16	20	.07742	2.22	3.141	.76079	2.933	.045	AC-FT= 4.240
FINISH										

DRAINAGE REPORT – SAGE PARK SUBDIVISION

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* 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

COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 -

PEAK AT 1.40 HR.

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.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
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1.6900	1.7284	1.7646	1.7989
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1.9682	1.9732	1.9780	1.9825
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2.0528	2.0554	2.0580	2.0605
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2.1560	2.1573	2.1587	2.1600
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2.3046	2.3057	2.3067	2.3078
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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	

DRAINAGE REPORT – SAGE PARK SUBDIVISION

2.3533	2.3543	2.3553	2.3563	2.3573	2.3583	2.3593
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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

DRAINAGE REPORT – SAGE PARK SUBDIVISION

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

DRAINAGE REPORT – SAGE PARK SUBDIVISION

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

DRAINAGE REPORT – SAGE PARK SUBDIVISION

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

DRAINAGE REPORT – SAGE PARK SUBDIVISION

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	TIME FLOW HRS CFS	FLOW CFS	TIME FLOW HRS CFS	FLOW CFS	TIME HRS	FLOW CFS
	.000	.0	4.000	.4	7.999	.6
11.999	.4	15.998	.4	.4	8.166	.5
12.165	.4	16.165	.4	.4	8.332	.5
12.332	.4	16.332	.4	.4	8.499	.5
12.499	.4	16.498	.4	.4	8.666	.5
12.665	.4	16.665	.4	.4	8.832	.5
12.832	.4	16.832	.4	.4	8.999	.5
12.999	.4	16.998	.4	.4	9.166	.5
13.165	.4	17.165	.4			

DRAINAGE REPORT – SAGE PARK SUBDIVISION

	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	TIME	FLOW	TIME	FLOW	TIME	FLOW
	FLOW					
HRS	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			

DRAINAGE REPORT – SAGE PARK SUBDIVISION

	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	TIME	FLOW	TIME	FLOW	TIME	FLOW
	FLOW		FLOW			
HRS	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			

DRAINAGE REPORT – SAGE PARK SUBDIVISION

	.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	TIME FLOW HRS	FLOW CFS	TIME	TIME FLOW HRS	FLOW CFS	TIME	FLOW 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				

DRAINAGE REPORT – SAGE PARK SUBDIVISION

	.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	TIME	FLOW	TIME	TIME	FLOW	TIME	FLOW
	FLOW			FLOW			
	HRS	CFS	HRS	HRS	CFS	HRS	CFS
HRS	CFS		HRS	CFS			

DRAINAGE REPORT – SAGE PARK SUBDIVISION

	.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

DRAINAGE REPORT – SAGE PARK SUBDIVISION

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

DRAINAGE REPORT – SAGE PARK SUBDIVISION
 PRINT HYD ID=16 CODE=5

HYDROGRAPH FROM AREA 301.00

TIME	TIME FLOW HRS	FLOW CFS	TIME	TIME FLOW HRS	FLOW CFS	TIME	FLOW CFS
HRS	CFS	HRS	CFS	HRS	CFS	HRS	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	116.0	5.499	.5	9.499	.6	
13.499	.5	17.498	.4				
	1.667	87.1	5.666	.5	9.666	.6	
13.665	.5	17.665	.4				
	1.833	45.3	5.833	.5	9.832	.6	
13.832	.5	17.832	.4				
	2.000	27.9	5.999	.6	9.999	.5	
13.999	.4	17.998	.4				
	2.166	16.3	6.166	.6	10.166	.5	
14.165	.4	18.165	.4				
	2.333	8.4	6.333	.7	10.332	.5	
14.332	.4	18.331	.4				
	2.500	5.5	6.499	.7	10.499	.5	
14.499	.4	18.498	.4				
	2.666	3.8	6.666	.7	10.666	.5	
14.665	.4	18.665	.4				
	2.833	2.7	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 = 1.27069 INCHES = 5.2469 ACRE-FEET
 PEAK DISCHARGE RATE = 125.43 CFS AT 1.533 HOURS BASIN AREA = .0774
 SQ. MI.

DRAINAGE REPORT – SAGE PARK SUBDIVISION

*

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 (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	.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

DRAINAGE REPORT – SAGE PARK SUBDIVISION

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

DRAINAGE REPORT – SAGE PARK SUBDIVISION

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

DRAINAGE REPORT – SAGE PARK SUBDIVISION

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

```

DRAINAGE REPORT – SAGE PARK SUBDIVISION
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

```

DRAINAGE REPORT – SAGE PARK SUBDIVISION

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

DRAINAGE REPORT – SAGE PARK SUBDIVISION

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) -
 INPUT FILE = C:\DOCUME~1\Ron\Desktop\AHYMO~1\SAGEPA-2.HMI

- VERSION: 1997.02c

RUN DATE (MON/DAY/YR) =03/24/2020
 USER NO.= AHYMO-I-9702c01000Q29-AH

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

DRAINAGE REPORT – SAGE PARK SUBDIVISION

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	

DRAINAGE REPORT – SAGE PARK SUBDIVISION

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

DRAINAGE REPORT – SAGE PARK SUBDIVISION

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

DRAINAGE REPORT – SAGE PARK SUBDIVISION

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.

DRAINAGE REPORT – SAGE PARK SUBDIVISION

*

*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	TIME	FLOW	TIME	FLOW	TIME	FLOW
HRS	FLOW	CFS	HRS	FLOW	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			

DRAINAGE REPORT – SAGE PARK SUBDIVISION

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

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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	TIME FLOW HRS CFS	FLOW CFS	TIME FLOW HRS CFS	FLOW CFS	TIME FLOW HRS CFS	FLOW CFS
	.000	.0	4.000	.2	7.999	.3
11.999	.2	.0	4.166	.2	8.166	.3
12.165	.2	.0	4.333	.2	8.332	.2
12.332	.2	.0	4.500	.2	8.499	.2
12.499	.2	.0	4.666	.2	8.666	.2
12.665	.2	.0	4.833	.2	8.832	.2
12.832	.2	.0	4.999	.2	8.999	.2
12.999	.2	.0	5.166	.2	9.166	.2
13.165	.2	.0	5.333	.2	9.332	.2
13.332	.2	6.6	5.499	.2	9.499	.2
13.499	.2	29.9	5.666	.2	9.666	.2
13.665	.2	20.8				
		17.665				

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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	TIME FLOW	FLOW CFS	TIME FLOW	FLOW CFS	TIME HRS	FLOW CFS
HRS	CFS	HRS	CFS	HRS	CFS	HRS
	.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	TIME FLOW HRS CFS	FLOW CFS	TIME HRS CFS	TIME FLOW HRS CFS	FLOW CFS	TIME HRS CFS	FLOW CFS
	.000	.0		4.000	.1	7.999	.1
11.999	.1	.0	15.998	.1			
	.167	.0		4.166	.1	8.166	.1
12.165	.1	.0	16.165	.1			
	.333	.0		4.333	.1	8.332	.1
12.332	.1	.0	16.332	.1			
	.500	.0		4.500	.1	8.499	.1
12.499	.1	.0	16.498	.1			
	.667	.0		4.666	.1	8.666	.1
12.665	.1	.0	16.665	.1			
	.833	.0		4.833	.1	8.832	.1
12.832	.1	.0	16.832	.1			
	1.000	.0		4.999	.1	8.999	.1
12.999	.1	.0	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	TIME	FLOW	TIME	FLOW	TIME	FLOW
HRS	FLOW	CFS	HRS	FLOW	HRS	CFS
HRS	CFS	HRS	CFS	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	TIME FLOW HRS	FLOW CFS	TIME	TIME FLOW HRS	FLOW CFS	TIME	FLOW 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 (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (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

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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

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

DRAINAGE REPORT – SAGE PARK SUBDIVISION

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

DRAINAGE REPORT – SAGE PARK SUBDIVISION

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	TIME FLOW HRS CFS	FLOW CFS	TIME FLOW HRS CFS	FLOW CFS	TIME FLOW HRS CFS	FLOW CFS
	.000	.0	4.000	.4	7.999	.6
11.999	.4	.0	15.998	.4	8.166	.5
12.165	.4	.0	16.165	.4	8.332	.5
12.332	.4	.0	16.332	.4	8.499	.5
12.499	.4	.0	16.498	.4	8.666	.5
12.665	.4	.0	16.665	.4	8.832	.5
12.832	.4	.0	16.832	.4	8.999	.5
12.999	.4	.0	16.998	.4	9.166	.5
13.165	.4	.1	17.165	.4	9.332	.5
13.332	.4	14.4	17.332	.4	9.499	.5
13.499	.4	62.8	17.498	.4		

DRAINAGE REPORT – SAGE PARK SUBDIVISION

	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	TIME	FLOW	TIME	FLOW	TIME	FLOW
	FLOW					
HRS	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			

DRAINAGE REPORT – SAGE PARK SUBDIVISION

	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	TIME	FLOW	TIME	FLOW	TIME	FLOW
	FLOW					
HRS	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			

DRAINAGE REPORT – SAGE PARK SUBDIVISION

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

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	.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	TIME	FLOW	TIME	TIME	FLOW	TIME	FLOW
	FLOW			FLOW			
	HRS	CFS	HRS	HRS	CFS	HRS	CFS
HRS	CFS		HRS	CFS			

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	.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

DRAINAGE REPORT – SAGE PARK SUBDIVISION

	TIME	FLOW	TIME	FLOW	TIME	FLOW
TIME	FLOW		TIME	FLOW		
	HRS	CFS	HRS	HRS	CFS	CFS
HRS	CFS		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.

*

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

DRAINAGE REPORT – SAGE PARK SUBDIVISION

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

DRAINAGE REPORT – SAGE PARK SUBDIVISION

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

DRAINAGE REPORT – SAGE PARK SUBDIVISION

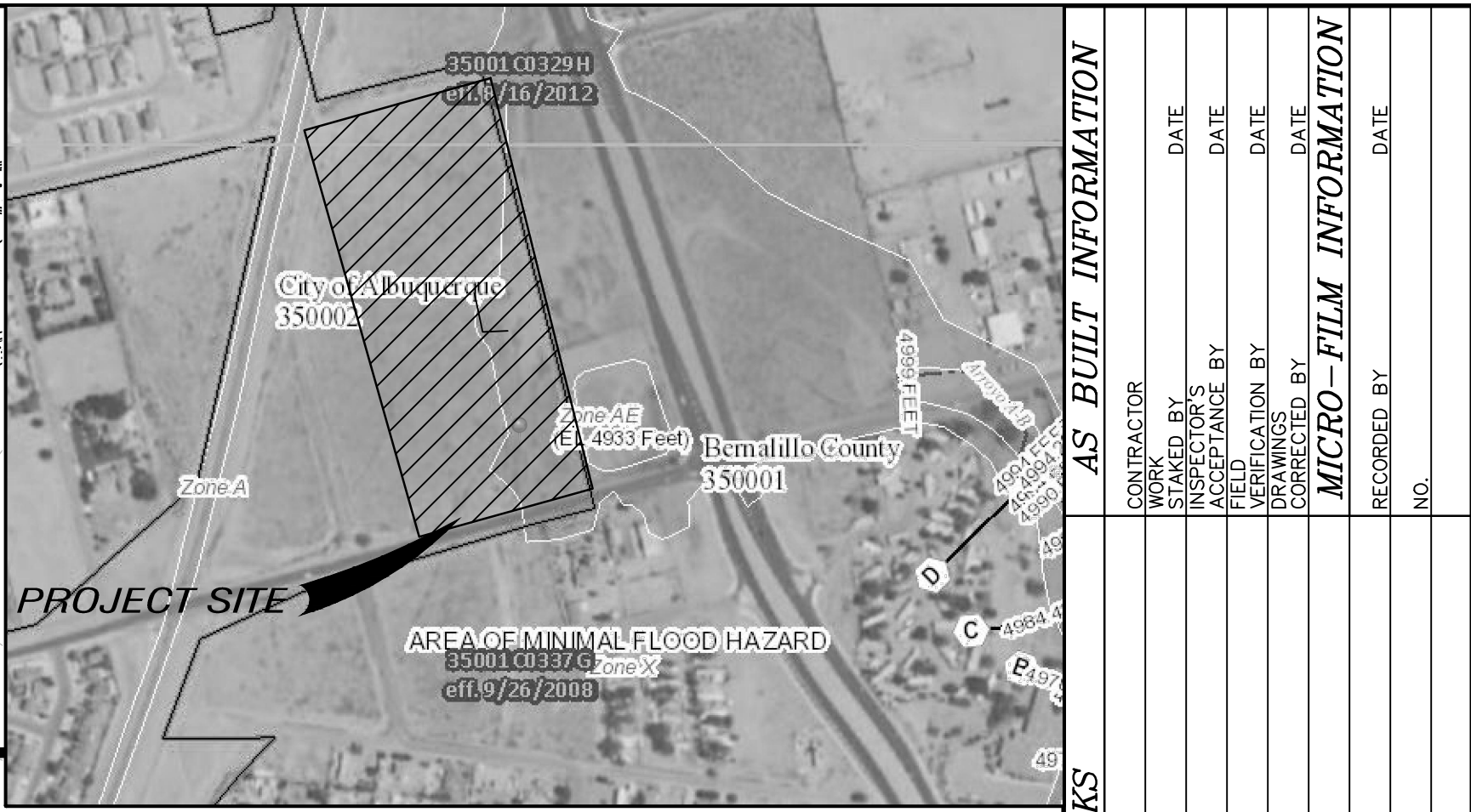
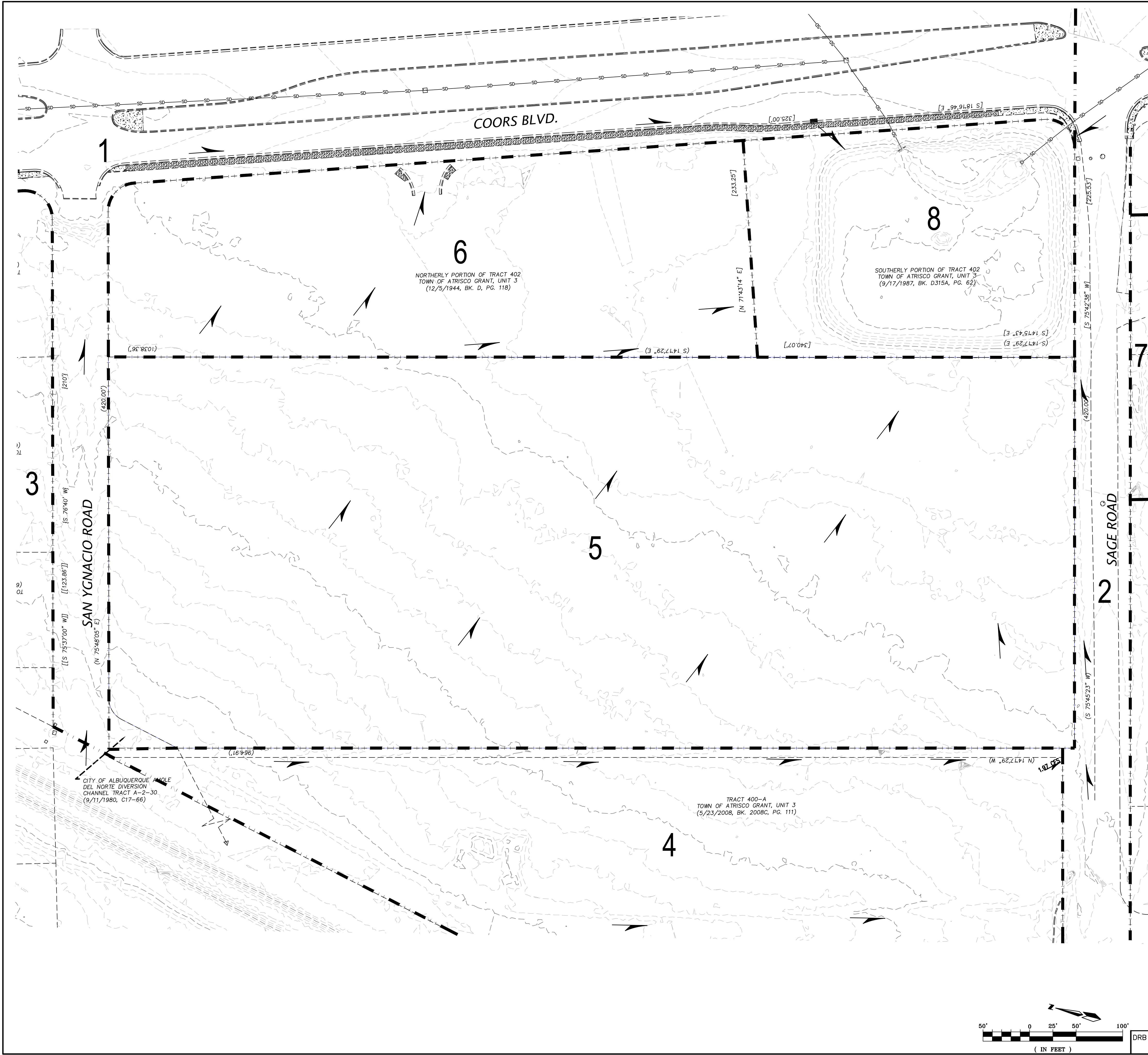
TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
16.50	.86	5004.66	5.125	2.35
16.67	1.01	5004.64	5.106	2.35
16.83	.84	5004.63	5.087	2.34
17.00	1.00	5004.61	5.067	2.34
17.16	.84	5004.60	5.047	2.34
17.33	.99	5004.58	5.028	2.33
17.50	.82	5004.56	5.008	2.33
17.66	.98	5004.55	4.988	2.33
17.83	.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				

*

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

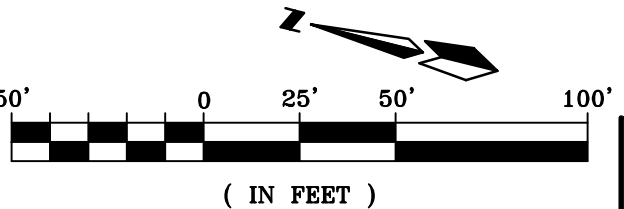
THE 100-YR 6-HR DURATION STORM WAS USED AS THE DESIGN STORM FOR THIS ANALYSIS. THIS SITE IS WITHIN ZONE 1 AS IDENTIFIED IN THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL, SECTION 22.2.

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

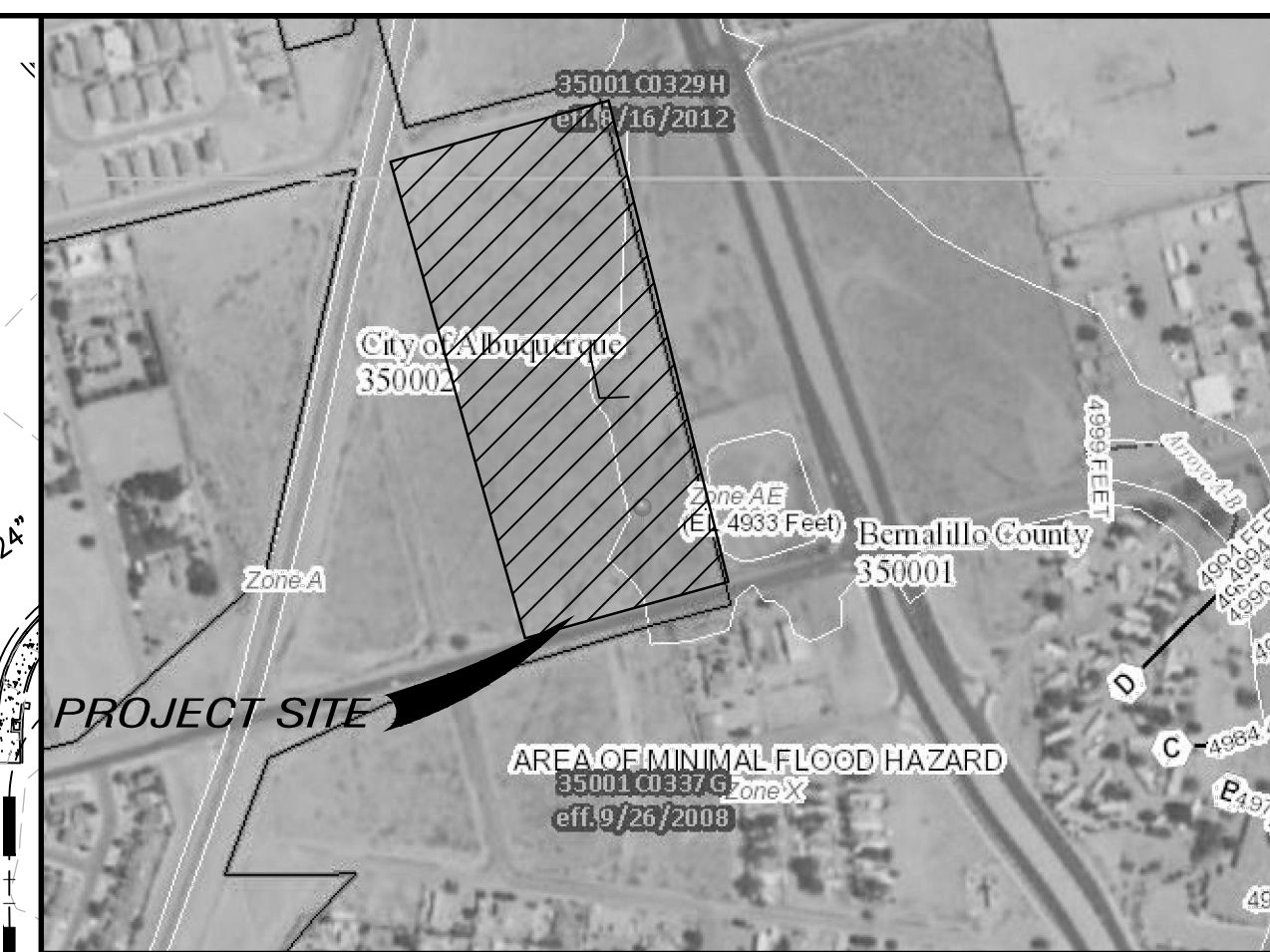


CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING DEPARTMENT GROUP			
SAGE PARK SUBDIVISION			
DRAINAGE PLAN EXISTING DRAINAGE / BASIN MAP			
DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	Mo./DAY/YR.	Mo./DAY/YR.
LAST DESIGN UPDATE			
CITY PROJECT No.		ZONE MAP No.	SHEET OF
2019-003169		L-10-Z	1 2

AS BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		ENGINEER'S SEAL	
CONTRACTOR	DATE	NO.	FIELD NOTES	NO.	REMARKS	BY	REVISIONS
STAKED BY	DATE						
INSPECTOR'S FIELD	DATE						
VERIFICATION BY	DATE						
CORRECTED BY	DATE						
MICRO-FILM INFORMATION							
RECORDED BY	DATE						
NO.							

MAR 20, 2020

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



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)	Q100 (cfs)	V100-24 (acft)
		A	B	C	D			
1	14.88	0	0	10	90	3.82	56.76	2.274
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	3.53	17.02	0.78
P4	0.35	0	100	0	0	2.51	0.33	0.03
5	0.79	0	0	15	85	3.75	14.32	0.11
6	7.98	0	0	15	85	3.75	74.06	3.08
8	1.63	0	0	15	85	2.51	6.13	0.03
POND OUT	49.54						2.53	5.00

ENGINEER'S SEAL		SURVEY INFORMATION		BENCH MARKS		AS BUILT INFORMATION	
		FIELD NOTES					
		NO.	BY	DATE			
						CONTRACTOR	
						WORK	
						INSPECTED BY	
						ACCEPTANCE BY	
						DATE	
						REPLICATION BY	
						DRAWINGS	
						DATE	
						CORRECTED BY	
						DATE	
						RECORDED BY	
						DATE	
						NO.	

RON E. HENSLEY
NEW MEXICO
21860
LICENSED PROFESSIONAL ENGINEER

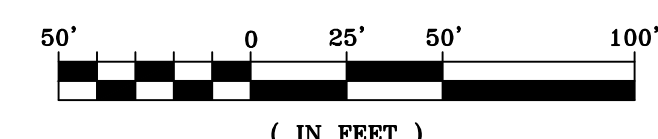
DESIGNED BY REH DATE DEC. 2019

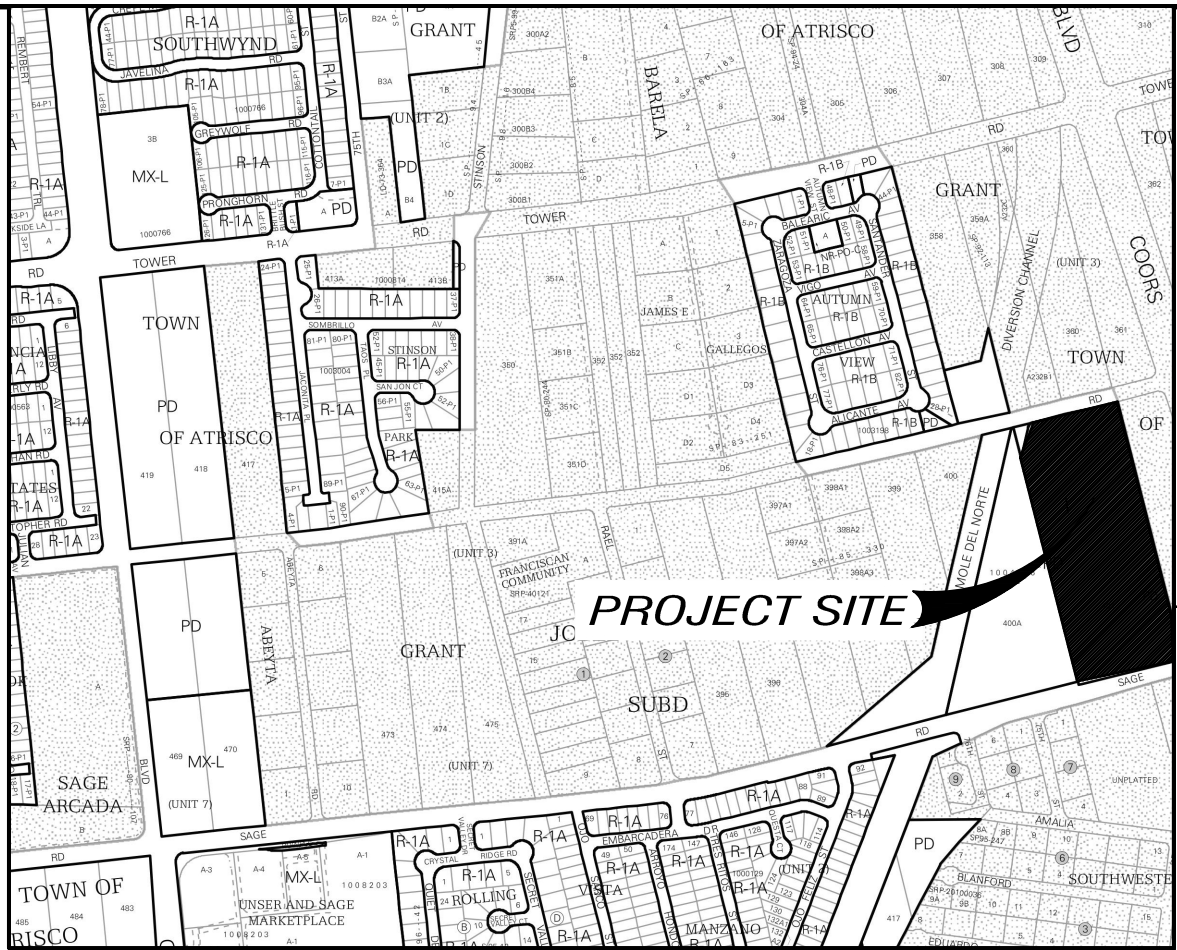
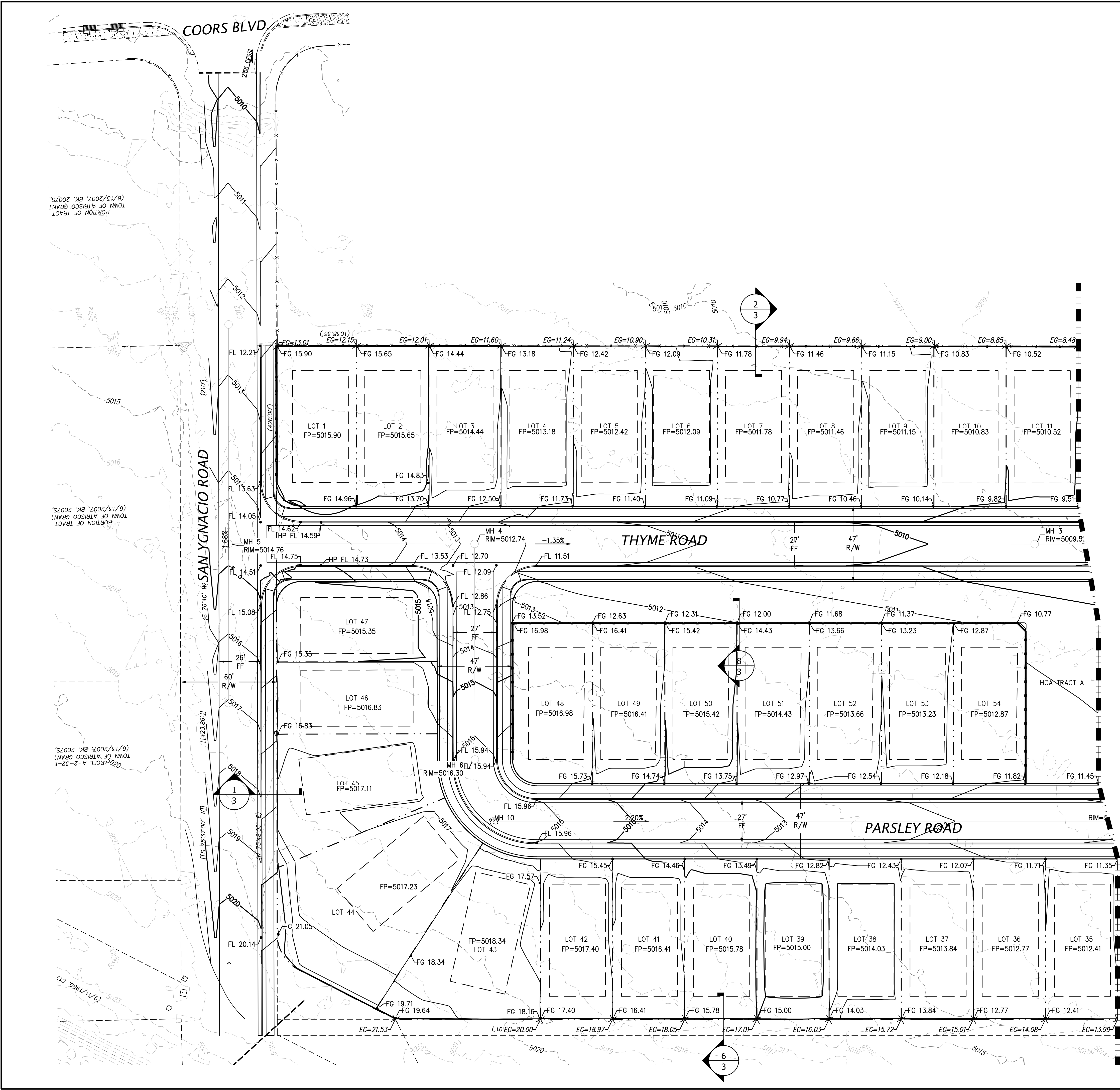
DRAWN BY REH DATE JAN. 2020

CHECKED BY REH DATE JAN. 2020

MAR. 20, 2020

CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING DEVELOPMENT GROUP							
<u>SAGE PARK SUBDIVISION</u>							
DRAINAGE PLAN							
PROPOSED DRAINAGE / BASIN MAP							
DESIGN REVIEW COMMITTEE		CITY ENGINEER APPROVAL		LAST DESIGN UPDATE	Mo./DAY/YR.		Mo./DAY/YR.
CITY PROJECT No.		ZONE MAP No. <i>1-10-7</i>		SHEET <i>2</i>		OF <i>2</i>	





VICINITY MAP L-10-Z

NOTES
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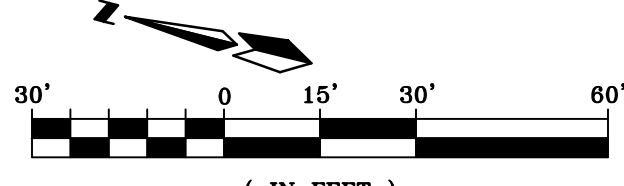
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 2. THE EROSION PROTECTION SPECIFIED ON THIS PLAN IS THE MINIMUM RECOMMENDED. THE OWNER IS ENCOURAGED TO INCORPORATE EROSION RESISTANT LANDSCAPING ON AREAS WHERE EROSION MAY OCCUR SUCH AS SLOPES AND SWALES. THE OWNER IS RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION CONTROL FEATURES NECESSARY TO PRESERVE THE DESIGN INTENT OF THE GRADING PLAN.
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 4. ALL DISTURBED AREAS OUTSIDE THE BUILDING PAD MUST BE RESEEDING OR LANDSCAPED
 5. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, (260-1990) FOR LOCATION OF EXISTING UTILITIES.
 6. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL OBSTRUCTIONS AND EXISTING PAVEMENT. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OR SURVEYOR SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM OF DELAY.

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 5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL (CITY) ACCEPTANCE OF ANY PROJECT.

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



AS BUILT INFORMATION			
CONTRACTOR	DATE	DATE	DATE
INSPECTOR'S	DATE	DATE	DATE
STAKED BY	DATE	DATE	DATE
FIELD	DATE	DATE	DATE
VERIFICATION BY	DATE	DATE	DATE
CORRECTED BY	DATE	DATE	DATE
MICRO-FILM INFORMATION			
RECORDED BY	DATE	DATE	DATE
NO.			

BENCH MARKS	
*ACS BM 12-11"	ON COORS BOULEVARD SW, NORTH OF THE
	APPROXIMATE CENTERLINE OF SAN YGNACIO ROAD.
	X=1547745.03
	Y=1547745.68 (NAD 83)
	ELEV=5010.76 (NAVD 1988)

SURVEY INFORMATION	
FIELD NOTES	DATE
	BY
NO.	

ENGINEER'S SEAL	
RON E. HENSLEY	NEW MEXICO 21860
REGISTERED PROFESSIONAL ENGINEER	EXPIRATION DATE: 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

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.

SOUTHERLY PORTION OF TRACT 402
TOWN OF ATRISCO GRANT, UNIT 3
(9/17/1987, BK. D315A, PG. 62)

LOT A
LAND OF PREMATIVO
CABALDON
(01/23/2008, 2008C-14)

LOT A
LAND OF PREMATIVO
CABALDON
(01/23/2008, 2008C-14)

TRACT IN SECTIONS 26, 27 AND 35,
T. 10 N., R. 2 E., N.M.P.M.
(08/02/2017, DOC. NO. 2017075381)



VICINITY MAP L-10-Z

NOTES

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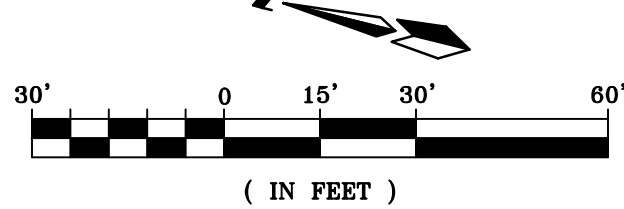
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LEGEND

- FLOW ARROW
- SLOPE ARROW
- PROPOSED ELEVATION
- EXISTING ELEVATION
- GRADE BREAK
- EXISTING CONTOUR
- EXISTING CONTOUR
- PROPOSED EASEMENT
- EXISTING WALL
- PROPOSED WALL



DRB No. 2019-003169

CITY PROJECT No.

ZONE MAP NO. L-10-Z

SHEET 2 OF 3

AS BUILT INFORMATION			
CONTRACTOR	DATE	DATE	DATE
INSPECTOR'S	DATE	DATE	DATE
FIELD	DATE	DATE	DATE
VERIFICATION BY	DATE	DATE	DATE
CORRECTED BY	DATE	DATE	DATE

BENCH MARKS			
*ACS BM 12-11"	ON COORS BOULEVARD SW, NORTH OF THE APPROXIMATE CENTERLINE OF SAN YONACIO ROAD.	DATE	DATE
X=1547745.03	Y=1547745.68 (NAD 83)	DATE	DATE
ELEV=5010.76	(NAD 1988)	DATE	DATE

SURVEY INFORMATION			
FIELD NOTES	BY	DATE	DATE
NO.			

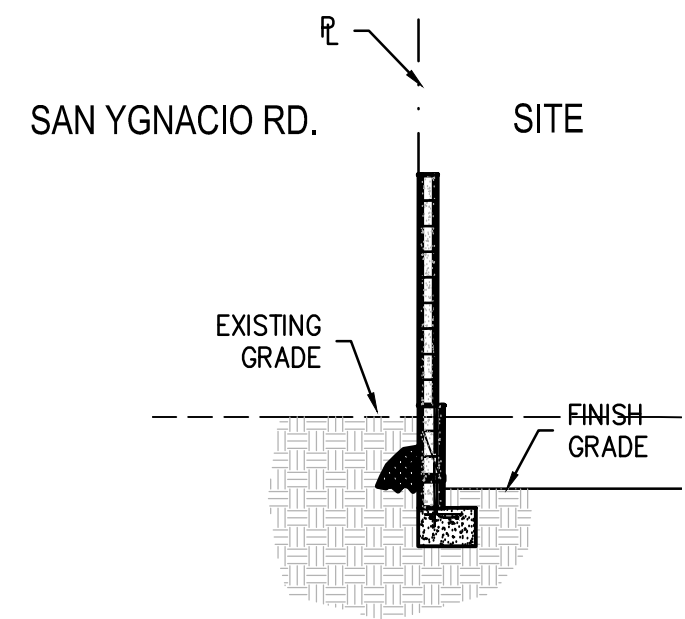
ENGINEER'S SEAL			
NO.	DATE	REMARKS	BY
REVISIONS DESIGN			
DESIGNED BY	REH	DATE DEC. 2019	
DRAWN BY	REH	DATE JAN. 2020	
CHECKED BY	REH	DATE JAN. 2020	

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

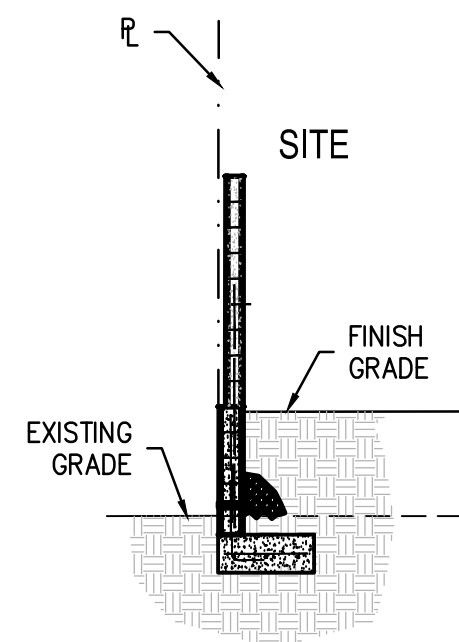
SAGE PARK SUBDIVISION

GRADING PLAN
GRADING PLAN 2 OF 2

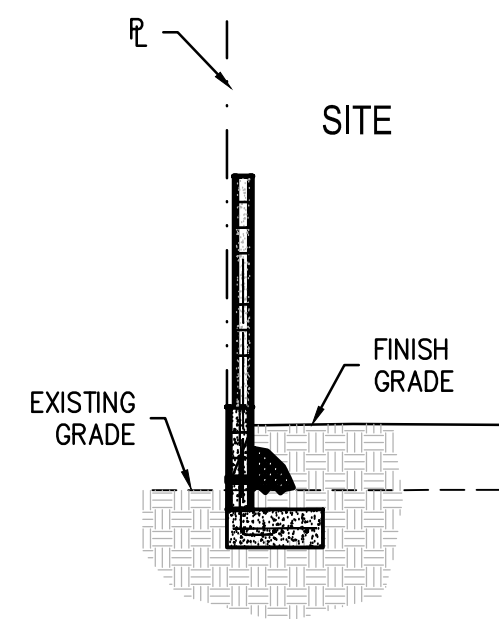
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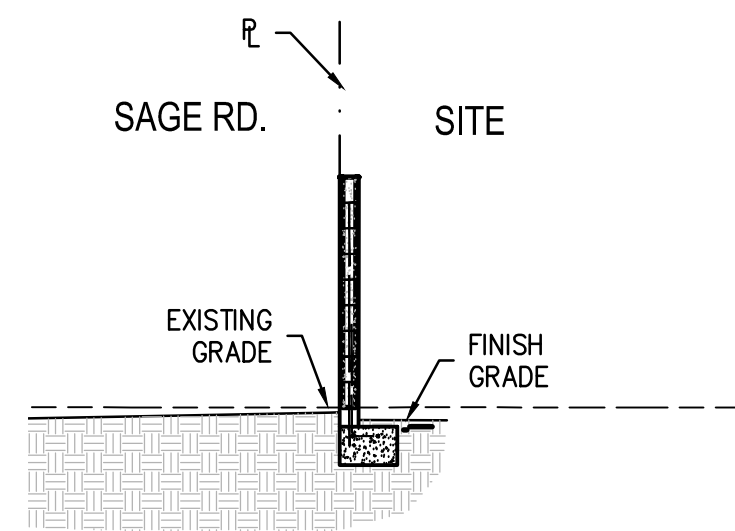
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Scale: 1"=5'



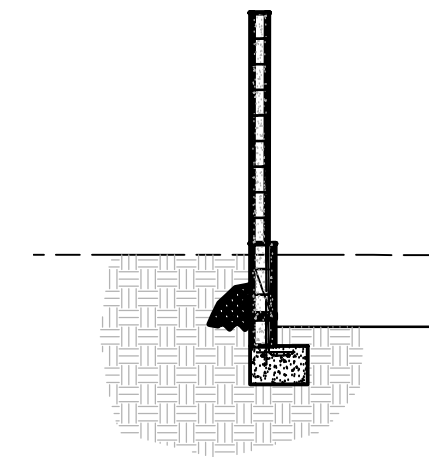
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Scale: 1"=5'



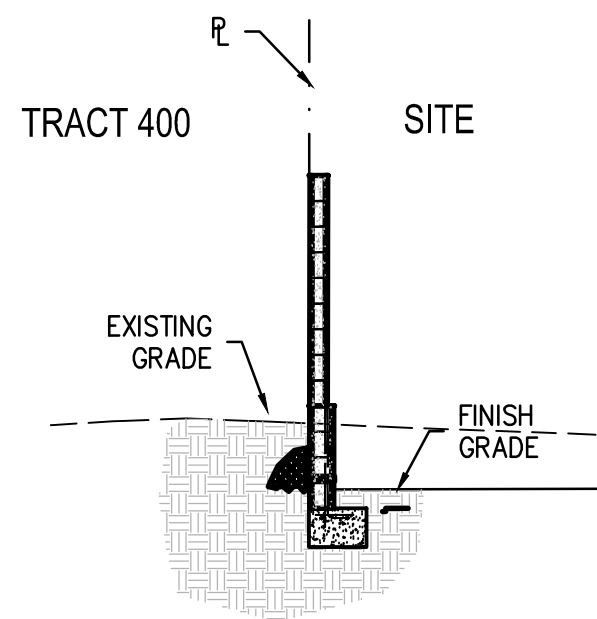
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Scale: 1"=5'



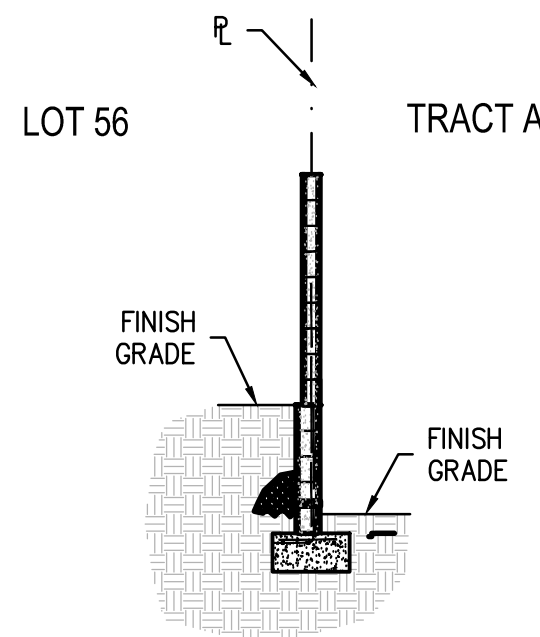
4 SECTION AT PROPERTY LINE
Scale: 1"=5'



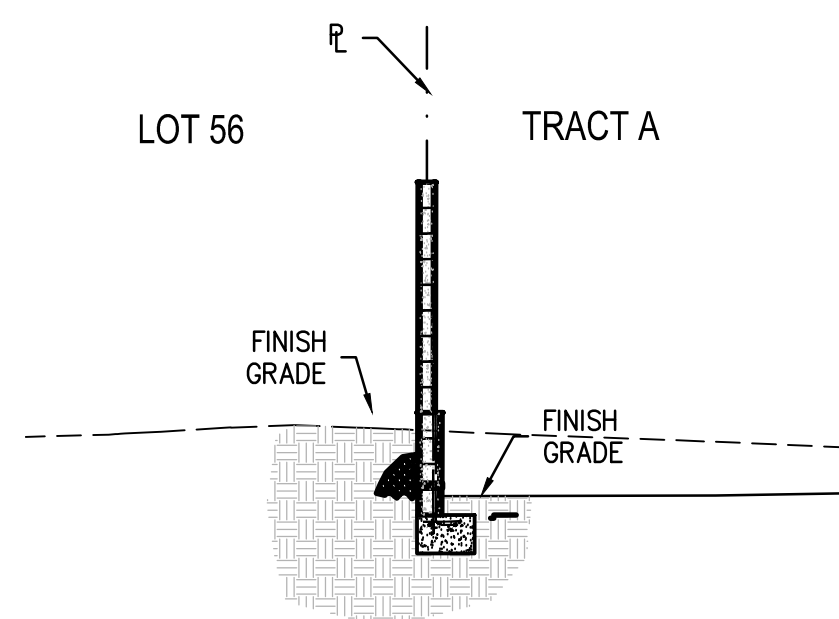
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Scale: 1"=5'



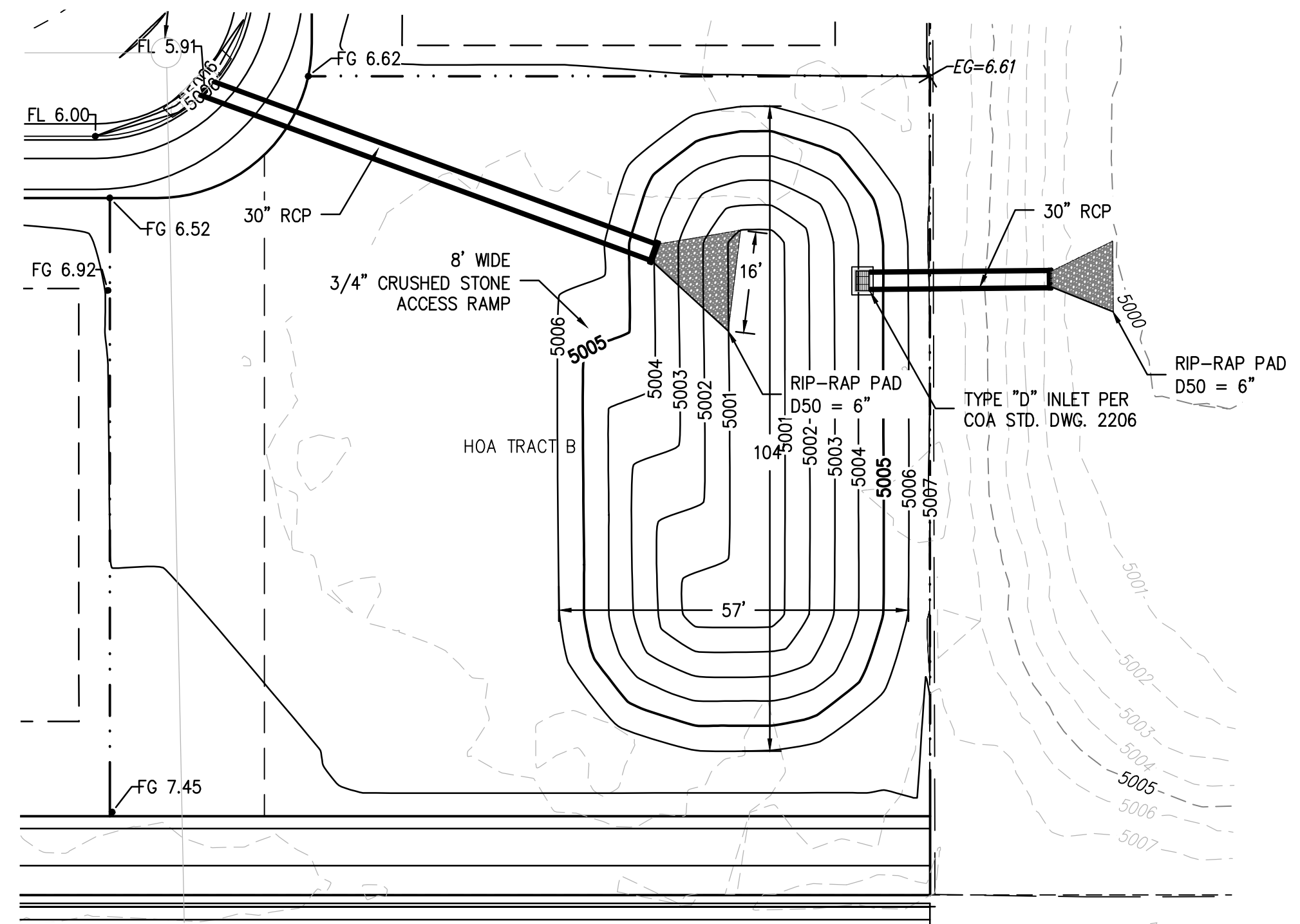
6 SECTION AT PROPERTY LINE
Scale: 1"=5'



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



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



9 POND PLAN
Scale: 1"=20'



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

CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING DEVELOPMENT GROUP			
SAGE PARK SUBDIVISION			
GRADING PLAN			
GRADING SECTIONS AND DETAILS			
DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	Mo./DAY/YR.	Mo./DAY/YR.
DRB No.	CITY PROJECT No.	ZONE MAP No.	SHEET OF
2019-003169		L-10-Z	3 OF 3

ENGINEER'S SEAL		SURVEY INFORMATION		BENCH MARKS		AS BUILT INFORMATION	
NO.	BY	DATE	DATE	"ACS BM 12-11" ON COURTS BOULEVARD SW, NORTH OF THE APPROXIMATE CENTERLINE OF SAN YGNACIO ROAD.		CONTRACTOR	DATE
				X=1547745.03 Y=1547745.88 (NAD 83) ELEV=5010.76 (NAD 1988)		INSPECTOR'S	DATE
						FIELD CHANGE BY	DATE
						VERIFICATION BY	DATE
						CORRECTED BY	DATE
				MICRO-FILM INFORMATION			
				RECORDED BY			
				NO.			
				DATE			

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



The HENSLEY ENGINEERING GROUP

Ron E. Hensley P.E.
300 Branding Iron Road S.E.
Rio Rancho, NM 87124

Contents

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Figure 2 - Sage Pond Basin	1
III. HYDROLOGY	2
Table 1 - SAGE POND RUNOFF SUMMARY	2
IV. HYDRAULICS	2
Figure 3 – Sage Pond Storage Curve	2
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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

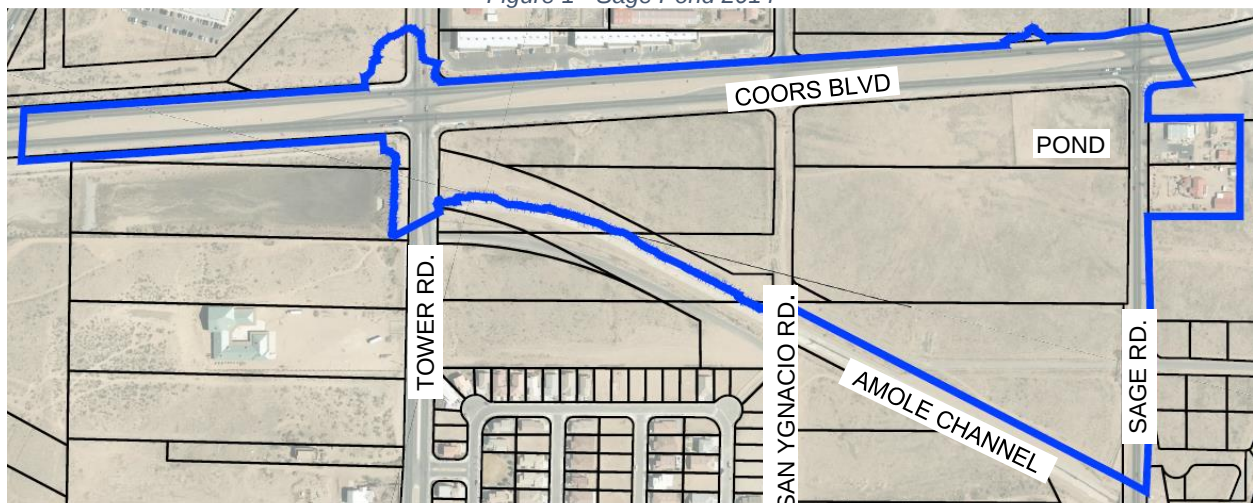


Figure 2 - Sage Pond Basin

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 ¹⁰⁰⁻²⁴ (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.

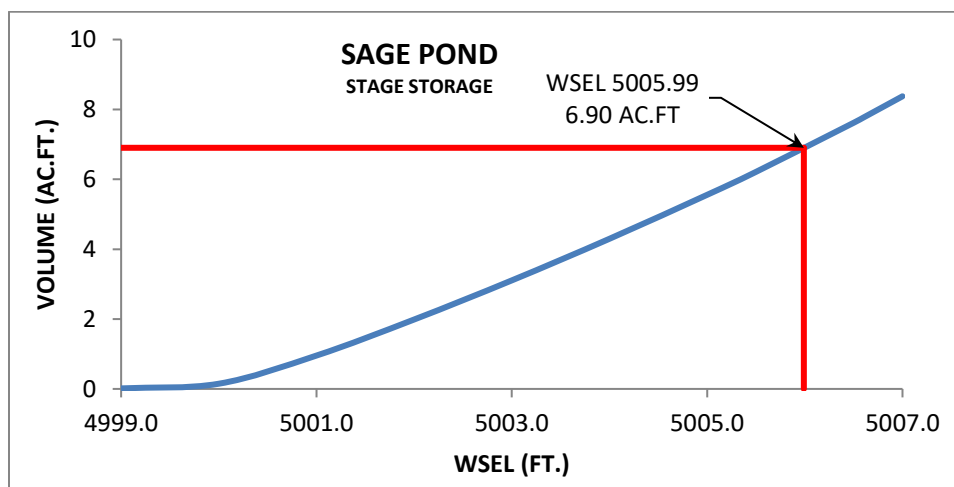


Figure 3 – Sage Pond Storage Curve

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.

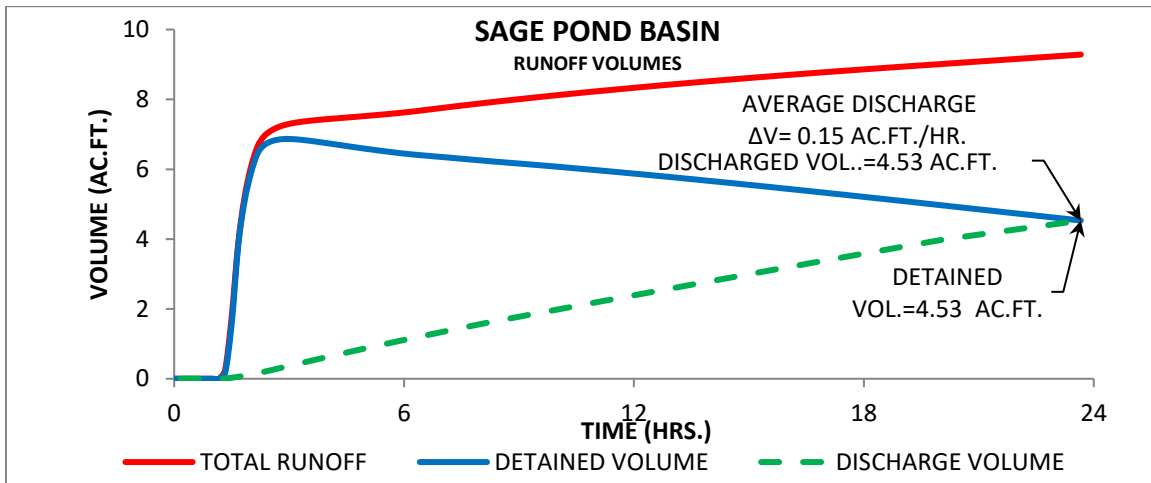


Figure 4 – Runoff Volume vs. Detained and Discharge Volume

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.

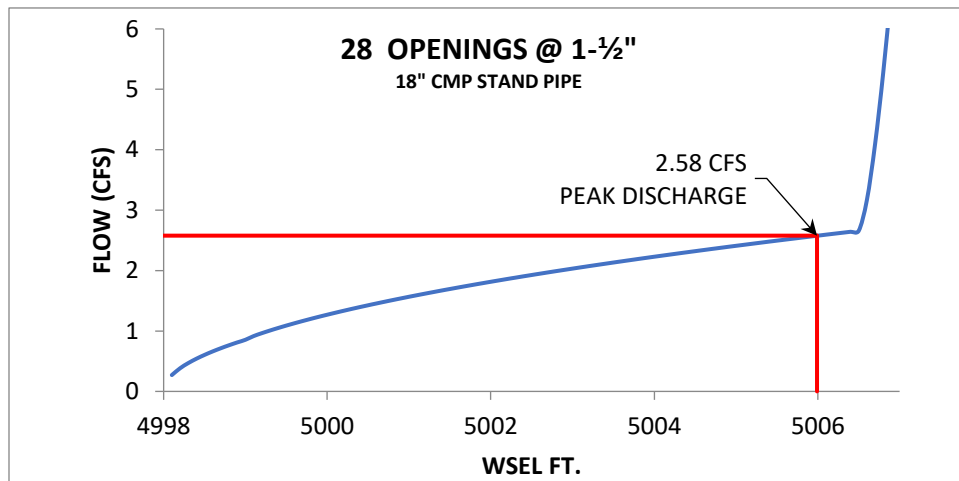


Figure 5 – Pond Discharge Rating Curve

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.

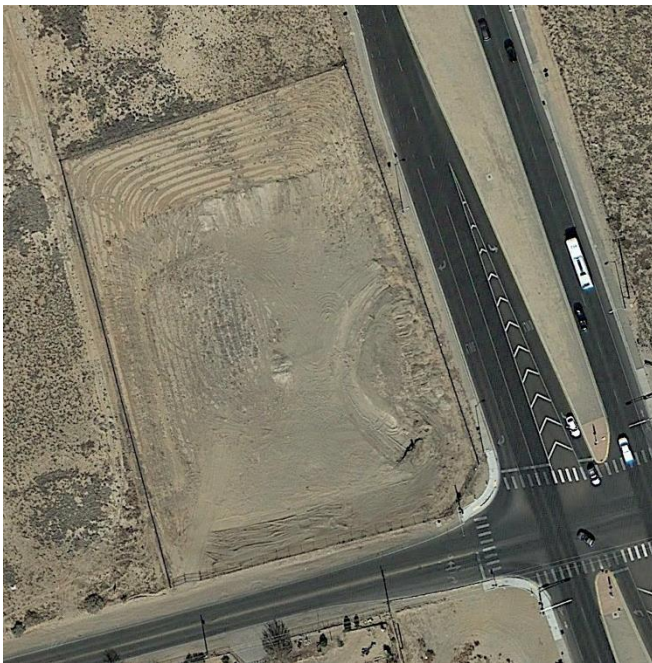


Figure 8 Sage Pond 2017

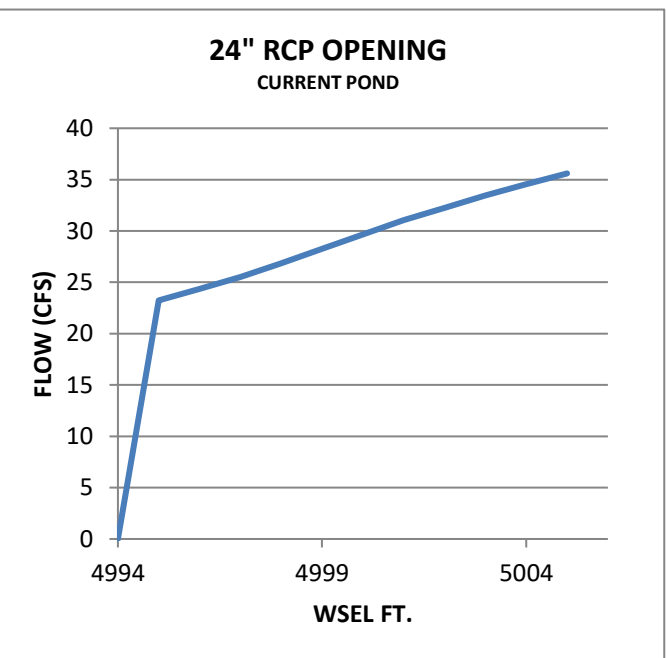


Figure 9 Sage Pond Modified Discharge Curve

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
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*S  COMPUTE HYD BASIN SAGE ROAD
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DRAINAGE SUPPLEMENT – SAGE PARK SUBDIVISION

```

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*
ADD HYD                      ID=11 HYDNO=201
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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
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DRAINAGE SUPPLEMENT – SAGE PARK SUBDIVISION

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RUN DATE (MON/DAY/YR) =03/14/2020
 USER NO.= AHYMO-I-9702c01000Q29-AH

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1 NOTATION
RAINFALL TYPE= 2										RAIN24= 2.660
*S COMPUTE HYD BASIN UNSE	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										

DRAINAGE SUPPLEMENT – SAGE PARK SUBDIVISION

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
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

DRAINAGE SUPPLEMENT – SAGE PARK SUBDIVISION

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

DRAINAGE SUPPLEMENT – SAGE PARK SUBDIVISION

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.

*

DRAINAGE SUPPLEMENT – SAGE PARK SUBDIVISION

*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

DRAINAGE SUPPLEMENT – SAGE PARK SUBDIVISION

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

DRAINAGE SUPPLEMENT – SAGE PARK SUBDIVISION

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

DRAINAGE SUPPLEMENT – SAGE PARK SUBDIVISION

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

DRAINAGE SUPPLEMENT – SAGE PARK SUBDIVISION

.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

DRAINAGE SUPPLEMENT – SAGE PARK SUBDIVISION

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

DRAINAGE SUPPLEMENT – SAGE PARK SUBDIVISION

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.

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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

DRAINAGE SUPPLEMENT – SAGE PARK SUBDIVISION

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.

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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

DRAINAGE SUPPLEMENT – SAGE PARK SUBDIVISION

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.

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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

DRAINAGE SUPPLEMENT – SAGE PARK SUBDIVISION

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.

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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

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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	.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

DRAINAGE SUPPLEMENT – SAGE PARK SUBDIVISION

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

DRAINAGE SUPPLEMENT – SAGE PARK SUBDIVISION

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

DRAINAGE SUPPLEMENT – SAGE PARK SUBDIVISION

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

*

FINISH

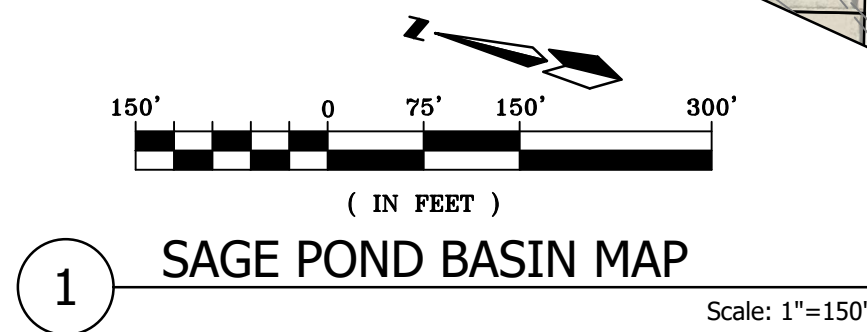
NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 19:52:44

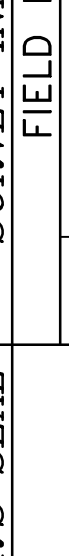


Diagram illustrating the cross-section of a 18" CMP STANDPIPE. The standpipe is shown with two sets of 14 OPENINGS, each with a diameter of $\phi 1\frac{1}{2}"$. The standpipe is installed in a concrete structure. The top of the standpipe is labeled "WSEL 5005.99". The overflow level is labeled "OVERFLOW EL. 5006.00". The bottom of the standpipe is labeled "EL. 4997.50". The standpipe is shown with a total height of 8'-6" and a diameter of 18". The standpipe is shown with a total height of 8'-6" and a diameter of 18". The standpipe is shown with a total height of 8'-6" and a diameter of 18".

3 OUTFALL SECTION



HYDROLOGIC DATA		LAND TREATMENT PERCENTAGES BY TYPE				YIELD (cfs/ac)	Q ¹⁰⁰ (cfs)	V ¹⁰⁰⁻²⁴ (ac-ft)
BASINS	AREA (acres)	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

ENGINEER'S SEAL		SURVEY INFORMATION		BENCH MARKS		AS BUILT INFORMATION	
 <i>Ron E. Hensley</i> JAN. 30, 2020		FIELD NOTES					
		NO.	BY	DATE			
REVISIONS		NO.	DATE				
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													
<u>SAGE PARK SUBDIVISION</u> A REPLAT OF TRACT 401, TOWN OF ATRISCO GRANT UNIT 3 BASIN MAP / DRAINAGE CONDITIONS													
 THE HENSLEY ENGINEERING GROUP 300 BRANDING IRON RD. SE RIO RANCHO, NEW MEXICO 87124 Phone:(505) 410-1622	DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST DESIGN UPDATE <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%; text-align: center;">Mo./DAY/YR.</th> <th style="width: 50%; text-align: center;">Mo./DAY/YR.</th> </tr> <tr><td style="height: 20px;"></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td></tr> </table>	Mo./DAY/YR.	Mo./DAY/YR.								
	Mo./DAY/YR.	Mo./DAY/YR.											
DRB No. 2019-003169	CITY PROJECT No. L-10-Z		SHEET 1 OF 6										