

CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Interim Director



Mayor Timothy M. Keller

August 21, 2019

David Soule, P.E.
Rio Grande Engineering
PO Box 93924
Albuquerque, NM 87199

RE: **6705 Saltbrush NE**
Grading Plan Stamp Date: 7/25/19
Drainage File: E23D033

Dear Mr. Soule:

Based on the submittal received on 7/29/19, the grading plan is approved for Grading Permit.

Prior to Building Permit (For Information):

1. Engineer's Certification of the compacted pad and grades at property line (Pad Certification), per the DPM Chapter 22.7: *Engineer's Certification Checklist For Non-Subdivision* is required.

If you have any questions, please contact me at 924-3695 or dpeterson@cabq.gov.

Sincerely,

Dana Peterson, P.E.
Senior Engineer, Planning Dept.
Development Review Services

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov



City of Albuquerque

Planning Department
Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 6/2018)

Project Title: 6705 SALT BUSH **Building Permit #:** _____ **Hydrology File #:** _____
DRB#: _____ **EPC#:** _____ **Work Order#:** _____
Legal Description: LOT 68 UNIT 2 DESERT MOUNTIAN
City Address: 6705 SALT BUSH

Applicant: _____ **Contact:** _____
Address: _____
Phone#: _____ **Fax#:** _____ **E-mail:** _____

Other Contact: RIO GRANDE ENGINEERING **Contact:** DAVID SOULE
Address: PO BOX 93924 ALB NM 87199
Phone#: 505.321.9099 **Fax#:** 505.872.0999 **E-mail:** david@riograndeengineering.com

TYPE OF DEVELOPMENT: _____ PLAT ☒ RESIDENCE _____ DRB SITE _____ ADMIN SITE

Check all that Apply:

DEPARTMENT:
☒ HYDROLOGY/ DRAINAGE
_____ TRAFFIC/ TRANSPORTATION

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

IS THIS A RESUBMITTAL?: _____ Yes ☒ No

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: _____ **By:** _____

COA STAFF:

ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

DRAINAGE REPORT

For

**6705 Saltbush Court NE
Lot 68 Mountain Highlands at High Desert
Albuquerque, New Mexico**

Prepared by

Rio Grande Engineering
PO Box 93924
Albuquerque, New Mexico 87199

FEBRUARY 2018



David Soule P.E. No. 14522

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Site Grading and Drainage Plan

PURPOSE

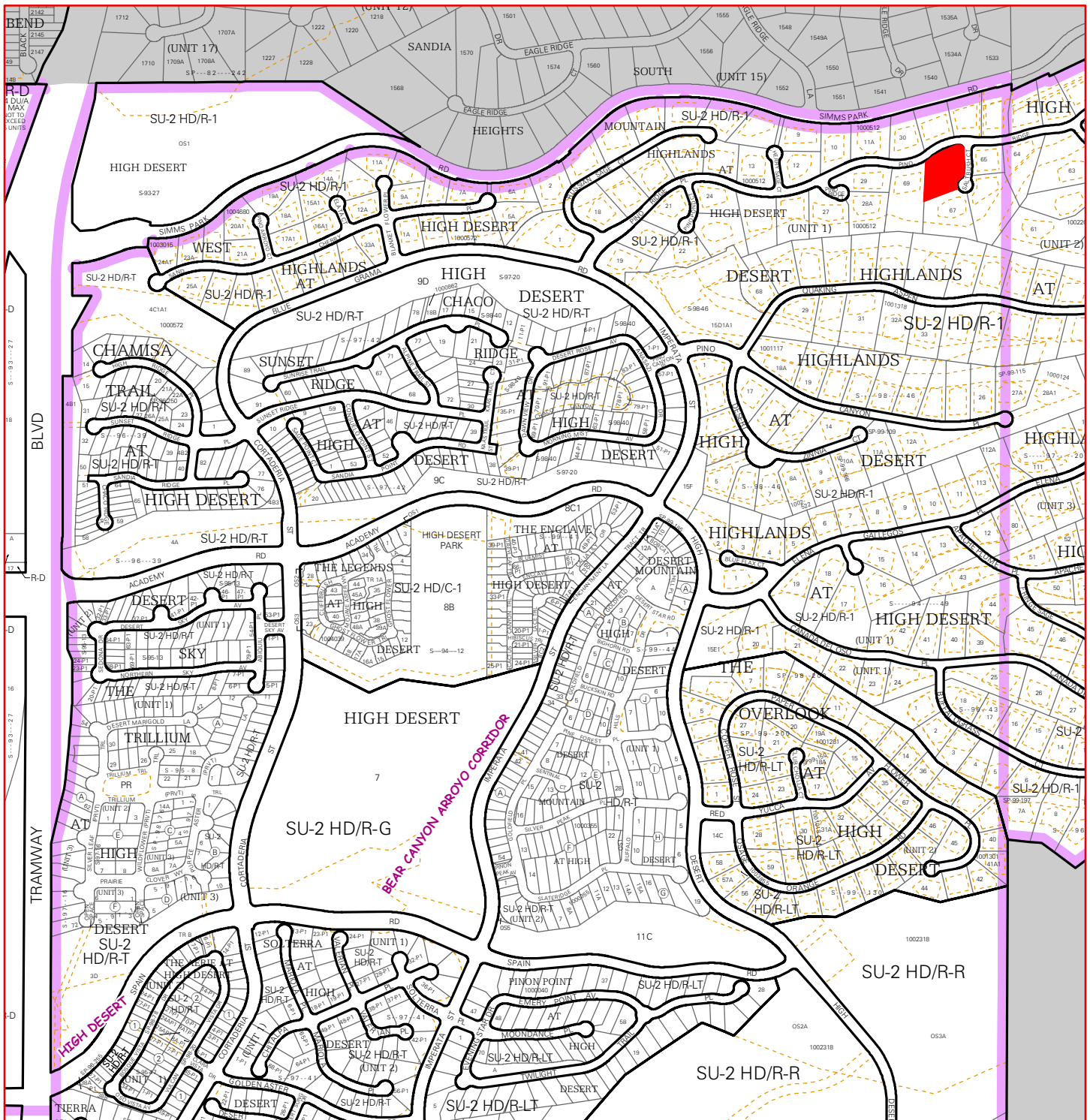
The purpose of this report is to provide the Drainage Management Plan for the subdivision of a 1.01 acre lot located in phase 2 of Mountain highlands. The plan shall conform to the Sustainability Guidelines for Estate lots in addition to the High Desert Master Drainage Plan and specifically desert mountains grading plan (E23D12). All historic drainage patterns shall be maintained. The developed flow shall not exceed existing flow rates for the 100-year, 6- hour event. The report shall demonstrate the project will not adversely affect the surrounding properties, nor the upstream or downstream facilities.

INTRODUCTION

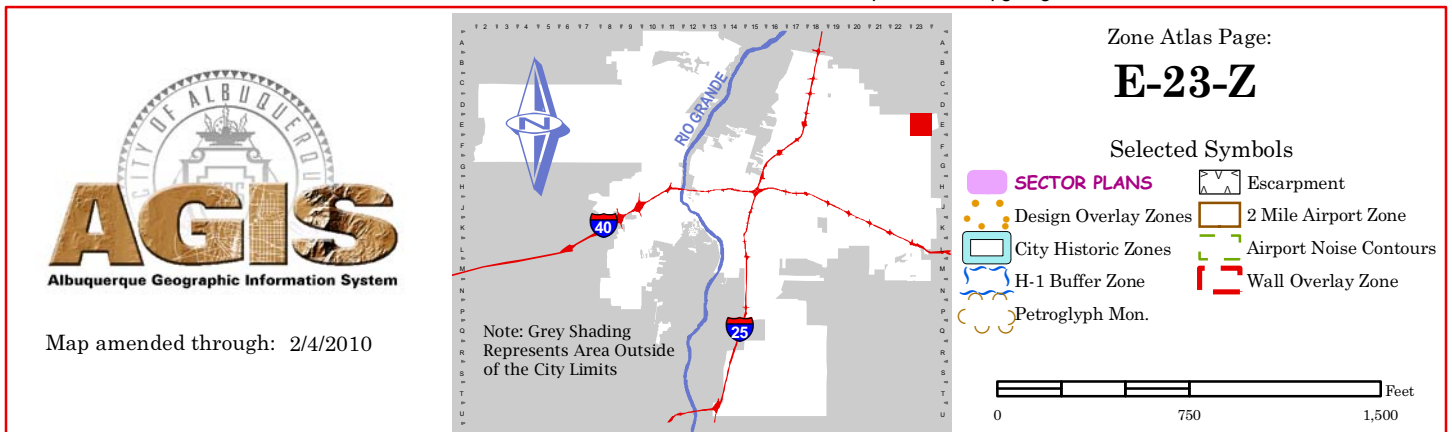
The subject of this report, as shown on the Exhibit A, is a 1.01 -acre parcel of land located on the southwest corner of Saltbush and Pino ridge. The legal description of this site is lot 68 Desert Mountain at high desert phase 2. As shown on FIRM map35001C0161G, the entire site is located within Flood Zone X. The site is bound on the north and east by roadways. The site is impacted by upland flow. The site is an undeveloped site.

EXISTING CONDITIONS

The site is currently undeveloped. The site is impacted by 4.406 acres of upland flows. An upland flow of 14.27 cfs enters the site at the North West corner. This flow combines with the existing site flow and discharges at the southwest corner at a peak rate of 16.66 cfs.



For more current information and more details visit: <http://www.cabq.gov/gis>



PROPOSED CONDITIONS

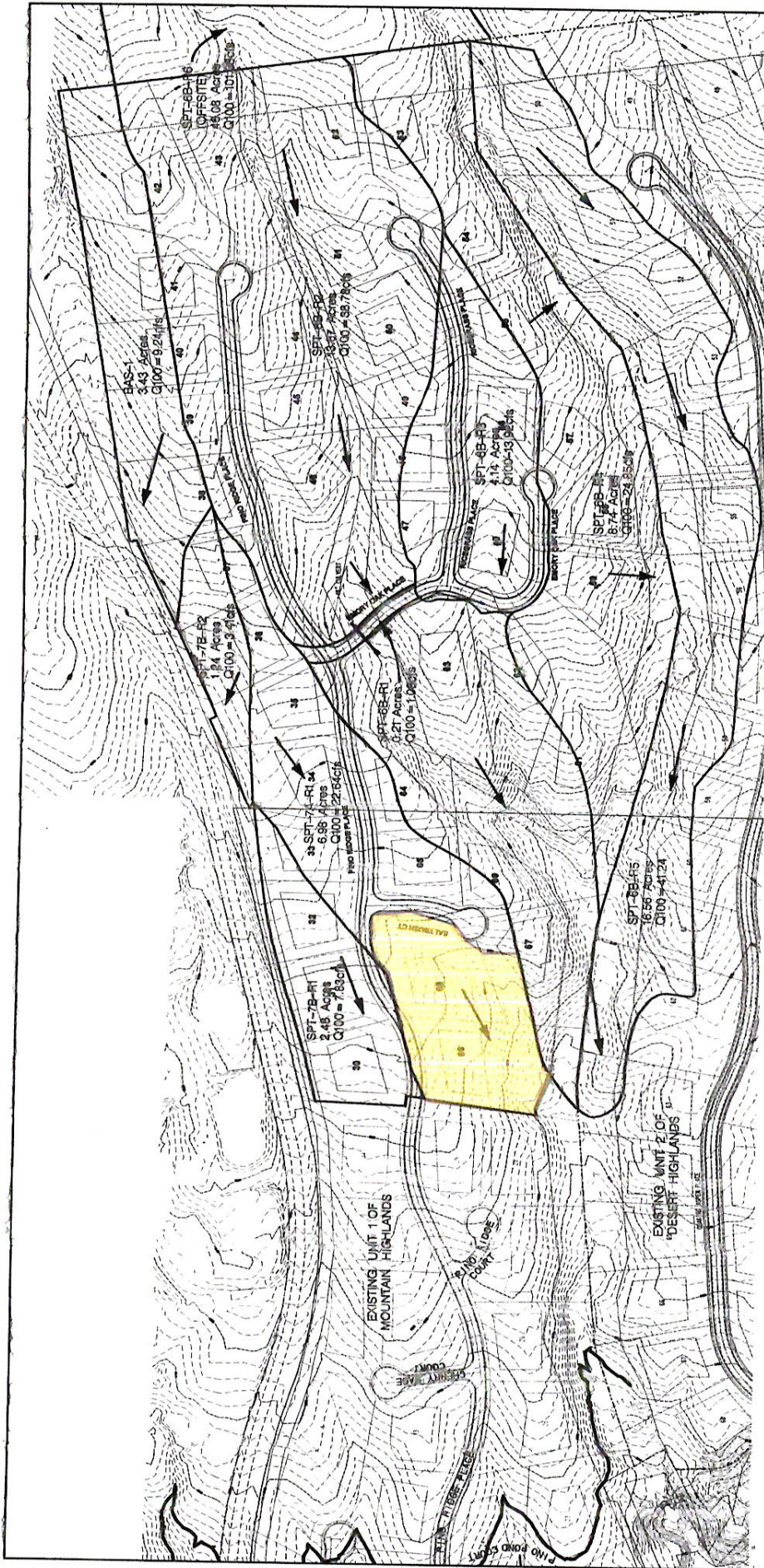
The proposed improvements consist of new residential structure. The proposed site development will contain 4 basins. Basin A contains the northerly portion of the site that is undisturbed adjacent to the road. The basin generates 0.15 cfs which continues to drain to the west. Basin B contains the western portion of the house and yard area. This basin generates 1.01cfs. The peak flow is attenuated by the construction of a detention pond that captures 57 cubic feet for water quality and discharges at a routed peak rate of 0.50 cfs. Basin C contains the eastern part of the house and lot. This basin generates 1.29 cfs. The basin combines with the upland basin. An 18" culvert under the driveway with pond volume on the upland side creates a detention pond. The flow draining to the culvert is 15.56 cfs, and the routed flow leaving the culvert is 15.39 cfs. A water quality volume of 36 cf is captured. Basin D contains the southerly mainly undeveloped portion of the site. This basin generates 0.57cfs.

The site has been modeled using AHYMO. The peak flow leaving the site shall be 16.41 cfs which is less than the 16.66 cfs leaving the site currently.

SUMMARY AND RECOMMENDATIONS

This project is located within basin SPT-7A-R1 of the Desert Mountain drainage plan. The site has been designed to allow existing drainage patterns to remain. The site utilizes detention ponds to provide a peak flow rate of 16.41CFS and captures 93 cubic feet for water quality. The site has been designed to conform to the Sustainability Guidelines for Estate lots in addition to the High Desert Master Drainage Plan. Since the lot area does exceed 1 acre, erosion and sediment Control Plan shall be required prior to any construction activity.

APPENDIX A
SITE HYDROLOGY

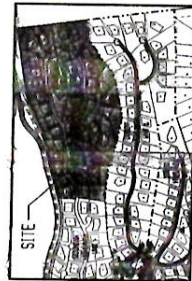


UNIT 2 OF MOUNTAIN HIGHLANDS AT HIGH DESERT

ULTIMATE
PROPOSED
CONDITIONS

Bohannon & Huston
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REGISTERED PROFESSIONAL ENGINEERS - CIVIL & LAND SURVEYING

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LOCATION MAP
SCALE: 1" = 1 MILE

LEGEND
SITE
EXISTING UNIT 2 OF
DESERT HIGHLANDS

STAGE/STORAGE VOLUME CALCULATIONS

pond B

OUTFALL=26

ACTUAL ELEV.	DEPTH (FT)	AREA SF	VOLUME PER UNIT	VOLUME CUMULATIVE	VOLUME AC-FT	Q (CFS)
25.50	0.00	85.00	0	0	0.000	0.00
26.00	0.00	150.00	58.75	58.75	0.0013	0.00
27.00	0.83	358.00	254.00	312.75	0.007	0.38
27.85	1.68	584.00	400.35	713.1	0.016	0.55

Orifice Equation

$Q = CA \sqrt{2gH}$

C = 0.6

Diameter (in) 4

Area (ft²)= 0.087266463

g = 32.2

H (Ft) = Depth of water above center of orifice

Q (CFS)= Flow

VOLUME CALCULATIONS

pond c

OUTLET=31.50

-
-

ACTUAL ELEV.	DEPTH (FT)	AREA SF	VOLUME PER UNIT	VOLUME CUMULATIVE	VOLUME AC-FT	Q (CFS)
31		20	0			
31.50	0.00	58.00	19.50	36	0.001	0.00
32.00	0.00	136.00	48.50	84.50	0.002	3.75
33.00	1.50	407.00	271.50	356	0.008	14.18
34.00	2.00	868.00	541.88	897.875	0.021	16.38
34.25	2.25	968.00	780.30	1678.175	0.039	17.37

Orifice Equation

Q = CA SQRT(2gH)

C = 0.6
Diameter (in) 21
Area (ft^2)= 2.405281875
g = 32.2
H (Ft) = Depth of water above center of orifice
Q (CFS)= Flow

APPENDIX B

HYDRAULIC MODELING AND CALCULATIONS

AHYMO.OUT

AHYMO PROGRAM (AHYMO-S4) - Version: S4.01a - Rel: 01a
 RUN DATE (MON/DAY/YR) = 07/29/2019
 START TIME (HR:MIN:SEC) = 11:02:56 USER NO.=
 RioGrandeSingleA41963517
 INPUT FILE = nts and Settings\Owner\Desktop\2019 JOBS\19117-saltbush
 court\pondrout073019.txt

*S AHYMO - DETENTION-SALTBRUSHN
 *S POND ROUTING

START TIME=0.0 PUNCH CODE=0

RAINFALL TYPE=2
 QUARTER=0.0 ONE= 1.85 IN
 SIX=2.44 IN DAY= 2.90 IN DT = 0.05 HR

24-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE
 AREAS (NM & AZ) - D1

DT =	0.050000	HOURS	END TIME =	24.000002	HOURS
0.0000	0.0039	0.0080	0.0123	0.0170	0.0218
0.0039	0.0078	0.0119	0.0158	0.0207	0.0255
0.0078	0.0117	0.0156	0.0195	0.0244	0.0292
0.0117	0.0156	0.0195	0.0234	0.0283	0.0331
0.0156	0.0195	0.0234	0.0273	0.0312	0.0360
0.0195	0.0234	0.0273	0.0312	0.0351	0.0399
0.0234	0.0273	0.0312	0.0351	0.0390	0.0438
0.0273	0.0312	0.0351	0.0390	0.0429	0.0477
0.0312	0.0351	0.0390	0.0429	0.0468	0.0516
0.0351	0.0390	0.0429	0.0468	0.0507	0.0555
0.0390	0.0429	0.0468	0.0507	0.0546	0.0594
0.0429	0.0468	0.0507	0.0546	0.0585	0.0633
0.0468	0.0507	0.0546	0.0585	0.0624	0.0672
0.0507	0.0546	0.0585	0.0624	0.0663	0.0711
0.0546	0.0585	0.0624	0.0663	0.0702	0.0750
0.0585	0.0624	0.0663	0.0702	0.0741	0.0789
0.0624	0.0663	0.0702	0.0741	0.0780	0.0828
0.0663	0.0702	0.0741	0.0780	0.0819	0.0867
0.0702	0.0741	0.0780	0.0819	0.0858	0.0906
0.0741	0.0780	0.0819	0.0858	0.0897	0.0945
0.0780	0.0819	0.0858	0.0897	0.0936	0.0984
0.0819	0.0858	0.0897	0.0936	0.0975	0.1023
0.0858	0.0897	0.0936	0.0975	0.1014	0.1062
0.0897	0.0936	0.0975	0.1014	0.1053	0.1101
0.0936	0.0975	0.1014	0.1053	0.1092	0.1140
0.0975	0.1014	0.1053	0.1092	0.1131	0.1179
0.1014	0.1053	0.1092	0.1131	0.1170	0.1218
0.1053	0.1092	0.1131	0.1170	0.1209	0.1257
0.1092	0.1131	0.1170	0.1209	0.1248	0.1296
0.1131	0.1170	0.1209	0.1248	0.1287	0.1335
0.1170	0.1209	0.1248	0.1287	0.1326	0.1374
0.1209	0.1248	0.1287	0.1326	0.1365	0.1413
0.1248	0.1287	0.1326	0.1365	0.1404	0.1452
0.1287	0.1326	0.1365	0.1404	0.1443	0.1491
0.1326	0.1365	0.1404	0.1443	0.1482	0.1530
0.1365	0.1404	0.1443	0.1482	0.1521	0.1569
0.1404	0.1443	0.1482	0.1521	0.1560	0.1608
0.1443	0.1482	0.1521	0.1560	0.1599	0.1647
0.1482	0.1521	0.1560	0.1599	0.1638	0.1686
0.1521	0.1560	0.1599	0.1638	0.1677	0.1725
0.1560	0.1599	0.1638	0.1677	0.1716	0.1764
0.1599	0.1638	0.1677	0.1716	0.1755	0.1803
0.1638	0.1677	0.1716	0.1755	0.1794	0.1842
0.1677	0.1716	0.1755	0.1794	0.1833	0.1881
0.1716	0.1755	0.1794	0.1833	0.1872	0.1920
0.1755	0.1794	0.1833	0.1872	0.1911	0.1959
0.1794	0.1833	0.1872	0.1911	0.1950	0.1998
0.1833	0.1872	0.1911	0.1950	0.1989	0.2037
0.1872	0.1911	0.1950	0.1989	0.2028	0.2076
0.1911	0.1950	0.1989	0.2028	0.2067	0.2115
0.1950	0.1989	0.2028	0.2067	0.2106	0.2154
0.1989	0.2028	0.2067	0.2106	0.2145	0.2193
0.2028	0.2067	0.2106	0.2145	0.2184	0.2232
0.2067	0.2106	0.2145	0.2184	0.2223	0.2271
0.2106	0.2145	0.2184	0.2223	0.2262	0.2310
0.2145	0.2184	0.2223	0.2262	0.2301	0.2349
0.2184	0.2223	0.2262	0.2301	0.2340	0.2388
0.2223	0.2262	0.2301	0.2340	0.2379	0.2427
0.2262	0.2301	0.2340	0.2379	0.2418	0.2466
0.2301	0.2340	0.2379	0.2418	0.2457	0.2505
0.2340	0.2379	0.2418	0.2457	0.2496	0.2544
0.2379	0.2418	0.2457	0.2496	0.2535	0.2583
0.2418	0.2457	0.2496	0.2535	0.2574	0.2622
0.2457	0.2496	0.2535	0.2574	0.2613	0.2661
0.2496	0.2535	0.2574	0.2613	0.2652	0.2700
0.2535	0.2574	0.2613	0.2652	0.2691	0.2739
0.2574	0.2613	0.2652	0.2691	0.2730	0.2778
0.2613	0.2652	0.2691	0.2730	0.2769	0.2817
0.2652	0.2691	0.2730	0.2769	0.2808	0.2856
0.2691	0.2730	0.2769	0.2808	0.2847	0.2895
0.2730	0.2769	0.2808	0.2847	0.2886	0.2934
0.2769	0.2808	0.2847	0.2886	0.2925	0.2973
0.2808	0.2847	0.2886	0.2925	0.2964	0.3012
0.2847	0.2886	0.2925	0.2964	0.3003	0.3051
0.2886	0.2925	0.2964	0.3003	0.3042	0.3090
0.2925	0.2964	0.3003	0.3042	0.3081	0.3129
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0.3003	0.3042	0.3081	0.3120	0.3159	0.3207
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0.3276	0.3315	0.3354	0.3393	0.3432	0.3480
0.3315	0.3354	0.3393	0.3432	0.3471	0.3519
0.3354	0.3393	0.3432	0.3471	0.3510	0.3558
0.3393	0.3432	0.3471	0.3510	0.3549	0.3597
0.3432	0.3471	0.3510	0.3549	0.3588	0.3636
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0.3666	0.3705	0.3744	0.3783	0.3822	0.3870
0.3705	0.3744	0.3783	0.3822	0.3861	0.3909
0.3744	0.3783	0.3822	0.3861	0.3900	0.3948
0.3783	0.3822	0.3861	0.3900	0.3939	0.3987
0.3822	0.3861	0.3900	0.3939	0.3978	0.4026
0.3861	0.3900	0.3939	0.3978	0.4017	0.4065
0.3900	0.3939	0.3978	0.4017	0.4056	0.4104
0.3939	0.3978	0.4017	0.4056	0.4095	0.4143
0.3978	0.4017	0.4056	0.4095	0.4134	0.4182
0.4017	0.4056	0.4095	0.4134	0.4173	0.4221
0.4056	0.4095	0.4134	0.4173	0.4212	0.4260
0.4095	0.4134	0.4173	0.4212	0.4251	0.4299
0.4134	0.4173	0.4212	0.4251	0.4290	0.4338
0.4173	0.4212	0.4251	0.4290	0.4329	0.4377
0.4212	0.4251	0.4290	0.4329	0.4368	0.4416
0.4251	0.4290	0.4329	0.4368	0.4407	0.4455
0.4290	0.4329	0.4368	0.4407	0.4446	0.4494
0.4329	0.4368	0.4407	0.4446	0.4485	0.4533
0.4368	0.4407	0.4446	0.4485	0.4524	0.4572
0.4407	0.4446	0.4485	0.4524	0.4563	0.4611
0.4446	0.4485	0.4524	0.4563	0.4602	0.4650
0.4485	0.4524	0.4563	0.4602	0.4641	0.4689
0.4524	0.4563	0.4602	0.4641	0.4680	0.4728
0.4563	0.4602	0.4641	0.4680	0.4719	0.4767
0.4602	0.4641	0.4680	0.4719	0.4758	0.4806
0.4641	0.4680	0.4719	0.4758	0.4797	0.4845
0.4680	0.4719	0.4758	0.4797	0.4836	0.4884
0.4719	0.4758	0.4797	0.4836	0.4875	0.4923
0.4758	0.4797	0.4836	0.4875	0.4914	0.4962
0.4797	0.4836	0.4875	0.4914	0.4953	0.5001
0.4836	0.4875	0.4914	0.4953	0.4992	0.5040
0.4875	0.4914	0.4953	0.4992	0.5031	0.5079
0.4914	0.4953	0.4992	0.5031	0.5070	0.5118
0.4953	0.4992	0.5031	0.5070	0.5109	0.5157
0.4992	0.5031	0.5070	0.5109	0.5148	0.5196
0.5031	0.5070	0.5109	0.5148	0.5187	0.5235
0.5070	0.5109	0.5148	0.5187	0.5226	0.5274
0.5109	0.5148	0.5187	0.5226	0.5265	0.5313
0.5148	0.5187	0.5226	0.5265	0.5304	0.5352
0.5187	0.5226	0.5265	0.5304	0.5343	0.5391
0.5226	0.5265	0.5304	0.5343	0.5382	0.5430
0.5265	0.5304	0.5343	0.5382	0.5421	0.5469
0.5304	0.5343	0.5382	0.5421	0.5460	0.5508
0.5343	0.5382	0.5421	0.5460	0.5499	0.5547
0.5382	0.5421	0.5460	0.5499	0.5538	0.5586
0.5421	0.5460	0.5499	0.5538	0.5577	0.5625
0.5460	0.5499	0.5538	0.5577	0.5616	0.5664
0.5499	0.5538	0.5577	0.5616	0.5655	0.5703
0.5538	0.5577	0.5616	0.5655	0.5694	0.5742
0.5577	0.5616	0.5655	0.5694	0.5733	0.5781
0.5616	0.5655	0.5694	0.5733	0.5772	0.5820
0.5655	0.5694	0.5733	0.5772	0.5811	0.5859
0.5694	0.5733	0.5772	0.5811	0.5850	0.5898
0.5733	0.5772	0.5811	0.5850	0.5889	0.5937
0.5772	0.5811	0.5850	0.5889	0.5928	0.5976
0.5811	0.5850	0.5889	0.5928	0.5967	0.6015
0.5850	0.5889	0.5928	0.5967	0.6006	0.6054
0.5889	0.5928	0.5967	0.6006	0.6045	0.6093
0.5928	0.5967	0.6006	0.6045	0.6084	0.6132
0.5967	0.6006	0.6045	0.6084	0.6123	0.6171
0.6006	0.6045	0.6084	0.6123	0.6162	0.6210
0.6045	0.6084	0.6123	0.6162	0.6201	0.6249
0.6084	0.6123	0.6162	0.6201	0.6240	0.6288
0.6123	0.6162	0.6201	0.6240	0.6279	0.6327
0.6162	0.6201	0.6240	0.6279	0.6318	0.6366
0.6201	0.6240	0.6279	0.6318	0.6357	0.6405
0.6240	0.6279	0.6318	0.6357	0.6396	0.6444
0.6279	0.6318	0.6357	0.6396	0.6435	0.6483
0.6318	0.6357	0.6396	0.6435	0.6474	0.6522
0.6357	0.6396	0.6435	0.6474	0.6513	0.6561
0.6396	0.6435	0.6474	0.6513	0.6552	0.6600
0.6435	0.6474	0.6513	0.6552	0.6591	0.6639

AHYMO.OUT

2.7420	2.7434	2.7447	2.7461	2.7474	2.7487	2.7500
2.7513	2.7527	2.7540	2.7553	2.7566	2.7578	2.7591
2.7604	2.7617	2.7629	2.7642	2.7655	2.7667	2.7680
2.7692	2.7704	2.7717	2.7729	2.7741	2.7753	2.7765
2.7777	2.7789	2.7801	2.7813	2.7825	2.7836	2.7848
2.7860	2.7871	2.7883	2.7894	2.7906	2.7917	2.7928
2.7939	2.7951	2.7962	2.7973	2.7984	2.7995	2.8006
2.8017	2.8027	2.8038	2.8049	2.8059	2.8070	2.8081
2.8091	2.8101	2.8112	2.8122	2.8132	2.8142	2.8153
2.8163	2.8173	2.8183	2.8193	2.8202	2.8212	2.8222
2.8232	2.8241	2.8251	2.8260	2.8270	2.8279	2.8289
2.8298	2.8307	2.8316	2.8325	2.8334	2.8344	2.8352
2.8361	2.8370	2.8379	2.8388	2.8396	2.8405	2.8414
2.8422	2.8431	2.8439	2.8447	2.8456	2.8464	2.8472
2.8480	2.8488	2.8496	2.8504	2.8512	2.8520	2.8528
2.8536	2.8543	2.8551	2.8559	2.8566	2.8574	2.8581
2.8588	2.8596	2.8603	2.8610	2.8617	2.8624	2.8631
2.8638	2.8645	2.8652	2.8659	2.8666	2.8672	2.8679
2.8686	2.8692	2.8699	2.8705	2.8711	2.8718	2.8724
2.8730	2.8736	2.8742	2.8748	2.8754	2.8760	2.8766
2.8772	2.8778	2.8783	2.8789	2.8795	2.8800	2.8806
2.8811	2.8816	2.8822	2.8827	2.8832	2.8837	2.8842
2.8847	2.8852	2.8857	2.8862	2.8867	2.8872	2.8876
2.8881	2.8886	2.8890	2.8895	2.8899	2.8903	2.8908
2.8912	2.8916	2.8920	2.8924	2.8928	2.8932	2.8936
2.8940	2.8944	2.8948	2.8951	2.8955	2.8958	2.8962
2.8965	2.8969	2.8972	2.8976	2.8979	2.8982	2.8985
2.8988	2.8991	2.8994	2.8997	2.9000		

*Basin DEVELOPED UPLAND

COMPUTE NM HYD ID=1 HYD NO=101 DA= .006884375 SQ MI
 PER A=12 PER B=20 PER C=30 PER D=38
 TP=-.138 MASSRAIN=-1

K = 0.075210HR TP = 0.138000HR K/TP RATIO = 0.545000 SHAPE
 CONSTANT, N = 7.106428
 UNIT PEAK = 9.9766 CFS UNIT VOLUME = 0.9976 B = 526.28
 P60 = 1.8500
 AREA = 0.002616 SQ MI IA = 0.10000 INCHES INF = 0.04000
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
 0.050000

K = 0.129681HR TP = 0.138000HR K/TP RATIO = 0.939715 SHAPE
 CONSTANT, N = 3.762763
 UNIT PEAK = 10.486 CFS UNIT VOLUME = 1.000 B = 339.04
 P60 = 1.8500
 AREA = 0.004268 SQ MI IA = 0.45645 INCHES INF = 1.12806
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
 0.050000

PRINT HYD ID=1 CODE=3

PARTIAL HYDROGRAPH 101.00

TIME	TIME FLOW	FLOW	TIME	TIME FLOW	FLOW	TIME	FLOW
HRS	HRS CFS	CFS	HRS	HRS CFS	CFS	HRS	CFS
14.850	0.000 0.0	0.0	19.800	4.950 0.0	0.1	9.900	0.1
	0.150	0.0		5.100	0.1	10.050	0.1

				AHYMO.OUT			
15.000	0.0		19.950	0.0			
	0.300	0.0		5.250	0.1	10.200	0.1
15.150	0.0		20.100	0.0			
	0.450	0.0		5.400	0.1	10.350	0.1
15.300	0.0		20.250	0.0			
	0.600	0.0		5.550	0.1	10.500	0.1
15.450	0.0		20.400	0.0			
	0.750	0.3		5.700	0.1	10.650	0.1
15.600	0.0		20.550	0.0			
	0.900	0.5		5.850	0.1	10.800	0.1
15.750	0.0		20.700	0.0			
	1.050	0.7		6.000	0.1	10.950	0.1
15.900	0.0		20.850	0.0			
	1.200	1.2		6.150	0.1	11.100	0.1
16.050	0.0		21.000	0.0			
	1.350	4.0		6.300	0.1	11.250	0.1
16.200	0.0		21.150	0.0			
	1.500	14.3		6.450	0.1	11.400	0.1
16.350	0.0		21.300	0.0			
	1.650	9.1		6.600	0.1	11.550	0.1
16.500	0.0		21.450	0.0			
	1.800	4.0		6.750	0.1	11.700	0.1
16.650	0.0		21.600	0.0			
	1.950	2.1		6.900	0.1	11.850	0.1
16.800	0.0		21.750	0.0			
	2.100	1.4		7.050	0.1	12.000	0.1
16.950	0.0		21.900	0.0			
	2.250	0.9		7.200	0.1	12.150	0.1
17.100	0.0		22.050	0.0			
	2.400	0.7		7.350	0.1	12.300	0.1
17.250	0.0		22.200	0.0			
	2.550	0.4		7.500	0.1	12.450	0.1
17.400	0.0		22.350	0.0			
	2.700	0.3		7.650	0.1	12.600	0.1
17.550	0.0		22.500	0.0			
	2.850	0.2		7.800	0.1	12.750	0.1
17.700	0.0		22.650	0.0			
	3.000	0.1		7.950	0.1	12.900	0.1
17.850	0.0		22.800	0.0			
	3.150	0.1		8.100	0.1	13.050	0.1
18.000	0.0		22.950	0.0			
	3.300	0.1		8.250	0.1	13.200	0.1
18.150	0.0		23.100	0.0			
	3.450	0.1		8.400	0.1	13.350	0.0
18.300	0.0		23.250	0.0			
	3.600	0.1		8.550	0.1	13.500	0.0
18.450	0.0		23.400	0.0			
	3.750	0.1		8.700	0.1	13.650	0.0
18.600	0.0		23.550	0.0			
	3.900	0.1		8.850	0.1	13.800	0.0
18.750	0.0		23.700	0.0			
	4.050	0.1		9.000	0.1	13.950	0.0
18.900	0.0		23.850	0.0			
	4.200	0.1		9.150	0.1	14.100	0.0
19.050	0.0		24.000	0.0			
	4.350	0.1		9.300	0.1	14.250	0.0
19.200	0.0		24.150	0.0			
	4.500	0.1		9.450	0.1	14.400	0.0
19.350	0.0		24.300	0.0			
	4.650	0.1		9.600	0.1	14.550	0.0
19.500	0.0						
	4.800	0.1		9.750	0.1	14.700	0.0
19.650	0.0						

RUNOFF VOLUME = 1.57756 INCHES = 0.5792 ACRE-FEET
 PEAK DISCHARGE RATE = 14.27 CFS AT 1.500 HOURS BASIN AREA =

AHYMO.OUT

0.0069 SQ. MI.

*Basin A

COMPUTE NM HYD

ID=2 HYD NO=102 DA= .0001134936 SQ MI
PER A=80 PER B=20 PER C=0 PER D=0
TP=-.138 MASSRAIN=-1

K = 0.163177HR TP = 0.138000HR K/TP RATIO = 1.182439 SHAPE
CONSTANT, N = 3.001541
UNIT PEAK = 0.23188 CFS UNIT VOLUME = 0.9414 B = 281.95
P60 = 1.8500
AREA = 0.000113 SQ MI IA = 0.62000 INCHES INF = 1.58600
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

PRINT HYD

ID=2 CODE=3

PARTIAL HYDROGRAPH 102.00

TIME	TIME FLOW HRS CFS	FLOW CFS	TIME FLOW HRS CFS	FLOW CFS	TIME FLOW HRS CFS	FLOW CFS
	0.000	0.0	0.600	0.0	1.200	0.0
1.800	0.0	0.0	0.750	0.0	1.350	0.0
1.950	0.0	0.0	0.900	0.0	1.500	0.1
2.100	0.0	0.0	1.050	0.0	1.650	0.1
2.250	0.0	0.0				

RUNOFF VOLUME = 0.70421 INCHES = 0.0043 ACRE-FEET
PEAK DISCHARGE RATE = 0.15 CFS AT 1.550 HOURS BASIN AREA =
0.0001 SQ. MI.

*Basin B

COMPUTE NM HYD

ID=3 HYD NO=103 DA= .000479403 SQ MI
PER A=10 PER B=21 PER C=32 PER D=37
TP=-.138 MASSRAIN=-1

K = 0.075210HR TP = 0.138000HR K/TP RATIO = 0.545000 SHAPE
CONSTANT, N = 7.106428
UNIT PEAK = 0.67645 CFS UNIT VOLUME = 0.9842 B = 526.28
P60 = 1.8500
AREA = 0.000177 SQ MI IA = 0.10000 INCHES INF = 0.04000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

K = 0.127856HR TP = 0.138000HR K/TP RATIO = 0.926496 SHAPE
CONSTANT, N = 3.818899
UNIT PEAK = 0.75050 CFS UNIT VOLUME = 0.9840 B = 342.91

AHYMO.OUT

P60 = 1.8500
 AREA = 0.000302 SQ MI IA = 0.44762 INCHES INF = 1.10333
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
 0.050000

PRINT HYD ID=3 CODE=3

PARTIAL HYDROGRAPH 103.00

TIME	TIME	FLOW	TIME	TIME	FLOW	TIME	FLOW
HRS	FLOW	CFS	HRS	FLOW	CFS	HRS	CFS
	HRS			HRS			
	CFS			CFS			
	0.000	0.0		4.650	0.0	9.300	0.0
13.950	0.0	0.0	18.600	0.0			
	0.150	0.0		4.800	0.0	9.450	0.0
14.100	0.0		18.750	0.0			
	0.300	0.0		4.950	0.0	9.600	0.0
14.250	0.0		18.900	0.0			
	0.450	0.0		5.100	0.0	9.750	0.0
14.400	0.0		19.050	0.0			
	0.600	0.0		5.250	0.0	9.900	0.0
14.550	0.0		19.200	0.0			
	0.750	0.0		5.400	0.0	10.050	0.0
14.700	0.0		19.350	0.0			
	0.900	0.0		5.550	0.0	10.200	0.0
14.850	0.0		19.500	0.0			
	1.050	0.0		5.700	0.0	10.350	0.0
15.000	0.0		19.650	0.0			
	1.200	0.1		5.850	0.0	10.500	0.0
15.150	0.0		19.800	0.0			
	1.350	0.3		6.000	0.0	10.650	0.0
15.300	0.0		19.950	0.0			
	1.500	1.0		6.150	0.0	10.800	0.0
15.450	0.0		20.100	0.0			
	1.650	0.6		6.300	0.0	10.950	0.0
15.600	0.0		20.250	0.0			
	1.800	0.3		6.450	0.0	11.100	0.0
15.750	0.0		20.400	0.0			
	1.950	0.1		6.600	0.0	11.250	0.0
15.900	0.0		20.550	0.0			
	2.100	0.1		6.750	0.0	11.400	0.0
16.050	0.0		20.700	0.0			
	2.250	0.1		6.900	0.0	11.550	0.0
16.200	0.0		20.850	0.0			
	2.400	0.0		7.050	0.0	11.700	0.0
16.350	0.0		21.000	0.0			
	2.550	0.0		7.200	0.0	11.850	0.0
16.500	0.0		21.150	0.0			
	2.700	0.0		7.350	0.0	12.000	0.0
16.650	0.0		21.300	0.0			
	2.850	0.0		7.500	0.0	12.150	0.0
16.800	0.0		21.450	0.0			
	3.000	0.0		7.650	0.0	12.300	0.0
16.950	0.0		21.600	0.0			
	3.150	0.0		7.800	0.0	12.450	0.0
17.100	0.0		21.750	0.0			
	3.300	0.0		7.950	0.0	12.600	0.0
17.250	0.0		21.900	0.0			
	3.450	0.0		8.100	0.0	12.750	0.0
17.400	0.0		22.050	0.0			
	3.600	0.0		8.250	0.0	12.900	0.0
17.550	0.0		22.200	0.0			
	3.750	0.0		8.400	0.0	13.050	0.0
17.700	0.0		22.350	0.0			

				AHYMO.OUT		
17.850	3.900	0.0	8.550	0.0	13.200	0.0
	0.0		22.500	0.0		
18.000	4.050	0.0	8.700	0.0	13.350	0.0
	0.0		22.650	0.0		
18.150	4.200	0.0	8.850	0.0	13.500	0.0
	0.0		22.800	0.0		
18.300	4.350	0.0	9.000	0.0	13.650	0.0
	0.0					
18.450	4.500	0.0	9.150	0.0	13.800	0.0
	0.0					

RUNOFF VOLUME = 1.56847 INCHES = 0.0401 ACRE-FEET
 PEAK DISCHARGE RATE = 1.01 CFS AT 1.500 HOURS BASIN AREA =
 0.0005 SQ. MI.

*Basin B ROUTED THRU POND

* ROUTE THE TOTAL FLOW THROUGH THE PROPOSED RESERVOIR

ROUTE RESERVOIR	ID=4	HYD NO=104	INFLOW=3	CODE=3
	OUTFLOW(CFS)	STORAGE(AC-FT)	ELEV(FT)	
	0.00	0.001	26.00	
	0.38	0.007	27.00	
	0.55	0.016	27.85	

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
0.00	0.00	26.00	0.001	0.00
0.15	0.00	26.00	0.001	0.00
0.30	0.00	26.00	0.001	0.00
0.45	0.00	26.00	0.001	0.00
0.60	0.00	26.00	0.001	0.00
0.75	0.02	26.01	0.001	0.00
0.90	0.03	26.04	0.001	0.02
1.05	0.05	26.07	0.001	0.03
1.20	0.08	26.13	0.002	0.05
1.35	0.28	26.29	0.003	0.11
1.50	1.01	27.09	0.008	0.40
1.65	0.65	27.59	0.013	0.50
1.80	0.28	27.52	0.013	0.48
1.95	0.15	27.23	0.009	0.43
2.10	0.09	26.84	0.006	0.32
2.25	0.06	26.49	0.004	0.19
2.40	0.04	26.29	0.003	0.11
2.55	0.02	26.18	0.002	0.07
2.70	0.01	26.10	0.002	0.04
2.85	0.01	26.06	0.001	0.02
3.00	0.01	26.04	0.001	0.01
3.15	0.01	26.03	0.001	0.01
3.30	0.01	26.02	0.001	0.01
3.45	0.00	26.02	0.001	0.01
3.60	0.00	26.01	0.001	0.01
3.75	0.00	26.01	0.001	0.00

PEAK DISCHARGE = 0.504 CFS - PEAK OCCURS AT HOUR 1.70
 MAXIMUM WATER SURFACE ELEVATION = 27.620
 MAXIMUM STORAGE = 0.0136 AC-FT INCREMENTAL TIME= 0.050000HRS

*Basin C

COMPUTE NM HYD ID=5 HYD NO=105 DA= .000646881 SQ MI
 PER A=10 PER B=30 PER C=32 PER D=28

AHYMO.OUT
TP=-.138 MASSRAIN=-1

K = 0.075210HR TP = 0.138000HR K/TP RATIO = 0.545000 SHAPE
CONSTANT, N = 7.106428
UNIT PEAK = 0.69074 CFS UNIT VOLUME = 0.9842 B = 526.28
P60 = 1.8500
AREA = 0.000181 SQ MI IA = 0.10000 INCHES INF = 0.04000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

K = 0.128871HR TP = 0.138000HR K/TP RATIO = 0.933849 SHAPE
CONSTANT, N = 3.787425
UNIT PEAK = 1.1500 CFS UNIT VOLUME = 0.9892 B = 340.74
P60 = 1.8500
AREA = 0.000466 SQ MI IA = 0.45417 INCHES INF = 1.12167
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

PRINT HYD

ID=5 CODE=3

PARTIAL HYDROGRAPH 105.00

TIME	TIME	FLOW	TIME	TIME	FLOW	TIME	FLOW
HRS	FLOW	CFS	HRS	FLOW	CFS	HRS	CFS
	HRS			HRS			
	CFS			CFS			
	0.000	0.0		4.650	0.0	9.300	0.0
13.950	0.0	0.0	18.600	0.0	0.0	9.450	0.0
	0.150	0.0		4.800	0.0		
14.100	0.0	0.0	18.750	0.0	0.0	9.600	0.0
	0.300	0.0		4.950	0.0		
14.250	0.0	0.0	18.900	0.0	0.0	9.750	0.0
	0.450	0.0		5.100	0.0		
14.400	0.0	0.0	19.050	0.0	0.0	9.900	0.0
	0.600	0.0		5.250	0.0		
14.550	0.0	0.0	19.200	0.0	0.0	10.050	0.0
	0.750	0.0		5.400	0.0		
14.700	0.0	0.0	19.350	0.0	0.0	10.200	0.0
	0.900	0.0		5.550	0.0		
14.850	0.0	0.0	19.500	0.0	0.0	10.350	0.0
	1.050	0.0		5.700	0.0		
15.000	0.0	0.0	19.650	0.0	0.0	10.500	0.0
	1.200	0.1		5.850	0.0		
15.150	0.0	0.3	19.800	0.0	0.0	10.650	0.0
	1.350	0.3		6.000	0.0		
15.300	0.0	1.3	19.950	0.0	0.0	10.800	0.0
	1.500	1.3		6.150	0.0		
15.450	0.0	0.8	20.100	0.0	0.0	10.950	0.0
	1.650	0.8		6.300	0.0		
15.600	0.0	0.3	20.250	0.0	0.0	11.100	0.0
	1.800	0.3		6.450	0.0		
15.750	0.0	0.2	20.400	0.0	0.0	11.250	0.0
	1.950	0.2		6.600	0.0		
15.900	0.0	0.1	20.550	0.0	0.0	11.400	0.0
	2.100	0.1		6.750	0.0		
16.050	0.0	0.1	20.700	0.0	0.0	11.550	0.0
	2.250	0.1		6.900	0.0		
16.200	0.0	0.1	20.850	0.0	0.0	11.700	0.0
	2.400	0.1		7.050	0.0		
16.350	0.0	0.0	21.000	0.0	0.0	11.850	0.0
	2.550	0.0		7.200	0.0		
16.500	0.0		21.150	0.0			

AHYMO.OUT						
16.650	2.700	0.0	21.300	7.350	0.0	12.000
	0.0			0.0		0.0
16.800	2.850	0.0	21.450	7.500	0.0	12.150
	0.0			0.0		0.0
16.950	3.000	0.0	21.600	7.650	0.0	12.300
	0.0			0.0		0.0
17.100	3.150	0.0	21.750	7.800	0.0	12.450
	0.0			0.0		0.0
17.250	3.300	0.0	21.900	7.950	0.0	12.600
	0.0			0.0		0.0
17.400	3.450	0.0	22.050	8.100	0.0	12.750
	0.0			0.0		0.0
17.550	3.600	0.0	22.200	8.250	0.0	12.900
	0.0			0.0		0.0
17.700	3.750	0.0	22.350	8.400	0.0	13.050
	0.0			0.0		0.0
17.850	3.900	0.0	22.500	8.550	0.0	13.200
	0.0			0.0		0.0
18.000	4.050	0.0	22.650	8.700	0.0	13.350
	0.0			0.0		0.0
18.150	4.200	0.0	22.800	8.850	0.0	13.500
	0.0			0.0		0.0
18.300	4.350	0.0		9.000	0.0	13.650
	0.0					0.0
18.450	4.500	0.0		9.150	0.0	13.800
	0.0					0.0

RUNOFF VOLUME = 1.40770 INCHES = 0.0486 ACRE-FEET
 PEAK DISCHARGE RATE = 1.29 CFS AT 1.500 HOURS BASIN AREA =
 0.0006 SQ. MI.

*TOTAL UNDER DRIVEWAY

ADD HYD ID=6 HYD NO=106 ID I=1 ID II=5
 PRINT HYD ID=6 CODE=3

PARTIAL HYDROGRAPH 106.00

TIME	TIME	FLOW	TIME	TIME	FLOW	TIME	FLOW
HRS	FLOW	CFS	HRS	FLOW	CFS	HRS	CFS
HRS	CFS		HRS	CFS			
14.850	0.000	0.0	19.800	4.950	0.1	9.900	0.1
	0.0			0.0			
15.000	0.150	0.0	19.950	5.100	0.1	10.050	0.1
	0.0			0.0			
15.150	0.300	0.0	20.100	5.250	0.1	10.200	0.1
	0.0			0.0			
15.300	0.450	0.0	20.250	5.400	0.1	10.350	0.1
	0.0			0.0			
15.450	0.600	0.0	20.400	5.550	0.1	10.500	0.1
	0.0			0.0			
15.600	0.750	0.3	20.550	5.700	0.1	10.650	0.1
	0.0			0.0			
15.750	0.900	0.5	20.700	5.850	0.1	10.800	0.1
	0.0			0.0			
15.900	1.050	0.7	20.850	6.000	0.1	10.950	0.1
	0.0			0.0			
16.050	1.200	1.3	21.000	6.150	0.1	11.100	0.1
	0.0			0.0			
16.200	1.350	4.3	21.150	6.300	0.1	11.250	0.1
	0.0			0.0			

AHYMO.OUT						
16.350	1.500	15.6	21.300	6.450	0.1	11.400
	0.0			0.0		0.1
16.500	1.650	10.0	21.450	6.600	0.1	11.550
	0.0			0.0		0.1
16.650	1.800	4.3	21.600	6.750	0.1	11.700
	0.0			0.0		0.1
16.800	1.950	2.3	21.750	6.900	0.1	11.850
	0.0			0.0		0.1
16.950	2.100	1.5	21.900	7.050	0.1	12.000
	0.0			0.0		0.1
17.100	2.250	1.0	22.050	7.200	0.1	12.150
	0.0			0.0		0.1
17.250	2.400	0.7	22.200	7.350	0.1	12.300
	0.0			0.0		0.1
17.400	2.550	0.4	22.350	7.500	0.1	12.450
	0.0			0.0		0.1
17.550	2.700	0.3	22.500	7.650	0.1	12.600
	0.0			0.0		0.1
17.700	2.850	0.2	22.650	7.800	0.1	12.750
	0.0			0.0		0.1
17.850	3.000	0.2	22.800	7.950	0.1	12.900
	0.0			0.0		0.1
18.000	3.150	0.1	22.950	8.100	0.1	13.050
	0.0			0.0		0.1
18.150	3.300	0.1	23.100	8.250	0.1	13.200
	0.0			0.0		0.1
18.300	3.450	0.1	23.250	8.400	0.1	13.350
	0.0			0.0		0.1
18.450	3.600	0.1	23.400	8.550	0.1	13.500
	0.0			0.0		0.1
18.600	3.750	0.1	23.550	8.700	0.1	13.650
	0.0			0.0		0.1
18.750	3.900	0.1	23.700	8.850	0.1	13.800
	0.0			0.0		0.1
18.900	4.050	0.1	23.850	9.000	0.1	13.950
	0.0			0.0		0.1
19.050	4.200	0.1	24.000	9.150	0.1	14.100
	0.0			0.0		0.1
19.200	4.350	0.1	24.150	9.300	0.1	14.250
	0.0			0.0		0.0
19.350	4.500	0.1	24.300	9.450	0.1	14.400
	0.0			0.0		0.0
19.500	4.650	0.1		9.600	0.1	14.550
	0.0					0.0
19.650	4.800	0.1		9.750	0.1	14.700
	0.0					0.0

RUNOFF VOLUME = 1.56270 INCHES = 0.6277 ACRE-FEET
 PEAK DISCHARGE RATE = 15.56 CFS AT 1.500 HOURS BASIN AREA =
 0.0075 SQ. MI.

*Basin UPLAND AND B ROUTED THRU POND
 * ROUTE THE TOTAL FLOW THROUGH THE PROPOSED RESERVOIR
 ROUTE RESERVOIR ID=7 HYD NO=107 INFLOW=6 CODE=3

OUTFLOW(CFS)	STORAGE(AC-FT)	ELEV(FT)
0.00	0.001	31.50
3.75	0.002	32.00
10.42	0.008	33.00
16.38	0.021	34.00
17.37	0.039	34.25

* * * * *

AHYMO.OUT

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
0.00	0.00	31.50	0.001	0.00
0.15	0.00	31.50	0.001	0.00
0.30	0.00	31.50	0.001	0.00
0.45	0.00	31.50	0.001	0.00
0.60	0.00	31.50	0.001	0.00
0.75	0.29	31.54	0.001	0.28
0.90	0.49	31.56	0.001	0.49
1.05	0.71	31.59	0.001	0.70
1.20	1.27	31.67	0.001	1.25
1.35	4.33	32.05	0.002	4.08
1.50	15.56	33.61	0.016	14.05
1.65	9.97	33.18	0.010	11.50
1.80	4.29	32.12	0.003	4.57
1.95	2.29	31.81	0.002	2.36
2.10	1.48	31.70	0.001	1.48
2.25	1.02	31.64	0.001	1.03
2.40	0.73	31.60	0.001	0.73
2.55	0.42	31.56	0.001	0.43
2.70	0.29	31.54	0.001	0.29
2.85	0.20	31.53	0.001	0.21
3.00	0.16	31.52	0.001	0.16
3.15	0.13	31.52	0.001	0.13
3.30	0.11	31.51	0.001	0.11
3.45	0.09	31.51	0.001	0.09
3.60	0.08	31.51	0.001	0.08
3.75	0.07	31.51	0.001	0.07
3.90	0.07	31.51	0.001	0.07
4.05	0.07	31.51	0.001	0.07
4.20	0.07	31.51	0.001	0.07
4.35	0.07	31.51	0.001	0.07
4.50	0.07	31.51	0.001	0.07
4.65	0.07	31.51	0.001	0.07
4.80	0.07	31.51	0.001	0.07
4.95	0.07	31.51	0.001	0.07
5.10	0.07	31.51	0.001	0.07
5.25	0.07	31.51	0.001	0.07
5.40	0.08	31.51	0.001	0.08
5.55	0.08	31.51	0.001	0.08
5.70	0.08	31.51	0.001	0.08
5.85	0.08	31.51	0.001	0.08
6.00	0.08	31.51	0.001	0.08
6.15	0.08	31.51	0.001	0.08
6.30	0.08	31.51	0.001	0.08
6.45	0.08	31.51	0.001	0.08
6.60	0.08	31.51	0.001	0.08
6.75	0.08	31.51	0.001	0.08
6.90	0.08	31.51	0.001	0.08
7.05	0.08	31.51	0.001	0.08
7.20	0.08	31.51	0.001	0.08
7.35	0.08	31.51	0.001	0.08
7.50	0.08	31.51	0.001	0.08
7.65	0.08	31.51	0.001	0.08
7.80	0.07	31.51	0.001	0.07
7.95	0.07	31.51	0.001	0.07
8.10	0.07	31.51	0.001	0.07
8.25	0.07	31.51	0.001	0.07
TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
8.40	0.07	31.51	0.001	0.07
8.55	0.07	31.51	0.001	0.07

AHYMO.OUT				
8.70	0.07	31.51	0.001	0.07
8.85	0.07	31.51	0.001	0.07
9.00	0.07	31.51	0.001	0.07
9.15	0.07	31.51	0.001	0.07
9.30	0.07	31.51	0.001	0.07
9.45	0.07	31.51	0.001	0.07
9.60	0.07	31.51	0.001	0.07
9.75	0.07	31.51	0.001	0.07
9.90	0.07	31.51	0.001	0.07
10.05	0.07	31.51	0.001	0.07
10.20	0.07	31.51	0.001	0.07
10.35	0.07	31.51	0.001	0.07
10.50	0.06	31.51	0.001	0.06
10.65	0.06	31.51	0.001	0.06
10.80	0.06	31.51	0.001	0.06
10.95	0.06	31.51	0.001	0.06
11.10	0.06	31.51	0.001	0.06
11.25	0.06	31.51	0.001	0.06
11.40	0.06	31.51	0.001	0.06
11.55	0.06	31.51	0.001	0.06
11.70	0.06	31.51	0.001	0.06
11.85	0.06	31.51	0.001	0.06
12.00	0.06	31.51	0.001	0.06
12.15	0.06	31.51	0.001	0.06
12.30	0.06	31.51	0.001	0.06
12.45	0.06	31.51	0.001	0.06
12.60	0.06	31.51	0.001	0.06
12.75	0.06	31.51	0.001	0.06
12.90	0.06	31.51	0.001	0.06
13.05	0.05	31.51	0.001	0.05
13.20	0.05	31.51	0.001	0.05
13.35	0.05	31.51	0.001	0.05
13.50	0.05	31.51	0.001	0.05
13.65	0.05	31.51	0.001	0.05
13.80	0.05	31.51	0.001	0.05
13.95	0.05	31.51	0.001	0.05
14.10	0.05	31.51	0.001	0.05
14.25	0.05	31.51	0.001	0.05
14.40	0.05	31.51	0.001	0.05
14.55	0.05	31.51	0.001	0.05
14.70	0.05	31.51	0.001	0.05
14.85	0.05	31.51	0.001	0.05
15.00	0.05	31.51	0.001	0.05
15.15	0.05	31.51	0.001	0.05
15.30	0.05	31.51	0.001	0.05
15.45	0.05	31.51	0.001	0.05
15.60	0.04	31.51	0.001	0.04
15.75	0.04	31.51	0.001	0.04
15.90	0.04	31.51	0.001	0.04
16.05	0.04	31.51	0.001	0.04
16.20	0.04	31.51	0.001	0.04
16.35	0.04	31.51	0.001	0.04
16.50	0.04	31.51	0.001	0.04
16.65	0.04	31.51	0.001	0.04
TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
16.80	0.04	31.51	0.001	0.04
16.95	0.04	31.51	0.001	0.04
17.10	0.04	31.51	0.001	0.04
17.25	0.04	31.51	0.001	0.04
17.40	0.04	31.50	0.001	0.04
17.55	0.04	31.50	0.001	0.04
17.70	0.04	31.50	0.001	0.04
17.85	0.04	31.50	0.001	0.04

AHYMO.OUT

18.00	0.03	31.50	0.001	0.03
18.15	0.03	31.50	0.001	0.03
18.30	0.03	31.50	0.001	0.03
18.45	0.03	31.50	0.001	0.03
18.60	0.03	31.50	0.001	0.03
18.75	0.03	31.50	0.001	0.03
18.90	0.03	31.50	0.001	0.03
19.05	0.03	31.50	0.001	0.03
19.20	0.03	31.50	0.001	0.03
19.35	0.03	31.50	0.001	0.03
19.50	0.03	31.50	0.001	0.03
19.65	0.03	31.50	0.001	0.03
19.80	0.03	31.50	0.001	0.03
19.95	0.03	31.50	0.001	0.03
20.10	0.03	31.50	0.001	0.03
20.25	0.03	31.50	0.001	0.03
20.40	0.03	31.50	0.001	0.03
20.55	0.03	31.50	0.001	0.03
20.70	0.02	31.50	0.001	0.02
20.85	0.02	31.50	0.001	0.02
21.00	0.02	31.50	0.001	0.02
21.15	0.02	31.50	0.001	0.02
21.30	0.02	31.50	0.001	0.02
21.45	0.02	31.50	0.001	0.02
21.60	0.02	31.50	0.001	0.02
21.75	0.02	31.50	0.001	0.02
21.90	0.02	31.50	0.001	0.02
22.05	0.02	31.50	0.001	0.02
22.20	0.02	31.50	0.001	0.02
22.35	0.02	31.50	0.001	0.02
22.50	0.02	31.50	0.001	0.02
22.65	0.02	31.50	0.001	0.02
22.80	0.02	31.50	0.001	0.02
22.95	0.01	31.50	0.001	0.01
23.10	0.01	31.50	0.001	0.01
23.25	0.01	31.50	0.001	0.01
23.40	0.01	31.50	0.001	0.01
23.55	0.01	31.50	0.001	0.01
23.70	0.01	31.50	0.001	0.01
23.85	0.01	31.50	0.001	0.01
24.00	0.01	31.50	0.001	0.01
24.15	0.00	31.50	0.001	0.00

PEAK DISCHARGE = 15.399 CFS - PEAK OCCURS AT HOUR 1.55
 MAXIMUM WATER SURFACE ELEVATION = 33.835
 MAXIMUM STORAGE = 0.0189 AC-FT INCREMENTAL TIME= 0.050000HRS

*Basin D

COMPUTE NM HYD

ID=8 HYD NO=108 DA= .000332982 SQ MI
 PER A=12 PER B=48 PER C=36 PER D=4
 TP=-.138 MASSRAIN=-1

K = 0.075210HR TP = 0.138000HR K/TP RATIO = 0.545000 SHAPE
 CONSTANT, N = 7.106428
 UNIT PEAK = 0.50794E-01CFS UNIT VOLUME = 0.8928 B = 526.28
 P60 = 1.8500
 AREA = 0.000013 SQ MI IA = 0.10000 INCHES INF = 0.04000
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
 0.050000

K = 0.130247HR TP = 0.138000HR K/TP RATIO = 0.943817 SHAPE
 CONSTANT, N = 3.745743
 UNIT PEAK = 0.78260 CFS UNIT VOLUME = 0.9850 B = 337.85
 P60 = 1.8500

AHYMO.OUT

AREA = 0.000320 SQ MI IA = 0.46250 INCHES INF = 1.14500
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
 0.050000

PRINT HYD ID=8 CODE=3

PARTIAL HYDROGRAPH 108.00

TIME	TIME	FLOW	TIME	TIME	FLOW	TIME	FLOW
HRS	FLOW	CFS	HRS	FLOW	CFS	HRS	CFS
	HRS			HRS			
	CFS			CFS			CFS
	0.000	0.0		0.600	0.0	1.200	0.0
1.800	0.1		2.400	0.0			
	0.150	0.0		0.750	0.0	1.350	0.1
1.950	0.1		2.550	0.0			
	0.300	0.0		0.900	0.0	1.500	0.6
2.100	0.0		2.700	0.0			
	0.450	0.0		1.050	0.0	1.650	0.4
2.250	0.0						

RUNOFF VOLUME = 0.98292 INCHES = 0.0175 ACRE-FEET
 PEAK DISCHARGE RATE = 0.57 CFS AT 1.500 HOURS BASIN AREA =
 0.0003 SQ. MI.

*TOTAL LEAVING SITE

ADD HYD ID=9 HYD NO=109 ID I=4 ID II=7
 ADD HYD ID=10 HYD NO=110 ID I=9 ID II=8
 PRINT HYD ID=10 CODE=3

PARTIAL HYDROGRAPH 110.00

TIME	TIME	FLOW	TIME	TIME	FLOW	TIME	FLOW
HRS	FLOW	CFS	HRS	FLOW	CFS	HRS	CFS
	HRS			HRS			
	CFS			CFS			CFS
	0.000	0.0		4.950	0.1	9.900	0.1
14.850	0.1		19.800	0.0			
	0.150	0.0		5.100	0.1	10.050	0.1
15.000	0.0		19.950	0.0			
	0.300	0.0		5.250	0.1	10.200	0.1
15.150	0.0		20.100	0.0			
	0.450	0.0		5.400	0.1	10.350	0.1
15.300	0.0		20.250	0.0			
	0.600	0.0		5.550	0.1	10.500	0.1
15.450	0.0		20.400	0.0			
	0.750	0.3		5.700	0.1	10.650	0.1
15.600	0.0		20.550	0.0			
	0.900	0.5		5.850	0.1	10.800	0.1
15.750	0.0		20.700	0.0			
	1.050	0.7		6.000	0.1	10.950	0.1
15.900	0.0		20.850	0.0			
	1.200	1.3		6.150	0.1	11.100	0.1
16.050	0.0		21.000	0.0			
	1.350	4.3		6.300	0.1	11.250	0.1
16.200	0.0		21.150	0.0			
	1.500	15.0		6.450	0.1	11.400	0.1
16.350	0.0		21.300	0.0			
	1.650	12.4		6.600	0.1	11.550	0.1
16.500	0.0		21.450	0.0			
	1.800	5.2		6.750	0.1	11.700	0.1

AHYMO.OUT						
16.650	0.0		21.600	0.0		
	1.950	2.8		6.900	0.1	11.850
16.800	0.0		21.750	0.0		
	2.100	1.8		7.050	0.1	12.000
16.950	0.0		21.900	0.0		
	2.250	1.2		7.200	0.1	12.150
17.100	0.0		22.050	0.0		
	2.400	0.9		7.350	0.1	12.300
17.250	0.0		22.200	0.0		
	2.550	0.5		7.500	0.1	12.450
17.400	0.0		22.350	0.0		
	2.700	0.3		7.650	0.1	12.600
17.550	0.0		22.500	0.0		
	2.850	0.2		7.800	0.1	12.750
17.700	0.0		22.650	0.0		
	3.000	0.2		7.950	0.1	12.900
17.850	0.0		22.800	0.0		
	3.150	0.1		8.100	0.1	13.050
18.000	0.0		22.950	0.0		
	3.300	0.1		8.250	0.1	13.200
18.150	0.0		23.100	0.0		
	3.450	0.1		8.400	0.1	13.350
18.300	0.0		23.250	0.0		
	3.600	0.1		8.550	0.1	13.500
18.450	0.0		23.400	0.0		
	3.750	0.1		8.700	0.1	13.650
18.600	0.0		23.550	0.0		
	3.900	0.1		8.850	0.1	13.800
18.750	0.0		23.700	0.0		
	4.050	0.1		9.000	0.1	13.950
18.900	0.0		23.850	0.0		
	4.200	0.1		9.150	0.1	14.100
19.050	0.0		24.000	0.0		
	4.350	0.1		9.300	0.1	14.250
19.200	0.0		24.150	0.0		
	4.500	0.1		9.450	0.1	14.400
19.350	0.0		24.300	0.0		
	4.650	0.1		9.600	0.1	14.550
19.500	0.0					
	4.800	0.1		9.750	0.1	14.700
19.650	0.0					

RUNOFF VOLUME = 1.53868 INCHES = 0.6847 ACRE-FEET
 PEAK DISCHARGE RATE = 16.41 CFS AT 1.550 HOURS BASIN AREA =
 0.0083 SQ. MI.

*EXISTING DISCHARGE(UPLAND+ONSITE)

COMPUTE NM HYD ID=11 HYD NO=111 DA= .008457134 SQ MI
 PER A=18 PER B=20 PER C=30 PER D=32
 TP=-.138 MASSRAIN=-1

K = 0.075210HR TP = 0.138000HR K/TP RATIO = 0.545000 SHAPE
 CONSTANT, N = 7.106428
 UNIT PEAK = 10.321 CFS UNIT VOLUME = 0.9976 B = 526.28
 P60 = 1.8500
 AREA = 0.002706 SQ MI IA = 0.10000 INCHES INF = 0.04000
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
 0.050000

AHYMO.OUT

K = 0.133236HR TP = 0.138000HR K/TP RATIO = 0.965480 SHAPE
 CONSTANT, N = 3.658878
 UNIT PEAK = 13.825 CFS UNIT VOLUME = 1.000 B = 331.75
 P60 = 1.8500
 AREA = 0.005751 SQ MI IA = 0.47353 INCHES INF = 1.17588
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
 0.050000

PRINT HYD

ID=11 CODE=3

PARTIAL HYDROGRAPH 111.00

TIME	TIME	FLOW	TIME	TIME	FLOW	TIME	FLOW
HRS	FLOW	CFS	HRS	FLOW	CFS	HRS	CFS
	HRS			HRS			
	CFS			CFS			
	0.000	0.0		4.950	0.1	9.900	0.1
14.850	0.0	0.0	19.800	0.0			
	0.150	0.0		5.100	0.1	10.050	0.1
15.000	0.0	0.0	19.950	0.0			
	0.300	0.0		5.250	0.1	10.200	0.1
15.150	0.0	0.0	20.100	0.0			
	0.450	0.0		5.400	0.1	10.350	0.1
15.300	0.0	0.0	20.250	0.0			
	0.600	0.0		5.550	0.1	10.500	0.1
15.450	0.0	0.0	20.400	0.0			
	0.750	0.3		5.700	0.1	10.650	0.1
15.600	0.0	0.0	20.550	0.0			
	0.900	0.5		5.850	0.1	10.800	0.1
15.750	0.0	0.0	20.700	0.0			
	1.050	0.7		6.000	0.1	10.950	0.1
15.900	0.0	0.0	20.850	0.0			
	1.200	1.2		6.150	0.1	11.100	0.1
16.050	0.0	0.0	21.000	0.0			
	1.350	4.4		6.300	0.1	11.250	0.1
16.200	0.0	0.0	21.150	0.0			
	1.500	16.7		6.450	0.1	11.400	0.1
16.350	0.0	0.0	21.300	0.0			
	1.650	10.7		6.600	0.1	11.550	0.1
16.500	0.0	0.0	21.450	0.0			
	1.800	4.6		6.750	0.1	11.700	0.1
16.650	0.0	0.0	21.600	0.0			
	1.950	2.4		6.900	0.1	11.850	0.1
16.800	0.0	0.0	21.750	0.0			
	2.100	1.6		7.050	0.1	12.000	0.1
16.950	0.0	0.0	21.900	0.0			
	2.250	1.1		7.200	0.1	12.150	0.1
17.100	0.0	0.0	22.050	0.0			
	2.400	0.8		7.350	0.1	12.300	0.1
17.250	0.0	0.0	22.200	0.0			
	2.550	0.5		7.500	0.1	12.450	0.1
17.400	0.0	0.0	22.350	0.0			
	2.700	0.3		7.650	0.1	12.600	0.1
17.550	0.0	0.0	22.500	0.0			
	2.850	0.2		7.800	0.1	12.750	0.1
17.700	0.0	0.0	22.650	0.0			
	3.000	0.2		7.950	0.1	12.900	0.1
17.850	0.0	0.0	22.800	0.0			
	3.150	0.1		8.100	0.1	13.050	0.1
18.000	0.0	0.0	22.950	0.0			
	3.300	0.1		8.250	0.1	13.200	0.1
18.150	0.0	0.0	23.100	0.0			
	3.450	0.1		8.400	0.1	13.350	0.1
18.300	0.0	0.0	23.250	0.0			
	3.600	0.1		8.550	0.1	13.500	0.1

AHYMO.OUT							
18.450	0.0		23.400	0.0			
	3.750	0.1		8.700	0.1	13.650	0.1
18.600	0.0		23.550	0.0			
	3.900	0.1		8.850	0.1	13.800	0.1
18.750	0.0		23.700	0.0			
	4.050	0.1		9.000	0.1	13.950	0.0
18.900	0.0		23.850	0.0			
	4.200	0.1		9.150	0.1	14.100	0.0
19.050	0.0		24.000	0.0			
	4.350	0.1		9.300	0.1	14.250	0.0
19.200	0.0		24.150	0.0			
	4.500	0.1		9.450	0.1	14.400	0.0
19.350	0.0		24.300	0.0			
	4.650	0.1		9.600	0.1	14.550	0.0
19.500	0.0						
	4.800	0.1		9.750	0.1	14.700	0.0
19.650	0.0						

RUNOFF VOLUME = 1.45705 INCHES = 0.6572 ACRE-FEET
 PEAK DISCHARGE RATE = 16.66 CFS AT 1.500 HOURS BASIN AREA =
 0.0085 SQ. MI.

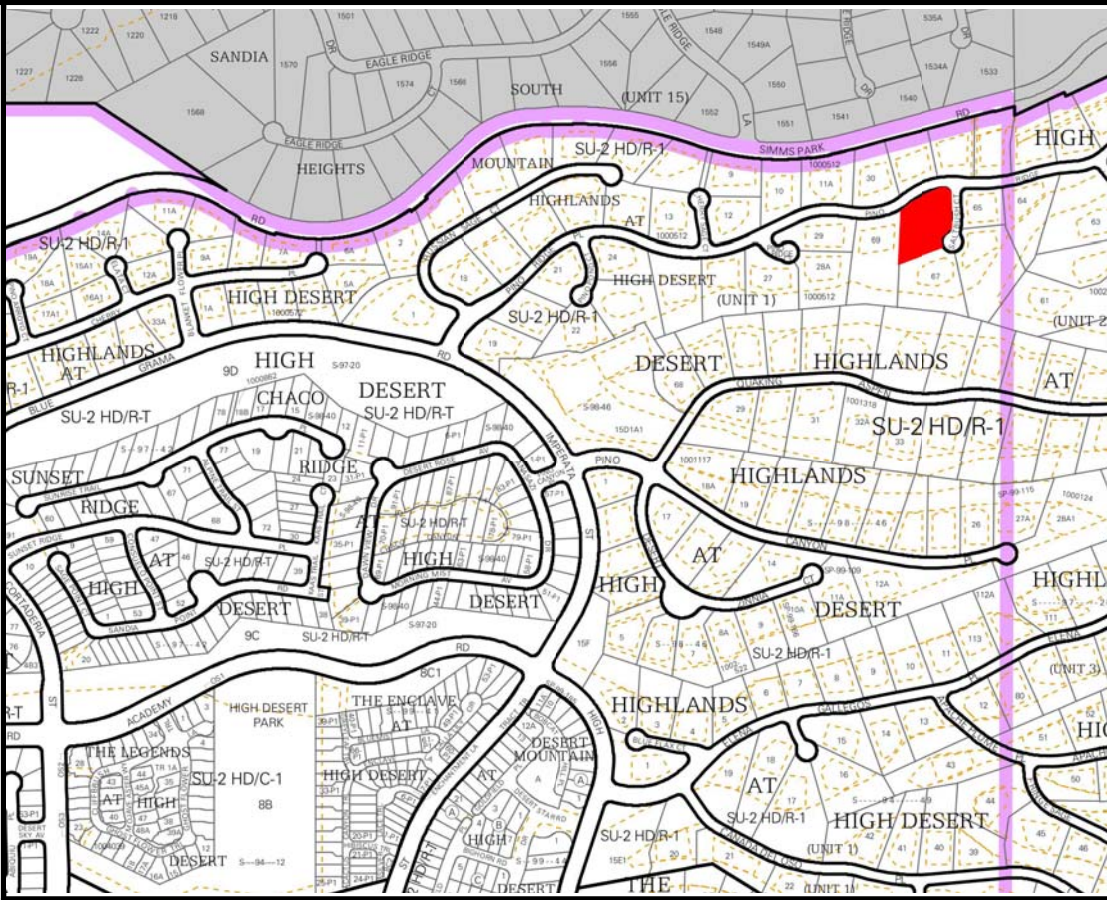
FINISH

NORMAL PROGRAM FINISH

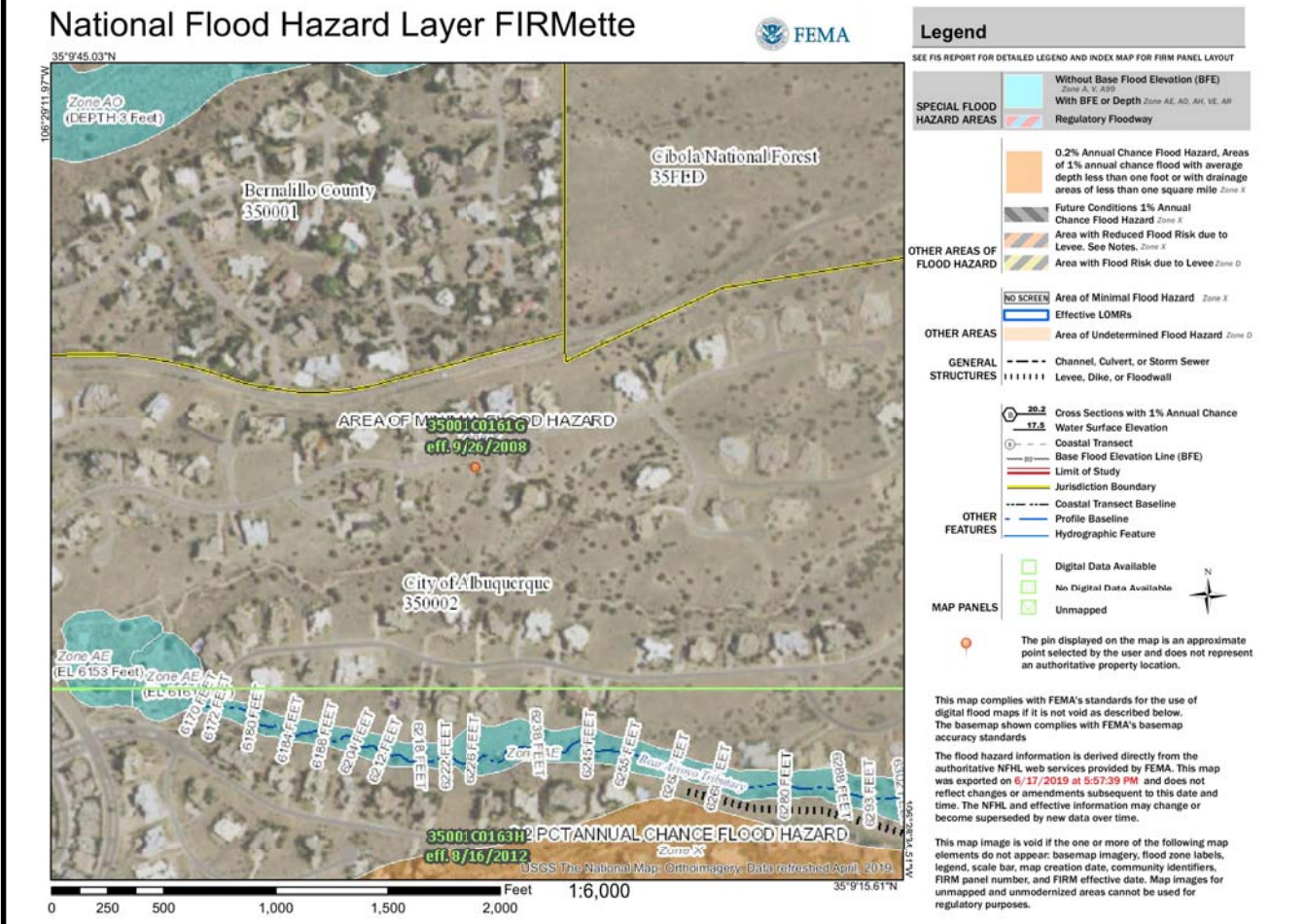
END TIME (HR:MIN:SEC) = 11:02:56

EROSION CONTROL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
4. REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL ACCEPTANCE OF ANY PROJECT.



VICINITY MAP: E-23-Z



FIRM MAP:

LEGAL DESCRIPTION:
LOT 68 MOUNTAIN HIGHLANDS UNIT 2 AT HIGH DESERT
CITY OF ALBUQUERQUE BERNALILLO COUNTY, NEW MEXICO

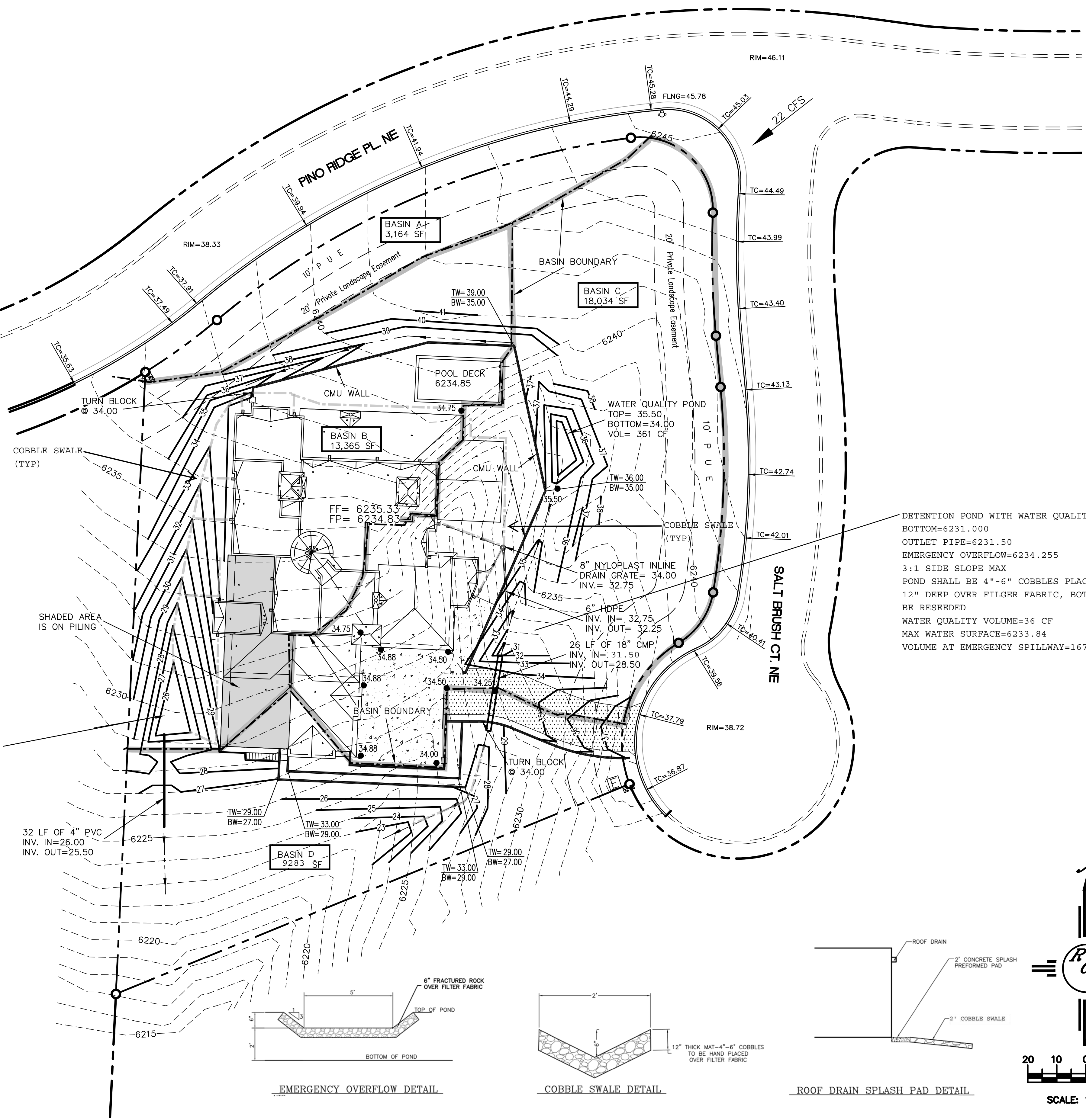
- NOTES:**
1. ALL SPOT ELEVATIONS REPRESENT FLOWLINE ELEVATION UNLESS OTHERWISE NOTED.
2. ALL SLOPES SHALL BE 3:1 MAX. AND GRAVEL OR NATIVE SEEDING PRIOR TO CO.
3. ANY PERIMETER WALLS MUST BE PERMITTED SEPARATELY. ALL RETAINING WALL DESIGN SHALL BE BY OTHERS.
4. SURVEY INFORMATION PROVIDED BY COMMUNITY SCIENCES CORPORATION USING NAVD DATUM 1988.

- LEGEND**
- EXISTING CONTOUR
 - EXISTING INDEX CONTOUR
 - PROPOSED CONTOUR
 - PROPOSED INDEX CONTOUR
 - EXISTING SPOT ELEVATION
 - PROPOSED SPOT ELEVATION
 - BOUNDARY
 - PROPOSED EARTHEN SWALE
 - ADJACENT BOUNDARY
 - EXISTING CURB AND GUTTER
 - PROPOSED GRAVEL DRIVEWAY
 - PROPOSED CONCRETE DRIVEWAY

CAUTION:
EXISTING UTILITIES ARE NOT SHOWN. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO ANY EXCAVATION TO DETERMINE THE ACTUAL LOCATION OF UTILITIES & OTHER IMPROVEMENTS.

DETENTION POND WITH WATER QUALITY VOLUME
BOTTOM=6225.50
OUTLET PIPE=6226.00
EMERGENCY OVERFLOW=6227.85
3:1 SIDE SLOPE MAX
POND SHALL BE 4"-6" COBBLES PLACED
12" DEEP OVER FILGER FABRIC, BOTTOM SHALL
BE RESEEDED
WATER QUALITY VOLUME=57 CF
MAX WATER SURFACE=6227.62
VOLUME AT EMERGENCY SPILLWAY=713 CF

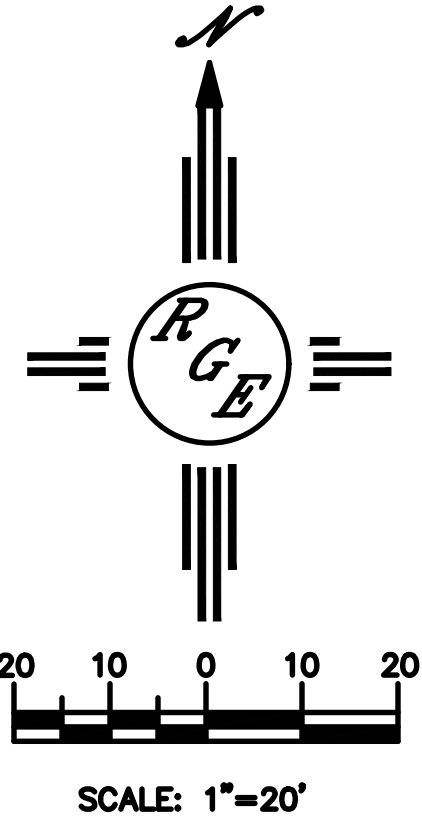
DETENTION POND WITH WATER QUALITY VOLUME
BOTTOM=6231.000
OUTLET PIPE=6231.50
EMERGENCY OVERFLOW=6234.255
3:1 SIDE SLOPE MAX
POND SHALL BE 4"-6" COBBLES PLACED
12" DEEP OVER FILGER FABRIC, BOTTOM SHALL
BE RESEEDED
WATER QUALITY VOLUME=36 CF
MAX WATER SURFACE=6233.84
VOLUME AT EMERGENCY SPILLWAY=1678 CF



EMERGENCY OVERFLOW DETAIL

COBBLE SWALE DETAIL

ROOF DRAIN SPLASH PAD DETAIL



ENGINEER'S SEAL	LOT 68 MOUNTAIN HIGHLANDS UN 2 6705 SALTBRUSH COURT. NE	DRAWN BY DEM
DAVID SOULE NEW MEXICO REGISTERED PROFESSIONAL ENGINEER 14522	GRADING AND DRAINAGE PLAN	DATE 6-19-19
7/25/19	Rio Grande Engineering 1608 CENTRAL AVENUE SE SUITE 201 ALBUQUERQUE, NM 87106 (505) 972-0899	Job 68 Mnt Highlands Un 2.DWG
DAVID SOULE P.E. #14522		SHEET # C1
		JOB #