

CITY OF ALBUQUERQUE

Planning Department
David Campbell, Director



Mayor Timothy M. Keller

July 18, 2018

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

RE: **McMahon Carwash**
McMahon and Fineland NW
Grading Plan Stamp Date: 6/20/18
Drainage Plan Stamp Date: 6/20/18
Hydrology File: A11D016A

Dear Mr. Soule,

Based on the submittal received 7/10/18, the Grading Plan and Drainage Report cannot be approved for until the following are corrected:

Prior to Building Permit:

1. The first flush retention areas need to be clarified. The 4 small ponds in West Basin do not adequately capture the required volume. The north pond is higher than the parking lot and nothing seems to drain to it. The center pond has the grate elevation set at the bottom of the pond, so no dead storage is provided. The area draining to the 2 south ponds needs to be quantified, and the ponds sized to retain this first flush volume.
2. Provide minor contour labels and define spot elevations (top of curb, flowline, etc...). The spot elevations don't appear to agree with the proposed contours and it is difficult to see where the emergency overflows will go if the orifice plate clogs.
3. The elevations used in the volume calculations and orifice plate sizing (appendix B) do not match those on the grading plan. Please correct and show the max water surface elevation on the grading plan.
4. A Bernalillo County Recorded [Private Facility Drainage Covenant](#) is required for the first flush pond. The original notarized form, exhibit A (legible on 8.5x11 paper), and recording fee (\$25, payable to Bernalillo County) must be turned into DRC (4th, Plaza del Sol) for routing. Please contact Charlotte LaBadie (clabadie@cabq.gov, 924-3996) or Madeline Carruthers (mtafoya@cabq.gov, 924-3997) regarding the routing and recording process for covenants.
5. This project requires an ESC Plan, submitted to the Stormwater Quality Engineer (Curtis Cherne PE, ccherne@cabq.gov or 924-3420).

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Prior to Certificate of Occupancy (For Information):

6. Engineer's Certification, per the DPM Chapter 22.7: *Engineer's Certification Checklist For Non-Subdivision* is required.
7. The Engineer's Certification for Kidz Academy (A11D016) must be accepted by the City. This project provides the downstream conveyance for the new carwash and must be complete prior to acceptance of the upstream development.
8. The Private Facility Drainage Covenant must be recorded with Bernalillo County and a copy included with the drainage certification.

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: MCMAHON CARWASH **Building Permit #:** _____ **Hydrology File #:** _____
DRB#: _____ **EPC#:** _____ **Work Order#:** _____
Legal Description: TRACT A-1-B FINELAND DEVELOPMENT
City Address: MCMAHON AND FINELAND

Applicant: COMMERCIAL CONSTRUCTION AND MAINTENANCE **Contact:** _____
Address: PO BOX 93924 ALB NM 87199
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?

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) _____

IS THIS A RESUBMITTAL?: ☐ Yes ☒ No

DATE SUBMITTED: _____ **By:** _____

COA STAFF:

ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

DRAINAGE REPORT

For

Car wash
Parcel A1B Fineland Subdivision
Albuquerque, New Mexico

Prepared by

Rio Grande Engineering
PO Box 93924
Albuquerque, New Mexico 87199

JUNE 2018



David Soule P.E. No. 14522

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Appendix

Site Hydrology	A
Hydraulic Model and calculations	B

Map
Site Grading and Drainage Plan

The site is currently a mass graded site. The site currently retains all developed flow in a temporary retention pond. The adjacent site Kids Academy (file A11D016) is currently being constructed. The outfall for this site is under construction. Due to being higher than the surrounding roadways, the site is not impacted by upland flows.

EXISTING CONDITIONS

The subject of this report, as shown on the Exhibit A, is a 2.689 -acre parcel of land located on the west side of Fineland drive between McMahon and Crown road. The legal description of this site is A1B Fineland Subdivision. As shown on FIRM map35001C0104H, the entire site is located within Flood Zone X. The site is bound on all sides by roadways and not impacted by upland flows. The site is an undeveloped site. The site currently retains all of its flow in a temporary retention pond constructed with the adjacent Kidz academy. The site is located within basin O as shown in the area drainage plan (A11D009). The proposed improvements include the construction of a car wash with parking on the westerly 1.12 acres of tract A1B. The remaining A1B will not be developed at this time. This site must conform to the 0.79 cfs per acre assigned within the A11D016 drainage plan and discharge to the existing storm drain system within Crown. The site must manage the first flush volume onsite.

INTRODUCTION

The purpose of this report is to provide the Drainage Management Plan for the subdivision of a 2.689 acre tract and the construction of a new carwash building with associated parking lot on the western 1.12 acres. This plan was prepared in accordance with the City of Albuquerque design regulations, utilizing the City of Albuquerque's Development Process Manual drainage guidelines. This report will demonstrate that the grading does not adversely affect the surrounding properties, nor the upstream or downstream facilities.

PURPOSE

AGIS

Albuquerque Geographic Information System

Map amended through: 2/4/2010

Note: Grey Shading
Represents Area Outside
of the City Limits



Selected Symbols

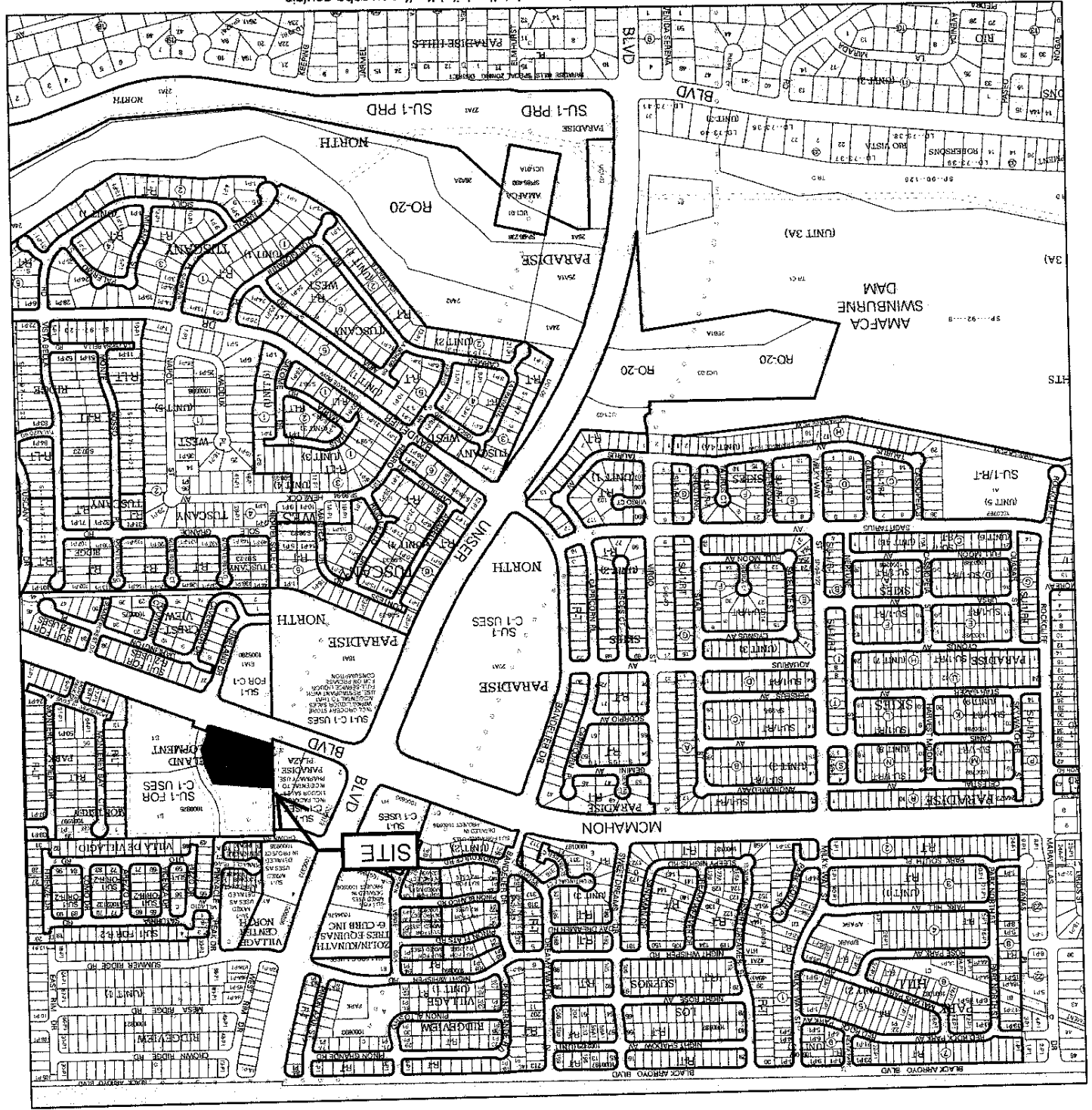
- Design Overlay Zones
- 2 Mile Airport Zone
- Escarpment
- City Historic Zones
- H-1 Buffer Zone
- Petroglyph Mon.
- Wall Overlay Zone
- Airport Noise Contours

SECTOR PLANS

A-11-Z

Zone Atlas Page:

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



PROPOSED CONDITIONS

The proposed improvements consist of new building with exterior parking area within the

westerly 1.12 acres of tract A1B. The easterly portion of tract A1B will not be developed at this time, but allowance for its future development is provided. The proposed site development will contain 1 basin. The entire site drains to a detention pond with an inlet. The inlet will outfall to the 18" storm drain stubbed into the overall tract. This basin free discharges 4.59 cfs to the pond. The outlet flow is metered by the introduction of an orifice plate with a 4" opening. The pond and adjacent parking lot functions as the detention basin. The water quality volume of 1153 cfs is retained onsite. As shown in appendix B, this pond was modeled using AHYMO and the resultant peak out fall will be 0.88 cfs with a maximum water surface elevation of 5291.44. In the event of clogging the site will discharge to the west onto tract A1A and flow out the driveway to Fineland as the emergency overflow. The inlet is connected to an 18" storm drain which will be connected to an existing manhole at Crown. The east Basin contains the undeveloped portion tract A1B.

This basin generates 5,377 cubic feet during the 100 year, 10-day event. The undeveloped flow from this basin is captured in a temporary retention pond. The future development must limit its peak flow to 1.26 cfs. The proposed flow leaving this site is 0.88 CFS which is .79 cfs per acre, which matches the allowed rate of .79 cfs per acre.

SUMMARY AND RECOMMENDATIONS

This project is located within basin O of the area drainage plan (A11D009). The overall tract has an allowed total peak discharge to the city maintained facilities of 2.15 cfs (0.79 cfs per acre). The first flush volume of 1153 cubic feet is retained onsite. The proposed development retains 1407 cubic feet, and discharges .88 cfs. The plan allows for the future development of the parcel A1B. The onsite storm drain was designed to convey the flow. The ponds will overflow in an emergency or clogging situation via the parking lot discharging to Fineland. The development of this site will not negatively impact the upstream nor down stream facilities. Since the work area does exceed 1 acre, erosion and sediment Control Plan shall be required.

SITE HYDROLOGY

APPENDIX A

Weighted E Method

Existing Developed Basins

Basin	Area (sf)	Area (acres)	Treatment A		Treatment B		Treatment C		Treatment D		100-Year, 6-hr.		10-day	
			%	(acres)	%	(acres)	%	(acres)	%	(acres)	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs	Volume (ac-ft)
TOTAL SITE	116946	2.685	0%	0	0.0%	0.000	0.0%	0	100%	2.685	1.970	0.441	11.73	0.799
WEST BASIN	48453	1.112	0%	0	0.0%	0.000	16.0%	0.17797	84%	0.934	1.813	0.168	4.59	0.293
EAST BASIN	68493	1.572	0%	0	15.0%	0.236	85.0%	1.33653	0%	0.000	0.942	0.123	4.31	0.123

Equations:

$$\text{Weighted E} = E_a \cdot A_a + E_b \cdot A_b + E_c \cdot A_c + E_d \cdot A_d / (\text{Total Area})$$

$$\text{Volume} = \text{Weighted D} \cdot \text{Total Area}$$

$$\text{Flow} = Q_a \cdot A_a + Q_b \cdot A_b + Q_c \cdot A_c + Q_d \cdot A_d$$

Where for 100-year, 6-hour storm (zone 1)

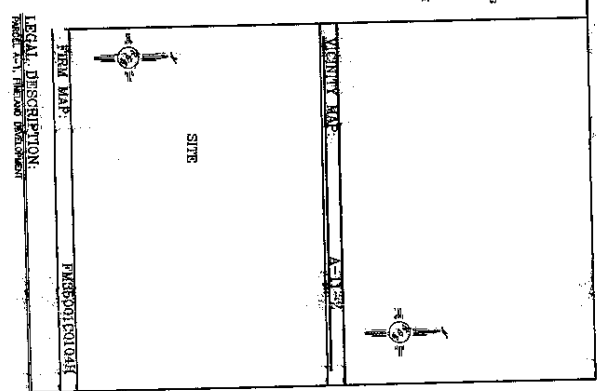
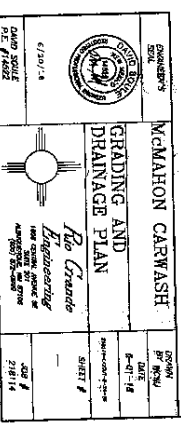
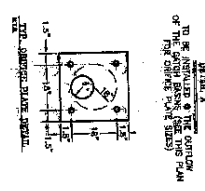
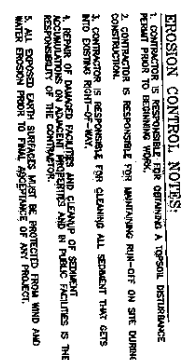
$E_a = 0.44$
 $E_b = 0.67$
 $E_c = 0.99$
 $E_d = 1.97$

$Q_a = 1.29$
 $Q_b = 2.03$
 $Q_c = 2.87$
 $Q_d = 4.37$

FIRST FLUSH 1153 WEST BASIN
 RETENTION FOR EAST BASIN 5377 CF

ALLOWED DISCHARGE=2.15 CFS
 ALLOWED WEST BASIN=.89 CFS
 ALLOWED EAST BASIN=1.26 CFS

79 CFS/AC



HYDRAULIC MODELING AND CALCULATIONS**APPENDIX B**

VOLUME CALCULATIONS

PARKING LOT POND

ACTUAL	DEPTH	AREA	VOLUME	VOLUME	VOLUME	VOLUME	Q
ELEV.	(FT)	SF	PER UNIT	CUMULATIVE	AC-FIT	(CFS)	
86	0	0	0	0	0.000		
90.50	3.50	1984.00	446.4	884	0.020	0.79	
91.00	4.00	2294.00	1069.50	1953.5	0.045	0.84	
91.50	4.50	8218.00	2628.00	4581.5	0.105	0.89	
92.00	5.00	9210.00	4357.00	8938.5	0.205	0.94	

POND OVERFLOW
inlet bottom
grate

Orifice Equation
 $Q = CA \sqrt{2gh}$
 90.45

$C =$
 $Diameter (in) =$
 $Area (ft^2) =$
 $g =$
 $H (ft) =$
 $Q (CFS) =$
 0.6
 4
 0.087266463
 32.2
 Depth of water above center of orifice
 Flow

Pipe Capacity

Pipe	D	Slope	Area	R	Q Provided	Q Required	Velocity
	(in)	(%)	(ft ²)		(cfs)	(cfs)	(ft/s)
18HDPE	18	0.8	1.77	0.375	8.16	0.88	0.50

Manning's Equation:
 $Q = 1.49/n \cdot A \cdot R^{2/3} \cdot S^{1/2}$

A = Area
R = D/4
S = Slope
n = 0.015

pondrout071018.txt

*S AHYMO - DETENTION-mcmahon carwash
*S POND ROUTING

START TIME=0.0 PUNCH CODE=0

RAINFALL TYPE=2
QUARTER=0.0 ONE= 1.87 IN
SIX=2.20 IN DAY= 2.66 IN DT = 0.05 HR

COMPUTE NM HYD ID=1 HYD NO=101 DA= .0017375 SQ MI

PER A=0 PER B=0 PER C=16 PER D=84
TP=-.142 MASSRAIN=-1

PRINT HYD ID=1 CODE=3

* ROUTE THE TOTAL FLOW THROUGH THE PROPOSED RESERVOIR
ID=2 HYD NO=102 INFLOW=1 CODE=3
ROUTE RESERVOIR
OUTFLOW(CFS) 0.00
STORAGE(AC-FT) 0.000
ELEV(FT) 86.00
90.50
91.00
91.50
92.00

FINISH

AHYMO.OUT
AHYMO PROGRAM (AHYMO-S4)
RUN DATE (MON/DAY/YR) = 07/10/2018
START TIME (HR:MIN:SEC) = 08:59:26
- Version: 54.01a - Rel: 01a
USER NO. =

rtiograndestng1ea41963517
INPUT FILE = ts and settings\owner\Desktop\2018 jobs\18111-mcmahon
carwash\pondrout071018.txt

*S AHYMO - DETENTION-KIDZ ACADEMY

*S POND ROUTING

START TIME=0.0 PUNCH CODE=0

RAINFALL TYPE=2

QUARTER=0.0 ONE= 1.87 IN

SIX=2.20 IN DAY= 2.66 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 0.0022 0.0045 0.0069 0.0096 0.0123 0.0154 0.0197 0.0264 0.0336 0.0412 0.0494 0.0578 0.0664 0.0753 0.0844 0.0946 0.1052 0.1168 0.1387 0.1657 0.2020 0.2430 0.2937 0.3614 0.4375 0.5689 0.7733 1.1234 1.3695 1.5635 1.6610 1.7465 1.8079 1.8568 1.8994 1.9306 1.9592 1.9828 1.9979 2.0087 2.0183

Page 2	2
2.0273	2.0352
2.0692	2.0724
2.0896	2.0923
2.1069	2.1092
2.1220	2.1240
2.1356	2.1374
2.1481	2.1498
2.1596	2.1612
2.1704	2.1718
2.1804	2.1818
2.1899	2.1912
2.1988	2.2000
2.2077	2.2089
2.2166	2.2179
2.2256	2.2268
2.2345	2.2358
2.2434	2.2447
2.2524	2.2537
2.2613	2.2626
2.2703	2.2716
2.2792	2.2805
2.2882	2.2894
2.2971	2.2984
2.3061	2.3073
2.3150	2.3163
2.3239	2.3252
2.3329	2.3342
2.3418	2.3431
2.3508	2.3521
2.3598	2.3610
2.3687	2.3699
2.3776	2.3789
2.3865	2.3878
2.3955	2.3968
2.4044	2.4057
2.4134	2.4147
2.4223	2.4236
2.4313	2.4325
2.4402	2.4415
2.4492	2.4504
2.4581	2.4594
2.4670	2.4683
2.4760	2.4773
2.4849	2.4862
2.4939	2.4952
2.5028	2.5041
2.5118	2.5130
2.5207	2.5220
2.5297	2.5309
2.5386	2.5399
2.5475	2.5488
2.5565	2.5578
2.5654	2.5667
2.5744	2.5757
2.5833	2.5846
2.5923	2.5935
2.6012	2.6025
2.6102	2.6114
2.6191	2.6204
2.6280	2.6293
2.6370	2.6383
2.6459	2.6472
2.6549	2.6562

AHYMO.OUT
COMPUTE NM HYD ID=1 HYD NO=101 DA=.0017375 SQ MI
PER A=0 PER B=0 PER C=16 PER D=84
TP=-.142 MASSRAIN=-1

K = 0.077390HR TP = 0.142000HR K/TP RATIO = 0.545000 SHAPE
CONSTANT, N = 7.106428
UNIT PEAK = 5.4091 CFS UNIT VOLUME = 0.9972 B = 526.28
P60 = 1.8700
AREA = 0.001460 SQ MI IA = 0.10000 INCHES INF = 0.04000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT
= 0.050000

K = 0.112776HR TP = 0.142000HR K/TP RATIO = 0.794199 SHAPE
CONSTANT, N = 4.514592
UNIT PEAK = 0.75987 CFS UNIT VOLUME = 0.9857 B = 388.14
P60 = 1.8700
AREA = 0.000278 SQ MI IA = 0.35000 INCHES INF = 0.83000
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 FLOW TIME FLOW TIME FLOW TIME FLOW
HRS CFS HRS CFS HRS CFS HRS CFS
14.850 0.0 19.800 0.0 4.950 0.0 9.900 0.0
0.150 0.0 5.100 0.0 10.050 0.0
0.300 0.0 19.950 0.0 10.200 0.0
15.000 0.0 5.250 0.0 0.0
Page 3

15.150	0.0	0.450	0.0	20.100	5.400	0.0	10.350	0.0
15.300	0.0	0.600	0.0	20.250	5.550	0.0	10.500	0.0
15.450	0.0	0.750	0.0	20.400	5.700	0.0	10.650	0.0
15.600	0.0	0.900	0.0	20.550	5.850	0.0	10.800	0.0
15.750	0.0	1.050	0.0	20.700	6.000	0.0	10.950	0.0
15.900	0.0	1.200	0.0	20.850	6.150	0.0	11.100	0.0
16.050	0.0	1.350	0.0	21.000	6.300	0.0	11.250	0.0
16.200	0.0	1.500	0.0	21.150	6.450	0.0	11.400	0.0
16.350	0.0	1.650	0.0	21.300	6.600	0.0	11.550	0.0
16.500	0.0	1.800	0.0	21.450	6.750	0.0	11.700	0.0
16.650	0.0	1.950	0.0	21.600	6.900	0.0	11.850	0.0
16.800	0.0	2.100	0.0	21.750	7.050	0.0	12.000	0.0
16.950	0.0	2.250	0.0	21.900	7.200	0.0	12.150	0.0
17.100	0.0	2.400	0.0	22.050	7.350	0.0	12.300	0.0
17.250	0.0	2.550	0.1	22.200	7.500	0.0	12.450	0.0
17.400	0.0	2.700	0.0	22.350	7.650	0.0	12.600	0.0
17.550	0.0	2.850	0.0	22.500	7.800	0.0	12.750	0.0
17.700	0.0	3.000	0.0	22.650	7.950	0.0	12.900	0.0
17.850	0.0	3.150	0.0	22.800	8.100	0.0	13.050	0.0
18.000	0.0	3.300	0.0	22.950	8.250	0.0	13.200	0.0
18.150	0.0	3.450	0.0	23.100	8.400	0.0	13.350	0.0

0.00	0.000	86.00	0.79	0.89	0.105	91.50
0.94	0.205	92.00				

OUTFLOW(CFS) STORAGE(AC-FT) ELEV(FT)

ROUTE RESERVOIR ID=2 HYD NO=102 INFLOW=1 CODE=3

* ROUTE THE TOTAL FLOW THROUGH THE PROPOSED RESERVOIR

0.0017 SQ. MI.

RUNOFF VOLUME = 2.20290 INCHES AT 1.500 HOURS BASIN AREA =
PEAK DISCHARGE RATE = 4.59 CFS

18.300	0.0	23.250	0.0	0.0	13.500	0.0
18.450	0.0	23.400	0.0	0.0	13.650	0.0
18.600	0.0	23.550	0.0	0.0	13.800	0.0
18.750	0.0	23.700	0.0	0.0	13.950	0.0
18.900	0.0	23.850	0.0	0.0	14.100	0.0
19.050	0.0	24.000	0.0	0.0	14.250	0.0
19.200	0.0	24.150	0.0	0.0	14.400	0.0
19.350	0.0	24.300	0.0	0.0	14.550	0.0
19.500	0.0	24.450	0.0	0.0	14.700	0.0
19.650	0.0					

AHYMO.OUT

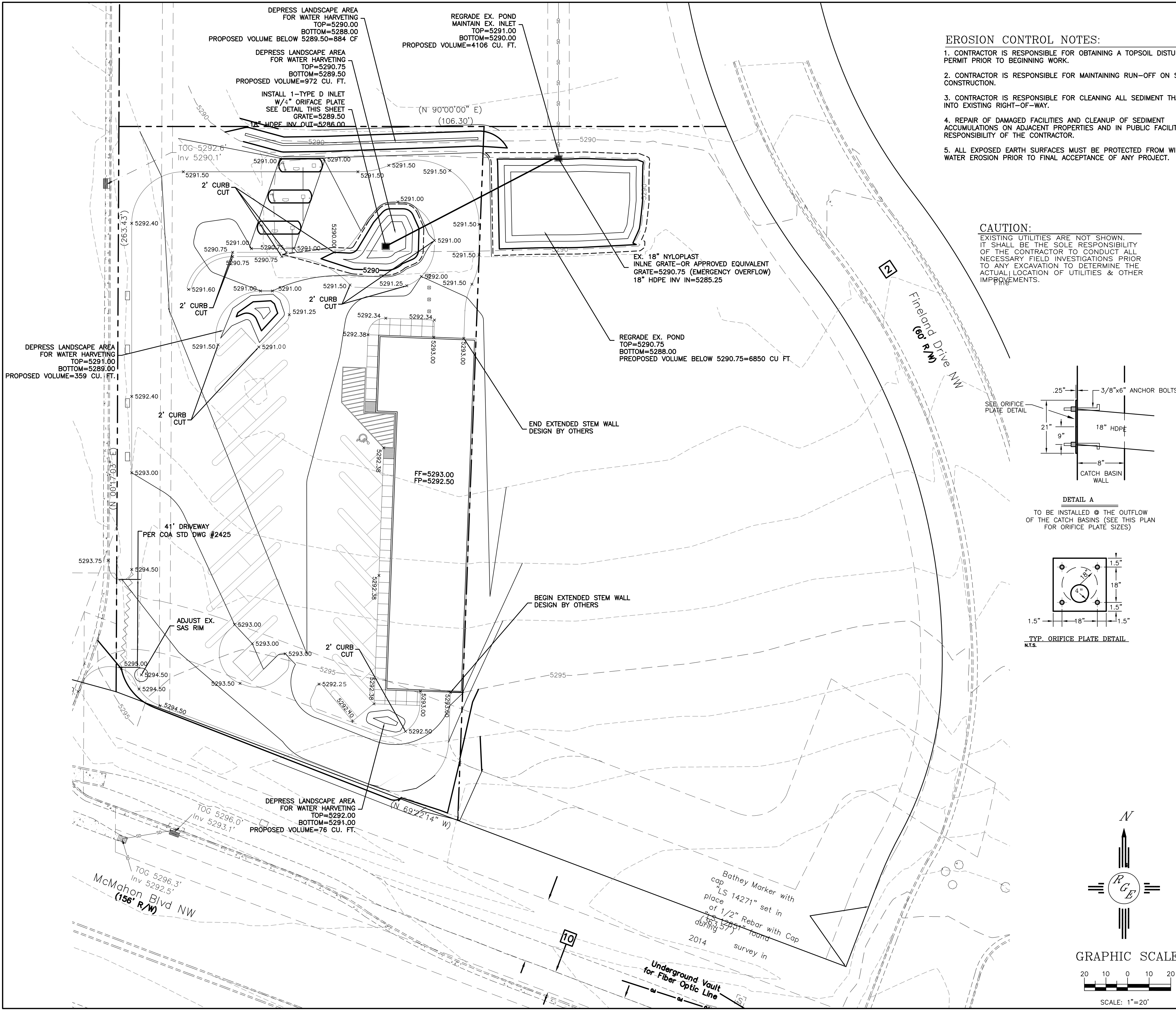
* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
0.00	0.00	86.00	0.000	0.00
0.15	0.00	86.00	0.000	0.00
0.30	0.00	86.00	0.000	0.00
0.45	0.00	86.00	0.000	0.00
0.60	0.00	86.00	0.000	0.00
0.75	0.00	86.00	0.000	0.00
0.90	0.02	86.01	0.000	0.00
1.05	0.26	86.30	0.001	0.05
1.20	0.63	87.19	0.005	0.21
1.35	1.52	88.96	0.013	0.52
1.50	4.59	90.76	0.042	0.82
1.65	2.97	91.23	0.082	0.86
1.80	1.46	91.40	0.097	0.88
1.95	0.84	91.44	0.100	0.88
2.10	0.44	91.40	0.097	0.88
2.25	0.26	91.32	0.090	0.87
2.40	0.17	91.23	0.082	0.86
2.55	0.08	91.12	0.073	0.85
2.70	0.04	91.01	0.063	0.84
2.85	0.02	90.89	0.053	0.83
3.00	0.02	90.77	0.043	0.82
3.15	0.01	90.66	0.033	0.81
3.30	0.01	90.54	0.023	0.79
3.45	0.01	89.30	0.015	0.58
3.60	0.01	88.04	0.009	0.36
3.75	0.01	87.27	0.006	0.22
3.90	0.01	86.79	0.004	0.14
4.05	0.01	86.51	0.002	0.09
4.20	0.01	86.33	0.001	0.06
4.35	0.01	86.22	0.001	0.04
4.50	0.01	86.16	0.001	0.03
4.65	0.01	86.12	0.001	0.02

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
4.80	0.01	86.10	0.000	0.02
4.95	0.01	86.09	0.000	0.02
5.10	0.01	86.09	0.000	0.02
5.25	0.02	86.09	0.000	0.02
5.40	0.02	86.09	0.000	0.02
5.55	0.02	86.10	0.000	0.02
5.70	0.02	86.10	0.000	0.02
5.85	0.02	86.11	0.000	0.02
6.00	0.02	86.11	0.001	0.02
6.15	0.02	86.12	0.001	0.02
6.30	0.02	86.13	0.001	0.02
6.45	0.02	86.13	0.001	0.02
6.60	0.02	86.13	0.001	0.02
6.75	0.02	86.13	0.001	0.02
6.90	0.02	86.14	0.001	0.02
7.05	0.02	86.14	0.001	0.02
7.20	0.02	86.14	0.001	0.02
7.35	0.02	86.14	0.001	0.02
7.50	0.02	86.14	0.001	0.02
7.65	0.02	86.14	0.001	0.02
7.80	0.02	86.14	0.001	0.02
7.95	0.02	86.14	0.001	0.02
8.10	0.02	86.14	0.001	0.02
8.25	0.02	86.14	0.001	0.02
8.40	0.02	86.14	0.001	0.02
8.55	0.02	86.14	0.001	0.02
8.70	0.02	86.14	0.001	0.02
8.85	0.02	86.14	0.001	0.02
9.00	0.02	86.14	0.001	0.02
9.15	0.02	86.14	0.001	0.02
9.30	0.02	86.14	0.001	0.02
9.45	0.02	86.14	0.001	0.02
9.60	0.02	86.14	0.001	0.02
9.75	0.02	86.14	0.001	0.02
9.90	0.02	86.14	0.001	0.02
10.05	0.02	86.14	0.001	0.02
10.20	0.02	86.14	0.001	0.02
10.35	0.02	86.14	0.001	0.02
10.50	0.02	86.14	0.001	0.02
10.65	0.02	86.14	0.001	0.02
10.80	0.02	86.14	0.001	0.02
10.95	0.02	86.14	0.001	0.02
11.10	0.02	86.14	0.001	0.02
11.25	0.02	86.14	0.001	0.02
11.40	0.02	86.14	0.001	0.02
11.55	0.02	86.14	0.001	0.02
11.70	0.02	86.14	0.001	0.02
11.85	0.02	86.14	0.001	0.02
12.00	0.02	86.14	0.001	0.02
12.15	0.02	86.14	0.001	0.02
12.30	0.02	86.14	0.001	0.02
12.45	0.02	86.14	0.001	0.02
12.60	0.02	86.14	0.001	0.02
12.75	0.02	86.14	0.001	0.02
12.90	0.02	86.14	0.001	0.02
13.05	0.02	86.14	0.001	0.02
13.20	0.02	86.14	0.001	0.02
13.35	0.02	86.14	0.001	0.02
13.50	0.02	86.14	0.001	0.02

AHYMO.OUT

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
13.65	0.02	86.14	0.001	0.02
13.80	0.02	86.14	0.001	0.02
13.95	0.02	86.14	0.001	0.02
14.10	0.02	86.14	0.001	0.02
14.25	0.02	86.14	0.001	0.02
14.40	0.02	86.14	0.001	0.02
14.55	0.02	86.14	0.001	0.02
14.70	0.02	86.14	0.001	0.02
14.85	0.02	86.14	0.001	0.02
15.00	0.02	86.14	0.001	0.02
15.15	0.02	86.14	0.001	0.02
15.30	0.02	86.14	0.001	0.02
15.45	0.02	86.14	0.001	0.02
15.60	0.02	86.14	0.001	0.02
15.75	0.02	86.14	0.001	0.02
15.90	0.02	86.14	0.001	0.02
16.05	0.02	86.14	0.001	0.02
16.20	0.02	86.14	0.001	0.02
16.35	0.02	86.14	0.001	0.02
16.50	0.02	86.14	0.001	0.02
16.65	0.02	86.14	0.001	0.02
16.80	0.02	86.14	0.001	0.02
16.95	0.02	86.14	0.001	0.02
17.10	0.02	86.14	0.001	0.02
17.25	0.02	86.14	0.001	0.02
17.40	0.02	86.14	0.001	0.02
17.55	0.02	86.14	0.001	0.02
17.70	0.02	86.14	0.001	0.02
17.85	0.02	86.14	0.001	0.02
18.00	0.02	86.14	0.001	0.02
18.15	0.02	86.14	0.001	0.02
18.30	0.02	86.14	0.001	0.02
18.45	0.02	86.14	0.001	0.02
18.60	0.02	86.14	0.001	0.02
18.75	0.02	86.14	0.001	0.02
18.90	0.02	86.14	0.001	0.02
19.05	0.02	86.14	0.001	0.02
19.20	0.02	86.14	0.001	0.02
19.35	0.02	86.14	0.001	0.02
19.50	0.02	86.14	0.001	0.02
19.65	0.02	86.14	0.001	0.02
19.80	0.02	86.14	0.001	0.02
19.95	0.02	86.14	0.001	0.02
20.10	0.02	86.14	0.001	0.02
20.25	0.02	86.14	0.001	0.02
20.40	0.02	86.14	0.001	0.02
20.55	0.02	86.14	0.001	0.02
20.70	0.02	86.14	0.001	0.02
20.85	0.02	86.14	0.001	0.02
21.00	0.02	86.14	0.001	0.02
21.15	0.02	86.14	0.001	0.02
21.30	0.02	86.14	0.001	0.02
21.45	0.02	86.14	0.001	0.02
21.60	0.02	86.14	0.001	0.02
21.75	0.02	86.14	0.001	0.02
21.90	0.02	86.14	0.001	0.02
22.05	0.02	86.14	0.001	0.02
22.20	0.02	86.14	0.001	0.02
22.35	0.02	86.14	0.001	0.02

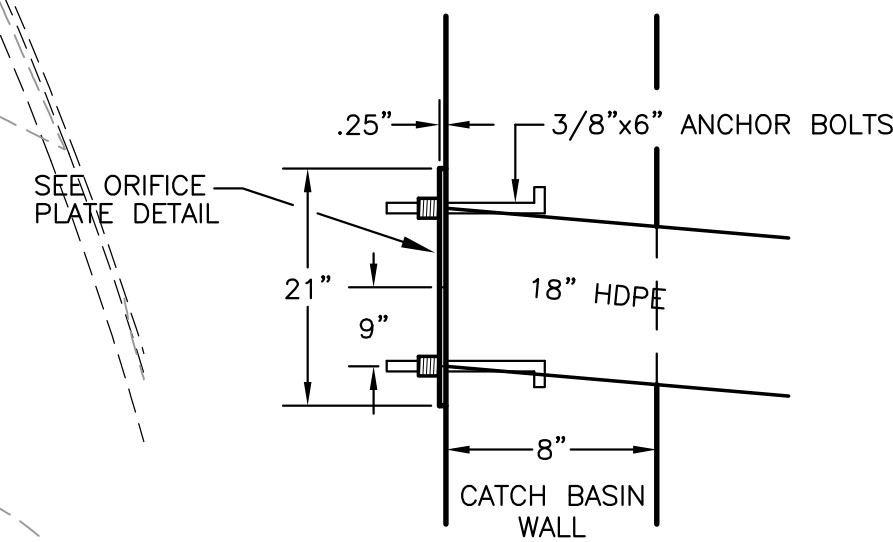


EROSION CONTROL NOTES:

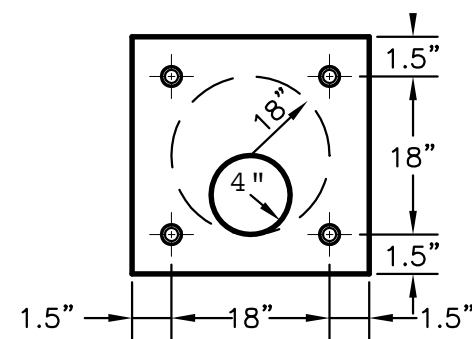
1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
4. REPAIR OF DAMAGED FACILITIES 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.

CAUTION:

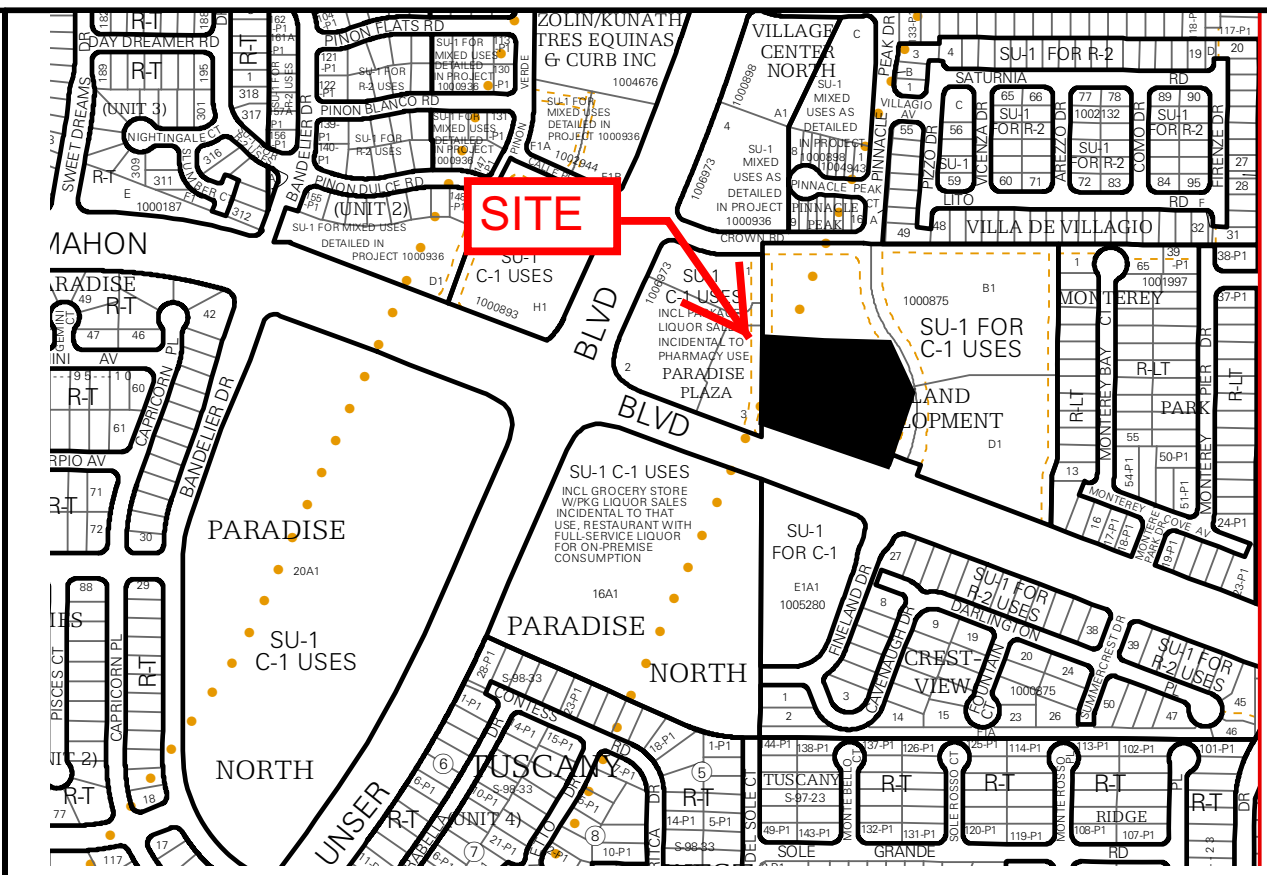
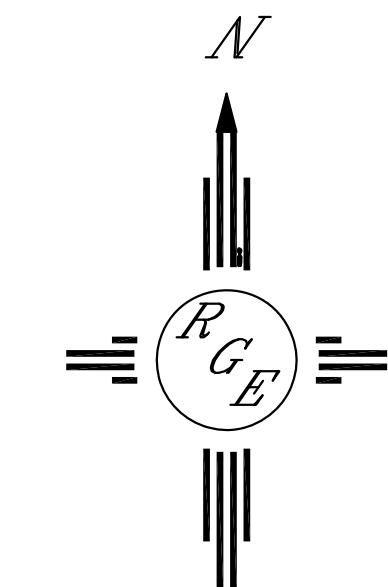
EXISTING UTILITIES ARE NOT SHOWN. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO ANY EXCAVATION TO DETERMINE THE ACTUAL LOCATION OF UTILITIES & OTHER IMPROVEMENTS.



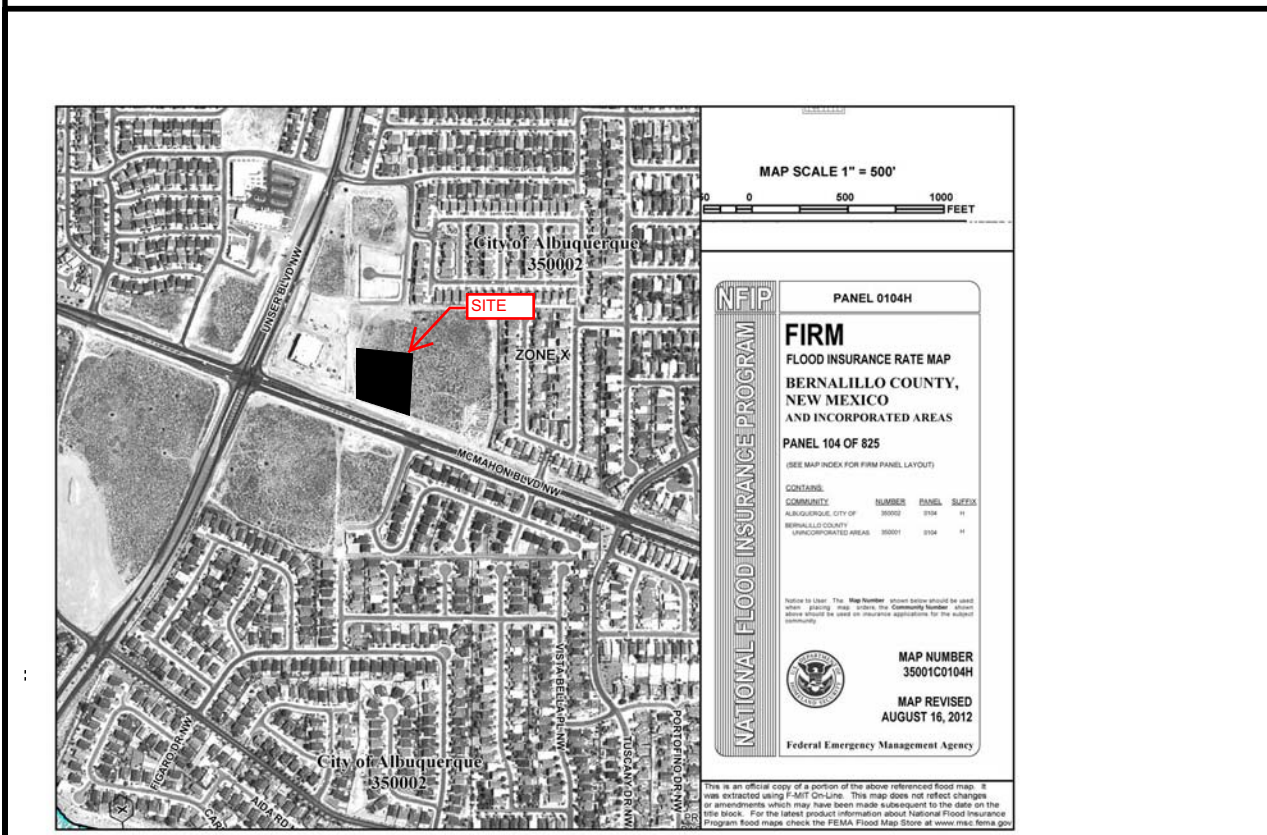
TO BE INSTALLED @ THE OUTFLOW OF THE CATCH BASINS. (SEE THIS PLAN FOR ORIFICE PLATE SIZES)



TYP. ORIFICE PLATE DETAIL
N.T.S.



VICINITY MAP: A-11-Z



FIRM MAP: FM35001C0104H

LEGAL DESCRIPTION:

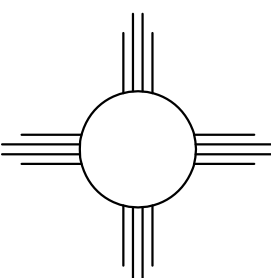
PARCEL A-1, FINELAND DEVELOPMENT

NOTES:

1. ALL SPOT ELEVATIONS REPRESENT FLOWLINE ELEVATION UNLESS OTHERWISE NOTED.
2. ALL CURB AND GUTTER TO 6" HEADER UNLESS OTHERWISE NOTED.
3. ALL RETAINING WALL DESIGN SHALL BE BY OTHERS.
4. ALL NEW PAVING SHALL BE 6" PCC OVER 8" SUBGRADE PREPARATION IN CONFORMANCE TO ACI 330R-08. UNLESS OTHERWISE NOTED.
5. ANY CURBS OR PAVEMENT NEGATIVELY IMPACTED BY CONSTRUCTION ACTIVITY SHALL BE REPLACED TO MATCH EXISTING CONDITIONS.
6. ALL SITE WORK SHALL CONFORM TO CITY OF ALBUQUERQUE STANDARDS FOR PUBLIC WORKS CONSTRUCTION EDITION 9

LEGEND

---	EXISTING CONTOUR
- - -	EXISTING INDEX CONTOUR
---	PROPOSED CONTOUR
---	PROPOSED INDEX CONTOUR
---	SLOPE TIE
+	EXISTING SPOT ELEVATION
x	PROPOSED SPOT ELEVATION
---	BOUNDARY
---	CENTERLINE
---	RIGHT-OF-WAY
---	PROPOSED CURB
---	EXISTING CURB AND GUTTER
---	PROPOSED SIDEWALK
---	EXISTING SIDEWALK
---	PROPOSED SCREEN WALL
---	NEW CONCRETE SIDEWALK

ENGINEER'S SEAL	McMAHON CARWASH	DRAWN BY WCWJ
		DATE 6-01-18
		218114-LAYOUT-5-24-18
		SHEET # —
		JOB # 218114
6/20/18	 <i>Rio Grande Engineering</i> 1606 CENTRAL AVENUE SE SUITE 201 ALBUQUERQUE, NM 87106 (505) 872-0999	
DAVID SOULE P.E. #14522		