

CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director



Mayor Timothy M. Keller

January 16, 2020

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

RE: **Tiryaki Apartments**
5550 Zia NE
Grading Plan Stamp Date: 11/21/19
Drainage report stamp date: 11/22/19
Drainage File: K18D105

Dear Mr. Soule:

PO Box 1293

Based on the submittal received on 1/14/20, the grading plan and drainage report are approved for Building Permit and SO-19.

Albuquerque

Prior to Certificate of Occupancy (For Information):

NM 87103

www.cabq.gov

1. Engineer's Certification, per the DPM Chapter 22.7: *Engineer's Certification Checklist For Non-Subdivision* is required.
2. A Bernalillo County Recorded [Drainage Covenant \(No Public Easement\)](#) is required for the underground stormwater 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) regarding the routing and recording process for covenants. The routing and recording process for covenants can take a month or longer; Hydrology recommends beginning this process as soon as possible as to not delay approval for certificate of occupancy.
3. The concrete swale must be inspected and approved by Storm Drain Maintenance (Augie Armijo at (505) 857-8607).

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



City of Albuquerque

Planning Department
Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 6/2018)

Project Title: TIRYAKI APTS **Building Permit #:** _____ **Hydrology File #:** _____
DRB#: _____ **EPC#:** _____ **Work Order#:** _____
Legal Description: lots 13A BLOCK27 TIJERAS PLACE
City Address: 5550 ZIA NE

Applicant: AHMET TIRYAKI **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:

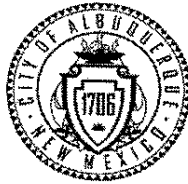
☒ BUILDING PERMIT APPROVAL
_____ CERTIFICATE OF OCCUPANCY
_____ PRELIMINARY PLAT APPROVAL
_____ SITE PLAN FOR SUB'D APPROVAL
_____ SITE PLAN FOR BLDG. PERMIT APPROVAL
_____ FINAL PLAT APPROVAL
_____ SIA/ RELEASE OF FINANCIAL GUARANTEE
_____ FOUNDATION PERMIT APPROVAL
_____ GRADING PERMIT APPROVAL
_____ 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: _____



TREASURY DIVISION DAILY DEPOSIT

Transmittals for:
PROJECTS Only

City of Albuquerque Treasury
J-24 Deposit

Date: 1/10/2020 Office: ANNEX
Station ID Cashier: e43322
Batch: 10999 Trans: 4
Fund: 305 Activity ID7547210
Account: 461615 Project ID24_MS4
Alloc Amt: \$2,368.00
Trans Amt: \$2,368.00
Bus. Unit: PCDMD

VISA Tendered : \$2,368.00

Payment In-Lieu for Storm Water Quality Volume Requirement

CASH COUNT	AMOUNT	ACCOUNT NUMBER	FUND NUMBER	BUSINESS UNIT	PROJECT ID	ACTIVITY ID	AMOUNT
TOTAL CHECKS	\$ 2368.00	461615	305	PCDMD	24_MS4	7547210	\$ 2368.00
TOTAL AMOUNT						TOTAL DEPOSIT	\$2368.00

Hydrology#: K18D105

Name: Tiriyaki Apt's, 10447 sf imp.

Payment In-Lieu For Storm Water Quality
Volume Requirement

Address/Legal Description: 5550 Zia NE
Lot 13A, Block 27, TIJERAS PLACE

DEPARTMENT NAME: Planning Department/Development Review Services, Hydrology

PREPARED BY Dana Peterson PHONE 924-3695

BUSINESS DATE 11/26/19

DUAL VERIFICATION OF DEPOSIT

EMPLOYEE SIGNATURE

AND BY

EMPLOYEE SIGNATURE

REMITTER:

AMOUNT:

BANK:

CHECK #:

DATE ON CHECK:

The Payment-in-Lieu can be paid at the Plaza del Sol Treasury, 600 2nd St. NW. Bring three copies of this invoice to the Treasury and provide a copy of the receipt to Hydrology, Suite 201, 600 2nd St. NW, or e-mail with the Hydrology submittal to PLNDRS@cabq.gov.

REVISED
DRAINAGE REPORT

For

Tiryaki Apartments
5550 ZIA ROAD NE
LOT 13 A BLOCK 27 TIJERAS PLACE

Albuquerque, New Mexico

Prepared by

Rio Grande Engineering
PO Box 93924
Albuquerque, New Mexico 87199



11/22/19

November 2019

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Site Hydrology/Original Grading Plan.....	A
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Map Pocket

Site Grading and Drainage Plan

PURPOSE

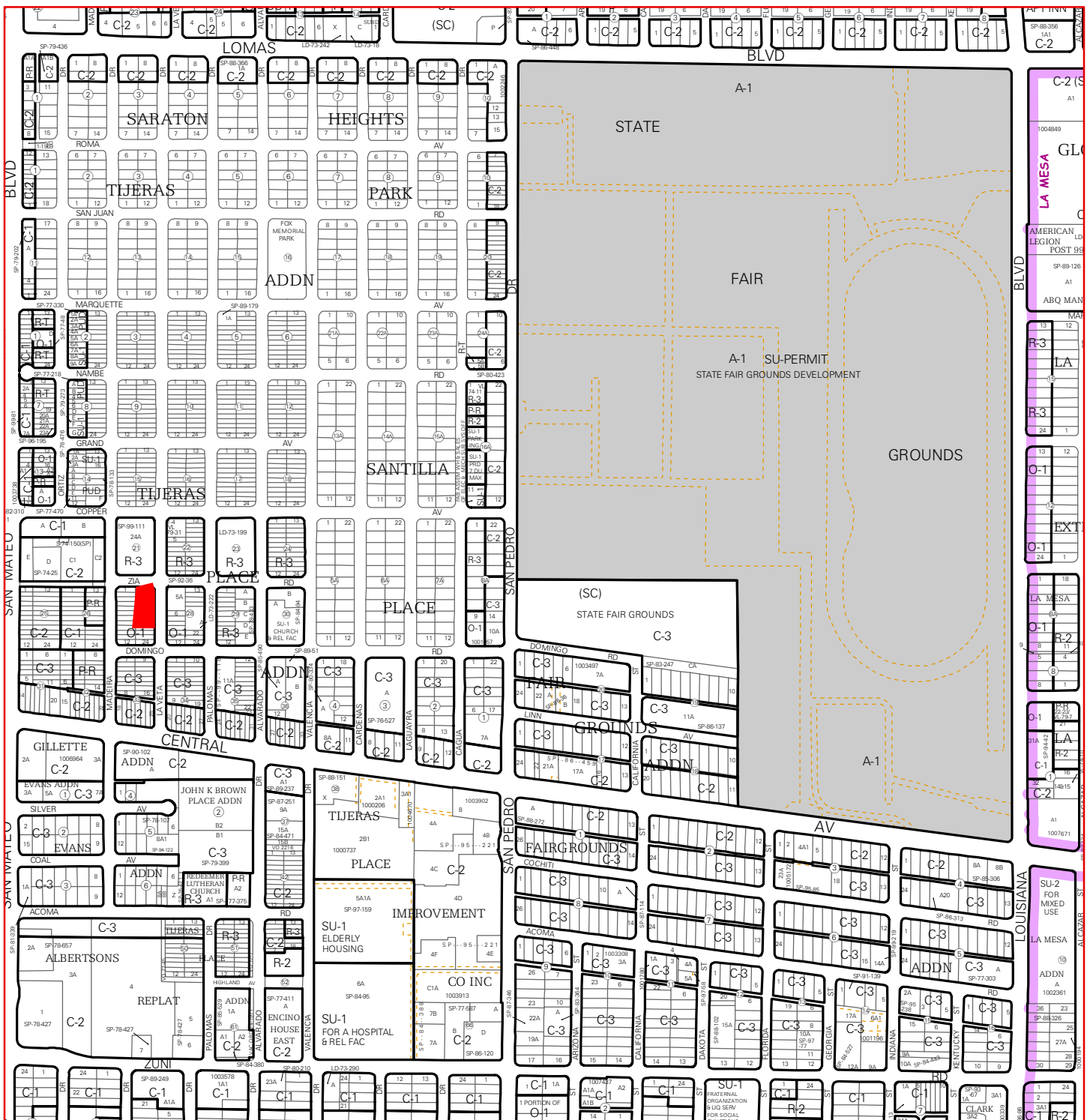
The purpose of this report is to provide the Drainage Management Plan for the infill development of a vacant lot on south west corner of Zia and La Veta NE. This plan was prepared in accordance with the City of Albuquerque design regulations, utilizing the City of Albuquerque's Development Process Manual drainage guidelines. This report will demonstrate that the grading does not adversely affect the surrounding properties, nor the upstream or downstream facilities.

INTRODUCTION

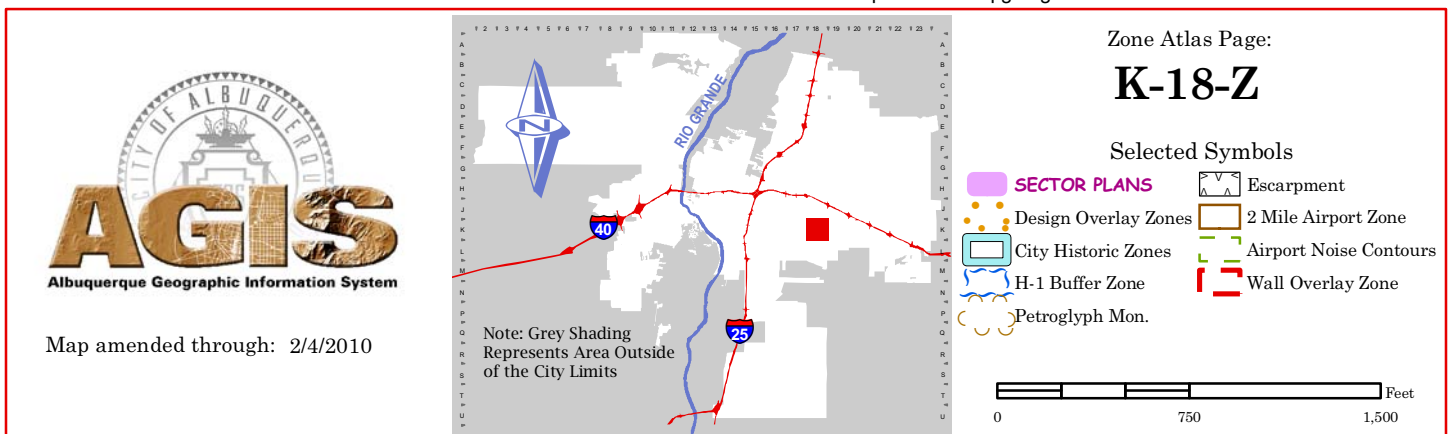
The subject of this report, as shown on the Exhibit A, is a 0.46-acre parcel of land located on the south west corner of Zia and La Veta in the near north east part of Albuquerque. The legal description of this site is lot 13A, block 27 Tijeras Place. As shown on FIRM map35001C0359G, the entire property is located within Flood Zone X. This site is surrounded by fully developed parcels. This site is an existing undeveloped site within fully developed areas. Based on the site location and the adjacent drainage infrastructure this development must maintain existing drainage patterns and match existing conditions as closely as possible.

EXISTING CONDITIONS

The site is currently undeveloped. The site accepts 0.3 cfs from the adjacent tract of land to the south. No other flows impact the property. The site is not in native condition. The location provides for significant pedestrian and vehicle impact on the property. The site currently generates 0.93 cfs, when combined with the upland flow; the site discharges .96 cfs to Zia road. The flows leave the site via an existing driveway and are captured by inlets at San Mateo and Copper .



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



PROPOSED CONDITIONS

The proposed improvements consist of a 12 unit apartment buildings and associated parking areas. The site will be graded to accommodate the new buildings while maintaining the existing drainage patterns. As shown in on the grading plan, the site will be graded to contain two onsite basins. Basin A includes the eastern Portion of the site, containing rear yards and porches. This basin generates 0.18 cfs and discharges to a sidewalk culvert onto Zia road. This basin has a required water quality volume of 10 cf and provides 66 cf of storage. Basin B contains the buildings and associated parking. This basin generates 1.55 cfs. The flow drains to a detention pond that has a 4" orifice outlet. The peak flow leaving this basin including the upland flow and is 0.42 cfs. The maximum water surface elevation is 5263.47. This basin has a required water quality volume of 438 cf and provides 141 cubic feet of storage. Therefore the developer elects to pay a fee in lieu amount of $296 \text{ cf} \times \$8/\text{cf} = \$2,368$. The total combined proposed peak flow leaving the site will be 0.56 cfs.

SUMMARY AND RECOMMENDATIONS

This project is an infill project within a completely developed area of Northeast Albuquerque. The site is currently undeveloped. The site currently discharges 0.96 cfs to Zia including the upland flows passing through. The proposed drainage plan will maintain the existing drainage patterns and allow the upland flow of 0.3 cfs to pass through the site. The post development discharge will be .56 cfs, which is a reduction from historical rates. The site retains a portion of the required first flush volumes and elects to pay a fee in lieu amount of \$2,368 for the untreated volume. The development has emergency overflow out the proposed driveway to adjacent roadways. Since this site work area encompasses less than 1 acre, a NPDES permit and Erosion and Sediment Control Plan may not be required prior to any construction activity.

APPENDIX A

SITE HYDROLOGY

BASIN DATA

Basin	Area (sf)	Area (acres)	Treatment A		Treatment B		Treatment C		Treatment D		Q100	Q100	FIRST FLUSH
			%	(acres)	%	(acres)	%	(acres)	%	(acres)	GENERATED	DISCHARGED	REQUIRED
TOTAL SITE EXISTING	20012	0.459	30%	0.0000	50.0%	0.0378	20.0%	0.1153	0.0%	0.3636	0.93	0.93	0
UPLAND	3920.4	0.090	0%	0.0000	20.0%	0.0180	40.0%	0.0360	40.0%	0.0360	0.03	0.03	0
EAST BASIN	2628	0.060	0%	0.0000	23.0%	0.0139	58.0%	0.0350	14.0%	0.0084	0.18	0.18	10
WEST BASIN	17384	0.399	0%	0.0000	6.0%	0.0239	5.0%	0.0200	89.0%	0.3552	1.55	0.42	438
TOTAL SITE PROPOSE	20012.00	0.459		0.000	8.2%	0.038	12.0%	0.055	79.2%	0.364		0.56	



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NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES: NM

Data description

Data type: Units: Time series type:

Select location

1) Manually:

a) By location (decimal degrees, use "-" for S and W): Latitude: Longitude:

b) By station ([list of NM stations](#)):

c) By address

2) Use map (if ESRI interactive map is not loading, try adding the host: <https://js.arcgis.com/> to the firewall, or contact us at hdsc.questions@noaa.gov):

Map
☒ Terrain

a) Select location
 Move crosshair or double click

b) Click on station icon
☐ Show stations on map

Location information:
Name: Albuquerque, New Mexico, USA*
Latitude: 35.0792°
Longitude: -106.5837°
Elevation: 5264.36 ft **



POINT PRECIPITATION FREQUENCY (PF) ESTIMATES

WITH 90% CONFIDENCE INTERVALS AND SUPPLEMENTARY INFORMATION
NOAA Atlas 14, Volume 1, Version 5

PF tabular PF graphical Supplementary information Print page

PDS-based precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.177 (0.152-0.207)	0.230 (0.197-0.268)	0.308 (0.263-0.359)	0.368 (0.313-0.428)	0.451 (0.381-0.523)	0.514 (0.433-0.598)	0.582 (0.487-0.676)	0.653 (0.542-0.757)	0.748 (0.616-0.869)	0.824 (0.674-0.958)
10-min	0.270 (0.232-0.315)	0.349 (0.299-0.408)	0.468 (0.399-0.546)	0.560 (0.476-0.651)	0.685 (0.580-0.797)	0.783 (0.660-0.910)	0.885 (0.740-1.03)	0.993 (0.825-1.15)	1.14 (0.937-1.32)	1.25 (1.03-1.46)
15-min	0.334 (0.287-0.390)	0.433 (0.370-0.506)	0.580 (0.495-0.677)	0.694 (0.590-0.808)	0.849 (0.719-0.987)	0.970 (0.818-1.13)	1.10 (0.918-1.27)	1.23 (1.02-1.43)	1.41 (1.16-1.64)	1.55 (1.27-1.81)
30-min	0.450 (0.387-0.525)	0.583 (0.498-0.681)	0.781 (0.666-0.911)	0.934 (0.794-1.09)	1.14 (0.968-1.33)	1.31 (1.10-1.52)	1.48 (1.24-1.72)	1.66 (1.38-1.92)	1.90 (1.56-2.21)	2.09 (1.71-2.43)
60-min	0.557 (0.479-0.650)	0.721 (0.617-0.843)	0.966 (0.825-1.13)	1.16 (0.983-1.35)	1.42 (1.20-1.65)	1.62 (1.36-1.88)	1.83 (1.53-2.12)	2.05 (1.70-2.38)	2.35 (1.94-2.73)	2.59 (2.12-3.01)
2-hr	0.644 (0.548-0.772)	0.825 (0.701-0.989)	1.09 (0.925-1.31)	1.31 (1.10-1.55)	1.60 (1.34-1.90)	1.84 (1.53-2.18)	2.09 (1.72-2.47)	2.35 (1.93-2.78)	2.72 (2.20-3.21)	3.02 (2.42-3.57)
3-hr	0.686 (0.587-0.816)	0.871 (0.743-1.04)	1.14 (0.974-1.35)	1.35 (1.15-1.60)	1.65 (1.39-1.95)	1.89 (1.59-2.23)	2.15 (1.79-2.53)	2.42 (2.00-2.85)	2.79 (2.28-3.28)	3.09 (2.51-3.65)
6-hr	0.798 (0.687-0.943)	1.00 (0.866-1.19)	1.29 (1.12-1.53)	1.52 (1.31-1.79)	1.83 (1.56-2.15)	2.08 (1.76-2.43)	2.33 (1.97-2.74)	2.60 (2.18-3.05)	2.97 (2.47-3.48)	3.27 (2.69-3.83)
12-hr	0.881 (0.766-1.02)	1.11 (0.968-1.28)	1.41 (1.22-1.62)	1.64 (1.42-1.89)	1.95 (1.69-2.24)	2.20 (1.89-2.52)	2.45 (2.09-2.81)	2.71 (2.30-3.11)	3.06 (2.57-3.52)	3.35 (2.79-3.86)
24-hr	1.01 (0.888-1.15)	1.26 (1.11-1.44)	1.58 (1.39-1.80)	1.83 (1.61-2.09)	2.18 (1.90-2.48)	2.44 (2.12-2.77)	2.71 (2.36-3.08)	2.99 (2.58-3.38)	3.36 (2.88-3.81)	3.65 (3.12-4.14)
2-day	1.06 (0.935-1.20)	1.33 (1.17-1.50)	1.66 (1.47-1.87)	1.92 (1.69-2.16)	2.27 (1.99-2.55)	2.54 (2.22-2.86)	2.82 (2.46-3.17)	3.10 (2.69-3.49)	3.47 (3.01-3.92)	3.77 (3.24-4.26)
3-day	1.15 (1.03-1.28)	1.43 (1.29-1.59)	1.77 (1.59-1.97)	2.04 (1.83-2.27)	2.41 (2.15-2.67)	2.69 (2.39-2.98)	2.97 (2.63-3.29)	3.25 (2.88-3.61)	3.63 (3.20-4.04)	3.93 (3.44-4.37)
4-day	1.24 (1.13-1.36)	1.54 (1.40-1.69)	1.89 (1.72-2.07)	2.17 (1.97-2.38)	2.55 (2.30-2.79)	2.83 (2.56-3.10)	3.12 (2.80-3.42)	3.41 (3.06-3.74)	3.79 (3.39-4.16)	4.09 (3.64-4.49)
7-day	1.41 (1.29-1.54)	1.76 (1.60-1.91)	2.14 (1.95-2.33)	2.44 (2.22-2.66)	2.84 (2.58-3.09)	3.14 (2.85-3.41)	3.43 (3.11-3.74)	3.72 (3.37-4.05)	4.10 (3.69-4.47)	4.38 (3.93-4.78)
10-day	1.56 (1.43-1.70)	1.94 (1.78-2.11)	2.38 (2.18-2.59)	2.72 (2.50-2.95)	3.18 (2.91-3.44)	3.52 (3.21-3.81)	3.87 (3.52-4.19)	4.21 (3.82-4.56)	4.65 (4.20-5.05)	4.97 (4.48-5.42)
20-day	1.97 (1.79-2.15)	2.44 (2.23-2.67)	2.97 (2.71-3.24)	3.36 (3.08-3.67)	3.87 (3.53-4.22)	4.24 (3.86-4.62)	4.60 (4.18-5.00)	4.93 (4.48-5.37)	5.36 (4.85-5.84)	5.67 (5.12-6.18)
30-day	2.36 (2.15-2.56)	2.92 (2.67-3.17)	3.52 (3.22-3.82)	3.97 (3.63-4.30)	4.52 (4.13-4.89)	4.92 (4.48-5.32)	5.30 (4.82-5.73)	5.66 (5.14-6.12)	6.09 (5.52-6.59)	6.39 (5.79-6.93)
45-day	2.88 (2.65-3.13)	3.57 (3.28-3.87)	4.26 (3.91-4.62)	4.75 (4.36-5.15)	5.35 (4.92-5.80)	5.76 (5.29-6.25)	6.14 (5.64-6.66)	6.48 (5.94-7.02)	6.87 (6.29-7.45)	7.12 (6.52-7.72)

60-day	3.32 (3.05-3.60)	4.10 (3.78-4.46)	4.89 (4.51-5.32)	5.47 (5.04-5.93)	6.15 (5.66-6.67)	6.62 (6.10-7.18)	7.06 (6.49-7.66)	7.44 (6.85-8.09)	7.89 (7.26-8.60)	8.18 (7.54-8.91)
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¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

Estimates from the table in CSV format: Precipitation frequency estimates ▼ Submit

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National Weather Service
Office of Water Prediction (OWP)
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Silver Spring, MD 20910
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Page last modified: April 21, 2017

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OUTFALL

ACTUAL ELEV.	DEPTH (FT)	AREA SF	VOLUME PER UNIT	VOLUME CUMULATIVE	VOLUME AC-FT	Q (CFS)
60.00	0.00	5.00	0	0	0.000	0.00
61.00	0.00	26.00	15.50	16	0.0004	0.00
62.00	0.00	100.00	63.00	79	0.002	0.00
62.40	0.00	210.00	62.00	141	0.003	0.00
63.00	0.60	616.00	247.80	388	0.009	0.33
64.00	1.60	4098.00	2357.00	2745	0.063	0.53

Orifice Equation

$$Q = CA \sqrt{2gH}$$

$$C = 0.6$$

$$\text{Diameter (in)} = 4$$

$$\text{Area (ft}^2\text{)} = 0.087266463$$

$$g = 32.2$$

$$H \text{ (Ft)} = \text{Depth of water above center of orifice}$$

$$Q \text{ (CFS)} = \text{Flow}$$

*S AHYMO - DETENTION-LOT LA VETA-
 *S POND ROUTING

START TIME=0.0 PUNCH CODE=0

RAINFALL TYPE=2
 QUARTER=0.0 ONE= 1.83 IN
 SIX=2.33 IN DAY= 2.71 IN DT = 0.05 HR

*OVERALL SITE EXISTING
 COMPUTE NM HYD ID=1 HYD NO=101 DA= .00071783 SQ MI
 PER A=30 PER B=50 PER C=20 PER D=0
 TP=-.170 MASSRAIN=-1

PRINT HYD ID=1 CODE=3

*UPLAND FLOW
 COMPUTE NM HYD ID=2 HYD NO=102 DA= .000014063 SQ MI
 PER A=00 PER B=20 PER C=40 PER D=40
 TP=-.170 MASSRAIN=-1

PRINT HYD ID=2 CODE=3

*Basin A(EAST)-DEVELOPED
 COMPUTE NM HYD ID=3 HYD NO=103 DA= .00009427 SQ MI
 PER A=0 PER B=23 PER C=63 PER D=14
 TP=-.170 MASSRAIN=-1

PRINT HYD ID=3 CODE=3

*Basin B(WEST)-DEVELOPED
 COMPUTE NM HYD ID=4 HYD NO=104 DA= .00062357 SQ MI
 PER A=0 PER B=6 PER C=5 PER D=89
 TP=-.170 MASSRAIN=-1

PRINT HYD ID=4 CODE=3

* COMBINE BASIN B AND UPLAND

ADD HYD ID=5 HYD NO=105 ID I=2 ID II=4

PRINT HYD ID=5 CODE=3

* ROUTE THE BASIN B FLOW THROUGH THE PROPOSED RESERVOIR
 ROUTE RESERVOIR ID=6 HYD NO=106 INFLOW=5 CODE=3

OUTFLOW(CFS)	STORAGE(AC-FT)	ELEV(FT)
0.00	0.003	62.40
0.33	0.009	63.00
0.53	0.063	64.00

* TOTAL DISCHARGE PROPOSED- ONSITE ROUTED

ADD HYD ID=7 HYD NO=107 ID I=3 ID II=6

PRINT HYD ID=7 CODE=3
FINISH

AHYMO.OUT

AHYMO PROGRAM (AHYMO-S4) - Version: S4.01a - Rel: 01a
 RUN DATE (MON/DAY/YR) = 11/22/2019
 START TIME (HR:MIN:SEC) = 09:21:37 USER NO.=
 RioGrandeSingleA41963517
 INPUT FILE = :\\Documents and Settings\\Owner\\Desktop\\2019
 JOBS\\19225-laveta\\pondrout112219.txt

*S AHYMO - DETENTION-LOT LA VETA-
 *S POND ROUTING

START TIME=0.0 PUNCH CODE=0

RAINFALL TYPE=2
 QUARTER=0.0 ONE= 1.83 IN
 SIX=2.33 IN DAY= 2.71 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	0.0033	0.0068	0.0104	0.0144	0.0185
0.0297	0.0401	0.0512	0.0627	0.0753	0.0880
0.1146	0.1284	0.1436	0.1595	0.1767	0.2001
0.2620	0.3022	0.3518	0.4180	0.4925	0.6211
1.1637	1.4045	1.5944	1.6898	1.7735	1.8336
1.9231	1.9536	1.9816	2.0047	2.0232	2.0394
2.0674	2.0795	2.0909	2.1020	2.1127	2.1215
2.1314	2.1362	2.1407	2.1452	2.1495	2.1538
2.1620	2.1660	2.1698	2.1737	2.1774	2.1810
2.1881	2.1915	2.1949	2.1982	2.2014	2.2046
2.2108	2.2139	2.2169	2.2199	2.2228	2.2257
2.2314	2.2342	2.2370	2.2398	2.2425	2.2451
2.2504	2.2530	2.2556	2.2581	2.2606	2.2631
2.2680	2.2705	2.2728	2.2752	2.2776	2.2799
2.2845	2.2867	2.2890	2.2912	2.2934	2.2956
2.2999	2.3020	2.3041	2.3062	2.3083	2.3103
2.3144	2.3164	2.3184	2.3204	2.3223	2.3243
2.3281	2.3300	2.3319	2.3338	2.3357	2.3376
2.3413	2.3432	2.3451	2.3469	2.3488	2.3506
2.3543	2.3562	2.3580	2.3598	2.3617	2.3635
2.3671	2.3689	2.3707	2.3725	2.3743	2.3761
2.3797	2.3814	2.3832	2.3850	2.3867	2.3885
2.3920	2.3937	2.3955	2.3972	2.3989	2.4007
2.4041	2.4058	2.4075	2.4092	2.4109	2.4126
2.4160	2.4176	2.4193	2.4210	2.4226	2.4243
2.4276	2.4293	2.4309	2.4325	2.4342	2.4358
2.4390	2.4406	2.4422	2.4439	2.4454	2.4470
2.4502	2.4518	2.4534	2.4549	2.4565	2.4581
2.4612	2.4627	2.4643	2.4658	2.4673	2.4689
2.4719	2.4734	2.4749	2.4764	2.4779	2.4794
2.4824	2.4839	2.4854	2.4868	2.4883	2.4898
2.4927	2.4941	2.4956	2.4970	2.4984	2.4999
2.5027	2.5041	2.5055	2.5069	2.5083	2.5097
2.5125	2.5139	2.5153	2.5166	2.5180	2.5194
2.5221	2.5234	2.5248	2.5261	2.5275	2.5288
2.5314	2.5328	2.5341	2.5354	2.5367	2.5380
2.5406	2.5418	2.5431	2.5444	2.5457	2.5469
2.5494	2.5507	2.5519	2.5532	2.5544	2.5556
2.5581	2.5593	2.5605	2.5617	2.5629	2.5641
2.5665	2.5677	2.5689	2.5700	2.5712	2.5724
2.5747	2.5758	2.5770	2.5781	2.5793	2.5804
					2.5815

AHYMO.OUT

2.5826	2.5838	2.5849	2.5860	2.5871	2.5882	2.5893
2.5904	2.5915	2.5925	2.5936	2.5947	2.5957	2.5968
2.5979	2.5989	2.6000	2.6010	2.6020	2.6031	2.6041
2.6051	2.6061	2.6071	2.6081	2.6092	2.6102	2.6111
2.6121	2.6131	2.6141	2.6151	2.6160	2.6170	2.6180
2.6189	2.6199	2.6208	2.6218	2.6227	2.6236	2.6246
2.6255	2.6264	2.6273	2.6282	2.6291	2.6300	2.6309
2.6318	2.6327	2.6336	2.6344	2.6353	2.6362	2.6370
2.6379	2.6387	2.6396	2.6404	2.6413	2.6421	2.6429
2.6438	2.6446	2.6454	2.6462	2.6470	2.6478	2.6486
2.6494	2.6502	2.6509	2.6517	2.6525	2.6533	2.6540
2.6548	2.6555	2.6563	2.6570	2.6577	2.6585	2.6592
2.6599	2.6606	2.6614	2.6621	2.6628	2.6635	2.6642
2.6648	2.6655	2.6662	2.6669	2.6676	2.6682	2.6689
2.6695	2.6702	2.6708	2.6715	2.6721	2.6727	2.6734
2.6740	2.6746	2.6752	2.6758	2.6764	2.6770	2.6776
2.6782	2.6788	2.6794	2.6800	2.6805	2.6811	2.6816
2.6822	2.6828	2.6833	2.6838	2.6844	2.6849	2.6854
2.6860	2.6865	2.6870	2.6875	2.6880	2.6885	2.6890
2.6895	2.6900	2.6904	2.6909	2.6914	2.6918	2.6923
2.6928	2.6932	2.6936	2.6941	2.6945	2.6950	2.6954
2.6958	2.6962	2.6966	2.6970	2.6974	2.6978	2.6982
2.6986	2.6990	2.6994	2.6998	2.7001	2.7005	2.7008
2.7012	2.7015	2.7019	2.7022	2.7026	2.7029	2.7032
2.7035	2.7039	2.7042	2.7045	2.7048	2.7051	2.7054
2.7057	2.7059	2.7062	2.7065	2.7068	2.7070	2.7073
2.7075	2.7078	2.7080	2.7083	2.7085	2.7087	2.7089
2.7092	2.7094	2.7096	2.7098	2.7100		

*OVERALL SITE EXISTING

COMPUTE NM HYD ID=1 HYD NO=101 DA= .00071783 SQ MI
 PER A=30 PER B=50 PER C=20 PER D=0
 TP=-.170 MASSRAIN=-1

K = 0.173875HR TP = 0.170000HR K/TP RATIO = 1.022795 SHAPE
 CONSTANT, N = 3.451080
 UNIT PEAK = 1.3375 CFS UNIT VOLUME = 0.9906 B = 316.75
 P60 = 1.8300
 AREA = 0.000718 SQ MI IA = 0.51500 INCHES INF = 1.29200
 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	TIME	TIME	FLOW	TIME	FLOW
HRS	FLOW	CFS	HRS	FLOW	CFS	HRS	CFS
	HRS			HRS			
	0.000	0.0		0.750	0.0	1.500	0.8
2.250	0.1	0.0	3.000	0.0			
	0.150	0.0		0.900	0.0	1.650	0.8
2.400	0.0	0.0	3.150	0.0			
	0.300	0.0		1.050	0.0	1.800	0.4
2.550	0.0	0.0	3.300	0.0			
	0.450	0.0		1.200	0.0	1.950	0.2
2.700	0.0	0.0	3.450	0.0			
	0.600	0.0		1.350	0.1	2.100	0.1
2.850	0.0						

RUNOFF VOLUME = 0.81760 INCHES = 0.0313 ACRE-FEET
 PEAK DISCHARGE RATE = 0.93 CFS AT 1.550 HOURS BASIN AREA =

AHYMO.OUT

0.0007 SQ. MI.

*UPLAND FLOW
COMPUTE NM HYD

ID=2 HYD NO=102 DA= .000014063 SQ MI
PER A=00 PER B=20 PER C=40 PER D=40
TP=-.170 MASSRAIN=-1

K = 0.092650HR TP = 0.170000HR K/TP RATIO = 0.545000 SHAPE
CONSTANT, N = 7.106428
UNIT PEAK = 0.17414E-01CFS UNIT VOLUME = 0.8988 B = 526.28
P60 = 1.8300
AREA = 0.000006 SQ MI IA = 0.10000 INCHES INF = 0.04000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

K = 0.145610HR TP = 0.170000HR K/TP RATIO = 0.856531 SHAPE
CONSTANT, N = 4.153058
UNIT PEAK = 0.18129E-01CFS UNIT VOLUME = 0.8839 B = 365.25
P60 = 1.8300
AREA = 0.000008 SQ MI IA = 0.40000 INCHES INF = 0.97000
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	TIME	TIME	FLOW	TIME	FLOW
HRS	FLOW	CFS	HRS	FLOW	CFS	HRS	CFS
	HRS			HRS			
	0.000	0.0		0.450	0.0	0.900	0.0
1.350	0.0		1.800	0.0			
	0.150	0.0		0.600	0.0	1.050	0.0
1.500	0.0		1.950	0.0			
	0.300	0.0		0.750	0.0	1.200	0.0
1.650	0.0		2.100	0.0			

RUNOFF VOLUME = 1.57374 INCHES = 0.0012 ACRE-FEET
PEAK DISCHARGE RATE = 0.03 CFS AT 1.550 HOURS BASIN AREA =
0.0000 SQ. MI.

*Basin A(EAST)-DEVELOPED
COMPUTE NM HYD

ID=3 HYD NO=103 DA= .00009427 SQ MI
PER A=0 PER B=23 PER C=63 PER D=14
TP=-.170 MASSRAIN=-1

K = 0.092650HR TP = 0.170000HR K/TP RATIO = 0.545000 SHAPE
CONSTANT, N = 7.106428
UNIT PEAK = 0.40857E-01CFS UNIT VOLUME = 0.8988 B = 526.28

AHYMO.OUT

P60 = 1.8300
 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 = 0.143402HR TP = 0.170000HR K/TP RATIO = 0.843541 SHAPE
 CONSTANT, N = 4.222850
 UNIT PEAK = 0.17634 CFS UNIT VOLUME = 0.9285 B = 369.76
 P60 = 1.8300
 AREA = 0.000081 SQ MI IA = 0.39012 INCHES INF = 0.94233
 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		0.600	0.0	1.200	0.0
1.800	0.1	0.0	2.400	0.0			
	0.150	0.0		0.750	0.0	1.350	0.0
1.950	0.0						
	0.300	0.0		0.900	0.0	1.500	0.2
2.100	0.0						
	0.450	0.0		1.050	0.0	1.650	0.1
2.250	0.0						

RUNOFF VOLUME = 1.20442 INCHES = 0.0061 ACRE-FEET
 PEAK DISCHARGE RATE = 0.18 CFS AT 1.550 HOURS BASIN AREA = 0.0001 SQ. MI.

*Basin B(WEST)-DEVELOPED

COMPUTE NM HYD ID=4 HYD NO=104 DA= .00062357 SQ MI
 PER A=0 PER B=6 PER C=5 PER D=89
 TP=-.170 MASSRAIN=-1

K = 0.092650HR TP = 0.170000HR K/TP RATIO = 0.545000 SHAPE
 CONSTANT, N = 7.106428
 UNIT PEAK = 1.7181 CFS UNIT VOLUME = 0.9930 B = 526.28
 P60 = 1.8300
 AREA = 0.000555 SQ MI IA = 0.10000 INCHES INF = 0.04000
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.050000

K = 0.152720HR TP = 0.170000HR K/TP RATIO = 0.898351 SHAPE
 CONSTANT, N = 3.945392
 UNIT PEAK = 0.14183 CFS UNIT VOLUME = 0.9117 B = 351.52
 P60 = 1.8300
 AREA = 0.000069 SQ MI IA = 0.43182 INCHES INF = 1.05909
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.050000

AHYMO.OUT

PRINT HYD

ID=4 CODE=3

PARTIAL HYDROGRAPH 104.00

TIME	TIME	FLOW	TIME	TIME	FLOW	TIME	FLOW
HRS	FLOW	CFS	HRS	FLOW	CFS	HRS	CFS
HRS	HRS	CFS	HRS	HRS	CFS	HRS	CFS
	0.000	0.0		4.950	0.0	9.900	0.0
14.850	0.0		19.800	0.0			
	0.150	0.0		5.100	0.0	10.050	0.0
15.000	0.0		19.950	0.0			
	0.300	0.0		5.250	0.0	10.200	0.0
15.150	0.0		20.100	0.0			
	0.450	0.0		5.400	0.0	10.350	0.0
15.300	0.0		20.250	0.0			
	0.600	0.0		5.550	0.0	10.500	0.0
15.450	0.0		20.400	0.0			
	0.750	0.0		5.700	0.0	10.650	0.0
15.600	0.0		20.550	0.0			
	0.900	0.1		5.850	0.0	10.800	0.0
15.750	0.0		20.700	0.0			
	1.050	0.1		6.000	0.0	10.950	0.0
15.900	0.0		20.850	0.0			
	1.200	0.2		6.150	0.0	11.100	0.0
16.050	0.0		21.000	0.0			
	1.350	0.5		6.300	0.0	11.250	0.0
16.200	0.0		21.150	0.0			
	1.500	1.4		6.450	0.0	11.400	0.0
16.350	0.0		21.300	0.0			
	1.650	1.2		6.600	0.0	11.550	0.0
16.500	0.0		21.450	0.0			
	1.800	0.6		6.750	0.0	11.700	0.0
16.650	0.0		21.600	0.0			
	1.950	0.3		6.900	0.0	11.850	0.0
16.800	0.0		21.750	0.0			
	2.100	0.2		7.050	0.0	12.000	0.0
16.950	0.0		21.900	0.0			
	2.250	0.1		7.200	0.0	12.150	0.0
17.100	0.0		22.050	0.0			
	2.400	0.1		7.350	0.0	12.300	0.0
17.250	0.0		22.200	0.0			
	2.550	0.1		7.500	0.0	12.450	0.0
17.400	0.0		22.350	0.0			
	2.700	0.0		7.650	0.0	12.600	0.0
17.550	0.0		22.500	0.0			
	2.850	0.0		7.800	0.0	12.750	0.0
17.700	0.0		22.650	0.0			
	3.000	0.0		7.950	0.0	12.900	0.0
17.850	0.0		22.800	0.0			
	3.150	0.0		8.100	0.0	13.050	0.0
18.000	0.0		22.950	0.0			
	3.300	0.0		8.250	0.0	13.200	0.0
18.150	0.0		23.100	0.0			
	3.450	0.0		8.400	0.0	13.350	0.0
18.300	0.0		23.250	0.0			
	3.600	0.0		8.550	0.0	13.500	0.0
18.450	0.0		23.400	0.0			
	3.750	0.0		8.700	0.0	13.650	0.0
18.600	0.0		23.550	0.0			
	3.900	0.0		8.850	0.0	13.800	0.0
18.750	0.0		23.700	0.0			
	4.050	0.0		9.000	0.0	13.950	0.0
18.900	0.0		23.850	0.0			
	4.200	0.0		9.150	0.0	14.100	0.0

			AHYMO.OUT			
19.050	0.0	24.000	0.0			
	4.350	0.0	9.300	0.0	14.250	0.0
19.200	0.0					
	4.500	0.0	9.450	0.0	14.400	0.0
19.350	0.0					
	4.650	0.0	9.600	0.0	14.550	0.0
19.500	0.0					
	4.800	0.0	9.750	0.0	14.700	0.0
19.650	0.0					

RUNOFF VOLUME = 2.29089 INCHES = 0.0762 ACRE-FEET
 PEAK DISCHARGE RATE = 1.55 CFS AT 1.550 HOURS BASIN AREA =
 0.0006 SQ. MI.

* COMBINE BASIN B AND UPLAND

ADD HYD ID=5 HYD NO=105 ID I=2 ID II=4

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		4.950	0.0	9.900	0.0
14.850	0.0		19.800	0.0			
	0.150	0.0		5.100	0.0	10.050	0.0
15.000	0.0		19.950	0.0			
	0.300	0.0		5.250	0.0	10.200	0.0
15.150	0.0		20.100	0.0			
	0.450	0.0		5.400	0.0	10.350	0.0
15.300	0.0		20.250	0.0			
	0.600	0.0		5.550	0.0	10.500	0.0
15.450	0.0		20.400	0.0			
	0.750	0.0		5.700	0.0	10.650	0.0
15.600	0.0		20.550	0.0			
	0.900	0.1		5.850	0.0	10.800	0.0
15.750	0.0		20.700	0.0			
	1.050	0.1		6.000	0.0	10.950	0.0
15.900	0.0		20.850	0.0			
	1.200	0.2		6.150	0.0	11.100	0.0
16.050	0.0		21.000	0.0			
	1.350	0.5		6.300	0.0	11.250	0.0
16.200	0.0		21.150	0.0			
	1.500	1.4		6.450	0.0	11.400	0.0
16.350	0.0		21.300	0.0			
	1.650	1.2		6.600	0.0	11.550	0.0
16.500	0.0		21.450	0.0			
	1.800	0.6		6.750	0.0	11.700	0.0
16.650	0.0		21.600	0.0			
	1.950	0.4		6.900	0.0	11.850	0.0
16.800	0.0		21.750	0.0			
	2.100	0.2		7.050	0.0	12.000	0.0
16.950	0.0		21.900	0.0			
	2.250	0.1		7.200	0.0	12.150	0.0
17.100	0.0		22.050	0.0			
	2.400	0.1		7.350	0.0	12.300	0.0
17.250	0.0		22.200	0.0			

	AHYMO.OUT					
17.400	2.550	0.1	7.500	0.0	12.450	0.0
	0.0		0.0			
17.550	2.700	0.0	7.650	0.0	12.600	0.0
	0.0		0.0			
17.700	2.850	0.0	7.800	0.0	12.750	0.0
	0.0		0.0			
17.850	3.000	0.0	7.950	0.0	12.900	0.0
	0.0		0.0			
18.000	3.150	0.0	8.100	0.0	13.050	0.0
	0.0		0.0			
18.150	3.300	0.0	8.250	0.0	13.200	0.0
	0.0		0.0			
18.300	3.450	0.0	8.400	0.0	13.350	0.0
	0.0		0.0			
18.450	3.600	0.0	8.550	0.0	13.500	0.0
	0.0		0.0			
18.600	3.750	0.0	8.700	0.0	13.650	0.0
	0.0		0.0			
18.750	3.900	0.0	8.850	0.0	13.800	0.0
	0.0		0.0			
18.900	4.050	0.0	9.000	0.0	13.950	0.0
	0.0		0.0			
19.050	4.200	0.0	9.150	0.0	14.100	0.0
	0.0		0.0			
19.200	4.350	0.0	9.300	0.0	14.250	0.0
	0.0					
19.350	4.500	0.0	9.450	0.0	14.400	0.0
	0.0					
19.500	4.650	0.0	9.600	0.0	14.550	0.0
	0.0					
19.650	4.800	0.0	9.750	0.0	14.700	0.0
	0.0					

RUNOFF VOLUME = 2.26966 INCHES = 0.0772 ACRE-FEET
 PEAK DISCHARGE RATE = 1.59 CFS AT 1.550 HOURS BASIN AREA =
 0.0006 SQ. MI.

* ROUTE THE BASIN B FLOW THROUGH THE PROPOSED RESERVOIR
 ROUTE RESERVOIR ID=6 HYD NO=106 INFLOW=5 CODE=3
 OUTFLOW(CFS) STORAGE(AC-FT) ELEV(FT)
 0.00 0.003 62.40
 0.33 0.009 63.00
 0.53 0.063 64.00

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
0.00	0.00	62.40	0.003	0.00
0.15	0.00	62.40	0.003	0.00
0.30	0.00	62.40	0.003	0.00
0.45	0.00	62.40	0.003	0.00
0.60	0.00	62.40	0.003	0.00
0.75	0.01	62.40	0.003	0.00
0.90	0.07	62.44	0.003	0.02

AHYMO.OUT				
1.05	0.11	62.50	0.004	0.06
1.20	0.21	62.60	0.005	0.11
1.35	0.46	62.80	0.007	0.22
1.50	1.45	63.10	0.014	0.35
1.65	1.22	63.35	0.028	0.40
1.80	0.61	63.46	0.034	0.42
1.95	0.35	63.47	0.034	0.42
2.10	0.22	63.44	0.033	0.42
2.25	0.14	63.38	0.030	0.41
2.40	0.10	63.32	0.026	0.39
2.55	0.06	63.25	0.022	0.38
2.70	0.03	63.17	0.018	0.36
2.85	0.02	63.10	0.014	0.35
3.00	0.02	63.02	0.010	0.33
3.15	0.01	62.78	0.007	0.21
3.30	0.01	62.60	0.005	0.11
3.45	0.01	62.51	0.004	0.06
3.60	0.01	62.47	0.004	0.04
3.75	0.01	62.44	0.003	0.02
3.90	0.01	62.43	0.003	0.02
4.05	0.01	62.43	0.003	0.01
4.20	0.01	62.42	0.003	0.01
4.35	0.01	62.42	0.003	0.01
4.50	0.01	62.42	0.003	0.01
4.65	0.01	62.42	0.003	0.01
4.80	0.01	62.42	0.003	0.01
4.95	0.01	62.42	0.003	0.01
5.10	0.01	62.42	0.003	0.01
5.25	0.01	62.42	0.003	0.01
5.40	0.01	62.42	0.003	0.01
5.55	0.01	62.42	0.003	0.01
5.70	0.01	62.42	0.003	0.01
5.85	0.01	62.42	0.003	0.01
6.00	0.01	62.42	0.003	0.01
6.15	0.01	62.42	0.003	0.01
6.30	0.01	62.42	0.003	0.01
6.45	0.01	62.42	0.003	0.01
6.60	0.01	62.42	0.003	0.01
6.75	0.01	62.42	0.003	0.01
6.90	0.01	62.42	0.003	0.01
7.05	0.01	62.42	0.003	0.01
7.20	0.01	62.42	0.003	0.01
7.35	0.01	62.42	0.003	0.01
7.50	0.01	62.42	0.003	0.01
7.65	0.01	62.42	0.003	0.01
7.80	0.01	62.42	0.003	0.01
7.95	0.01	62.42	0.003	0.01
8.10	0.01	62.42	0.003	0.01
8.25	0.01	62.42	0.003	0.01
TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
8.40	0.01	62.42	0.003	0.01
8.55	0.01	62.42	0.003	0.01
8.70	0.01	62.42	0.003	0.01
8.85	0.01	62.42	0.003	0.01
9.00	0.01	62.42	0.003	0.01
9.15	0.01	62.42	0.003	0.01
9.30	0.01	62.42	0.003	0.01
9.45	0.01	62.42	0.003	0.01
9.60	0.01	62.42	0.003	0.01
9.75	0.01	62.42	0.003	0.01
9.90	0.01	62.42	0.003	0.01
10.05	0.01	62.42	0.003	0.01
10.20	0.01	62.42	0.003	0.01

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	AHYMO.OUT VOLUME (AC-FT)	OUTFLOW (CFS)
10.35	0.01	62.42	0.003	0.01
10.50	0.01	62.42	0.003	0.01
10.65	0.01	62.42	0.003	0.01
10.80	0.01	62.42	0.003	0.01
10.95	0.01	62.42	0.003	0.01
11.10	0.01	62.42	0.003	0.01
11.25	0.01	62.42	0.003	0.01
11.40	0.01	62.42	0.003	0.01
11.55	0.01	62.42	0.003	0.01
11.70	0.01	62.42	0.003	0.01
11.85	0.01	62.42	0.003	0.01
12.00	0.01	62.42	0.003	0.01
12.15	0.01	62.42	0.003	0.01
12.30	0.01	62.42	0.003	0.01
12.45	0.01	62.42	0.003	0.01
12.60	0.01	62.42	0.003	0.01
12.75	0.01	62.42	0.003	0.01
12.90	0.01	62.42	0.003	0.01
13.05	0.01	62.42	0.003	0.01
13.20	0.01	62.42	0.003	0.01
13.35	0.01	62.42	0.003	0.01
13.50	0.01	62.42	0.003	0.01
13.65	0.01	62.42	0.003	0.01
13.80	0.01	62.42	0.003	0.01
13.95	0.01	62.42	0.003	0.01
14.10	0.01	62.42	0.003	0.01
14.25	0.01	62.42	0.003	0.01
14.40	0.01	62.42	0.003	0.01
14.55	0.01	62.41	0.003	0.01
14.70	0.01	62.41	0.003	0.01
14.85	0.01	62.41	0.003	0.01
15.00	0.01	62.41	0.003	0.01
15.15	0.01	62.41	0.003	0.01
15.30	0.01	62.41	0.003	0.01
15.45	0.01	62.41	0.003	0.01
15.60	0.01	62.41	0.003	0.01
15.75	0.01	62.41	0.003	0.01
15.90	0.01	62.41	0.003	0.01
16.05	0.01	62.41	0.003	0.01
16.20	0.01	62.41	0.003	0.01
16.35	0.01	62.41	0.003	0.01
16.50	0.01	62.41	0.003	0.01
16.65	0.01	62.41	0.003	0.01
16.80	0.01	62.41	0.003	0.01
16.95	0.01	62.41	0.003	0.01
17.10	0.01	62.41	0.003	0.01
17.25	0.01	62.41	0.003	0.01
17.40	0.01	62.41	0.003	0.01
17.55	0.01	62.41	0.003	0.01
17.70	0.01	62.41	0.003	0.01
17.85	0.01	62.41	0.003	0.01
18.00	0.01	62.41	0.003	0.01
18.15	0.01	62.41	0.003	0.01
18.30	0.01	62.41	0.003	0.01
18.45	0.01	62.41	0.003	0.01
18.60	0.01	62.41	0.003	0.01
18.75	0.01	62.41	0.003	0.01
18.90	0.01	62.41	0.003	0.01
19.05	0.00	62.41	0.003	0.01
19.20	0.00	62.41	0.003	0.01
19.35	0.00	62.41	0.003	0.00
PEAK DISCHARGE =		0.424 CFS	- PEAK OCCURS AT HOUR	1.90

AHYMO.OUT

MAXIMUM WATER SURFACE ELEVATION = 63.472
 MAXIMUM STORAGE = 0.0345 AC-FT INCREMENTAL TIME= 0.050000HRS

* TOTAL DISCHARGE PROPOSED- ONSITE ROUTED

ADD HYD ID=7 HYD NO=107 ID I=3 ID II=6

PRINT HYD ID=7 CODE=3

PARTIAL HYDROGRAPH 107.00

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	0.0	9.900	0.0
14.850	0.0	0.0	19.800	0.0	0.0	10.050	0.0
	0.150	0.0		5.100	0.0		0.0
15.000	0.0	0.0	19.950	0.0	0.0	10.200	0.0
	0.300	0.0		5.250	0.0		0.0
15.150	0.0	0.0	20.100	0.0	0.0	10.350	0.0
	0.450	0.0		5.400	0.0		0.0
15.300	0.0	0.0	20.250	0.0	0.0	10.500	0.0
	0.600	0.0		5.550	0.0		0.0
15.450	0.0	0.0	20.400	0.0	0.0	10.650	0.0
	0.750	0.0		5.700	0.0		0.0
15.600	0.0	0.0	20.550	0.0	0.0	10.800	0.0
	0.900	0.0		5.850	0.0		0.0
15.750	0.0	0.1	20.700	0.0	0.0	10.950	0.0
	1.050	0.1		6.000	0.0		0.0
15.900	0.0	0.1	20.850	0.0	0.0	11.100	0.0
	1.200	0.1		6.150	0.0		0.0
16.050	0.0	0.3	21.000	0.0	0.0	11.250	0.0
	1.350	0.3		6.300	0.0		0.0
16.200	0.0	0.5	21.150	0.0	0.0	11.400	0.0
	1.500	0.5		6.450	0.0		0.0
16.350	0.0	0.5	21.300	0.0	0.0	11.550	0.0
	1.650	0.5		6.600	0.0		0.0
16.500	0.0	0.5	21.450	0.0	0.0	11.700	0.0
	1.800	0.5		6.750	0.0		0.0
16.650	0.0	0.4	21.600	0.0	0.0	11.850	0.0
	1.950	0.4		6.900	0.0		0.0
16.800	0.0	0.4	21.750	0.0	0.0	12.000	0.0
	2.100	0.4		7.050	0.0		0.0
16.950	0.0	0.4	21.900	0.0	0.0	12.150	0.0
	2.250	0.4		7.200	0.0		0.0
17.100	0.0	0.4	22.050	0.0	0.0	12.300	0.0
	2.400	0.4		7.350	0.0		0.0
17.250	0.0	0.4	22.200	0.0	0.0	12.450	0.0
	2.550	0.4		7.500	0.0		0.0
17.400	0.0	0.4	22.350	0.0	0.0	12.600	0.0
	2.700	0.4		7.650	0.0		0.0
17.550	0.0	0.3	22.500	0.0	0.0	12.750	0.0
	2.850	0.3		7.800	0.0		0.0
17.700	0.0	0.3	22.650	0.0	0.0	12.900	0.0
	3.000	0.3		7.950	0.0		0.0
17.850	0.0	0.2	22.800	0.0	0.0	13.050	0.0
	3.150	0.2		8.100	0.0		0.0
18.000	0.0	0.1	22.950	0.0	0.0	13.200	0.0
	3.300	0.1		8.250	0.0		0.0
18.150	0.0	0.1	23.100	0.0	0.0	13.350	0.0
	3.450	0.1		8.400	0.0		0.0
18.300	0.0		23.250	0.0			

				AHYMO.OUT		
18.450	3.600	0.0		8.550	0.0	13.500
	0.0		23.400	0.0		
18.600	3.750	0.0		8.700	0.0	13.650
	0.0		23.550	0.0		
18.750	3.900	0.0		8.850	0.0	13.800
	0.0		23.700	0.0		
18.900	4.050	0.0		9.000	0.0	13.950
	0.0		23.850	0.0		
19.050	4.200	0.0		9.150	0.0	14.100
	0.0		24.000	0.0		
19.200	4.350	0.0		9.300	0.0	14.250
	0.0		24.150	0.0		
19.350	4.500	0.0		9.450	0.0	14.400
	0.0					
19.500	4.650	0.0		9.600	0.0	14.550
	0.0					
19.650	4.800	0.0		9.750	0.0	14.700
	0.0					

RUNOFF VOLUME = 2.12280 INCHES = 0.0829 ACRE-FEET
 PEAK DISCHARGE RATE = 0.56 CFS AT 1.600 HOURS BASIN AREA =
 0.0007 SQ. MI.

FINISH

NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 09:21:37

SIDEWALK CULVERTS

Weir Equation:

$$Q = CLH^{3/2}$$

West drainage swale thru walls

Q = 2.92 cfs

C = 2.95

H = 0.67 ft

L = Length of weir

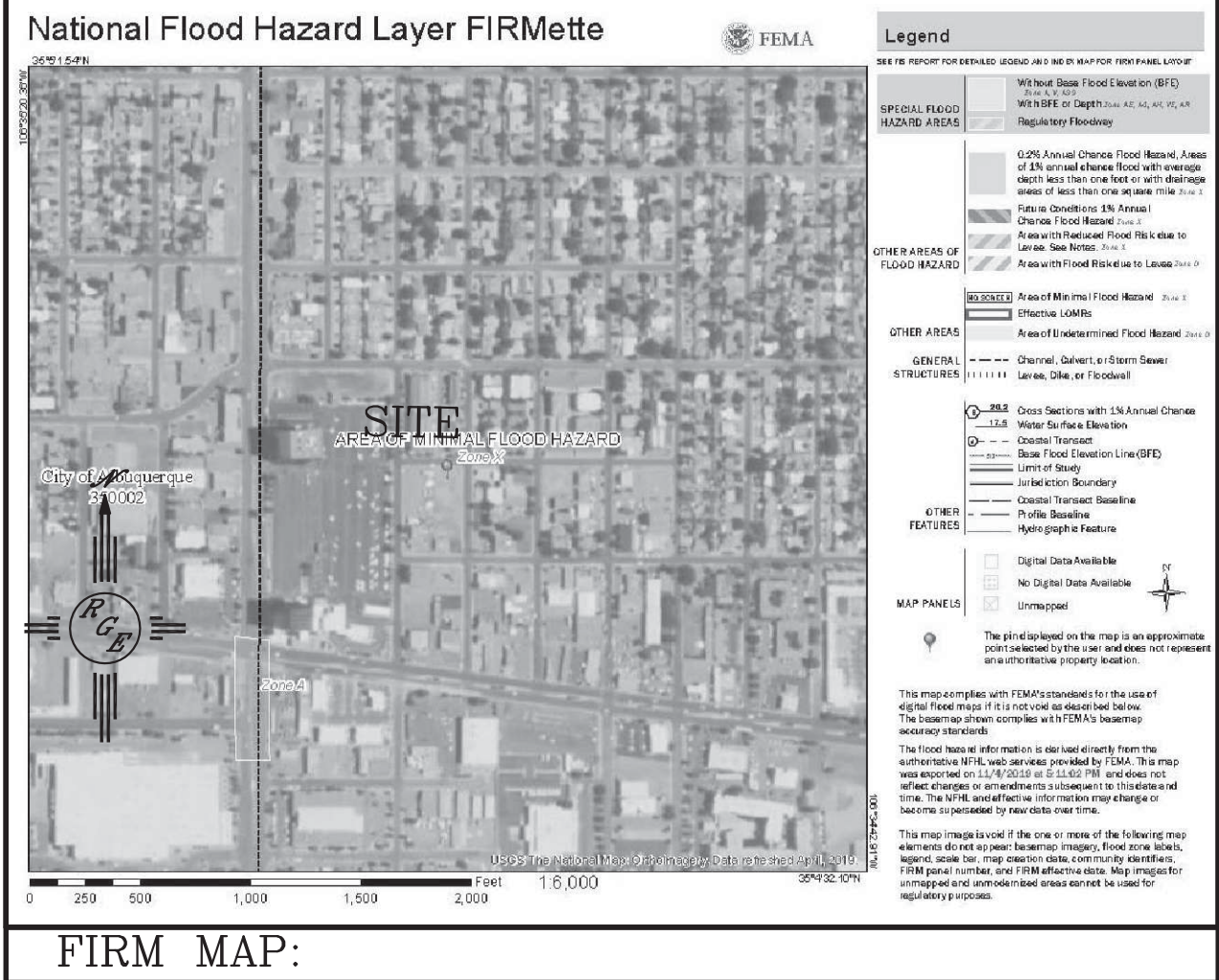
$$Q = 2.95 * 2 * ((0.67)^{(3/2)})$$

Each culvert has capacity of 3.23 cfs

1. An excavation permit will be required before beginning any work within City Right-Of-Way.
2. All work on this project shall be performed in accordance with applicable federal, state and local laws, rules and regulations concerning construction safety and health.
3. Two working days prior to any excavation, the contractor must contact **New Mexico One Call**, dial **"811"** [or (505) 260-1990] for the location of existing utilities.
4. Prior to construction, the contractor shall excavate and verify the locations of all obstructions. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.
5. Backfill compaction shall be according to traffic/street use.
6. Maintenance of the facility shall be the responsibility of the owner of the property being served.
7. Work on arterial streets may be required on a 24-hour basis.
8. Contractor must contact Augie Armijo at (505) 857-8607 and Construction Coordination at 924-3416 to schedule an inspection.

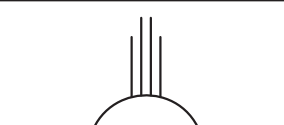
[illegible]

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.



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

	EXISTING CONTOUR
	EXISTING INDEX CONTOUR
	PROPOSED CONTOUR
	PROPOSED INDEX CONTOUR
	SLOPE TIE
	EXISTING SPOT ELEVATION
	PROPOSED SPOT ELEVATION
	BOUNDARY
	CENTERLINE
	RIGHT-OF-WAY
	PROPOSED CURB
	EXISTING CURB AND GUTTER
	PROPOSED SIDEWALK
	EXISTING SIDEWALK
	PROPOSED SCREEN WALL—DESIGN BY OTHERS
	PROPOSED FLOOD WALL—DESIGN BY OTHERS
	PROPOSED ROCK PLATING—SEE DETAIL THIS SHEET

ENGINEER'S SEAL	TIRYAKI APARTMENTS		DRAWN BY WCWJ
	5550 ZIA NE		DATE 11-20-19
	GRADING AND DRAINAGE PLAN		2109090-LAYOUT-11-15-19
			SHEET # —
11/21/19	 <i>Rio Grande Engineering</i> 1606 CENTRAL AVENUE SE SUITE 201 ALBUQUERQUE, NM 87106 (505) 872-0999		JOB # 2109090
DAVID SOULE P.E. #14522			

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.

