# CITY OF ALBUQUERQUE

*Planning Department*
David Campbell, Director

*Mayor Timothy M. Keller*

March 22, 2019

Vincent Carrica, P.E.
Tierra West, LLC
5571 Midway Park Place NE
Albuquerque, NM, 87109

**RE: Maverik – Unser/Los Volcanes**
**551 Silver Creek Rd. NW**
**Grading and Drainage Plan & Drainage Report**
**Engineer's Stamp Date: 03/19/19**
**Hydrology File: K10D023D**

Dear Mr. Carrica:

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Based upon the information provided in your submittal received 03/19/2019, the Grading & Drainage Plan and Drainage Report **are not** approved for Building Permit and for action by the DRB on Site Plan for Building Permit. The following comments need to be addressed for approval of the above referenced project:

1. Drainage Report. For both the West Pond and the East Pond in the Orifice Equation, please add the height of the center of the orifice and the flow rate of the orifice. This is missing information in the calculations.

2. Drainage Report. Please include the weir equations for both the 3 ft concrete rundown and the 2 ft sidewalk culvert/concrete channel.

3. Drainage Report. Please include the weir equations for the emergency spillway for both the West Pond and the East Pond.

4. Grading Plan. Please provide the legal description of the property.

5. Grading Plan. Please provide the benchmark information for the survey topographic information provided.

6. Grading Plan. Is there existing grade information for the site? I just see flowline information along existing curbing within all three R.O.W. Also I need the topographic grades on the adjacent property to confirm that the proposed contours are tying into the existing contours and to ensure that there will not be any grading on the adjacent property.

7. Grading Plan. For fueling stations, demonstrate control of oil from vehicle parking areas per DPM Chapter 22.9.E, Table 1. Please provide a detail of how you are handing the surface runoff per this section.

8. Grading Plan. Please ensure that the site plan is what has been approved by Transportation. It appears that the southeast curb return is over the property line.

9. Grading Plan. In Section B-B, please show the inlet and the pipe from the inlet to the pond. Also call out the railing.

10. Grading Plan. Per DPM Ch. 22.5.B, grading and construction of retaining walls at or near the property line must demonstrate that the adjacent property is not damaged or its use constrained. Any such encroachment by the wall or grading must be accompanied by written permission of both landowners. Please ensure the footers do not go in either the adjacent property or R.O.W. without the written permission.

11. Grading Plan. For both the West Pond and East Pond, please provide the emergency spillway detail that matches the weir equations in the Drainage Report.

12. Grading Plan. For both the West Pond and East Pond, please provide a detail showing the elevation and pipe size of the pond's orifice.

13. Grading Plan. In Section A-A, please show the top of wall elevation, call out the railing, WSE, label each pond, and note the orifice & spillway for each pond.

14. Grading Plan. Please provide a blowup area for the 2 ft concrete channel and sidewalk culvert with all grade information. This is for clarification of the location and buildability of them. Also please call out CoA drawing #2236 for the sidewalk culvert.

15. Grading Plan. Please show a section for the 2 ft concrete channel.

16. Grading Plan. Please shift the callout for the 2-12" pvc pipes into the roadway so that it can be readable.

17. Grading Plan. Please ensure the sidewalk culvert is not under the ADA ramp. This can be placed right after the ramp. This is a very tight area and the driveway may have to be shifted in order to build both the sidewalk culvert and the ADA ramp.

18. As a reminder, if the project total area of disturbance (including the staging area and any work within the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the Stormwater Quality Engineer (Curtis Cherne, PE, ccherne@cabq.gov, 924-3420) 14 days prior to any earth disturbance.

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19. Also as a reminder, please provide a Drainage Covenant for the proposed detention ponds per Chapter 17 of the DPM prior to Permanent Release of Occupancy. Please submit this on the 4th floor of Plaza de Sol. A $25 fee will be required.

20. Standard review fee of $300 will be required at the time of resubmittal.

If you have any questions, please contact me at 924-3995 or rbrissette@cabq.gov .

Sincerely,

Renée C. Brissette

Renée C. Brissette, P.E. CFM
Senior Engineer, Hydrology
Planning Department

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:** Maverik- Unser/Los Volcanes Building Permit #: _____ Hydrology File #: _____

DRB#: _____ EPC#: _____ Work Order#: _____

Legal Description: L-1-A-1 Plat of TRS L-1-A-1 & L-1-B-1-A Atrisco Business Park

City Address: 551 Silver Creek Rd. Albuquerque NM

**Applicant:** Tierra West, LLC Contact: Vince Carrica

Address: 5571 Midway Park Place NE Albuquerque NM 87109

Phone#: 505-858-3100 Fax#: 505-858-1118 E-mail: vcarrica@tierrawestllc.com

**Other Contact:** _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

**TYPE OF DEVELOPMENT:** _____ PLAT (# of lots) _____ RESIDENCE X DRB SITE ___ ADMIN SITE

IS THIS A RESUBMITTAL? _____ Yes X No

**DEPARTMENT** _____ TRANSPORTATION X HYDROLOGY/DRAINAGE

Check all that Apply:

**TYPE OF SUBMITTAL:**

____ ENGINEER/ARCHITECT CERTIFICATION
____ PAD CERTIFICATION
____ CONCEPTUAL G & D PLAN
X GRADING PLAN
X 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:**

X BUILDING PERMIT APPROVAL
____ CERTIFICATE OF OCCUPANCY

____ PRELIMINARY PLAT APPROVAL
____ SITE PLAN FOR SUB'D APPROVAL
X SITE PLAN FOR BLDG. PERMIT APPROVAL
____ FINAL PLAT APPROVAL

____ SIA/ RELEASE OF FINANCIAL GUARANTEE
____ FOUNDATION PERMIT APPROVAL
____ GRADING PERMIT APPROVAL
____ SO-19 APPROVAL
____ PAVING PERMIT APPROVAL
____ GRADING/ PAD CERTIFICATION
____ WORK ORDER APPROVAL
____ CLOMR/LOMR
____ FLOODPLAIN DEVELOPMENT PERMIT
____ OTHER (SPECIFY) _____

DATE SUBMITTED: 3/19/2019 By: Vince Carrica

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

DRAINAGE REPORT

For

# 551 Silver Creek Rd.
# ALBUQUERQUE, NEW MEXICO

Prepared by

Tierra West, LLC
5571 Midway Park Place NE
Albuquerque, New Mexico 87109

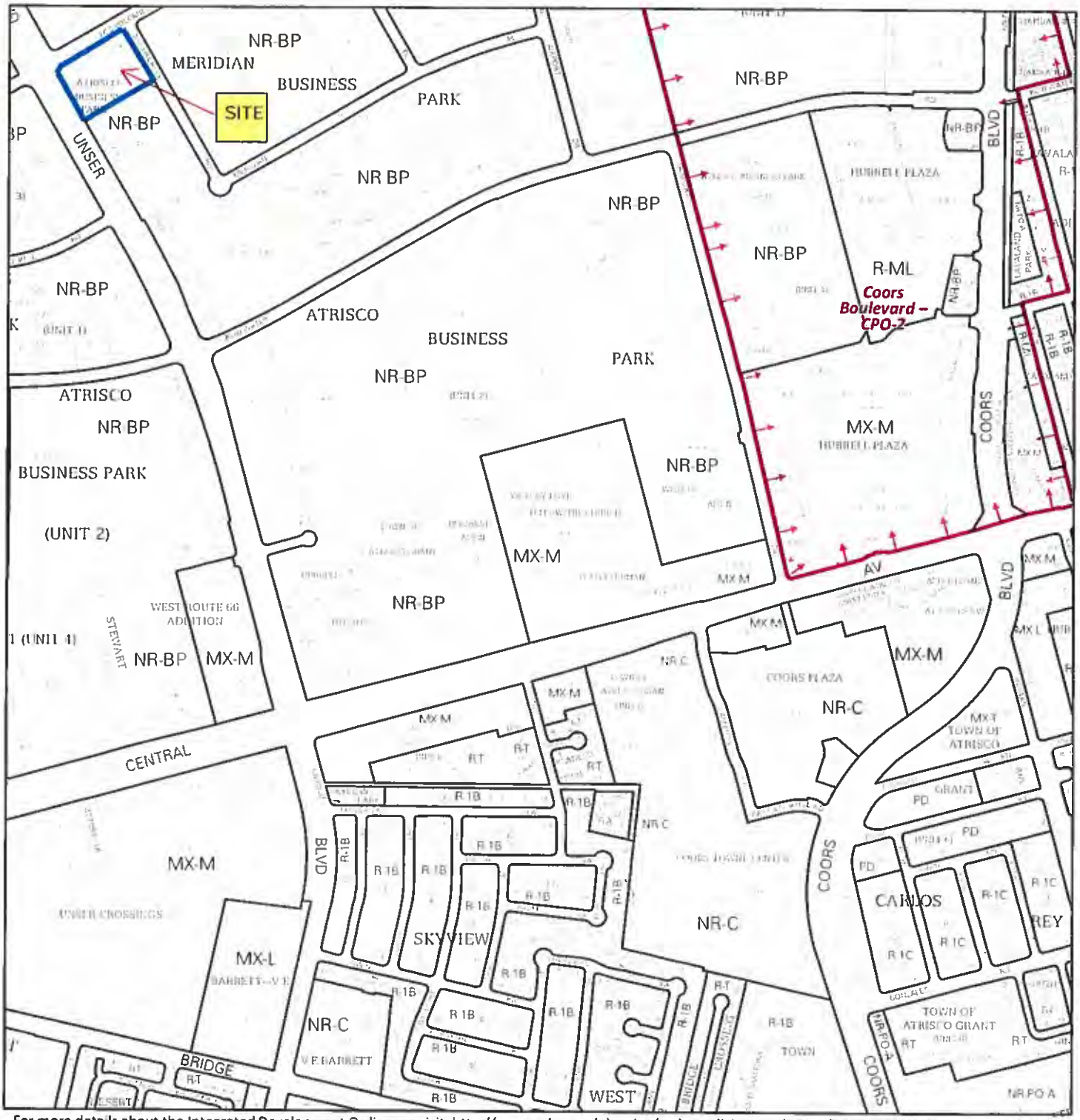
Prepared for

Maverik
Albuquerque, NM

March 19, 2019


Vincent P. Carrica, PE #16212

# TABLE OF CONTENTS




For more details about the Integrated Development Ordinance visit: http //www cabq.gov/planning/codes policies regulations/integrated development ordinance

# IDO Zone Atlas May 2018

ABCGIS
Albuquerque Geographic Information System

**IDO Zoning information as of May 17, 2018**

**The Zone Districts and Overlay Zones are established by the Integrated Development Ordinance (IDO).**


Zone Atlas Page
**K-10-Z**

- Easement
- Escarpment
- Petroglyph National Monument
- Areas Outside of City Limits
- Airport Protection Overlay (APO) Zone
- Character Protection Overlay (CPO) Zone
- Historic Protection Overlay (HPO) Zone
- View Protection Overlay (VPO) Zone

Feet
0 250 500 1,000

## LOCATION

The proposed commercial development is located off Silver Creek Rd south of Interstate 40, east of Unser Blvd at the corner of Los Volcanes and Silver Creek Rd in southwest Albuquerque. It is comprised of approximately 3.06 acres zoned NR-BP. This report represents a drainage management and grading plan for approval by the City of Albuquerque, for Site Plan, grading and Building Permit submittal.

## DRAINAGE BASIN DESIGNATION

The drainage basins for proposed conditions are as indicated on the BASIN MAP included in this report. The site is broken into six onsite drainage basins and one upland offsite basin.

## EXISTING DRAINGE CONDITIONS

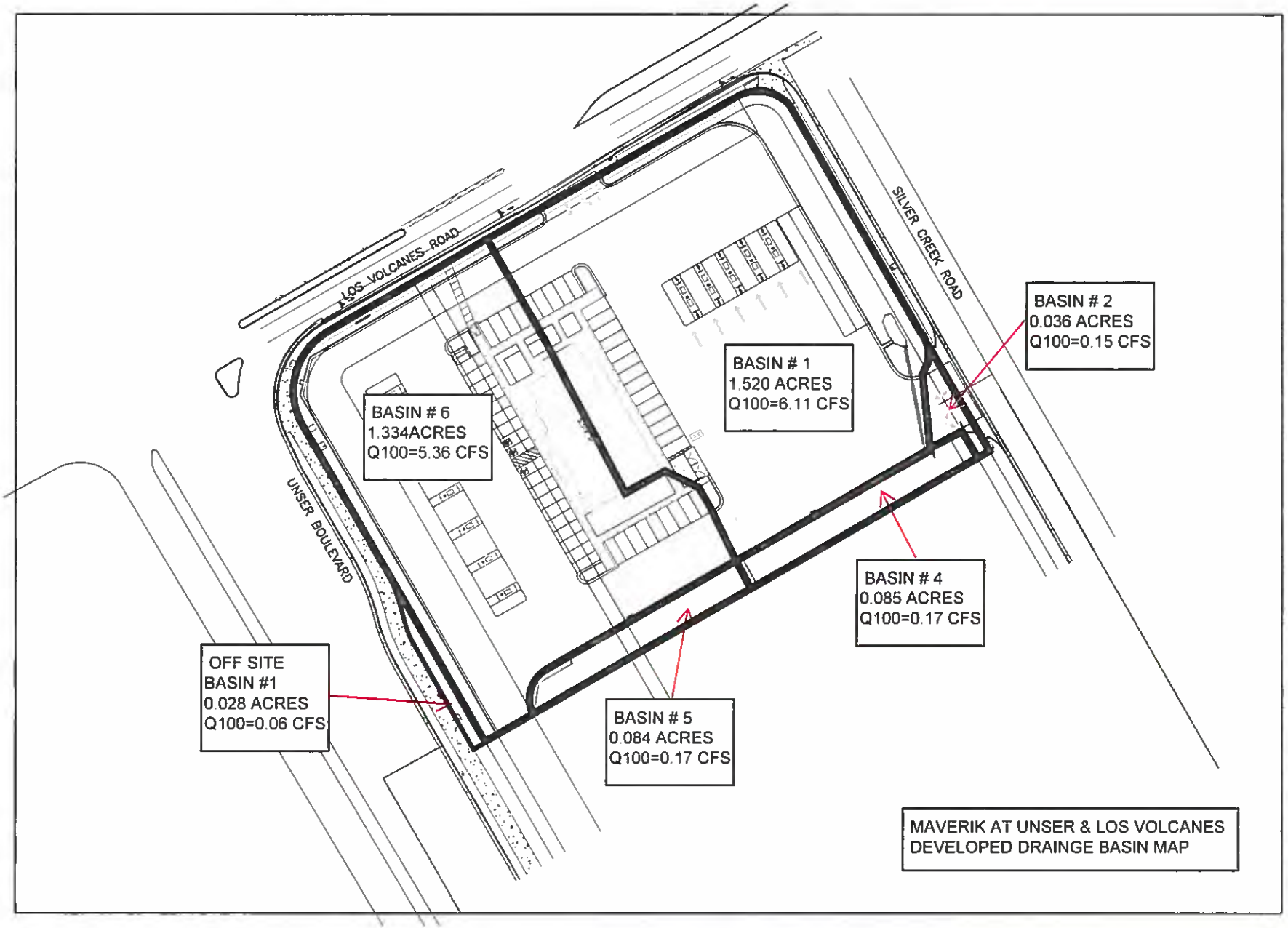
The site is currently vacant with an earthen detention pond constructed in the southeast corner of the site. It drains predominantly northwest to southeast. Runoff from a small upland basin that is within Unser Blvd right-of-way drains onto the site. This runoff is combined with the onsite runoff and routed through an existing detention pond before being released to Silver Creek Rd, which then drains to the south per the Atrisco Business Park Master Drainage Plan for fully developed conditions, dated February of 1992.

## FIRM MAP

The site is not located in a flood plain as is shown on designated Flood Hazard Zone Map No. 35001C0328J dated 11/4/2016.

## DESIGN-CRITERIA

The drainage plan presented in this report was prepared in accordance with the City of Albuquerque Drainage Ordinances and the Development Process Manual DPM. The hydrological analysis is based on the 100-year frequency, 6-hour duration storm. The plan will also include retention of the first flush in on-site drainage ponds. See attached Weighted E Table for excess precipitation values calculated for this site.


LOS VOLCANES ROAD
SILVER CREEK ROAD
UNSER BOULEVARD
BASIN # 6
1.334ACRES
Q100=5.36 CFS
BASIN # 1
1.520 ACRES
Q100=6.11 CFS
BASIN # 2
0.036 ACRES
Q100=0.15 CFS
BASIN # 4
0.085 ACRES
Q100=0.17 CFS
OFF SITE
BASIN #1
0.028 ACRES
Q100=0.06 CFS
BASIN # 5
0.084 ACRES
Q100=0.17 CFS
MAVERIK AT UNSER & LOS VOLCANES
DEVELOPED DRAINGE BASIN MAP

# National Flood Hazard Layer FIRMette

FEMA


## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

**SPECIAL FLOOD HAZARD AREAS**
- Without Base Flood Elevation (BFE) Zone A, V, A99
- With BFE or Depth Zone AE, AO, AH, VE, AR
- Regulatory Floodway

**OTHER AREAS OF FLOOD HAZARD**
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
- Future Conditions 1% Annual Chance Flood Hazard Zone X
- Area with Reduced Flood Risk due to Levee. See Notes. Zone X
- Area with Flood Risk due to Levee Zone D

**OTHER AREAS**
- NO SCREEN Area of Minimal Flood Hazard Zone X
- Effective LOMRs
- Area of Undetermined Flood Hazard Zone D

**GENERAL STRUCTURES**
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

**OTHER FEATURES**
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

**MAP PANELS**
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/31/2019 at 6:28:05 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

## DEVELOPED-DRAINAGE CONDITIONS

The site is proposed to be developed with a single user, Maverik C-Store. No offsite flows will enter the site with the exception of the small upland basin in the Unser Blvd righ-of-way, which will continue to be routed through the subject site. Runoff from the site will be routed through two onsite drainage ponds and will then discharge to Silver Creek roadway with a controlled discharge rate equal to or less than the allowable 0.1 cfs per acre. This is in compliance with the Atrisco Business Park Master Drainage Plan for fully developed conditions dated February of 1992. The drainage ponds will retain the first flush retention volumes as required by the drainage ordinance.

Refer to enclosed Weighted E computation spreadsheet for developed runoff conditions. Storm drain capacities are listed in a table in the appendix.

## SUMMARY

The proposed grading and drainage plan for the proposed development of the existing undeveloped property includes surface flows and an onsite storm drain to convey runoff to detention ponds before discharging to the Silver Creek Roadway at a controlled discharge rate of equal to or less than 0.1 cfs per acre.

# *VOLUME CALCULATIONS*

*Maverik @ Unser & Los Volcanes*

West Pond

Ab - Bottom Of The Pond Surface Area
At - Top Of The Pond Surface Area
D - Water Depth
Dt - Total Pond Depth
C - Change In Surface Area / Water Depth

Volume = Ab * D + 0.5 * C * $D^2$
C = (At - Ab) / Dt

| | | | |
|---|---|---|---|
| Ab = | 3,655.00 | T.O.P.= | 5138 |
| At = | 3,655.00 | B.O.P. = | 5135 |
| Dt = | 3.00 | | |
| C = | 0.00 | | |
| B Elev. = | 5,135.00 | | |

| ACTUAL ELEV. | DEPTH (FT) | VOLUME (AC-FT) | Q (CFS) | |
|---|---|---|---|---|
| 5134.65 | 0 | 0 | 0 | |
| 5135.00 | 0.35 | 0.0294 | 0.000 | DI Invert |
| 5135.50 | 0.50 | 0.0713 | 0.068 | |
| 5136.00 | 1.00 | 0.1133 | 0.101 | |
| 5136.50 | 1.50 | 0.1552 | 0.125 | DI Rim |
| 5137.00 | 2.00 | 0.1972 | 0.145 | |
| 5137.50 | 2.50 | 0.2391 | 0.163 | |
| 5138.00 | 3.00 | 0.2811 | 0.179 | Emergency Overflow |
| 5138.50 | 3.50 | 0.3230 | 0.194 | |
| | | | | |

Orifice Equation
Q = CA SQRT(2gH)

| | | |
|---|---|---|
| C = | 0.6 | |
| Diameter (in) | 2 | |
| Area (ft^2)= | 0.021816616 | |
| g = | 32.2 | |
| H (Ft) = | Depth of water above center of orifice | |
| Q (CFS)= | Flow | |

# *VOLUME CALCULATIONS*

*Maverik @ Unser & Los Volcanes*

East Pond

Ab - Bottom Of The Pond Surface Area
At - Top Of The Pond Surface Area
D - Water Depth
Dt - Total Pond Depth
C - Change In Surface Area / Water Depth

Volume = Ab * D + 0.5 * C * $D^2$
C = (At - Ab) / Dt

| | | | |
|---|---|---|---|
| Ab = | 3,705.00 | T.O.P.= | 5133 |
| At = | 3,705.00 | B.O.P. = | 5129.58 |
| Dt = | 3.42 | | |
| C = | 0.00 | | |
| B Elev. = | 5,130.00 | | |

| ACTUAL ELEV. | DEPTH (FT) | VOLUME (AC-FT) | Q (CFS) | |
|---|---|---|---|---|
| 5129.58 | 0 | 0 | 0.000 | |
| 5130.00 | 0.42 | 0.0424 | 0.000 | DI Invert |
| 5130.50 | 0.50 | 0.0849 | 0.103 | |
| 5131.00 | 1.00 | 0.1275 | 0.155 | |
| 5131.50 | 1.50 | 0.1700 | 0.194 | DI Rim |
| 5132.00 | 2.00 | 0.2125 | 0.226 | |
| 5132.50 | 2.50 | 0.2551 | 0.254 | |
| 5133.00 | 3.00 | 0.2976 | 0.279 | Emergency Overflow |
| 5133.50 | 3.50 | 0.3401 | 0.302 | |
| | | | | |

Orifice Equation
Q = CA SQRT(2gH)

| | | |
|---|---|---|
| C = | 0.6 | |
| Diameter (in) | 2.5 | |
| Area (ft^2)= | 0.034088462 | |
| g = | 32.2 | |
| H (Ft) = | Depth of water above center of orifice | |
| Q (CFS)= | Flow | |

Maverik @ Unser & Los Volcanes

# Weighted E Method

**Zone #1**

*Developed Basins*

| | | | | | | | | | | | | 100-Year | | | 10-Year | | | 2-Year | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Basin | Area (sf) | Area (acres) | Area (sq miles) | Treatment A % | Treatment A (acres) | Treatment B % | Treatment B (acres) | Treatment C % | Treatment C (acres) | Treatment D % | Treatment D (acres) | Weighted E (ac-ft) | Volume (ac-ft) | Flow cfs | Weighted E (ac-ft) | Volume (ac-ft) | Flow cfs | Weighted E (ac-ft) | Volume (ac-ft) | Flow cfs |
| 1 | 66226.00 | 1.520 | 0.00238 | 0% | 0 | 15% | 0.228 | 0% | 0 | 85% | 1.292 | 1.775 | 0.225 | 6.11 | 1.087 | 0.138 | 3.91 | 0.614 | 0.078 | 2.19 |
| 2 | 1578.00 | 0.036 | 0.00006 | 0% | 0 | 15% | 0.005 | 0% | 0 | 85% | 0.031 | 1.775 | 0.005 | 0.15 | 1.087 | 0.003 | 0.09 | 0.614 | 0.002 | 0.05 |
| 3 | 58095.00 | 1.334 | 0.00208 | 0% | 0 | 15% | 0.200 | 0% | 0 | 85% | 1.134 | 1.775 | 0.197 | 5.36 | 1.087 | 0.121 | 3.43 | 0.614 | 0.068 | 1.92 |
| 4 | 3705.00 | 0.085 | 0.00013 | 0% | 0 | 100% | 0.085 | 0% | 0 | 0% | 0.000 | 0.670 | 0.005 | 0.17 | 0.220 | 0.002 | 0.06 | 0.010 | 0.000 | 0.00 |
| 5 | 3655.00 | 0.084 | 0.00013 | 0% | 0 | 100% | 0.084 | 0% | 0 | 0% | 0.000 | 0.670 | 0.005 | 0.17 | 0.220 | 0.002 | 0.06 | 0.010 | 0.000 | 0.00 |
| | | | | | | | | | | | | | | | | | | | | |
| OS-1 | 1236.00 | 0.028 | 0.00004 | 0% | 0 | 100% | 0.028 | 0% | 0 | 0% | 0.000 | 0.670 | 0.002 | 0.06 | 0.220 | 0.001 | 0.02 | 0.010 | 0.000 | 0.00 |
| | | | | | | | | | | | | | | | | | | | | |
| Total | 134495.00 | 3.088 | 0.00482 | | | | | | | | | | 0.439 | 12.02 | | 0.265 | 7.58 | | 0.148 | 4.17 |
| | | | | | | | | | | | | | | | | | | | | |

**Equations:**

Weighted E = Ea*Aa + Eb*Ab + Ec*Ac + Ed*Ad / (Total Area)

Volume = Weighted D * Total Area

Flow = Qa * Aa + Qb * Ab + Qc * Ac + Qd * Ad

```
**********************************************************
*                Maverik @ UNSER & LOS VOLCANES          *
**********************************************************
* 100-YEAR, 24-HR STORM  (UNDER PROPOSED CONDITIONS) W/ routing *
**********************************************************
START               TIME=0.0
*
*
RAINFALL            TYPE=2 RAIN QUARTER=0.0 IN
                    RAIN ONE=1.87 IN RAIN SIX=2.20 IN
                    RAIN DAY=2.66 IN DT=0.05 HR
*
*
*BASIN 1
*
COMPUTE NM HYD      ID=1 HYD NO=100.1 AREA=0.00238 SQ MI
                    PER A=0.00 PER B=15.00 PER C=0.00 PER D=85.00
                    TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=1 CODE=1
*
*
*BASIN 2
*
COMPUTE NM HYD      ID=2 HYD NO=100.2 AREA=0.00006 SQ MI
                    PER A=0.00 PER B=15.00 PER C=0.00 PER D=85.00
                    TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=2 CODE=1
*
*
*BASIN 3
*
COMPUTE NM HYD      ID=3 HYD NO=100.3 AREA=0.00208 SQ MI
                    PER A=0.00 PER B=15.00 PER C=0.0 PER D=85.00
                    TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=3 CODE=1
*
*
*BASIN 4
*
COMPUTE NM HYD      ID=4 HYD NO=100.4 AREA=0.00013 SQ MI
                    PER A=0.00 PER B=100.00 PER C=0.0 PER D=0.00
                    TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD           ID=4 CODE=1
*
*
*BASIN 5
*
COMPUTE NM HYD      ID=5 HYD NO=100.5 AREA=0.00013 SQ MI
```

```
                0.155          0.1275             31.00
                0.194          0.1700             31.50
                0.226          0.2125             32.00
                0.254          0.2551             32.50
                0.279          0.2976             33.00
                0.302          0.3401             33.50
*
PRINT HYD       ID=56  CODE=1
*
*
ADD HYD         ID=57 HYD NO=100.57 ID=2 ID=56
*
*
PRINT HYD       ID=57  CODE=1
*
*
FINISH
```

AHYMO PROGRAM SUMMARY TABLE (AHYMO-S4) - Ver. S4.01a, Rel: 01a RUN DATE (MON/DAY/YR) =03/19/2019

INPUT FILE = C:\Users\Vince\Desktop\hymoMaverik.txt

USER NO.= AHYMO_Temp_User:20122010

| COMMAND | IDENTIFICATION | FROM HYDROGRAPH NO. | TO ID NO. | AREA (SQ MI) | PEAK DISCHARGE (CFS) | RUNOFF VOLUME (AC-FT) | RUNOFF (INCHES) | PEAK (HOURS) | PER ACRE | NOTATION |
|---|---|---|---|---|---|---|---|---|---|---|
| START | | | | | | | | | | |
| | | TIME= | 0.00 | | | | | | | |
| RAINFALL | TYPE= 2 NOAA 14 | | | | | | | | | |
| | | RAIN24= | 2.660 | | | | | | | |
| COMPUTE NM HYD | | 100.10 | - 1 | 0.00238 | 6.36 | 0.277 | 2.17912 | 1.500 | 4.175 | PER IMP= 85.00 |
| COMPUTE NM HYD | | 100.20 | - 2 | 0.00006 | 0.17 | 0.007 | 2.17912 | 1.500 | 4.408 | PER IMP= 85.00 |
| COMPUTE NM HYD | | 100.30 | - 3 | 0.00208 | 5.56 | 0.242 | 2.17912 | 1.500 | 4.177 | PER IMP= 85.00 |
| COMPUTE NM HYD | | 100.40 | - 4 | 0.00013 | 0.21 | 0.006 | 0.83873 | 1.500 | 2.519 | PER IMP= 0.00 |
| COMPUTE NM HYD | | 100.50 | - 5 | 0.00013 | 0.21 | 0.006 | 0.83873 | 1.500 | 2.519 | PER IMP= 0.00 |
| ADD HYD | | 100.20 | 3& 5 20 | 0.00221 | 5.77 | 0.248 | 2.10011 | 1.500 | 4.079 | |
| COMPUTE NM HYD | | 100.70 | - 7 | 0.00004 | 0.07 | 0.002 | 0.83873 | 1.500 | 2.765 | PER IMP= 0.00 |
| ADD HYD | | 100.20 | 3& 5 20 | 0.00221 | 5.77 | 0.248 | 2.10011 | 1.500 | 4.079 | |
| ADD HYD | | 100.21 | 20& 7 21 | 0.00225 | 5.84 | 0.249 | 2.07766 | 1.500 | 4.056 | |
| ROUTE RESERVOIR | | 200.10 | 21 55 | 0.00225 | 0.15 | 0.249 | 2.07766 | 2.450 | 0.106 | AC-FT= 0.216 |
| ADD HYD | | 100.22 | 1& 4 22 | 0.00251 | 6.57 | 0.282 | 2.10957 | 1.500 | 4.089 | |
| ADD HYD | | 100.24 | 22&55 24 | 0.00476 | 6.66 | 0.531 | 2.09206 | 1.500 | 2.186 | |
| ROUTE RESERVOIR | | 200.20 | 24 56 | 0.00476 | 0.26 | 0.531 | 2.09206 | 2.550 | 0.084 | AC-FT= 0.259 |
| ADD HYD | | 100.57 | 2&56 57 | 0.00482 | 0.34 | 0.536 | 2.08613 | 1.550 | 0.109 | |
| FINISH | | | | | | | | | | |

```
       AHYMO PROGRAM (AHYMO-S4)                    - Version: S4.01a - Rel: 01a
            RUN DATE (MON/DAY/YR) = 03/19/2019
            START TIME (HR:MIN:SEC) = 08:24:59     USER NO.=
AHYMO_Temp_User:20122010
            INPUT FILE = C:\Users\Vince\Desktop\hymoMaverik.txt


    ************************************************************
    *                Maverik @ UNSER & LOS VOLCANES            *
    ************************************************************
    * 100-YEAR, 24-HR STORM  (UNDER PROPOSED CONDITIONS) W/ routing *
    ************************************************************
    START               TIME=0.0
    *
    *
    RAINFALL            TYPE=2 RAIN QUARTER=0.0 IN
                        RAIN ONE=1.87 IN RAIN SIX=2.20 IN
                        RAIN 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
                    2.0273  2.0352  2.0426  2.0499  2.0568  2.0625  2.0659
                    2.0692  2.0724  2.0754  2.0784  2.0813  2.0842  2.0870
                    2.0896  2.0923  2.0949  2.0974  2.0999  2.1023  2.1046
                    2.1069  2.1092  2.1115  2.1136  2.1158  2.1179  2.1199
                    2.1220  2.1240  2.1260  2.1280  2.1299  2.1318  2.1337
                    2.1356  2.1374  2.1392  2.1411  2.1428  2.1446  2.1463
                    2.1481  2.1498  2.1514  2.1531  2.1548  2.1564  2.1580
                    2.1596  2.1612  2.1628  2.1643  2.1658  2.1674  2.1689
                    2.1704  2.1718  2.1733  2.1747  2.1762  2.1776  2.1790
                    2.1804  2.1818  2.1832  2.1845  2.1859  2.1872  2.1885
                    2.1899  2.1912  2.1924  2.1937  2.1950  2.1963  2.1975
                    2.1988  2.2000  2.2013  2.2026  2.2038  2.2051  2.2064
                    2.2077  2.2089  2.2102  2.2115  2.2128  2.2141  2.2153
                    2.2166  2.2179  2.2192  2.2204  2.2217  2.2230  2.2243
                    2.2256  2.2268  2.2281  2.2294  2.2307  2.2319  2.2332
                    2.2345  2.2358  2.2371  2.2383  2.2396  2.2409  2.2422
                    2.2434  2.2447  2.2460  2.2473  2.2486  2.2498  2.2511
                    2.2524  2.2537  2.2549  2.2562  2.2575  2.2588  2.2601
                    2.2613  2.2626  2.2639  2.2652  2.2664  2.2677  2.2690
```

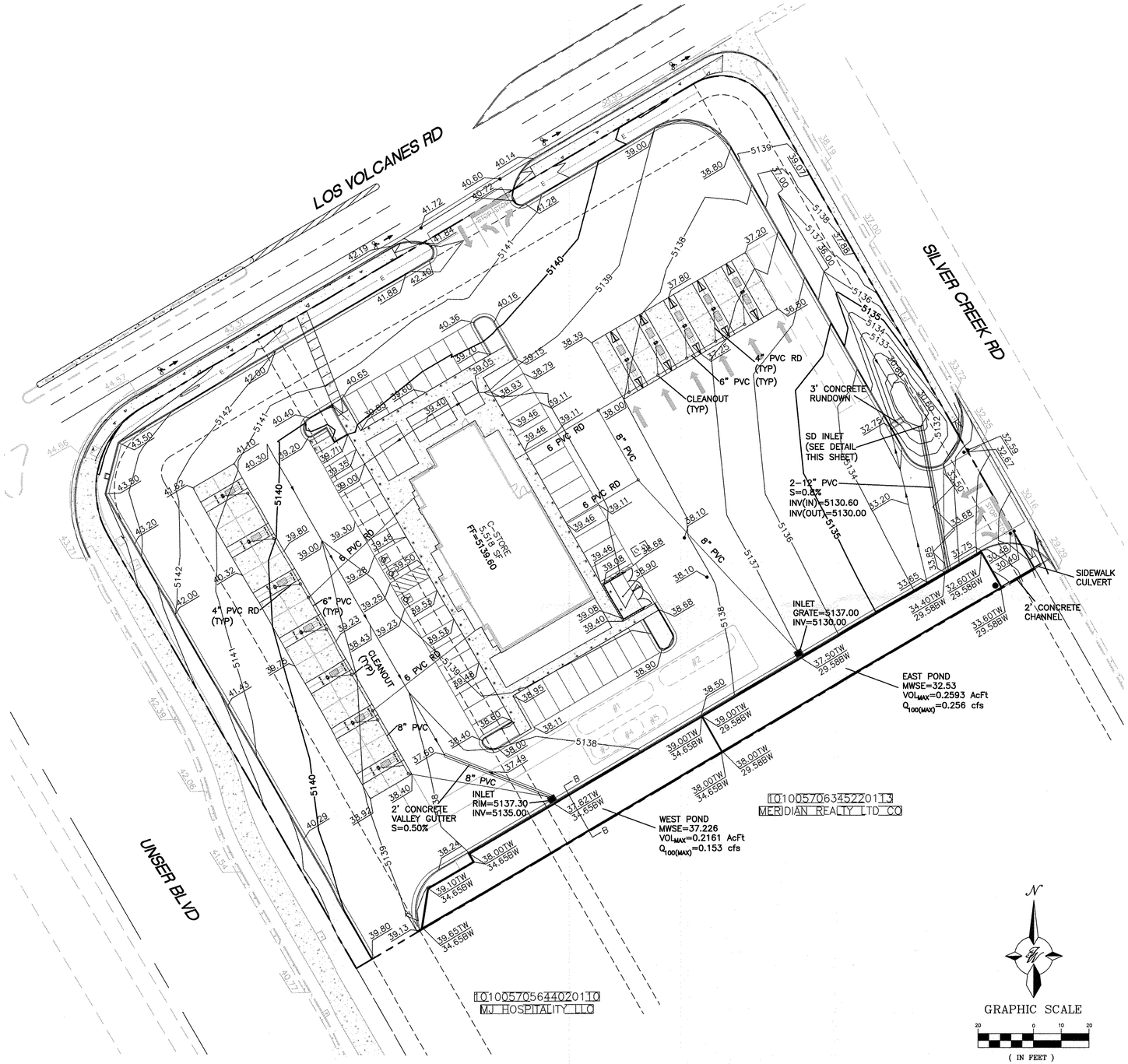
```
    *
    COMPUTE NM HYD       ID=1 HYD NO=100.1 AREA=0.00238 SQ MI
                         PER A=0.00 PER B=15.00 PER C=0.00 PER D=85.00
                         TP=-0.1333 HR MASS RAINFALL=-1

         K =  0.072649HR    TP =  0.133300HR    K/TP RATIO =  0.545000     SHAPE
CONSTANT, N =  7.106428
         UNIT PEAK =   7.9869    CFS   UNIT VOLUME =   0.9978       B =   526.28
 P60 = 1.8700
         AREA =     0.002023 SQ MI    IA =   0.10000 INCHES    INF =   0.04000
INCHES PER HOUR
         RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000


         K =  0.130992HR    TP =  0.133300HR    K/TP RATIO =  0.982685     SHAPE
CONSTANT, N =  3.593298
         UNIT PEAK =  0.87598    CFS   UNIT VOLUME =   0.9867       B =   327.08
 P60 = 1.8700
         AREA =     0.000357 SQ MI    IA =   0.50000 INCHES    INF =   1.25000
INCHES PER HOUR
         RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

    PRINT HYD            ID=1 CODE=1

                                      PARTIAL HYDROGRAPH   100.10


        RUNOFF VOLUME =     2.17912 INCHES      =       0.2766 ACRE-FEET
        PEAK DISCHARGE RATE =       6.36 CFS  AT   1.500 HOURS   BASIN AREA =
0.0024 SQ. MI.



    *
    *
    *BASIN 2
    *
    COMPUTE NM HYD       ID=2 HYD NO=100.2 AREA=0.00006 SQ MI
                         PER A=0.00 PER B=15.00 PER C=0.00 PER D=85.00
                         TP=-0.1333 HR MASS RAINFALL=-1

         K =  0.072649HR    TP =  0.133300HR    K/TP RATIO =  0.545000     SHAPE
CONSTANT, N =  7.106428
         UNIT PEAK =  0.20135    CFS   UNIT VOLUME =   0.9490       B =   526.28
 P60 = 1.8700
         AREA =     0.000051 SQ MI    IA =   0.10000 INCHES    INF =   0.04000
```

```
INCHES PER HOUR
         RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

    PRINT HYD           ID=3 CODE=1

                                      PARTIAL HYDROGRAPH   100.30


        RUNOFF VOLUME =     2.17912 INCHES     =       0.2417 ACRE-FEET
        PEAK DISCHARGE RATE =       5.56 CFS  AT   1.500 HOURS   BASIN AREA =
0.0021 SQ. MI.



    *
    *
    *BASIN 4
    *
    COMPUTE NM HYD      ID=4 HYD NO=100.4 AREA=0.00013 SQ MI
                        PER A=0.00 PER B=100.00 PER C=0.0 PER D=0.00
                        TP=-0.1333 HR MASS RAINFALL=-1

         K =  0.130992HR    TP =  0.133300HR    K/TP RATIO =  0.982685     SHAPE
CONSTANT, N =  3.593298
         UNIT PEAK =  0.31898    CFS   UNIT VOLUME =   0.9613       B =   327.08
 P60 = 1.8700
         AREA =     0.000130 SQ MI    IA =   0.50000 INCHES    INF =   1.25000
INCHES PER HOUR
         RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

    PRINT HYD           ID=4 CODE=1

                                      PARTIAL HYDROGRAPH   100.40


        RUNOFF VOLUME =     0.83873 INCHES     =       0.0058 ACRE-FEET
        PEAK DISCHARGE RATE =       0.21 CFS  AT   1.500 HOURS   BASIN AREA =
0.0001 SQ. MI.



    *
    *
    *BASIN 5
    *
    COMPUTE NM HYD      ID=5 HYD NO=100.5 AREA=0.00013 SQ MI
```

```
        RUNOFF VOLUME =     0.83873 INCHES     =       0.0018 ACRE-FEET
        PEAK DISCHARGE RATE =       0.07 CFS  AT   1.500 HOURS   BASIN AREA =
0.0000 SQ. MI.



    *
    *
    ADD HYD                         ID=20 HYD NO=100.20 ID=3 ID=5

    ADD HYD                         ID=21 HYD NO=100.21 ID=20 ID=7

    *
    *
    *ROUTE BASIN 3, 5 & OS-1 THROUGH DETENTION WEST POND
    *
    *
    ROUTE RESERVOIR     ID=55 HYD NO=200.1 INFLOW ID=21 CODE=24
                            OUTFLOW (CFS) STORAGE(AC-FT) ELEVATION(FT)
                                    0.000          0.0294             35.00

                                    0.068          0.0713             35.50

                                    0.101          0.1133             36.00

                                    0.125          0.1552             36.50

                                    0.145          0.1972             37.00

                                    0.163          0.2391             37.50

                                    0.179          0.2811             38.00

                                    0.194          0.3230             38.50


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

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

        0.00        0.00      35.00       0.029       0.00
        1.20        0.80      35.11       0.038       0.01
        2.40        0.19      37.23       0.216       0.15
        3.60        0.01      37.09       0.205       0.15
        4.80        0.02      36.93       0.192       0.14
        6.00        0.03      36.80       0.180       0.14
```

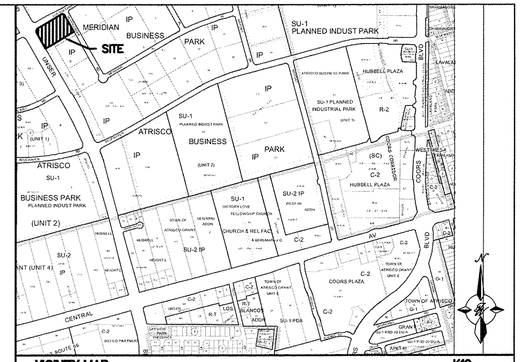
```
*
*
ADD HYD                          ID=22 HYD NO=100.22 ID=1 ID=4

ADD HYD                          ID=24 HYD NO=100.24 ID=22 ID=55

*
*
*ROUTE BASIN 1 & 4 AND OUTFLOW FROM WEST POND THROUGH DETENTION EAST POND
*
*
ROUTE RESERVOIR     ID=56 HYD NO=200.2 INFLOW ID=24 CODE=24
                        OUTFLOW (CFS) STORAGE(AC-FT) ELEVATION(FT)
                                0.000          0.0424             30.00

                                0.103          0.0849             30.50

                                0.155          0.1275             31.00

                                0.194          0.1700             31.50

                                0.226          0.2125             32.00

                                0.254          0.2551             32.50

                                0.279          0.2976             33.00

                                0.302          0.3401             33.50


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

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

     0.00        0.00      30.00       0.042       0.00
     1.20        0.93      30.12       0.053       0.03
     2.40        0.37      32.54       0.259       0.26
     3.60        0.16      32.47       0.253       0.25
     4.80        0.16      32.37       0.244       0.25
     6.00        0.17      32.28       0.236       0.24
     7.20        0.17      32.19       0.229       0.24
     8.40        0.16      32.11       0.222       0.23
     9.60        0.16      32.02       0.215       0.23
    10.80        0.15      31.94       0.207       0.22
    12.00        0.15      31.86       0.200       0.22
    13.20        0.14      31.77       0.193       0.21
    14.40        0.14      31.69       0.186       0.21
```

```
    *
    *
    ADD HYD                          ID=57 HYD NO=100.57 ID=2 ID=56

    *
    *
    PRINT HYD           ID=57  CODE=1

                                        PARTIAL HYDROGRAPH   100.57


        RUNOFF VOLUME =     2.08613 INCHES     =       0.5363 ACRE-FEET
        PEAK DISCHARGE RATE =       0.34 CFS  AT   1.550 HOURS   BASIN AREA =
0.0048 SQ. MI.



    *
    *
    FINISH

        NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 08:24:59
```

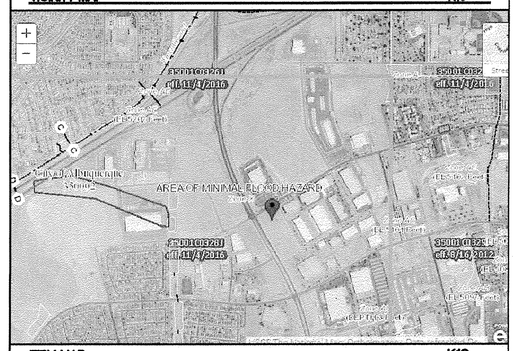



## LEGEND

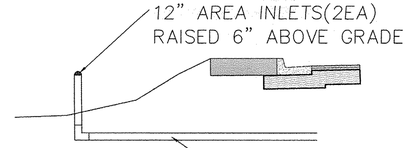
- CURB & GUTTER
- BOUNDARY LINE
- EASEMENT
- RIGHT-OF-WAY
- BUILDING
- SIDEWALK
- RETAINING WALL
- 5010 CONTOUR MAJOR
- 5011 CONTOUR MINOR
- 48.25 SPOT ELEVATION
- FLOW ARROW
- EXISTING CURB & GUTTER
- EXISTING BOUNDARY LINE
- 5010 EXISTING CONTOUR MAJOR
- 5011 EXISTING CONTOUR MINOR
- 48.25 EXISTING SPOT ELEVATION



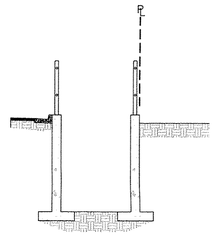

VICINITY MAP: K10



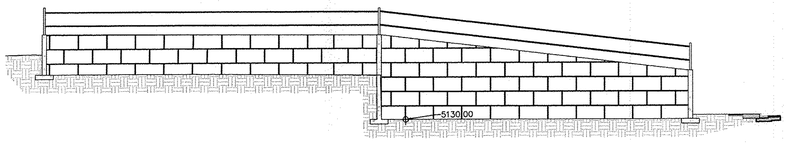

FIRM MAP: K10




DETAIL 1



SECTION B-B




SECTION A-A

GRAPHIC SCALE

20 0 10 20

( IN FEET )
1 inch = 20 ft.

| | |
|---|---|
| ENGINEER'S SEAL | MAVERIK STORE #NM-0115<br>UNSER AND LOS VOLCANES |
| | GRADING AND DRAINAGE PLAN |
| VINCENT P. CARRICA P.E. #16212 | TIERRA WEST, LLC<br>5571 MIDWAY PARK PL NE<br>ALBUQUERQUE, NEW MEXICO 87109<br>(505) 858-3100<br>www.tierrawestllc.com |

DRAWN BY: pm
DATE: 3-19-19
DRAWING
SHEET #: GR-1
JOB #: 2018042

## BMP MAINTENANCE:

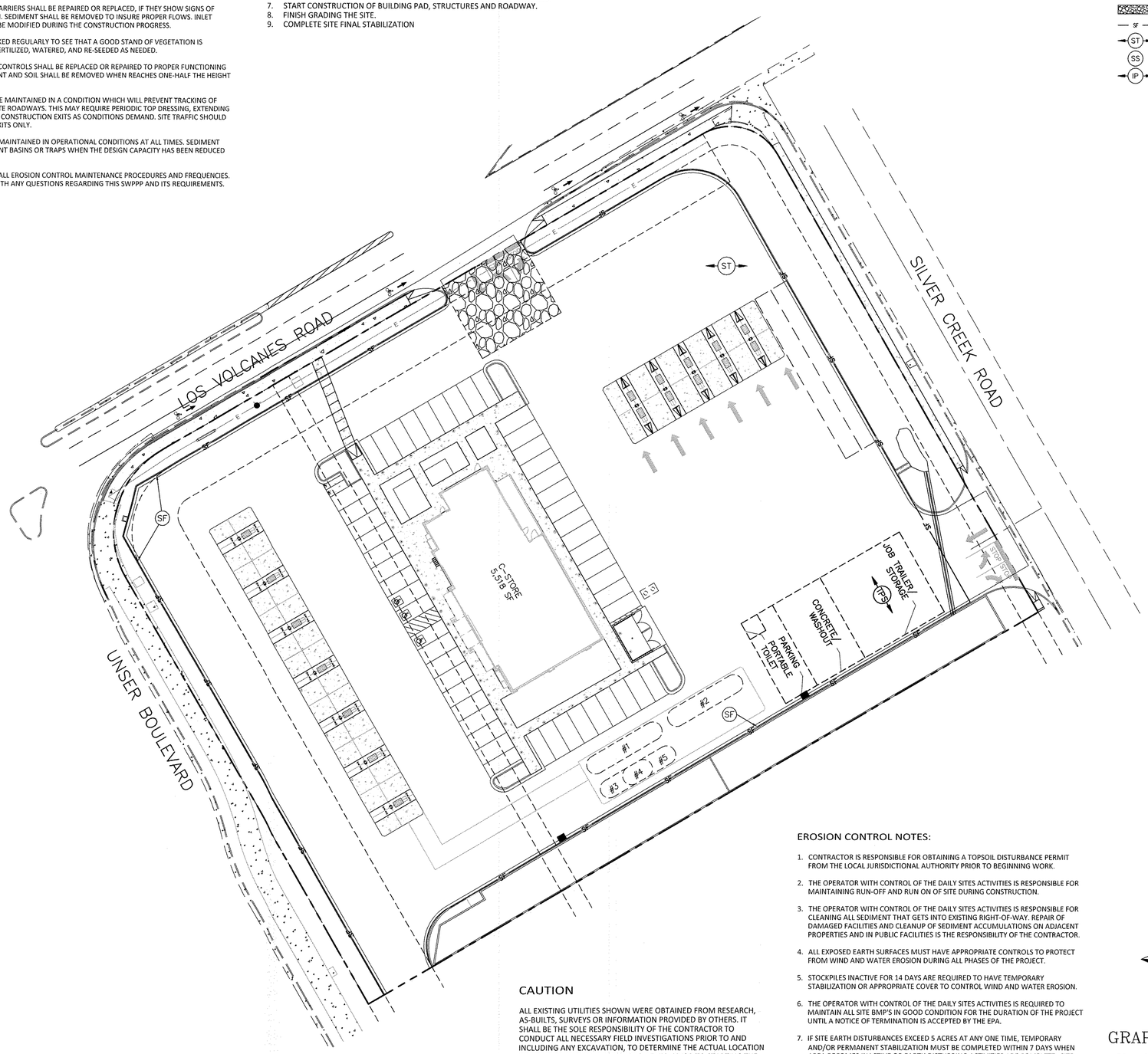
ALL MEASURES STATED IN THIS EROSION AND SEDIMENT CONTROL PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR UNTIL FINAL STABILIZATION OF THE SITE IS ACHIEVED. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED AT THE END OF THE WORKDAY BY A QUALIFIED MEMBER OF THE SWPPP COMPLIANCE TEAM.

THE OPERATOR WITH CONTROL OF THE SITES DAILY ACTIVITIES IS RESPONSIBLE TO MAINTAIN, CLEAN AND REPAIR EROSION CONTROLS IN ACCORDANCE WITH THE FOLLOWING:

1. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED, IF THEY SHOW SIGNS OF UNDERMINING OR DETERIORATION. SEDIMENT SHALL BE REMOVED TO INSURE PROPER FLOWS. INLET PROTECTION TYPES MAY NEED TO BE MODIFIED DURING THE CONSTRUCTION PROGRESS.
2. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND OF VEGETATION IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED, AND RE-SEEDED AS NEEDED.
3. SILT FENCES, WADDLES OR OTHER CONTROLS SHALL BE REPLACED OR REPAIRED TO PROPER FUNCTIONING CONDITION, IF DAMAGED. SEDIMENT AND SOIL SHALL BE REMOVED WHEN REACHES ONE-HALF THE HEIGHT OF THE CONTROL.
4. THE CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC OR PRIVATE ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING, EXTENDING OR OTHER MODIFICATIONS TO THE CONSTRUCTION EXITS AS CONDITIONS DEMAND. SITE TRAFFIC SHOULD BE LIMITED TO THE CONTROLLED EXITS ONLY.
5. SEDIMENTATION BASINS SHALL BE MAINTAINED IN OPERATIONAL CONDITIONS AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.
6. REFERENCE THE SWPPP BOOK FOR ALL EROSION CONTROL MAINTENANCE PROCEDURES AND FREQUENCIES. CONSULT THE SWPPP PREPARER WITH ANY QUESTIONS REGARDING THIS SWPPP AND ITS REQUIREMENTS.

## SEQUENCE OF CONSTRUCTION:

1. INSTALL STABILIZED CONSTRUCTION ENTRANCES.
2. POST PUBLIC NOTICE PER DETAIL
3. INSTALL DOWN GRADIENT PERIMETER CONTROLS.
4. NOTIFY SWPPP COMPLIANCE INSPECTOR OF COMPLETION OF THE ABOVE.
5. BEGIN GRUBBING AND SOIL DISTURBING ACTIVITIES.
6. PROVIDE TEMPORARY STABILIZATION OF DISTURBED AREAS OR STOCKPILES.
7. START CONSTRUCTION OF BUILDING PAD, STRUCTURES AND ROADWAY.
8. FINISH GRADING THE SITE.
9. COMPLETE SITE FINAL STABILIZATION

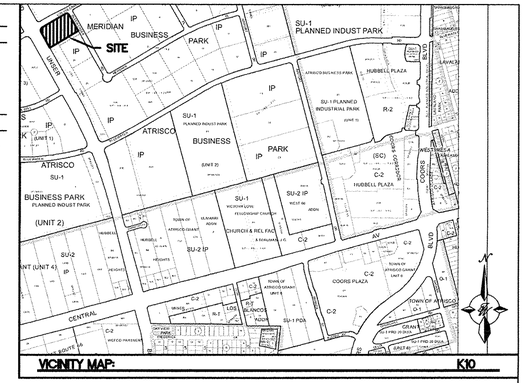



## EROSION NOTES

- TPS — TEMPORARY PARKING AND STORAGE
- LIMITS OF DISTURBANCE

## EROSION DETAILS

- CE — TEMPORARY STONE CONSTRUCTION EXIT
- SF — TEMPORARY SILT FENCE
- ST — TEMPORARY SEDIMENT TRAP
- SS — SWPPP SIGN
- IP — INLET PROTECTION




## LEGAL DESCRIPTION:

TRACT L-1-A-1, ATRISCO BUSINESS PARK

## GENERAL EROSION NOTES:

A. THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IS COMPRISED OF THE SWPPP BOOK, THE 2017 GENERAL CONSTRUCTION PERMIT, THIS DRAWING ("TEMPORARY EROSION CONTROL AND SEDIMENTATION PLAN"), STANDARD DETAILS ("TEMPORARY EROSION CONTROL AND SEDIMENTATION DETAILS"), EPA NOTICE OF INTENT PERMIT AND ALL SUBSEQUENT REPORTS, CORRECTIVE ACTIONS AND EROSION CONTROL RELATED DOCUMENTS.

B. ALL OPERATORS AS DESIGNATED, CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH SITE ACTIVITIES RELATED TO STORM WATER POLLUTION PREVENTION SHALL REVIEW A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP), THE 2017 CONSTRUCTION GENERAL PERMIT, THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES), THE CLEAN WATER ACT OF 1972 AND BECOME FAMILIAR WITH THEIR CONTENTS.

C. THE OPERATOR IN CONTROL OF DAILY SITE ACTIVITIES SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE SWPPP. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS THAT MAY OCCUR AT NO ADDITIONAL COST TO PROJECT OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.

D. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO ALL FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. OPERATOR WITH CONTROL OF DAILY SITE ACTIVITIES SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY, LOCAL JURISDICTIONAL AUTHORITY OR SWPPP COMPLIANCE INSPECTOR.

E. THE TEMPORARY EROSION CONTROL AND SEDIMENTATION PLAN IS A WORKING DOCUMENT AND IS REQUIRED TO BE UPDATED WITHIN 24 HOURS OF ANY CHANGES WHEN BMP'S ARE REPAIRED, RELOCATED OR REMOVED BY NOTING ON THE PLAN THE AREAS AND DATES OF THE REPAIRS, RELOCATIONS OR REMOVALS. AN ACTIVE COPY OF THE PLAN SHALL BE POSTED IN THE JOB SITE TRAILER ONSITE AND MUST BE MAINTAINED CURRENT AT ALL TIMES.

F. CONTRACTOR SHALL MINIMIZE CLEARING AND EARTH DISTURBANCE TO THE MAXIMUM ACREAGE AS REQUIRED BY THE EPA CONSTRUCTION GENERAL PERMIT.

G. CONTRACTOR SHALL DENOTE ON THIS PLAN, THE LOCATION OF TEMPORARY PARKING, STORAGE, PORTABLE SANITARY FACILITIES, OFFICE TRAILERS, AND ALL SUPPORT AREAS. RELOCATIONS OF EACH SHALL ALSO BE DOCUMENTED AS THEY OCCUR.

H. ALL WASH OUT WATER USED FOR CONCRETE, MASONRY, PAINT AND OTHER MATERIALS SHALL HAVE ADEQUATE SIGNAGE WITH PROPER CONTAINMENT AND DISPOSED OF PROPERLY WHEN CAPACITY REACHES 50% OR PER VENDOR RECOMMENDATIONS. VENDORS AND TRADESMEN SHALL BE INFORMED OF THE REQUIREMENTS TO USE THE WASH OUT.

I. A SPILL KIT SHALL BE READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS. A DISCHARGE OF ANY MATERIAL IN A QUANTITY THAT MAY WITHIN REASONABLE PROBABILITY CAUSE, INJURE OR BE DETRIMENTAL TO HUMAN HEALTH, ANIMAL OR PLANT LIFE, OR PROPERTY; OR INTERFERE WITH THE PUBLIC WELFARE MUST BE REPORTED TO THE NEW MEXICO ENVIRONMENTAL DEPARTMENT HOTLINE AT (505) 827-9329 FOR EMERGENCIES OR FOR NON EMERGENCIES AT (866)-428-6535. IF UNSURE IF THE SPILL IS OF A SIGNIFICANT QUANTITY, THE SPILL SHOULD BE REPORTED TO THE HOTLINE AND INFORMATION PROVIDED WITH DETAILS OF THE SPILL FOR FURTHER ACTIONS.

J. DUST DURING CONSTRUCTION OPERATIONS SHALL BE FREQUENTLY CONTROLLED BY WATER SUPPRESSION METHODS ONLY, EARTH DISTURBING OPERATIONS SHALL CEASE IF HIGH WINDS ABOVE 35 MPH ARE PRESENT. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS IS STRICTLY PROHIBITED. OTHER CHEMICALS USED FOR DUST SUPPRESSION MUST BE APPROVED BY THE EPA PRIOR TO THEIR USE.

K. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED, COVERED, LEAK PROOF CONTAINERS. CONTAINERS SHALL BE DISPOSED OF PROPERLY WHEN CAPACITY IS REACHED. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORMWATER.

L. ALL STORM WATER POLLUTION PREVENTION MEASURES AND CONTROLS PRESENTED ON THIS PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE INITIATED PER THE SEQUENCE OF CONSTRUCTION AS NOTED.

M. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS BEEN TEMPORARILY SUSPENDED FOR 14 DAYS, SHALL HAVE TEMPORARILY STABILIZATION IN PLACE NO LATER THAN 14 DAYS FROM THE LAST DATE OF CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS.

N. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL HAVE PERMANENT CONTROLS IN PLACE NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS.

O. IF THE ACTION OF VEHICLES OR EQUIPMENTS TRAVELING OVER THE CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD FROM LEAVING THE SITE. THEN THE LENGTH OF THE EXIT SHOULD BE EXTENDED TO PROVIDE ADDITIONAL TIRE ROTATIONS, LARGER ROCK MAY BE USED TO CREATE A SUFFICIENT JARRING MOTION OR INSTALL A TIRE WASH OFF WITH A SEDIMENT TRAP BEFORE LEAVING THE SITE.

P. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

Q. THE OPERATOR IN CHARGE OF THE DAILY SITES ACTIVITIES WILL BE RESPONSIBLE FOR REMOVING SEDIMENT OR SOILS ACCUMULATING MORE THAN 50% OF THE DESIGN CAPACITY IN DETENTION PONDS, SILT FENCING OR OTHER SIMILAR EROSION CONTROLS.

R. ON-SITE & OFFSITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES, AS REQUIRED PER THE CONSTRUCTION GENERAL PERMIT. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE ESC PLAN AND PERMITTED IN ACCORDANCE WITH LOCAL AUTHORITIES HAVING JURISDICTIONAL CONTROL.

S. SLOPES SHALL BE LEFT WITH CROSS SLOPE GRADING PATTERN AND IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION RILLS. EXCESSIVE SLOPES MAY REQUIRE ADDITIONAL INDUSTRY STANDARD CONTROLS TO PREVENT EROSION.

T. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE OPERATOR IN CONTROL OF THE SITE'S DAILY ACTIVITIES SHALL BE RESPONSIBLE FOR ADJUSTING AND MAINTAINING ALL EROSION CONTROL TO PREVENT EROSION.

U. ALL DISTURBED AREAS SHALL BE SUPPRESSED BY WATER AND ALL CONTROLS LEFT IN GOOD WORKING CONDITION AT THE END OF EACH WORKING DAY, THIS INCLUDES REPLACEMENT OF SILT FENCING AND/OR OTHER SURFACE CONTROLS, TRACK OUT SWEPT CLEAN, BACKFILL OF OPEN TRENCHES AND ANY OTHER EROSION CONTROLS.

## CAUTION

ALL EXISTING UTILITIES SHOWN WERE OBTAINED FROM RESEARCH, AS-BUILTS, SURVEYS OR INFORMATION PROVIDED BY OTHERS. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO AND INCLUDING ANY EXCAVATION, TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND OTHER IMPROVEMENTS, PRIOR TO STARTING THE WORK. ANY CHANGES FROM THIS PLAN SHALL BE COORDINATED WITH AND APPROVED BY THE ENGINEER.

## EROSION CONTROL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT FROM THE LOCAL JURISDICTIONAL AUTHORITY PRIOR TO BEGINNING WORK.
2. THE OPERATOR WITH CONTROL OF THE DAILY SITES ACTIVITIES IS RESPONSIBLE FOR MAINTAINING RUN-OFF AND RUN ON OF SITE DURING CONSTRUCTION.
3. THE OPERATOR WITH CONTROL OF THE DAILY SITES ACTIVITIES IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY. REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
4. ALL EXPOSED EARTH SURFACES MUST HAVE APPROPRIATE CONTROLS TO PROTECT FROM WIND AND WATER EROSION DURING ALL PHASES OF THE PROJECT.
5. STOCKPILES INACTIVE FOR 14 DAYS ARE REQUIRED TO HAVE TEMPORARY STABILIZATION OR APPROPRIATE COVER TO CONTROL WIND AND WATER EROSION.
6. THE OPERATOR WITH CONTROL OF THE DAILY SITES ACTIVITIES IS REQUIRED TO MAINTAIN ALL SITE BMP'S IN GOOD CONDITION FOR THE DURATION OF THE PROJECT UNTIL A NOTICE OF TERMINATION IS ACCEPTED BY THE EPA.
7. IF SITE EARTH DISTURBANCES EXCEED 5 ACRES AT ANY ONE TIME, TEMPORARY AND/OR PERMANENT STABILIZATION MUST BE COMPLETED WITHIN 7 DAYS WHEN AREA BECOMES INACTIVE OR EARTH DISTURBING ACTIVITIES ARE COMPLETE. SITE EARTH DISTURBANCES OF LESS THAN 5 ACRES, HAVE 14 DAYS TO PROVIDE TEMPORARY OR PERMANENT STABILIZATION WHEN AREA BECOMES INACTIVE OR EARTH DISTURBING ACTIVITIES ARE COMPLETE.

N

GRAPHIC SCALE

50 25 0 25 50

SCALE: 1"=50'

ENGINEER'S SEAL

RONALD R. BOHANNAN P.E. #7868

# MAVERIK STORE #NM-0115
## UNSER AND LOS VOLCANES
## EROSION CONTROL PLAN

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DRAWN BY: LA

DATE: 1/29/2019

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