

CITY OF ALBUQUERQUE

PLANNING DEPARTMENT – Development Review Services



October 2, 2015

Reza Afaghpour, P.E.
SBS Construction and Engineering
P.O. Box 10264
Albuquerque, NM 87184

Richard J. Berry, Mayor

**RE: Western United Electric
Conceptual Grading and Drainage Plan
Engineer's Stamp Date 9-17-2015 (H10D029)**

Dear Mr. Afaghpour:

Based upon the information provided in your submittal received 9-18-2015, the above referenced plan is approved for Building Permit and SO-19 Permit.

Please attach a copy of this approved plan in the construction sets when submitting for a building permit. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

PO Box 1293

Albuquerque

A separate SO-19 permit is required for construction within City ROW. A copy of this approval letter must be on hand when applying for the excavation/barricading permit. The work in the City ROW must be inspected and accepted. Contractor must contact Jason Rodriguez at 235-8016 and Construction Coordination at 924-3416 to schedule an inspection.

New Mexico 87103 Since the disturbed area on this site exceeds 1.0 acre, an Erosion and Sediment Control (ESC) Plan, prepared by a NM PE and approved by the City's Stormwater Engineer, will be required for this site

www.cabq.gov

If you have any questions, you can contact me at 924-3695.

Sincerely,

Rita Harmon, P.E.
Senior Engineer, Planning Dept.
Development Review Services

Orig: Drainage file
c.pdf: via Email: Shawn Biazar

- NOTICE TO CONTRACTORS
1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
 2. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
 3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL FOR LOCATING SERVICE, 260-1990 OR "811", FOR LOCATION OF EXISTING UTILITIES.
 4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONSTRUCTIONS. 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 THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
 7. WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

APPROVALS	NAME	DATE
INSPECTOR		

GENERAL NOTES:

1. CONTOUR INTERVAL IS HALF (1.00) FOOT.
2. ELEVATIONS ARE BASED ON CITY OF ALBUQUERQUE CONTROL STATION 4+H9, HAVING AN ELEVATION OF 5209.315 FEET ABOVE SEA LEVEL.
3. UTILITIES SHOWN HEREON ARE IN THEIR APPROXIMATE LOCATION BASED ONLY ON ABOVE GROUND EVIDENCE FOUND IN THE FIELD AND AS-BUILT INFORMATION PROVIDED BY THE CLIENT. UTILITIES SHOWN HEREON, WHETHER INDICATED AS ABANDONED OR NOT, SHALL BE VERIFIED BY OTHERS FOR EXACT LOCATION AND/ OR DEPTH PRIOR TO EXCAVATION OR DESIGN CONSIDERATIONS.
4. THIS IS NOT A BOUNDARY SURVEY, BEARINGS ARE ASSUMED, DISTANCES AND FOUND PROPERTY CORNERS ARE FOR INFORMATIONAL PURPOSES ONLY.
5. SLOPES ARE AT 3:1 MAXIMUM.

Location

TRACT 6, LADERA BUSINESS PARK, UNIT 1 Tract 6, Ladera Business Park, unit 1 is located at 7311 La Morada Pl., NW, and contains +/- 2.0686 Acres. See attached portion of the Vicinity Map for exact location.

Purpose

The purpose of this drainage report is to present a grading and drainage solution for new building and improvements with this tract of land.

Existing Drainage Conditions

This site falls within Master Drainage Plan for the Ladera Business Park, Area 1 (H10/D06A) prepared by Mark Goodwin and Associates. Area 1, discharging directly into streets at various locations which eventually drains directly into existing storm drain system desing for this development. Offsite Basin 6A at 0.50 cfs drain through this site.

Proposed Conditions and On-Site Drainage Management Plan

Since the Master Plan (File H10/D06A) is designed for complete discharge, we are proposing to pond the 90th Percentile/First Flush requirement which is 0.34 inches times the impervious area 77,390.18 (2,192.17 cf). Total retention volume provided (3,403.69 cf) far exceeds the ponding requirement for First Flush (2,192.17 cf). Offsite Basin 6A at 0.50 cfs will continue to drain through this site.

Calculations

City of Albuquerque, Development Process Manual, Section 22.2, Hydrology Section, was used for runoff calculations. See this plan for AHYMO input and Summary output files.

POND VOLUME REQUIRED

TOTAL PONDING VOLUME REQUIRED (90TH PERCENTILE/FIRST FLUSH) = 0.34 INCHES x IMPERVIOUS AREA = (0.34/12 x 77,390.18) = 2,192.17 CF

POND CALCULATION

TOTAL POND AREA PROVIDED = POND A + B = 3,403.69 CF > 2,192.17 CF
PONDING CALCULATIONS:

POND A: AREA @ 44.50 = 2,881.05, AREA @ 43.50 = 1,301.59

POND A VOLUME = (2,881.05 + 1,301.59)/2*1.0 = 2,091.32

POND B: AREA @ 42.45 = 1,240.57, AREA @ 41.15 = 509.26

POND B VOLUME = (1,240.57 + 509.26)/2*1.50 = 1,312.37

- * ZONE 1

***** 100-YEAR, 6-HR STORM (ON-SITE UNDER PROPOSED CONDITIONS) *****

START TIME=0.0
RAINFALL TYPE=1 RAIN QUARTER=0.0 IN
RAIN ONE=1.87 IN RAIN SIX=2.20 IN
RAIN DAY=2.66 IN DT=0.03333 HR
COMPUTE NM HYD ID=1 HYD NO=103.1 AREA=0.003149 SQ MI
PER A=0.00 PER B=13.00 PER C=47.00 PER D=40.00
TP=0.13333 HR MASS RAINFALL=1

***** 100-YEAR, 6-HR STORM (OFFSITE BASIN 6A) *****

START TIME=0.0
RAINFALL TYPE=1 RAIN QUARTER=0.0 IN
RAIN ONE=1.87 IN RAIN SIX=2.20 IN
RAIN DAY=2.66 IN DT=0.03333 HR
COMPUTE NM HYD ID=1 HYD NO=103.1 AREA=0.000381 SQ MI
PER A=0.00 PER B=100.00 PER C=0.00 PER D=0.00
TP=0.13333 HR MASS RAINFALL=1

* FINISH

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) -
INPUT FILE = MORADA.TXT

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1
START										
RAINFALL	TYPE= 1									
COMPUTE NM HYD		103.10	-	1	.00315	6.78	.224	1.33348	1.500	3.363 PER IMP= 40.00
START										
RAINFALL	TYPE= 1									
COMPUTE NM HYD		103.10	-	1	.00038	.50	.014	.66738	1.533	2.056 PER IMP= .00
FINISH										

- VERSION: 1997.02d

RUN DATE (MON/DAY/YR) =09/16/2015
USER NO.= AHYMO-I-9702c01000R31-AH

SIDEWALK CULVERT CALCULATIONS

2-24" Sidewalk Culvert Flow Capacity Calculation Using Weir Equation
Weir Equation: $Q = CLH^{3/2}$

H = 0.67'
L = 4.0'
C = 3.10

$Q = 3.10 \times 1.0 \times 0.67^{3/2} = 6.80$ cfs

6.78 cfs = Runoff generated from the site

WALL OPENING CALCULATIONS FOR OFFSITE BASIN 6A

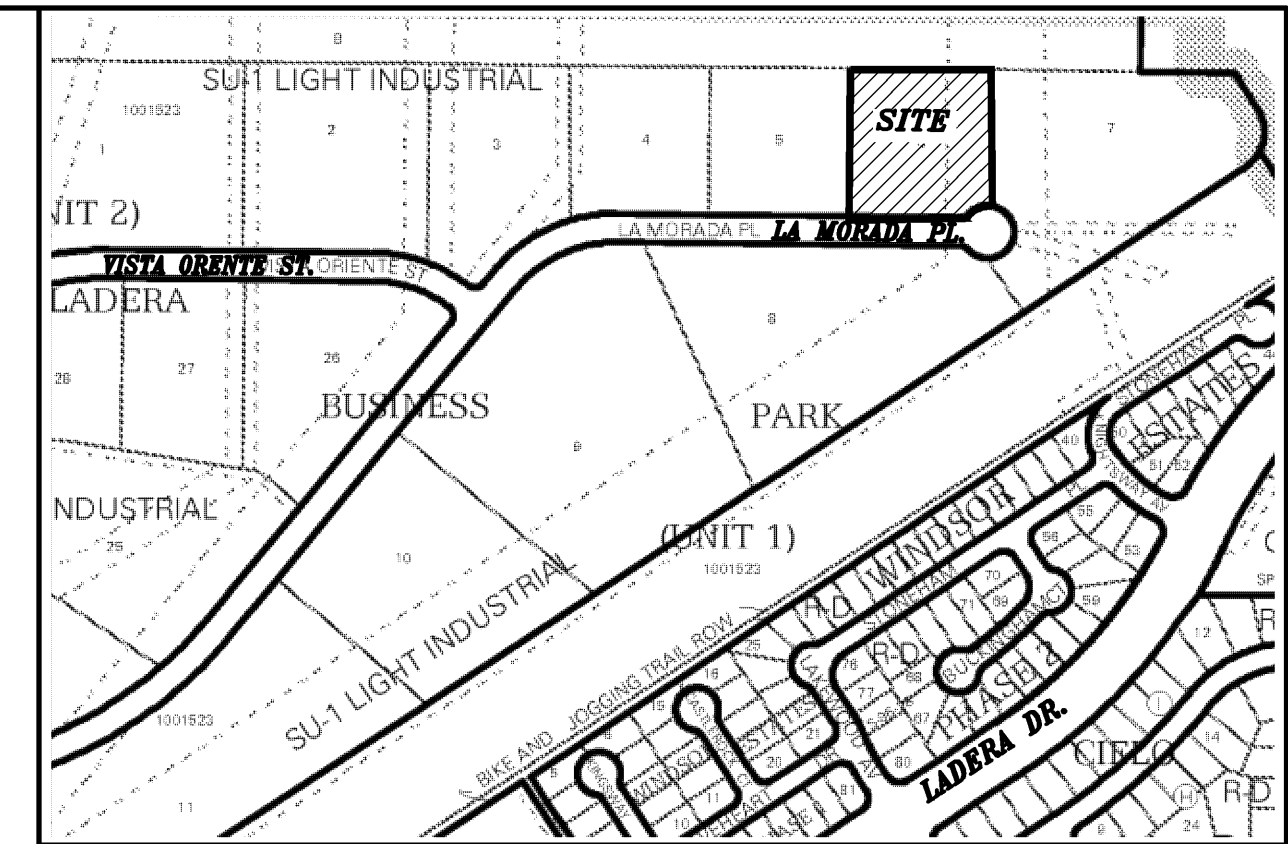
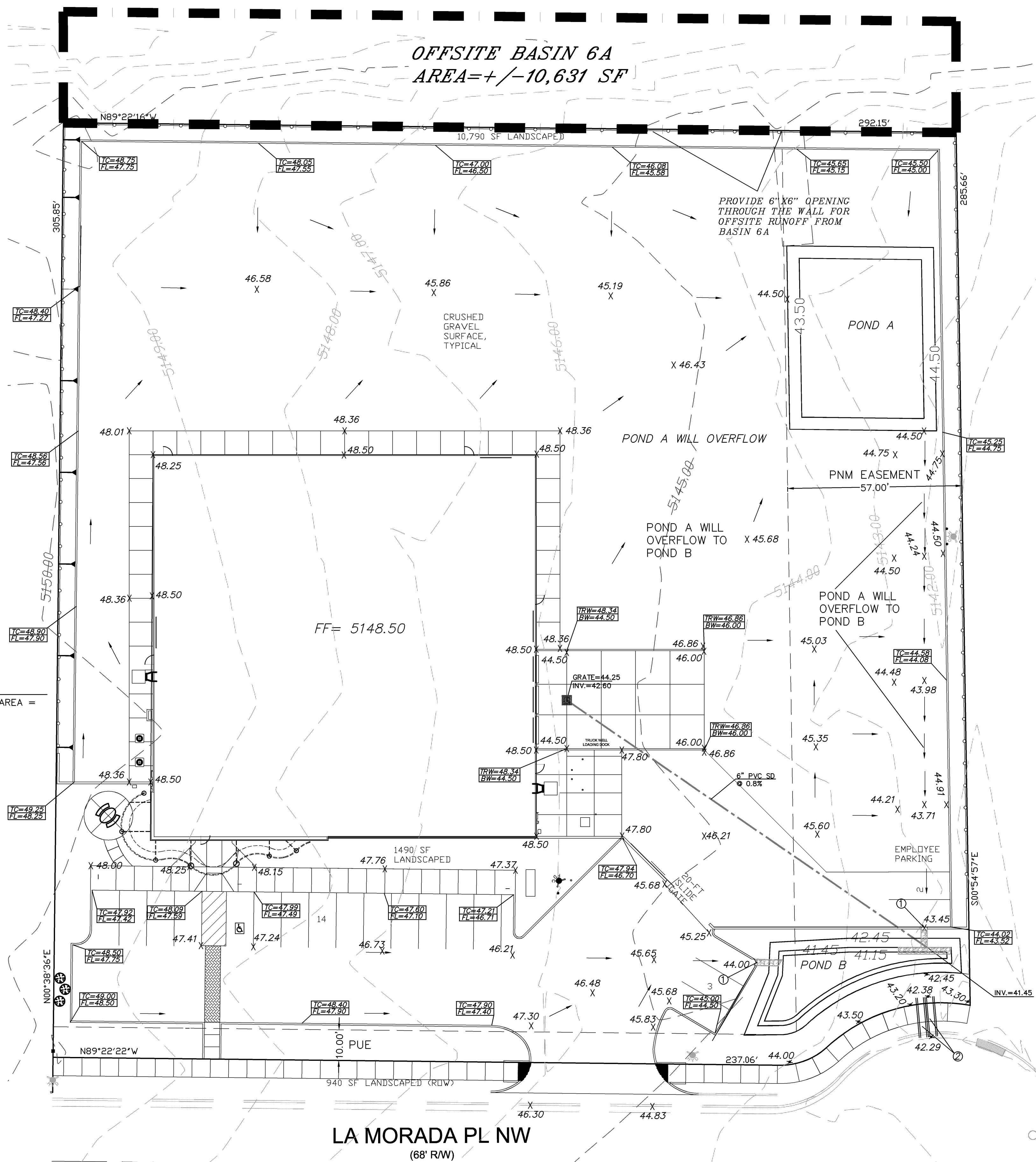
6" x 6" Wall Opening Capacity Calculation Using Weir Equation
Weir Equation: $Q = CLH^{3/2}$

H = 0.50'
L = 0.50'
C = 3.10

$Q = 3.10 \times 0.50 \times 0.50^{3/2} = 0.55$ cfs

There are 2 - 6"x6" openings $Q = 2 \times 0.55 = 1.10$ cfs

0.50 cfs = Runoff generated from Offsite Basin 6A



VICINITY MAP:

H-10-Z

LEGAL DESCRIPTION:

TRACT 6, LADERA BUSINESS PARK, UNIT 1
CONTAINING 87,790.00 S.F. (2.0613 ACRES)

ADDRESS

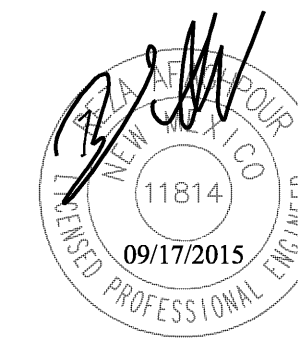
7311 LA MORADA PL., NW, ALBUQUERQUE, NM 87120

NOTES:

1. PROVIDE 12" CURB OPENING
2. 2'-24" SIDEWALK CULRVET PER CITY STD DWG 2236 (TACK WELD PLATE AT THE BOLT). EXTEND SIDEWALK CULVERT 2' BEYOND PROPERTY LINE.

LEGEND

- 5030 — EXISTING CONTOUR (MAJOR)
- 5029 — EXISTING CONTOUR (MINOR)
- BOUNDARY LINE
- X 28.50 PROPOSED SPOT ELEVATION
- 5029.16 EXISTING GRADE
- X 5028.65 EXISTING FLOWLINE ELEVATION
- FL
- BC=89.08 PROPOSED RETAINING WALL
- TRW=48.34 BOTTOM OF CHANEL
- BW=44.50 TOP OF RETAINING WALL
- HP BOTTOM WALL
- TC=47.92 HIGH POINT
- FL=47.42 TOP OF CURB
- SLOPE TIE FLOW LINE



REZA AFAHAGPOUR
P.E. #11814

**SBS CONSTRUCTION
AND ENGINEERING, LLC**

10209 SNOWFLAKE CT. NW
ALBUQUERQUE, NEW MEXICO 87114
(505)899-5570

WESTERN UNITED ELECTRIC CONCEPTUAL DRAINAGE PLAN

DRAWING:	DRAWN BY:	DATE:	SHEET #
201513-GD.DWG	SB	07-04-2015	4 OF 6



LAST REVISION: 09-17-15