

# CITY OF ALBUQUERQUE

PLANNING DEPARTMENT – Development Review Services



April 10, 2015

Phillip W. Clark, PE  
**Clark Consulting Engineers**  
19 Ryan Rd  
Edgewood, NM 87015

Richard J. Berry, Mayor

RE: **Signal Points lots 19 & 20**  
**Block 4, Tract 3, Unit 3, N. Albuquerque Acres**  
**Grading and Drainage Plan**  
**Engineer's Stamp Date: 3/2/15 (C20D070)**

Dear Mr. Clark:

Based upon the information provided in your submittal received 3/2/15, the above referenced plan cannot be approved for DRB action on the Preliminary Plat until the following comments are addressed:

- Address first flush requirements
- A branch of the North La Cueva arroyo breaches the Flood Plain limits and passes thru this site as shown by the aerials and site visits. There have been numerous conversations on acceptable mechanisms to deal with this scenario. These means were delineated in a letter dated 3-21-14 and are in the drainage file. Upon further conjecture, item 2a. will require a LOMR.
- Quantify flows from the La Cueva Arroyo breach and provide HES-RAS calculations.
- Provide adequate protection from the arroyo.

PO Box 1293

Albuquerque

New Mexico 87103

The pond shown will be fine for the management of the first flush.  
If you have any questions, you can contact me at 924-3695.

[www.cabq.gov](http://www.cabq.gov)

Sincerely,

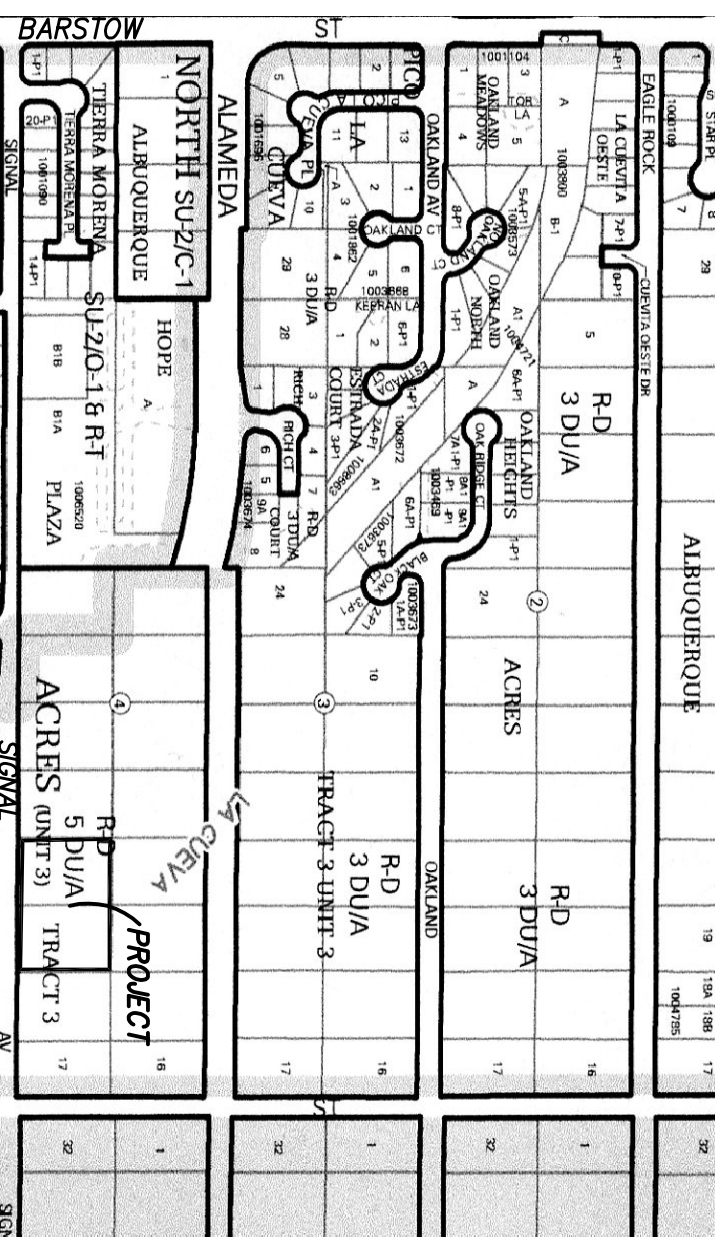
Rita Harmon, P.E.  
Senior Engineer, Planning Dept.  
Development Review Services

Orig: Drainage file  
c.pdf: via Email: Recipient

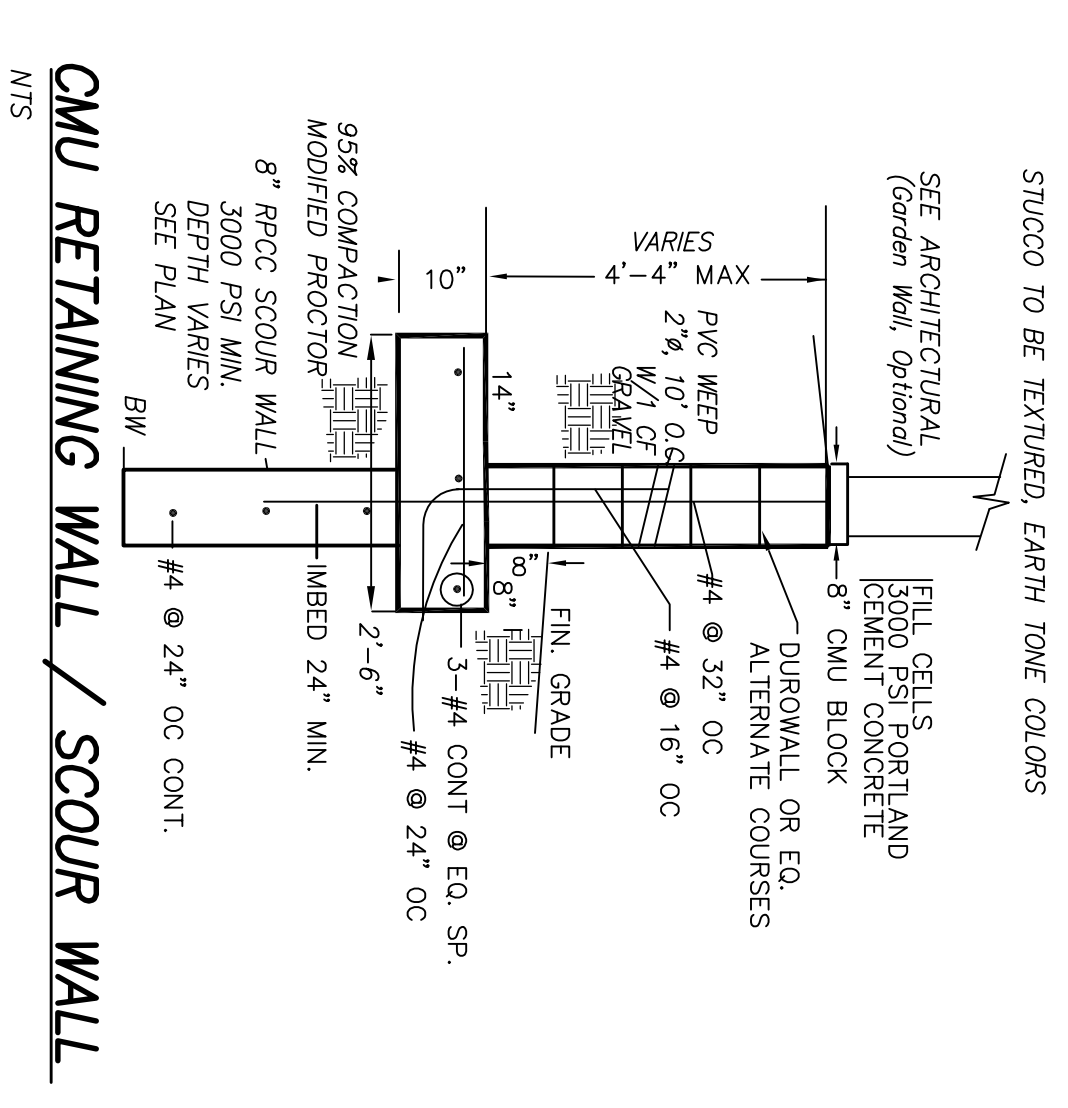


GRADING & DRAINAGE PLAN

0100 = 3090 CFS  
LA CUEVA ARROYO



VICINITY MAP



CMU RETAINING WALL / SCOUR WALL

N.T.S.

**DESIGN CRITERIA**  
HYDROLOGIC METHODS PER SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL (DPM)  
REVISED JANUARY 1993 FOR CITY OF ALBUQUERQUE, ADOPTED BY THE COUNTY OF BERNALILLO  
DISCHARGE RATE:  $Q = QPEAK \times AREA$ , Peak Discharge Rates for Small Watersheds  
VOLUMETRIC DISCHARGE:  $VOLUME = E_{weighted} \times AREA$   
 $P100 = 2.60$  inches, Zone 3  
Time of Concentration,  $T_c = 10$  minutes  
DESIGN STORM: 100-YEAR/6-HOUR, 10-YEAR/6-HOUR  $[ ] = 10$  YEAR VALUES

**HISTORIC CONDITIONS PER EXIST. LOT**  
100% A  
PROJECT AREA = 0.89 ACRES, WHERE EXCESS PRECIP.  $E_{weighted} = 0.66$  in.  $[0.19]$   
PEAK DISCHARGE:  $Q100 = 1.8$  CFS  $[1.06]$ , WHERE UNIT PEAK DISCHARGE  $\mu = 1.9$  CFS/AC.  $[0.60]$   
THEREFORE:  $VOLUME 100 = 2132$  CF  $[614]$

**DEVELOPED CONDITIONS** DETERMINE LAND TREATMENTS, PEAK DISCHARGE AND VOLUMETRIC DISCHARGE FOR STUDY AREA

AREA	TREATMENT	$Q$ Peak	$E$
UNDEVELOPED	0 XX AC.	1.87 $[0.66]$	0.66 $[0.19]$
LANDSCAPING	0.29 AC. $(17\%)$ B	2.60 $[1.19]$	0.30 $[0.82]$
COMPACTED SOIL & Slopes >	0.29 AC. $(16\%)$ C	3.45 $[2.00]$	1.30 $[0.82]$
ROOF - PAVEMENT	1.20 AC. $(67\%)$ D	5.02 $[3.39]$	2.36 $[1.50]$
1.78 AC.			

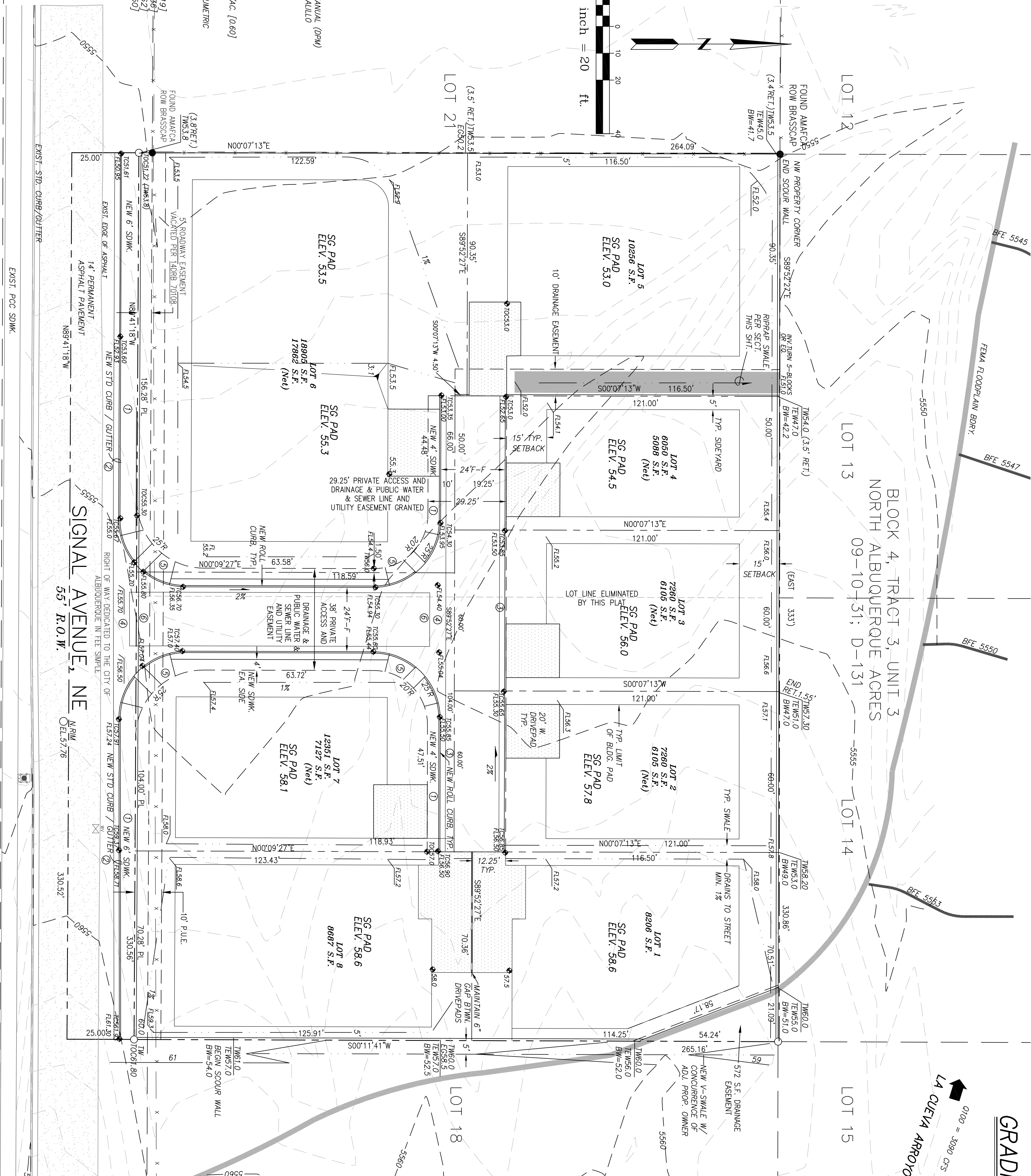
THEREFORE:  $E_{weighted} = 1.95$  in.  $[1.16]$  &  $VOLUME 100 = 12690$  CF  
 $Q100 = 5.0$  CFS  
UNIT DISCHARGE = 7.75 CFS/1.78 AC. = 4.35 CFS/AC.

• UPSTREAM ANALYSIS - SEE HEC-RAS WATER SURFACE MODEL OF LA CUEVA, ON FILE WITH CITY HYDROLOGY (Ref: C-20/D35) (REVISED 8/12)  
PER RIT STUDY,  $Q100 = 3090$  CFS AT VENTURA ST. (SEE LHM2012)

EROSION SET BACK ANALYSIS - PER SEGMENT EROSION DESIGN GUIDE (SEGD)

$Q_{100} = 3090$  CFS...LA CUEVA ARROYO  
 $Q_{10} = 0.29, 100 = 618$  CFS  $WD = 4.60' \pm 60$  FEET  
 $LAMDA = [0.8 + 4.0(0.01)] W^{0.718}$  FEET  
BANK SETBACK =  $LAMDA/4 = 179$  FEET  
CENTER LINE SETBACK =  $BSB + W/2 = 209$  FEET

THEREFORE: EROSION CONTROL IMPROVEMENTS REQUIRED - PER DISCUSSION WITH CITY AND AMARCA CONSTRUCT SCOUR WALL ON EAST/NORTH SIDES OF FUTURE LOT 2.



EXIST. STD. CURB/GUTTER

EXIST. PCC SDWK

SIGNAL AVENUE, NE

55' R.O.W.

O KEYED NOTE(S)

PROJECT DATA

LEGAL DESCRIPTION

LOTS 19/20, BLOCK 4, TRACT 3, UNIT 3  
NORTH ALBUQUERQUE ACRES, ALBUQUERQUE, NEW MEXICO

PROJECT BENCHMARK

THE BASIS OF ELEVATIONS FOR THIS SURVEY IS ACS BENCHMARK  
7-019 ELEVATION OF WHICH IS 5465.72. BENCHMARK IS LOCATED  
AT THE INTERSECTION OF BARSTOW ST. AND WOODSTOCK AVE.

TOPOGRAPHIC DESIGN SURVEY

COMPILED BY CLARK CONSULTING ENGINEERS FROM DESIGN SURVEY  
BY PHILIP W. TURNER P.E.S., DATED JULY 2014

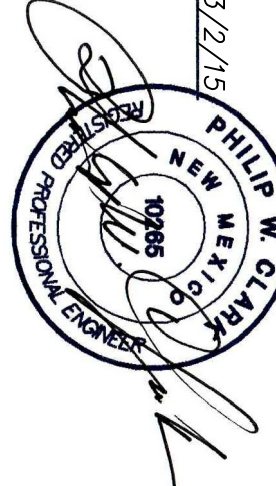
NOTES

- ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, W/ 8 UPDATES.
- AN EXCAVATION/CONSTRUCTION PERMIT IS REQUIRED BEFORE BEGINNING ANY WORK WITHIN WORK AREA. AN APPROVED COPY OF THIS PLAN MUST BE SUBMITTED AT THE TIME OF APPLICATION.
- ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
- CONTRACTOR SHALL ENSURE THAT NO SITE SOILS/SEDIMENT OR SILT ENTER THE RIGHT-OF-WAYS DURING CONSTRUCTION.
- AREAS DISTURBED DUE TO CONSTRUCTION.
- PER CITY OF ALBUQ. SPEC. 1012 NATIVE SEED MIX.
- MANUAL SITE GRADING WITHOUT EROSION PROTECTION:
- 3 HORIZONTAL TO 1 VERTICAL, 3:1, ALL DIMENSIONS TO FACE OF CURB, UNLESS NOTED OTHERWISE.

LEGEND

FL	FLOWLINE
EG	EXIST. GRADE
TW	TOP OF WALL, RETAINING
BW	BOTTOM ELEV. OF SCOUR WALL
BFE	BASE FLOOD ELEVATION (SEE FEMA REVSD MAP NOV. 08, 2012)
EX	EXIST. SPOT ELEVATION
NC	NEW SPOT ELEVATION
NC	NEW CONTOUR
EX	EXIST. CURB & GUTTER
NS	NEW SWALE
ND	DRAINAGE DIRECTION, EXISTING
PC	NEW P.C.C. CONCRETE
FW	FLOWLINE

APPROVED FOR ROUGH GRADING ONLY



Clark Consulting Engineers  
19 Ryan Road  
Edgewood, New Mexico 87015  
Tel: (505) 281-2444 Fax: (505) 281-2444

LOTS 19 & 20, BLK. 4, TR. 3, UNIT 3  
NORTH ALBUQ. ACRES, ALBUQ. NEW MEXICO  
SIGNAL POINTE SUBDIVISION

Grading & Drainage Plan

DESIGNED BY: PWC	DRAWN BY: CCE	JOB #: SignalPointe	SHEET
CHECKED BY: PWC	DATE: 2/26/15	FILE #: G/D	1 OF 1