

CITY OF ALBUQUERQUE



Richard J. Berry, Mayor

July 18, 2017

Anna Caffrey, PE
Bohannon Huston, Inc.
7500 Jefferson St NE
Albuquerque, NM 87109

RE: Lobo LL Field Expansion at Balduini Park
Grading Plan
Stamp Date: 7/13/17
Hydrology File: H16D149

Dear Ms. Caffrey:

Based upon the information provided in your submittal received 7/14/17, the Grading Plan **is not** approved for Grading Permit. The following comments need to be addressed for approval of the above referenced project:

1. Since the work to be done lays partially on AMAFA property and the work to be done affects an existing AMAFA pond for Embudo Channel, approval by AMAFCA will be need prior to Hydrology approval. Please contact Bradley Bingham, PE at (505) 884-2215 or bbingham@amafca.org. Please provide an approval letter from AMAFCA in your resubmittal to Hydrology.
2. Please provide the floodplain note on the Grading Plan.
3. Please label and show the delineation of all floodplain zones within the Grading Plan. Please also include the 100 year flood information for Zone "AH".

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

Sincerely,

Reneé C. Brissette

Reneé C. Brissette, P.E.
Senior Engineer, Hydrology
Planning Department



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 10/2015)

Project Title: Lobo LL Field Expansion at Balduini Park **Building Permit #:** _____ **Hydrology File #:** _____

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

Legal Description: Balduini Park

City Address: 2101 Bryn Mawr Dr NE

Applicant: Bohannon Huston Inc **Contact:** Anna Caffrey

Address: 7500 Jefferson St NE, Courtyard II, Albuquerque, NM, 87109

Phone#: 505-823-1000 **Fax#:** 505-798-7988 **E-mail:** acaffrey@bhinc.com

Other Contact: City of Albuquerque **Contact:** Richard Zita

Address: One Civic Plaza, Room 7057, Albuquerque, NM, 87103

Phone#: 505-768-3856 **Fax#:** 505-768-2310 **E-mail:** rzita@cabq.gov

Check all that Apply:

DEPARTMENT:

- ☒ HYDROLOGY/ DRAINAGE
☐ TRAFFIC/ TRANSPORTATION
☐ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

- ☐ ENGINEER/ARCHITECT CERTIFICATION

☐ CONCEPTUAL G & D PLAN
☒ GRADING PLAN
☐ DRAINAGE MASTER PLAN
☐ DRAINAGE REPORT
☐ CLOMR/LOMR

☐ TRAFFIC CIRCULATION LAYOUT (TCL)
☐ TRAFFIC IMPACT STUDY (TIS)
☐ EROSION & SEDIMENT CONTROL PLAN (ESC)

☐ OTHER (SPECIFY) _____

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

PRE-DESIGN MEETING?

☐ OTHER (SPECIFY) _____

IS THIS A RESUBMITTAL?: ☐ Yes ☒ No

DATE SUBMITTED: 07/13/2017 By: Anna Q. Caffrey

COA STAFF: _____ ELECTRONIC SUBMITTAL RECEIVED: _____

Courtyard I
7500 Jefferson St. NE
Albuquerque, NM
87109-4335

www.bhinc.com

voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

MEMORANDUM

DATE: July 13, 2017

TO: Richard Zita, City of Albuquerque

FROM: Anna Caffrey, PE

SUBJECT: Final Drainage Analysis Results for the Lobo Little League Field Expansion in Balduini Park



Background

This memorandum provides information on the drainage design of the Lobo Little League Field Expansion in Balduini Park. The project is located on the northeast side of the City of Albuquerque, just south of Menaul Blvd and east of the Embudo Channel and North Diversion Channel convergence. The existing ponding area was built in 1969 as part of the North Diversion Channel Phase III project and receives flow from the Lower Menaul Basin. The ponding area originally discharged to the North Diversion Channel via a 24-inch gated outlet pipe. In 2001, the outlet pipe was retrofitted with a ported riser.

This Field Expansion project will require the baseball field fence, AMAFCA maintenance road, and roadside side swale to be relocated into the ponding area as shown on Figure 1. The existing embankment for the Embudo Channel will not be disturbed in order to avoid the USACE requirement for modifications to a levee. The 8-foot existing maintenance road will remain adjacent to the embankment slope, and a new 15-foot wide maintenance road to the north will be constructed.

Background Review

Several previous studies and as-builts were reviewed and are summarized below:

- *Storm Drainage Report Princeton & Menaul Drainage Areas at the North Diversion Channel*, William Matotan & Associates Engineers, June 1965 – The configuration recommended in this report was different from what was ultimately constructed. Two ponding areas were recommended: one north of Menaul and one south of Menaul connected by an equalizer pipe. The principal spillway was a lift station which pumped flow from the north pond to the North Diversion Channel; however, the report does provide flow rates and volumes reaching the Ponding Area of 175 cfs and 13.5 ac-ft for the 100-year event and 195 cfs and 32 ac-ft for the larger, project storm.
- *North Diversion Channel Phase III As-builts*, USACE, 1969 – A 24-inch gated outlet pipe was constructed through the North Diversion Channel embankment, and some of the Menaul Ponding area was regraded so that the area would drain to the outlet pipe.
- *Albuquerque Master Drainage Study*, Bohannon Huston, 1987 – Provides peak 100-year flow rates on Menaul at Carlisle Blvd of 111 cfs and on Bryn Mawr Dr at the Embudo Channel of 98 cfs.
- *Construction Plans for Principal Spillway Inlet Modifications at Menaul Ponding Area*, Boyle Engineering Cooperation, December 2001 – The existing 24-inch gated outlet pipe was modified to include a ported riser inlet structure with an inlet grate on top.

- *FEMA Flood Insurance Rate Map*, August 2012 – The map shows an approximate 100-year elevation of 5,089 feet, but no backup data is provided in the Flood Insurance Study to determine how it was calculated.

Ponding Area Stage Storage Analysis

A topographic survey of the existing site was completed for the Field Expansion project; however, the survey did not cover the entire ponding area, so 2010 city-wide contours were used to supplement the survey data. Using the merged contours, a stage-storage curve was computed using the Average End Area Method at a 1-foot contour interval. This computation is included as Table 1.

**Table 1 – Existing Menaul Ponding Area Stage Storage Calculations
(Average End Area Method)**

NAVD88	CONTOUR	CONTOUR	AVG.	HEIGHT	VOLUME	TOTAL
ELEV.	AREA	AREA	AREA			VOLUME
(FT)	(SQ-FT)	(AC)	(AC)	(FT)	(AC-FT)	(AC-FT)
5,088	0	0.00	-	-	-	0.00
5,089	68,608	1.58	0.79	1	0.79	0.79
5,090	84,210	1.93	1.75	1	1.75	2.54
5,091	93,603	2.15	2.04	1	2.04	4.58
5,092	103,212	2.37	2.26	1	2.26	6.84
5,093	118,372	2.72	2.54	1	2.54	9.39
5,094	134,211	3.08	2.90	1	2.90	12.28
5,095	174,029	4.00	3.54	1	3.54	15.82
5,096	222,004	5.10	4.55	1	4.55	20.37
5,097	255,115	5.86	5.48	1	5.48	25.84
5,098	306,721	7.04	6.45	1	6.45	32.29
5,099	366,459	8.41	7.73	1	7.73	40.02
5,100	407,649	9.36	8.89	1	8.89	48.91

Grading for the new maintenance road was done in Civil3D. The proposed contours were merged with existing contours, and a stage-storage curve was computed using the Average End Area Method at a 1-foot contour interval, see Table 2. A comparison of Table 1 and Table 2 shows a slight decrease in storage. The existing and proposed WSEL are compared at various design criteria in Table 3.

**Table 2 – Proposed Menaul Ponding Area Stage Storage Calculations
(Average End Method)**

NAVD88	CONTOUR	CONTOUR	AVG.	HEIGHT	VOLUME	TOTAL
ELEV.	AREA	AREA	AREA			VOLUME
(FT)	(SQ-FT)	(AC)	(AC)	(FT)	(AC-FT)	(AC-FT)
5,088	0	0.00	-	-	-	0.00
5,089	64,711	1.49	0.74	1	0.74	0.74
5,090	78,940	1.81	1.65	1	1.65	2.39
5,091	87,594	2.01	1.91	1	1.91	4.30
5,092	96,159	2.21	2.11	1	2.11	6.41
5,093	111,400	2.56	2.38	1	2.38	8.79
5,094	137,177	3.15	2.85	1	2.85	11.65
5,095	173,088	3.97	3.56	1	3.56	15.21
5,096	222,011	5.10	4.54	1	4.54	19.74
5,097	255,115	5.86	5.48	1	5.48	25.22
5,098	306,721	7.04	6.45	1	6.45	31.67
5,099	366,459	8.41	7.73	1	7.73	39.40
5,100	407,649	9.36	8.89	1	8.89	48.28

Table 3 –Stage Storage Comparison

CRITERIA	EX. WSEL	EX. VOLUME	PROPOSED WSEL	INCREASE IN WSEL
	(FT)	(AC-FT)	(FT)	(FT)
WSEL OF 5089 PER FEMA MAP	5,089	0.79	5,089.03	0.03
100-YR VOLUME PER 1965 REPORT	5,094.34	13.5	5,094.52	0.18
PROJECT STORM VOLUME PER 1965 REPORT	5,097.96	32.0	5,098.04	0.08

Ditch Analysis

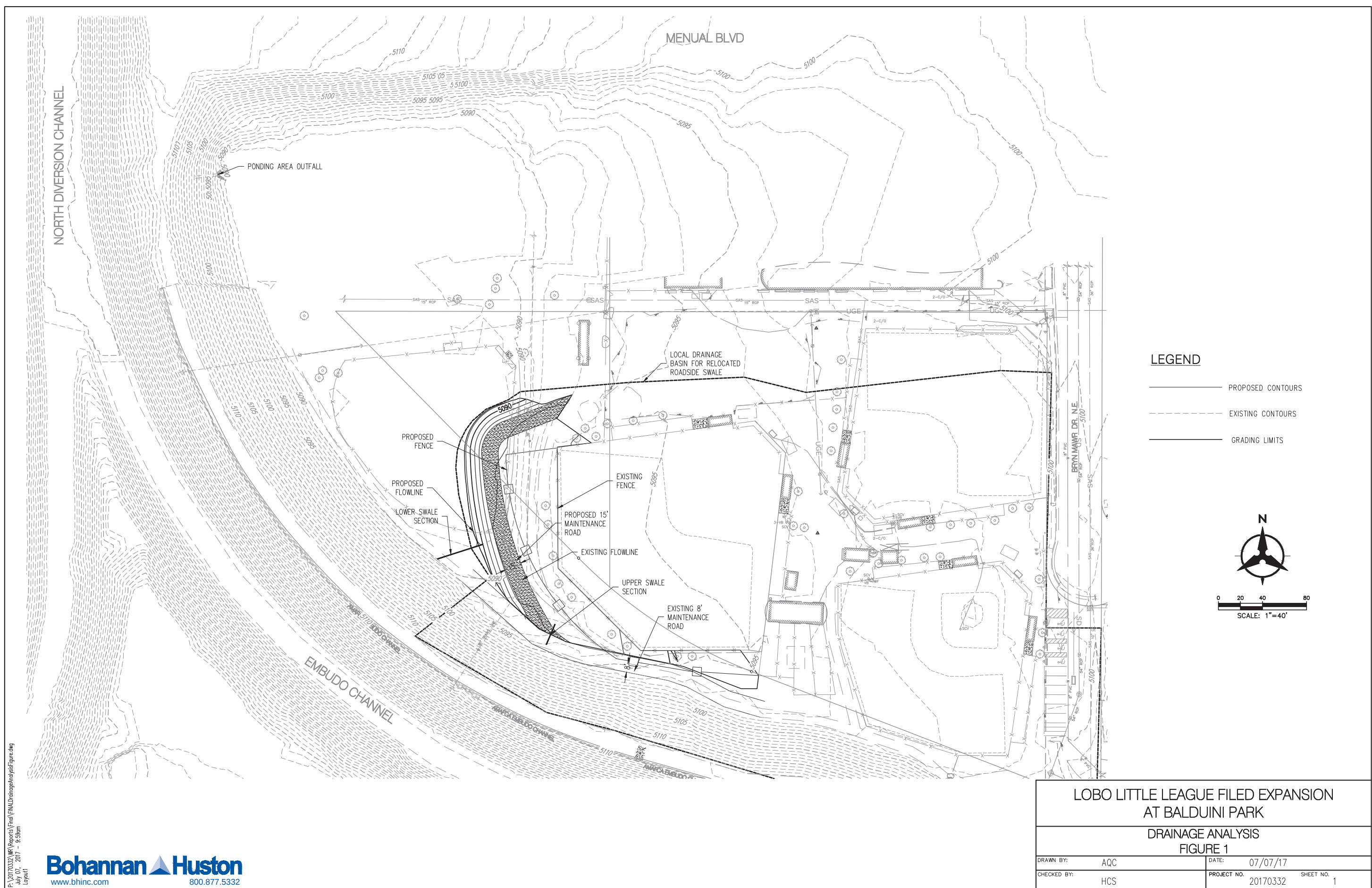
A local drainage basin was delineated for the area reaching the relocated roadside swale. The limits of the basins are Bryn Mawr to the east (because of the existing storm drain) and the top of the channel embankment to the south and west. A 100-year flow rate was calculated using the rational methodology for 40 acre and smaller basins per the COA DPM, Chapter 22, Part A. The basin is mainly Land Treatment Type B for the park but does have 13 percent Land Treatment Type C for the steeper channel embankment slope and 1 percent Land Treatment Type D for the building and dugouts. The project is in Zone 2. A 100-year flow rate of 11.0 cfs was calculated.

The roadside swale was analyzed using Manning's equation in Hydraflow Express. Two sections were used. The upper section is located at the start of the swale and in the middle where the maintenance road to the north and the maintenance road to the west split. The side slopes are 10:1, and the longitudinal slope is 3 percent. The lower section is located where the ditch meets the flatter ponding area. The side slopes are 4:1 on the maintenance road tie slope side and 30:1 on the ponding area side. The longitudinal slope is flat and assumed to be 0.1 percent for this analysis. The upper section has a depth of 0.6 feet and a velocity of 3.2 fps. The lower section has a depth of 0.9 feet and a velocity of 0.8 fps.

Recommendations

In summary, from the analysis performed in this memorandum, the proposed conditions grading of the Lobo Little League Field Expansion at Balduino Park does not adversely impact the function of the Menaul Ponding Area. Although there will be a slight increase to the water surface elevation of the floodplain due to fill from the project, there is plenty of freeboard in the pond and none of the structures will be impacted.

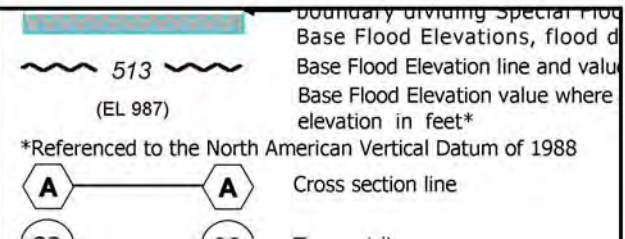
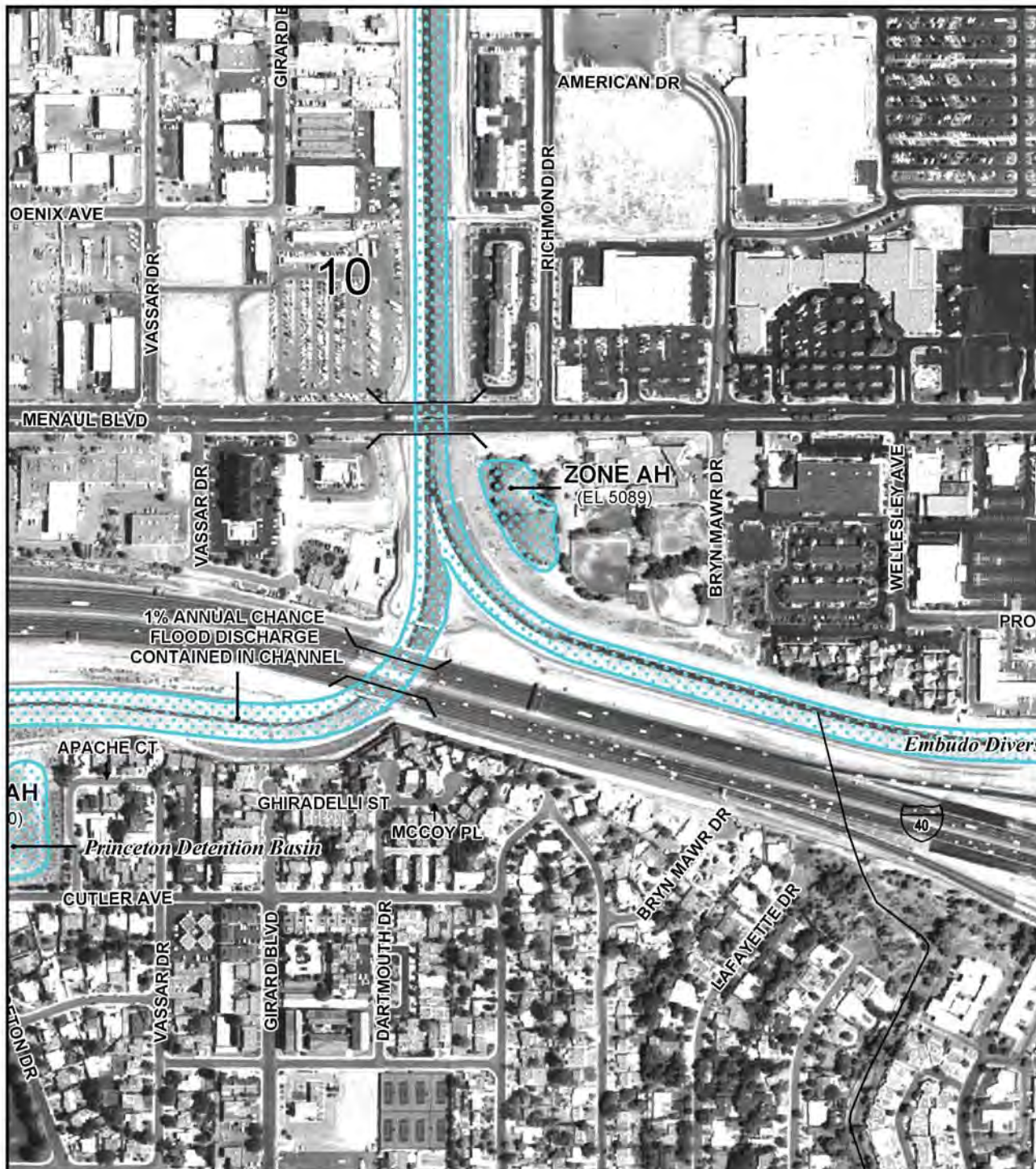
AQC/le
Attachments



LOBO LITTLE LEAGUE FILED EXPANSION
AT BALDUINI PARK

DRAINAGE ANALYSIS
FIGURE 1

DRAWN BY:	AQC	DATE:	07/07/17
CHECKED BY:	HCS	PROJECT NO.	20170332
		SHEET NO.	1



NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0351H

FIRM

FLOOD INSURANCE RATE MAP
BERNALILLO COUNTY,
NEW MEXICO
AND INCORPORATED AREAS

PANEL 351 OF 825

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ALBUQUERQUE, CITY OF	350002	0351	H
BERNALILLO COUNTY UNINCORPORATED AREAS	350001	0351	H

Notice to User: The Map Number shown below should be used when placing map orders, the Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER
35001C0351H

MAP REVISED
AUGUST 16, 2012

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

Basin Hydrology Rational Method

Proposed Conditions Basin Data Table

This table is based on the DPM Section 22.2, Zone: 2

Basin	Area	Area	Land Treatment Percentages				Q(100)	Q(100)
ID	(SQ. FT)	(AC.)	A	B	C	D	(cfs/ac.)	(CFS)
1	196976	4.52	0.0%	85.9%	12.8%	1.3%	2.42	10.95

Channel Report

Upper Swale

Triangular

Side Slopes (z:1) = 10.00, 10.00
Total Depth (ft) = 1.00

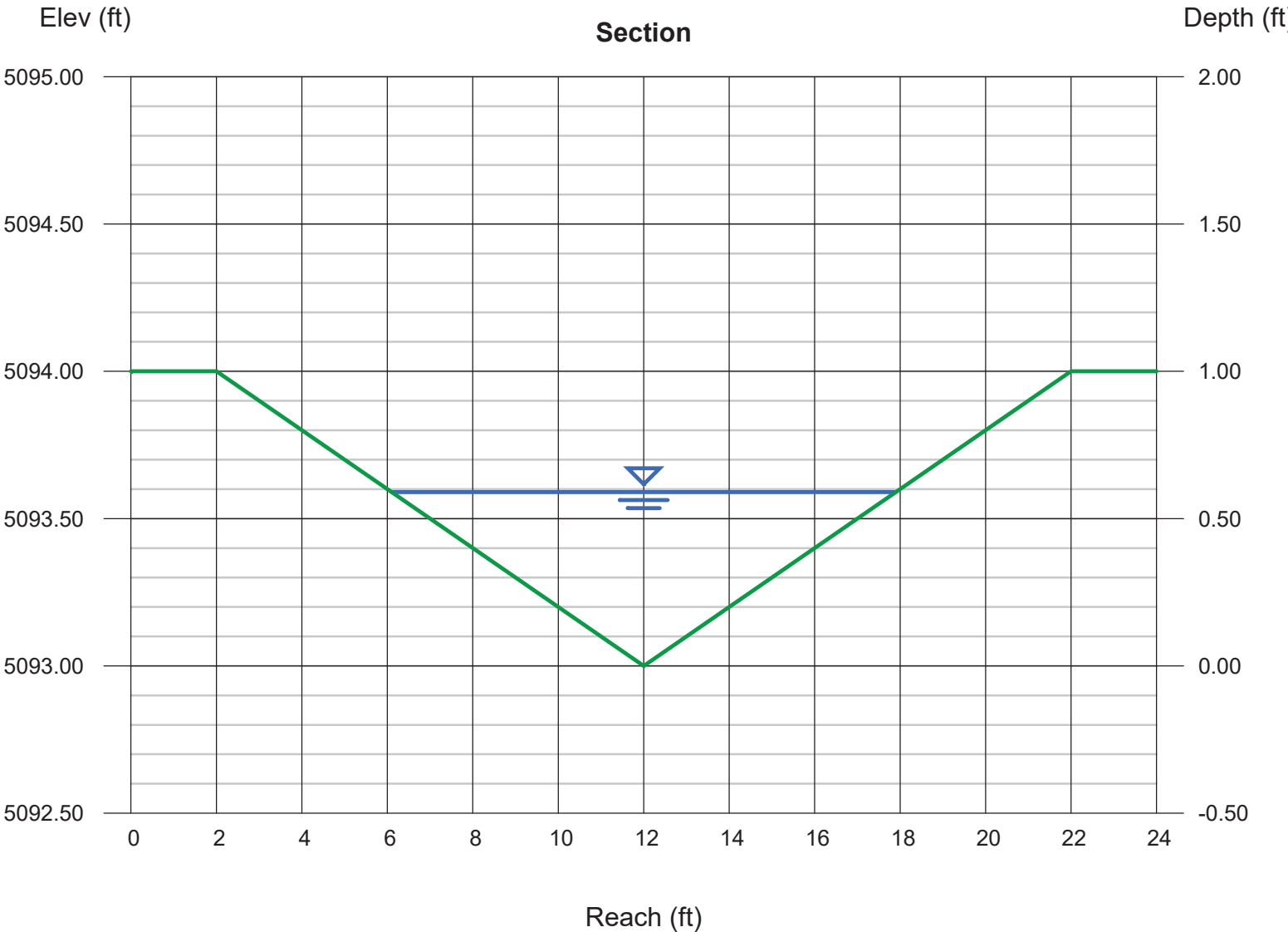
Invert Elev (ft) = 5093.00
Slope (%) = 3.00
N-Value = 0.035

Calculations

Compute by: Known Q
Known Q (cfs) = 10.95

Highlighted

Depth (ft) = 0.59
Q (cfs) = 10.95
Area (sqft) = 3.48
Velocity (ft/s) = 3.15
Wetted Perim (ft) = 11.86
Crit Depth, Yc (ft) = 0.60
Top Width (ft) = 11.80
EGL (ft) = 0.74



Channel Report

Lower Swale

Triangular

Side Slopes (z:1) = 30.00, 4.00
Total Depth (ft) = 1.00

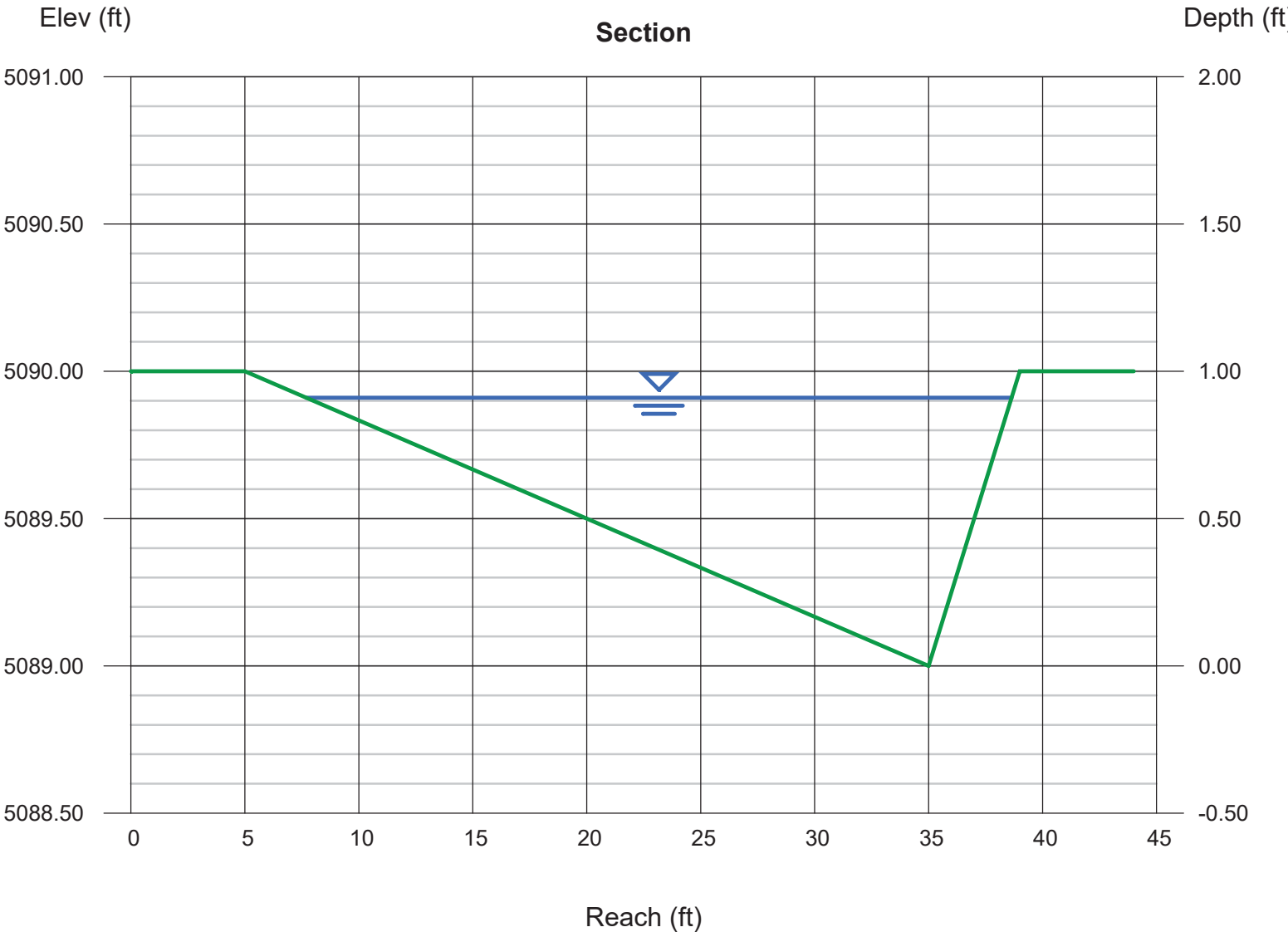
Invert Elev (ft) = 5089.00
Slope (%) = 0.10
N-Value = 0.035

Calculations

Compute by: Known Q
Known Q (cfs) = 10.95

Highlighted

Depth (ft) = 0.91
Q (cfs) = 10.95
Area (sqft) = 14.08
Velocity (ft/s) = 0.78
Wetted Perim (ft) = 31.07
Crit Depth, Yc (ft) = 0.49
Top Width (ft) = 30.94
EGL (ft) = 0.92



CONSTRUCTION PLANS
FOR
LOBO LL FIELD EXPANSION AT BALDUINI PARK
ALBUQUERQUE, NEW MEXICO

INDEX

SHEET NUMBER DESCRIPTION

- 1
- TITLE SHEET
- 2
- GRADING PLAN
- 3
- FENCING DEMOLITION AND CONSTRUCTION PLAN
- 4
- IRRIGATION / SODDING PLAN

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL ABIDE BY ALL LOCAL, STATE, AND FEDERAL LAWS, RULES AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS.

2. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OR CONSTRUCTION OBSERVER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.

3. ALL ELECTRICAL, TELEPHONE, CABLE TV, GAS AND OTHER UTILITY LINES, CABLES AND APPURTENANCES ENCOUNTERED DURING CONSTRUCTION THAT REQUIRE RELOCATION, SHALL BE COORDINATED WITH THAT UTILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL NECESSARY UTILITY ADJUSTMENTS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR DELAYS OR INCONVENIENCES CAUSED BY UTILITY COMPANY WORK CREWS. THE CONTRACTOR MAY BE REQUIRED TO RESCHEDULE HIS ACTIVITIES TO ALLOW UTILITY CREWS TO PERFORM THEIR REQUIRED WORK.

4. DISPOSAL SITE FOR ALL EXCESS EXCAVATION MATERIAL, AND UNSUITABLE MATERIAL SHALL BE OBTAINED BY THE CONTRACTOR IN COMPLIANCE WITH APPLICABLE ENVIRONMENTAL REGULATIONS AND APPROVED BY THE CONSTRUCTION OBSERVER. ALL COSTS INCURRED IN OBTAINING A DISPOSAL SITE AND HAUL THERE TO SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE.
5. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING THE EXISTING UTILITY LINES WITHIN THE CONSTRUCTION AREA. ANY DAMAGE TO EXISTING FACILITIES CAUSED BY CONSTRUCTION ACTIVITY SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AND APPROVED BY THE CONSTRUCTION OBSERVER.

6. CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROPERTY AND/OR PROJECT LIMITS. ANY DAMAGE TO ADJACENT PROPERTIES RESULTING FROM THE CONSTRUCTION PROCESS IS THE RESPONSIBILITY OF THE CONTRACTOR. ANY COSTS INCURRED FOR REPAIRS SHALL BE THE COST OF THE CONTRACTOR.

7. OVERNIGHT PARKING OF CONSTRUCTION EQUIPMENT SHALL NOT OBSTRUCT DRIVEWAYS OR DESIGNATED TRAFFIC LANES. THE CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIAL WITHIN THE PUBLIC RIGHT-OF-WAY.

8. THE CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS FOR THE PROJECT PRIOR TO COMMENCING CONSTRUCTION (I.E. BARRICADING, SURFACE DISTURBANCE).

9. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE AT HIS EXPENSE ANY AND ALL PROPERTY CORNERS DESTROYED DURING CONSTRUCTION. ALL PROPERTY CORNERS MUST BE RESET BY A REGISTERED LAND SURVEYOR.

10. ALL PERMANENT PAVEMENT MARKING AND TRAFFIC SIGNING SHALL BE FURNISHED AND PLACED BY THE CONTRACTOR PER PLAN.
11. THE CONTRACTOR SHALL COORDINATE WITH THE CITY OF ALBUQUERQUE, DMD CONSTRUCTION COORDINATION DIVISION, PRIOR TO BEGINNING ANY CONSTRUCTION WORK ON OR ADJACENT TO EXISTING STREETS.

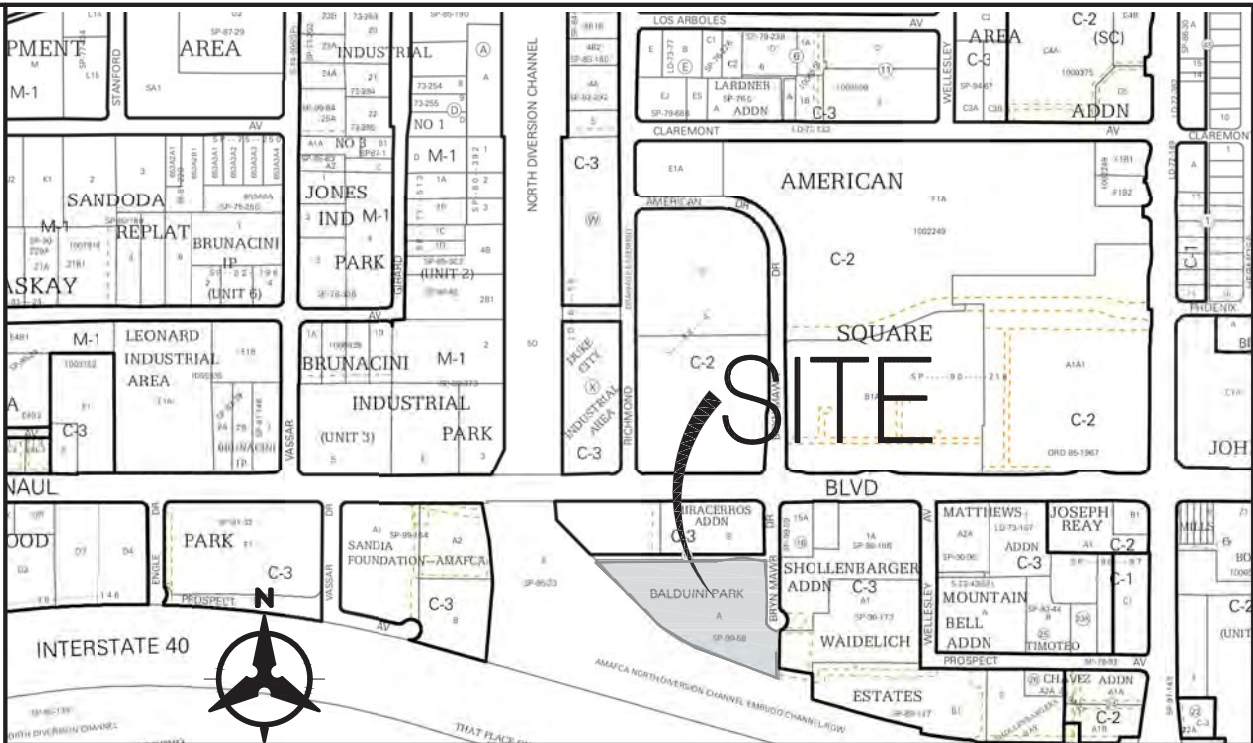
12. ALL BARRICADES AND CONSTRUCTION SIGNING SHALL CONFORM TO APPLICABLE SECTIONS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), U.S. DEPARTMENT OF TRANSPORTATION, LATEST EDITION.

13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING CONSTRUCTION SIGNAGE UNTIL THE PROJECT HAS BEEN ACCEPTED BY THE CITY OF ALBUQUERQUE. THE CONTRACTOR SHALL VERIFY THE PROPER LOCATION OF ALL BARRICADING AT THE END AND BEGINNING OF EACH DAY.

14. ALL SAWCUT PAVEMENT SHALL HAVE A UNIFORM EDGE AND BE SPRAYED WITH TACK.

15. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ANY DAMAGE TO EXISTING PAVEMENTS, SIGNAGE, PAVEMENT MARKINGS, CURB & GUTTER, DRIVE PADS, WHEELCHAIR RAMPS, AND SIDEWALK DURING CONSTRUCTION, APART FROM THOSE SECTIONS INDICATED FOR REMOVAL ON THE PLANS AND SHALL REPAIR OR REPLACE PER COA STANDARDS, AT HIS OWN EXPENSE.

17. AN SO 19 PERMIT IS REQUIRED TO PLACE ANY MATERIAL ON OR AROUND A STORM DRAIN INLET IN THE CITY RIGHT-OF-WAY THAT WOULD INTERFERE WITH THE INLET RECEIVING STORM WATER PER THE ENGINEER'S DESIGN. CITY PERSONNEL MAY REMOVE THIS MATERIAL AT ANY TIME WITHOUT NOTICE. THE PREFERRED BMP IS TO REMOVE SEDIMENT/POLLUTANTS ON THE PROPERTY WHERE CONSTRUCTION ACTIVITY IS OCCURRING.
18. ALL EXCAVATION, TRENCHING, AND SHORING ACTIVITIES MUST BE CARRIED-OUT IN ACCORDANCE WITH OSHA 29 CFR 1926.650 SUBPART P.



VICINITY MAP
H-16-Z

NOTICE TO CONTRACTORS

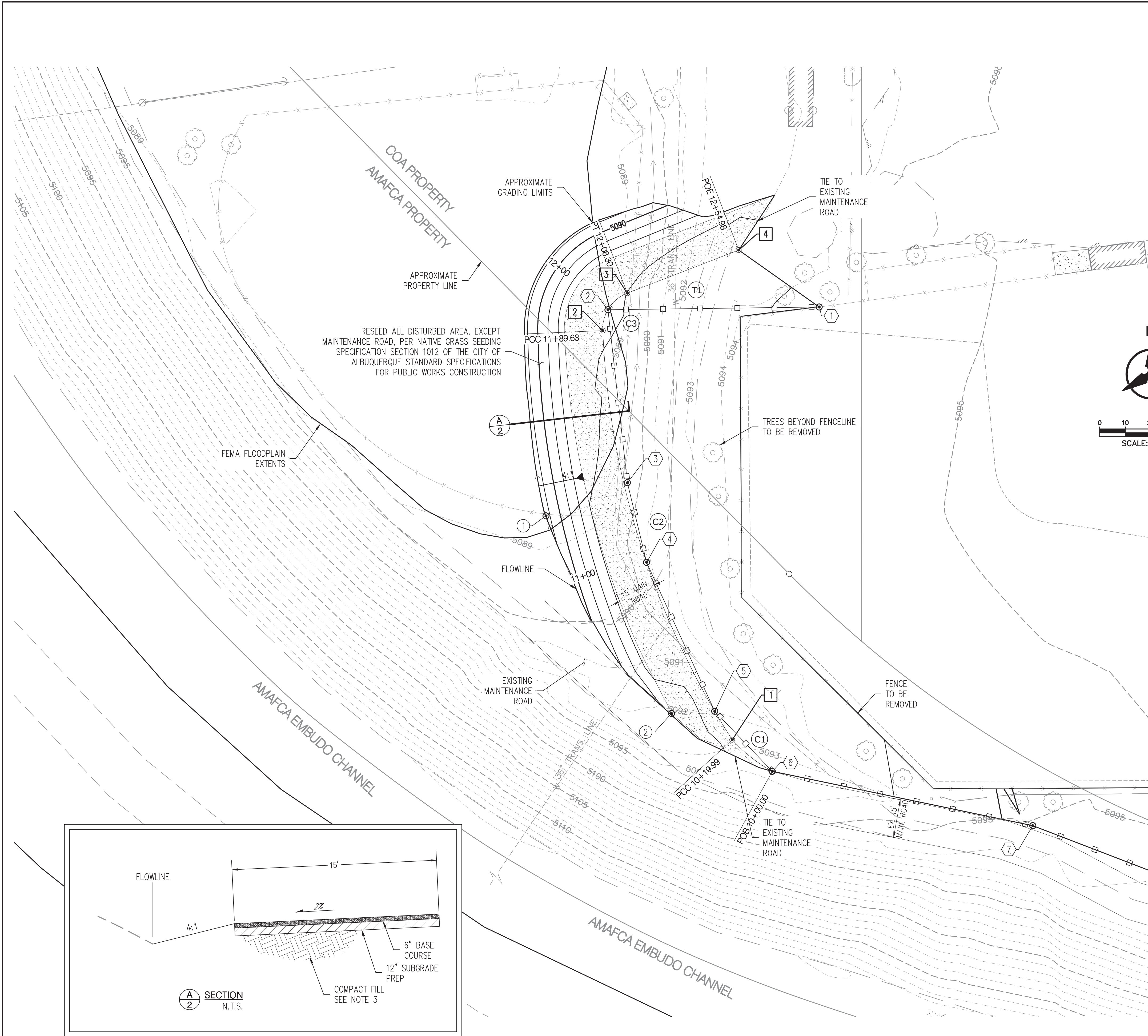
1. AN EXCAVATION/CONSTRUCTION PERMITS WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN THE CITY RIGHT-OF-WAY.
2. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION AS REVISED THROUGH UPDATE #9.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM (260-1990) FOR LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5. SEVEN (7) WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO CONSTRUCTION COORDINATION DIVISION A DETAILED CONSTRUCTION SCHEDULE. TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN A BARRICADING PERMIT FROM THE CONSTRUCTION COORDINATION DIVISION, CONTRACTOR SHALL NOTIFY THE CONSTRUCTION COORDINATION ENGINEER (924-3400) PRIOR TO OCCUPYING AN INTERSECTION. REFER TO SECTION 19 OF THE GENERAL CONDITIONS OF THE STANDARD SPECIFICATIONS.
6. ALL WORK AFFECTING ARTERIAL ROADWAYS REQUIRES TWENTY-FOUR HOUR CONSTRUCTION.
7. ALL STREET STRIPING ALTERED OR DESTROYED SHALL BE REPLACED WITH PLASTIC REFLECTORIZED PAVEMENT MARKING BY CONTRACTOR TO THE SAME LOCATION AS WAS EXISTING, OR AS INDICATED BY THIS PLAN SET.
8. CONTRACTOR SHALL NOTIFY THE ENGINEER NOT LESS THAN SEVEN (7) DAYS PRIOR TO STARTING WORK IN ORDER THAT THE CITY SURVEYOR MAY TAKE NECESSARY MEASURES TO INSURE THE PRESERVATION OF SURVEY MONUMENTS. CONTRACTOR SHALL NOT DISTURB PERMANENT SURVEY MONUMENTS WITHOUT THE CONSENT OF THE CITY SURVEYOR AND SHALL NOTIFY THE CITY SURVEYOR AND BEAR THE EXPENSE OF REPLACING ANY THAT MAY BE DISTURBED WITHOUT PERMISSION. REPLACEMENT SHALL BE DONE ONLY BY THE CITY SURVEYOR. WHEN A CHANGE IS MADE IN THE FINISHED ELEVATIONS OF THE PAVEMENT OF ANY ROADWAY IN WHICH A PERMANENT SURVEY MONUMENT IS LOCATED, CONTRACTOR SHALL, AT HIS OWN EXPENSE, ADJUST THE MONUMENT COVER TO THE NEW GRADE UNLESS OTHERWISE SPECIFIED. REFER TO SECTION 4.4 OF THE GENERAL CONDITIONS OF THE STANDARD SPECIFICATIONS.
9. CONTRACTOR SHALL RECORD DATA ON ALL UTILITY LINES AND ACCESSORIES AS REQUIRED BY ABCWUA FOR THE PREPARATION OF "AS CONSTRUCTED" DRAWINGS. CONTRACTOR SHALL NOT COVER UTILITY LINES AND ACCESSORIES UNTIL ALL DATA HAS BEEN RECORDED.
10. CONTRACTOR SHALL MAINTAIN A GRAFFITI-FREE WORK SITE. CONTRACTOR SHALL PROMPTLY REMOVE ANY GRAFFITI FROM ALL EQUIPMENT, WHETHER PERMANENT OR TEMPORARY.
11. THE CONTRACTOR SHALL COORDINATE WITH THE WATER AUTHORITY SEVEN (7) DAYS IN ADVANCE OF PERFORMING WORK THAT WILL AFFECT THE PUBLIC WATER OR SANITARY SEWER INFRASTRUCTURE. WORK REQUIRING SHUTOFF OF WELL COLLECTORS, TRANSMISSION LINES, OR FACILITIES DESIGNATED AS MASTER PLAN FACILITIES MUST BE COORDINATED WITH THE WATER AUTHORITY 14 DAYS IN ADVANCE OF PERFORMING SUCH WORK. ONLY WATER AUTHORITY CREWS ARE AUTHORIZED TO OPERATE PUBLIC VALVES. SHUTOFF REQUESTS MUST BE MADE ONLINE AT http://www.abcwua.org/Water_Shut_Off_and_Turn_on_Procedures.aspx.

THE FOLLOWING NOTES ALSO APPLY WHEN CHECKED

- ☐ ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO PAVING.
- ☒ BACKFILL COMPACTION SHALL BE ACCORDING TO SPECIFIED STREET USE.
- ☐ SIDEWALKS AND WHEELCHAIR RAMPS WITHIN THE CURB RETURNS SHALL BE CONSTRUCTED WHEREVER A NEW CURB RETURN IS CONSTRUCTED.
- ☐ IF CURB IS DEPRESSED FOR A DRIVEPAD, THE DRIVEPAD SHALL BE CONSTRUCTED PRIOR TO ACCEPTANCE OF CURB AND GUTTER.
- ☒ ALL STORM DRAINAGE FACILITIES SHALL BE COMPLETED PRIOR TO FINAL ACCEPTANCE.
- ☐ THE REQUESTOR OR DEVELOPER SHALL BE RESPONSIBLE FOR REPAIR OR REPLACEMENT OF ALL CURB AND GUTTER OR SIDEWALK DAMAGED AFTER APPROVAL BY THE CITY ENGINEER OF WORK COMPLETED BY THE CONTRACTOR.

DRB #XXXXXXX

REV.	SHEETS	CITY ENGINEER	DATE	USER	DEPARTMENT	DATE	USER	DEPARTMENT	DATE
ENGINEERS STAMP & SIGNATURE		APPROVALS	ENGINEER	DATE	*****				
		DRC Chairman			APPROVED FOR CONSTRUCTION				
		Transportation							
		Water/Wastewater							
		Hydrology			City Engineer _____ Date _____				
		Parks							
Const. Coord.									
City Project No.		658100			Sheet 1 Of 4				



EARTHWORK NOTES:

- CLEARING, GRUBBING AND STRIPPING WILL BE REQUIRED OVER THE ENTIRE GRADING AREA.
- ALL FILL OR BACKFILL MATERIAL SHOULD BE FREE OF VEGETATION AND DEBRIS AND CONTAIN NO ROCKS LARGER THAN 3 INCHES. GRADATION OF THE FILL MATERIAL, AS DETERMINED IN ACCORDANCE WITH ASTM D-422, SHALL BE AS FOLLOWS:

SIEVE SIZE (SQUARE OPENINGS)	PERCENT PASSING BY WEIGHT
3 INCH	90-100
NO. 4	40-100
NO. 200	3-50
- FILL OR BACKFILL, CONSISTING OF SOIL APPROVED BY THE GEOTECHNICAL ENGINEER, SHOULD BE PLACED IN CONTROLLED COMPACTED LAYERS NOT EXCEEDING 8 INCHES (COMPACTED) WITH APPROVED COMPACTION EQUIPMENT. ALL FILL SHALL BE BLENDED AS NECESSARY TO PRODUCE A HOMOGENEOUS FILL. NO LIFTS OF HIGH PERMEABILITY MATERIAL OR MATERIAL DIFFERING SUBSTANTIALLY FROM THE LIFT BELOW WILL BE PERMITTED. SHEEPSFOOT OR VIBRATORY SHEEPSFOOT OR SEGMENTED STEEL WHEEL TYPE COMPACTORS SHALL BE USED. IF THE COMPACTORS WALK OUT DURING COMPACTION, OR IF IT IS DESIRED TO USE FLAT WHEEL COMPACTORS, THE UPPER 1 TO 2 INCHES OF THE LIFT SHALL BE SCARIFIED PRIOR TO PLACING A SUBSEQUENT LIFT. ALL COMPACTION SHALL BE ACCOMPLISHED AS FOLLOWS:

ZONE	MOISTURE CONTENT (%)	COMPACTION ASTM D-1557
BACKFILL	OPTIMUM -1% TO +3%	MIN. OF 95%

WITH ANY VIBRATORY COMPACTOR, VIBRATIONS SHOULD BE CONTROLLED OR ELIMINATED TO AVOID DAMAGE TO ADJACENT STRUCTURES OR INFRASTRUCTURE.
- TESTS FOR DEGREE OF COMPACTION SHALL BE DETERMINED BY THE ASTM D-1556.

LEGEND

- PROPOSED CONTOURS
- EXISTING CONTOURS
- GRADING LIMITS
- PROPOSED FENCE
- MAINTENANCE ROAD

ROAD ALIGNMENT POINT TABLE		
STATION	ELEVATION	
1 10+19.99	5093.54	
2 11+89.63	5092.90	
3 12+08.30	5093.01	
4 12+54.98	5093.22	

FENCE POINT TABLE			
	EASTING	NORTHING	ELEVATION
1	1533083.15	1495338.55	5094.23
2	1533000.62	1495337.47	5092.88
3	1533008.22	1495269.90	5093.19
4	1533015.70	1495238.79	5093.35
5	1533042.35	1495180.60	5093.47
6	1533064.81	1495157.13	5093.66
7	1533166.62	1495135.89	5095.15

SWALE POINT TABLE			
	EASTING	NORTHING	ELEVATION
1	1532976.43	1495256.94	5088.62
2	1533025.47	1495179.73	5092.16

ROAD ALIGNMENT CURVE TABLE				
ID	LENGTH	RADIUS	DELTA	TANGENT
C1	19.99	60.17	19°02'18"	10.09
C2	169.64	321.77	30°12'24"	86.84
C3	18.67	15.00	71°18'44"	10.76

ROAD ALIGNMENT TANGENT TABLE		
ID	BEARING	LENGTH
T1	N68°51'51"E	46.68'

Bohannon & Huston
www.bhinc.com 800.877.5332



CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

LOBO LL FIELD EXPANSION AT BALDUINI PARK
GRADING PLAN

Design Review Committee	City Engineer Approval	Mo./Day/Yr.	Mo./Day/Yr.

City Project No.	Zone Map No.	Sheet	Of
658100	H-16-Z	2	4

DEMOLITION AND CONSTRUCTION KEYED NOTES

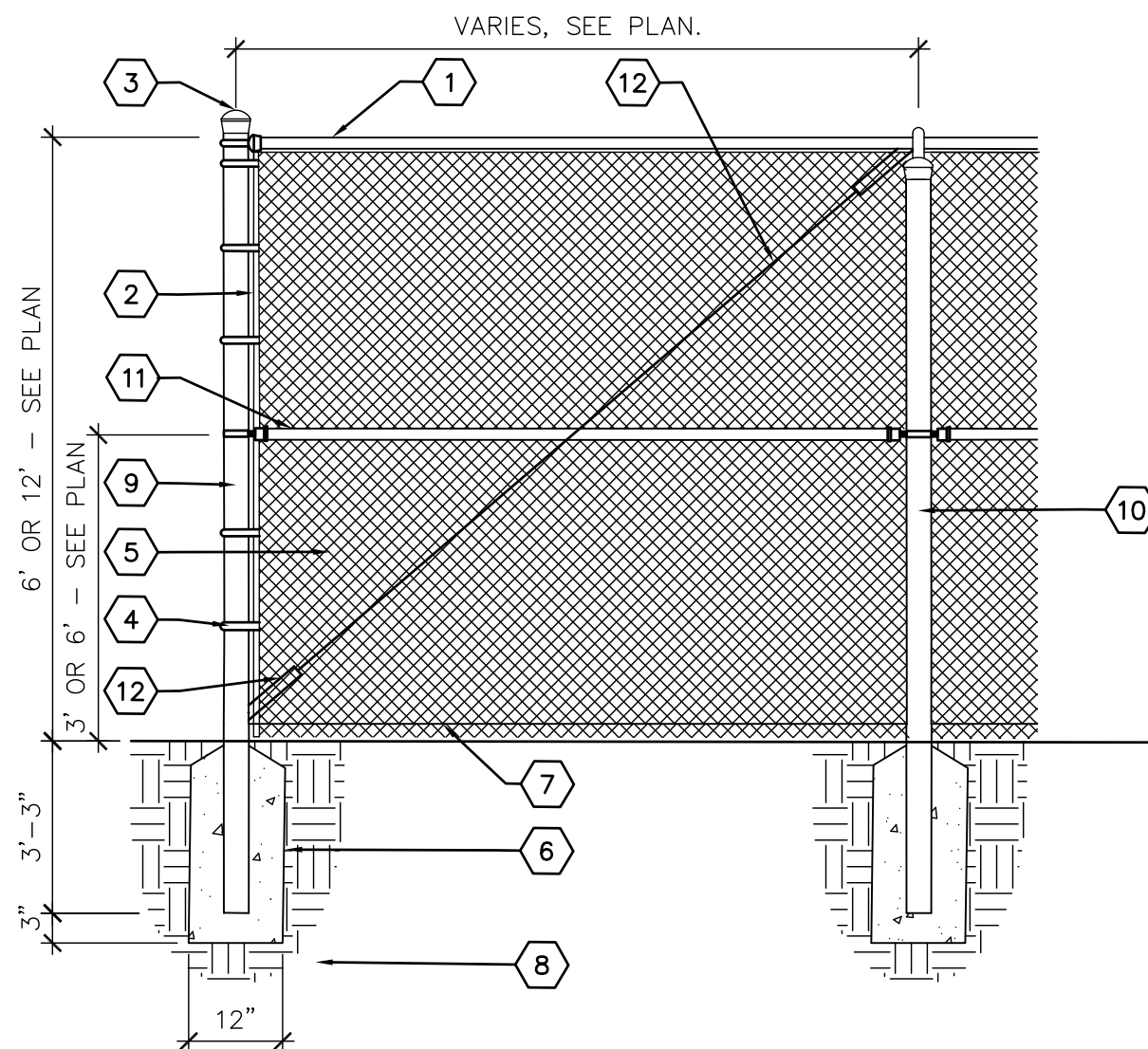
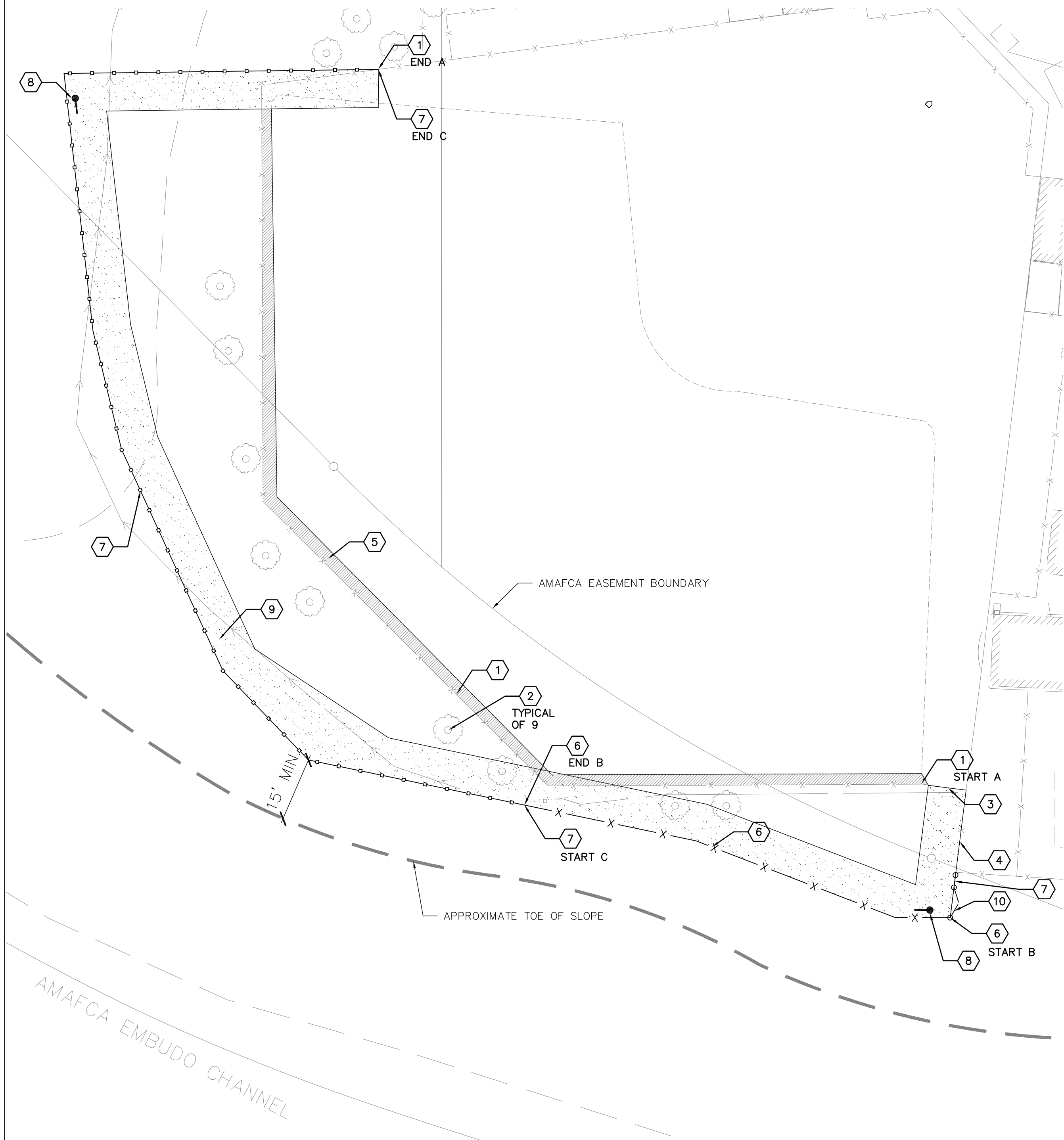
1. REMOVE AND DISPOSE OF EXISTING OUTFIELD FENCE.
2. REMOVE AND GRIND STUMPS TO A DEPTH OF 6" BELOW ADJACENT FINISH GRADE.
3. REMOVE AND DISPOSE OF ACCESS GATE.
4. EXISTING 12' TALL CHAINLINK FENCE TO REMAIN.
5. REMOVE CRUSHER FINES WARNING TRACK MATERIAL. REUSE TO THE GREATEST EXTENT POSSIBLE IN NEW WARNING TRACK.
6. FURNISH AND INSTALL 12' TALL CHAINLINK FENCE PER DETAIL 2 (THIS SHEET) WITH GREEN FENCE CLOTH AND YELLOW PLASTIC FENCE TOPPER. FENCE TOPPER TO BE FENCECROWN CORRUGATED FROM COVERSPO RTS OR APPROVED EQUAL. CONTACT WWW.COVERSPORTS.COM. FIELD VERIFY LOCATION.
7. FURNISH AND INSTALL 6' TALL CHAINLINK FENCE PER DETAIL 2 (THIS SHEET) WITH GREEN FENCE CLOTH AND YELLOW PLASTIC FENCE TOPPER. FENCE TOPPER TO BE FENCECROWN CORRUGATED FROM COVERSPO RTS OR APPROVED EQUAL. CONTACT WWW.COVERSPORTS.COM. FIELD VERIFY LOCATION.
8. FURNISH AND INSTALL FOUL POLE. POLE TO BE 20' HIGH PRO-STY LE BASEBALL FOUL POLE FROM ANTHEM SPORTS, OR APPROVED EQUAL. CONTACT WWW.ANTHEMSPO RTS.COM. COLOR: YELLOW. LOCATION IS SHOWN APPROXIMATE. INSTALL ON FIELD SIDE OF OUTFIELD FENCE. ENSURE ALIGNMENT WITH FOUL LINES.
9. FURNISH AND INSTALL GREY CRUSHER FINES TO A 4" DEPTH IN WARNING TRACK AREA. DO NOT INSTALL WEED BARRIER FABRIC UNDER CRUSHER FINES.
10. FURNISH AND INSTALL 6' TALL DOUBLE SWING CHAINLINK GATE PER DETAIL 1 (THIS SHEET).

GENERAL NOTES

- A. ALL VOIDS CREATED BY DEMOLITION SHALL BE FILLED AND COMPA CTED WITH CLEAN FILL.
- B. CONTRACTOR SHALL AVOID CONSTRUCTION OPERATIONS, INCLUDING DEMOLITION AND GRADING, BEYOND THE INDICATED TOE OF SLOPE AND THE EDGE OF EXISTING FIELD TURFGRASS.

HATCH LEGEND

-  CRUSHER FINES WARNING TRACK – SEE KEYED NOTE #9.
-  EXISTING CRUSHER FINES WARNING TRACK TO BE REMOVED – SEE KEYED NOTE #5.



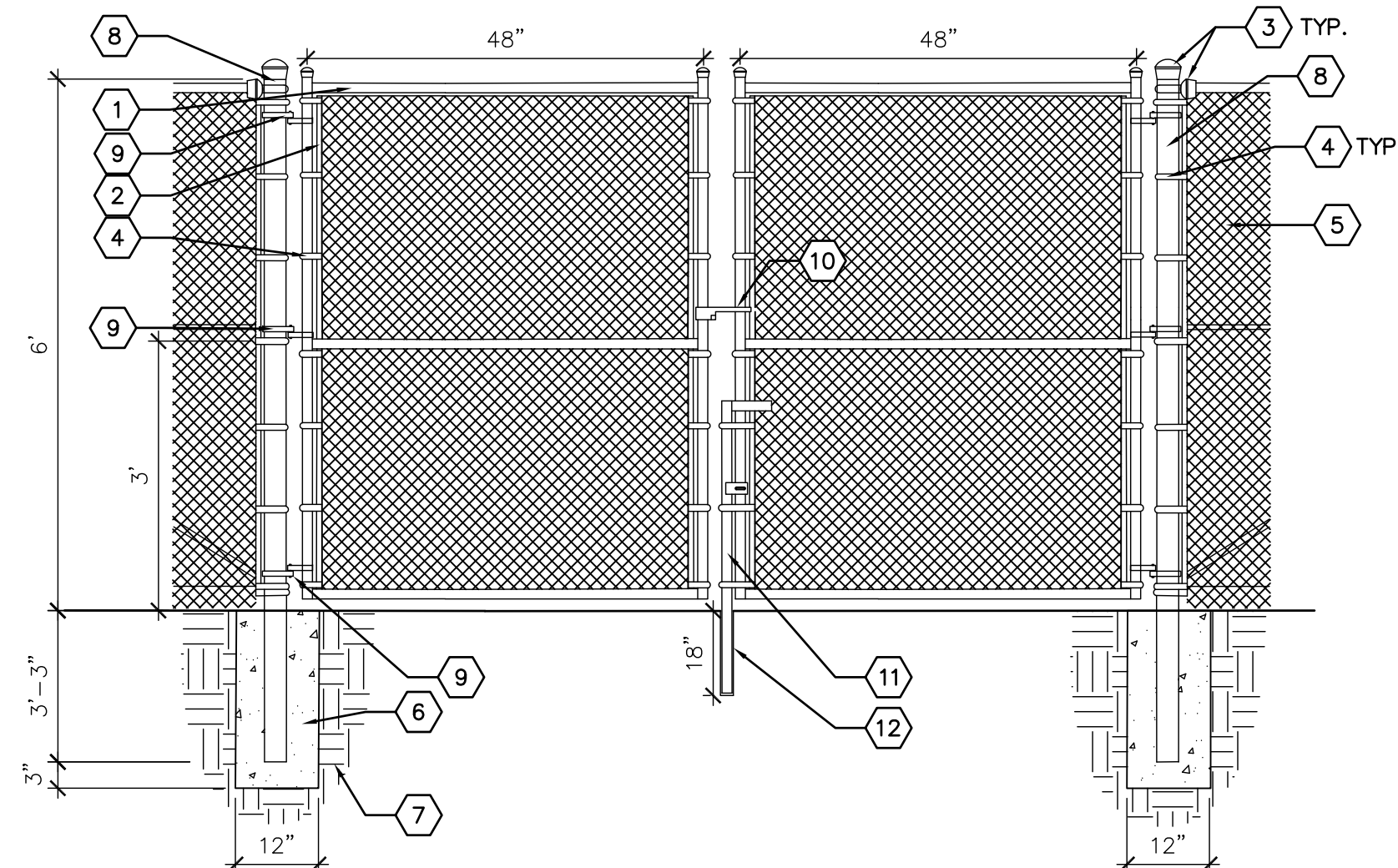
KEYED NOTES

1. 1 5/8" OUTSIDE DIA. TOP RAIL (SS20).
2. 3/16" X 5/8" X 144" STRETCH BAR.
3. POST TOP CAP.
4. TENSION BANDS – 15" O.C. MAX.
5. 9 GAUGE X 1 3/4" MESH FABRIC – KNUCKLE & KNUCKLE BOTH SIDES.
6. 3000 PSI CONCRETE FOOTING.
7. 9 GAUGE BOTTOM TENSION WIRE WITH HOG RINGS.
8. 95% COMPA CTED SUBGRADE.
9. 3" CORNER / END POST (SS40).
10. 2 3/8" LINE POST (SS20).
11. 1 5/8" OUTSIDE DIAMETER MIDDLE RAIL (SS20).
12. 3/8" COMPRESSION BRACE.

GENERAL NOTES

- A. SEE PLAN FOR LOCATION AND LIMITS OF 6' AND 12' HEIGHT.

2 6' HT. & 12' HT. CHAINLINK FENCING



KEYED NOTES

1. 1 5/8" OUTSIDE DIA. GATE FRAME (SS40).
2. 3/16" X 5/8" STRETCH BAR.
3. POST TOP CAP.
4. TENSION BANDS – 15" O.C. MAX.
5. 9 GAUGE X 1 3/4" MESH FABRIC – KNUCKLE & KNUCKLE BOTH SIDES.
6. 3000 PSI CONCRETE FOOTING.
7. COMPA CTED SUBGRADE.
8. 4" OUTSIDE DIAMETER TERMINAL/END POST (SS40).
9. HINGE.
10. LATCH.
11. 1 5/8" O.D. LOCKABLE DROP BAR (SS40).
12. DROP BAR RECEIVER.

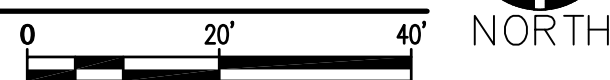
1 6' HT. CHAINLINK DOUBLE SWING GATE

SCALE: N.T.S.

A1 FENCING DEMOLITION AND CONSTRUCTION PLAN

SCALE: 1"=20'-0"

Mon, 10-Jul-2017 - 4:24:pm, Plotted by: RCARPENTER
P:\\$Year-2016\2316\2316-acad\2316-\$current\2316-SHEET FILES\2316_L1S101.dwg



SCALE: 1" = 20' (HORIZ.)

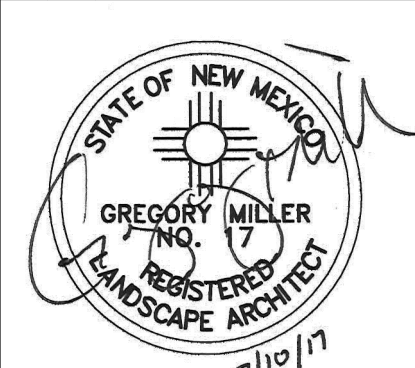
Bohannon & Huston
www.bhinc.com 800.877.5332

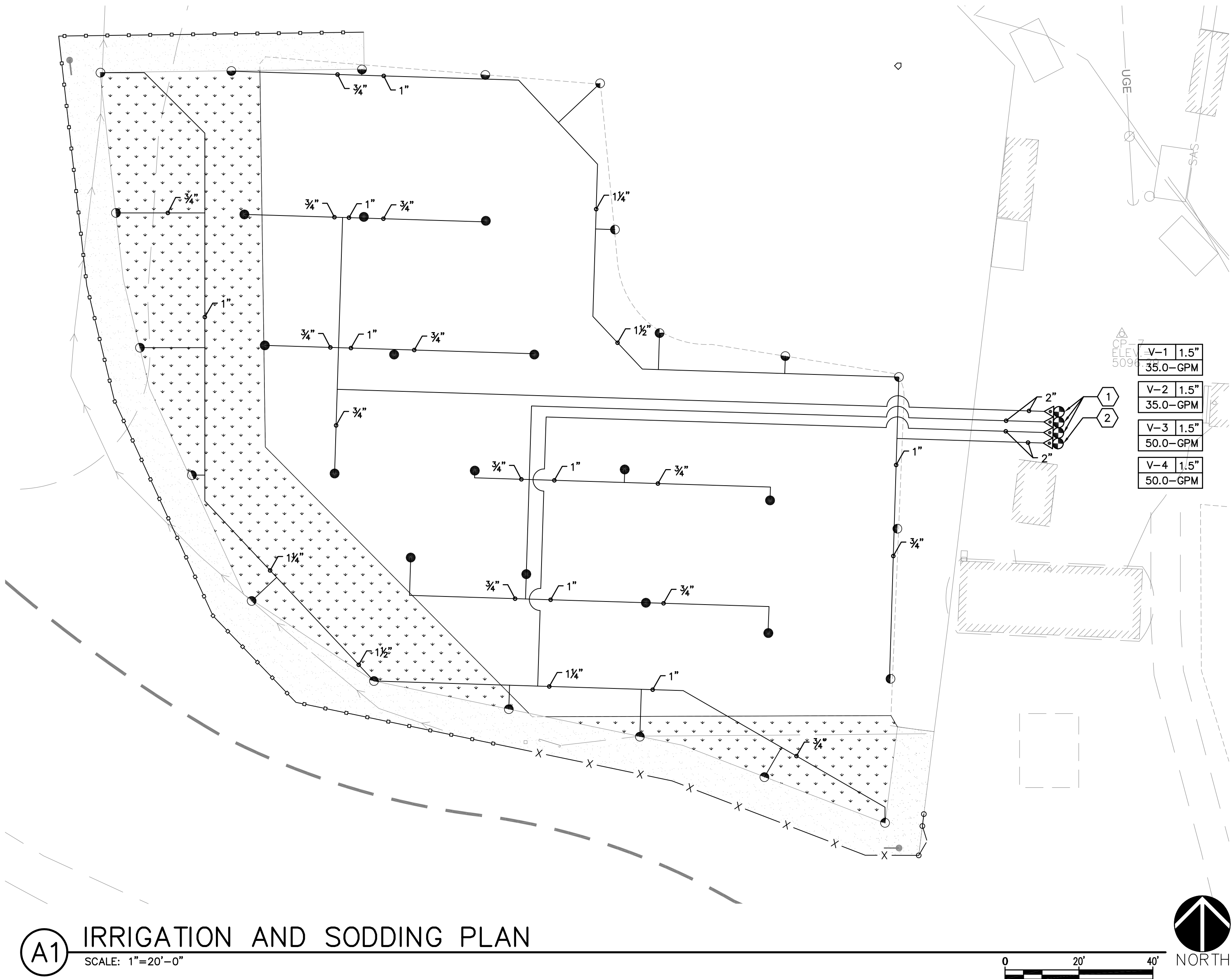
MRWM
LANDSCAPE ARCHITECTS
210 La Vega NE
Albuquerque, NM 87108
PHONE: 505.268.2266
WEB: mrwm.com

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

LOBO LL FIELD EXPANSION AT BALDUINI PARK
FENCING DEMOLITION AND CONSTRUCTION PLAN

Design Review Committee	City Engineer Approval	Mo./Day/Yr.	Mo./Day/Yr.
City Project No.	Zone Map No.	Sheet	Of
658100	H-16-Z	3	4

AS-BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		ENGINEER'S SEAL		REVISIONS		DESIGN	
CONTRACTOR	DATE	ALBUQUERQUE CONTROL SURVEY STATION "1-40-12"	DATE	NO.	BY			No.	Date	By	Date
WORKS BY	DATE	LOCATED IN THE MEDIAN OF MENAUL BOULEVARD, N.E., WHERE IT CROSSES THE NORTH DIVERSION CHANNEL	DATE								
INSPECTOR'S ACCEPTANCE BY	DATE	ELEVATION IS 5117.289, NAVD 1988	DATE								
VERIFICATION BY	DATE		DATE								
DRAWINGS BY	DATE		DATE								
CHECKED BY	DATE		DATE								
MICROFILM INFORMATION	DATE		DATE								
	NO.		NO.								



IRRIGATION LEGEND

- LATERAL PIPING, SCH. 40, BELL END, SOLVENT WELD PVC, SIZE AS SHOWN ON PLAN. DEPTH OF BURY, 18".
- ANTI-SIPHON VACUUM BREAKER, WATTS 188A SERIES, OR EQUAL, BRASS BODY VALVE, SIZE: 1-1/2". INSTALL PER DETAIL A2/4.
- REMOTE CONTROL VALVE ASSEMBLY, RAIN BIRD PEB SERIES, OR EQUAL, PLASTIC BODY 24-VOLT AUTOMATIC VALVE, SIZE AS SHOWN ON PLAN. INSTALL PER CITY OF ALBUQUERQUE STANDARD DRAWING #2705.
- SPRAY POP-UP SPRINKLER ASSEMBLIES, HUNTER I-20 SERIES ROTOR WITH PRESSURE REGULATED BODY WITH CHECK VALVE, 6" POP-UP AS FOLLOWS (INSTALL PER CITY OF ALBUQUERQUE STANDARD DRAWING #2710):
- | MODEL NO. | RADIUS | GPM | PSI | PR |
|----------------|--------|-----|-----|------|
| I-20-06-SS-5.0 | 40' | 5.0 | 45 | 1.10 |
| I-20-06-SS-5.0 | 40' | 5.0 | 45 | .55 |
| I-20-06-SS-5.0 | 40' | 5.0 | 45 | .42 |
| I-20-06-SS-5.0 | 40' | 5.0 | 45 | .28 |
- SOLVENT WELD PVC CAP, SIZE PER LINE SIZE.

IRRIGATION NOTES

- CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO CONSTRUCT PROPOSED IRRIGATION SYSTEM IN ACCORDANCE WITH PLANS, WRITTEN SPECIFICATIONS AND DETAILS.
- THE LOCATION AND SIZE OF IRRIGATION EQUIPMENT ON THE PLAN IS SHOWN DIAGMATICALLY FOR GRAPHIC CLARITY. THE LOCATION OF CONTROLLERS, PUMPS, BACKFLOW PREVENTERS, VALVES, ETC. SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT IN THE FIELD.
- THE LOCATION OF IRRIGATION MAIN AND LATERAL LINES ON THE PLAN IS SHOWN DIAGMATICALLY FOR GRAPHIC CLARITY. UNLESS OTHERWISE NOTED ON THE PLAN, ANY IRRIGATION LINES SHOWN IN HARDSCAPE AREAS IS FOR GRAPHIC CLARITY ONLY. IRRIGATION LINES SHALL BE LOCATED IN IMMEDIATELY ADJACENT LANDSCAPE AREAS.
- ALL VALVE BOXES SHALL BE TAN WITH TAN BOLT-DOWN LIDS.
- IRRIGATION SYSTEM WAS DESIGNED AT A MINIMUM STATIC PRESSURE OF 60 PSI AT THE POINT OF CONNECTION. CONTRACTOR SHALL VERIFY ACTUAL PSI AND DELIVER RESULTS TO LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION. IN THE EVENT THE ACTUAL PSI IS LESS THAN 60 PSI THE CONTRACTOR SHALL RECEIVE DIRECTION FROM LANDSCAPE ARCHITECT REGARDING DESIGN MODIFICATIONS IF NECESSARY.
- ALL WORK SHALL BE CONFORM TO CITY OF ALBUQUERQUE STANDARD SPECIFICATONS FOR PUBLIC WORKS CONSTRUCTION - UPDATE 9.

IRRIGATION KEY NOTES

- IRRIGATION SYSTEM POINT OF CONNECTION. CONTRACTOR SHALL CONNECT TO EXISTING MAINLINE AND CONTROLLER WIRING. LOCATION SHOWN APPROXIMATELY. VALVE BOXES AND VACUUM BREAKERS SHALL BE LOCATED OUTSIDE EXISTING FENCE BULLPEN. MAINLINE IS ASSUMED TO BE 2". CONTRACTOR SHALL REPORT TO LANDSCAPE ARCHITECT FOR ADDITIONAL DIRECTION. IF THE ACTUAL SIZE IS NOT 2".
- CONTRACTOR SHALL EXTEND ONE CONTROL VALVE WIRE TO EXISTING CONTROLLER.

VALVE ID KEY		
	VALVE ID NUMBER	VALVE SIZE
V-1	1"	
25.5-GPM		
	VALVE GALLONS PER MINUTE	

HATCH LEGEND

- TURFGRASS SOD - SOD SHALL BE 'SANDIA BLUEGRASS', AS AVAILABLE FROM EVERGREEN TURF, OR APPROVED EQUAL. INSTALL PER CITY OF ALBUQUERQUE STANDARD SPEC SECTION 1010.

KEYED NOTES

- LATERAL FROM REMOTE CONTROL VALVE. SEE PLAN.
- GALVANIZED ELBOW.
- SCH. 80 PVC NIPPLE, LENGTH AS REQUIRED.
- SCH. 40 PVC MALE ADAPTER.
- LATERAL PIPING (SEE LEGEND).
- GALVANIZED PIPE, LENGTH AS REQUIRED.
- FINISH GRADE.
- GALVANIZED STREET ELL.
- ANTI-SIPHON VACUUM BREAKER (SEE LEGEND).

A2 ANTI-SIPHON VACUUM BREAKER

SCALE: N.T.S.

Bohannon & Huston
www.bhinc.com 800.877.5332



CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

LOBO LL FIELD EXPANSION AT BALDUINI PARK
IRRIGATION / SODDING PLAN

Design Review Committee	City Engineer Approval	Mo./Day/Yr.	Mo./Day/Yr.
City Project No.	Zone Map No.	Sheet	Of
658100	H-16-Z	4	4

SCALE: 1" = 20' (HORIZ.)