

**From:** Abiel X. Carrillo  
**To:** ["Vinny Perea"](#)  
**Cc:** ["Ron Bohannon"](#); [Cherne, Curtis](#)  
**Subject:** Holly Shopping Center - C18D042D - Stamp Date 2-17-2016  
**Date:** Wednesday, March 09, 2016 4:33:00 PM

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Vinny,

This email is being sent in lieu of an attached comment letter in order to expedite the response for intermediate reviews. Responses to comments should continue to be included in a re-submittal. A reply to this email with responses to comments will not be considered a re-submittal.

Based upon the information provided in your submittal received 2-17-2016, the above referenced Grading and Drainage Plan/Report is approved for Site Plan for Building Permit action by the DRB.

Prior to approval for Building Permit and Grading Permit (ESC Permit), the following comments will need to be addressed:

1. An Erosion and Sediment Control plan needs to be approved by the Storm Water Quality Engineer.
2. If Transportation Development will require a sidewalk along the south frontage, the open-channel curb cuts proposed will need to be sidewalk culverts that comply with City Standard Details. The metal plate will need to extend 1-foot behind the sidewalk.
3. The existing inlet in the proposed "Pond 1" is called to be modified. Clarify what the modification involves.
  - a. The grate is shown on the slope of the pond; it is assumed that the box will be perched to ensure that the inlet elevation is level and set at EL 45.60 as called out.
4. Provide benchmark information, unless it is called out on a different sheet of the construction set.
5. Detail B describes the use of a trench drain to provide an outfall for the roof drains of the larger building. A type of grate should be called out that complies with ADA standards and is "heel safe", since it is proposed along the center of the sidewalk. If the sidewalk is intended to drain to the west (without needing to enter the trench drain) we recommend calling out a solid metal top.
6. Label the intended cross slope of the sidewalk on Section A-A.
7. We recommend shifting the 12:1 wheelchair ramp that is in front of the easternmost retail space of the larger building slightly to the west so that the top of the ramp lines up with the parking curb; this would remove a potential tripping hazard and provide a better turning space for wheelchairs at the top of the ramp.

If you have any question please let me know.

**Abiel Carrillo, P.E.**

**Principal Engineer - Hydrology**

**Planning Department**

Development Review Services Division

City of Albuquerque

505-924-3986

[acarrillo@cabq.gov](mailto:acarrillo@cabq.gov)

600 2<sup>nd</sup> Street NW

Albuquerque, NM 87102



# City of Albuquerque

Planning Department

Development & Building Services Division

## DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

**Project Title:** \_\_\_\_\_ **Building Permit #:** \_\_\_\_\_ **City Drainage #:** \_\_\_\_\_

**DRB#:** \_\_\_\_\_ **EPC#:** \_\_\_\_\_ **Work Order#:** \_\_\_\_\_

**Legal Description:** \_\_\_\_\_

**City Address:** \_\_\_\_\_

**Engineering Firm:** \_\_\_\_\_ **Contact:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Phone#:** \_\_\_\_\_ **Fax#:** \_\_\_\_\_ **E-mail:** \_\_\_\_\_

**Owner:** \_\_\_\_\_ **Contact:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Phone#:** \_\_\_\_\_ **Fax#:** \_\_\_\_\_ **E-mail:** \_\_\_\_\_

**Architect:** \_\_\_\_\_ **Contact:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Phone#:** \_\_\_\_\_ **Fax#:** \_\_\_\_\_ **E-mail:** \_\_\_\_\_

**Other Contact:** \_\_\_\_\_ **Contact:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Phone#:** \_\_\_\_\_ **Fax#:** \_\_\_\_\_ **E-mail:** \_\_\_\_\_

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) \_\_\_\_\_

**CHECK 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:** \_\_\_\_\_ **By:** \_\_\_\_\_

COA STAFF: \_\_\_\_\_ ELECTRONIC SUBMITTAL RECEIVED: \_\_\_\_\_

# **DRAINAGE REPORT**

**For**

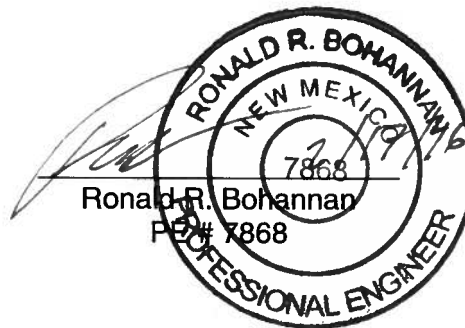
## **Lot 2-A and 3-A Del Norte Plaza**

Prepared by:

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

February 17, 2016

I certify that this report was prepared under my supervision, and I am a registered professional engineer in the State of New Mexico in good standing.



Job No. 2015064

# **DRAINAGE REPORT**

**For**

## **Lot 2-A and 3-A Del Norte Plaza**

Prepared by:

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Ronald R. Bohannan  
PE # 7868

Job No. 2015064

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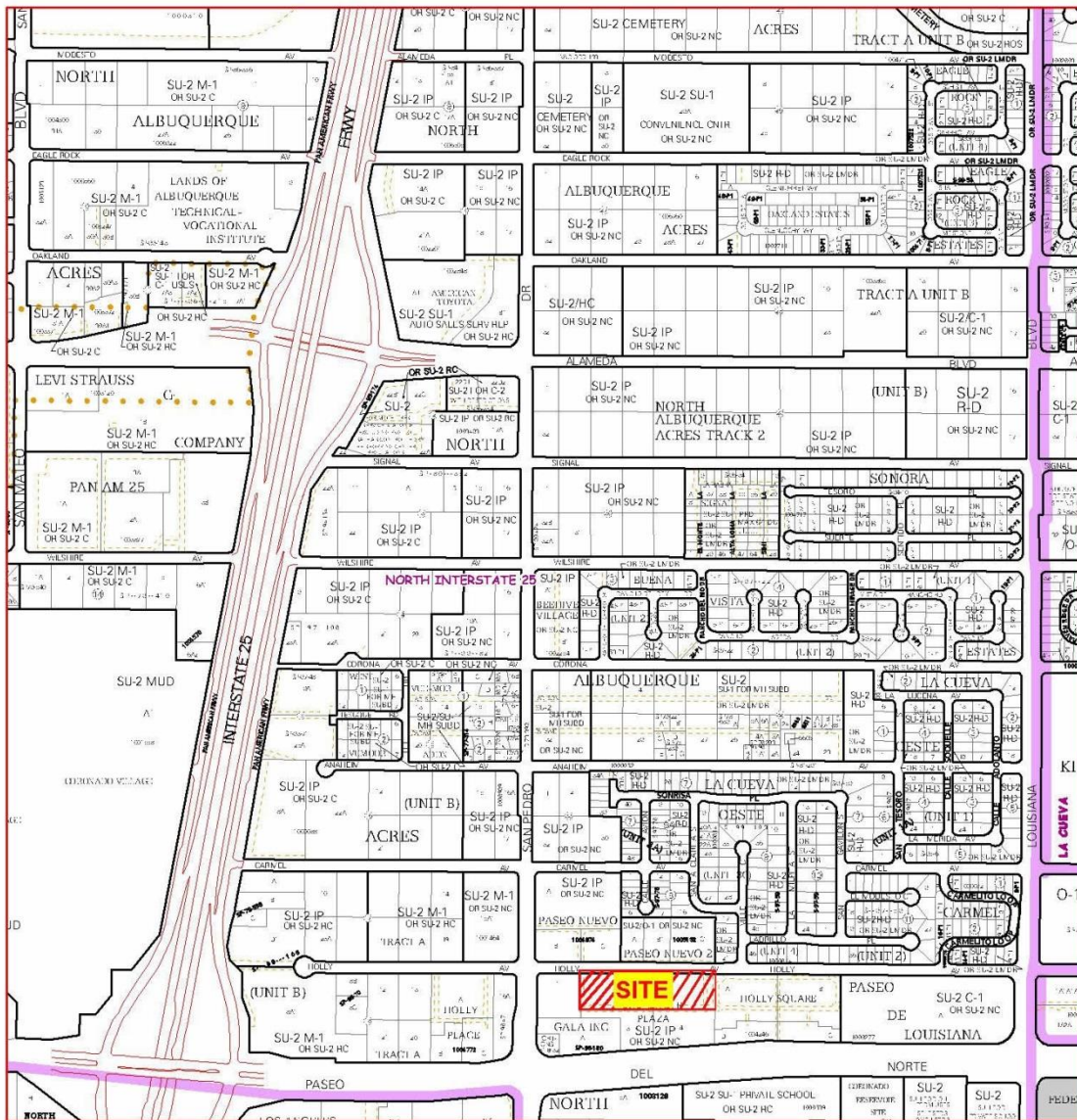
## **Purpose**

The purpose of this report is to develop a Drainage Management Plan for a 2.99 acre parcel of land, which is a all of Lot 2A & a portion of Lot 3A Del Norte Plaza. The 2.99 acres of development will be for retail/restaurant and parking use within the Del Norte Plaza Shopping Center.

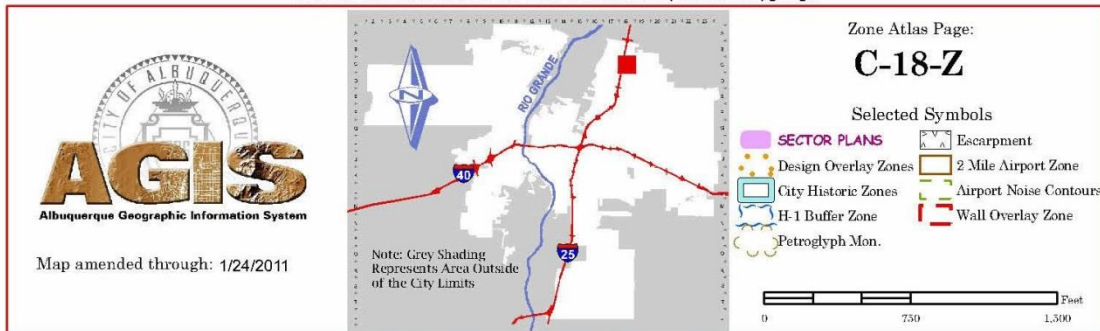
## **Location**

The site is located near the northeast corner of the Paseo Del Norte Blvd/San Pedro Dr. Intersection. The site is bounded by a paved private road for the Del Norte Plaza Shopping Center along the east, west and south property lines and is bounded by Holly Ave. to the north. The site location is shown on the Zone Atlas Page, C-18-Z found in Exhibit A.

## Exhibit A – Vicinity Map



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





## **Existing Conditions**

The site is undeveloped and rough graded with the overall surface drainage flowing from northeast to southeast. There are two existing drainage basins for the lot which essentially splits the lot in half.

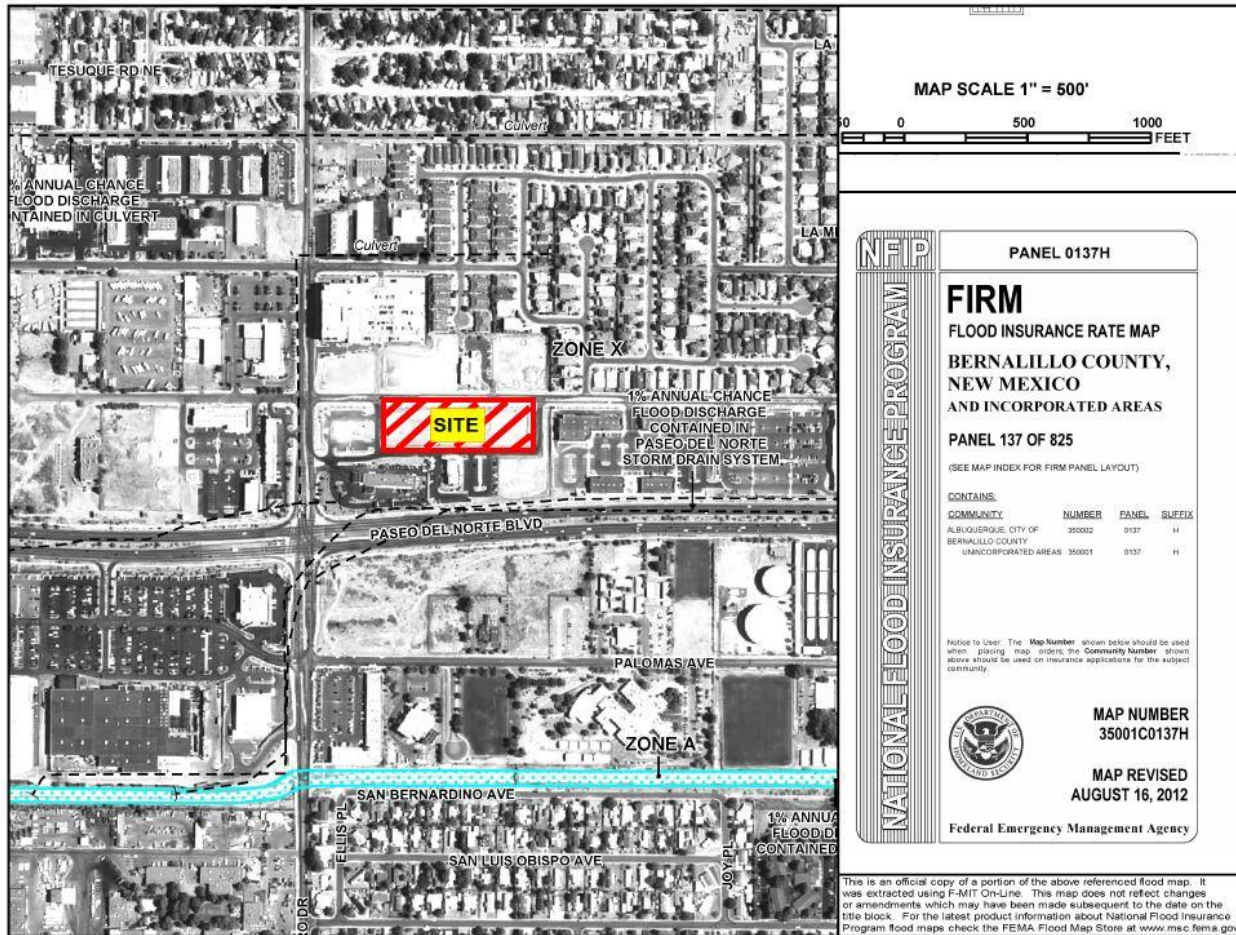
The western drainage basin (Existing Basin 1) surface flows to the southwest corner of the site towards an existing Single D drop inlet. The inlet conveys the collected flows via storm drain towards the public storm drain underneath Holly Avenue. The eastern drainage basin (Existing Basin 2) surface flows south towards the private roadway directly south of the site and flows west, making its way towards Holly Ave. and entering the public storm drain system.

There is an approved drainage report for the site titled "Lot 1A Block 35 Tract A Unit B of North Albuquerque Acres" stamped 11-1-06 (C18/D42). The drainage report calls for allowing a discharge of 11.15 cfs from lots 2A & 3A to the Holly Avenue storm drain system. This report was approved prior to the change in the drainage ordinance.

## **Flood Plain**

The site is located on FIRM Map 35001C0137H. The map indicates that the site does not lie within a 100-year flood plain. This FIRM Map can be found in Exhibit B.

## Exhibit B – FIRM Map



### Proposed Conditions

The site will be built in its entirety for all paving and landscape improvements. There are three developed basins to the site which all send the drainage flow from northeast to southwest. The furthest western basin (Basin 1) includes all three buildings and the parking area south and east of the furthest west building. All flows within this basin will be conveyed towards a landscaped pond in the southwest corner of the property with a raised single D inlet for discharge and first flush retention with a total discharge of 6.96 cfs. The landscaped pond will be depressed enough to retain the first flush volume of this basin (1666 cubic feet) before all remaining runoff will discharge into the raised single D inlet.

The two easternmost buildings and patios will drain on the north side of the respective buildings via roof drain and area drain connections to a grated trench drain that will run along the span of the proposed sidewalk behind these buildings. The trench drain will daylight along the parking area west of these buildings and flow towards the landscaped pond with raised inlet. Capacity calculations for the trench drain can be found in Appendix C.

Basin 2 consists of the paved and parking area directly south of the middle building. All flows in this basin flow towards a depressed landscaped area for first flush retention before being conveyed through a 2 foot wide sidewalk culvert to the existing private road with a discharge of 1.06 cfs. The landscaped pond in this basin will be depressed enough to retain the first flush volume of this basin (283 cubic feet) before the remaining runoff discharges through the sidewalk culvert towards the private road.

Basin 3 consists of the paved parking area directly south and east of the easternmost building. All flows will flow similar to Basin 2 towards a landscaped depressed area onsite for first flush retention before being conveyed through a 2 foot sidewalk culvert towards the existing private road with a discharge of 3.13 cfs. The landscaped pond will be depressed enough to retain the first flush volume of this basin (735 cubic feet) before the remaining runoff discharges through the sidewalk culvert towards the private road.

All runoff from this developed site will ultimately be directed towards the storm drain system in Holly Avenue with a total discharge of 11.15 cfs, which is the allowable developed discharge rate for this site per the approved drainage report (C18/D42) for this subdivision.

## **Calculations and Water Quality**

The Weighted E Method from the “City of Albuquerque Development Process Manual Volume I – Design Criteria, 2006 Revision” was used to calculate the runoff and volume for the site, the hydrology table can be found in Appendix B. Drainage capacities for the sidewalk culverts, single D inlet, and trench drain can be found in Appendix C. Also included on the weighted E table is the first flush retention volume calculations for the fully developed site calculated per the City of Albuquerque drainage ordinance as 0.44” of the impervious area.

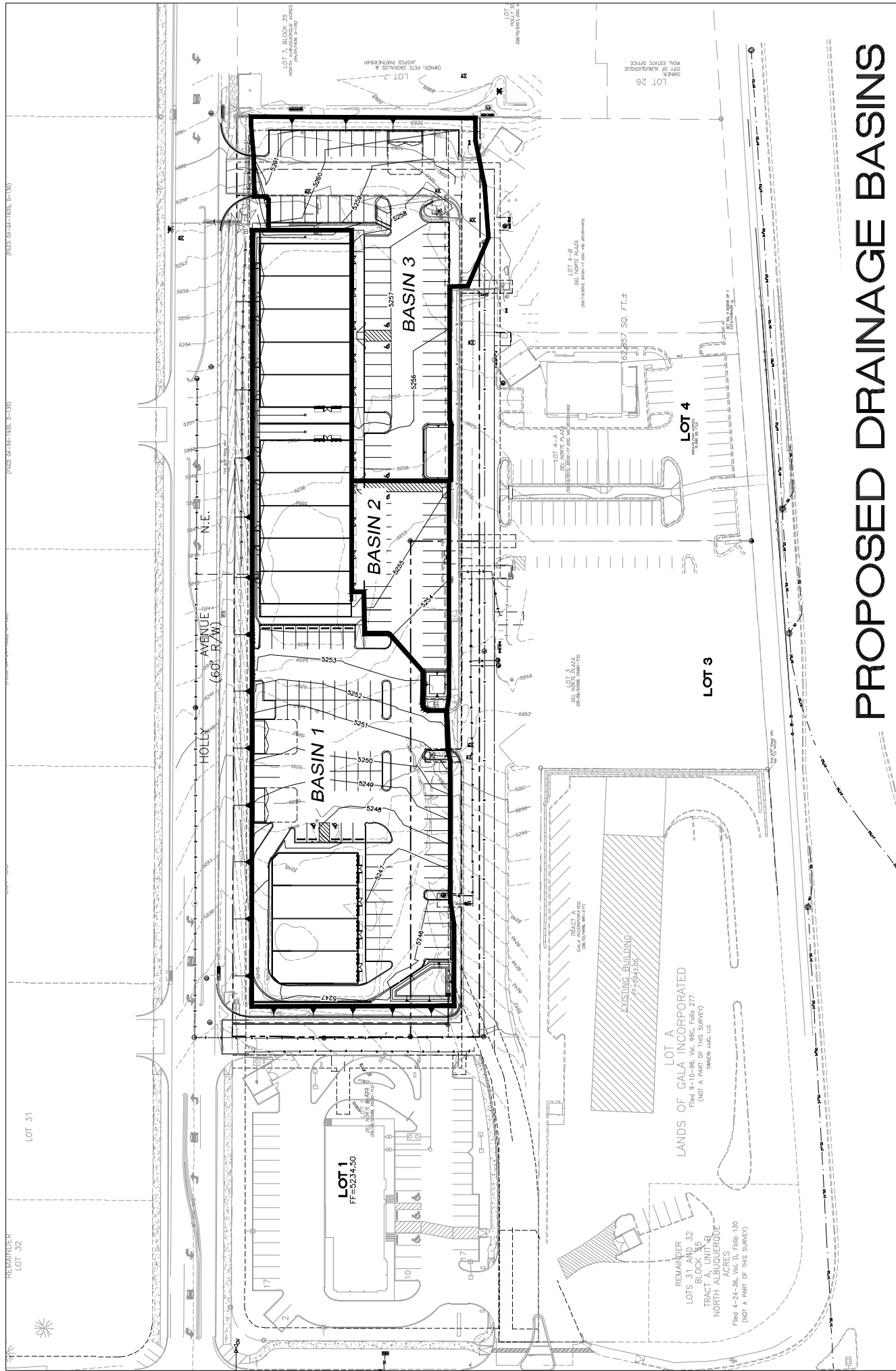
## Summary

The entire site will be graded and all of the surface improvements will be built out in their entirety. The enclosed grading plan shows the grades for the entire project.

The proposed development consists of three drainage basins that all flow from northeast to southwest towards a landscaped ponding area within each respective basin. Basin 1 will convey the non-retained flows through an existing single D inlet towards the storm drain in Holly Avenue. Basins 2 and 3 will convey the non-retained flows through a proposed sidewalk culvert for each basin and free discharge to the private roadway that bounds the property. The total discharge of the proposed development will be 11.15 cfs which is the allowable discharge per the approved drainage report entitled "Lot 1A Block 35 Tract A Unit B of North Albuquerque Acres" stamped 11-1-06 (C18/D42).

**APPENDIX A:**  
**Drainage Basin Maps**





# PROPOSED DRAINAGE BASINS

## **APPENDIX B:**

### **Hydrology Calculations**



## DPM Weighted E Method

Precipitation Zone 3  
SE Corner of San Pedro Dr. and Holly Ave.  
Lot 2 Del Norte Plaza  
TWLLC      Date      2/15/2016

### Existing Conditions

Basin Descriptions																	100-Year, 6-Hr				10-Year, 6-Hr			
Basin ID	Area (sf)	Area (acres)	Area (sq miles)	Treatment A		Treatment B		Treatment C		Treatment D		Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs							
				%	(acres)	%	(acres)	%	(acres)	%	(acres)													
1	63,540.68	1.459	0.00228	0%	0.000	97%	1.415	0%	0.000	3%	0.044	0.963	0.117	3.90	0.394	0.048	1.83							
2	46,090.02	1.058	0.00165	0%	0.000	88%	0.931	0%	0.000	12%	0.127	1.093	0.096	3.06	0.497	0.044	1.54							
Total	109,630.70	2.517	0.00393										0.213	6.96		0.092	3.37							

### Proposed Conditions

Basin Descriptions																	100-Year, 6-Hr				10-Year, 6-Hr			
Basin ID	Area (sf)	Area (acres)	Area (sq miles)	Treatment A		Treatment B		Treatment C		Treatment D		Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs							
				%	(acres)	%	(acres)	%	(acres)	%	(acres)													
1	64,767.60	1.487	0.00232	0%	0.000	14%	0.208	0%	0.000	86%	1.279	2.158	0.267	6.96	1.340	0.166	4.58							
2	9,800.50	0.225	0.00035	0%	0.000	13%	0.029	0%	0.000	87%	0.196	2.173	0.041	1.06	1.352	0.025	0.70							
3	29,877.37	0.686	0.00107	0%	0.000	19%	0.130	0%	0.000	81%	0.556	2.086	0.119	3.13	1.283	0.073	2.04							
Total	104,445.47	2.398	0.00375										0.427	11.15		0.265	7.32							

### Equations:

$$\text{Weighted E} = \text{Ea} * \text{Aa} + \text{Eb} * \text{Ab} + \text{Ec} * \text{Ac} + \text{Ed} * \text{Ad} / (\text{Total Area})$$

$$\text{Volume} = \text{Weighted D} * \text{Total Area}$$

$$\text{Flow} = \text{Qa} * \text{Aa} + \text{Qb} * \text{Ab} + \text{Qc} * \text{Ac} + \text{Qd} * \text{Ad}$$

Excess Precipitation, E (in.)		
Zone 1	100-Year	10-Year
Ea	0.44	0.08
Eb	0.67	0.22
Ec	0.99	0.44
Ed	1.97	1.24

Peak Discharge (cfs/acre)		
Zone 1	100-Year	10-Year
Qa	1.29	0.24
Qb	2.03	0.76
Qc	2.87	1.49
Qd	4.37	2.89

### First Flush

$$\text{Total Impervious Area} = 2.03 \text{ acres} = 88,426.8 \text{ SF}$$

$$\text{Retainage depth} = 0.44" - \text{IA} = 0.44" - 0.1" = 0.34" = 0.028'$$

$$\text{Retention Volume} = 0.028 * 88426.8 = 2502.5 \text{ CF} = 0.058 \text{ ac-ft}$$

**APPENDIX C:**  
**Trench Drain, Inlet, and Sidewalk Culvert Capacities**

## Worksheet for Trench Drain Capacity

### Project Description

Friction Method	Manning Formula
Solve For	Discharge

### Input Data

Roughness Coefficient	0.013
Channel Slope	0.00500 ft/ft
Normal Depth	0.88 ft
Bottom Width	1.00 ft

### Results

Discharge	3.32 ft <sup>3</sup> /s
Flow Area	0.88 ft <sup>2</sup>
Wetted Perimeter	2.76 ft
Hydraulic Radius	0.32 ft
Top Width	1.00 ft
Critical Depth	0.70 ft
Critical Slope	0.00891 ft/ft
Velocity	3.77 ft/s
Velocity Head	0.22 ft
Specific Energy	1.10 ft
Froude Number	0.71
Flow Type	Subcritical

Although the trench drain varies in height, the capacity was calculated using the minimum height (0.88 ft) as a conservative approach. The maximum discharge capacity with these parameter (3.32 cfs) is greater than the maximum discharge of the eastern buildings' roofs, patios, and rear sidewalk (2.24 cfs), therefore the trench drain capacity is OK.

### GVF Input Data

Downstream Depth	0.00 ft
Length	0.00 ft
Number Of Steps	0

### GVF Output Data

Upstream Depth	0.00 ft
Profile Description	
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	0.88 ft
Critical Depth	0.70 ft
Channel Slope	0.00500 ft/ft
Critical Slope	0.00891 ft/ft

## Worksheet for Basin 1 Curb Cut Capacities

### Project Description

Friction Method                      Manning Formula  
Solve For                              Discharge

### Input Data

Roughness Coefficient                      0.013  
Channel Slope                              0.01000    ft/ft  
Normal Depth                              0.50    ft  
Bottom Width                              2.50    ft

### Results

Discharge                              7.19    ft<sup>3</sup>/s  
Flow Area                              1.25    ft<sup>2</sup>  
Wetted Perimeter                              3.50    ft  
Hydraulic Radius                              0.36    ft  
Top Width                              2.50    ft  
Critical Depth                              0.64    ft  
Critical Slope                              0.00496    ft/ft  
Velocity                              5.75    ft/s  
Velocity Head                              0.51    ft  
Specific Energy                              1.01    ft  
Froude Number                              1.43  
Flow Type                              Supercritical

Discharge capacity of a 2.5' curb cut (7.19 cfs) is greater than the discharge of Basin 1 (6.96 cfs), therefore curb cuts within these respective basins are OK.

### GVF Input Data

Downstream Depth                              0.00    ft  
Length                              0.00    ft  
Number Of Steps                              0

### GVF Output Data

Upstream Depth                              0.00    ft  
Profile Description  
Profile Headloss                              0.00    ft  
Downstream Velocity                              Infinity    ft/s  
Upstream Velocity                              Infinity    ft/s  
Normal Depth                              0.50    ft  
Critical Depth                              0.64    ft  
Channel Slope                              0.01000    ft/ft  
Critical Slope                              0.00496    ft/ft

## Worksheet for Basin 2 and 3 Curb Cut Capacities

### Project Description

Friction Method	Manning Formula
Solve For	Discharge

### Input Data

Roughness Coefficient	0.013	
Channel Slope	0.01000	ft/ft
Normal Depth	0.50	ft
Bottom Width	2.00	ft

### Results

Discharge	5.50	ft³/s
Flow Area	1.00	ft²
Wetted Perimeter	3.00	ft
Hydraulic Radius	0.33	ft
Top Width	2.00	ft
Critical Depth	0.62	ft
Critical Slope	0.00549	ft/ft
Velocity	5.50	ft/s
Velocity Head	0.47	ft
Specific Energy	0.97	ft
Froude Number	1.37	
Flow Type	Supercritical	

Discharge capacity of a 2' curb cut (5.5 cfs) is greater than discharge of Basin 2 (1.06 cfs) and Basin 3 (3.13 cfs), therefore curb cuts within these respective basins are OK.

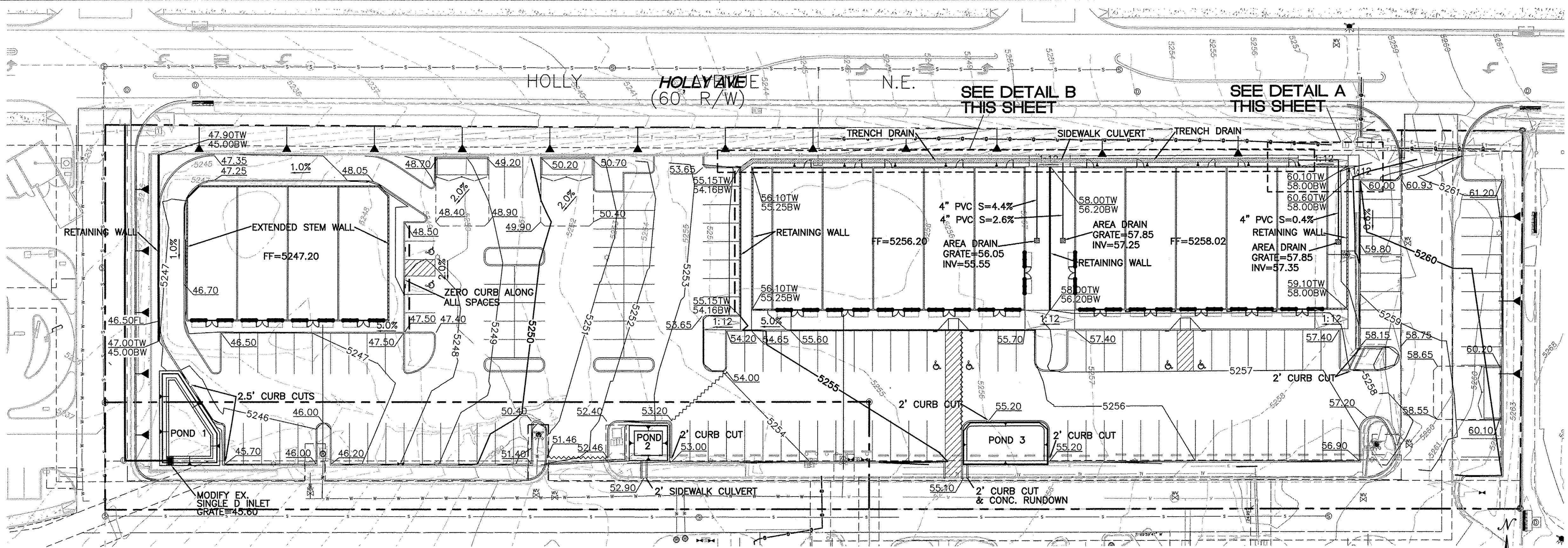
### GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

### GVF Output Data

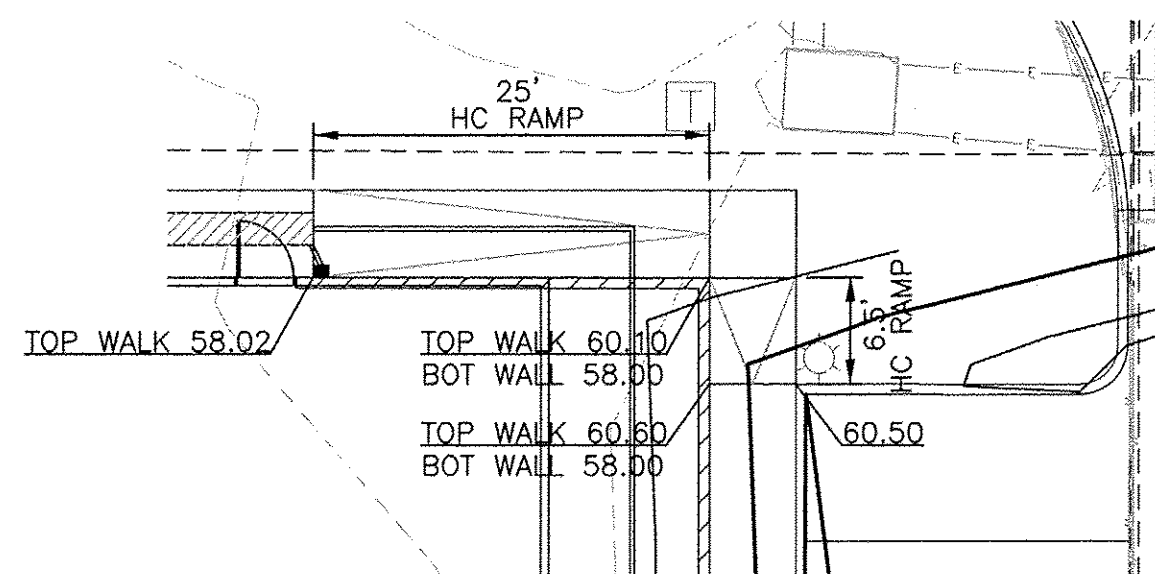
Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.50	ft
Critical Depth	0.62	ft
Channel Slope	0.01000	ft/ft
Critical Slope	0.00549	ft/ft





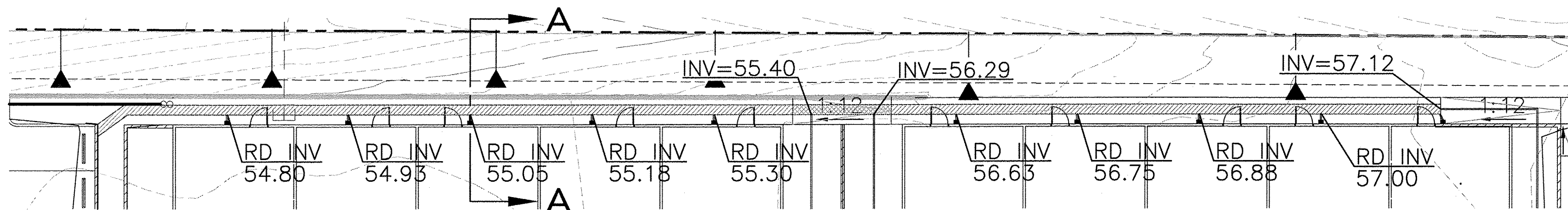
DET POND	VOL REQUIRED	VOL PROVIDED	TOP ELEV	BOT ELEV
1	1665.73 CF	1731.20 CF	5245.70	5243.45
2	282.93 CF	301.84 CF	5253.00	5251.75
3	734.98 CF	737.08 CF	5255.20	5254.20

NOTE - 2:1 MAX SIDE SLOPES ON ALL PONDS



DETAIL A - HC RAMP

NTS



DETAIL B - TRENCH DRAIN DETAIL

NTS

#### NOTICE TO CONTRACTORS

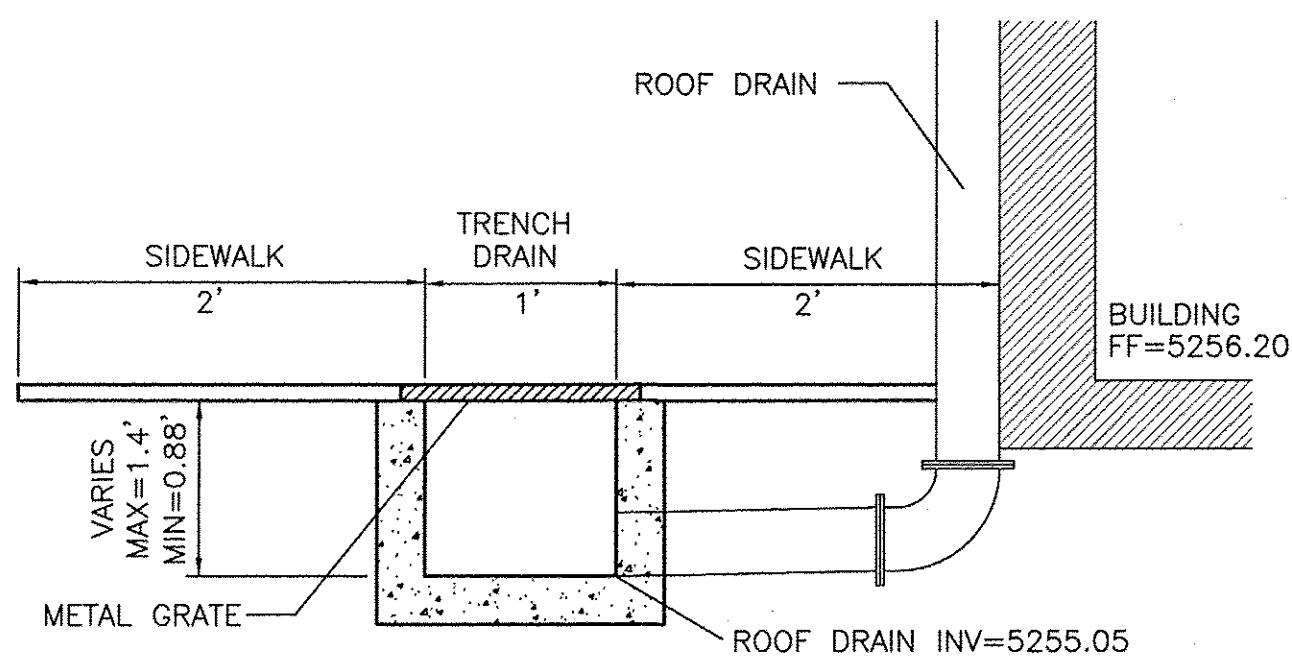
- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONNECTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
- SOURCE OF TOPO IS ALTA/ACSM LAND TITLE SURVEY OF LOT 2 HARMS INDUSTRIAL PARK PREPARED BY PRECISION SURVEYS, INC DATED JUNE, 2014.

#### EROSION CONTROL NOTES:

- CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OF-WAY ON SITE DURING CONSTRUCTION.
- CONTRACTOR 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.
- ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL ACCEPTANCE OF ANY PROJECT.

#### 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.



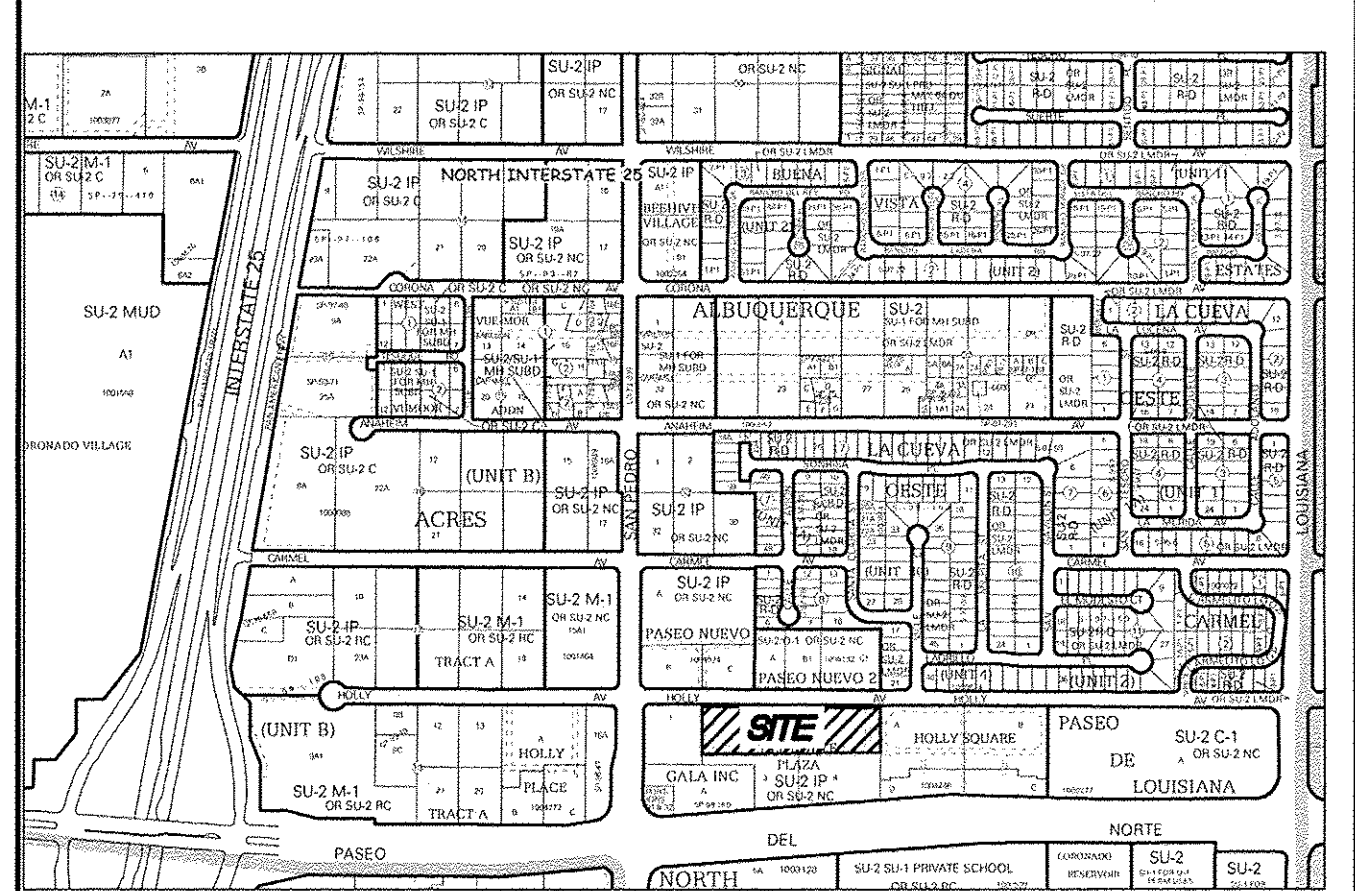
SECTION A-A

NTS

#### NOTICE TO CONTRACTORS

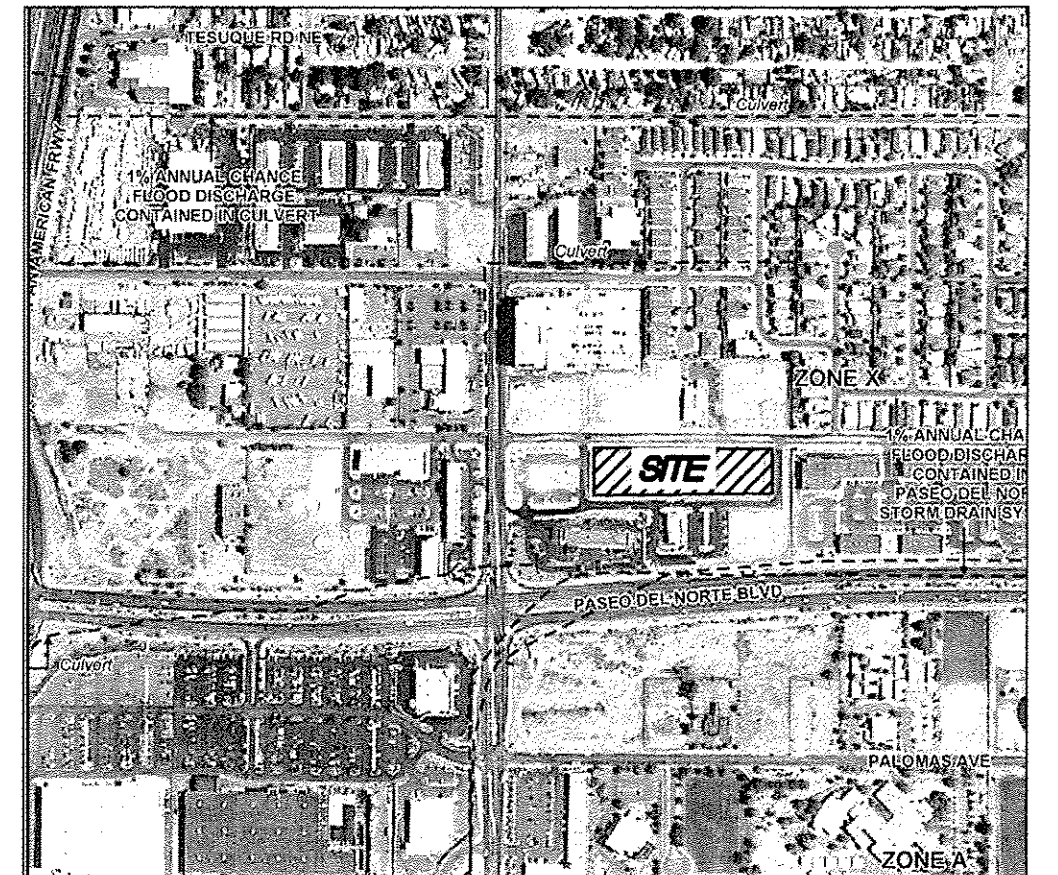
- AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
- ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
- 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.
- BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
- WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

APPROVAL	NAME	DATE
INSPECTOR		



ZONE ATLAS

C-18-Z



FIRM MAP

35001C0137H

#### LEGEND

- CURB & GUTTER
- BOUNDARY LINE
- EASEMENT
- SIDEWALK
- EXISTING CURB & GUTTER
- SINGLE CLEAN OUT
- DOUBLE CLEAN OUT
- EXISTING SD MANHOLE
- EXISTING SAS MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- EXISTING POWER POLE
- EXISTING GAS VALVE
- EXISTING OVERHEAD UTILITIES
- EXISTING GAS
- EX. 8" SAS
- EXISTING SANITARY SEWER LINE
- EX. WL
- EXISTING WATER LINE
- EX. RCP
- EXISTING STORM SEWER LINE
- 4900
- EXISTING INDEX CONTOUR
- EXISTING CONTOUR
- WATER BLOCK

#### ROUGH GRADING APPROVAL

DATE

	ENGINEER'S SEAL	LOT 2 DEL NORTE PLAZA ALBUQUERQUE, NM	DRAWN BY pm
		GRADING AND DRAINAGE PLAN	DATE 2-17-16
			DRAWING 2015064-GR
			SHEET # GR-1
RONALD R. BOHANNAN P.E. #7868		TIERRA WEST, LLC 5571 MIDWAY PARK PL NE ALBUQUERQUE, NEW MEXICO 87109 (505) 858-3100 www.tierrawestllc.com	
		JOB # 2015064	