

**CAUTION - NOTICE TO CONTRACTOR**

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL NEW MEXICO ONE CALL (811) AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

**DRAINAGE MANAGEMENT PLAN**

**INTRODUCTION**  
 The purpose of this submittal is to provide a grading plan and drainage management plan for Building Permit for the proposed Christian Brothers Automotive facility located in the Ventura Plaza development. The overall development contains approximately 5.44 acres and is located at the southwest corner of Paseo Del Norte Blvd NE and Ventura St NE in Albuquerque, NM. The original approved Shops 'A' portion of the development will be replaced by the new Christian Brothers Automotive shop.

For reference, there is an existing approved Drainage Management Plan prepared by Jeffrey L. Mulberry, P.E. at Bohannon Huston Inc. titled 'Paseo Del Norte and Ventura Blvd Development, Drainage Management Plan' (File Number D20/D010) dated 11/9/2009.

**EXISTING HYDROLOGIC CONDITIONS**  
 The site generally slopes from east to west. An approximate 68% of the development drains to a new storm drain system that was installed by the Walgreens project and connects into an existing storm drain system located in Paseo Del Norte Blvd that belongs to the NMDOT. The southern 32% of the site drains to an existing concrete lined channel located at the southwest corner of the development.

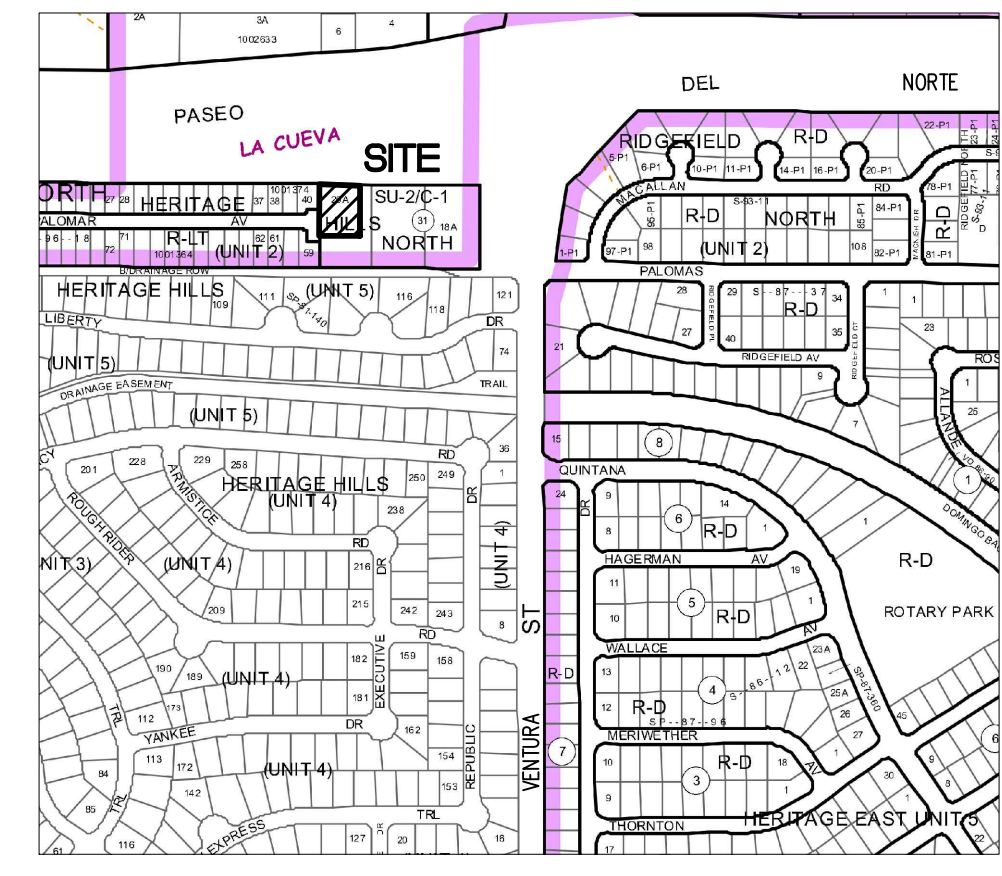
**PROPOSED HYDROLOGIC CONDITIONS**  
 The proposed development will generally conform to the original plan prepared by Bohannon Huston Inc. as described above. A new storm drain system collecting drainage from the central and western half of the site (Basins B, C, and I) will extend to the existing manhole located just inside the Paseo Del Norte Blvd Right-of-Way per the original approved Drainage Management Plan.

Per the original approved report from Bohannon Huston, there was a total of 16.72cfs draining to the pipe in Paseo Del Norte during the 100-Yr, 6-Hr storm. The proposed discharge to the southwest corner of the site was 8.96cfs.

Per the Drainage Calculations Table this sheet, we are proposing a total of 17.71cfs drain to the existing pipe in Paseo Del Norte which includes the prior Basin 'A' (1.26cfs) that surface discharged to the west. The proposed plan also reflects that there will be 9.04cfs draining to the existing concrete lined channel at the southwest corner of the site. The Christian Brothers development does not contribute any flows to the existing concrete lined channel.

As reflected in the First Flush and the Water Harvesting Pond Calculations tables this sheet, we are providing two new ponds which capture flows from the impervious areas within all basins contributing flows into those ponds, not just the Christian Brothers development. Basins 'B' and 'C' drain into pond 'B'. Basin 'I' drains into pond 'I'. The excess flows from the ponds will top over into new dome grated inlets and storm drains that are capable of conveying the 100-Yr, 6-Hr storm as reflected in the Inlet and Pipe Calculations tables this sheet.

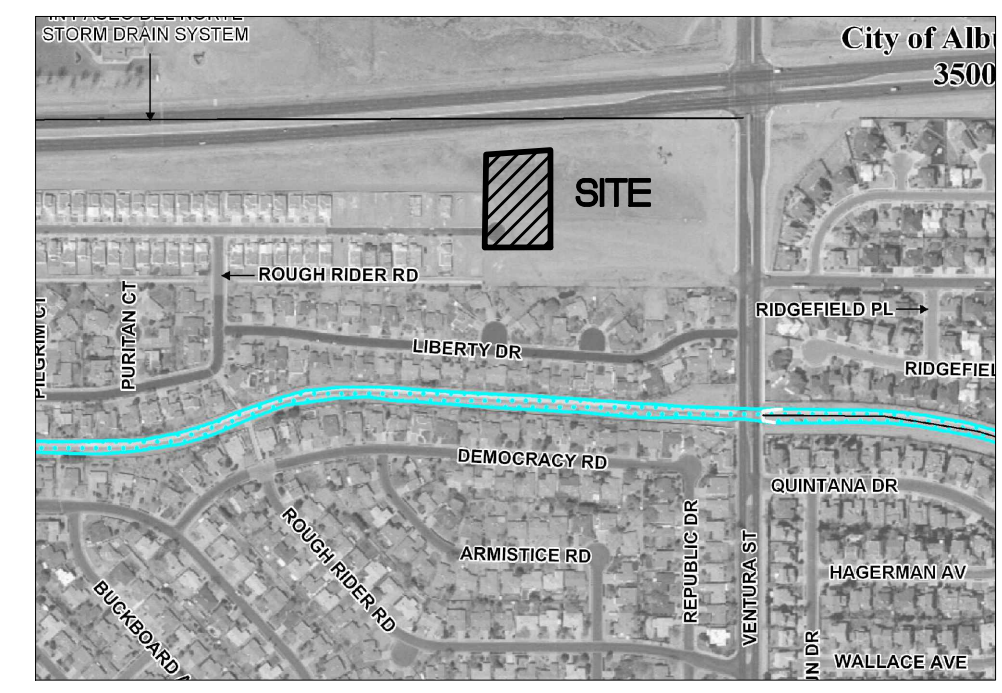
**CONCLUSION**  
 This drainage management plan generally conforms to the original approved Drainage Management Plan prepared by Bohannon Huston, Inc. With this submittal, we are requesting Building Permit approval.



**VICINITY MAP**  
 NTS

**LEGAL DESCRIPTION:**  
 A Portion of Parcel A, Ventura Plaza. 0.86 Acres.

**BENCHMARKS:**  
 ACS MONUMENT '5-D21', NAD 1983, X=1555798.186, Y=1516443.33, Z=5653.331 (NAVD 1988), GROUND TO GRID = 0.999641651  
 ACS MONUMENT '6-C21', NAD 1983, X=1555754.364, Y=1523064.716, Z=5660.507 (NAVD 1988), GROUND TO GRID = 0.999641314



**FIRM MAP 35001C0141G**  
 Per FIRM Map 35001C0141G, dated September 26, 2008, the site is not located in the Floodplain and determined to be outside the 0.2% chance Annual Floodplain.

**INLET CALCULATIONS**

- IN1. INLET TYPE = 24" DOME GRATE  
 SUMP CONDITION  
 Q = 3.88cfs  
 Depth of Flow per Nyloplast Capacity Chart = 0.35'
- IN2. INLET TYPE = 30" DOME GRATE  
 SUMP CONDITION  
 Q = 10.05cfs  
 Depth of Flow per Nyloplast Capacity Chart = 0.58'

**PIPE CALCULATIONS**

- SD1. Pipe Diameter = 24"; Pipe Material = RCP; n=0.013  
 Q = 17.71cfs  
 Pipe Slope = 4.29%  
 Capacity of Pipe = 22.68 cfs (GRAVITY FLOW)
- SD2. Pipe Diameter = 24"; Pipe Material = HDPE; n=0.010  
 Q = 13.93cfs  
 Pipe Slope = 0.50%  
 Capacity of Pipe = 20.85 cfs (GRAVITY FLOW)
- SD3. Pipe Diameter = 12"; Pipe Material = HDPE; n=0.010  
 Q = 3.88cfs  
 Pipe Slope = 1.00%  
 Capacity of Pipe = 4.64 cfs (GRAVITY FLOW)
- SD4. Pipe Diameter = 24"; Pipe Material = HDPE; n=0.010  
 Q = 10.05cfs  
 Pipe Slope = 0.50%  
 Capacity of Pipe = 20.85 cfs

**WATER HARVESTING POND VOLUME CALCULATIONS**

BASIN	CONTOUR ELEVATION	AREA (SF)	VOLUME (CF)
B	5535.00	126 SF	213 CF
	5536.00	300 SF	403 CF
	5537.00	506 SF	281 CF
	5537.50	618 SF	
TOTAL			897 CF
I	5535.00	526 SF	845 CF
	5536.00	1164 SF	1497 CF
	5537.00	1830 SF	
TOTAL			2342 CF
GRAND TOTAL			3239 CF

**FIRST FLUSH CALCULATIONS**

**BASINS 'B' & 'C'**  
 BASIN 'B'  
 BASIN AREA: 14,199 SF  
 IMPERVIOUS AREA: 12,069 SF  
 % IMPERVIOUS = 85.0%  
 FIRST FLUSH = 12,069 \* 0.34" / 12 = **342 CF**

**BASIN 'C'**  
 BASIN AREA: 20,445 SF  
 IMPERVIOUS AREA: 19,422 SF  
 % IMPERVIOUS = 95.0%  
 FIRST FLUSH = 19,422 \* 0.34" / 12 = **550 CF**  
 TOTAL FOR BASINS 'B' & 'C' = **892 CF**

**BASIN 'I'**  
 BASIN AREA: 93,000 SF  
 IMPERVIOUS AREA: 74,400 SF  
 % IMPERVIOUS = 80.0%  
 FIRST FLUSH = 74,400 \* 0.34" / 12 = **2,108 CF**

BASIN	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages				Q(100) (cfs/ac.)	Q(100) (CFS)	WTE (inches)	V(100) <sub>360</sub> (CF)	V(100) <sub>1440</sub> (CF)	V(100) <sub>10day</sub> (CF)	Comments
			A	B	C	D							
A	0	0.00	0.0%	0.0%	0.0%	0.0%	0.00	0.00	0.00	0	0	0	Basin Deleted
B	14199	0.33	0.0%	0.0%	15.0%	85.0%	4.78	1.56	2.20	2603	3005	4212	To Basin B Inlet then PDN Storm Drain
C	20445	0.47	0.0%	0.0%	5.0%	95.0%	4.94	2.32	2.31	3930	4577	6519	To Basin B
D	10977	0.25	0.0%	0.0%	5.0%	95.0%	4.94	1.25	2.31	2110	2457	3500	To Basin D Inlet then PDN Storm Drain
E	5388	0.12	0.0%	0.0%	10.0%	90.0%	4.86	0.60	2.25	1012	1173	1658	To Basin E Inlet then PDN Storm Drain
F	4850	0.11	0.0%	0.0%	100.0%	5.02	0.56	2.36	954	1116	1601	To Basin F Inlet then SWC of Development	
G	16984	0.39	0.0%	0.0%	5.0%	95.0%	4.94	1.93	2.31	3264	3802	5416	To Basin G Inlet then PDN Storm Drain
H	13795	0.32	0.0%	0.0%	10.0%	90.0%	4.86	1.54	2.25	2590	3004	4245	To Basin H Inlet then SWC of Development
I	93000	2.13	0.0%	0.0%	20.0%	80.0%	4.71	10.05	2.15	16632	19112	26552	To Basin I Inlet then PDN Storm Drain
JK	62198	1.43	0.0%	0.0%	10.0%	90.0%	4.86	6.94	2.25	11678	13544	19141	To Future Flume at SWC of Development
L	9247	0.21	0.0%	0.0%	95.0%	5.0%	3.53	0.75	1.34	1035	1051	1097	Sheet Flows to PDN Right-of-Way
TOTAL	251083	5.76								45806	52840	73941	

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10/10/2017  
 Date

Revisions	
04/25/17 - EPC Site Plan	
07/28/17 - Permit Set	
9/26/17 - Bid Plans	
Project No.	2016045
Drawn By:	J Wooten
Date:	10/10/17
Sheet Title:	DRAINAGE MANAGEMENT PLAN
Drawing No.	C1.2

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