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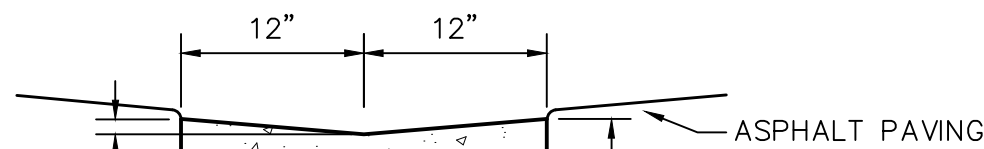
BASIN NO.	DESCRIPTION	DRAINAGE TO COVERED SW CULVERT
Area of basin flows = 4840 SF		0.1 AC
The following calculations are based on Treatment areas as shown in table to the right		
Sub-basin Weighted Excess Precipitation (see formula above)		
Weighted E = 1.97 in.		LAND TREATMENT
Sub-basin Volume of Runoff (see formula above)		
V <sub>360</sub> = 795 CF		A = 0%
Sub-basin Peak Discharge Rate: (see formula above)		
Q <sub>p</sub> = 0.5 cfs		B = 0%
		C = 0%
		D = 100%

CALCULATIONS: 2076 - COTTONWOOD COMMONS : Sept. 24, 2014					
Based on Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993					
ON-SITE					
AREA OF SITE:	23457 SF	=	0.5		
HISTORIC FLOWS:					
	Treatment SF	%	Area A	Treatment SF	%
Area A	0	0%	Area A	0	0%
Area B	0	0%	Area B	0	0%
Area C	0	0%	Area C	2346	10%
Area D	23457	100%	Area D	21111	90%
Total Area	23457	100%	Total Area	23457	100%
EXCESS PRECIP:					
			Precip. Zone		1
			E <sub>A</sub>		0.44
			E <sub>B</sub>		0.67
			E <sub>C</sub>		0.99
			E <sub>D</sub>		1.97

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)			
Weighted E =	$E_A A + E_B B + E_C C + E_D D$		
Historic E =	1.97 in.	Developed E =	1.87 in.

On-Site Volume of Runoff: V <sub>360</sub> = $E^*A / 12$			
Historic V <sub>360</sub> =	3851 CF	Developed V <sub>360</sub> =	3659 CF

On-Site Peak Discharge Rate: Q <sub>p</sub> = Q <sub>pA</sub> A + Q <sub>pB</sub> B + Q <sub>pC</sub> C + Q <sub>pD</sub> D / 43,560			
For Precipitation Zone 1			
Q <sub>pA</sub> =	1.29	Q <sub>pC</sub> =	2.87
Q <sub>pB</sub> =	2.03	Q <sub>pD</sub> =	4.37
Historic Q <sub>p</sub> =	2.4 CFS	Developed Q <sub>p</sub> =	2.3 CFS



#### GENERAL NOTES

- EDGES SHALL BE SHAPED WITH A 3/8" EDGING TOOL.
- CONSTRUCTION CONTROL JOINTS AT 6' O.C. MAX.
- 1/2" EXPANSION JOINTS 48' O.C. EDGE OF ASPHALT PAVING TO BE 1/2" ABOVE EDGE OF CONCRETE (TYP).

CONCRETE ALLEY GUTTER

SCALE: N.T.S.

#### GENERAL NOTES

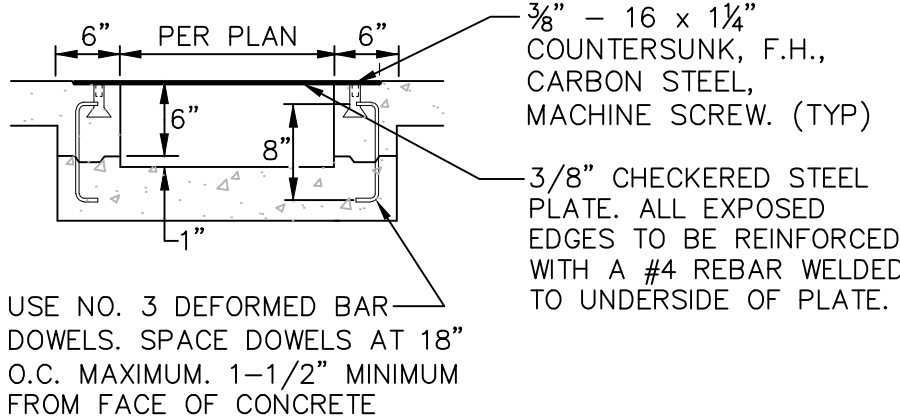
SEE ARCHITECTURAL FOR SITE PAVING DETAILS.

- CONSTRUCT NEW PAVING AT ELEVATIONS SHOWN. SEE ARCHITECTURAL FOR EXTENTS AND PAVING DETAILS.

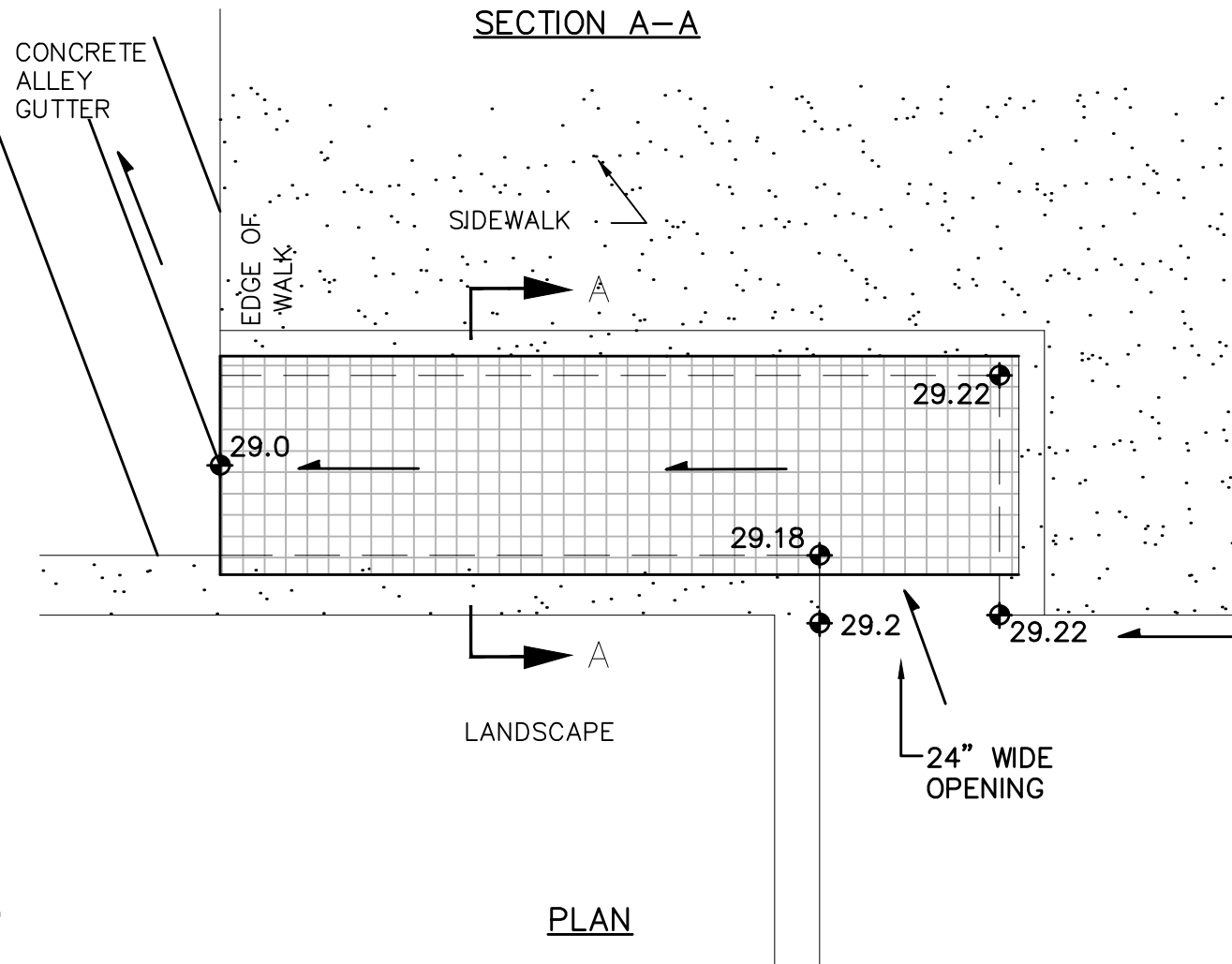
- THIS PROPERTY (EXISTING CONDITION) IS MINIMALLY SLOPED TO DRAIN (SHEETFLOW). AREAS SHOWN HATCHED (SEE LEGEND) IDENTIFY APPROXIMATE EXTENT OF ASPHALT REMOVE / REPLACE BASED ON AVAILABLE TOPOGRAPHIC DATA. CONTRACTOR TO FIELD VERIFY THAT NO BIRDBATHS WILL BE CREATED BY THIS CONSTRUCTION. REMOVE / REPLACE ADDITIONAL ASPHALT AS NEEDED TO ENSURE POSITIVE DRAINAGE.
- EXISTING PAVING TO REMAIN. CONTRACTOR SHALL FIELD VERIFY POSITIVE DRAINAGE AND ELIMINATE ANY EXISTING BIRDBATHS WHERE NECESSARY. SEE KEYED NOTE 1.1.
- CONSTRUCT HANDICAP PARKING AREA AT ELEVATIONS SHOWN. SLOPE WITHIN HANDICAP PARKING AREA TO MEET ADA REQUIREMENTS. MAX. SLOPE = 2% IN ANY DIRECTION.
- CONSTRUCT 1:12 (MAX.) RAMP TO ADA STANDARDS. SEE ARCHITECTURAL FOR DETAILS.
- CONSTRUCT CONCRETE PEDESTRIAN WALKS AT ELEVATIONS SHOWN.
- PROPOSED ROOF DISCHARGE LOCATION.
- CONSTRUCT 2' WIDE CONCRETE ALLEY GUTTER AT GRADES SHOWN.
- DEPRESS ALL LANDSCAPE AREAS TO STORE STORMWATER THAT FALLS ON THEM. NO WATER HARVESTING SHALL OCCUR WITHIN 10' OF THE BUILDING.
- CONSTRUCT COVERED SIDEWALK CULVERT TO PASS FLOW AT ELEVATIONS SHOWN. SEE DETAIL THIS SHEET.
- GRADE DIFFERENCE BETWEEN TOP OF ASPHALT AND TOP OF WALK THIS AREA VARIES FROM 0.2' TO 0.8' TO ENSURE DRAINAGE. CONSTRUCT TO ELEVATIONS SHOWN.

WELD 3/8" THICK, 3/8" MIN. DIAMETER OVER ALL SCREWS. COMPLETELY COVER SCREW HEADS. GRIND EDGES SMOOTH.

FOR SECURING PLATE USE 1"x5" S.S. ROD ANCHOR, "RED HEAD MULTI-SET II SRM-38 ANCHOR" OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S INSTRUCTIONS AT MAX. 24" O.C. A MINIMUM OF 2 PER SIDE AND ONE WITHIN 6" OF EACH END.



#### SECTION A-A



#### PLAN

SIDEWALK CULVERT

SCALE: N.T.S.

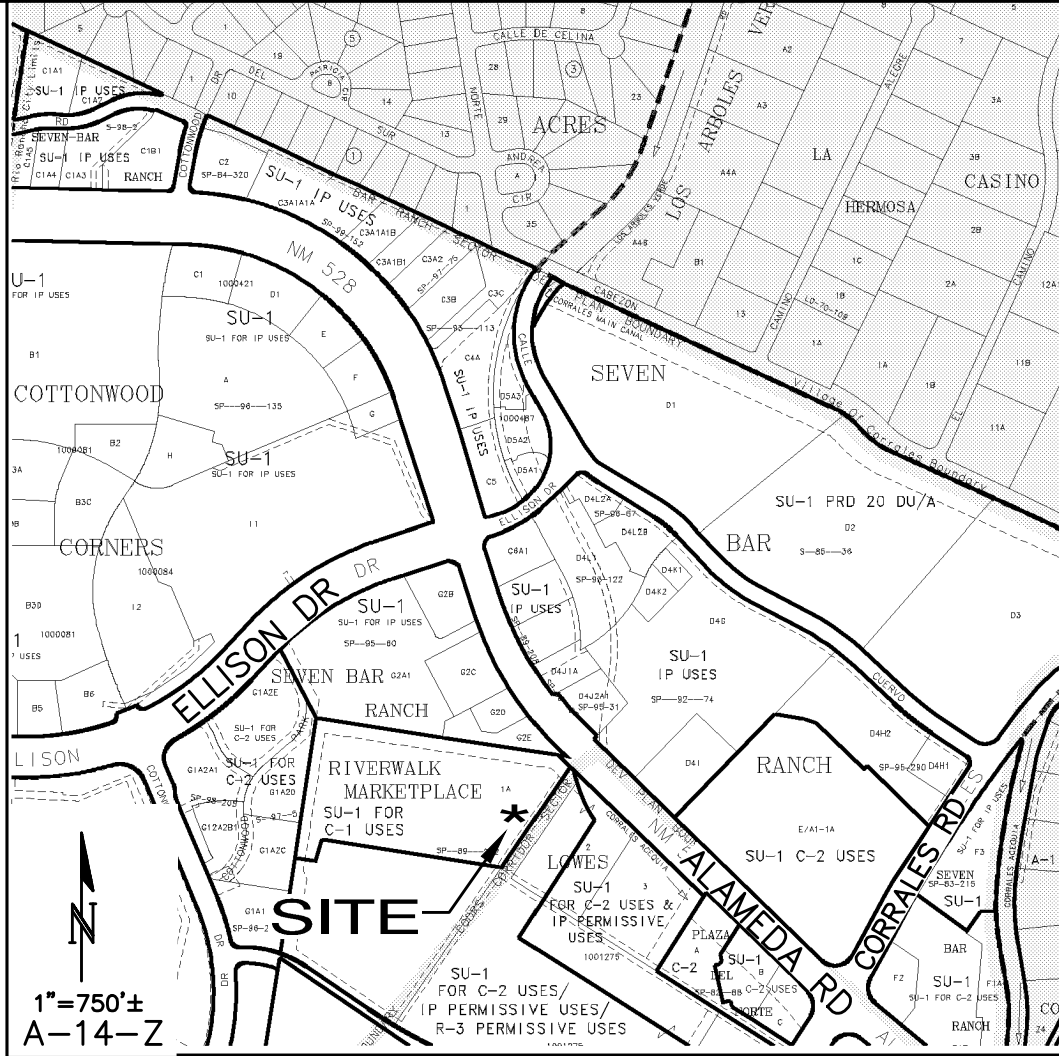
#### GENERAL NOTES

- ALL WORK DETAILED ON THESE PLANS AND PERFORMED UNDER THIS CONTRACT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT, WHERE APPLICABLE, CITY OF ALBUQUERQUE AND NMDOT STANDARDS APPLY.
- THE CONTRACTOR SHALL ABIDE BY ALL STATE, LOCAL, AND FEDERAL LAWS, CODES, RULES AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS, INCLUDING EPA AND ADA REQUIREMENTS.
- ALL SUBGRADE, OVEREXCAVATION, BACKFILL, AND FILL SHALL BE PLACED AND / OR COMPACTED PER THE GEOTECHNICAL REPORT AND CITY OF ALBUQUERQUE SPECIFICATIONS.
- THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS FOR THE PROJECT PRIOR TO COMMENCING CONSTRUCTION, AND PRIOR TO OCCUPANCY, AS APPROPRIATE.
- COORDINATE WORK WITH SITE PLAN AND UTILITY PLAN.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING OBSTRUCTIONS, AND CONDITION OF ALL EXISTING INFRASTRUCTURE PRIOR TO CONSTRUCTION. REPORT ALL DISCREPANCIES TO THE ARCHITECT AND VERIFY THE ARCHITECT'S INTENT BEFORE PROCEEDING.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE SAFETY.
- CONTRACTOR SHALL OBTAIN ALL REQUIRED INSPECTIONS OF THE WORK.
- CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROPERTY AND/OR PROJECT LIMITS. ANY DAMAGE TO ADJACENT STRUCTURES RESULTING FROM THE CONSTRUCTION PROCESS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
- ALL TRASH, DEBRIS, & SURFACE VEGETATION SHALL BE CLEARED AND LEGALLY DISPOSED OF OFFSITE.
- PROPOSED SPOT AND CONTOUR ELEVATIONS SHOWN REPRESENT TOP OF FINISH MATERIAL (I.E. TOP OF CONCRETE, TOP OF CONCRETE BUILDING PAD, TOP OF PAVEMENT MATERIAL, TOP OF LANDSCAPING MATERIAL, ETC.). CONTRACTOR SHALL GRADE, COMPACT SUBGRADE AND DETERMINE EARTHWORK ESTIMATES BASED ON ELEVATIONS SHOWN MINUS FINISH MATERIAL THICKNESS.
- IF FIELD GRADE ADJUSTMENTS ARE REQUIRED, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT.
- MINIMUM SLOPES SHALL BE 1% UNLESS OTHERWISE NOTED.
- EXISTING UTILITY LINES ARE SHOWN IN AN APPROXIMATE MANNER ONLY AND MAY BE INCOMPLETE OR OBSOLETE. SUCH LINES MAY OR MAY NOT EXIST WHERE SHOWN OR NOT SHOWN. CONTRACTOR SHALL CONTACT NM-811 FOR UTILITY LINE SPOTS TWO WORKING DAYS PRIOR TO CONDUCTING SITE FIELD WORK. CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF NECESSARY DRY UTILITY ADJUSTMENTS.
- ADJUST ANY RIMS OF EXISTING UTILITY FEATURES AS NECESSARY TO MATCH NEW GRADES. UTILITIES IN PAVED AREAS SHALL BE HS-25 TRAFFIC RATED.
- ALL NEW PAVEMENT SURFACES SHALL BE CONSTRUCTED WITH POSITIVE SLOPE AWAY FROM BUILDINGS AND POSITIVE SLOPE TOWARD EXISTING AND/OR PROPOSED DRAINAGE PATHS. PAVING AND ROADWAY GRADES SHALL BE ±0.1' FROM PLAN ELEVATIONS. BUILDING PAD ELEVATION SHALL BE ±0.05' FROM PLAN ELEVATION.
- WHERE GRADES BETWEEN NEW AND EXISTING ARE SHOWN AS 'MATCH' OR '±', TRANSITIONS SHALL BE SMOOTH.
- ALL EROSION PROTECTION TO BE FRACTURED FACE ROCK (F.F. ROCK); 6" AVG. DIA. ANGULAR FACED ROCK PLACED OVER GEOTEX 501 NON-WOVEN GEOTEXTILE (O.E.).
- ENGINEER RECOMMENDS THAT OWNER MAINTAIN EROSION PROTECTION ELEMENTS. ENGINEER RECOMMENDS THAT OWNER INSPECT SITE YEARLY AND AFTER EACH RAINFALL TO IDENTIFY NEW AREAS OF EROSION AND INSTALL ADDITIONAL EROSION PROTECTION AS NEEDED BASED ON ACTUAL OCCURRENCES.
- MEASURES REQUIRED FOR EROSION AND SEDIMENT CONTROL SHALL BE INCIDENTAL TO THE PROJECT COST.
- ALL SITE PREPARATION, GRADING OPERATIONS, FOUNDATION CONSTRUCTION, AND PAVEMENT INSTALLATION WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT, WHICH WILL BE PROVIDED BY THE OWNER OR ARCHITECT. ALL OTHER WORK SHALL, UNLESS OTHERWISE NOTED IN THE PLANS, BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT SPECIFICATION (FIRST PRIORITY), AND/OR NMDOT STANDARD SPECIFICATIONS FOR PUBLIC WORK (SECOND PRIORITY).
- IF THE SITE IS SMALL ENOUGH NOT TO REQUIRE A SWPPP/NPDES PERMIT (LESS THAN ONE ACRE), THE CONTRACTOR SHALL STILL BE RESPONSIBLE FOR USING EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMP'S) TO ENSURE THAT NO SOIL ERODES FROM THE SITE INTO ADJACENT PUBLIC RIGHT-OF-WAY.

#### LEGEND

- EXISTING SPOT ELEVATION
- EXISTING CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED CONTOUR
- FLOW ARROW - PROPOSED CONDITION
- FLOW ARROW - EXISTING CONDITION
- FLOW LINE
- FINISHED FLOOR
- GRADE BREAK HIGH POINT
- APPROX. LIMITS OF ASPHALT REMOVE / REPLACE

#### VICINITY MAP



#### PROJECT DATA

PROPERTY: THE AREA TO BE DEVELOPED IS A PREVIOUSLY DEVELOPED ASPHALT PARKING LOT PROPERTY WITH ASSOCIATED LANDSCAPED ISLANDS LOCATED WITHIN C.O.A. VICINITY MAP A-14. THE SITE IS BOUND TO THE NORTH, WEST, SOUTH AND EAST BY DEVELOPED COMMERCIAL PROPERTY.

PROPOSED IMPROVEMENTS: THE PROPOSED IMPROVEMENTS INCLUDE AN 3,800 SF(±) COMMERCIAL RETAIL WITH ASSOCIATED ASPHALT PAVED PARKING AND LANDSCAPING.

LEGAL: A PORTION OF LOT 1-A, RIVERWALK MARKETPLACE, CITY OF ALBUQUERQUE BERNALILLO COUNTY, NEW MEXICO

SURVEYOR: SURV-TEK  
RUSS HUGG - NMPS#9750  
9384 VALLEY VIEW DRIVE  
ALBUQUERQUE, NM 87114  
505-897-3366

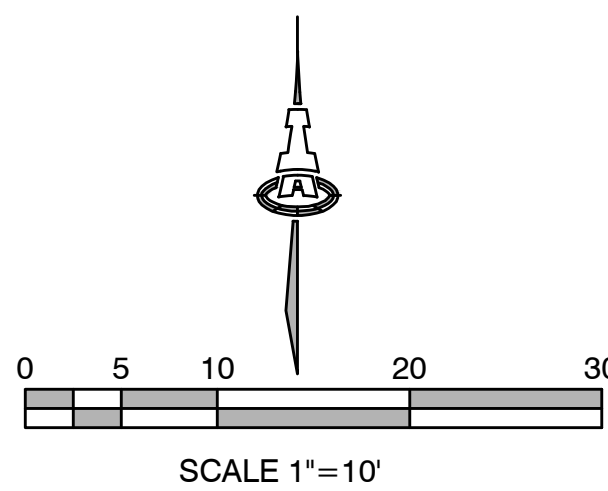
BENCHMARK: VERTICAL DATUM FOR THIS PROJECT IS BASED UPON ALBUQUERQUE CONTROL SURVEY MONUMENT "NM-448-N12", HAVING A PUBLISHED ELEVATION OF 5,026.132 FEET (NAVD 1988).

OFF-SITE: HISTORIC FLOW FROM THE SOUTH PORTION OF LOT-1, RIVERWALK MARKETPLACE WILL CONTINUE TO PASS THROUGH THIS PROPERTY. MINOR GRADING WILL DIVERT THIS FLOW AROUND THE PROPOSED BUILDING WHICH WILL THEN RETURN TO THE HISTORIC FLOWPATHS.

FLOOD HAZARD: PER BERNALILLO COUNTY FIRM MAP #35001C0109H DATED AUGUST 16, 2012, THE SITE IS LOCATED WITHIN FLOODZONE 'X' DESIGNATED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2-PERCENT-ANNUAL-CHANCE FLOODPLAIN.

DRAINAGE PLAN CONCEPT:

PER THE CALCULATIONS, THE PROPOSED CONDITION WILL GENERATE SLIGHTLY LESS DISCHARGE (2.4 CFS -VS- 2.3 CFS). THE SITE WILL CONTINUE TO DISCHARGE HISTORIC FLOWPATH TO AN EXISTING PRIVATE STORM DRAIN INLET SITUATED IN THE LANDSCAPE ISLAND TO THE NORTH.



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9-24-14

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2076 CG-101.dwg Sep 24, 2014

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#### SHOPS-COTTONWOOD COMMONS

#### GRADING & DRAINAGE PLAN

Date:	No. Revision:	Date:	Job No.
Drawn By:			CG-101
Ckd By:			SH OF

