



BASIN 'A' (EXISTING)
TOTAL BASIN AREA: 60,160 SF
PERVIOUS AREA: 46,692 SF (77.6%)
IMPERVIOUS AREA: 13,468 SF (22.4%)

BASIN 'A' (PROPOSED)
TOTAL BASIN AREA: 60,160 SF
PERVIOUS AREA: 15,849 SF (26.3%)
IMPERVIOUS AREA: 44,311 SF (73.7%)

WATER QUALITY POND CALCULATION

TOTAL NEW IMPERVIOUS AREA = 39,439 SF

FIRST FLUSH = $39,439 \times 0.42" / 12 = \underline{1,380 \text{ CF}}$

TOTAL VOLUME PROVIDED = 7,961 CF

POND 'A'	Elevation (ft)	Area (sq.ft)	Volume (cu-ft)	Volume Sum (cu-ft)
	4967.0	180	0.0	0.0
	4968.0	384	282.0	282.0
	4969.0	1186	785.0	1067.0
	4970.0	2274	1730.0	2797.0
	4971.0	3580	2927.0	5724.0
	4971.5	5370	2237.0	7961.0

WEIR EQUATION
 $Q = C^*L^*(H^{1.5})$
 Given:
 $C = 2.87$ (Weir Coefficient)
 $L = 2$ feet (Width of Flow)
 $H = 0.67$ feet (Depth of Flow)
 Therefore:
 $Q = 2.87*2^*(0.67^{1.5})$
 $Q = 2.87*2*0.55$
 $Q_{cap} = 3.15$ cfs

WEIR EQUATION
 $Q = C * L * (H^{1.5})$
 Given:
 $C = 2.87$ (Weir Coefficient)
 $L = 4$ feet (Width of Flow)
 $H = 0.50$ feet (Depth of Flow)
 Therefore:
 $Q = 2.87 * 4 * (0.50^{1.5})$
 $Q = 2.87 * 4 * 0.35$
 $Q_{cap} = 4.02$ cfs

$Q_{reqd} = 6.67 \text{ cfs}$ CHECK



Legal Description: Tract A-2, Plat of the Lands of Mountain States Telephone & Telegraph Company, and Tract "A" Furr's Properties, and Lots 1-5 & 11-17 Rivera Place, and a portion of Vacated Rivera Place Rd NW, Vacated per V-489.



Per FIRM Map 35001C0119G, dated September 26, 2008, the site is located in Zone X, 0.2% Annual Chance Flood Area.

INTRODUCTION
The purpose of this submittal is to provide a grading plan and drainage management plan for a new Truck Dock and Parking Expansion for the existing Lowes Grocery Store located at 4301 4th St NW in Albuquerque, NM. The property consists of approximately 3.77 acres. The City Drainage File Numbers are F14-D052 for the existing Lowes and F14/D021 for the CenturyLink (Qwest) property.

EXISTING HYDROLOGIC CONDITIONS
The site generally slopes to a couple of low points on site and ponds. Any overflow from the ponds would discharge onto Griegos Rd. There is an existing curb inlet located along Griegos directly adjacent to the site. The site area is mostly undeveloped except for some utility equipment located on the CenturyLink site. Per the Existing Drainage Calculations table this sheet, the site currently discharges 5.55 cfs onto Griegos during the 100-Yr, 6-Hr storm.

PROPOSED HYDROLOGIC CONDITIONS
The site will continue to pond and then overflow onto Griegos. Per the Proposed Drainage Calculations table this sheet, the runoff will increase by 1.12 cfs for a total of 6.67 cfs during the 100-Yr, 6-Hr storm. Ponding is being provided such that the difference between the 100-Yr, 10-Day storm (6,752 CF) is being captured. This ensures that the Pre-Developed runoff from the site will not be exceeded. The actual pond volume being provided is approximately 7,961 CF per calculations this sheet.

The pond will overflow and discharge through a 24" Sidewalk Culvert and a 4' wide curb opening in the driveway leading to Griegos Rd. Reference the weir calculations, this sheet.

STORMWATER QUALITY PONDING
Per the Calculations this sheet, we are providing two separate ponds which are connected via a 12" pipe, which more than captures the required First Flush volume per the DPM.

Per the percolation test provided by Western Technologies in the Geotechnical Report, the site soils will drain at a rate of 10 minutes per inch which is equivalent to 6 inches per hour or 12 feet per day. At this rate, the pond should completely discharge in less than 24 hours via infiltration..

CONCLUSION
This drainage management plan provides for grading and drainage elements which are capable of safely passing the 100 year storm and meets city requirements. The proposed improvements for the site should not have any negative impacts to facilities downstream. With this submittal, we are requesting approval of Building Permit.



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LOWE'S MARKET #99
DOCK AND STORAGE ADDITION
4701 4TH STREET NORTHWEST
ALBUQUERQUE, NM 87107

DRAWN BY: RG	CHECKED BY: JW
SHEET TITLE:	

DATE: JANUARY 2021

PROJECT #: 2020052
SHEET:
Drainage
Management Plan
C201 OF