DRAINAGE PLAN:

LEGAL DESCRIPTION: TRACT C-1-B, ALBUQUERQUE WEST

SITE AREA: 0.6464 ACRES

FLOOD HAZARD STATEMENT: F.E.M.A. FLOODWAY BOUNDARY AND FLOODWAY MAP DATED NOVEMBER 4, 2016 (PANEL NO. 35001C0327J) INDICATES A FLOOD HAZARD ZONE X WHICH IS AN AREA DETERMINED TO BE OUTSIDE THE 500-YEAR FLOODPLAIN.

EXISTING DRAINAGE CONDITIONS:

THE DRAINAGE ANALYSIS FOR THIS SITE IS IN ACCORDANCE WITH SETION 22 OF THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL (DPM), ENTITLED "DRAINAGE, FLOOD CONTROL, AND EROSION CONTROL." THE DESIGN STORM USED FOR BOTH UNDEVELOPED AND DEVELOPED CONDITIONS IS THE 100-YEAR, 24-HOUR STORM EVENT FOR RUNOFF. THE SITE IS LOCATED IN ZONE 1 SO THE 100-YEAR, 24-HOUR STORM EVENT IS 2.66 INCHES. UNDER EXISTING CONDITIONS, THE MOSTLY VACANT LOT IS VACANT WITH A SMALL PORTION PAVED.

THE SITE IS LOCATED JUST SOUTH OF THE INTERSECTION OF QUAIL AND 57TH STREET NW. CURRENTLY THE SITE DRAINS FROM WEST TO EAST TO 57TH STREET. THE EXISTING PEAK RUNOFF FROM THE SITE UNDER EXISTING CONDITIONS IS 1.88 CFS DURING A 100-YEAR, 6-HOUR STORM. THERE ARE NO OFF-SITE FLOWS THAT REACH THE PROPERTY.

DEVELOPED DRAINAGE CONDITIONS:

THIS PROJECT INVOLVES THE CONSTRUCTION OF A STRIPES BURRITOS WITH PARKING AND LANDSCAPING. THE SITE HAS BEEN DIVIDED INTO FIVE DRAINAGE BASINS TO FOLLOW THE WATER QUALITY PONDS. BASIN A INCLUDES THE NORTHWEST PORTION OF THE SITE AND THE BUILDING. BASIN A DRAINS TO A WATER QUALITY POND IN THE LANDSCAPED AREA NORTH AND WEST OF THE BUILDING WITH A VOLUME OF 320 CF. BASIN B INCLUDES THE SOUTHWEST PART OF THE SITE. BASIN B DRAINS TO A WATER QUALITY POND WITH A VOLUME OF 106 CF. BASIN C INCLUDES THE SOUTHEST PART OF THE SITE. BASIN C DRAINS TO A WATER QUALITY POND WITH A VOLUME OF 363 CF. THE BASIN C WATER QUALITY POND DRAINS THROUGH A 24-INCH SIDEWALK CULVERT TO 57TH STREET. BASIN D INCLUDES THE AREA JUST EAST OF THE BUILDING. BASIN D DRAINS TO A WATER QUALITY POND WITH A VOLUME OF 30 CF. AND BASIN E INCLUDES THE NORTHEAST PART OF THE SITE. BASIN E DRAINS DIRECTLY TO 57TH STREET. THE WATER QUALITY POND IN BASIN A INCLUDES THE ADDITIONAL WATER QUALITY VOLUME OF 80 CF FROM BASIN E. BASINS A, B, C, AND D ALL DRAIN TO THE WATER QUALITY POND AT THE SOUTHEAST CORNER OF THE SITE AND TO 57TH STREET T=VIA A 24-INCH SIDEWALK CULVERT.

BASIN A WATER QUALITY VOLUME = (0.42IN/12IN/FT) x ((0.653 x .2401)) x 43,560SF/AC) = 240 CF
REQUIRED, 320 CF PROVIDED

BASIN B WATER QUALITY VOLUME = (0.42IN/12IN/FT) x ((0.91 x .0762)) x 43,560SF/AC) = 106 CF
REQUIRED, 106 CF PROVIDED

BASIN C WATER QUALITY VOLUME = (0.42IN/12IN/FT) x ((0.963 x .2474)) x 43,560SF/AC) = 363 CF
REQUIRED, 363 CF PROVIDED

BASIN D WATER QUALITY VOLUME = (0.42IN/12IN/FT) x ((0.705 x .0267)) x 43,560SF/AC) = 29 CF
REQUIRED, 30 CF PROVIDED

BASIN E WATER QUALITY VOLUME = (0.42IN/12IN/FT) x ((0.922 x .0560)) x 43,560SF/AC) = 79 CF
REQUIRED, 0 CF PROVIDED

SIDEWALK CULVERT CAPACITY, WEIR EQUATION = (2.7) x (2FT) X (7IN/12IN/FT)^1.5 = 2.4 CFS

100-YEAR HYDROLOGIC CALCULATIONS

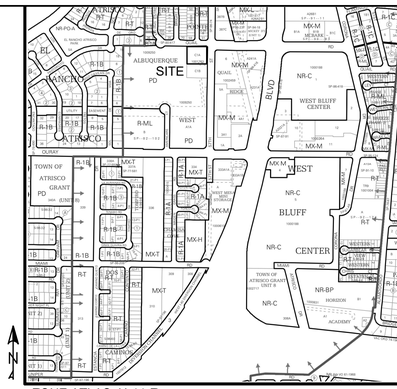
BASIN #	AREA (acre)	LAND TREATMENT A (%)	B (%)	C (%)	D (%)	WEIGHTED E (in)	100-YEAR PRECIPITATION V (6-hr) (acre-ft)	V (6-hr) (cu-ft)	V(10-day) (acre-ft)	V(10-day) (cu-ft)	Q (cfs)
EXISTING CONDITIONS											
A	0.2401	0.00	0.00	100.00	0.00	0.95	0.02	828	0.02	828	0.69
B	0.0762	0.00	0.00	100.00	0.00	0.95	0.01	263	0.01	263	0.22
C	0.2474	0.00	0.00	100.00	0.00	0.95	0.02	853	0.02	853	0.71
D	0.0267	0.00	0.00	100.00	0.00	0.95	0.00	92	0.00	92	0.08
E	0.0560	0.00	0.00	57.50	42.50	1.50	0.01	305	0.01	454	0.19
TOTAL RUNOFF	0.6464						0.05	2,341	0.06	2,490	1.88
INTERIM DEVELOPMENT CONDITIONS											
A	0.2401	0.00	17.30	17.40	65.30	1.75	0.04	1,529	0.06	2,514	0.86
B	0.0762	0.00	4.50	4.50	91.00	2.11	0.01	585	0.02	1,020	0.30
C	0.2474	0.00	1.80	1.90	96.30	2.19	0.05	1,965	0.08	3,461	1.00
D	0.0267	0.00	14.70	14.80	70.50	1.83	0.00	177	0.01	295	0.10
E	0.0560	0.00	3.90	3.90	92.20	2.13	0.01	433	0.02	757	0.22
TOTAL RUNOFF	0.6464						0.11	4,689	0.18	8,048	2.48
EXCESS PRECIP.		0.55	0.73	0.95	2.24	E (in)					
PEAK DISCHARGE		1.54	2.16	2.87	4.12	Q_{PI} (cfs)					

WEIGHTED E (in) = $(E_A)(\%A) + (E_B)(\%B) + (E_C)(\%C) + (E_D)(\%D)$
$V_{6\text{-HR}}$ (acre-ft) = (WEIGHTED E)(AREA)/12
V_{10DAY} (acre-ft) = $V_{6\text{-HR}} + (A_D)(P_{10DAY} - P_{6\text{-HR}})/12$
Q (cfs) = $(Q_{PA})(A_A) + (Q_{PB})(A_B) + (Q_{PC})(A_C) + (Q_{PD})(A_D)$

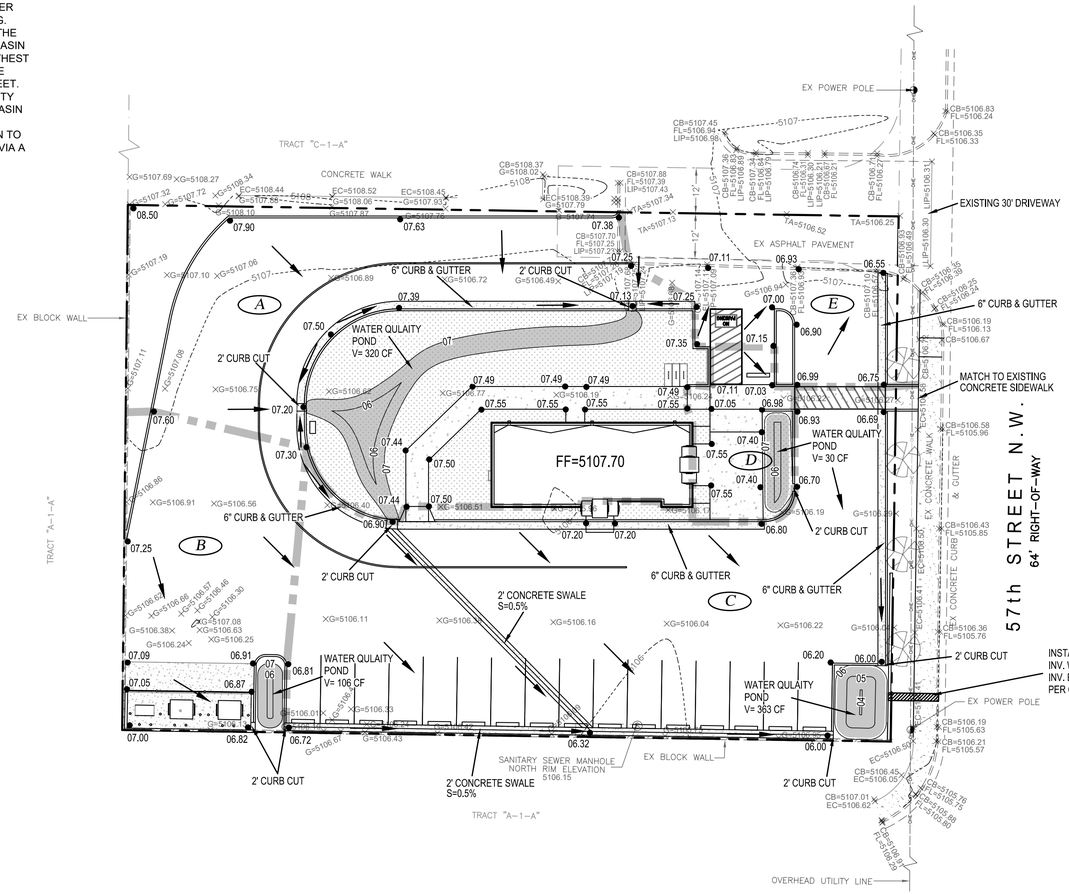
ZONE = 1
$P_{6\text{-HR}}$ (in.) = 2.17
$P_{24\text{-HR}}$ (in.) = 2.49
P_{10DAY} (in.) = 3.90

CAUTION:

EXISTING UTILITIES ARE NOT SHOWN. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO ANY EXCAVATION TO DETERMINE THE ACTUAL LOCATION OF UTILITIES & OTHER IMPROVEMENTS.

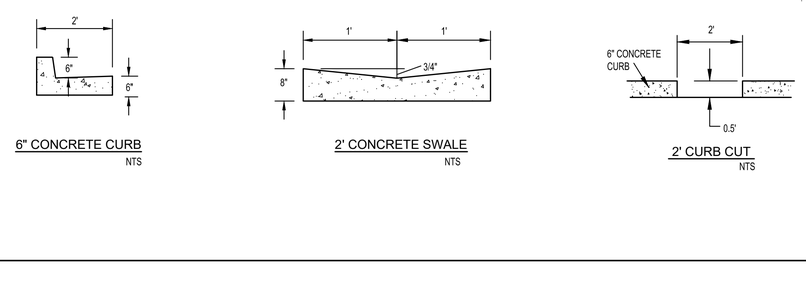


ZONE ATLAS: H-11-Z



LEGEND

FF=5100.50	FINISHED PAD SITE ELEVATION
06.50 ●	SPOT ELEVATIONS
XG=5106.22	EXIST. SPOT ELEVATION
	EXIST. MAJOR CONTOURS
	EXIST. MINOR CONTOURS
	FLOW DIRECTION
	PROPOSED SWALE
	BOUNDARY
	PROPOSED CONCRETE
	PROPOSED PONDING
	PROPOSED BASIN BOUNDARY
A	DRAINAGE BASIN NUMBER



REV. 01/22/21

Private Drainage Facilities within City Right-of-Way
Notice to Contractor
(Special Order 19 ~ "SO-19")

1. Build sidewalk culvert per COA STD DWG 2236. Work is permitted and inspected by DMD Construction Services Division.
2. An excavation permit will be required before beginning any work within City Right-Of-Way.
3. All work on this project shall be performed in accordance with applicable federal, state and local laws, rules and regulations concerning construction safety and health.
4. Prior to any excavation, the contractor must contact New Mexico One Call, dial "811" [or (505) 260-1990] for the location of existing utilities.
5. Prior to construction, the contractor shall excavate and verify the locations of all obstructions. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.
6. Backfill compaction shall be 95%.
7. Maintenance of the facility shall be the responsibility of the owner of the property being served.
8. Work on arterial streets may be required on a 24-hour basis.
9. For excavation and barricading inspections, contact DMD Construction Services Division.

N

20 10 0 10 20

SCALE: 1"=20'

Thompson Engineering Consultants, Inc.
tcicnm@yahoo.com
P.O. BOX 65760
ALBUQUERQUE, NM 87193
PHONE: (505) 271-2199
FAX: (505) 830-9246

NO. | REVISION | BY | DATE

PROJECT:
DATE:
HORIZ. SCALE:
VERT. SCALE:
DRAWN BY: DEM
CHECKED BY:
APPROVED BY:
FILE:

REGISTERED PROFESSIONAL ENGINEER 9677 NEW MEXICO LICENSED

CITY/COUNTY REVIEW

DEPARTMENT	SIGN-OFF	DATE
WASTEWATER MGMT. DIV.		
WATER SERVICES		
SUBDIVISION ENG.		
STREETS		
TRAFFIC		

FOR CITY/COUNTY USE ONLY

STRIPES BURRITO CO.
2781 57th Street NW Albuquerque,
New Mexico 87120

GRADING & DRAINAGE PLAN

SHEET No.

C-1