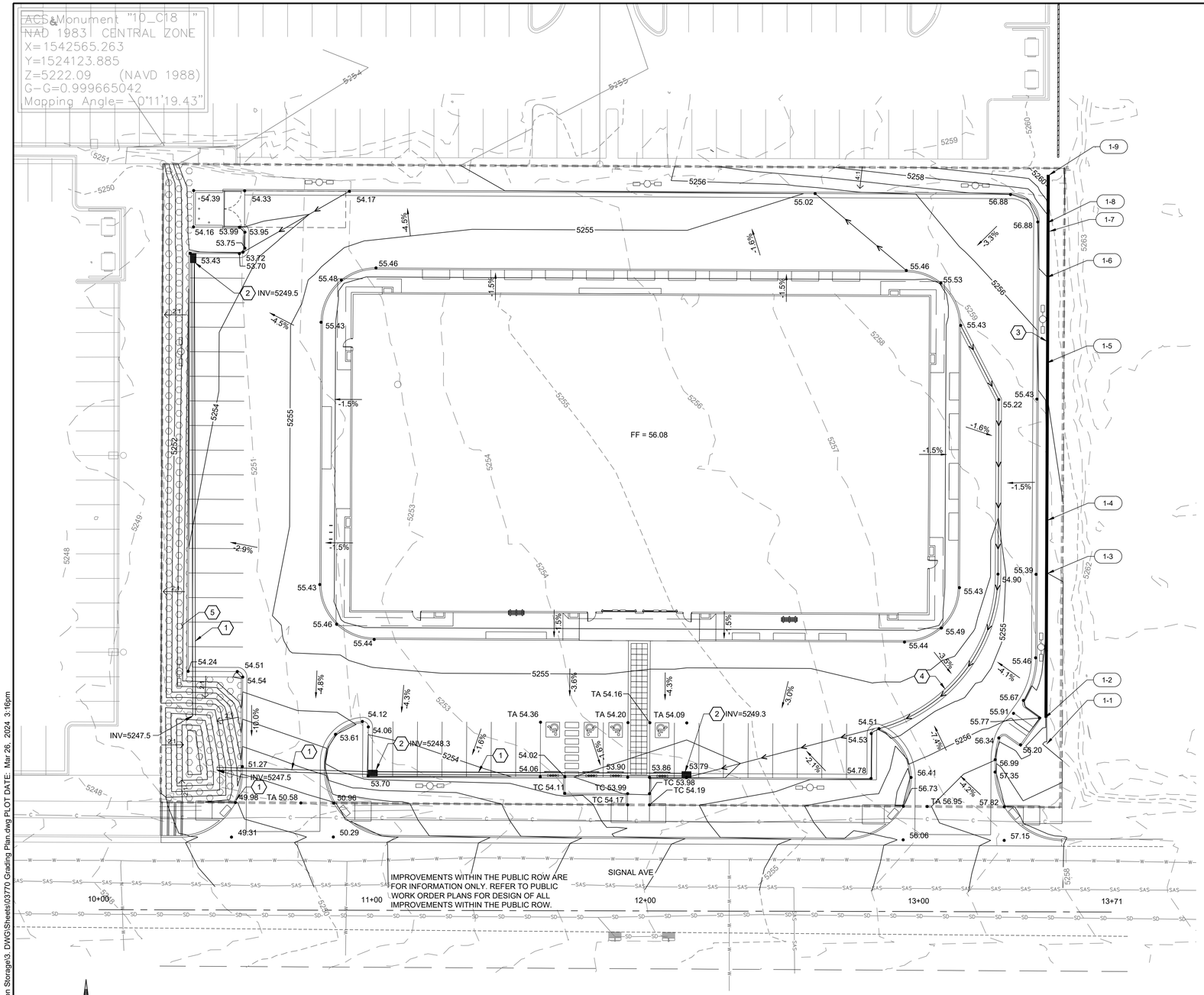
ACS Monument "10_C18"
NAD 1983 CENTRAL ZONE
X=1542565.263
Y=1524123.885
Z=5222.09 (NAVD 1988)
G-G=0.999665042
Mapping Angle=-0°11'19.43"



RETAINING WALL TABLE			
WALL 1			
WALL POINT	TOP OF WALL ELEVATION	TOP OF FOOTING ELEVATION	WALL HEIGHT (FT)
1-1	59.00	57.00	
		STEP FOOTING EVENLY DOWN SLOPE	2.00
1-2	59.00	55.00	
			4.00
1-3	59.67	55.00	
			4.67
1-4	60.33	55.00	
			5.33
1-5	60.33	55.67	
			4.66
1-6	60.33	56.33	
			4.00
1-7	61.00	56.33	
			4.67
1-8	61.00	57.00	
		STEP FOOTING EVENLY UP SLOPE	4.00
1-9	61.00	59.67	
			1.33
Assumptions: Minimum 8-inch Bury Over Top of Footing			

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED
DATE: 03/27/24
BY: René C. Brissette
HydroTrans #: C18D087

THE APPROVAL OF THESE PLANS/REPORT SHALL NOT BE CONSTRUED TO PERMIT VIOLATIONS OF ANY CITY ORDINANCE OR STATE LAW, AND SHALL NOT PREVENT THE CITY FROM REQUIRING THE CORRECTION OF CONSTRUCTION, OR ERROR OR OMISSION ON PLANS, SPECIFICATIONS, OR CONSTRUCTIONS. SUCH APPROVED PLANS SHALL NOT BE CHANGED, MODIFIED, OR ALTERED WITHOUT AUTHORIZATION.

APPROVAL OF GRADING & DRAINAGE PLAN(S) SHALL EXPIRE TWO (2) YEARS AFTER THE APPROAL DATE BY THE CITY IF NO BUILDING PERMIT HAS BEEN PULLED ON THE DEVELOPMENT.

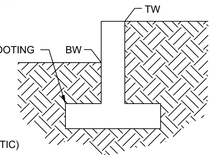
LEGEND

- PROPERTY BOUNDARY
- HIGH POINT
- 5280 PROPOSED CONTOUR LINES
- 5280 EXISTING CONTOUR LINES
- 58 LOT 4-A AND 6-A CONTOURS
- GRADING LIMITS
- PROPOSED SWALE
- 3.8% SLOPE ARROW
- PROPOSED RETAINING WALL
- EXTENTS OF PROPOSED BROKEN ROCK

SPOT ELEVATION LEGEND

1. ALL SPOT ELEVATIONS ARE AT FLOWLINE UNLESS OTHERWISE NOTED IN THE PLANS.

- TA=56.00 (TOP ASPHALT)
- FG=56.00 FINISHED GRADE
- TW=56.00 (TOP WALL) (ADJACENT SCHEMATIC)
- BW=56.00 (BOTTOM WALL) (SEE ADJACENT SCHEMATIC)
- TS=56.00 (TOP OF SIDEWALK)



KEYED NOTES

1. INSTALL 12" DIA HDPE STORM PIPE WITH SMOOTH INTERIOR WALL. INV EL PER PLAN.
2. INSTALL COA TYPE C INLET PER COA STD DWG 2205 OR ENGINEER APPROVED EQUIVALENT. INV EL PER PLAN.
3. INSTALL CMU RETAINING WALL PER DETAILS ON SHEET C-104. REFER TO WALL TABLE ON THIS SHEET.
4. INSTALL VALLEY GUTTER PER DETAIL ON SHEET C-104
5. INSTALL 4" DIAMETER BROKEN ROCK. REFER TO LANDSCAPE PLAN FOR COLOR.
6. INSTALL A 1FT WIDE CURB OPENING

DESIGNED JS
DRAWN JMS
CHECKED JS
DATE 3.26.2024

REVISION

RESPEC
5971 Jefferson Street Suite 101
Albuquerque, New Mexico 87109
Water and Natural Resources respec.com
505.293.3718

STAMP
SHELDON E. GREER
NEW MEXICO
17154
LICENSED PROFESSIONAL ENGINEER
3/4/2024

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED

nm811 Know what's below. Call before you dig.

PROJECT NAME: PRECISION STORAGE

SHEET TITLE: GRADING PLAN

SUBMITTED FOR: BUILDING PERMIT

SHEET NUMBER: C-101

NAME: N:\Projects\W0602.23001-Precision Storage\3. DWG\Sheets\03770 Grading Plan.dwg PLOT DATE: Mar 26, 2024 3:16pm

AHYMO INPUT

```
*  100 YEAR RAINFALL TABLE
RAINFALL              TYPE=13  RAIN QUARTER=1.07 IN
                     RAIN ONE=1.79 IN  RAIN SIX=2.39 IN
                     RAIN DAY=2.72 IN
                    DT=0.05 HR

*************************************************************
*S SBUX DEVELOPED

*S  COMPUTE HYD BASIN DEV A
COMPUTE NM HYD      ID=1  HYDNO=101  DA=0.00277SQ MI
                    PER A=0  PER B=7.5 PER C=7.5 PER D=85
                    TP=-0.13   RAIN=-1
PRINT HYD           ID=1  CODE=10


*************************************************************
FINISH
```

NOAA ATLAS 14 RAINFALL DATA (AHYMO INPUT)

NOAA Atlas 14, Volume 1, Version 5
Location name: Albuquerque, New Mexico, USA*
Latitude: 35.1832°, Longitude: -106.575°
Elevation: 5252 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.170 (0.144-0.202)	0.220 (0.185-0.261)	0.296 (0.250-0.351)	0.355 (0.298-0.420)	0.436 (0.364-0.516)	0.500 (0.416-0.592)	0.568 (0.468-0.671)	0.639 (0.524-0.754)	0.736 (0.598-0.870)	0.814 (0.657-0.959)
10-min	0.259 (0.219-0.307)	0.335 (0.282-0.397)	0.451 (0.380-0.535)	0.540 (0.453-0.639)	0.664 (0.555-0.785)	0.761 (0.633-0.901)	0.864 (0.713-1.02)	0.973 (0.797-1.15)	1.12 (0.910-1.32)	1.24 (1.00-1.46)
15-min	0.321 (0.272-0.381)	0.415 (0.349-0.493)	0.559 (0.471-0.663)	0.670 (0.561-0.793)	0.822 (0.687-0.973)	0.944 (0.785-1.12)	1.07 (0.883-1.26)	1.21 (0.988-1.42)	1.39 (1.13-1.64)	1.54 (1.24-1.81)
30-min	0.432 (0.365-0.512)	0.559 (0.471-0.664)	0.752 (0.634-0.893)	0.901 (0.756-1.07)	1.11 (0.926-1.31)	1.27 (1.06-1.50)	1.44 (1.19-1.70)	1.62 (1.33-1.92)	1.87 (1.52-2.21)	2.07 (1.67-2.44)
60-min	0.534 (0.452-0.634)	0.692 (0.582-0.821)	0.931 (0.785-1.10)	1.12 (0.936-1.32)	1.37 (1.14-1.62)	1.57 (1.31-1.86)	1.79 (1.47-2.11)	2.01 (1.65-2.37)	2.32 (1.88-2.73)	2.56 (2.07-3.02)
2-hr	0.646 (0.533-0.802)	0.829 (0.684-1.03)	1.10 (0.903-1.36)	1.31 (1.08-1.62)	1.61 (1.31-1.98)	1.86 (1.50-2.28)	2.11 (1.70-2.59)	2.38 (1.90-2.91)	2.76 (2.18-3.38)	3.07 (2.40-3.76)
3-hr	0.691 (0.574-0.851)	0.878 (0.727-1.08)	1.15 (0.956-1.42)	1.37 (1.13-1.68)	1.68 (1.38-2.05)	1.92 (1.57-2.35)	2.18 (1.77-2.66)	2.46 (1.98-3.00)	2.85 (2.27-3.46)	3.16 (2.50-3.86)
6-hr	0.809 (0.678-0.989)	1.02 (0.857-1.25)	1.32 (1.11-1.60)	1.55 (1.30-1.89)	1.88 (1.56-2.27)	2.12 (1.76-2.57)	2.39 (1.97-2.90)	2.67 (2.18-3.22)	3.05 (2.47-3.68)	3.36 (2.70-4.06)
12-hr	0.894 (0.764-1.06)	1.13 (0.960-1.33)	1.43 (1.22-1.69)	1.67 (1.42-1.97)	2.00 (1.69-2.35)	2.25 (1.89-2.64)	2.51 (2.10-2.94)	2.78 (2.31-3.26)	3.14 (2.59-3.70)	3.44 (2.81-4.10)
24-hr	1.00 (0.869-1.17)	1.26 (1.09-1.46)	1.58 (1.37-1.84)	1.83 (1.58-2.13)	2.18 (1.87-2.54)	2.44 (2.09-2.84)	2.72 (2.32-3.16)	3.01 (2.55-3.48)	3.39 (2.85-3.93)	3.69 (3.09-4.28)
2-day	1.05 (0.916-1.21)	1.32 (1.15-1.52)	1.66 (1.44-1.91)	1.93 (1.67-2.21)	2.28 (1.97-2.62)	2.56 (2.20-2.93)	2.84 (2.43-3.26)	3.14 (2.67-3.60)	3.52 (2.98-4.05)	3.83 (3.22-4.41)
3-day	1.17 (1.05-1.31)	1.46 (1.31-1.63)	1.81 (1.62-2.02)	2.08 (1.86-2.32)	2.45 (2.18-2.73)	2.73 (2.42-3.04)	3.02 (2.67-3.36)	3.30 (2.91-3.69)	3.69 (3.23-4.12)	3.98 (3.47-4.46)
4-day	1.29 (1.18-1.40)	1.60 (1.46-1.74)	1.95 (1.79-2.13)	2.24 (2.05-2.43)	2.61 (2.39-2.84)	2.90 (2.65-3.15)	3.19 (2.90-3.46)	3.47 (3.16-3.77)	3.85 (3.48-4.19)	4.13 (3.73-4.50)
7-day	1.47 (1.36-1.60)	1.83 (1.68-1.98)	2.22 (2.05-2.40)	2.52 (2.33-2.73)	2.92 (2.69-3.15)	3.22 (2.96-3.47)	3.51 (3.23-3.78)	3.79 (3.48-4.08)	4.15 (3.80-4.48)	4.41 (4.03-4.76)
10-day	1.63 (1.50-1.76)	2.02 (1.86-2.19)	2.46 (2.28-2.66)	2.81 (2.60-3.04)	3.27 (3.02-3.52)	3.62 (3.33-3.89)	3.96 (3.64-4.26)	4.29 (3.94-4.62)	4.72 (4.32-5.10)	5.04 (4.60-5.44)
20-day	2.04 (1.88-2.21)	2.53 (2.33-2.74)	3.06 (2.83-3.32)	3.47 (3.20-3.75)	3.98 (3.67-4.30)	4.35 (4.00-4.69)	4.70 (4.32-5.06)	5.03 (4.62-5.42)	5.44 (4.99-5.87)	5.73 (5.25-6.18)
30-day	2.43 (2.24-2.62)	3.01 (2.77-3.25)	3.61 (3.33-3.89)	4.06 (3.74-4.36)	4.61 (4.25-4.95)	5.00 (4.60-5.36)	5.36 (4.94-5.75)	5.70 (5.24-6.11)	6.10 (5.61-6.55)	6.38 (5.85-6.84)
45-day	2.97 (2.74-3.20)	3.67 (3.40-3.95)	4.36 (4.04-4.69)	4.85 (4.49-5.21)	5.44 (5.04-5.83)	5.83 (5.41-6.25)	6.19 (5.74-6.62)	6.49 (6.03-6.94)	6.81 (6.34-7.28)	7.00 (6.54-7.46)
60-day	3.42 (3.17-3.69)	4.22 (3.92-4.56)	5.02 (4.66-5.41)	5.59 (5.19-6.01)	6.27 (5.83-6.74)	6.73 (6.26-7.22)	7.14 (6.64-7.67)	7.50 (6.99-8.06)	7.90 (7.37-8.48)	8.14 (7.61-8.73)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.
Please refer to NOAA Atlas 14 document for more information.

Back to Top

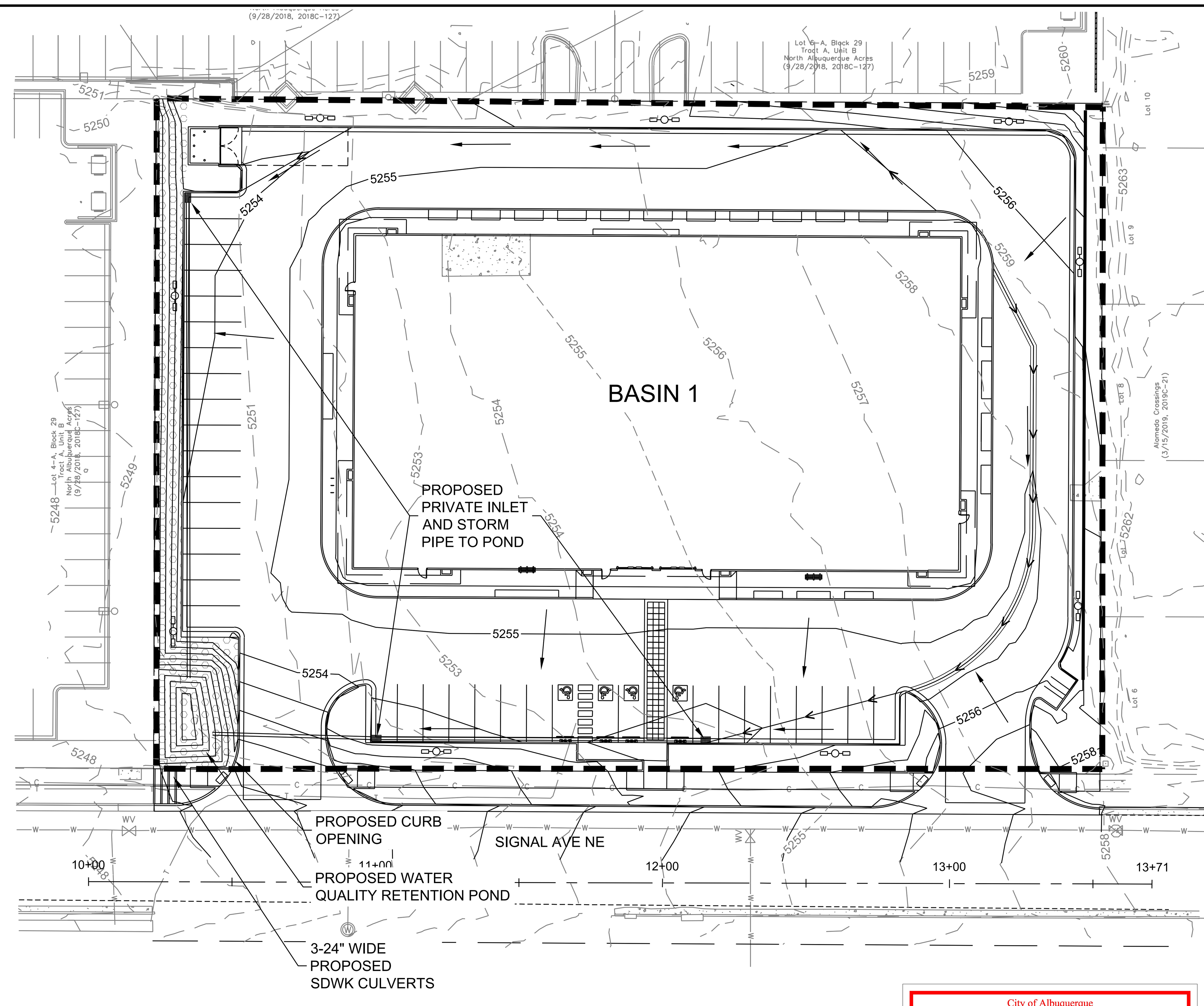
PF graphical

AHYMO OUTPUT

```
AHYMO PROGRAM SUMMARY TABLE (AHYMO-S4)                   - Ver. S4.02a, Rel: 02a      RUN DATE (MON/DAY/YR) =11/07/2023
INPUT FILE = N:\CDS Library\Engineering Tools\AHYMO-S4\AHYMO Input.hmi               USER NO.= AHYMO-S4TempUser05901704

                               FROM  TO                  PEAK        RUNOFF                TIME TO    CFS       PAGE =   1
                  HYDROGRAPH   ID    ID       AREA     DISCHARGE     VOLUME      RUNOFF     PEAK      PER
COMMAND        IDENTIFICATION  NO.   NO.     (SQ MI)     (CFS)       (AC-FT)    (INCHES)   (HOURS)    ACRE       NOTATION

RAINFALL  TYPE=13                                                                                    RAIN24=   2.720
*S SBUX DEVELOPED
*S  COMPUTE HYD BASIN DEV A
COMPUTE NM HYD         101.00   -     1      0.00277       6.96      0.328      2.22237    1.500     3.925 PER IMP=  85.00
```



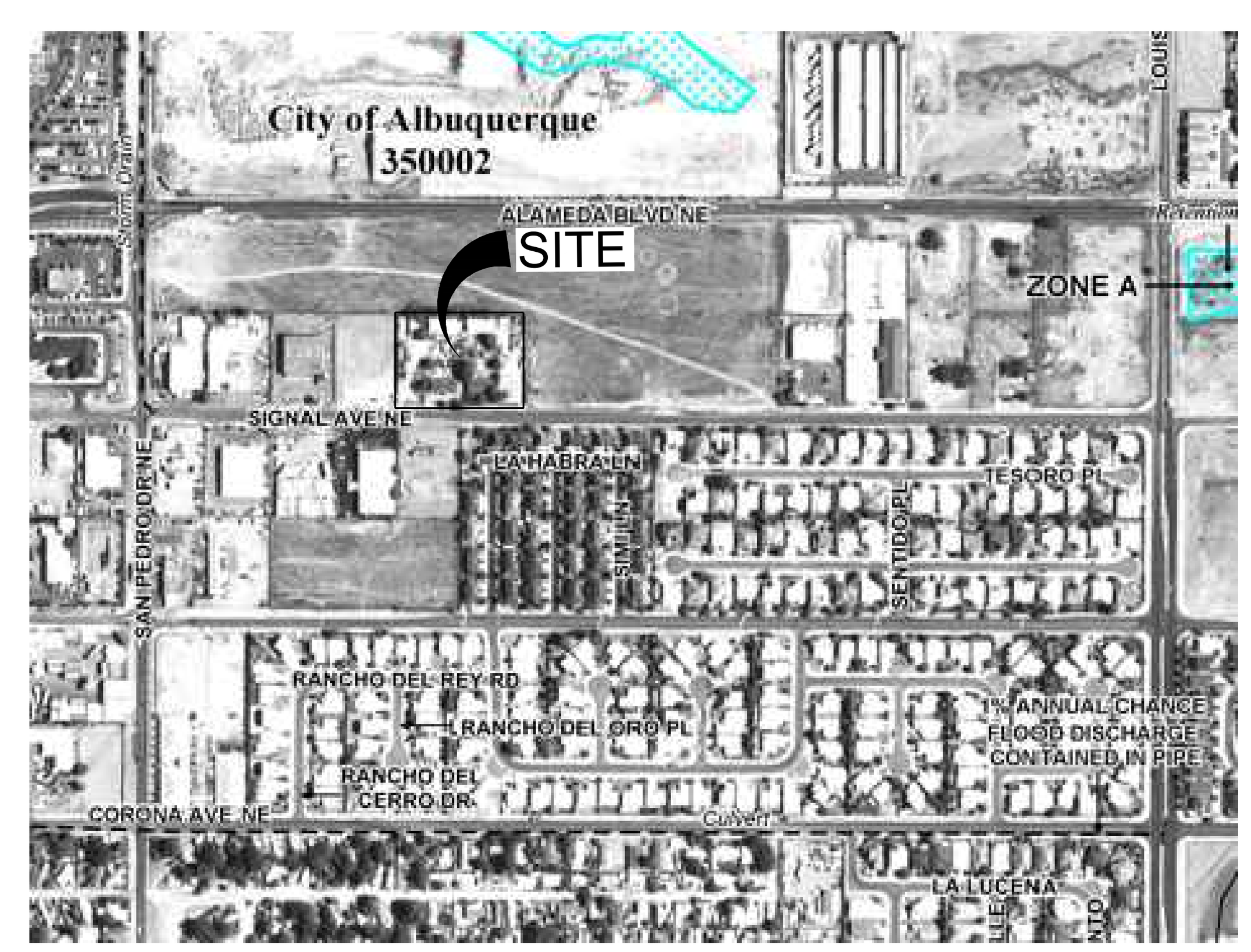
City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED
DATE: 03/27/24
BY: Renée C. Brissette
HydroTrans # C18D087

THE APPROVAL OF THESE PLANS/REPORT SHALL NOT BE CONSTRUED TO PERMIT VIOLATIONS OF ANY CITY ORDINANCE OR STATE LAW, AND SHALL NOT PREVENT THE CITY OF ALBUQUERQUE FROM REQUIRING CORRECTION, OR ERROR OR DIMENSIONS IN PLANS, SPECIFICATIONS, OR CONSTRUCTIONS. SUCH APPROVED PLANS SHALL NOT BE CHANGED, MODIFIED OR ALTERED WITHOUT AUTHORIZATION.

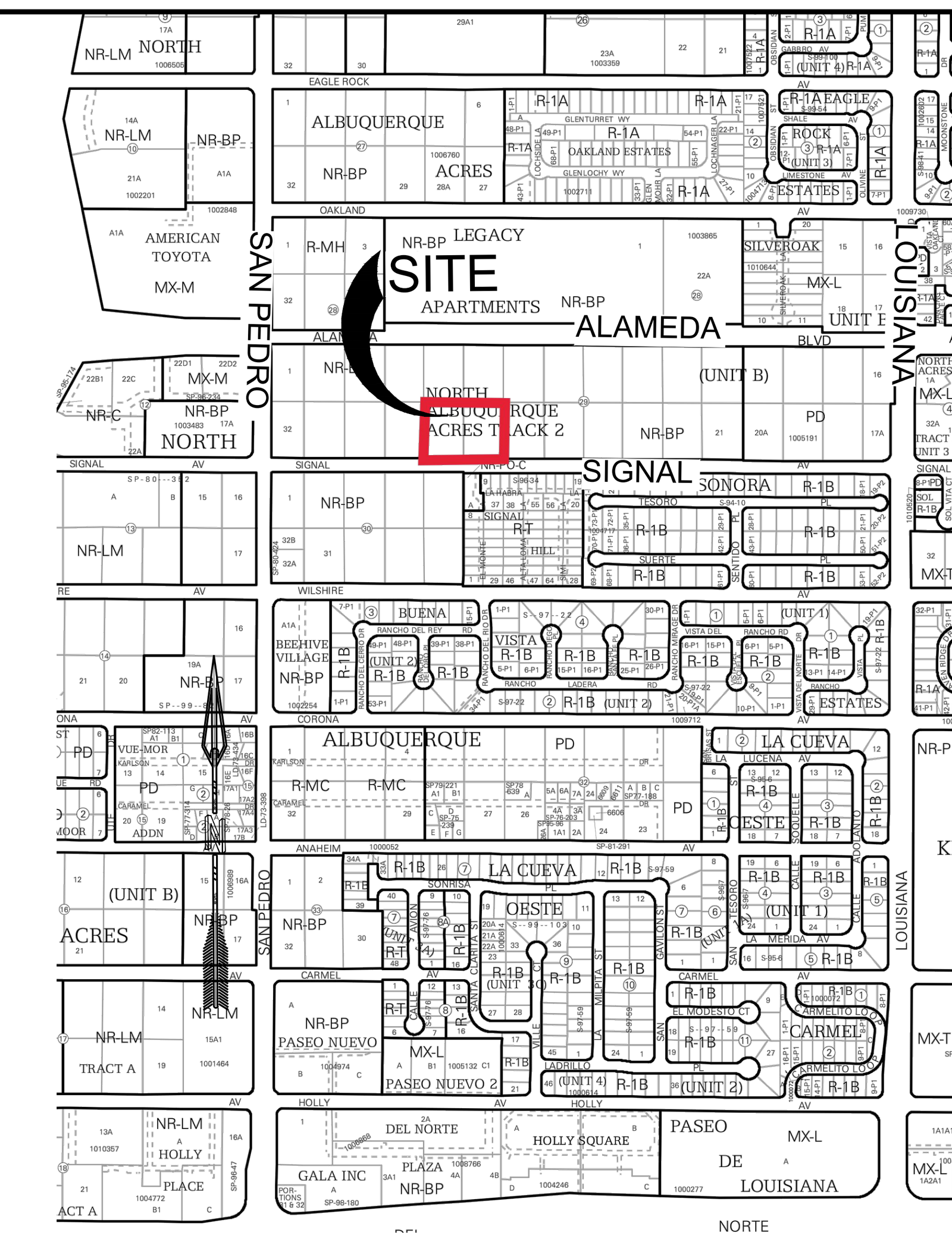
APPROVAL OF GRADING & DRAINAGE PLAN(S) SHALL EXPIRE TWO (2) YEARS AFTER THE APPROAL DATE BY THE CITY IF NO BUILDING PERMIT HAS BEEN PULLED ON THE DEVELOPMENT.

LEGEND

— — —	PROPERTY BOUNDARY
—SD——SD—	PROPOSED STORM DRAIN
--SD----SD--	EXISTING STORM DRAIN
←——	FLOW LINE
▬ ▬ ▬ ▬	BASIN BOUNDARY LINE
/\/\/\/\/\	HIGH POINT



FEMA FIRM MAP#: 35001C0137H



VICINITY MAP   NTS   C-18-Z

BACKGROUND

LOT 27-A, BLOCK 29, NORTH ALBUQUERQUE ACRES CONTAINS APPROXIMATELY 1.77 TOTAL ACRES IN THE CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO. THE PROPERTY IS LOCATED ON SIGNAL AVE BETWEEN SAN PEDRO DRIVE AND LOUSIANA BOULEVARD. THERE IS NO DESIGNATED 100-YEAR FLOODPLAIN ON THE SITE. THIS AREA IS INCLUDED IN THE NORTH ALBUQUERQUE ACRES MASTER DRAINAGE PLAN (NAAMDP).

METHODOLOGY

HYDROLOGY CALCULATIONS FOR THE SITE ARE PERFORMED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE TECHNICAL STANDARDS. AHYMO WAS USED, BASED ON THE 100-YR, 24-HR STORM EVENT, TO CALCULATE PEAK FLOW RATES IN ORDER TO ENSURE ALL FLOW PATHS ARE SUFFICIENT TO CARRY FLOWS. THIS SITE IS A REDEVELOPMENT, SO THE REQUIRED WATER QUALITY VOLUME WAS CALCULATED BY MULTIPLYING THE IMPERVIOUS AREA BY THE FIRST FLUSH RUNOFF VALUE OF 0.26". ALL HYDROLOGIC CALCULATIONS CAN BE FOUND ON THIS SHEET.

EXISTING CONDITIONS

CURRENTLY TWO RESIDENTIAL BUILDINGS ARE LOCATED ON THE PROPERTY. IN GENERAL, THE AREA SLOPES FROM NORTHEAST TO SOUTHWEST AT VARYING SLOPES BETWEEN 2% - 4%. THE STORM WATER RUNOFF GENERATED BY THE SITE CURRENTLY FREELY SURFACE DISCHARGES INTO THE SIGNAL AVENUE RIGHT-OF-WAY AND FLOWS WEST ALONG THE NORTHERN EDGE OF PAVEMENT.
THE SAN PEDRO WIDENING PROJECT (HYDROLOGY FILE: C18D106) APPROVED IN MARCH 2021 IS THE GOVERNING DRAINAGE MASTER PLAN FOR THE STORM SEWER IN SAN PEDRO. THE STORM SEWER IN SAN PEDRO IS ULTIMATELY ACCEPTS THE RUNOFF FROM THIS SITE. THE SAN PEDRO WIDENING PROJECT ASSUMED THAT THIS SITE WAS 100% IMPERVIOUS FOR THE SIZING OF THE STORM SEWER.

PROPOSED CONDITIONS

THE PROPERTY CONSISTS OF ONE HYDROLOGIC BASIN, BASIN 1, WHICH IS 85% IMPERVIOUS, SURFACE DISCHARGES INTO SIGNAL AVENUE, AND GENERATES 6.92 CFS OF RUNOFF DURING THE PEAK OF THE DESIGN STORM.

PRECIPITATION THAT FALLS ON THE 10 FT WIDE FILL SLOPE ALONG THE EAST EDGE OF THE SITE IS NOT CAPTURED BY THE RETENTION POND AND WILL INSTEAD INFILTRATE IN THE LANDSCAPE MEDIAN AT THE TOE OF SLOPE. RUNOFF FROM A SMALL PORTION OF PAVEMENT BYPASSES THE PROPOSED CURB OPENING AT THE EAST SITE ENTRANCE AND DISCHARGES DIRECTLY INTO SIGNAL AVENUE.

WATER QUALITY TREATMENT IS PROVIDED WITH A RETENTION POND. THE SITE HAS AN IMPERVIOUS AREA OF 65,536 SQ FT. THEREFORE, THE REQUIRED WATER QUALITY VOLUME IS:

65,536 SF X 0.26" / 12 = 1,420 CF.

445 CF OF WATER QUALITY VOLUME IS PROVIDED IN THE ONSITE RETENTION POND.

ALL ONSITE RUNOFF IS CONVEYED TO THE RETENTION POND. VOLUME ABOVE THE RETENTION VOLUME OF THE POND DISCHARGES INTO SIGNAL AVE THROUGH SIDEWALK CULVERTS.

Weir Flow Calcs: 1 - 24" wide sidewalk culvert	
$Q_w = 2.7P(h)^{1.5}$	
P = Perimeter (ft)	2.00
h = Head (ft)	0.58
2.7 = coefficient of discharge	
Q_w = Capacity (cfs)	2.4
Peak Discharge (cfs)	6.96
Number of sidewalk culverts required	3

N

0 30' 60'
SCALE: 1" = 30'

REVISION

DESIGNED JS
DRAWN JMS
CHECKED JS
DATE 3-26-2024

RESPEC
5971 Jefferson Street Suite 101
Albuquerque, New Mexico 87109
Water and Natural Resources respec.com
505.253.9718

STAMP
SHELDON E. GREER
NEW MEXICO
17154
LICENSED PROFESSIONAL ENGINEER
3/4/2024

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED

nm811 Know what's below. Call before you dig.

PROJECT NAME: PRECISION STORAGE

SHEET TITLE: DRAINAGE PLAN

SUBMITTED FOR: BUILDING PERMIT

SHEET NUMBER: C-102

NAME: N:\Projects\W0602.23001-Precision Storage\3. DWG\Sheets\03770 Drainage Plan.dwg PLOT DATE: Mar 26, 2024 3:17pm