

# CITY OF ALBUQUERQUE

Planning Department  
Alan Varela, Director



Mayor Timothy M. Keller

February 26, 2025

David Soule, P.E.  
Rio Grande Engineering  
P.O. Box 93924  
Albuquerque, NM 87199

**RE: Cactus Patch Plaza  
7801 La Morada Place NW  
Revised Grading and Drainage Plan  
Engineer's Stamp Date: 2/14/25  
Hydrology File: H10D034**

Dear Mr. Soule:

Based upon the information provided in your submittal received 02/14/2025, the Revised Grading & Drainage Plan is approved for Building Permit, Grading Permit and SO-19 Permit. Please attach a copy of this approved plan in the construction sets for Building Permit processing along with a copy of this letter.

**PRIOR TO CERTIFICATE OF OCCUPANCY:**

1. Engineer's Certification, per the DPM Part 6-14 (F): *Engineer's Certification Checklist For Non-Subdivision* is required.
2. Please provide the executed paper Drainage Covenant (latest revision) printed on one-side only with Exhibit A and a check for **\$25.00** made out to "**Bernalillo County**" for the stormwater quality ponds per Article 6-15(C) of the DPM to Hydrology for review at Plaza de Sol. The Covenant and Exhibit will also need to be uploaded to ABQ-PLAN.

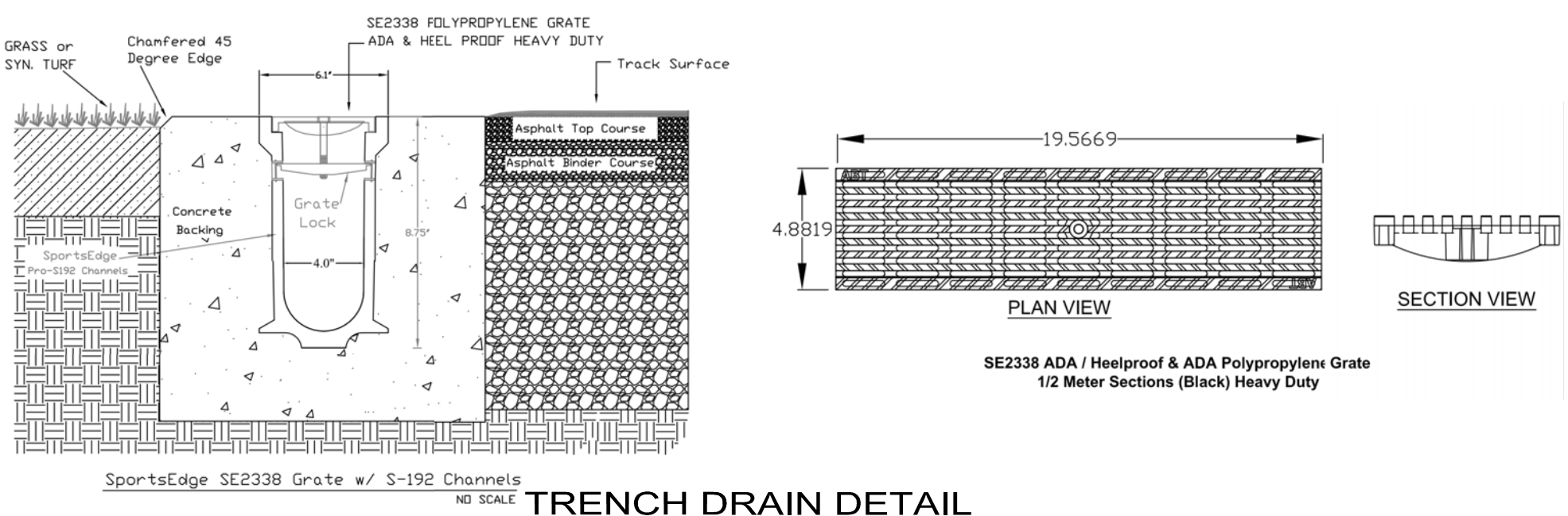
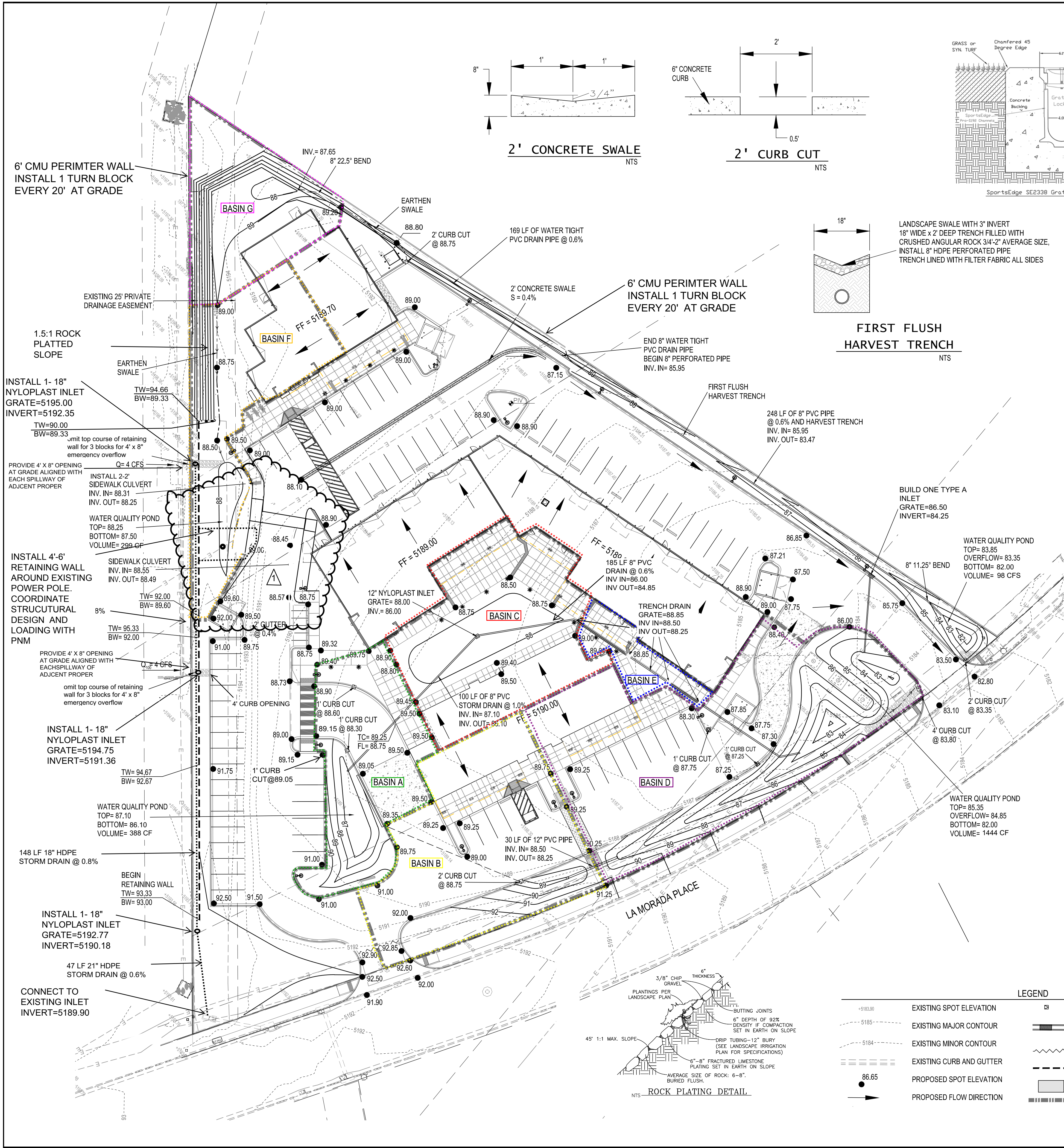
As a reminder, if the project total area of disturbance (including the staging area and any work within the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the Stormwater Quality Engineer (Doug Hughes, PE, [jhughes@cabq.gov](mailto:jhughes@cabq.gov), 505-924-3420) 14 days prior to any earth disturbance.

If you have any questions, please contact me at 505-924-3314 or [amontoya@cabq.gov](mailto:amontoya@cabq.gov).

Sincerely,

Anthony Montoya, Jr., P.E., CFM  
Senior Engineer, Hydrology  
Planning Department, Development Review Services





Weighted E Method											
Basin	Area (sf)	Area (acres)	Treatment A (%)	Treatment B (%)	Treatment C (%)	Treatment D (%)	Weighted E (ac-ft)	100-Year, 6-hr. Volume (ac-ft)	Flow cfs	24-hour Volume (ac-ft)	24-hour Flow cfs
ALLOWED	8279.00	0.144	0%	0%	0%	0%	0.000	1.778	0.021	12.00	0.000
PROPOSED A	10253.00	0.235	0%	0%	0%	0%	0.000	1.956	0.038	0.91	0.001
PROPOSED B	8824.00	0.203	0%	0%	0%	0%	0.000	1.786	0.030	0.73	0.000
PROPOSED C	15100.00	0.347	0%	0%	0%	0%	0.000	1.715	0.059	1.23	0.004
PROPOSED D	1654.00	0.038	0%	0%	0%	0%	0.000	2.111	0.007	0.15	0.000
PROPOSED E	5629.00	0.129	0%	0%	0%	0%	0.000	1.118	0.012	0.39	0.013
PROPOSED F	7184.00	0.172	0%	0%	0%	0%	0.000	1.414	0.020	0.57	0.024
PROPOSED H	83260.00	1.492	0%	0%	0%	0%	0.000	2.183	0.262	5.97	0.351

**Equations:**  
Weighted E = Ea\**A*a + Eb\**A*b + Ec\**A*c + Ed\**A*d / (Total Area)  
Volume = Weighted E \* Total Area  
Flow = Qa \* *A*a + Qb \* *A*b + Qc \* *A*c + Qd \* *A*d  
Where for 100-year, 6-hour storm - zone 1  
Ea= 0.55      Qa= 1.54  
Eb= 0.73      Qb= 2.16  
Ec= 0.95      Qc= 2.87  
Ed= 2.24      Qd= 4.12

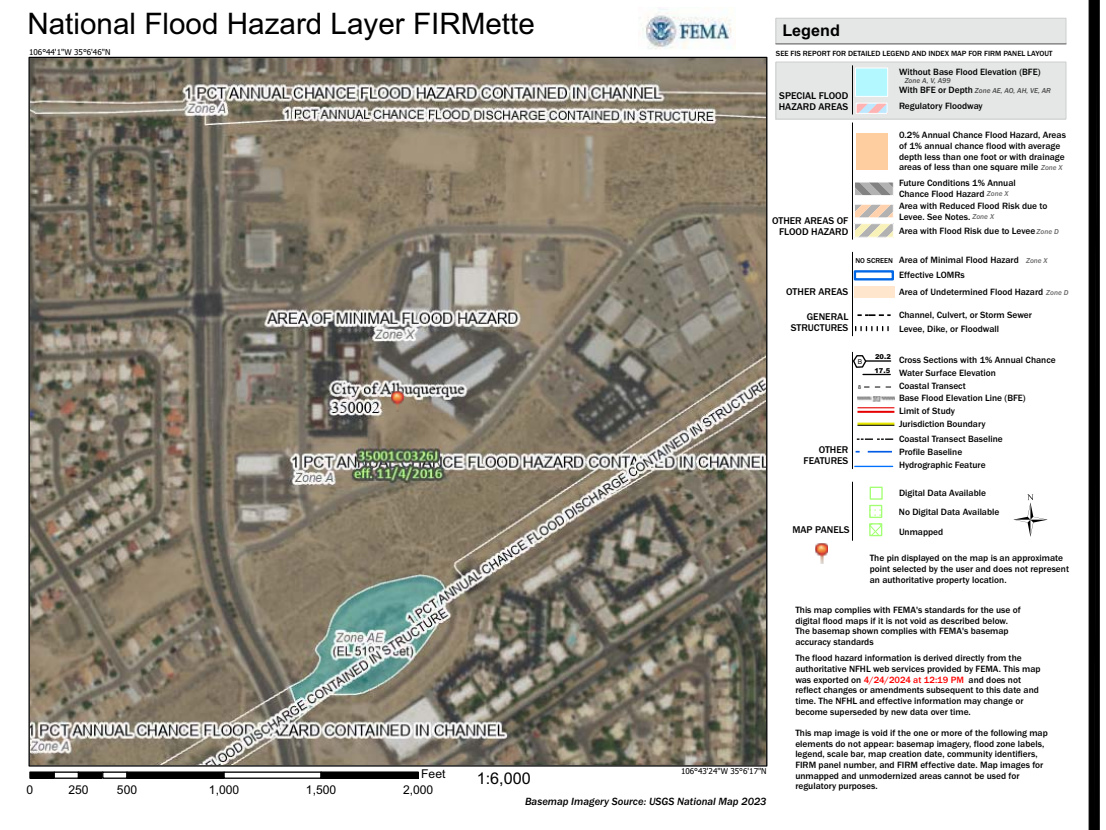
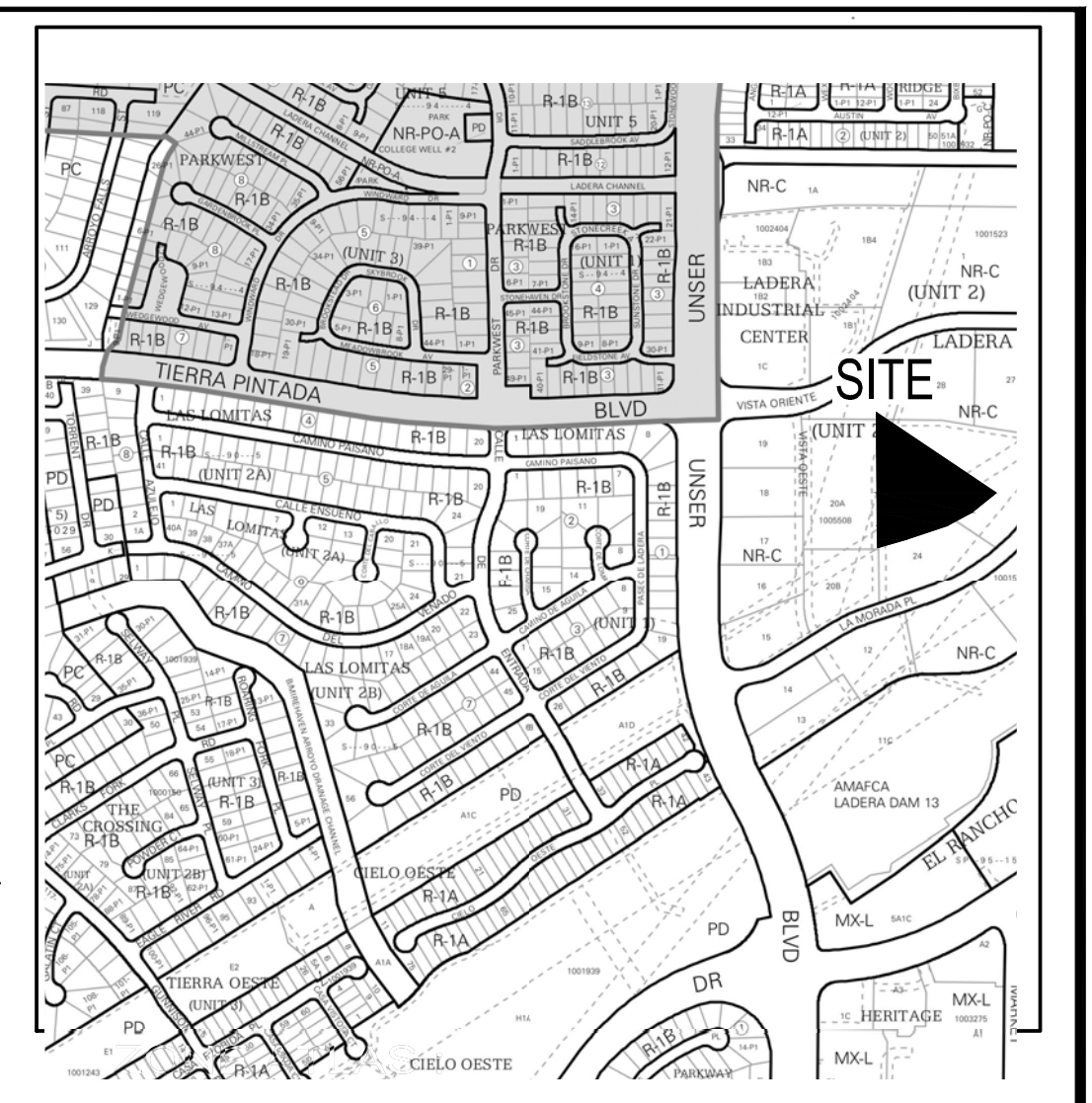
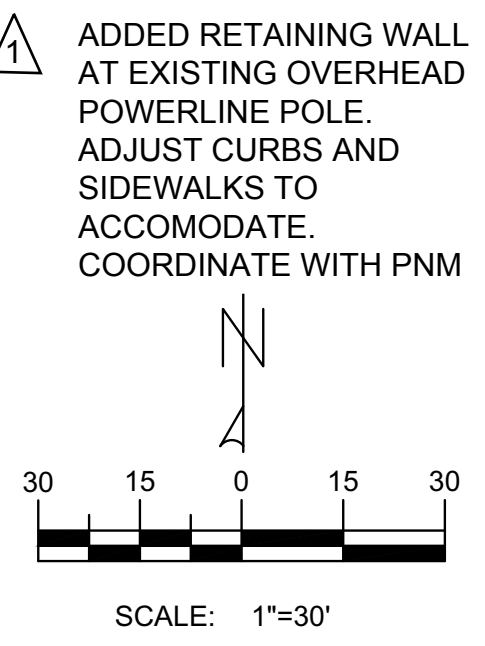
**ONSITE Conditions**  
FIRST FLUSH WATER QUALITY VOLUME REQUIRED (CF)      PROVIDED (CF)  
WATER QUALITY FLOOD CONTROL      0      2229  
Narrative  
This site is within the Ladera Business Park Master Drainage plan boundaries. The site is allowed to discharge 12 cfs to La Morada Place. This site is impacted by 8cfs from upland that is allowed to enter and free discharge from this site. We propose to discharge 10.39 cfs, which is less than allowed. We also are retaining 2229 of for water quality that exceeds the 2205 required. This plan was modified to modify the dirt balance and to provide a modified drainage solution. The plan conforms to the master drainage plan and the city of Albuquerque drainage ordinance

Pipe	D (in)	Slope (%)	Area (ft <sup>2</sup> )	R	Q Provided (cfs)	Q Required (cfs)	Velocity (ft/s)
NORTH REACH	18	0.8	1.77	0.375	9.42	0.26	0.15
WEST REACH	18	0.8	1.77	0.375	9.42	0.26	0.15
WEST REACH	21	0.6	2.41	0.4375	12.31	0.26	0.11

**Manning's Equation:**  
 $Q = 1.49 \text{ in}^3 \cdot A \cdot R^{2/3} / (2/3) \cdot S^{1/2}$   
 $A = \text{Area}$   
 $R = D/4$   
 $S = \text{Slope}$   
 $n = 0.013$

**WALL OPENING**  
West Equation:  $Q = C \cdot L \cdot H^{3/2}$   
 $Q = 4$  total allowed  
 $C = 2.95$   
 $H = 0.67 \text{ ft}$   
 $L = \text{Length of weir} = 10$   
 $Q = 2.95 \cdot 4 \cdot 67^{1.5} = 1.5$   
 $Q \text{ allowable} = 6.47 > Q \text{ required} = 1.5 \text{ therefore ok}$

- LEGEND**
- EXISTING SPOT ELEVATION
  - EXISTING MAJOR CONTOUR
  - EXISTING MINOR CONTOUR
  - EXISTING CURB AND GUTTER
  - PROPOSED SPOT ELEVATION
  - PROPOSED FLOW DIRECTION
  - PROPOSED CURB CUT
  - PROPOSED 2' WIDE SIDEWALK CULVERT PER COA STD DWG 2236
  - PROPOSED WATER BLOCK
  - PROPOSED RETAINING WALL
  - PROPOSED PONDING
  - BASIN BOUNDARY



City of Albuquerque  
Planning Department  
Development Review Services  
**HYDROLOGY SECTION**  
**APPROVED**  
DATE: 2/26/2025  
REV: 2/26/2025  
HydroTeam # H100034  
THE APPROVAL OF THESE PLANS SHALL NOT BE  
CONSIDERED AN ENDORSEMENT OF THE  
DESIGN OR CONSTRUCTION OF THE PROJECT.  
APPROVAL OF GRADING & DRAINAGE PLAN(S) SHALL EXPIRE  
TWO (2) YEARS AFTER THE APPROVAL DATE BY THE CITY IF NO  
BUILDING PERMIT HAS BEEN PULLED ON THE DEVELOPMENT.

- REV. 01/22/21
- Private Drainage Facilities within City Right-of-Way  
Notice to Contractor  
(Special Order 19 - "SO-19")
- Build sidewalk culvert per COA STD DWG 2236. Work is permitted and inspected by DMD Construction Services Division.
  - An excavation permit will be required before beginning any work within City Right-Of-Way.
  - 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.
  - Prior to any excavation, the contractor must contact New Mexico One Call, dial "811" [or (505) 260-1990] for the location of existing utilities.
  - 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.
  - Backfill compaction shall be 95%.
  - Maintenance of the facility shall be the responsibility of the owner of the property being served.
  - Work on arterial streets may be required on a 24-hour basis.
  - For excavation and barricading inspections, contact DMD Construction Services Division.

<b>ENGINEER'S SEAL</b>  2/14/25 7/24/24 DAVID SOULE P.E. #14522	<b>CACTUS PATCH PLAZA</b> 7801 LA MORADA PL. NW <b>GRADING AND DRAINAGE PLAN</b>  <b>Rio Grande Engineering</b> 1606 CENTRAL AVENUE SUITE 201 ALBUQUERQUE, NM 87106 (505) 872-0999	<b>DRAWN BY DEM</b> DATE 2-15-24 Cactus Patch Plaza Topo With NEW SHEET.DWG <b>SHEET #</b> C-1 <b>JOB #</b> XXXXX
--	--	--