

CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director



Mayor Timothy M. Keller

May 24, 2024

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

**RE: Cactus Patch Plaza
7801 La Morada Place NW
Grading and Drainage Plan
Engineer's Stamp Date: 05/14/24
Hydrology File: H10D034**

Dear Mr. Soule:

Based upon the information provided in your submittal received 05/17/2024, the 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.

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, 924-3420) 14 days prior to any earth disturbance.

If you have any questions, please contact me at 924-3995 or rbrissette@cabq.gov.

Sincerely,

Renée C. Brissette, P.E. CFM
Senior Engineer, Hydrology
Planning Department

CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director



Mayor Timothy M. Keller

May 2, 2024

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

**RE: Cactus Patch Plaza
7801 La Morada Place NW
Grading and Drainage Plan
Engineer's Stamp Date: No Date
Hydrology File: H10D034**

Dear Mr. Soule:

PO Box 1293

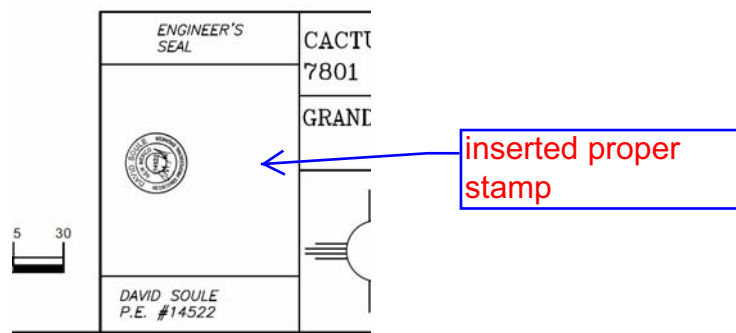
Based upon the information provided in your submittal received 04/25/2024, the Grading & Drainage Plan **is not** approved for Building Permit and Grading Permit. The following comments need to be addressed for approval of the above referenced project:

Albuquerque

1. Please provide an engineer's stamp with a signature and date. The seal that was provided was missed sized and rotated wrong.

NM 87103

www.cabq.gov



2. Please provide a section for this opening in the retaining wall. Also, please provide the opening calculations per the weir calculations, per DPM Article 6-16(A).

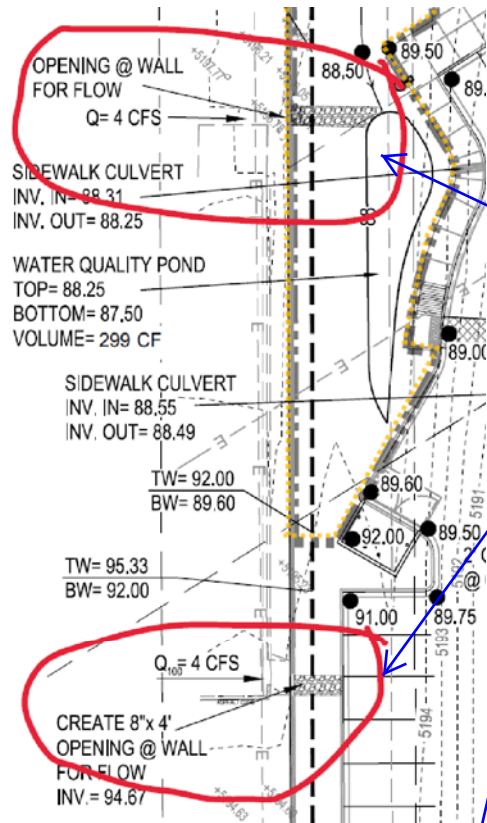
added calculation

CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director



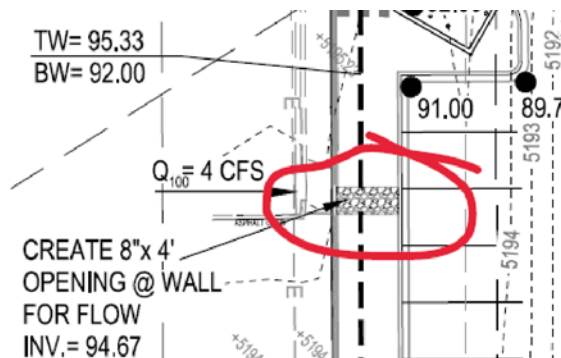
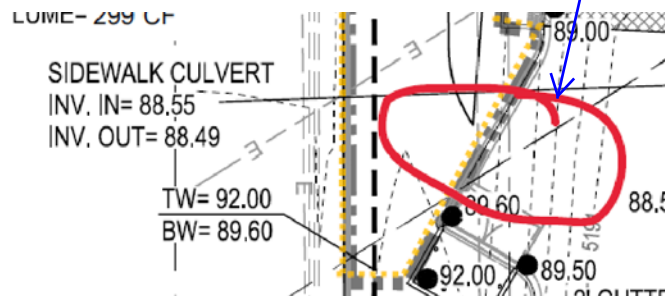
Mayor Timothy M. Keller



added private
storm drain with
inlets at each
concentration and
overflows

3. Please provide a curb cuts for the offsite flows (4 cfs).

← ADDED



PO Box 1293

Albuquerque

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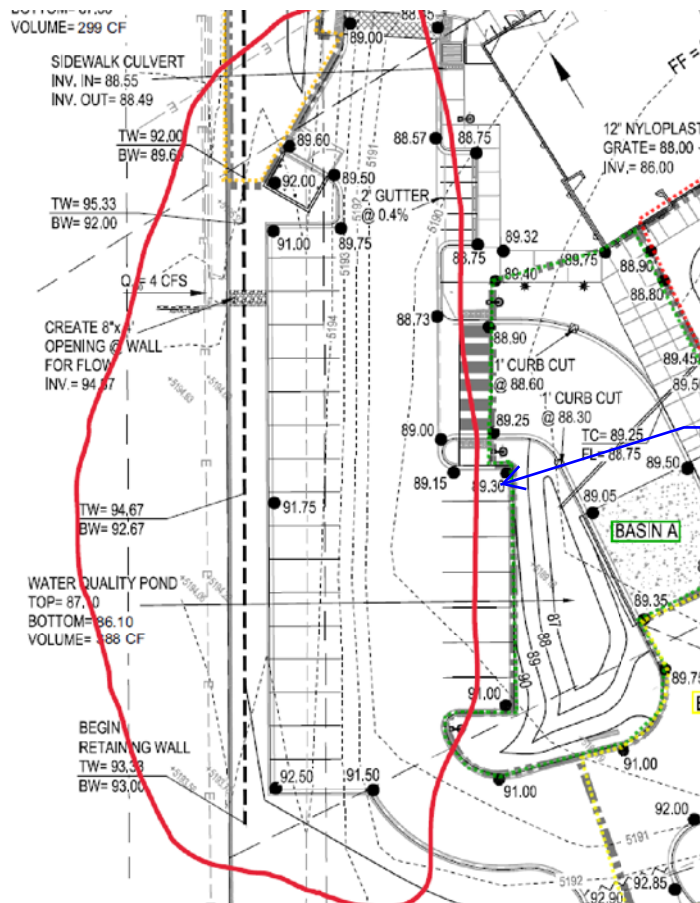
CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director



Mayor Timothy M. Keller

- How does this drainage area get into the provided stormwater quality pond? It appears that this entire paved parking and access road does not drain into a pond.



LOWERED THIS
SPOT TO
CAPTURE FLOW

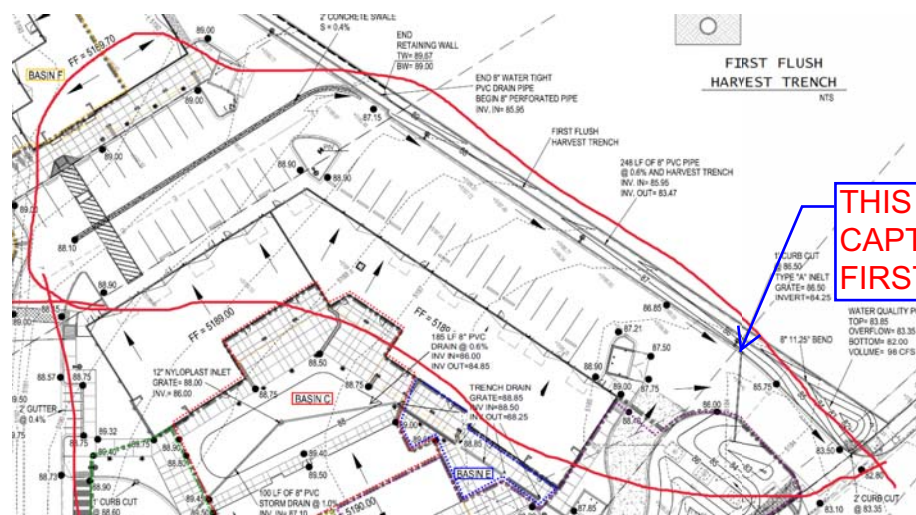
PO Box 1293

Albuquerque

NM 87103

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- How does this drainage area get into the provided stormwater quality pond? It appears that this entire paved parking and access road does not drain into a pond.



THIS INLET
CAPTURES THE
FIRST FLUSH

CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director



Mayor Timothy M. Keller

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If you have any questions, please contact me at 924-3995 or rbrissette@cabq.gov.

Sincerely,

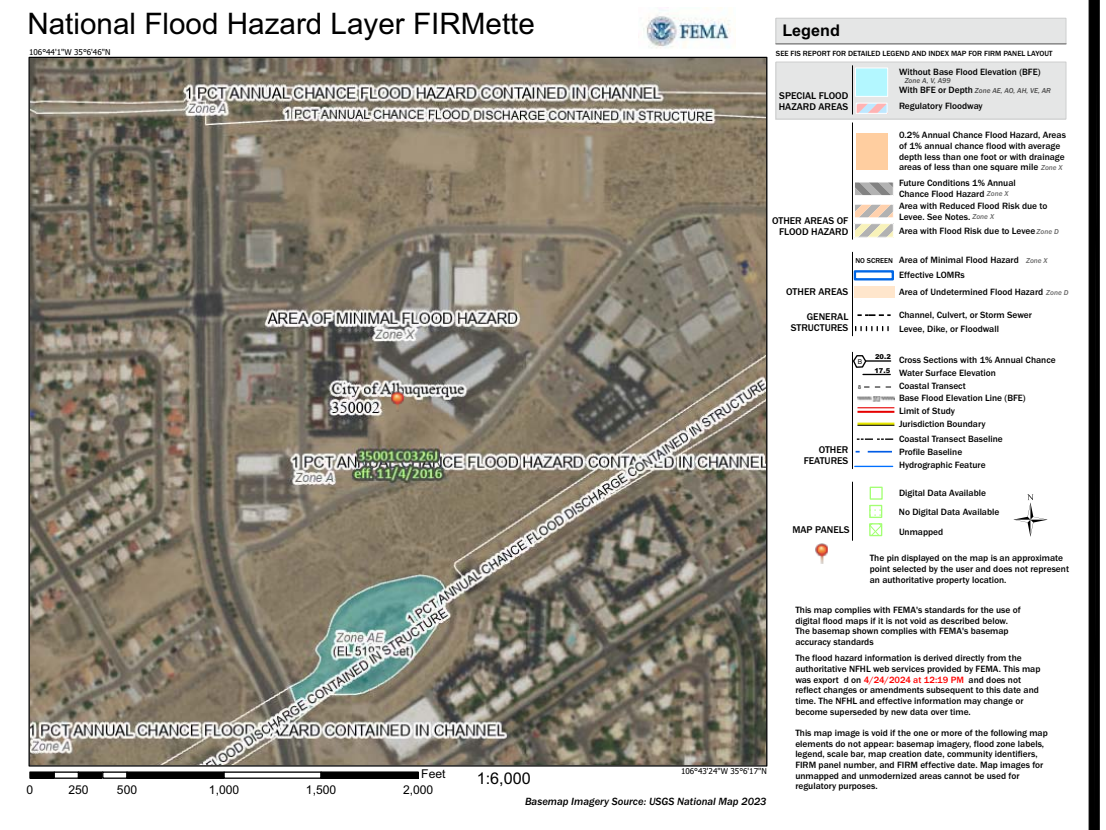
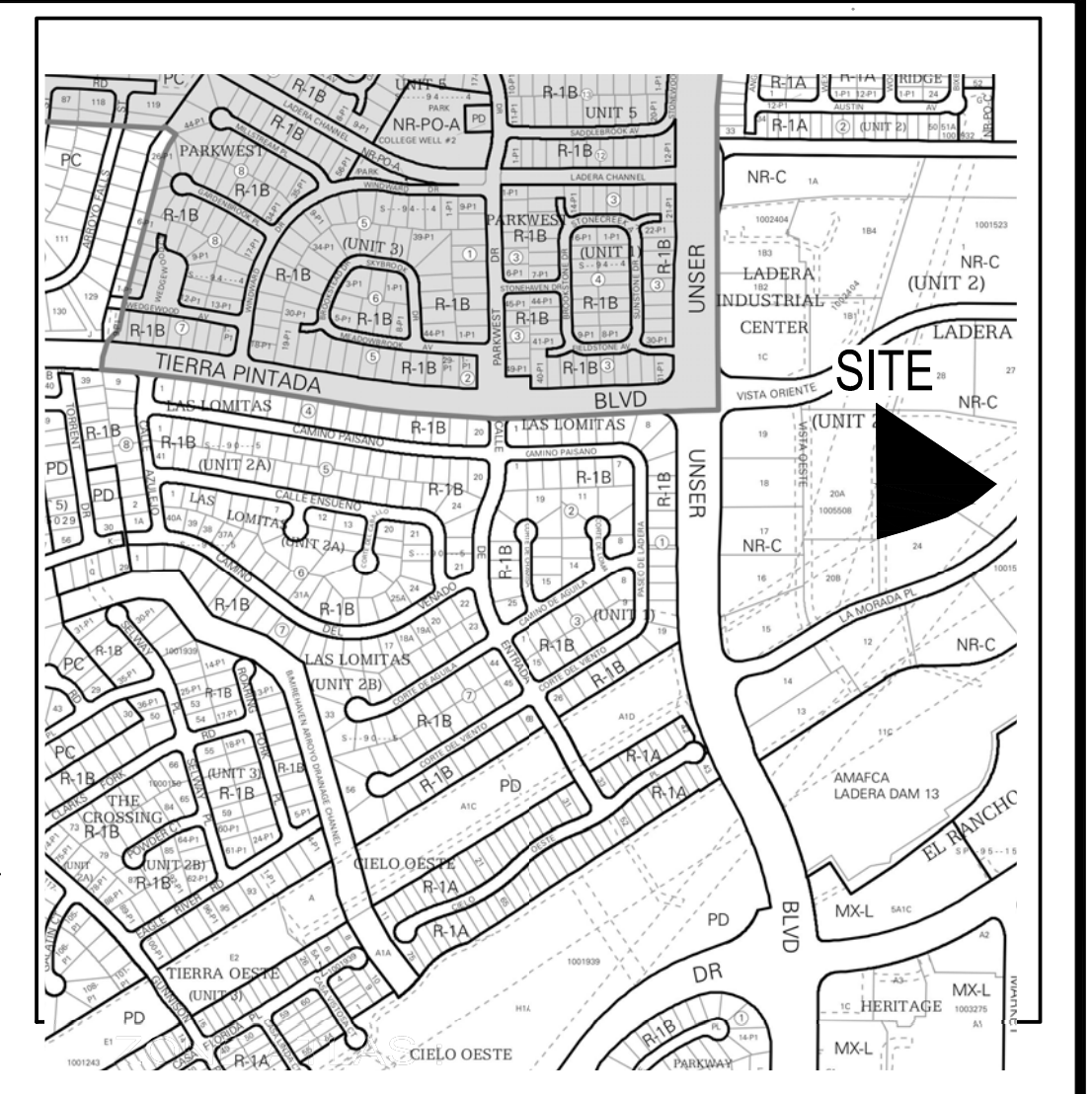
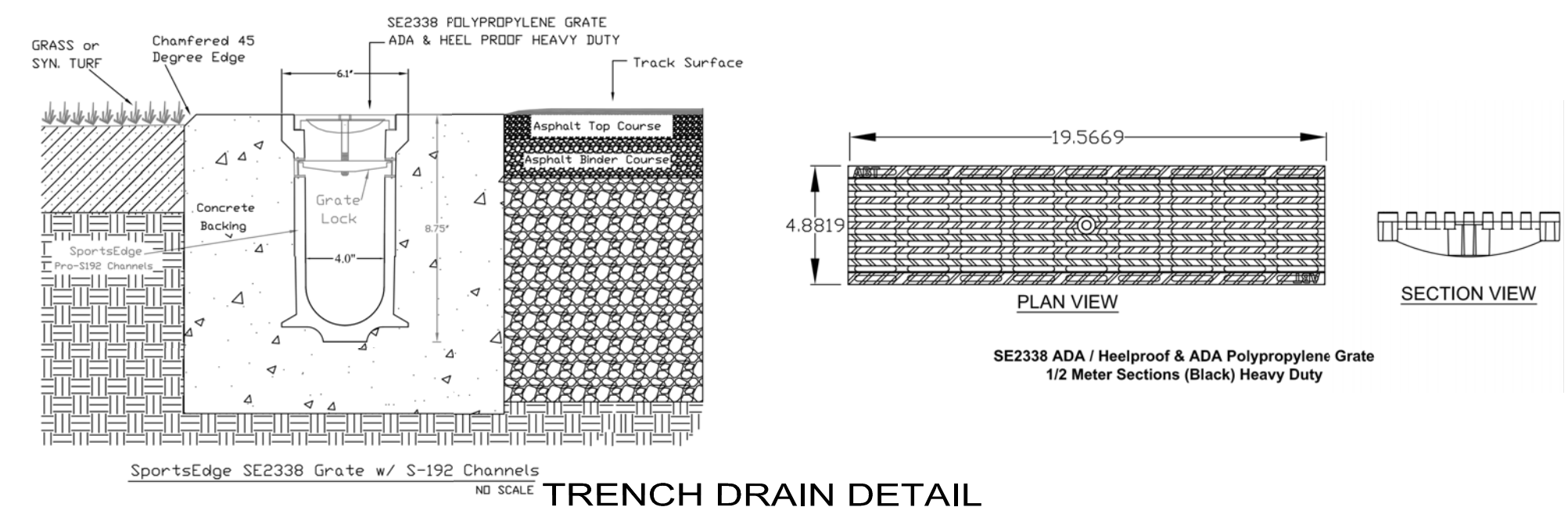
Renée C. Brissette, P.E. CFM
Senior Engineer, Hydrology
Planning Department

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Basin	Area (sf)	Area acres	Treatment A % acres	Treatment B % acres	Treatment C % (acres)	Treatment D % (acres)	100-year, 6-hr.		24 hour Volume cfs
							Weighted E (ac-ft)	Volume cfs	
ALLOWED									12.00
PROPOSED A	62796	0.144	0%	0%	5% 0007	30% 0.0432	65% 0.094	1.778	0.021
PROPOSED B	102633	0.235	0%	0%	0% 0.0000	22% 0.0516	78% 0.164	1.856	0.038
PROPOSED C	8824	0.203	0%	0%	13% 0.026	20% 0.0405	67% 0.136	1.789	0.030
PROPOSED D	151000	0.347	0%	0%	10% 0.035	29% 0.1005	61% 0.211	1.715	0.050
PROPOSED E	1654	0.008	0%	0%	0% 0.0000	10% 0.0038	90% 0.034	2.111	0.007
PROPOSED F	5629	0.129	0%	0%	0% 0.0000	87% 0.1124	13% 0.017	1.118	0.012
PROPOSED G	7484	0.172	0%	0%	0% 0.0000	64% 0.11	36% 0.062	1.414	0.020
PROPOSED H	63260	1.452	0%	0%	0% 0.0000	6% 0.0871	94% 1.365	2.163	0.262
COMPARISON									0.038
									10.39

Equations:

Weighted E = Ea* Aa + Eb* Ab + Ec* Ac + Ed* Ad / (Total Area)

Volume = Weighted D * Total Area

Flow = Qa * Aa + Qb * Ab + Qc * Ac + Qd * Ad

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	PROVIDED
(CF)	(CF)	
WATER QUALITY	0	2229
FLOOD CONTROL	2305	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 cf 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 Capacity

Pipe	D (in)	Slope (%)	Area (ft ²)	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:
 $Q = 1.49/n \cdot A \cdot R^{(2/3)} \cdot S^{(1/2)}$

A = Area
R = D/4
S = Slope
n = 0.013

WALL OPENING

Weir Equation:

$$Q = CLH^{3/2}$$

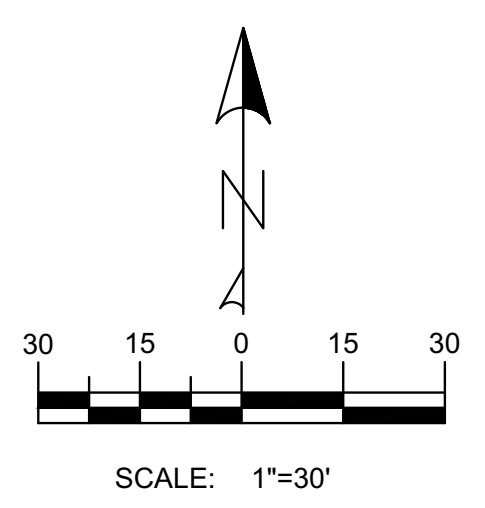
$Q = 4$ total allowed
 $C = 2.95$
 $H = 0.67$ ft
 $L =$ Length of weir $= 10$

$Q_{\text{allowable}} = 6.47 > Q_{\text{required}} = 4$ therefore ok

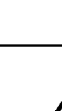
LEGEND

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




ENGINEER'S
SEAL

The seal is circular with a double-lined border. The outer ring contains the text "DAVID SOULE" at the top and "REGISTERED PROFESSIONAL ENGINEER" at the bottom. The inner circle contains "NEW MEXICO" at the top, the number "14522" in the center, and a handwritten signature across the bottom.

5/14/

DAVID SOULE
P.E. #14522

CACTUS PATCH PLAZA 7801 LA MORADA PL. NW
GRADING AND DRAINAGE PLAN



*Rio Grande
Engineering*
1606 CENTRAL AVENUE
SUITE 201
ALBUQUERQUE, NM 87106
(505) 872-0999

DRAWN BY DEM
DATE 2-15-24
Cactus Patch Plaza Tops With NEW SITEWORK
SHEET # C-1
JOB # XXXXXX

- 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.