

CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Interim Director



Mayor Timothy M. Keller

November 23, 2021

Amit Pathak, P.E.
Bohannon Huston, Inc.
7500 Jefferson St NE
Albuquerque, NM 87109

RE: PNM - Reeves
Grading and Drainage Plans
Engineer's Stamp Date: 11/19/21
Hydrology File: D17D111

Dear Mr. Pathak:

Based upon the information provided in your submittal received 09/29/2021, the Grading & Drainage Plans are approved for Building Permit and Grading 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 Drainage Covenant with Exhibit A for the stormwater quality pond per Article 6-15(C) of the DPM prior to Permanent Release of Occupancy. Please submit the original copies along with the \$ 25.00 recording fee check made payable to Bernalillo County to Marion G. Velasquez (mgvelasquez@cabq.gov) on the 4th floor of 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 (Dough Hughes, PE, jhughes@cabq.gov, 924-3420) 14 days prior to any earth disturbance.

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

Sincerely,

Renée C. Brissette

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

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 6/2018)

Project Title: _____ **Building Permit #:** _____ **Hydrology File #:** _____

DRB#: _____ **EPC#:** _____ **Work Order#:** _____

Legal Description: _____

City Address: _____

Applicant: _____ **Contact:** _____

Address: _____

Phone#: _____ **Fax#:** _____ **E-mail:** _____

Other Contact: _____ **Contact:** _____

Address: _____

Phone#: _____ **Fax#:** _____ **E-mail:** _____

TYPE OF DEVELOPMENT: _____ **PLAT (# of lots)** _____ **RESIDENCE** _____ **DRB SITE** _____ **ADMIN SITE** _____

IS THIS A RESUBMITTAL? _____ **Yes** _____ **No** _____

DEPARTMENT _____ **TRANSPORTATION** _____ **HYDROLOGY/DRAINAGE** _____

Check all that Apply:

TYPE OF SUBMITTAL:

- _____ ENGINEER/ARCHITECT CERTIFICATION
- _____ PAD CERTIFICATION
- _____ CONCEPTUAL G & D PLAN
- _____ GRADING PLAN
- _____ DRAINAGE REPORT
- _____ DRAINAGE MASTER PLAN
- _____ FLOODPLAIN DEVELOPMENT PERMIT APPLIC
- _____ ELEVATION CERTIFICATE
- _____ CLOMR/LOMR
- _____ TRAFFIC CIRCULATION LAYOUT (TCL)
- _____ TRAFFIC IMPACT STUDY (TIS)
- _____ STREET LIGHT LAYOUT
- _____ OTHER (SPECIFY) _____
- _____ PRE-DESIGN MEETING?

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- _____ BUILDING PERMIT APPROVAL
- _____ CERTIFICATE OF OCCUPANCY
- _____ PRELIMINARY PLAT APPROVAL
- _____ SITE PLAN FOR SUB'D APPROVAL
- _____ SITE PLAN FOR BLDG. PERMIT APPROVAL
- _____ FINAL PLAT APPROVAL
- _____ SIA/ RELEASE OF FINANCIAL GUARANTEE
- _____ FOUNDATION PERMIT APPROVAL
- _____ GRADING PERMIT APPROVAL
- _____ SO-19 APPROVAL
- _____ PAVING PERMIT APPROVAL
- _____ GRADING/ PAD CERTIFICATION
- _____ WORK ORDER APPROVAL
- _____ CLOMR/LOMR
- _____ FLOODPLAIN DEVELOPMENT PERMIT
- _____ OTHER (SPECIFY) _____

DATE SUBMITTED: _____ **By:** _____

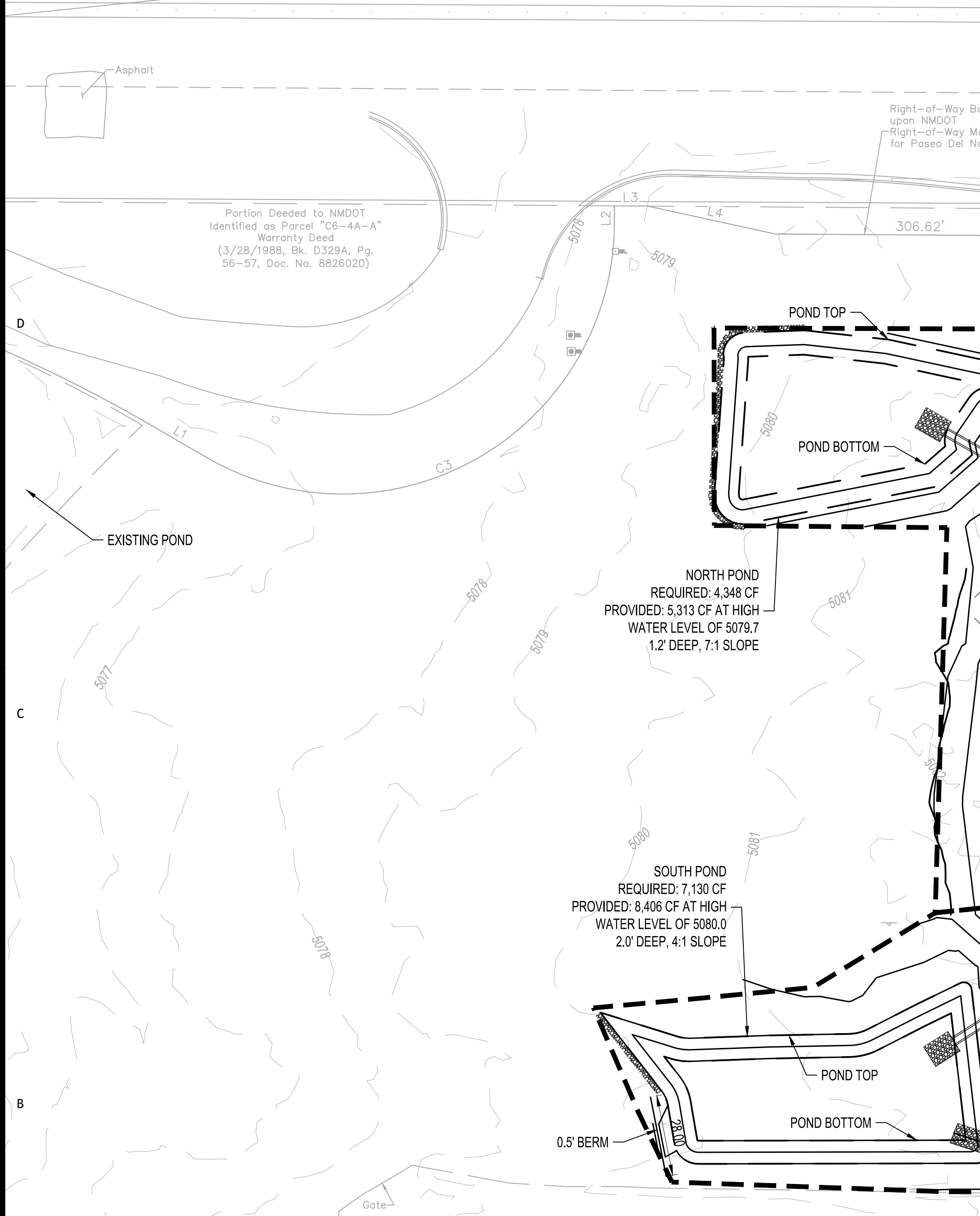
COA STAFF:

ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

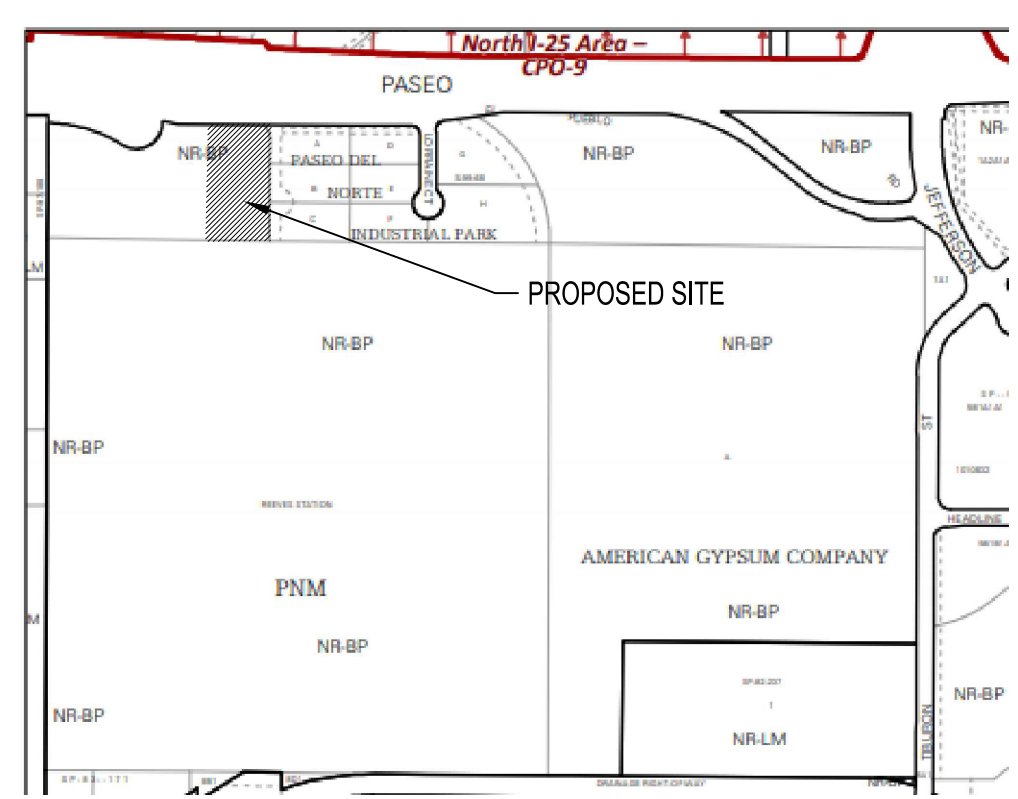
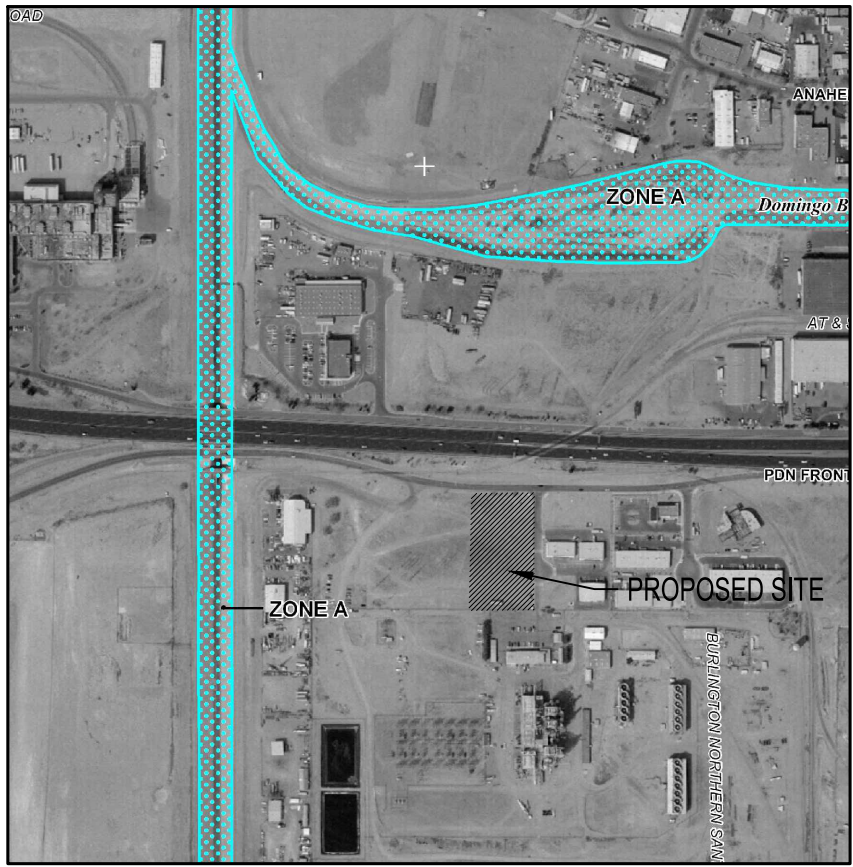
RUNDOWN/ SW CULVERT TABLE									
Rundown #	Basin ID	Rundown Type	Actual Flow	Min Weir** Length ft	Channel Width ft	Channel Height ft	Minimum Slope	FLOW REQUIRED CFS	Capacity* CFS
Conc. Rundowns									
R1	B1	Rectang	3.17	74.00	2.00	0.50	1.00%	3.36	5.50
R2	B2	Rectang	4.86	8.50	2.50	0.50	0.50%	4.87	5.09
SW Culverts									
ALL	MAX ROOF TRIB	Rectang	0.22	8.00	1.00	0.50	1.00%	0.22	2.27
Capacity Based on Manning's Eq w/ N=0.013 - *									

Paseo Del Norte
(R/W Varies)



20210354 PNM Reeves Training Facility											
Basin Data Table											
This table is based on page 6-10 of the DPM, Zone: 2											
Basin ID	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages				Q(100yr)	Q(100yr)	E(100yr-6hr)	V _(100yr-24hr)	SW Quality
			A	B	C	D	(cfs/ac.)	(CFS)	(inches)	(CF)	(CF)
EXISTING											
EXB 1	33398	0.77	0.0%	0.0%	100.0%	0.0%	3.05	2.34	1.03	2867	0
EXB 2	50000	1.15	0.0%	0.0%	100.0%	0.0%	3.05	3.50	1.03	4292	0
EXB 3	14598	0.34	0.0%	0.0%	100.0%	0.0%	3.05	1.02	1.03	1253	0
EXB 4	17294	0.40	0.0%	0.0%	100.0%	0.0%	3.05	1.21	1.03	1484	0
EXB 5	4934	0.11	0.0%	0.0%	100.0%	0.0%	3.05	0.35	1.03	424	0
TOTAL	115290	2.65	-	-	-	-	-	8.07	-	9896	0
PROPOSED											
Basin 1	33398	0.77	0.0%	0.0%	16.0%	84.0%	4.13	3.17	2.12	6607	608
Basin 2	50000	1.15	0.0%	0.0%	8.0%	92.0%	4.24	4.86	2.23	10425	997
Basin 3	14598	0.34	0.0%	0.0%	100.0%	0.0%	3.05	1.02	1.03	1253	0
Basin 4	17294	0.40	0.0%	0.0%	100.0%	0.0%	3.05	1.21	1.03	1484	0
Basin 5	4934	0.11	0.0%	0.0%	18.0%	82.0%	4.11	0.47	2.10	101	88
TOTAL	115290	2.65	-	-	-	-	-	10.27	-	19770	1605
SUMMARY											
▲ EXISTING/ PROPOSED								2.19		9874	1605

	Tributary Basins	Basin Volume	SW Quality Volume	Total Volume (REQUIRED)	Volume (ACTUAL)	Pond Bottom	Maximum Water Surface Elevation
				(cf)	(cf)	(ft)	(ft)
N-Pond	1.3	3741	608	4348	5313	78.50	79.70
S-Pond*	2.4	6133	997	7130	8406	78.00	80.00
Total				11478	13718		
* SWALE POND COLLECTS RESIDUAL RUNOFF FROM UPSTREAM BASINS. NOTE: BASIN VOLUME IS THE DIFFERENCE IN PROPOSED AND EXISTING VOLUMES.							



DRAINAGE NARRATIVE

INTRODUCTION:
THE PROJECT IS LOCATED ON THE SOUTHWEST CORNER OF EL PUEBLO ROAD AND A PRIVATE ACCESS ROAD, JUST SOUTH OF PASEO DEL NORTE AND EAST OF THE NORTH DIVERSION CHANNEL. THE PROJECT PROPOSES TO CONSTRUCT A NEW PNM TRAINING FACILITY. PER FEMA COMMUNITY MAP PANEL #35001C0136G, THE SITE IS NOT LOCATED WITHIN A FLOODPLAIN. THE SITE IS IN RAINFALL ZONE 2. THE PROJECT AREA IS 2.65 ACRES.

METHODOLOGY:
THE HYDROLOGIC ANALYSIS PROVIDED WITH THIS DRAINAGE SUBMITTAL HAS BEEN PREPARED IN ACCORDANCE WITH THE RECENT ADOPTION OF THE NEW DEVELOPMENT PROCESS MANUAL, SPECIFICALLY CHAPTER 6 (DRAINAGE, FLOOD CONTROL, AND EROSION CONTROL). LAND TREATMENT PERCENTAGES WERE CALCULATED BASED ON THE ACTUAL CONDITIONS IN EACH ONSITE BASIN AND ARE SUMMARIZED IN THE "BASIN DATA TABLE" (THIS SHEET). THIS SITE WAS ANALYZED FOR THE 100-YEAR, 24 HOUR STORM EVENT.

EXISTING CONDITIONS:
THE ENTIRE PNM PROPERTY IS APPROXIMATELY 87.4 ACRES AND IS PARTIALLY DEVELOPED. THE SUBJECT PROJECT AREA BEING ISSUED FOR PERMIT IS APPROXIMATELY 2.65 ACRES AND IS CURRENTLY UNDEVELOPED. THE SITE SLOPES GENERALLY FROM SOUTHEAST TO NORTHWEST. THERE IS NO ONSITE STORM DRAINAGE INFRASTRUCTURE. THE SITE SHEET FLOWS TO AN EXISTING POND FOR THE ENTIRE PNM PROPERTY LIMITS AND THEN FREE DISCHARGES INTO THE STORM DRAIN SYSTEM WITHIN EL PUEBLO ROAD, WHICH DISCHARGES INTO THE NORTH DIVERSION CHANNEL. THE EXISTING 2.65 AC SITE PRODUCES A 100-YEAR STORM DISCHARGE OF 8.07 CFS.

PROPOSED CONDITIONS:
THE PROPOSED SITE WILL FOLLOW THE EXISTING DRAINAGE SCHEME AND OUTFALL LOCATION. THE SITE IS DIVIDED INTO 5 ONSITE BASINS. BASIN 1 IS LOCATED IN THE NORTH EASTERN REGION OF THE SITE. BASIN 1 INCLUDES A PORTION OF THE BUILDING, THE NORTHERN PARKING LOT WITH LANDSCAPE ISLANDS AND LANDSCAPE ALONG THE PERIMETER. BASIN 1 WAS ANALYZED USING LAND TREATMENTS "D" AND "C". BASIN 2 IS LOCATED IN THE SOUTH EAST REGION OF THE SITE AND INCLUDES THE PROPOSED BUILDING AS WELL AS THE SOUTHERN PARKING LOT, WHICH HAS A FEW PERIMETER LANDSCAPE ISLANDS. BASIN 2 WAS ANALYZED USING LAND TREATMENTS "D" AND "C". BASIN 3 IS LOCATED IN THE NORTH WEST REGION OF THE SITE, AND BASIN 4 IS IN THE SOUTH WESTERN REGION OF THE SITE. BASINS 3 AND 4 WERE ANALYZED USING LAND TREATMENT "C". BASIN 5 IS LOCATED IN THE EASTERN REGION OF THE SITE. BASIN 5 INCLUDES A PORTION OF SIDEWALK AND LANDSCAPE. BASIN 5 WAS ANALYZED USING LAND TREATMENTS "D" AND "C".

BASINS 1 AND 3 DISCHARGE INTO THE NORTH 100-YEAR, 24 HOUR STORAGE POND WITHIN BASIN 3. BASIN 1 PRODUCES A 100-YEAR, 24 HOUR DISCHARGE OF 3.17 CFS AND A RUNOFF VOLUME OF 6.807 CF. BASIN 3 PRODUCES A 100-YEAR, 24 HOUR DISCHARGE OF 1.02 CFS AND A RUNOFF VOLUME OF 1.253 CF. BASINS 2 AND 4 DISCHARGE INTO THE SOUTH 100-YEAR, 24 HOUR STORAGE POND WITHIN BASIN 4. BASIN 2 PRODUCES A 100-YEAR, 24 HOUR DISCHARGE OF 4.86 CFS AND A RUNOFF VOLUME OF 10.425 CF. BASIN 4 PRODUCES A 100-YEAR, 24 HOUR DISCHARGE OF 1.21 CFS AND A RUNOFF VOLUME OF 1.484 CF. THE PROPOSED RUNOFF WILL BE DIRECTED TO THESE PONDS BY CURB CUTS AND SWALES. FURTHERMORE, BASIN 4 RECEIVES OFF SITE FLOW FROM THE EXISTING PNM SITE WHICH WILL CONTINUE TO FOLLOW THE EXISTING DRAINAGE PATH TO THE EXISTING POND; THEREFORE, THE OFF SITE FLOW IS HANDLED AS BYPASS FLOW. BASIN 5 PRODUCES A 100-YEAR, 24 HOUR DISCHARGE OF 0.47 CFS AND A RUNOFF VOLUME OF 101 CF. THE NEGLIGIBLE DISCHARGE FROM BASIN 5 CANNOT BE CAPTURED AND STORED ONSITE AND WILL FLOW INTO THE EXISTING STORM DRAIN SYSTEM WITHIN THE PRIVATE ROAD.

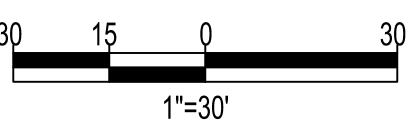
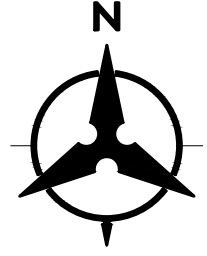
STORMWATER RUNOFF IS CONVEYED TO THE SHALLOW PONDS WITH IN BASINS 3 & 4. THESE PONDS PROVIDE FULL RETENTION OF THE INCREASED RUNOFF FROM THE SITE AS WELL AS THE FIRST FLUSH VOLUME. THE TOTAL REQUIRED VOLUME FOR THE 100-YR, 24 HOUR STORM IS 11,326 CF WHICH IS THE SUM OF THE 100-YR, 24 HOUR STORM VOLUME 9,874 CF AND THE ASSOCIATED STORM WATER QUALITY VOLUME 1,452 CF. THE TOTAL PROVIDED VOLUME IS 13,718 CF, THEREFORE, IT IS ANTICIPATED THAT THERE WILL BE NO INCREASED RUNOFF COMPARED TO EXISTING.

CONCLUSION:
THE TOTAL RUNOFF FROM THE SITE IS 10.27 CFS WHICH PRODUCES A 100-YEAR, 24 HOUR VOLUME OF 19,770 CF. THIS IS MORE THAN THE 8.07 CFS WITH 100-YEAR, 24 HOUR VOLUME OF 9,896 CF IN EXISTING CONDITIONS. THIS IS DUE TO THE ADDED IMPERVIOUS AREAS FOR PARKING LOT AND NEW FACILITY. THE SITE IS REQUIRED TO INCORPORATE STORAGE PONDING TO CONTROL THE DIFFERENCE IN THE 100-YEAR, 24 HOUR RUNOFF VOLUME (9,874 CF) AND INCLUDE THE STORM WATER QUALITY VOLUME (1,452 CF) WHICH IS 11,478 CF. THE PROVIDED STORAGE OF 13,718 CF IS LARGER THAN REQUIRED AND THE DIFFERENCE IN THESE VOLUMES IS MORE THAN WHAT IS PRODUCED BY BASIN 5.

THEREFORE, USING THE ONSITE PONDING TO CAPTURE FLOWS, THE PEAK DISCHARGE FROM THE SITE WILL BE REDUCED TO MATCH THAT OF EXISTING CONDITIONS. THE GRADING AND DRAINAGE PLAN AS PRESENTED IS IN CONFORMANCE WITH THE CITY OF ALBUQUERQUE HYDROLOGY REQUIREMENTS. WITH THIS SUBMITTAL WE ARE REQUESTING COA HYDROLOGY BUILDING PERMIT APPROVAL.

LEGEND

- PROPERTY LINE
- LIMITS OF GRADING
- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- PROPOSED INDEX CONTOUR
- PROPOSED INTERMEDIATE CONTOUR
- DRAINAGE BASIN
- BOTTOM/TOP OF POND
- SWALE



7400 Montgomery NE, Suite 36
Albuquerque, NM 87109
tel 505.889.3030 fax 505.889.3737



NEW TRAINING FACILITY

Public Service Company of New Mexico



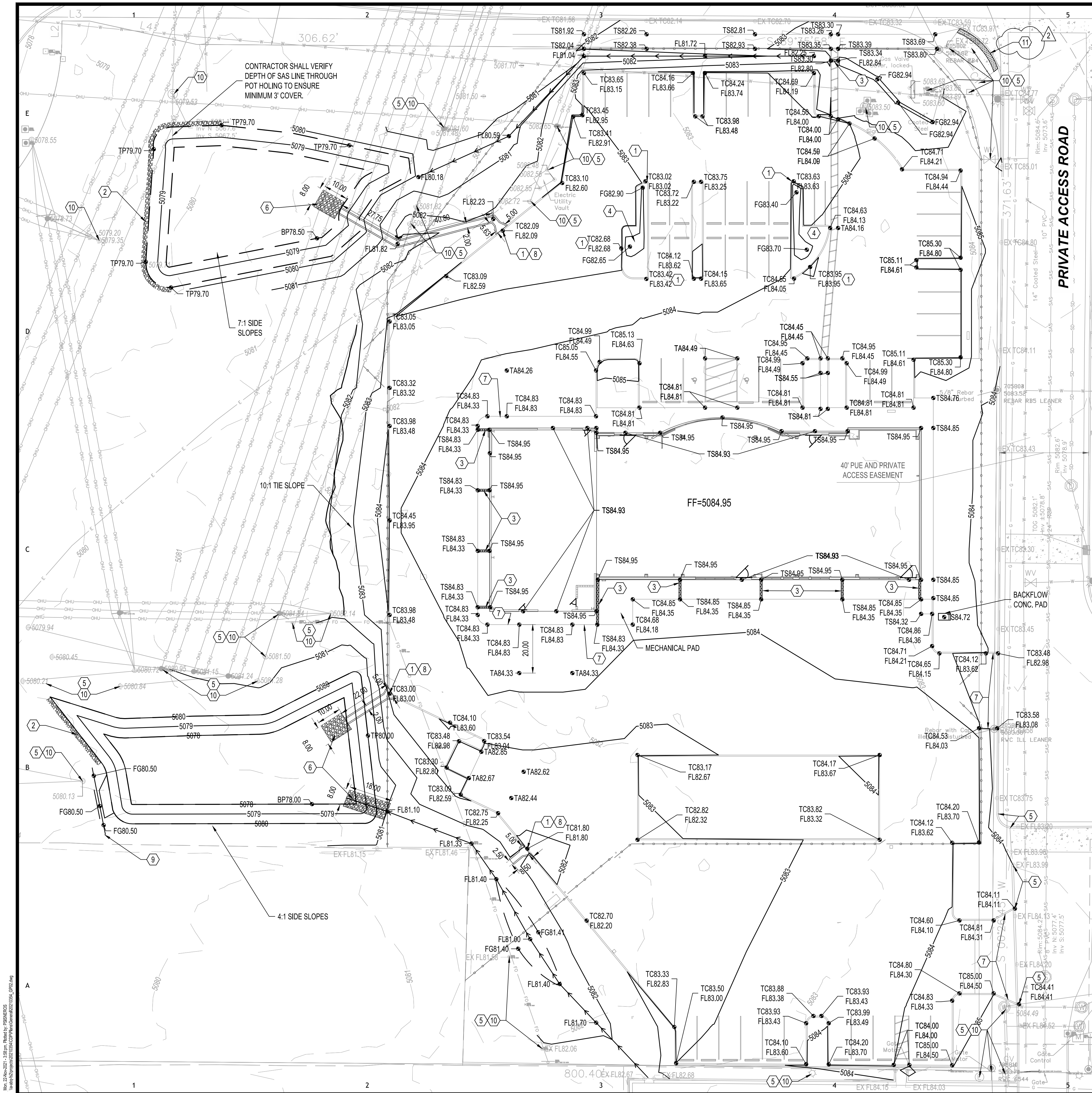
4200 Paseo Del Norte NE
Albuquerque, New Mexico 87109

1	10/25/2021	ADDENDUM 2
2	11/19/2021	COA / NMDOT Revisions
3		
4		
5		
MARK	DATE	DESCRIPTION
PROJECT NO:	20210354	
CAD DWG FILE:		
DRAWN BY:	KH/PS	
CHECKED BY:	AMP	
DATE:	09/29/2021	

DRAINAGE MANAGEMENT PLAN

DMP01

SHEET - 1 OF - 1



GRADING KEYED NOTES

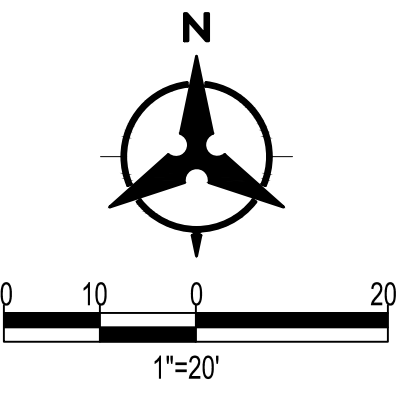
1. INSTALL CONCRETE CURB OPENING PER DETAIL 3 ON SHEET C-500.
2. INSTALL SPILLWAY PROTECTION PER DETAIL 5 ON SHEET C-500.
3. INSTALL 12" SIDEWALK CULVERT PER COA STD DWG 2236, PEDESTRIAN RATED GRATE, CENTER GRATE ON ROOF DRAIN OUTFALL, COORDINATE WITH ARCHITECTURAL DRAWINGS.
4. WATER HARVESTING LANDSCAPE DEPRESSION ENSURE 6" MINIMUM DEPRESSION BELOW FLOWLINE.
5. MATCH EXISTING ELEVATION.
6. RIP RAP BLANKET SEE DETAIL 4 SHEET C-500.
7. TRANSITION TO FLUSH CURB
8. INSTALL CONCRETE RUNDOWN PER DETAIL 2 SHEET C-500.
9. INSTALL 0.5' BERM
10. PROTECT UTILITY IN PLACE
11. INSTALL 2" WIDE SURFACE APPLIED DETECTABLE WARNING SURFACE PER DETAIL 6 SHEET C-500

NOTE:
POND SIDE SLOPES NEED TO BE STABILIZED WITH NATIVE GRASS SEED (PER CITY SPEC 1012) WITH AGGREGATE MULCH OR EQUAL (MUST SATISFY THE "FINAL STABILIZATION CRITERIA" CGP 2.2.14.8.).



LEGEND

- PROPERTY LINE
- 95.40 PROPOSED SPOT ELEVATION
- TC=TOP OF CURB
- FL=FLOW LINE
- TS=TOP OF SIDEWALK
- FG=FINISHED GRADE
- INV=INVERT
- FF=FINISHED FLOOR
- 4960 --- EXISTING INDEX CONTOUR
- 4959 --- EXISTING INTERMEDIATE CONTOUR
- 4960 --- PROPOSED INDEX CONTOUR
- 4959 --- PROPOSED INTERMEDIATE CONTOUR
- PROPOSED SIDEWALK CULVERT



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Public Service Company of New Mexico



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GRADING PLAN

C101