



DAMES & MOORE

A DAMES & MOORE GROUP COMPANY

CALCULATIONS

PNM PERSON GENERATING STATION

**BERNALILLO COUNTY
GRADING AND DRAINAGE
PLAN APPROVAL**

October 8, 1997

Two Park Square
6565 Americas Parkway, N.E. Suite 610
Albuquerque, NM 87110



DAMES & MOORE

A DAMES & MOORE GROUP COMPANY

Two Park Square
6565 Americas Parkway, N.E.
Suite 610
Albuquerque, New Mexico 87110
505 884 2611 Tel
505 888 1930 Fax

October 8, 1997

Brad Catanach, P.E.
Drainage Engineer - PWD
County of Bernalillo
2400 Broadway S.E. - Building A
Albuquerque, NM 87102

RE: PNM Personal Station Grading and Drainage Plan Resubmittal
Bernalillo County Case Number 97-121

Dear Mr. Catanach:

Dames and Moore has reviewed your comments regarding the PNM Person Station Grading and Drainage plan. We are resubmitting three (3) sets of plans and enclosed information you have requested. The changes to the grading and drainage plan is based upon your written comments, the Wednesday September 24 meeting, and subsequent conversations.

The following is the list of your comments with an appropriate response.

1. *A grading permit will not be issued prior to an approved grading and drainage plan.*
We understand that Bernalillo County does not issue grading permits.
2. *Please include the standard engineering statement regarding site inspection as outlined in the County Ordinance. The statement must be signed and dated.* The standard engineering statement is on the Hydrology plan and signed and dated by Mr. Fensterer, P.E.
3. *Hydrology Plan, specific land treatment areas are unclear on the topography for most of the drainage basins.* The Wednesday, September 24 meeting has addressed this concern. *Note, basins with slopes greater than 10% require a B treatment for natural conditions.* Basins 201, 301, 302, and 501 has percent B to include the areas where the slope is greater than 10%.



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4. *Please provide AHYMO data, culvert capacity calculations, retention basin size calculations for 100 year 10 day event, proposed retention basin weir capacity calculations and any appropriate calculation for approval.* The requested information is enclosed in the appendices. The AHYMO data includes the input, summary output, and regular output for each of the existing and developed conditions.
5. *Please clarify which basins will be discharged to Broadway and which basins will be retained.* Basins 101, 201, 202, 203, 204, and 205 flows to Broadway Boulevard. The other basins are either retained or drain to the arroyo on the north side. *The allowable discharge from the site should not exceed existing conditions or the capacity of the off-site culverts downstream.* The developed conditions flow at AP-2, AP-3, and AP-4 is relatively the same as existing conditions flow as shown in the following table.

AP #	EXISTING	DEVELOPED
2	56.0	57.4
3	42.2	43.4
4	47.0	48.0

The developed conditions increase is due to the road development in Basins 204 and 205. The developed conditions assumes a new 32-foot road with concrete curb-and-gutter and sidewalk and is represented as phase three (3) construction. Phase three (3) construction is requested by Bernalillo County as a contingency if there is any future development within this region. There are no plans for future development in the foreseeable future and phase three (3) will not be constructed until the year 2002, if ever. The only development that will occur within the basins that flow to Broadway Boulevard is phase two (2) construction. Phase two (2) construction is only within Basin 204 and consists of about 450 linear feet of 24-foot paved road and about 250 linear feet of 24-foot gravel road. The runoff from phase two (2) construction will be less than the listed developed condition flows. Therefore, the existing and developed condition comparison at AP-2, AP-3, AP-4 are considered incidental to phase three (3) construction and are nearly the same for phase two (2) construction.

The existing culverts at AP-2, AP-3, and AP-4 are sized large enough for the 6 hour - 100 year existing and developed conditions flows.



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The runoff from the site at AP-11 will be kept the same or below existing conditions runoff. This is done by enlarging the existing detention pond, constructing a berm at the existing outlet, and installing a 24-inch RCP pipe. The existing discharge from the detention pond is 26.1 cfs and the developed conditions discharge will be 25.1 cfs. The existing detention basin only stores 0.03 ac-ft and the future detention basin will store 0.77 ac-ft of runoff with an actual capacity of 0.90 ac-ft at the spillway elevation.

As per our conversations, the southwest corner retention pond will not be changed to handle the 10 day - 100 year volume. The existing capacity of this retention basin is 0.18 ac-ft. If the incoming runoff volume exceeds the retention pond capacity, the runoff would flow over a railroad spur and flow towards the north. The retention pond will have less runoff entering it, since Basin 403 will be diverted from contributing to this retention pond.

The northwest corner retention pond will be increased from 0.37 ac-ft to 0.97 ac-ft. The incoming 10 day - 100 year developed conditions flow is 0.93 ac-ft. There will be an one (1) foot freeboard with the 0.97 ac-ft capacity (i.e. top of berm is 5008 ft and the elevation at 0.97 ac-ft is 5007 ft). There will be an emergency spillway at 5007 ft with a capacity of 25 cfs. The incoming 6 hour - 100 year peak flow rate is 22.5 cfs.

I will be glad to provide answers to any further questions or comments you may have by calling me at 884-2611.

Sincerely,

A handwritten signature in cursive script that reads 'Thomas Dalton'.

Thomas Dalton, EI
Project Civil Engineer



County of Bernalillo

State of New Mexico

2400 BROADWAY, S.E.
ALBUQUERQUE, NEW MEXICO 87102
PUBLIC WORKS (505) 848-1500

Tom For your use
8-25-97
Ku

BOARD OF COUNTY COMMISSIONERS

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H. R. FINE, TREASURER

Date: 8/21/97

Subject: CASE REVIEW COMMENTS

Case No.: PWD-97-121

Zone Map No : P-14

Street Address: PEREN GENERATING STATION

Legal Description: TR 1-B MRGCD MAP 50

Name of Applicant: PNM

Dear Applicant:

Bernalillo County Public Works Department will require **TWO WEEKS** for review and comment of submittal and resubmittals, and **ONE WEEK** for final review and plat sign-off. Major submittals may require more than two weeks for review and comment.

The issuance of a permit or a review or approval of plan specifications, computations, and shop drawings shall not be interpreted to be a permit for or an approval of any variance or violation of any of the provisions of any county or State codes, ordinances, standards, or policies. Nor shall such issuance of a permit or approval of plans, specifications, computations, and shop drawings prevent any authorized County representative or County inspector from thereafter requiring the corrections of errors in said plans, specifications, computations, or shop drawings or from stopping construction operations which are being carried on thereunder when in violation of any County or state codes, ordinances, standards, or policies.

Review of construction plans, specifications, computations, and shop drawings is only for general conformance with the design concept of the project and general compliance with the plans and specifications and shall not be construed as relieving the Contractor, Land Divider, Subdivider, Engineer/Surveyor, or applicant of the full responsibility for: providing materials, equipment, and work required by the contract; the proper fitting and construction for the work; the accuracy and completeness of the submittal; selecting fabrication processes and techniques of construction; and performing the work in a safe manner.

REV 4-22-91 BR

COUNTY OF BERNALILLO

APPLICATION FOR CASE REVIEW

Please complete pages one and two of this application for review of your case. Submit **THREE** blueines of plat, drawings, or information with case submittals and **THREE** blueines of plat, drawings, or information along with the original mylar for final sign-off applications. Submit a County Zone Atlas Map with subject property marked on the map. If a Grading and Drainage plan is not included with a land division, replat, or conceptual plan, please submit on 8.5"x11" photocopy of a USGS quad map with the subject property superimposed.

NOTE: INCOMPLETE APPLICATIONS WILL BE RETURNED WITHOUT REVIEW.

1. APPLICANT INFORMATION:

- a. Applicant is (check one):
☒ OWNER ☐ SURVEYOR ☐ AGENT
☐ ENGINEER ☐ DRAINAGE ENGINEER
- b. Date of this application: 7/2/97
- c. Signature of applicant:
(print) _____ (sign) _____
- d. OWNER: PNM PHONE: 241-2576
Alvarado Square
Albuquerque, NM 87158
- e. AGENT: Dames & Moore PHONE: 884-2611
6565 Americas Pky NE
Albuquerque, NM 87108
- f. OTHER (specify): _____

2. TYPE OF SUBMITTAL (check one):

- ☐ REPLAT
☐ LAND DIVISION (MINOR SUBDIVISION)
☐ MAJOR SUBDIVISION
☐ CONSTRUCTION DRAWINGS
☒ GRADING/DRAINAGE PLAN
☐ AS-CONSTRUCTED GRADING/DRAINAGE PLAN
☐ VARIANCE REQUEST
☐ TRAFFIC IMPACT ANALYSIS/TRAFFIC STUDY
☐ INFRASTRUCTURE LIST/DESIGN REVIEW FEE
☐ OTHER (specify): _____

County of Bernalillo

Your: ☒ submittal of drainage information
 ☐ resubmittal of drainage information

is: ☐ approved.
 ☒ approved with comments/conditions.
 ☒ disapproved.
 ☐ deferred to County Floodplain Administrator

TO BE FILLED OUT BY
COUNTY PUBLIC WORKS
DIVISION ONLY

Case review comments are:

☒ attached.
☐ not attached.
☐ not attached. See remarks below.

Resubmittal is:

☒ not required.
☐ required. When resubmitting, please use Resubmittal Form.

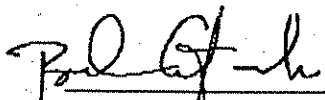
Please submit:


☒ grading/drainage plan with revisions.
☐ as-constructed grading/drainage plan.
☐ other: _____

It is required that:

☐ Bernalillo County Public Works Division inspect improvements prior to final sign-off of plat.
☐ Bernalillo County Public Works Division signature line be placed on plat.

Remarks: _____

 P.E. 10-1-97
Brad Catanach, P.E.
Drainage Engineer
Bernalillo County Public Works Division

 P.E. 8-18-97
Drainage Engineer
AMAFCA

cc: ☐ Sandia Heights Homeowners Association
 ☐ Owner: ANDERSON
 ☐ Agent: EBBERS
 ☐ Case File PWD-97-121
 ☐ Susan Calongne, County Floodplain Administrator, COA
 ☐ Molzen-Corbin & Associates
 ☐ Other: _____



Bernalillo County
Public Works Division
2400 Broadway Ave SE Albuquerque, NM 87102

DAMES & MOORE
6565 AMERICAS PKY NE STE 610
ALBUQUERQUE NM 87108
PEREN GENERATION STATION
TR 1-B MRGCD MAP 50


10-Jul-97

Case Number

PWD - 97 - 121

Dear Applicant:

Attached are the Public Works Division comments regarding your building permit application. Should you require further information, please contact Hoss Foster or Jim Best at 848-1502.



Development Review Engineer

cc:

Agent
Case File
Zoning, Building, Planning Dept.
Molzen-Corbin Associates
Other: _____



Bernalillo County Public Works Division Case File Comments

Case Number PWD 97 121

Date	Functional Area
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10-Jul-97	DRAN
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-59.92
-22.00

APPENDICES

APPENDIX A - EXISTING CONDITIONS 6-HOUR, 100-YEAR AHYMO
INPUT / OUTPUT / SUMMARY OUTPUT

APPENDIX B - DEVELOP CONDITIONS 6-HOUR, 100-YEAR AHYMO
INPUT / OUTPUT / SUMMARY OUTPUT

APPENDIX C - HYDROLOGY CALCULATIONS

APPENDIX D - RETENTION / DETENTION POND VOLUME
CALCULATIONS

APPENDIX E - HYDRAULIC CALCULATIONS