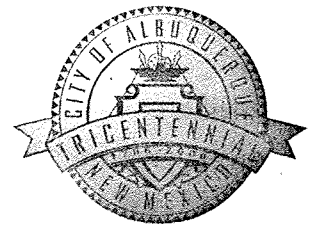


CITY OF ALBUQUERQUE



February 22, 2007

Paul T. Brasher, P.E.
Brasher & Lorenz, Inc.
2201 San Pedro NE
Albuquerque, NM 87110

Re: PNM Mesa del Sol Substation Grading Plan
Engineer's Stamp dated 2-9-07 (R16/D002B)

Dear Mr. Brasher,

Based upon the information provided in your submittal received 2-12-07, the above referenced plan is approved for Site Development Plan for Building Permit action by the DRB.

P.O. Box 1293

Before submitting for Building Permit please address the following comments:

Albuquerque

- Provide the ponding volume provided and the water surface elevation inside the enclosure for the 100 yr-10 day storm.
- Provide more detail for the swale on the west side of the road and the modifications to the retention pond.

New Mexico 87103

If you have any questions, you can contact me at 924-3695.

www.cabq.gov

Sincerely,

Curtis A. Cherne, E.I.
Engineering Associate, Planning Dept.
Development and Building Services

C: file
Brad Bingham

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(Rev. 12/05)

PROJECT TITLE: PNM MESA DEL SOL SUBSTATION ZONE MAP/DRG. FILE # R16/0002B
 DRB#: _____ EPC#: 06 EPC 01444 WORK ORDER#: _____

LEGAL DESCRIPTION: TRACT 32, REPLAT OF TRACT 4-A-1, MESA DEL SOL
 CITY ADDRESS: 2700 EASTMAN S.E.

ENGINEERING FIRM: BRASHER & LORENZ, INC.
 ADDRESS: 2201 SAN PEDRO BLVD. NE
 CITY, STATE: ALBUQ. NM

CONTACT: PAUL BRASHER
 PHONE: 888-6088
 ZIP CODE: 87110

OWNER: PUBLIC SERVICE CO. OF NEW MEXICO
 ADDRESS: ALVARADO SQUARE
 CITY, STATE: ALBUQ. NM

CONTACT: LAURIE MOYE
 PHONE: 241-2793
 ZIP CODE: 87058

ARCHITECT: _____
 ADDRESS: _____
 CITY, STATE: _____

CONTACT: _____
 PHONE: _____
 ZIP CODE: _____

SURVEYOR: ALAN BENHAM (BOHANNAN-TUSTON)
 ADDRESS: 7500 JEFFERSON NE
 CITY, STATE: ALBUQ. NM

CONTACT: _____
 PHONE: 823-1000
 ZIP CODE: 87109

CONTRACTOR: _____
 ADDRESS: _____
 CITY, STATE: _____

CONTACT: _____
 PHONE: _____
 ZIP CODE: _____

TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
☒ DRAINAGE PLAN 1st SUBMITTAL
☐ DRAINAGE PLAN RESUBMITTAL
☐ CONCEPTUAL G & D PLAN
☒ GRADING PLAN
☐ EROSION CONTROL PLAN
☐ ENGINEER'S CERT (HYDROLOGY)
☐ CLOMR/LOMR
☐ TRAFFIC CIRCULATION LAYOUT
☐ ENGINEER/ARCHITECT CERT (TCL)
☐ ENGINEER/ARCHITECT CERT (DRB S.P.)
☐ ENGINEER/ARCHITECT CERT (AA)
☐ OTHER (SPECIFY) _____

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA/FINANCIAL GUARANTEE RELEASE
☐ PRELIMINARY PLAT APPROVAL
☒ S. DEV. PLAN FOR SUB'D APPROVAL
☐ S. DEV. FOR BLDG. PERMIT APPROVAL
☐ SECTOR PLAN APPROVAL
☐ FINAL PLAT APPROVAL
☐ FOUNDATION PERMIT APPROVAL
☐ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY (PERM)
☐ CERTIFICATE OF OCCUPANCY (TEMP)
☐ GRADING PERMIT APPROVAL
☐ PAVING PERMIT APPROVAL
☐ WORK ORDER APPROVAL
☐ OTHER (SPECIFY) _____

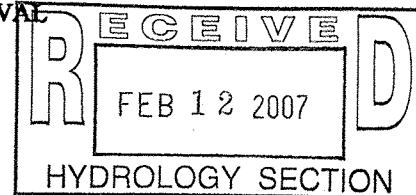
WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
☒ NO
☐ COPY PROVIDED

SUBMITTED BY: _____

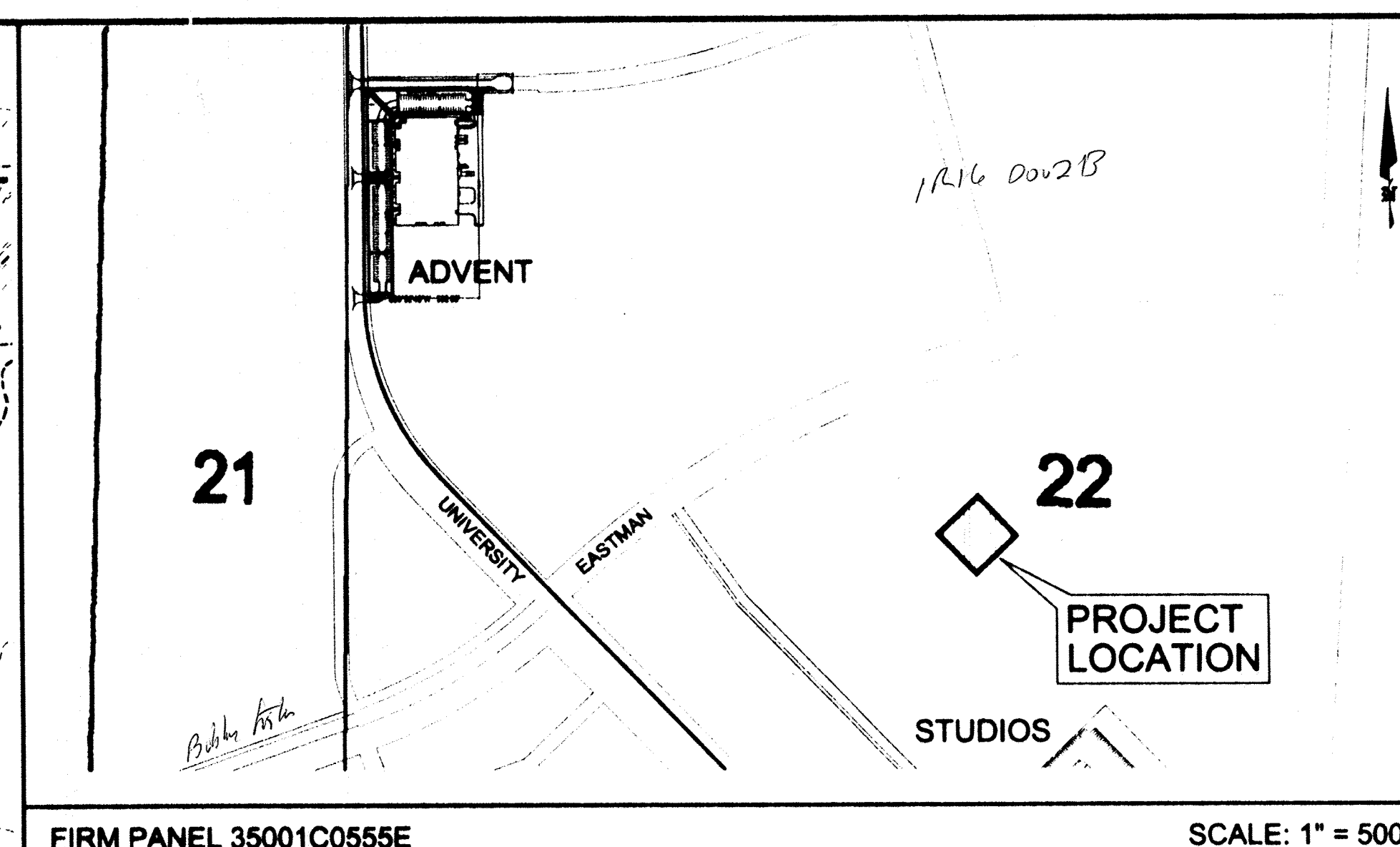
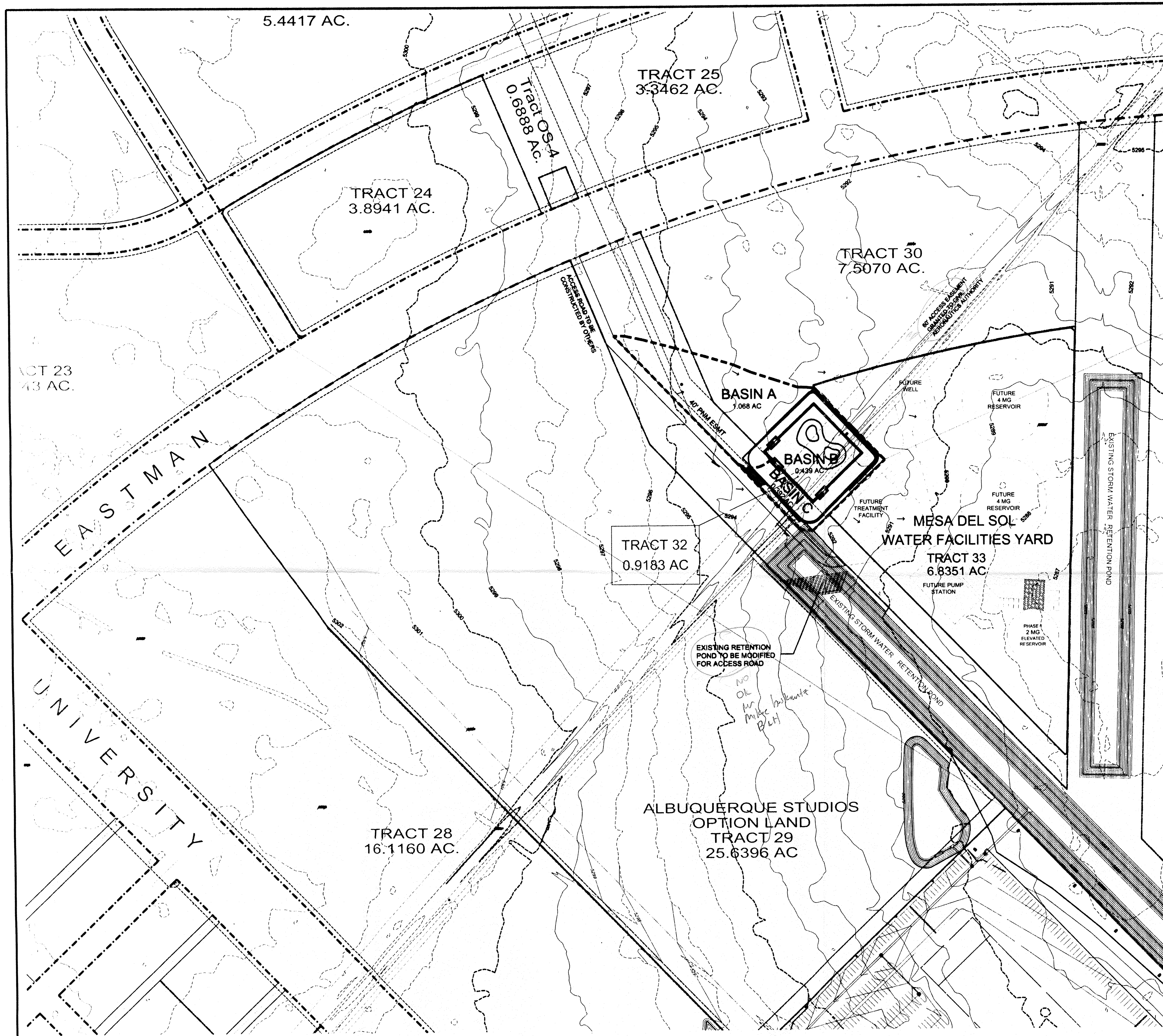
PAUL BRASHER

DATE: 02-12-07



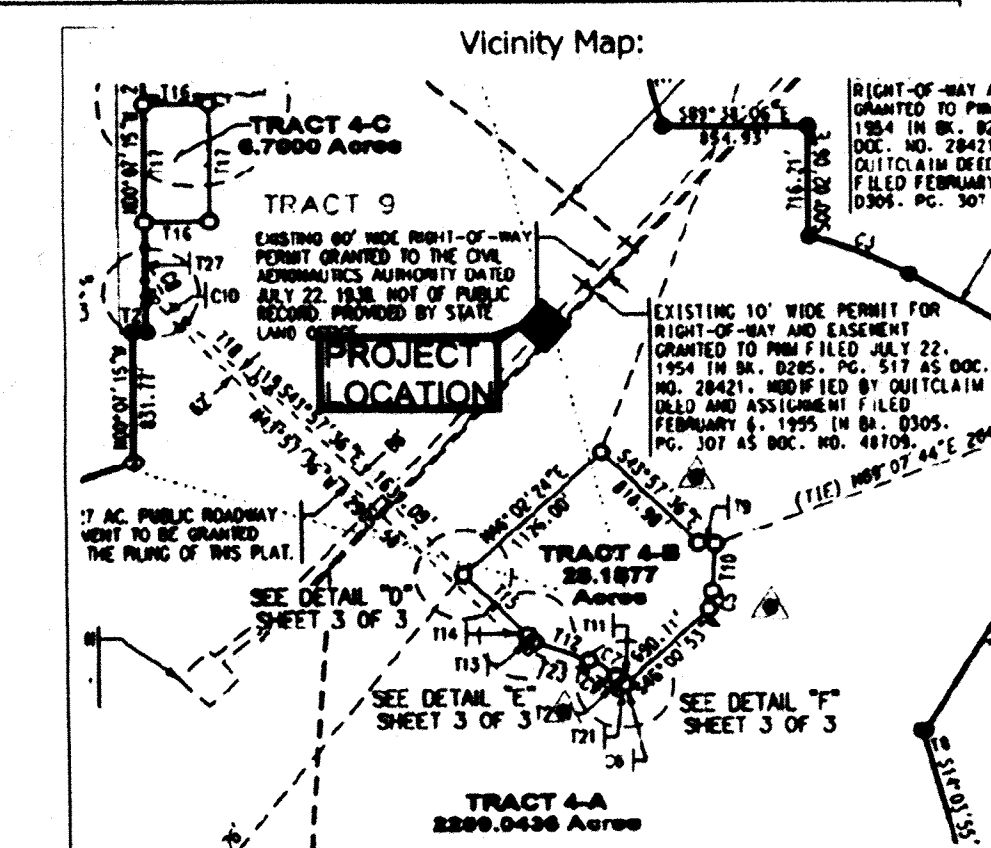
Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope to the proposed development define the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report:** Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more.



Control Station Data	
Name of Station:	BHI 096-2
State:	NM
County:	BERNALILLO
Establishing Group:	BOHANNAN HUSTON, INC.
Date:	20-JUN-06
BST Project #:	060096
Type/Composition:	2" ALUMINUM CAP
Stamping:	BHI 096-2
** MODIFIED **	
Horizontal Data	Projection:
Horizontal Datum:	NAD83
Method:	RTK
Latitude:	34°59'18.11540"N
Longitude:	106°36'27.26202"W
GRID Northing:	N/A
GRID Easting:	N/A
Vertical Data	Project Combined Factor:
Vertical Datum:	NAVD83
Method:	RTK/SPRINT LEVEL
	Point Combined Factor:
	Point Acc:

BENCHMARK DESCRIPTION



BENCHMARK LOCATION

PROJECT DATA

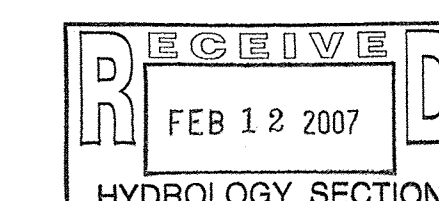
PROPERTY DESCRIPTION:

A 200' X 200' EASEMENT
GRANTED TO PNM
AS SHOWN ON THE SKETCH PLAT
OF EMPLOYMENT CENTER PHASE 2
(A REPLAT OF TRACT 4-A-1, MESA DEL SOL)

PROPERTY LOCATION:

APPROX. 1400' EAST OF UNIVERSITY;
APPROX. 400' SOUTH OF EASTMAN

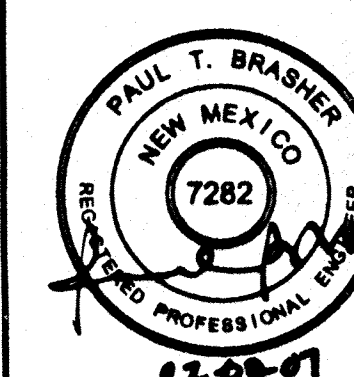
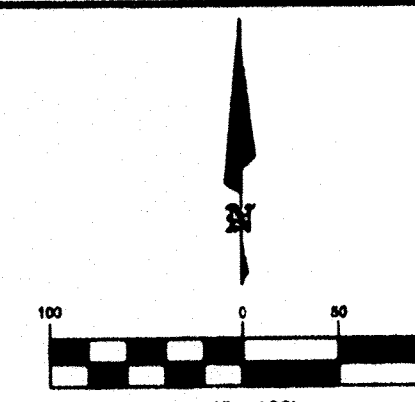
TOPOGRAPHY MAPPED BY
BOHANNAN-HUSTON, INC., 2005



BRASHER & LORENZ
CONSULTING ENGINEERS
2201 San Pedro N.E. Building 1 Suite 1200
Albuquerque, New Mexico 87110
PH: 505-888-8000 FAX: 505-888-8100

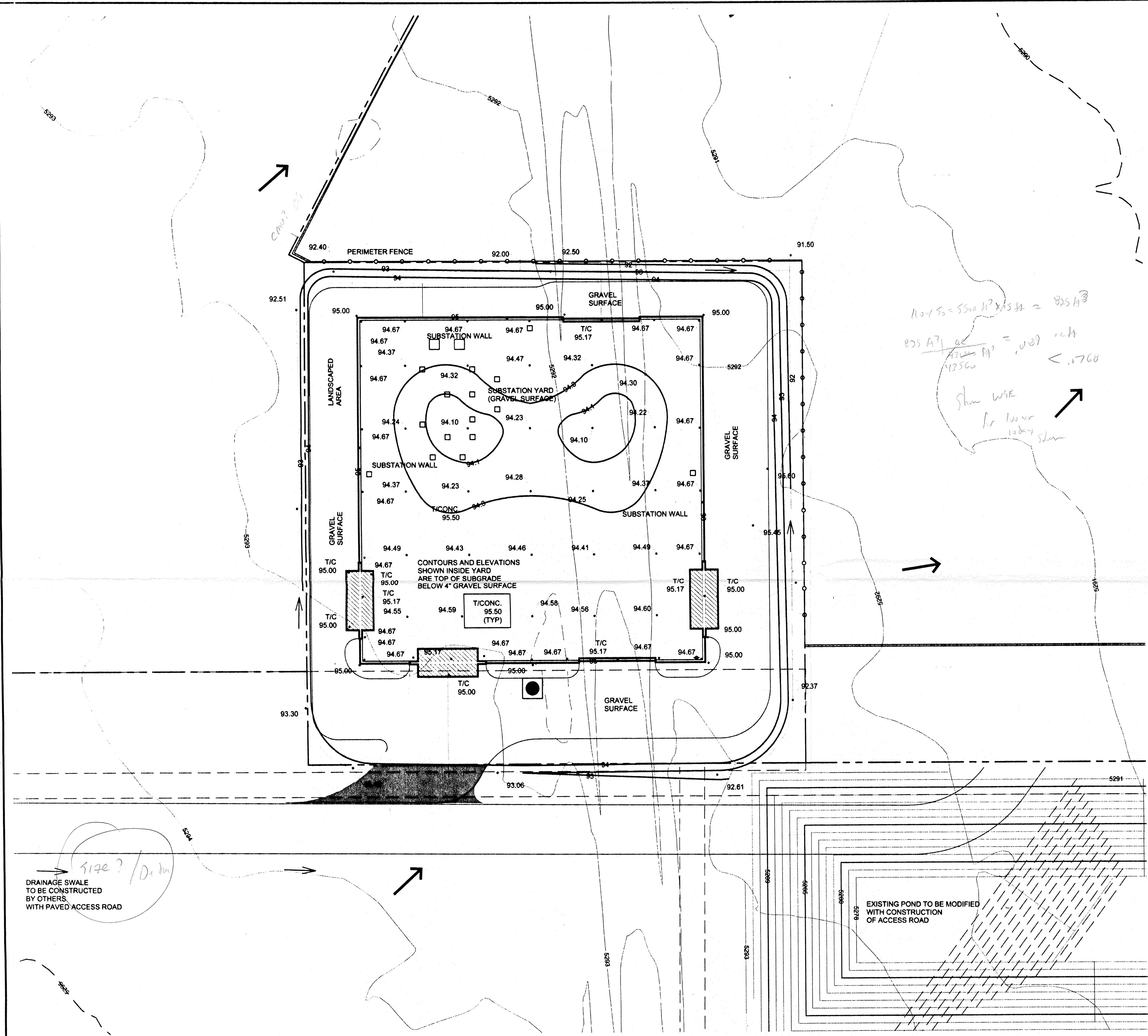
REVISION		
NO	DATE	BY
1	02/08/07	PR

MODIFIED LEGEND: KEYED NOTES



ASSOCIATED LAYERS	
LAYER NAME	DESCRIPTION
0	STANDARD
TBBL	TITLE BLOCK
DRAW	LINE WORK
TEXT	ALL TEXT

PNM PUBLIC SERVICE COMPANY OF NEW MEXICO		
MESA DEL SOL SUBSTATION DRAINAGE PLAN		
SHT: 2 OF 6		
DRW: R.M.	TR:	DATE: 02/08/07
CKD: P.T.B.	OK:	SCALE: 1" = 100'
APP:	ACAD FILE:	USS - 8204
REV. NO.	PNM/MDS	



GRADING AND DRAINAGE PLAN:

SCOPE:
The project consists of the construction of an electric utility substation for the Public Service Company of New Mexico (PNM), site grading, surfacing, and perimeter wall. Pursuant to the City of Albuquerque Drainage Ordinance, the Drainage Plan shown hereon reports the existing drainage conditions of the site, shows the proposed improvements, and quantifies the effects of those improvements.

EXISTING CONDITIONS:
The project site is located in Mesa Del Sol planned community, east of University, south of Eastman (shown on the plat for Mesa Del Sol). The property to be developed is a 200' x 200' easement granted to PNM within Tract 32 of the Sketch Plat of the Employment Center in Mesa Del Sol. The substation site adjoins a 6-acre tract of land designated as the site for water storage, treatment, and pumping facilities. Under the plan for the water facilities site, the property of the substation will be rough-graded, and a road will be constructed for access to both the substation and the water sites. The property is presently bounded on all sides by vacant land. It ultimately will be bounded by the water facilities site on the east, Albuquerque Studios on the south, industrial land uses on the north and west. Existing topography is sloped down from northeast toward southeast at approximately 1% to two existing retention ponds. The overall drainage concept for the area, including the substation, provides for drainage to these retention ponds (shown on the drainage plan). These ponds were constructed to retain the developed runoff from their respective basins. According to FIRM PANEL C0555E, dated 11-19-03, the site is not encumbered by a designated Flood Hazard Zone.

PROPOSED CONDITIONS:
Under this substation project, a yard of approximately 138' x 138' will be enclosed with a 12-foot high CMU wall, to contain low-level concrete foundations and electric utility structures. This yard will be elevated above the surrounding terrain, and sloped within the perimeter wall to drain to small depressions (ponds) within the yard. The surface treatment within the walls will be 4 inches of gravel. Therefore, runoff generated within the yard will be retained within the yard. The surrounding substation easement property will be graded to drain away from the easement toward the existing ponds. Access to the site will be by means of a paved road constructed as part of the water facilities site. The west side of the road will be graded with swales to intercept off-site flows and direct runoff to the west retention pond. The paved road will have a paved turnout to the main driveway of the substation site. The slope of these driveways is on the order of 2% to facilitate delivery of large equipment. Since this plan proposes to retain most of the runoff from the substation site within the yard, the result of this plan is to reduce the volume of runoff received by the retention ponds. The runoff otherwise directed to the ponds from outside the yard by either overland flow reaches the ponds as accounted for in their original design. Accordingly, the proposed substation grading does not adversely affect the flow patterns, flow rates, or runoff volumes within the overall drainage basin. The project will begin construction in March, 2007, and be completed by July, 2007.

CALCULATIONS:
The calculations shown hereon define the 100-year/6-hour design storm falling within the project area under historic and existing developed conditions. The hydrology is from the Arid Lands Hydrologic Model (AHYMO) for Albuquerque, update 1997.

ZONE 2 P6HOUR 2.35 P DAY 2.75		OFFICE CENTER PROJECT HYDROLOGY AHYMO						
UNDEVELOPED CONDITIONS								
		LAND TREATMENT TYPE (ac)						
BASIN	AREA (ac)	A	B	C	D	E	Q (cfs)	VOL (ac ft)
A	1.068	1.068	- 0 -	- 0 -	- 0 -	0.53	0.58	0.0162
B	0.439	0.439	- 0 -	- 0 -	- 0 -	0.53	0.71	0.0199
C	0.392	0.392	- 0 -	- 0 -	- 0 -	0.53	0.63	0.0176
DEVELOPED CONDITIONS								
		LAND TREATMENT TYPE (ac)						
BASIN	AREA (ac)	A	B	C	D	E	Q (cfs)	VOL (ac ft)
A	1.068	- 0 -	- 0 -	0.855	0.213	1.33	1.28	0.0403
B	0.439	- 0 -	- 0 -	0.412	0.027	2.06	2.09	0.0768
C	0.392	- 0 -	- 0 -	0.376	0.016	1.17	1.29	0.0387

BASIN B (ENCLOSED YARD) 10-DAY STORAGE VOLUME = 2150 CF

LEGEND

02.5 EXIST. SPOT ELEV.

TC 48.7 TOP OF CONCRETE ELEV.

36.7 SUBGRADE ELEV.

FL 48.7 FLOWLINE ELEV.

20.2 PROPOSED SPOT ELEV.

6624 EXIST. CONTOUR / ELEV.

57 PROPOSED CONT. / ELEV.

--- PROPERTY LINE

--- EASEMENT

--- RIGHT-OF-WAY

← DIRECTION OF FLOW

← DRAINAGE SWALE

■ ■ ■ DRAINAGE BASIN DIVIDE

--- CENTERLINE / BASELINE

--- PROPOSED CMU WALL

--- NEW CHAIN LINK FENCE

UNPAVED ROAD

GRAVEL SURFACE (YARD AND DRIVE)

CONCRETE SURFACE (APRONS)

AREA TO BE LANDSCAPED

NEW ASPHALT PAVING

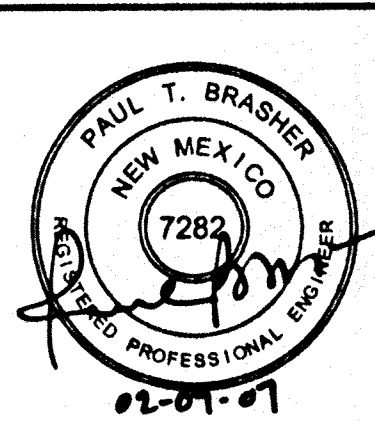
ALL ON-SITE WORK, INCLUDING EARTHWORK, SHALL BE CONSTRUCTED IN ACCORDANCE WITH APPLICABLE PNM STATION STANDARDS.

ALL DISTURBED AREAS NOT SURFACED WITH LANDSCAPING OR GRAVEL SHALL BE RE-SEEDDED.

BRASHER & LORENZ
CONSULTING ENGINEERS

2201 San Pedro NE Building 1 Suite 1200
Albuquerque, New Mexico 87111
Ph: 505-886-0086 Fax: 505-886-0188

REVISION		BY
NO.	DATE	PS
1	02/08/07	
MODIFIED LEGEND, KEYED NOTES		



ASSOCIATED LAYERS	
LAYER NAME	DESCRIPTION
0	STANDARD
TBBL	TITLE BLOCK
DRAW	LINE WORK
TEXT	ALL TEXT

PNM PUBLIC SERVICE COMPANY
OF NEW MEXICO

**MESA DEL SOL SUBSTATION
GRADING PLAN**

SHT. 3 OF 6

DRW: R.M. TR: DATE: 02/08/07

CKD: P.T.B. OK: SCALE: 1" = 20'

APP: ACAD FILE: PNM/MDS

REV. NO. USS - 8204