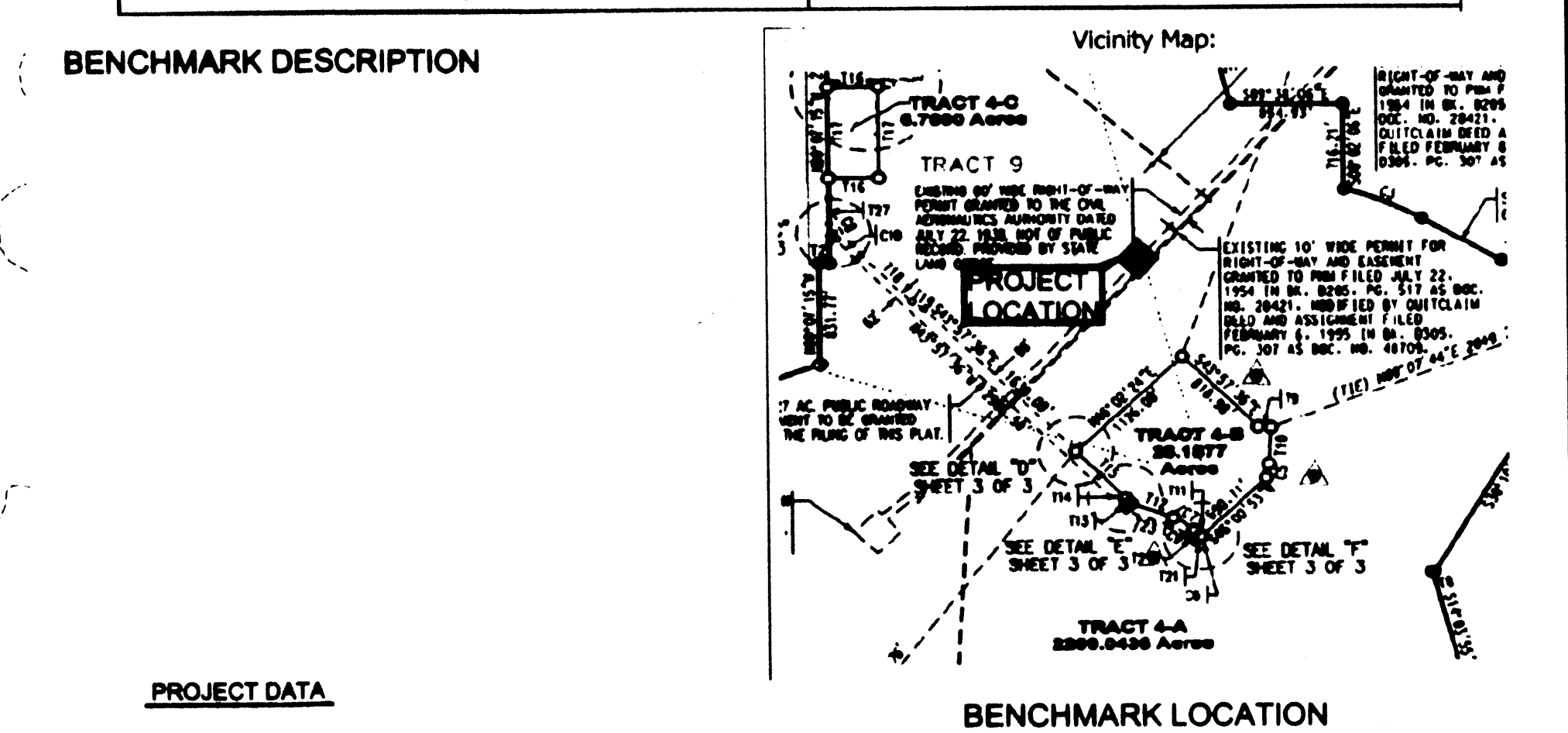


Control Station Data		Bohannon - Huston	
Name of Station:	BH1 096-2	Section:	22
State:	NM	Township:	9N
County:	BERNALILLO	Range:	3E
Establishing Group:	BOHANNAN HUSTON, INC.	BST Project #:	060096
Date:	20-JUN-06		
Type/Composition:	2" ALUMINUM GAP		
Stamping:	BH1 096-2		
Horizontal Data		** MODIFIED **	
Horizontal Datum:	NAD83	Projection:	
Method:	RTK	Northing:	1,451,750.364 USFT
Latitude:	34°59'18.11840"N	Easting:	1,533,016.810 USFT
Longitude:	106°36'27.26202"W	Elevation:	5,292.710 USFT
GRID Northing:	N/A		
GRID Easting:	N/A		
Vertical Data		Project Combined Factor: N/A	
Vertical Datum:	NAVD83	Point Combined Factor:	
Method:	RTKW/SPIRIT LEVEL	Point Δ:	



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)

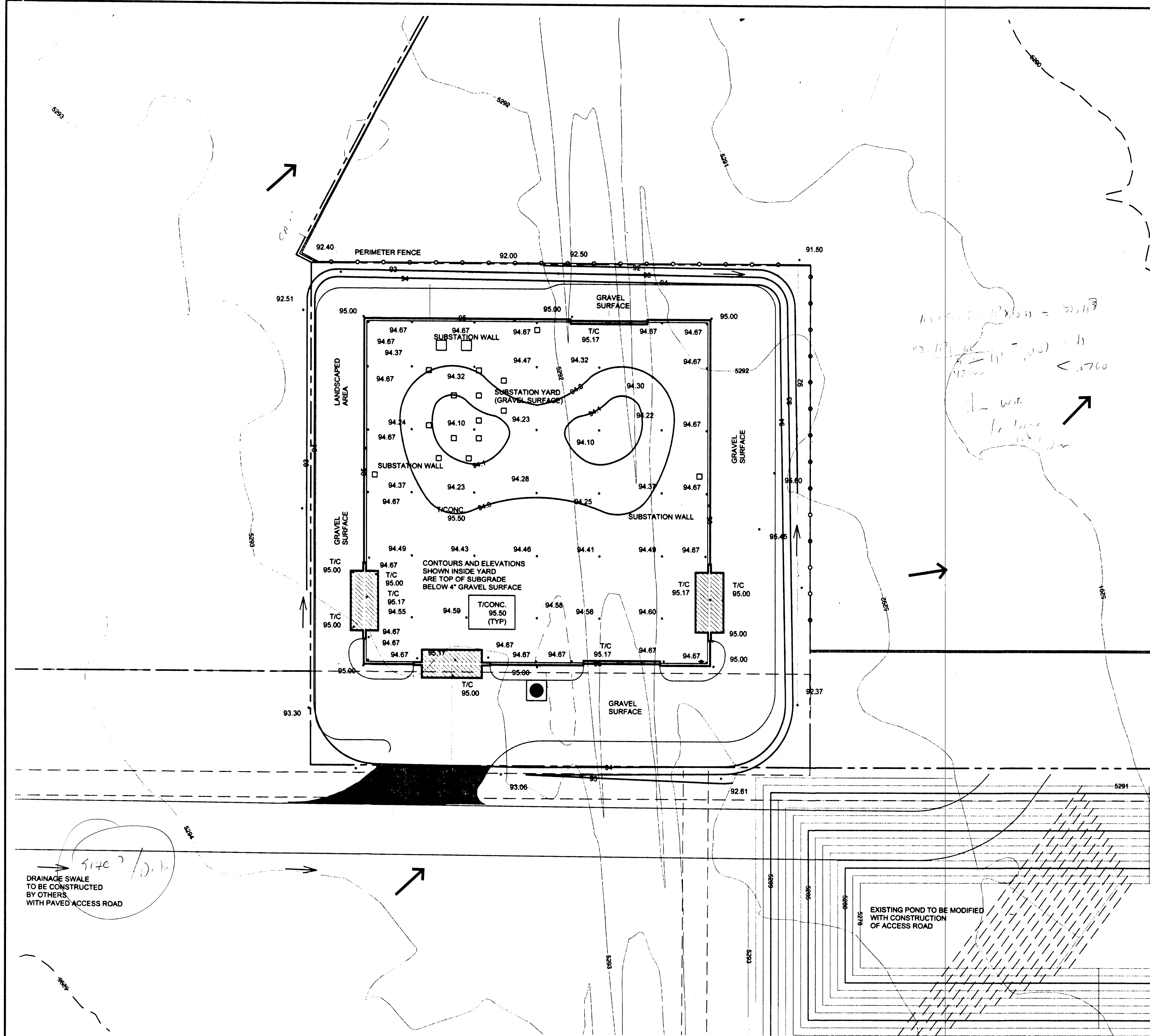
PROPERTY LOCATION:
APPROX. 1400' EAST OF UNIVERSITY;
APPROX. 400' SOUTH OF EASTMAN

TOPOGRAPHY MAPPED BY
BOHANNAN-HUSTON, INC., 2005

RECEIVED
FEB 12 2007
HYDROLOGY SECTION

BRASHER & LORENZ
CONSULTING ENGINEERS
2201 East Pueblo Rd. Suite 1200
Albuquerque, New Mexico 87110
PH: 505-455-6000 FAX: 505-455-4100

REVISION	NO.	DATE	BY	PG	MODIFIED LEGEND: KEYED NOTES
	1	02/08/07	PB		
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 8					
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		OFFICE CENTER PROJECT HYDROLOGY					
P6HOUR 2.35		AHYMO					
P DAY 2.75							
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	0.56 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	0.83 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 TOP OF CONCRETE ELEV.
- SG SUBGRADE ELEV.
- FL FLOWLINE ELEV.
- 20.2 PROPOSED SPOT ELEV.
- EXIST. CONTOUR / ELEV.
- 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

REVISION

NO.	DATE	BY	PR
1	02/08/07		

MODIFIED LEGEND KEYED NOTES

PAUL T. BRASHER
NEW MEXICO
7282
REGISTERED PROFESSIONAL ENGINEER

1" = 20'

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

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

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SHT. 3 OF 6