

FILE COPY



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

August 28, 1990

Tom Mann, P.E.
The Mann Company, Inc.
8200 Mountain Road, NE Suite #102
Albuquerque, New Mexico 87110

RE: REVISED DRAINAGE PLAN FOR PRESBYTERIAN MAGNETIC
RESONANCE IMAGING CENTER, LTD. (K-15/D30D)
REVISION DATED AUGUST 10, 1990


Dear Mr. Mann:

Based on the information provided on your resubmittal of august 10, 1990, the above referenced plan is approved for Building Permit.

Please be advised that if the Building Permit has already been issued, it is your responsibility to make sure the contractor is supplied with the approved revised copy.

If I can be of further assistance, please feel free to call me at 768-2650.

Cordially,


for Fred J. Aguirre, P.E.
Hydrologist

BJM:FJA/bsj
(WP+2125)

PUBLIC WORKS DEPARTMENT

Walter H. Nickerson, Jr., P.E.
Assistant Director Public Works

ENGINEERING GROUP

Telephone (505) 768-2500

AN EQUAL OPPORTUNITY EMPLOYER



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

June 8, 1990

Tom Mann
The Mann Company Inc.
8200 Mountain Rd., NE Suite 102
Albuquerque, New Mexico 87110

RE: DRAINAGE PLAN FOR PRESBYTERIAN MAGNETIC RESONANCE IMAGING CENTER LTD
(K-15/D030D) ENGINEER'S STAMP DATED JUNE 1, 1990

Dear Mr. Mann:

Based on the information provided on your June 1, 1990 submittal, the above referenced drainage plan is approved for Building Permit.

Please attach a copy of the approved plan to the construction sets, prior to sign-off by Hydrology.

If I can be of further assistance, please feel free to contact me at 768-2650.

Sincerely,

Bernie J. Mataya
for Fred Aguirre, PE
Hydrology Division

BJM:FJA:jc
WP+1963

PUBLIC WORKS DEPARTMENT

Walter H. Nickerson, Jr., P.E.
Assistant Director Public Works

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CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
UTILITY DEVELOPMENT DIVISION/HYDROLOGY SECTION

PRE-DESIGN CONFERENCE

DRAINAGE FILE/ZONE ATLAS PAGE NO.: K-15 DATE: 4/23/90 @ 2:00

EPC NO.: _____ DRB NO.: _____ ZONE: K15-D30

SUBJECT: _____

STREET ADDRESS: _____

LEGAL DESCRIPTION: Tract C-2 Terrace Addition

APPROVAL REQUESTED: _____ PRELIMINARY PLAT _____ FINAL PLAT
_____ SITE DEVELOPMENT PLAN X BUILDING PERMIT
_____ GRADING/PAVING PERMIT _____ OTHER

ATTENDANCE:

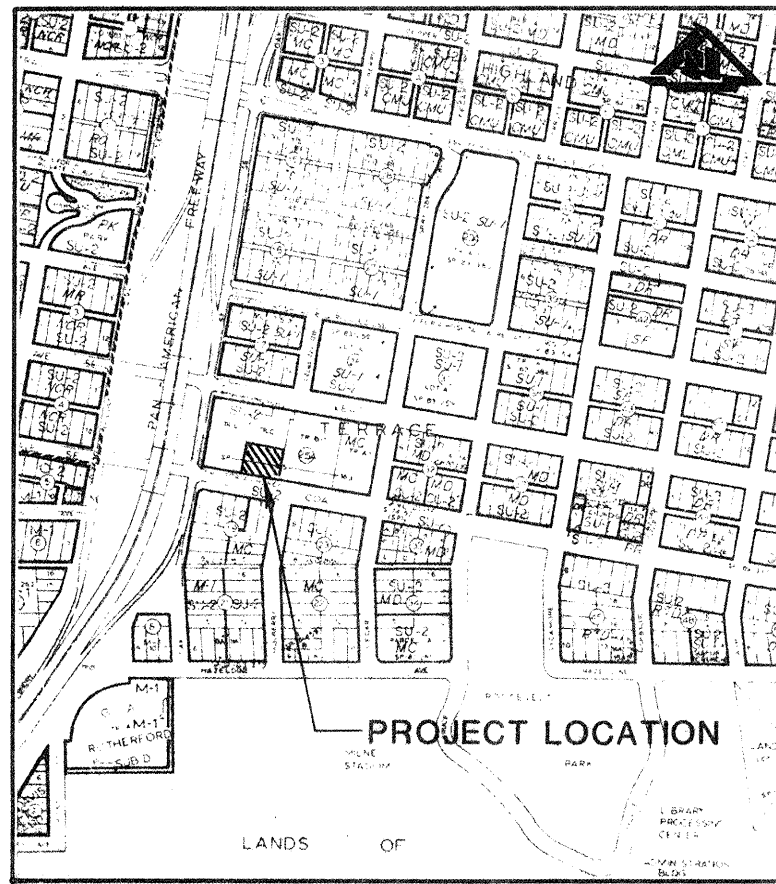
WHO	REPRESENTING
<u>Tom Mann</u>	<u>The Mann Company</u>
<u>Bernie Montoya</u>	<u>Hydrology Section</u>
_____	_____

FINDINGS:
1. Drainage plan per D.P.M guidelines required prior to Building Permit release.
2. Follow master Drainage Plan K15-D30 microfiche copy is poor to read, recommend plan be retrieved from client.

The undersigned agrees that the above findings are summarized accurately and are only subject to change if further investigation reveals that they are not reasonable or that they are based on inaccurate information.

SIGNED: Bernie Montoya SIGNED: Tom Mann
TITLE: Engineering Assistant TITLE: _____
DATE: 4/23/90 DATE: 4/23/90

NOTE PLEASE PROVIDE A COPY OF THIS PRE DESIGN FORM WITH THE DRAINAGE SUBMITTAL.



VICINITY MAP K-15

SCALE 1" = 800'

LEGAL DESCRIPTION

TRACT C-2 TERRACE ADDITION

ADDRESS

1111 COAL AVENUE S.E.

BENCHMARK

CITY OF ALBUQUERQUE BRASS CAP
I-25-27 LOCATED AT THE INTERSECTION OF
LEAD AVENUE AND I-25.
ELEVATION = 5067.45

LEGEND

EXISTING	NEW	DESCRIPTION
		CURB & GUTTER
		CURB
		SPOT ELEVATIONS
		CONTOUR
		BUILDING
		PROPERTY LINE
		ROOF DRAIN
		RUNDOWN
		BASIN DIVISION LINE

EROSION CONTROL MEASURES

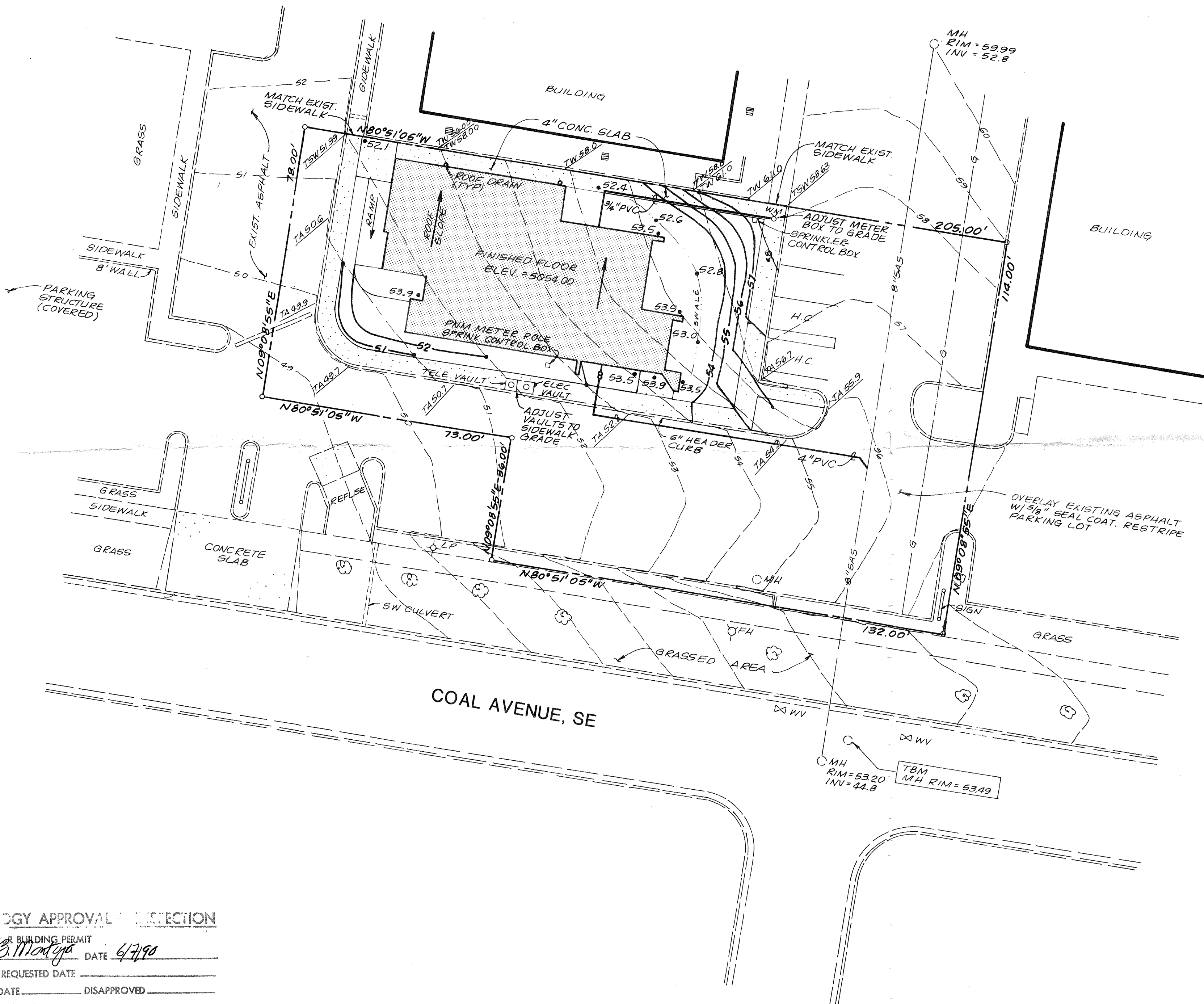
- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO THE PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AT THE PROPERTY LINES AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
- THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
- THE CONTRACTOR SHALL SECURE A "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.

CONSTRUCTION NOTES

- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT LINE LOCATING SERVICE, 280-1390, FOR THE LOCATION OF EXISTING UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- 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.
- ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.

HYDROLOGY APPROVAL SECTION

APPROVED FOR BUILDING PERMIT
ENGINEER: *B. Mann Jr.* DATE: 4/7/90
INTERIM REQUESTED DATE _____
APPROVAL DATE _____ DISAPPROVED _____
SOPING APPROVAL DATE _____
SURVEY DATE _____
HYDROLOGY BOOK NO./PAGE NO. _____
SHEET NO. _____
COMMENTS _____



DRAINAGE PLAN

The following items concerning the Presbyterian Magnetic Resonance Imaging Center, Ltd., Grading and Drainage Plan are contained hereon:

- Vicinity Map
- Grading Plan
- Calculations.

The site is located in the Presbyterian Medical Plaza, on the north side of Coal Avenue SE, between Oak Street and Cedar Street. This site is the last site within the multi-building Presbyterian Medical Plaza to be developed. A drainage plan for the entire Plaza was prepared by Chaves Grievens in 1985. The site slopes from northeast to southwest. There is an existing retaining wall to the north, and parking on the other three sides, that controls offsite runoff from entering the site. Therefore, offsite flows are minimal. The site does not lie within a designated flood hazard zone.

The Grading Plan shows 1) the existing and proposed grades indicated by spot elevations and contours at 1' = 0" intervals, 2) continuity between existing and proposed elevations, 3) the limit and character of existing improvements and 4) the limit and character of proposed improvements. The proposed improvements consist of a building with associated sidewalks and landscaping. A concrete drainage swale along the north side of the site will convey roof drainage, plus water from weep holes in the existing retaining wall. All runoff will be conveyed through the approved Plaza drainage system.

The Calculations, which appear below, analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Rational and SCS Methods have been used for this analysis in accordance with the City of Albuquerque Development Process Manual, Volume II. As shown by these calculations, the proposed improvements will result in an increase in runoff discharged from the site. However, that increase is consistent with the previously established criteria.

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey,
Plate: H, C, and F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, BZ, CA, CB, CC, CD, CE, CF, CG, CH, CI, CJ, CK, CL, CM, CN, CO, CP, CQ, CR, CS, CT, CU, CV, CW, CX, CY, CZ, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, DK, DL, DM, DN, DO, DP, DQ, DR, DS, DT, DU, DV, DW, DX, DY, DZ, EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GG, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LL, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MM, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NN, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TQ, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ.

Time of Concentration/Time to Peak

$$T_c = 0.0078 L^{0.77} / S^{0.385} \text{ (Kirpich Equation)}$$

$$T_p = T_c = 10 \text{ min.}$$

Point Rainfall

$$P_6 = 2.3 \text{ in. (DPM Plate 22.2 D-1)}$$

Rational Method

$$\text{Discharge: } Q = CIA$$

where C varies
 $i = P(6.84) T^{-0.51} = 4.86$
 $P_6 = 2.3 \text{ in (DPM Plate 22.2 D-1)}$
 $T_c = 10 \text{ min (minimum)}$
 $A = \text{area, acres}$

SCS Method

$$\text{Volume: } V = 3630(DRO) A$$

where DRO = Direct runoff in inches
 $A = \text{area, acres}$

Existing Condition

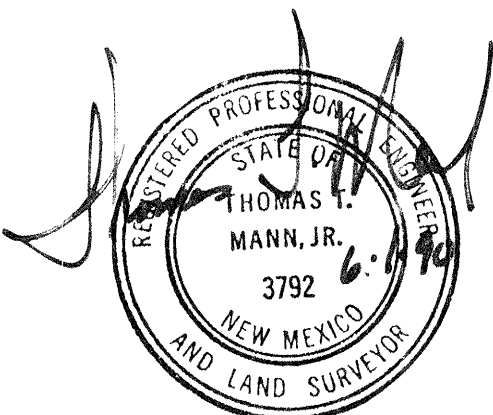
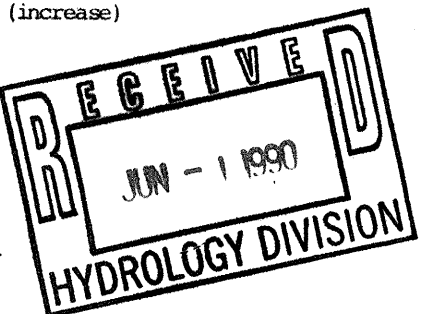
A _{total} =	20,742	sf = 0.47	ac
Roof area =	0	sf = 0	ac
Paved area =	11,770	sf = 0.27	ac
Landscaped area =	9,972	sf = 0.20	ac
C =	0.72 (Weighted average per Emergency Rule, 01/14/86)		
Q ₁₀₀ = CIA =	0.72(4.86)(0.47) = 1.6 cfs		
A ₁₀₀ =	11,770	sf; % impervious = 57 %	
Composite CN =	84 (DPM Plate 22.2 C-3)		
DRO =	1.0 in (DPM Plate 22.2 C-4)		
V ₁₀₀ =	3630(DRO) A = 1,700	cf	


Developed Condition

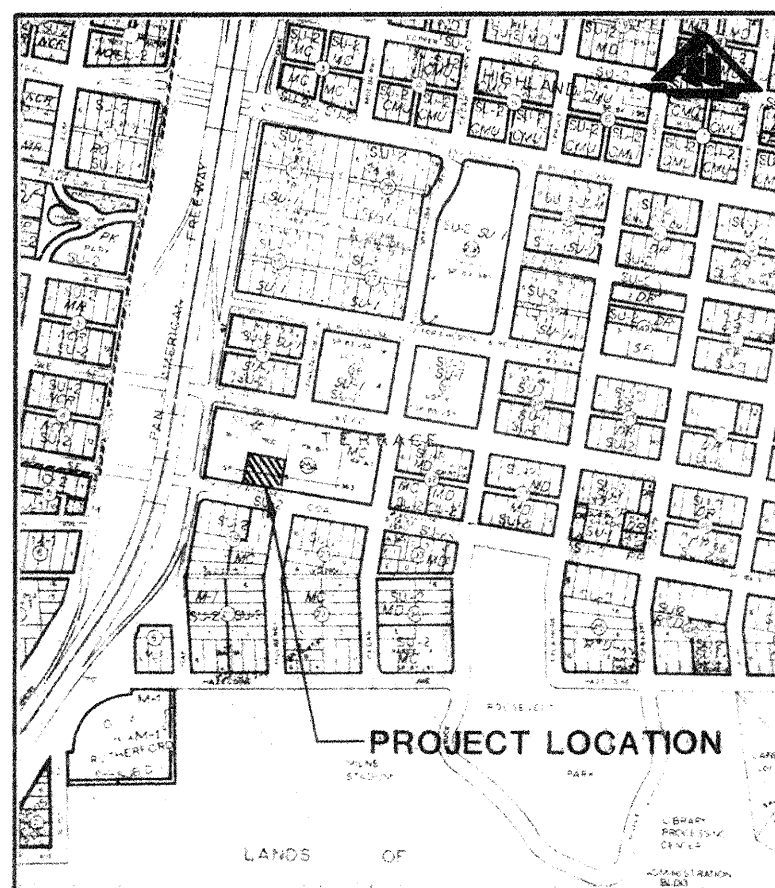
A _{total} =	20,742	sf = 0.47	ac
Roof area =	3,700	sf = 0.08	ac
Paved area =	13,210	sf = 0.30	ac
Landscaped area =	3,832	sf = 0.09	ac
C =	0.61 (Weighted average per Emergency Rule, 01/14/86)		
Q ₁₀₀ = CIA =	0.61(4.86)(0.47) = 1.9 cfs		
A ₁₀₀ =	16,910	sf; % impervious = 82 %	
Composite CN =	88 (DPM Plate 22.2 C-3)		
DRO =	1.3 in (DPM Plate 22.2 C-4)		
V ₁₀₀ =	3630(DRO) A = 2,218	cf	

Comparison

$$Q_{100} = 1.9 - 1.6 = 0.3 \text{ cfs (increase)}$$
$$V_{100} = 2,218 - 1,706 = 512 \text{ cf (increase)}$$



NO.	DESCRIPTION			DATE	
REVISIONS					
PRESBYTERIAN MAGNETIC RESONANCE IMAGING CENTER, LTD. GRADING AND DRAINAGE PLAN					
					
THE MANN COMPANY, INC 8200 MOUNTAIN ROAD N.E. SUITE 102 ALBUQUERQUE, NEW MEXICO 87110 (505) 266-3555					
JOB NO.	DATE	DESIGN BY	DRAWN BY	CHECKED BY	SHEET NUMBER
00131	6--90	ITM	LAH	ITM	1 OF 1



VICINITY MAP K-15
SCALE 1" = 800'

LEGAL DESCRIPTION

TRACT C-2 TERRACE ADDITION

ADDRESS

1011 COAL AVENUE S.E.

BENCHMARK

CITY OF ALBUQUERQUE BRASS CAP
I-25-27 LOCATED AT THE INTERSECTION OF
LEAD AVENUE AND I-25.
ELEVATION = 5067.45

LEGEND

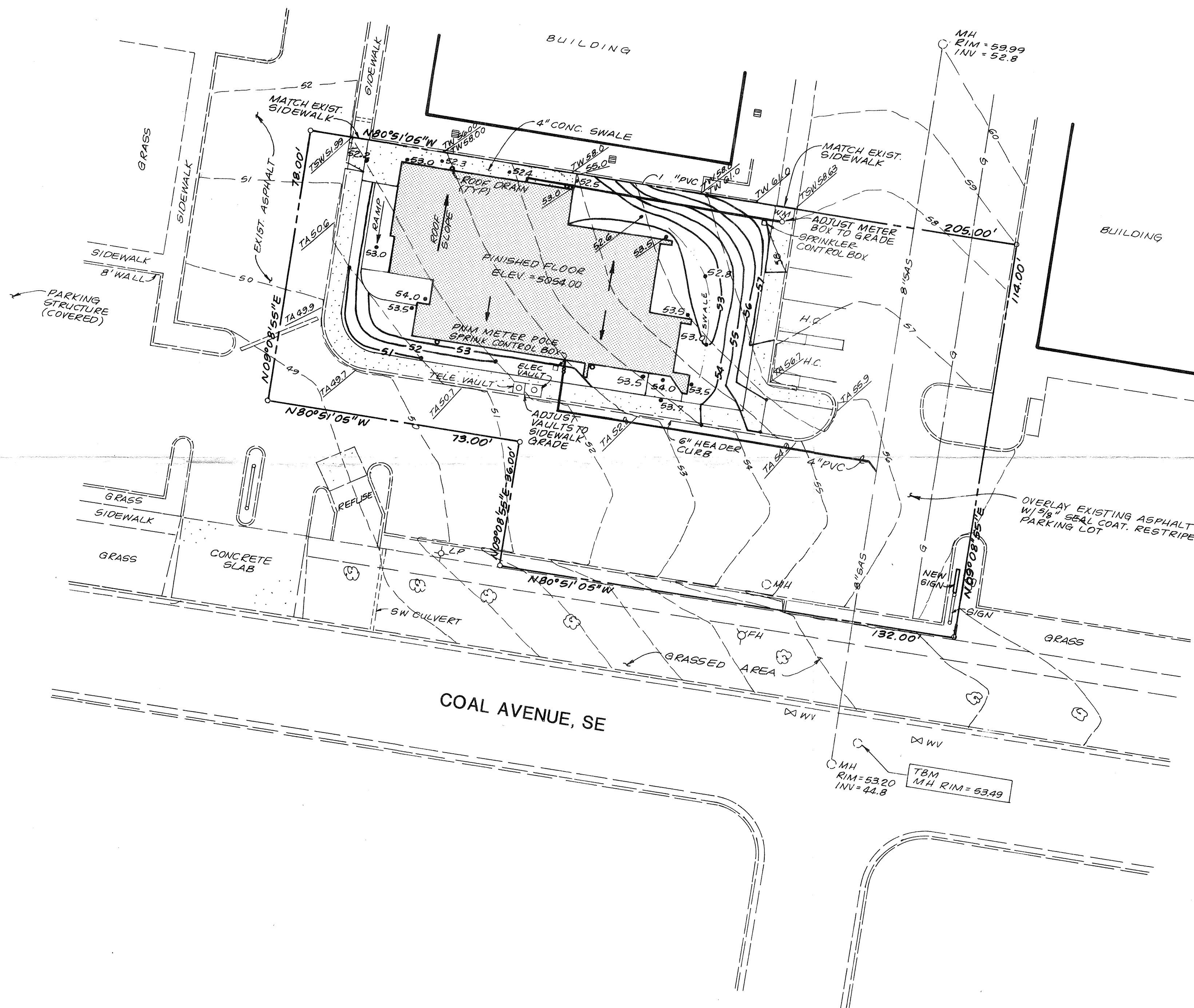
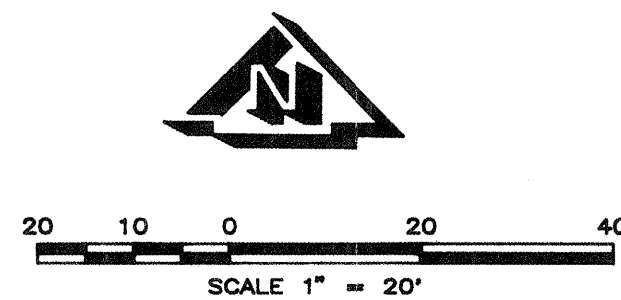
EXISTING	NEW	DESCRIPTION
---	---	CURB & GUTTER
---	---	CURB
45.2 +	45.2 •	SPOT ELEVATIONS
12	12	CONTOUR
---	---	BUILDING
---	---	PROPERTY LINE
○	○	ROOF DRAIN
□	□	RUNDOWN
---	---	BASIN DIVISION LINE

EROSION CONTROL MEASURES

1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO THE PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AT THE PROPERTY LINES AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
2. THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
3. THE CONTRACTOR SHALL SECURE A "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.

CONSTRUCTION NOTES

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DRAINAGE PLAN

The following items concerning the Presbyterian Magnetic Resonance Imaging Center, Ltd., Grading and Drainage Plan are contained hereon:

1. Vicinity Map
2. Grading Plan
3. Calculations.

The site is located in the Presbyterian Medical Plaza, on the north side of Coal Avenue SE, between Oak Street and Cedar Street. This site is the last site within the multi-building Presbyterian Medical Plaza to be developed. A drainage plan for the entire Plaza was prepared by Chaves Grieves in 1985. The site slopes from northeast to southwest. There is an existing retaining wall to the north, and parking on the other three sides, that controls offsite runoff from entering the site. Therefore, offsite flows are minimal. The site does not lie within a designated flood hazard zone.

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CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey,
Plate: 11, 01 and 111, 01
Hydrologic Soil Group: A
Existing Pervious CN = 48 (DPM Plate 22.2 C-2 Pasture
or Range Land: poor condition)
Developed Pervious CN = 49 (DPM Plate 22.2 C-2)

Time of Concentration/Time to Peak

$T_c = 0.0078 L^{0.77/50.385}$ (Kirpich Equation)

$T_p = T_c = 10$ min.

Point Rainfall

$P_6 = 2.3$ in. (DPM Plate 22.2 D-1)

Rational Method

Discharge: $Q = C i A$

Where C varies
 $i = P_6 (6.84) T^{-0.51} = 4.86$ in/hr
 $P_6 = 2.3$ in (DPM Plate 22.2 D-1)
 $T = 10$ min (minimum)
 $A =$ area, acres

SCS Method

Volume: $V = 3630 (DRO) A$

Where DRO = Direct runoff in inches
 $A =$ area, acres

Existing Condition

$A_{Total} = 20,742$ sf = 0.47 ac
Roof area = 0 sf = 0 ac
Paved area = 11,770 sf = 0.27 ac
Landscaped area = 8,972 sf = 0.20 ac
 $C = 0.72$ (Weighted average per Emergency Rule, 01/14/86)

$Q_{100} = C i A = 0.72 (4.86) 0.47 = 1.6$ cfs
 $A_{Imp} = 11,770$ sf
Composite CN = 84 (DPM Plate 22.2 C-3)
DRO = 1.0 in (DPM Plate 22.2 C-4)
 $V_{100} = 3630 (DRO) A = 1,706$ cf

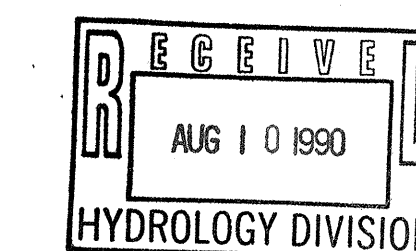
Developed Condition

$A_{Total} = 20,742$ sf = 0.47 ac
Roof area = 3,700 sf = 0.08 ac
Paved area = 13,210 sf = 0.30 ac
Landscaped area = 3,832 sf = 0.09 ac
 $C = 0.81$ (Weighted average per Emergency Rule, 01/14/86)

$Q_{100} = C i A = 0.81 (4.86) 0.47 = 1.9$ cfs
 $A_{Imp} = 16,910$ sf
Composite CN = 88 (DPM Plate 22.2 C-3)
DRO = 1.3 in (DPM Plate 22.2 C-4)
 $V_{100} = 3630 (DRO) A = 2,218$ cf

Comparison

$Q_{100} = 1.9 - 1.6 = 0.3$ cfs (increase)
 $V_{100} = 2,218 - 1,706 = 512$ cf (increase)



NO.	DESCRIPTION	DATE
REVISIONS		
PRESBYTERIAN MAGNETIC RESONANCE IMAGING CENTER, LTD. GRADING AND DRAINAGE PLAN		
THE MANN COMPANY, INC 8200 MOUNTAIN ROAD N.E. SUITE 102 ALBUQUERQUE, NEW MEXICO 87110 (505) 266-3555		
JOB NO.	DATE	DESIGN BY
00131	6-90	TTM
DRAWN BY	CHECKED BY	SHEET NUMBER
LAH	TTM	3 OF 20