· L E G E N D ·

MATERIALS

- CONCRETE
- RIP · RAP

LINES

- SUBDIVISION BOUNDARY
- PROPERTY LINE (PLAN)
- PROPERTY LINE (SECTION)
- CENTERLINE
- EASEMENT LINE
- MATCH LINE
- SECTION CUT LINE

EARTHWORK — EXISTING / NEW

- CONTOUR LINE
- SPOT ELEVATION
- PROJECT / PHASE BOUNDARY
- SWALE
- DIRECTION OF FLOW

MISCELLANEOUS UTILITIES

- GAS LINE
- UNDERGROUND TELEPHONE
- UNDERGROUND ELECTRICAL
- STORM DRAIN
- STORM DRAIN MANHOLE
- STORM DRAIN INLET

SANITARY SEWER

- SANITARY SEWER LINE
- SANITARY SEWER MANHOLE
- SAS SERVICE CONNECTIONS
- SAS CAP OR PLUG
- ENCASEMENT

WATER

- WATER LINE
- WATER SERVICE CONNECTIONS
- GATE VALVE
- FIRE HYDRANT
- BUTTERFLY VALVE
- REDUCER
- WATER PRESSURE ZONE BOUNDARY

WATER FITTINGS

- CAPS AND PLUGS
- ELBOW
- CROSS
- TEE

MISCELLANEOUS

- CHAINLINK FENCE
- FIELD FENCE
- COMMON YARD WALL
- RETAINING WALL
- POWER OR TELEPHONE POLE

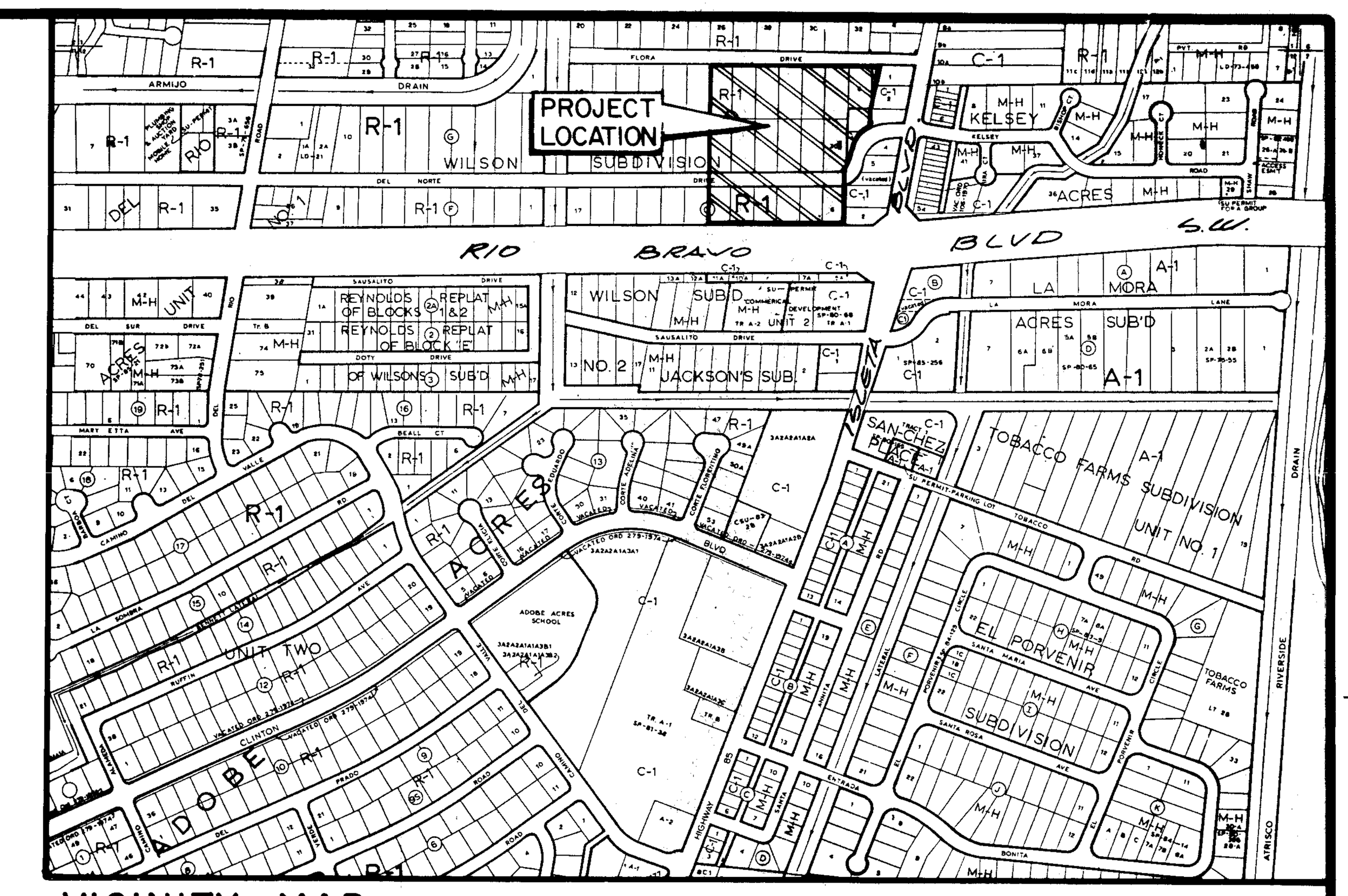
CONSTRUCTION PLANS

FOR

RIO BRAVO SHOPPING CENTER WATER & SANITARY SEWER LINE EXTENSIONS

BERNALILLO COUNTY, NEW MEXICO

JULY, 1988



VICINITY MAP

SCALE : 1" = 800'

P-12

GENERAL NOTES:

1. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS - PUBLIC WORKS CONSTRUCTION - 1986. (STANDARD SPECIFICATIONS)
2. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
3. IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS UNDERTAKEN NO FIELD VERIFICATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
4. SHOULD A CONFLICT EXIST BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY FOR ALL PARTIES.
5. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ADJACENT PROPERTIES DURING CONSTRUCTION.
6. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING SAFETY AND HEALTH.
7. CONTRACTOR SHALL COMPLY WITH SECTION 19 OF THE "STANDARD SPECIFICATIONS".
8. ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO PAVING.
9. BACKFILL COMPACTION SHALL BE ACCORDING TO SPECIFIED STREET USE.
10. TACK COAT REQUIREMENTS SHALL BE DETERMINED BY THE CITY ENGINEER.
11. SIDEWALKS AND WHEELCHAIR RAMPS WITHIN THE CURB RETURNS SHALL BE CONSTRUCTED WHEREVER A NEW CURB RETURN IS CONSTRUCTED.
12. IF CURB IS DEPRESSED FOR A DRIVEPAD OR A HANDICAP RAMP, THE DRIVEPAD OR RAMP SHALL BE CONSTRUCTED PRIOR TO ACCEPTANCE OF THE CURB AND GUTTER.
13. ALL STORM DRAINAGE FACILITIES SHALL BE COMPLETED PRIOR TO FINAL ACCEPTANCE.
14. CONTRACTOR SHALL COORDINATE WITH THE WATER SYSTEM DIVISION FOR THE EXECUTION OF THE VALVE SHUT OFF PLAN, NOT LESS THAN TWO (2) WORKING DAYS IN ADVANCE OF ANY WORK THAT MAY AFFECT THE EXISTING PUBLIC WATER UTILITIES.

APPROVAL OF AS BUILT DRAWINGS
CHIEF CONSTRUCTION ENGINEER
[illegible]
DATE 7-28-89

1	2	3	4	5	6	7	8	9	10	11	12
2	6		3	5	9	3	0	1	8	9	

⚠ RECORD DRAWING

I, Jeffrey G. Mortensen, Registered Professional Engineer in the State of New Mexico, do hereby certify that these drawings represent the "as-built" conditions of this project as determined from survey information provided by Stephen E. Walker, NMPS No. 6401, Walker Surveying Company. All vertical and horizontal dimensions should be field verified prior to use on future projects.

[illegible] 06-16-89
Jeffrey G. Mortensen — Date
NMPE No. 8547

REV.	SHEETS	CITY ENGINEER	DATE	USER DEPARTMENT	DATE	USER DEPARTMENT	DATE

APPROVAL OF REVISIONS

JEFFREY G. MORTENSEN · NEW MEXICO · 8547 · REGISTERED PROFESSIONAL ENGINEER
[illegible]
09-30-88

JEFF MORTENSEN & ASSOCIATES, INC.
811 DALLAS, N.E. □ ALBUQUERQUE
□ ENGINEERS □ TELEPHONE

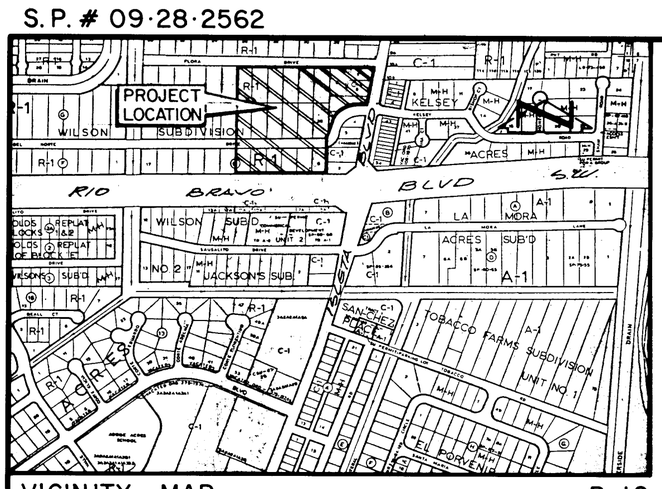
APPROVED FOR CONSTRUCTION
[illegible]
3-29-89 C.E.

3593

SHEET 1 OF 8

JOB No. 50233

S.P. # 09·28·2562



VICINITY MAP P-12

SCALE : 1"= 800'

Notes:

1. A field survey was performed; corners were found or set as shown.
2. No street mileage was created.
3. All distances are ground distances.
4. Sit located within Section 12, T9N, R1E, N.M.P.M.
5. Bearing base is west right-of-way line of Isleta Blvd. S.W. per New Mexico State Highway Department Right-of-way Maps. Bearing = N 09°27'00" E
6. Record boundary data shown in parenthesis.
7. The purpose of this plat is to eliminate existing common lot lines, show vacated easements and rights-of-way, grant the necessary new easements as shown and create a new plat with four new parcels.
8. A blanket private easement for access, utilities and drainage is hereby granted within Lots A, B and C and Lots 1 and 2, Block C, Wilson Subdivision, to serve those lots. Said easement shall conform with the approved site development plan (DRB-88-21). Maintenance of this easement shall be the responsibility of the respective property owner.
9. Del Norte Drive S.W. relocation geometry determined from Quitclaim Deeds and Documents filed May 26, 1966, Book D804, page 843; Oct. 11, 1966, Book D815, pages 440 to 444, and Apr. 22, 1966, Book D802, pages 157 to 162.
10. The above signed owners of Lots A, B and C do hereby agree to assume financial responsibility for the relocation of PNM facilities in conjunction with Vacation Action CRM-88-4 (DRB-88-21) and to grant the easements necessary for said relocations.

8894443

PLAT OF
LOTS A,B,C & D , RIO BRAVO CENTER
BERNALILLO COUNTY , NEW MEXICO
SEPTEMBER , 1988

3:02 P C 37 P-142

DESCRIPTION

A certain parcel of land located within Bernalillo County, New Mexico, comprising Lots 1, 2, 6 through 12, inclusive, 25 through 30, inclusive, the northerly remainder of Lot 3, and the westerly remainders of Lots 4 and 5, Block B, and Lots 6 through 11, inclusive, Block C of the Wilson Subdivision, as shown on the plat filed in the Office of the County Clerk of Bernalillo County, New Mexico, on September 4, 1935, Book C, Page 31, together with the adjacent portion of Del Norte Drive S.W. vacated by CRM-88-4 on April 26, 1988, and being more particularly described as follows:

Beginning at the northwest corner of the parcel herein described, being the northwest corner of said Lot 12, Block B, Wilson Subdivision, and also being a point on the south right-of-way line of Flora Vista Drive S.W.; thence N 89°25'48" E a distance of 906.84 feet along said right-of-way line to a point of intersection with the west right-of-way line of Isleta Boulevard S.W.; thence S 09°27'00" W a distance of 259.03 feet along said right-of-way line to a point of intersection with the north right-of-way line of Del Norte Drive S.W.; thence N 80°33'00" W a distance of 50.43 feet along said right-of-way line; thence along the arc of a curve to the left with DELTA = 97°58'12", R = 150.00 feet and L = 256.48 feet along said right-of-way line; thence S 01°28'48" W a distance of 9.42 feet along said right-of-way line; thence along the arc of a curve to the right with DELTA = 52°00'01", R = 90.00 feet and L = 81.68 feet along said right-of-way line; thence S 00°24'57" E a distance of 251.69 feet to a point on the north right-of-way line of Rio Bravo Boulevard S.W.; thence S 89°36'16" W a distance of 99.80 feet along said right-of-way line; thence S 00°32'14" E a distance of 4.72 feet along said right-of-way line; thence along the arc of a curve to the right with DELTA = 02°20'36", R = 10,345.00 feet and L = 423.12 feet (Chord Bearing = S 88°17'29" W, Chord Length = 423.09 feet) along said right-of-way line; thence S 89°27'46" W a distance of 77.18 feet along said right-of-way line; thence N 00°24'48" W a distance of 732.18 feet to the point of beginning and containing 11.9189 acres more or less.

DEDICATION AND FREE CONSENT
The undersigned owners of the land shown hereon do hereby consent to the subdivision of said land in the manner shown on this plat and do hereby grant the easements shown hereon including the rights of ingress and egress and the right to trim interfering trees.

ROBERT PEIRSON, PRESIDENT, SUNWEST DEVELOPMENT CO., INC. (LOTS A, B, & C)

VERNON DOAK, SUNWEST BANK OF ALBUQUERQUE (LOT D)

ACKNOWLEDGEMENT

STATE OF NEW MEXICO)
SS
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 17th day of October 1988.

Jennifer K McMillion
Notary Public

SA-88-309

APPROVALS: DRB. 88·21

Planning Director, City of Albuquerque, N.M.	10-20-88 Date
Water Utilities, City of Albuquerque, N.M.	10-18-88 Date
City Engineer, City of Albuquerque	10-19-88 Date
A.M.A.F.C.A.	10/20/88 Date
Traffic Engineer, City of Albuquerque, N.M.	10/18/88 Date
Parks and Recreation, City of Albuquerque, N.M.	10-18-88 Date
Chief City Surveyor, City of Albuquerque, N.M.	101888 Date
Property Manager, City of Albuquerque, N.M.	10/19/88 Date

Public Service Company of New Mexico	10/18/88 Date
Gas Company of New Mexico	10-18-88 Date
Mountain Bell	10-18-88 Date
Albuquerque Cable T.V.	10-18-88 Date

CERTIFICATION
I, Stephen E. Walker, a registered Professional Surveyor under the laws of the State of New Mexico, do hereby certify that this plat was prepared by me or under my supervision; shows all easements noted in a title report prepared by FIRST AMERICAN TITLE, GF # 56783. PSEP(MYT) GF# 59367. PAUG (MYT); meets the minimum requirements of monumentation and surveys of the Albuquerque Subdivision Ordinance, and is true and correct to the best of my knowledge and belief.

Stephen E. Walker, N.M.P.S No. 6404 — 10-18-88 Date

ACKNOWLEDGEMENT

STATE OF NEW MEXICO)
SS
COUNTY OF BERNALILLO)

OFFICIAL SEAL
CHARLES G GALA, JR.
NOTARY PUBLIC STATE OF NEW MEXICO
Notary Bond Filed with Secretary of State
My Commission Expires 2-6-89

The foregoing instrument was acknowledged before me on this 18th day of October, 1988.

Notary Public

JEFF MORTENSEN & ASSOCIATES, INC.
811 DALLAS, N.E. □ ALBUQUERQUE, NM 87110
□ ENGINEERS □ TELEPHONE (505) 265-5611 □

JOB No. 50233

SHEET 1 OF 2

S.P.# 09·28·2562

CURVE	ARC	DELTA	RADIUS	CHORD LENGTH	CHORD BEARING	TAN LENGTH
C1	81.68	52°00'01"	90.00	78.91	S 27°28'49" W	43.90
C3	15.71	90°00'00"	10.00	14.14	S 44°35'12" W	10.00
C4	13.35	90°00'00"	8.50	12.02	S 45°24'48" E	8.50
C5	26.45	16°50'19"	90.00	26.36	N 61°53'59" E	13.32
C6	15.12	05°46'31"	130.00	15.11	S 71°46'02" W	7.57

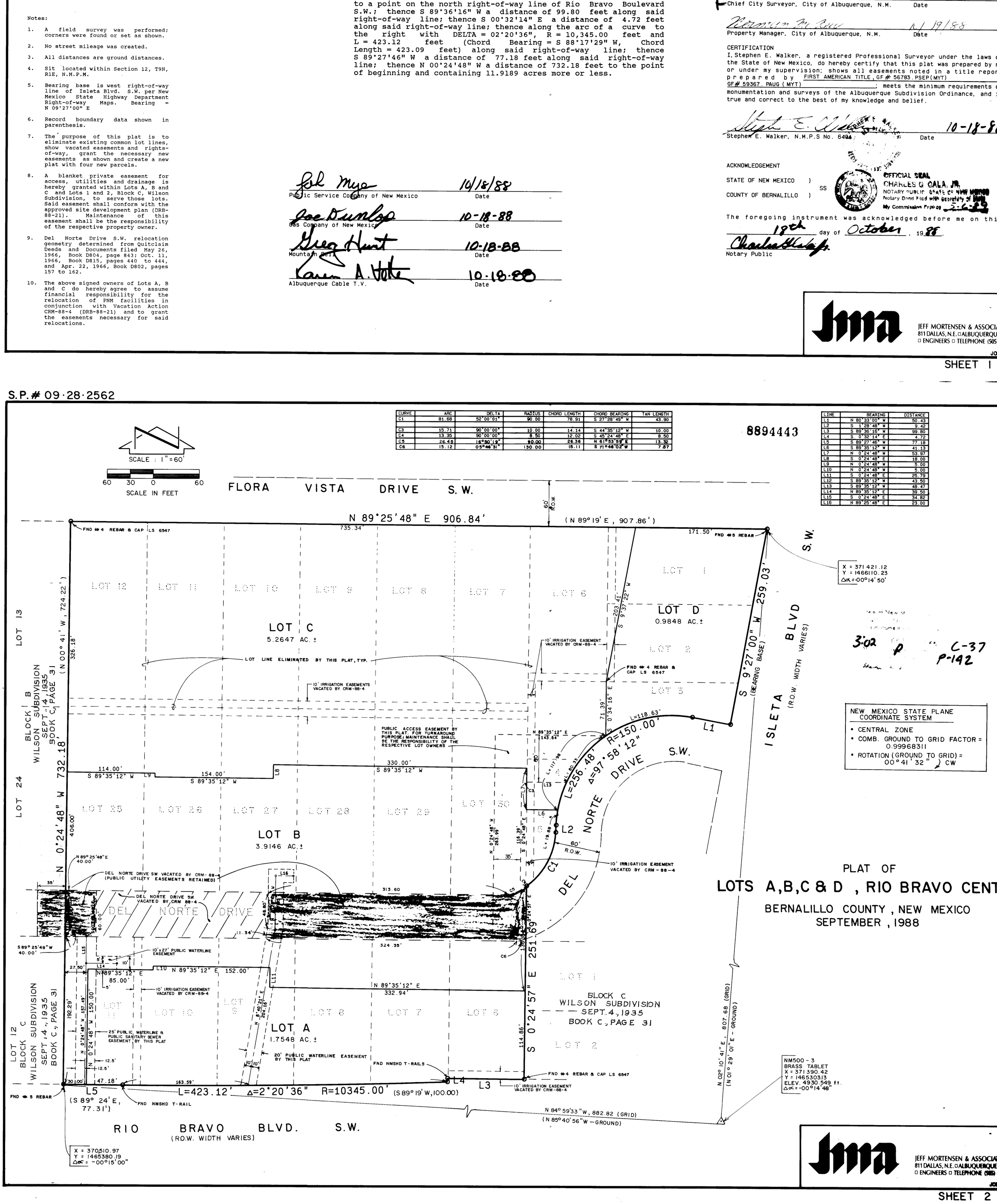
LINE	BEARING	DISTANCE
L1	N 80°33'00" W	50.43
L2	S 1°28'48" W	9.42
L3	S 89°36'16" W	99.80
L4	S 0°32'14" E	4.72
L5	S 89°27'46" W	77.18
L6	S 89°35'12" W	41.13
L7	N 0°24'48" W	53.97
L8	S 0°24'48" E	18.00
L9	N 0°24'48" W	5.00
L10	N 0°24'48" W	5.00
L11	S 0°24'48" E	25.79
L12	S 89°35'12" W	43.50
L13	S 89°35'12" W	48.47
L14	N 89°35'12" E	39.50
L15	S 0°24'48" E	34.82
L16	N 89°25'48" E	23.00

8894443

SCALE : 1"=60'

60 30 0 60

SCALE IN FEET



NEW MEXICO STATE PLANE COORDINATE SYSTEM
- CENTRAL ZONE
- COMB. GROUND TO GRID FACTOR = 0.99968311
- ROTATION (GROUND TO GRID) = 00°41'32" CW

3:02 P C-37 P-142

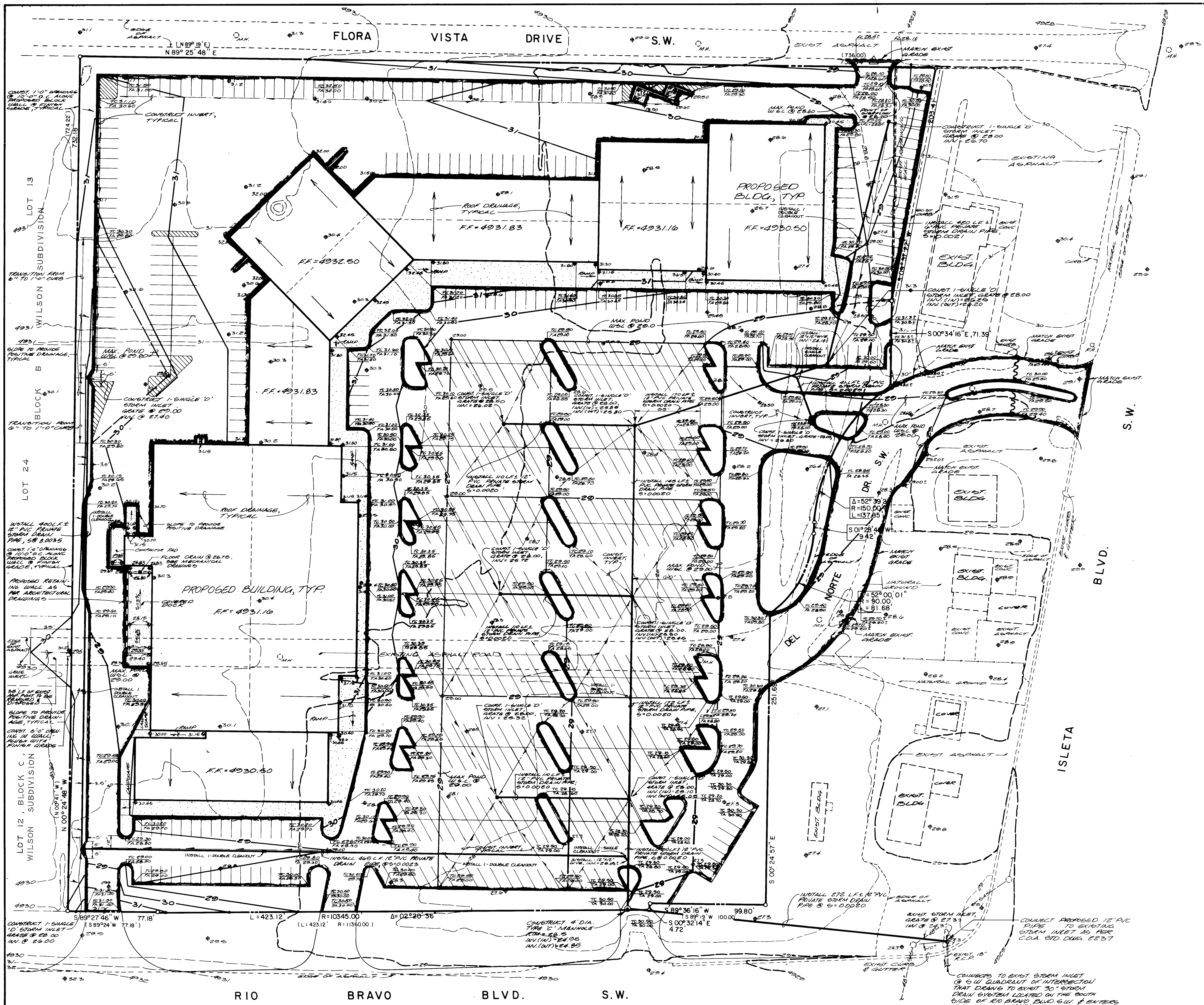
PLAT OF
LOTS A,B,C & D , RIO BRAVO CENTER
BERNALILLO COUNTY , NEW MEXICO
SEPTEMBER , 1988

JEFF MORTENSEN & ASSOCIATES, INC.
811 DALLAS, N.E. □ ALBUQUERQUE, NM 87110
□ ENGINEERS □ TELEPHONE (505) 265-5611 □

JOB No. 50233

SHEET 2 OF 2

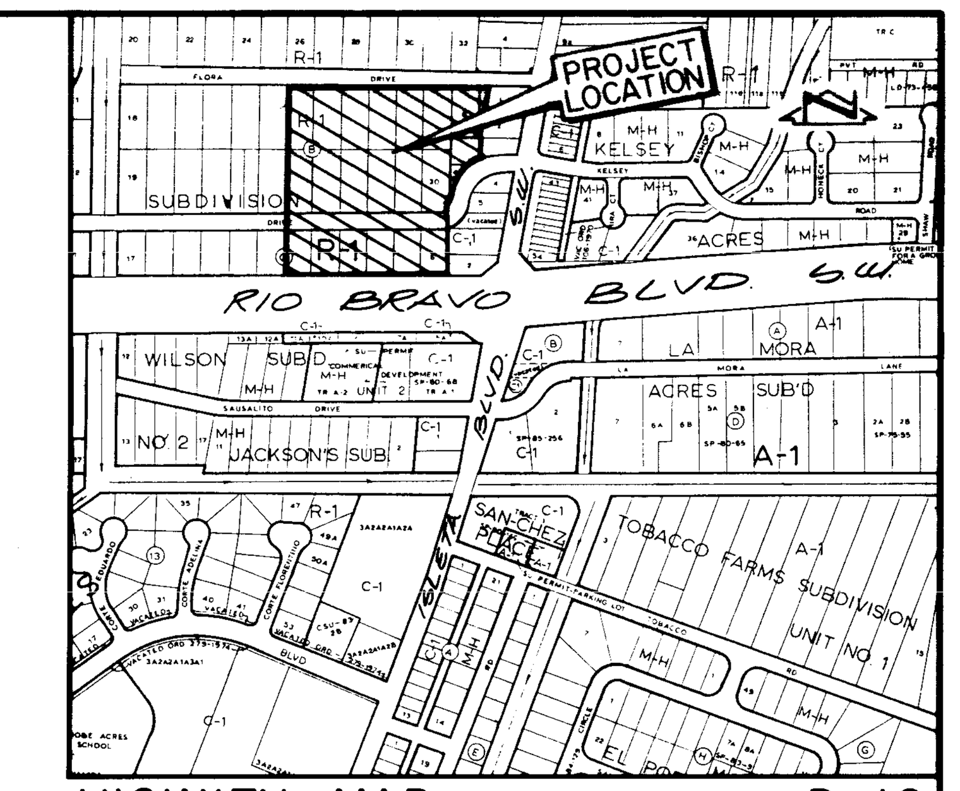
3593 SHEET 2 OF 8



SCALE : 1" = 40'

LEGEND

— - - —	PROPERTY LINE
(N89°19'E 736.00')	RECORD BEARING – DIST.
– – 4928 – –	EXISTING CONTOUR
—29—	PROPOSED CONTOUR
⊕ 28.5	EXISTING SPOT ELEV.
⊕ 28.6	PROPOSED SPOT ELEV.
—·—·→	PROPOSED SWALE
	PROPOSED CONCRETE
	PROPOSED ASPHALT
∿∿∿	PROPOSED WATERBLOCK
⊂29⊃	APPROX. LIMITS OF EXIST. 100 YEAR FLOODPLAIN



VICINITY MAP P-12

SCALE : 1" = 800'

PROJECT BENCHMARK

N.M.S.H.C./A.C.S. STATION NM 500-3, BEING A STANDARD NMSHC BRASS TABLET STAMPED "STA. NM 500-3", SET IN TOP OF A CONCRETE POST FLUSH W/GROUND. STATION IS LOCATED IN THE INTERSECTION OF RIO BRAVO BLVD. & ISLETA BLVD., IN THE CENTER OF THE EAST MEDIAN ON RIO BRAVO, ABOUT 15 FEET EAST OF THE MEDIAN NOSE. ELEVATION = 4930.55 FEET (M.S.L.D.)

TEMPORARY BENCHMARK

T.B.M. = PROJECT BENCHMARK

LEGAL DESCRIPTION

LOTS 1-12, 25-30, BLOCK B; LOTS 1, 2, 6-11, BLOCK C, WILSON SUBDIVISION

CONSTRUCTION NOTES:

1. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE 765-1234, FOR LOCATION OF EXISTING UTILITIES.
2. 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 IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
3. 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.
4. ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
5. IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS UNDERTAKEN NO FIELD VERIFICATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
6. BACKFILL COMPACTION SHALL BE ACCORDING TO ARTERIAL STREET USE.
7. MAINTENANCE OF THESE FACILITIES SHALL BE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
8. CONTRACTOR SHALL, AT ALL TIMES, SHALL PROVIDE POSITIVE DRAINAGE FROM ADJOINING PROPERTIES ONTO PROJECT SITE DURING CONSTRUCTION IN ORDER TO PREVENT FLOODING OF ADJOINING PROPERTIES.
9. THE CONTRACTOR SHALL, AT ALL TIMES, PROTECT ADJACENT PROPERTIES FROM FLOODING BY THE PROJECT SITE.
10. ALL UNFORESEEN UNDERGROUND CONDITIONS (I.E. SEPTIC TANK, FOUNDATIONS, TREE STUMPS, ETC) SHALL BE REMOVED AND DISPOSED. ALL VOIDS SHALL BE BACK FILLED WITH CLEAN FILL MATERIAL AND COMPACTED TO A MINIMUM OF 90% OF OPTIMUM AS PER ASTM D-1557 IN ACCORDANCE WITH SECTIONS 201 & 204 OF THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION - 1986.
11. DEL NORTE DRIVE S.W. GRADES ARE APPROXIMATE; REFER TO COUNTY ROAD DEPARTMENT DRAWINGS FOR APPROVED GRADES.

STORM SEWER

1. MANHOLES SHALL BE 4-FOOT DIAMETER TYPE "C" AS PER CITY OF ALBUQUERQUE STANDARD DRAWING 2101.
2. SINGLE "D" STORM INLETS SHALL BE AS PER CITY OF ALBUQUERQUE STANDARD DRAWING 2206.
3. ALL TRENCH BACKFILL SHALL BE COMPACTED TO A MINIMUM OF 90% OF OPTIMUM, AS PER ASTM D-1557.
4. ALL STORM DRAIN SHALL BE PVC (SDR 35).
5. RCP IS AN ACCEPTABLE PIPE MATERIAL IN LIEU OF PVC. RCP SHALL BE ASTM CLASS IV (MIN).

EROSION CONTROL MEASURES

1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO 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 "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.

JEFFREY G. MORTENSEN NEW MEXICO 8647 REGISTERED PROFESSIONAL ENGINEER

09.30.88

26 3593 0389

JEFF MORTENSEN & ASSOCIATES, INC.
811 DALLAS, N.E. ALBUQUERQUE, NM 87110
ENGINEERS TELEPHONE (505) 265-5611

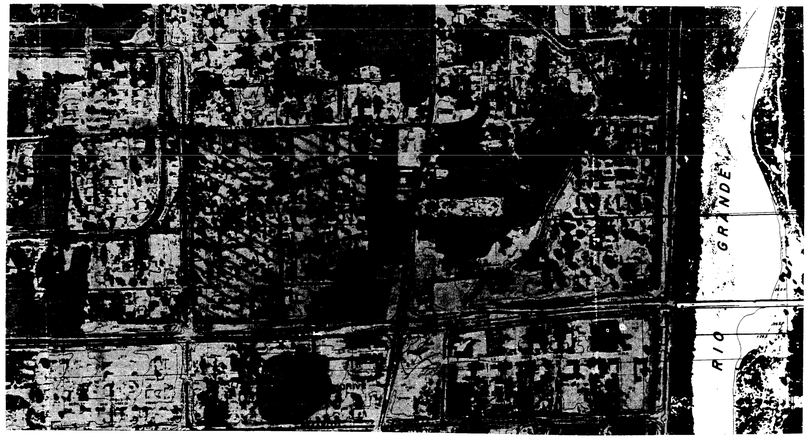
GRADING AND DRAINAGE PLAN

RIO BRAVO SHOPPING CENTER

DESIGNED BY	L.P.U.
DRAWN BY	C.V.M.
APPROVED BY	J.G.M.

NO.	DATE	BY	REVISION
1	11/1988	L.P.U.	REVISE GRADES & CALCS

JOB NO.	50232
DATE	6-1988
SHEET	1 OF 2



OFF-SITE CONTRIBUTING AREA

$V_{100} = V_{offsite} + (V_{Dev} - V_{Exist})$
$= 35,000 + (57,120 - 15,230)$
$= 76,890$ cf

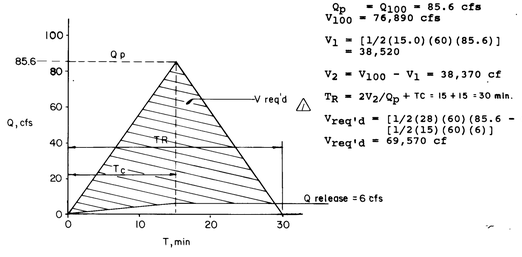
$Q_p = Q_{100} = 85.6$ cfs
$V_{100} = 76,890$ cfs

$V_1 = [1/2(15.0)(60)(85.6)]$
$= 38,520$

$V_2 = V_{100} - V_1 = 38,370$ cf

$T_R = 2V_2/Q_p + TC = 15 + 15 = 30$ min.

$V_{req'd} = [1/2(28)(60)(85.6 - 6)] + [1/2(15)(60)(6)]$
$V_{req'd} = 69,570$ cf



HYDROGRAPH

DRAINAGE PLAN

The following items concerning the Rio Bravo/Isleta Shopping Center Drainage Plan are contained hereon:

1. Vicinity Map
2. Grading Plan
3. Calculations

As shown by the Vicinity Map, this site is located on the northwest quadrant of the intersection of Rio Bravo Boulevard S.W. and Isleta Boulevard S.W. Flows from this site is undeveloped. Much of the surrounding area is also developed, thereby making this a modification to the existing site. As shown by Panel 40 of the National Flood Insurance Program Flood Boundary and Floodway Maps for the City of Albuquerque, Bernalillo County, this site lies within an AH Flood Zone. Because of this, the finished floor elevation of the proposed buildings have been established at least 1.5' above the corresponding flood elevation of 4929.0 shown on the aforementioned flood map. At present, runoff generated by the site is confined within an existing depression located within the site. Some offsite flows enter the site along the north, south, east and west property lines quantified hereon will be accepted and conveyed through the project site as discussed below.

The grading plan shows 1) existing and proposed grades indicated by spot elevations and contours at 1'0" intervals, 2) continuity between existing and proposed grades, and 3) the limit and character of the proposed improvements. As shown by this plan, the proposed improvements consist of the construction of a new shopping center along with adjacent paving and landscaping. Flows generated by the proposed improvements will be routed from north to south to a series of proposed detention ponds sized to handle the difference between the developed 100-year runoff and the existing 100-year runoff generated by the proposed improvements and the anticipated offsite volume of runoff. The proposed detention ponds will be connected to an existing storm drain system located within the intersection of Rio Bravo Boulevard S.W. and Isleta Boulevard S.W. From that point, runoff will flow east within the underground storm drain system to the Alameda Drain which is the outfall for this site. The capacity of the aforementioned storm drain system has been determined to allow runoff generated by the proposed improvements at a controlled rate. Based upon the fact that this site is an infill site, the proximity of downstream facilities, and the elimination of the flooding problem, the controlled rate of discharge from this site is appropriate.

The Calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Rational Method has been used to quantify the peak rate of discharge and the SCS Method has been used to quantify the volume of runoff. Both Methods have been used in accordance with the City of Albuquerque Development Process Manual, Volume II, and the Mayor's Emergency Rule adopted January 14, 1986. As shown by these calculations, the peak runoff generated by the proposed improvements will increase by approximately 6 cfs.

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey,
Plate 40, VbA - Vinton sandy loam & Va - Vinton loamy sand
Hydrologic Soil Group: B
Existing Pervious CN = 70 (DPM Plate 22.2 C-2
Pasture or Range Land: fair condition)
Developed Pervious CN = 61 (DPM Plate 22.2 C-2

Time of Concentration/Time to Peak

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

$T_p = T_C = 10$ min.

Point Rainfall

$P_6 = 2.26$ in. (DPM Plate 22.2 D-1)

Rational Method

Discharge: Q = CiA

where C varies
i = P_6 (6.84) $T_C^{-0.51}$ = 4.78 in/hr
P_6 = 2.26 in (DPM Plate 22.2D-1)
T_C = 10 min (minimum)
A = area, acres

SCS Method

Volume: V = 3630(DRO) A

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

Existing Condition

Atotal = 456,770 sf = 10.49 Ac
Roof area = 47,590 sf (0.10)
Paved area = 68,500 sf (0.15)
Dirt area = 150,000 sf (0.33)
Landscaped area = 190,680 sf (0.42)
C = 0.47 (Weighted average per Emergency Rule, 1/14/86)
Q_{100} = CiA = (0.47)(4.78)(10.49) = 23.6 cfs
Aimp = 116,090 sf: % impervious = 25 %
Composite CN = 71 (DPM Plate 22.2 C-3)
DRO = 0.4 in (DPM Plate 22.2 C-4)
V_{100} = 3630 (DRO)A = 15,230 cf

Developed Condition

Atotal = 456,770 sf = 10.49 Ac
Roof area = 110,500 sf (0.24)
Paved area = 288,770 sf (0.63)
Landscaped area = 57,500 sf (0.13)
C = 0.85 (Weighted average per Emergency Rule, 1/14/86)
Q_{100} = CiA = (0.85)(4.78)(10.49) = 42.6 cfs
Aimp = 399,270 sf: % impervious = 87 %
Composite CN = 93 (DPM Plate 22.2 C-3)
DRO = 1.50 in (DPM Plate 22.2 C-4)
V_{100} = 3630 (DRO)A = 57,120 cf

$V_{pond} = 1/2[(A_{28.0} + A_{29.0})(29.0 - 28.0)] + (A_{29.0} + A_{29.8})(29.80 - 29.0) + (A_{28.00} + A_{28.60})(28.60 - 28.00)]$
$= 1/2[(0+140,690)(1.0) + (0+6000)(0.8) + (0+3000)(0.60)]$
$= 73,645 > V_{required} = 69,570$ cf (By hydrograph analysis)

Offsite Flows

Atotal = 1,050,000 sf = 24.1 Ac
C = 0.47 (Based on Onsite Existing Conditions)
T_C = 15 min
Where s = 0.007
L = 1,600 ft
i = 3.80 in/hr
Q_{100} = CiA = (0.47)(3.80)(24.1) = 43 cfs
Composite CN = 71 (Based on Onsite Existing Conditions)
DRO = 0.40 in (Based on Onsite Existing Conditions)
V100 = 3630 (DRO)A = 35,000 cf

Drainage Basin Contributing to Existing Storm System
(Included Proposed Development & Offisgte Flows)

Atotal = 2,175,000 sf = 49.93 Ac
Roof area = 288,600 sf = (0.13)
Paved area = 665,400 sf = (0.31)
Landscaped area = 327,800 sf = (0.15)
C = 0.61 (Based on Onsite Existing Conditions)
T_C = 15 min
Where s = 0.007
L = 1,600 ft
i = 3.80 in/hr
Q_{100} = CiA = (0.61)(3.80)(49.93) = 116 cfs

Capacity of 30" Storm Drain System

$Q = CA\sqrt{2gh}$ = 48 cfs
Where C = 0.7
A = 3.14 sf (Area of 30" storm drain outlet downsized to 24" Dia)
g = 32.2 ft/sec^2
h = 4930 - 4922.4 = 7.6 ft (NMSH Asbuilts - ST - (m) - 4008 (202+203)

$Q_{allowable}$ = 48/49.9 = 1.0 cfs/Acre

Capacity of 18" Lateral (Outlet for Proposed Development)

Q = 6 cfs (Feild's Hydraulics Calculator for Gravity Flow in Pipes Manning Formula)

Where s = 0.003 (NMSH Asbuilts - St - (m) - 4008 (202 + 203)
Dia = 18"
n = 0.013

$Q_{allowable} = \frac{6 \text{ cfs}}{34.6 \text{ acres}} = 0.17$ cfs/acre

Comparison

ΔQ_{100} = 42.6 - 24.6 = 18 cfs (increase)
ΔV_{100} = 57,120 - 15,230 = 41,890 cf (increase)

CONSTRUCTION NOTES:

1. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE 765-1234, FOR LOCATION OF EXISTING UTILITIES.
2. 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 IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
3. 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.
4. ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
5. IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS UNDERTAKEN NO FIELD VERIFICATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
6. BACKFILL COMPACTION SHALL BE ACCORDING TO ARTERIAL STREET USE.
7. MAINTENANCE OF THESE FACILITIES SHALL BE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
8. CONTRACTOR SHALL, AT ALL TIMES, SHALL PROVIDE POSITIVE DRAINAGE FROM ADJOINING PROPERTIES ONTO PROJECT SITE DURING CONSTRUCTION IN ORDER TO PREVENT FLOODING OF ADJOINING PROPERTIES.
9. THE CONTRACTOR SHALL, AT ALL TIMES, PROTECT ADJACENT PROPERTIES FROM FLOODING BY THE PROJECT SITE.
10. ALL UNFORESEEN UNDERGROUND CONDITIONS (I.E. SEPTIC TANK, FOUNDATIONS, TREE STUMPS, ETC) SHALL BE REMOVED AND DISPOSED. ALL VOIDS SHALL BE BACK FILLED WITH CLEAN FILL MATERIAL AND COMPACTED TO A MINIMUM OF 90% OF OPTIMUM AS PER ASTM D-1557 IN ACCORDANCE WITH SECTIONS 201 & 204 OF THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION - 1986.
11. DEL NORTE DRIVE S.W. GRADES ARE APPROXIMATE; REFER TO COUNTY ROAD DEPARTMENT DRAWINGS FOR APPROVED GRADES.

STORM SEWER

1. MANHOLES SHALL BE 4-FOOT DIAMETER TYPE "C" AS PER CITY OF ALBUQUERQUE STANDARD DRAWING 2101.
2. SINGLE "D" STORM INLETS SHALL BE AS PER CITY OF ALBUQUERQUE STANDARD DRAWING 2206.
3. ALL TRENCH BACKFILL SHALL BE COMPACTED TO A MINIMUM OF 90% OF OPTIMUM, AS PER ASTM D-1557.
4. ALL STORM DRAIN SHALL BE PVC (SDR 35).
5. RCP IS AN ACCEPTABLE PIPE MATERIAL IN LIEU OF PVC. RCP SHALL BE ASTM CLASS IV (MIN).

EROSION CONTROL MEASURES

1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO 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 "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.

1 2 3 4 5 6 7 8 9 10 11 12
2 6 3 5 9 3 0 4 8 9

JEFFREY G. MORTENSEN — NEW MEXICO — 8547 — REGISTERED PROFESSIONAL ENGINEER
09-30-88

JEFF MORTENSEN & ASSOCIATES, INC.
811 DALLAS, N.E. ALBUQUERQUE, NM 87110
ENGINEERS TELEPHONE (505) 265-5611

GRADING AND DRAINAGE PLAN

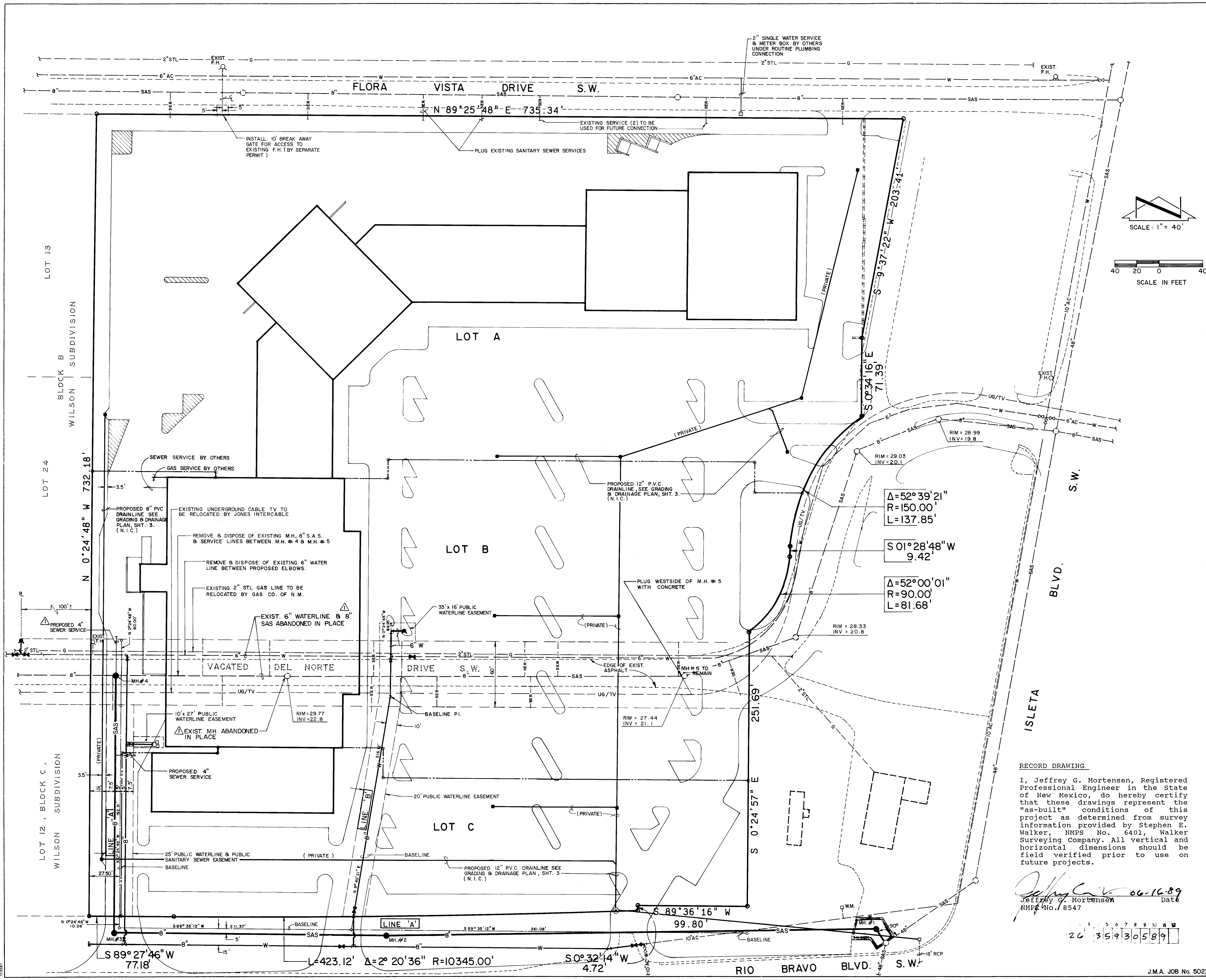
RIO BRAVO SHOPPING CENTER

DESIGN BY L.P.U.
DRAWN BY C.V.M.
APPROVED BY J.G.M.

No.	Date	By	Revision
1	11/1988	L.P.U.	REVISE GRADES & CALCS

JOB NO. 50232
DATE 6-1988
SHEET 2 OF 2

3593



RECORD DRAWING.

I, Jeffrey G. Mortensen, Registered Professional Engineer in the State of New Mexico, do hereby certify that these drawings represent the "as-built" conditions of this project as determined from survey information provided by Stephen E. Walker, NMPS No. 6401, Walker Surveying Company. All vertical and horizontal dimensions should be field verified prior to use on future projects.

[illegible] 06-16-89

Jeffrey G. Mortensen Date
NMPE No. 8547

26 3593 0589

J.M.A. JOB No. 50233

SANITARY SEWER SYSTEM

1. ALL STATIONING IS BASED ON BASELINE DATA UNLESS INDICATED OTHERWISE. FOR BASELINE DATA, REFER TO BASELINE PLAN (SHEET 5).
2. ALL SEWER PIPE SHALL BE PVC (SDR 35) UNLESS INDICATED OTHERWISE OR AS APPROVED BY THE CITY OF ALBUQUERQUE CITY ENGINEER (SEE NOTE 7).
3. SLOPES SHOWN ON THE PROFILES ARE BASED ON TRUE DISTANCES.
4. ALL MANHOLES SHALL BE FOUR-FOOT DIAMETER TYPE "E" AS PER CITY OF ALBUQUERQUE STANDARD DRAWING 2102 UNLESS OTHERWISE NOTED.
5. MANHOLE TYPE 'C' SHALL BE FOUR-FOOT DIAMETER AS PER CITY OF ALBUQUERQUE STANDARD DRAWING 2101 WHERE SPECIFIED.
6. SEWER SERVICE LATERALS SHALL BE CONSTRUCTED AS PER CITY OF ALBUQUERQUE STANDARD DRAWING 2125.
7. VITRIFIED CLAY AND DUCTILE IRON ARE ACCEPTABLE PIPE MATERIALS IN LIEU OF PVC, UNLESS AWWA C-900 IS SPECIFIED.

WATER DISTRIBUTION SYSTEM

8. ALL STATIONING IS BASED ON BASELINE DATA UNLESS INDICATED OTHERWISE. FOR BASELINE DATA, REFER TO BASELINE (SHEET 5).
9. WATER MAIN SHALL BE PVC C-900 PIPE OR AS APPROVED BY THE CITY OF ALBUQUERQUE CITY ENGINEER (SEE NOTE 12).
10. WATER LINE SHALL HAVE A MINIMUM COVER OF 4'0" (FINISHED GRADE TO TOP OF PIPE).
11. ELECTRONIC MARKER DISCS (EMD) SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARD SPECIFICATION.
12. DUCTILE IRON IS AN ACCEPTABLE PIPE MATERIAL IN LIEU OF PVC.
13. ALL PIPE SHALL BE FURNISHED WITH CLASS "C" BEDDING UNLESS OTHERWISE NOTED. ALL TRENCHING BACKFILL SHALL BE COMPACTED TO A MINIMUM OF 90% OF OPTIMUM, AS PER ASTM D-1557.
14. WHERE SEWER AND WATER LINES CROSS, IF VERTICAL CLEARANCE DOES NOT EXCEED 1'6", THE SEWER LINE MUST BE PVC AWWA C-900 PRESSURE RATED PIPE BETWEEN THE MANHOLES ON EACH SIDE OF THE CROSSING.
15. FIRE HYDRANTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE STANDARD DRAWING 2340.
16. NO DEFLECTION OF PVC PIPE WILL BE ALLOWED AT THE JOINT. DEFLECTION SHALL ONLY OCCUR ALONG THE BARREL OF THE PIPE. MAXIMUM DEFLECTION SHALL NOT EXCEED 2/3 OF THE MAXIMUM RECOMMENDED BY MANUFACTURER.
17. REPLACEMENT GASKETS & JOINTING MATERIALS SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.

AS BUILT INFORMATION

CONTRACTOR		
WORK STAKED BY		DATE
INSPECTOR'S ACCEPTANCE BY		DATE
FIELD VERIFICATION BY		DATE
DRAWINGS CORRECTED BY		DATE

MICRO-FILM INFORMATION

RECORDED BY		DATE
NO		

BENCH MARKS

NMSHC / ACS STATION NM 500-3, BEING A STANDARD NMSHC BRASS TABLET STAMPED "STA NM 500-3", SET IN TOP OF A CONC. POST FLUSH W/ GROUND. STATION IS LOCATED IN THE INTER-SECTION OF RIO BRAVO BLVD. & ISLETA BLVD., IN THE CENTER OF THE EAST MEDIAN ON RIO BRAVO, ABOUT 15 FEET EAST OF THE MEDIAN NOSE.
ELEVATION = 4930.55 FEET (M.S.L.D.)

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL

JEFFREY G. MORTENSEN
NEW MEXICO
8547
REGISTERED PROFESSIONAL ENGINEER

[illegible] 09-30-88

REVISIONS

NO.	DATE	REMARKS	BY
1	6/15/89	AS-BUILT WATERLINE & S.A.S.	L.P.U.

DESIGN

DESIGNED BY P.M.L.	DATE 6-88	
DRAWN BY C.V.M.	DATE 6-88	
CHECKED BY J.G.M.	DATE 6-88	

JMA
JEFF MORTENSEN & ASSOCIATES, INC.
811 DALLAS, N.E. ALBUQUERQUE, NM 87110
ENGINEERS TELEPHONE (505) 265-5611

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: RIO BRAVO SHOPPING CENTER
SITE PLAN AND BASELINE PLAN

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair	[illegible]	11/17/88			
Trans Dev	N/A				
Utility Dev	[illegible]	11/4/88			

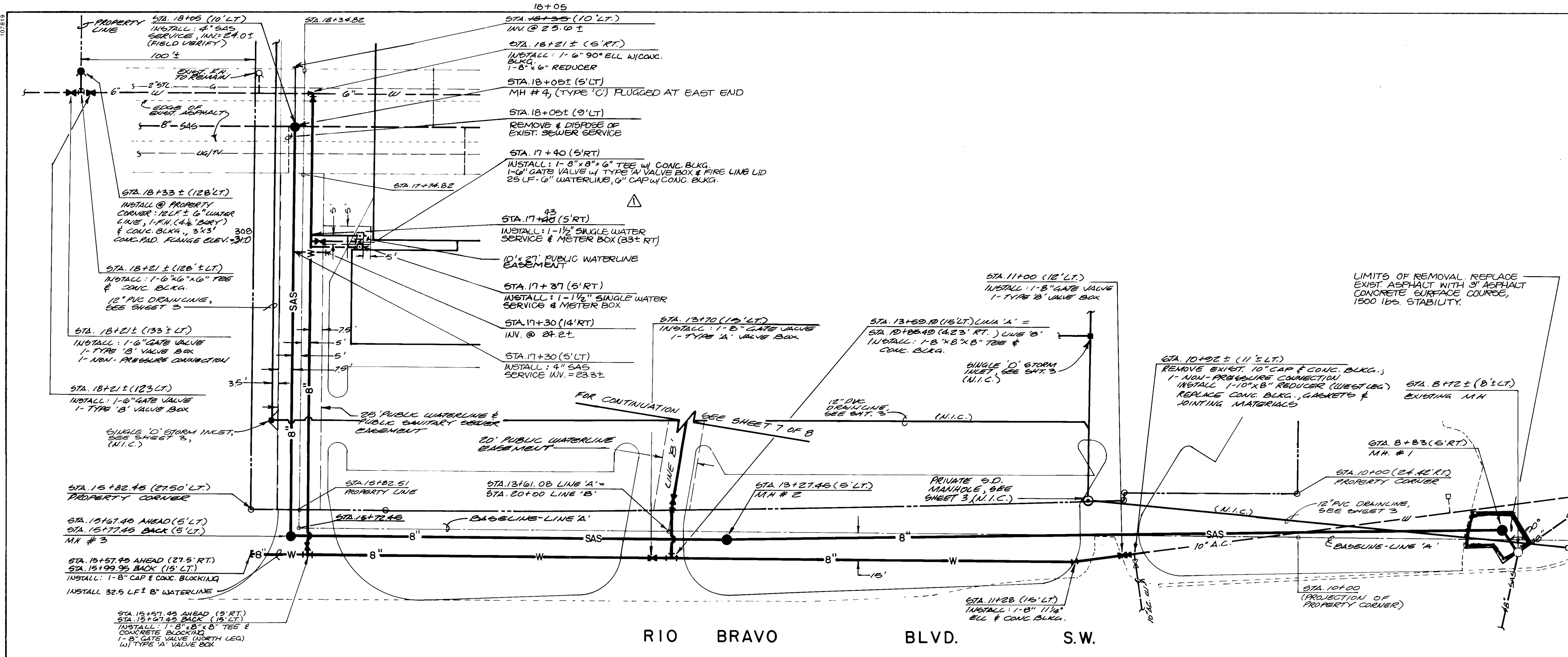
DRAWING NO.	MAP NO.	SHEET	OF
3593	P-12	5	8

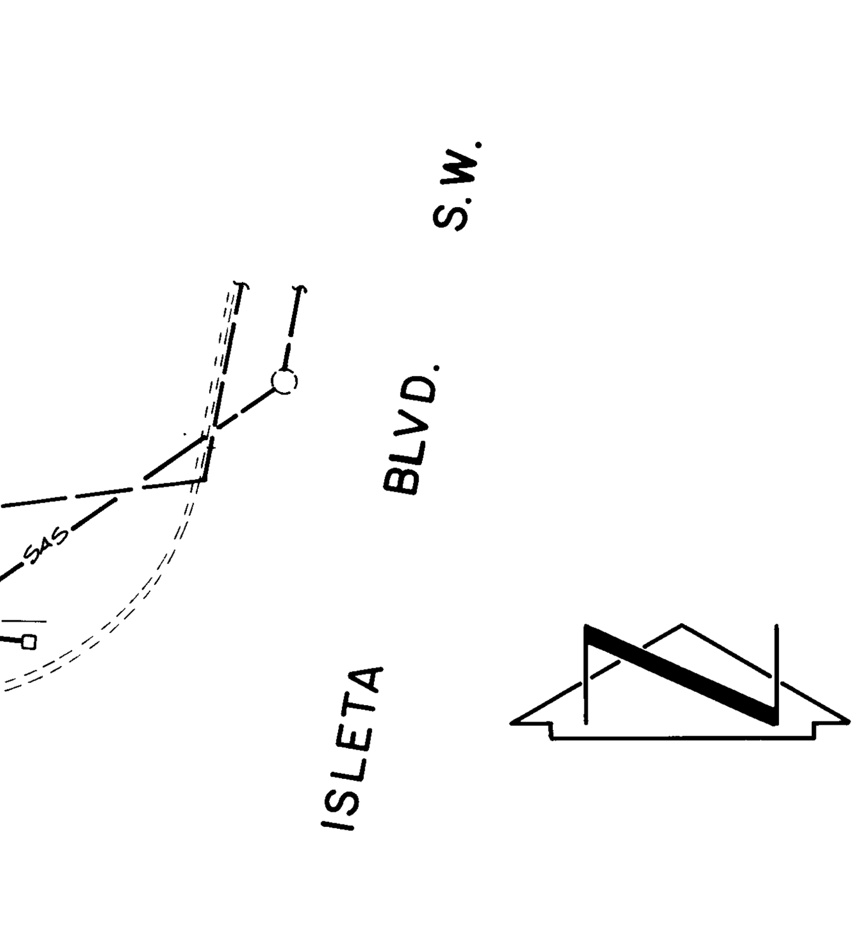
113587

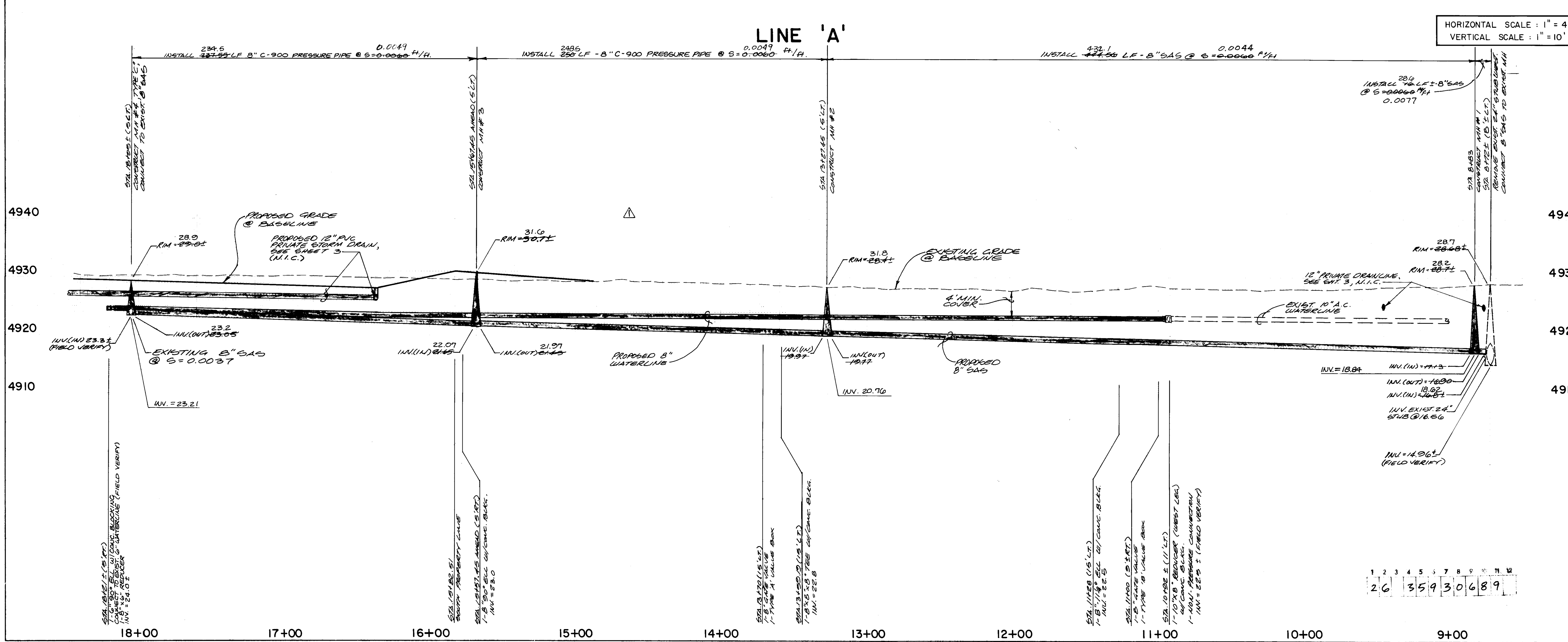
⚠ RECORD DRAWING

I, Jeffrey G. Mortensen, Registered Professional Engineer in the State of New Mexico, do hereby certify that these drawings represent the "as-built" conditions of this project as determined from survey information provided by Stephen E. Walker, NMPS No. 6401, Walker Surveying Company. All vertical and horizontal dimensions should be field verified prior to use on future projects.

[illegible] 06-16-89
Jeffrey G. Mortensen Date
NMPE No. 8547







1 2 3 4 5 6 7 8 9 10 11 12
2 6 3 5 9 3 0 6 8 9

JOB No. 50233

SANITARY SEWER SYSTEM

1. ALL STATIONING IS BASED ON BASELINE DATA UNLESS INDICATED OTHERWISE. FOR BASELINE DATA, REFER TO BASELINE PLAN (SHEET 5).
2. ALL SEWER PIPE SHALL BE PVC (SDR 35) UNLESS INDICATED OTHERWISE OR AS APPROVED BY THE CITY OF ALBUQUERQUE CITY ENGINEER (SEE NOTE 7).
3. SLOPES SHOWN ON THE PROFILES ARE BASED ON TRUE DISTANCES.
4. ALL MANHOLES SHALL BE FOUR-FOOT DIAMETER TYPE "E" AS PER CITY OF ALBUQUERQUE STANDARD DRAWING 2102 UNLESS OTHERWISE NOTED.
5. MANHOLE TYPE 'C' SHALL BE FOUR-FOOT DIAMETER AS PER CITY OF ALBUQUERQUE STANDARD DRAWING 2101 WHERE SPECIFIED.
6. SEWER SERVICE LATERALS SHALL BE CONSTRUCTED AS PER CITY OF ALBUQUERQUE STANDARD DRAWING 2125.
7. VITRIFIED CLAY AND DUCTILE IRON ARE ACCEPTABLE PIPE MATERIALS IN LIEU OF PVC, UNLESS AWWA C-900 IS SPECIFIED.

WATER DISTRIBUTION SYSTEM

8. ALL STATIONING IS BASED ON BASELINE DATA UNLESS INDICATED OTHERWISE. FOR BASELINE DATA, REFER TO BASELINE (SHEET 5).
9. WATER MAIN SHALL BE PVC C-900 PIPE OR AS APPROVED BY THE CITY OF ALBUQUERQUE CITY ENGINEER (SEE NOTE 12).
10. WATER LINE SHALL HAVE A MINIMUM COVER OF 4'0" (FINISHED GRADE TO TOP OF PIPE).
11. ELECTRONIC MARKER DISCS (EMD) SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARD SPECIFICATION.
12. DUCTILE IRON IS AN ACCEPTABLE PIPE MATERIAL IN LIEU OF PVC.
13. ALL PIPE SHALL BE FURNISHED WITH CLASS "C" BEDDING UNLESS OTHERWISE NOTED. ALL TRENCHING BACKFILL SHALL BE COMPACTED TO A MINIMUM OF 90% OF OPTIMUM, AS PER ASTM D-1557.
14. WHERE SEWER AND WATER LINES CROSS, IF VERTICAL CLEARANCE DOES NOT EXCEED 1'6", THE SEWER LINE MUST BE PVC AWWA C-900 PRESSURE RATED PIPE BETWEEN THE MANHOLES ON EACH SIDE OF THE CROSSING.
15. FIRE HYDRANTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE STANDARD DRAWING 2340.
16. NO DEFLECTION OF PVC PIPE WILL BE ALLOWED AT THE JOINT. DEFLECTION SHALL ONLY OCCUR ALONG THE BARREL OF THE PIPE. MAXIMUM DEFLECTION SHALL NOT EXCEED 2/3 OF THE MAXIMUM RECOMMENDED BY MANUFACTURER.
17. REPLACEMENT GASKETS & JOINTING MATERIALS SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.

AS BUILT INFORMATION

CONTRACTOR	
WORK STAKED BY	DATE
INSPECTOR'S ACCEPTANCE BY	DATE
FIELD VERIFICATION BY	DATE
DRAWINGS CORRECTED BY	DATE

MICRO-FILM INFORMATION

RECORDED BY	DATE
NO	

BENCH MARKS

NMSHC / ACS STATION NM 500-3, BEING A STANDARD NMSHC BRASS TABLET STAMPED "STA NM 500-3", SET IN TOP OF A CONC. POST FLUSH W/ GROUND. STATION IS LOCATED IN THE INTER-SECTION OF RIO BRAVO BLVD. & ISLETA BLVD., IN THE CENTER OF THE EAST MEDIAN ON RIO BRAVO, ABOUT 15 FEET EAST OF THE MEDIAN NOSE.
ELEVATION = 4930.55 FEET (M.S.L.D.)

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL

JEFFREY G. MORTENSEN NEW MEXICO 8547 REGISTERED PROFESSIONAL ENGINEER
[illegible] 09-30-88

REVISIONS

NO.	DATE	REMARKS	BY
⚠	6/15/89	AS-BUILT WATERLINE & S.A.S.	L.P.U.

DESIGN

DESIGNED BY	P.M.L.	DATE 6-88
DRAWN BY	C.V.M.	DATE 6-88
CHECKED BY	J.G.M.	DATE 6-88

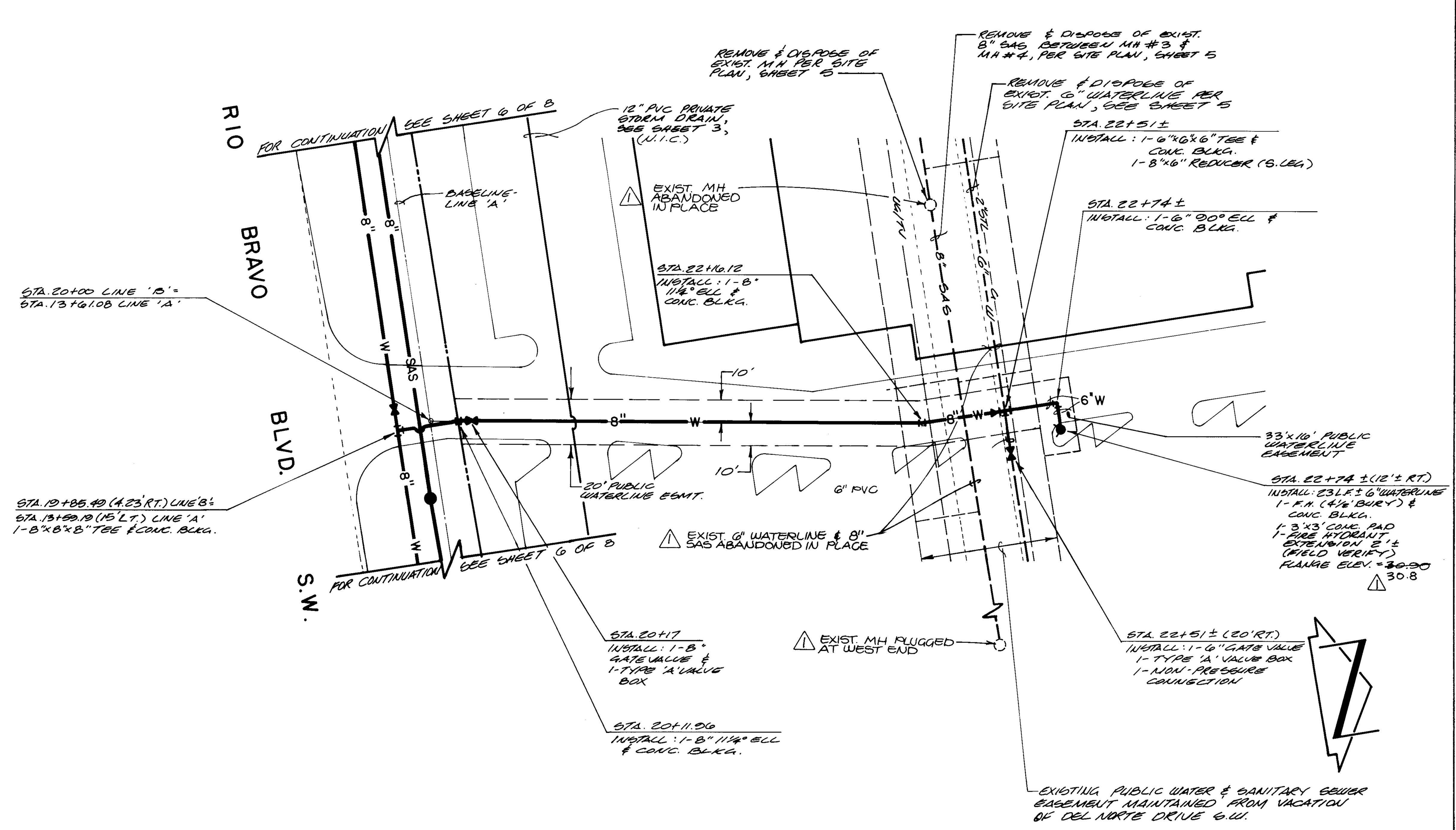
JMA
JEFF MORTENSEN & ASSOCIATES, INC.
811 DALLAS, N.E. ALBUQUERQUE, NM 87110
ENGINEERS TELEPHONE (505) 265-5611

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: RIO BRAVO SHOPPING CENTER
LINE 'A' - SANITARY SEWER AND WATERLINE
PLAN & PROFILE

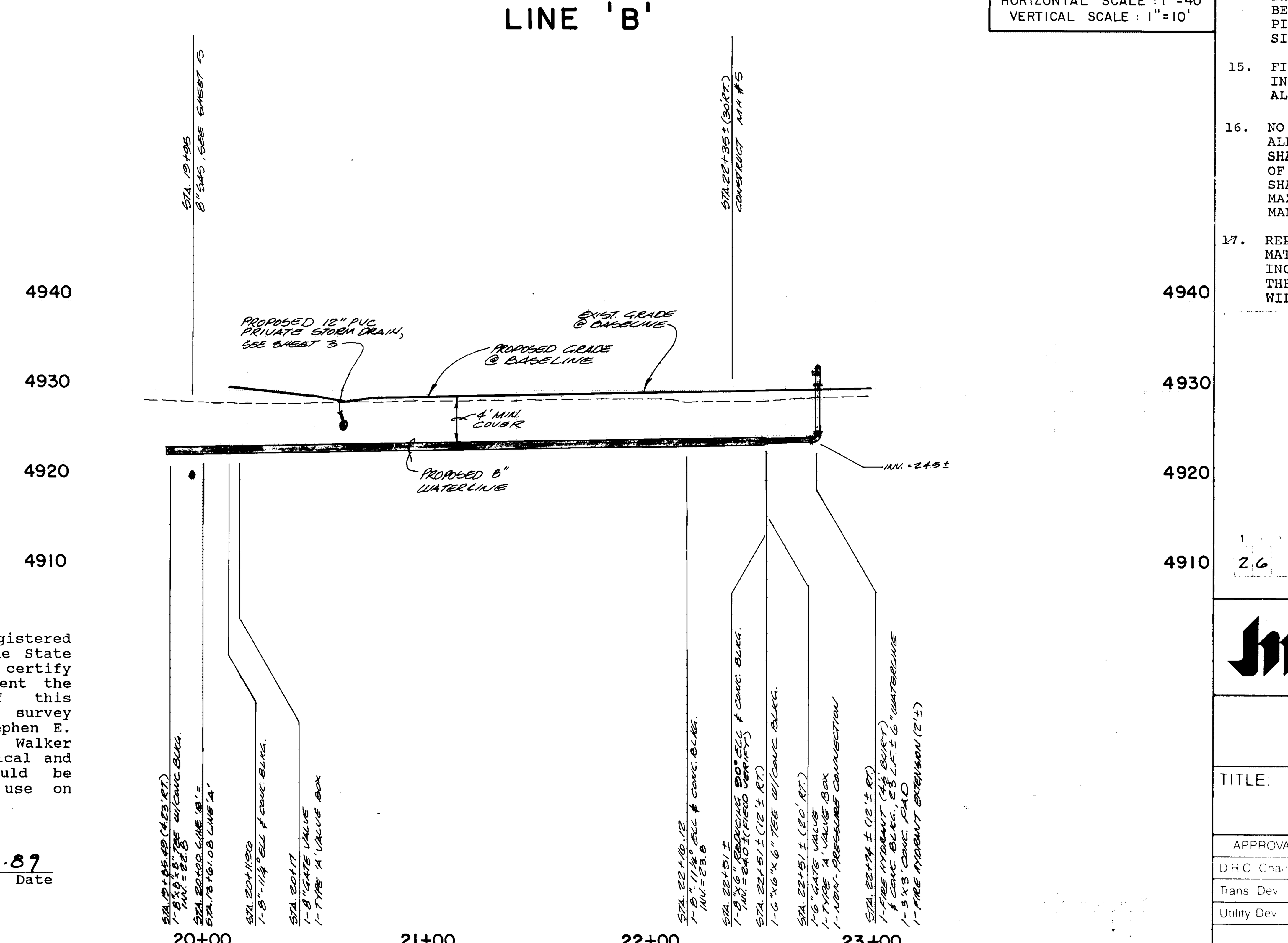
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
DRC Chair	[illegible]	11/17/83			
Trans Dev	N/A				
Utility Dev	[illegible]	11/4/88			

DRAWING NO.	MAP NO.	SHEET OF
3593	P-12	6 8



HORIZONTAL SCALE : 1"=40'
VERTICAL SCALE : 1"=10'

LINE 'B'



⚠ RECORD DRAWING

I, Jeffrey G. Mortensen, Registered Professional Engineer in the State of New Mexico, do hereby certify that these drawings represent the "as-built" conditions of this project as determined from survey information provided by Stephen E. Walker, NMPS No. 6401, Walker Surveying Company. All vertical and horizontal dimensions should be field verified prior to use on future projects.

[illegible] 06-16-89
Jeffrey G. Mortensen Date
NMPE No. 8547

SANITARY SEWER SYSTEM

1. ALL STATIONING IS BASED ON BASELINE DATA UNLESS INDICATED OTHERWISE. FOR BASELINE DATA, REFER TO BASELINE PLAN (SHEET 5).
2. ALL SEWER PIPE SHALL BE PVC (SDR 35) UNLESS INDICATED OTHERWISE OR AS APPROVED BY THE CITY OF ALBUQUERQUE CITY ENGINEER (SEE NOTE 7).
3. SLOPES SHOWN ON THE PROFILES ARE BASED ON TRUE DISTANCES.
4. ALL MANHOLES SHALL BE FOUR-FOOT DIAMETER TYPE "E" AS PER CITY OF ALBUQUERQUE STANDARD DRAWING 2102 UNLESS OTHERWISE NOTED.
5. MANHOLE TYPE 'C' SHALL BE FOUR-FOOT DIAMETER AS PER CITY OF ALBUQUERQUE STANDARD DRAWING 2101 WHERE SPECIFIED.
6. SEWER SERVICE LATERALS SHALL BE CONSTRUCTED AS PER CITY OF ALBUQUERQUE STANDARD DRAWING 2125.
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WATER DISTRIBUTION SYSTEM

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9. WATER MAIN SHALL BE PVC C-900 PIPE OR AS APPROVED BY THE CITY OF ALBUQUERQUE CITY ENGINEER (SEE NOTE 12).
10. WATER LINE SHALL HAVE A MINIMUM COVER OF 4'0" (FINISHED GRADE TO TOP OF PIPE).
11. ELECTRONIC MARKER DISCS (EMD) SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARD SPECIFICATION.
12. DUCTILE IRON IS AN ACCEPTABLE PIPE MATERIAL IN LIEU OF PVC.
13. ALL PIPE SHALL BE FURNISHED WITH CLASS "C" BEDDING UNLESS OTHERWISE NOTED. ALL TRENCHING BACKFILL SHALL BE COMPACTED TO A MINIMUM OF 90% OF OPTIMUM, AS PER ASTM D-1557.
14. WHERE SEWER AND WATER LINES CROSS, IF VERTICAL CLEARANCE DOES NOT EXCEED 1'6", THE SEWER LINE MUST BE PVC AWWA C-900 PRESSURE RATED PIPE BETWEEN THE MANHOLES ON EACH SIDE OF THE CROSSING.
15. FIRE HYDRANTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE STANDARD DRAWING 2340.
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17. REPLACEMENT GASKETS & JOINTING MATERIALS SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.

26 3593 0789

AS BUILT INFORMATION
CONTRACTOR
WORK STAKED BY DATE
INSPECTOR'S ACCEPTANCE BY DATE
FIELD VERIFICATION BY DATE
DRAWINGS CORRECTED BY DATE
MICRO-FILM INFORMATION
RECORDED BY DATE
NO

BENCH MARKS
NMSHC / ACS STATION NM 500-3, BEING A STANDARD NMSHC BRASS TABLET STAMPED "STA NM 500-3", SET IN TOP OF A CONC. POST FLUSH W/ GROUND. STATION IS LOCATED IN THE INTER-SECTION OF RIO BRAVO BLVD. & ISLETA BLVD., IN THE CENTER OF THE EAST MEDIAN ON RIO BRAVO, ABOUT 15 FEET EAST OF THE MEDIAN NOSE.
ELEVATION = 4930.55 FEET (M.S.L.D.)

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL
JEFFREY G. MORTENSEN NEW MEXICO 8547 REGISTERED PROFESSIONAL ENGINEER
[illegible] 09-30-88

REVISIONS

NO.	DATE	REMARKS	BY
⚠1	6/15/89	AS-BUILT WATERLINE & S.A.S.	L.P.U.

DESIGN			
DESIGNED BY	P.M.L.	DATE	6-88
DRAWN BY	C.V.M.	DATE	6-88
CHECKED BY	J.G.M.	DATE	6-88

JEFF MORTENSEN & ASSOCIATES, INC.
811 DALLAS, N.E. ALBUQUERQUE, NM 87110
ENGINEERS TELEPHONE (505) 265-5611

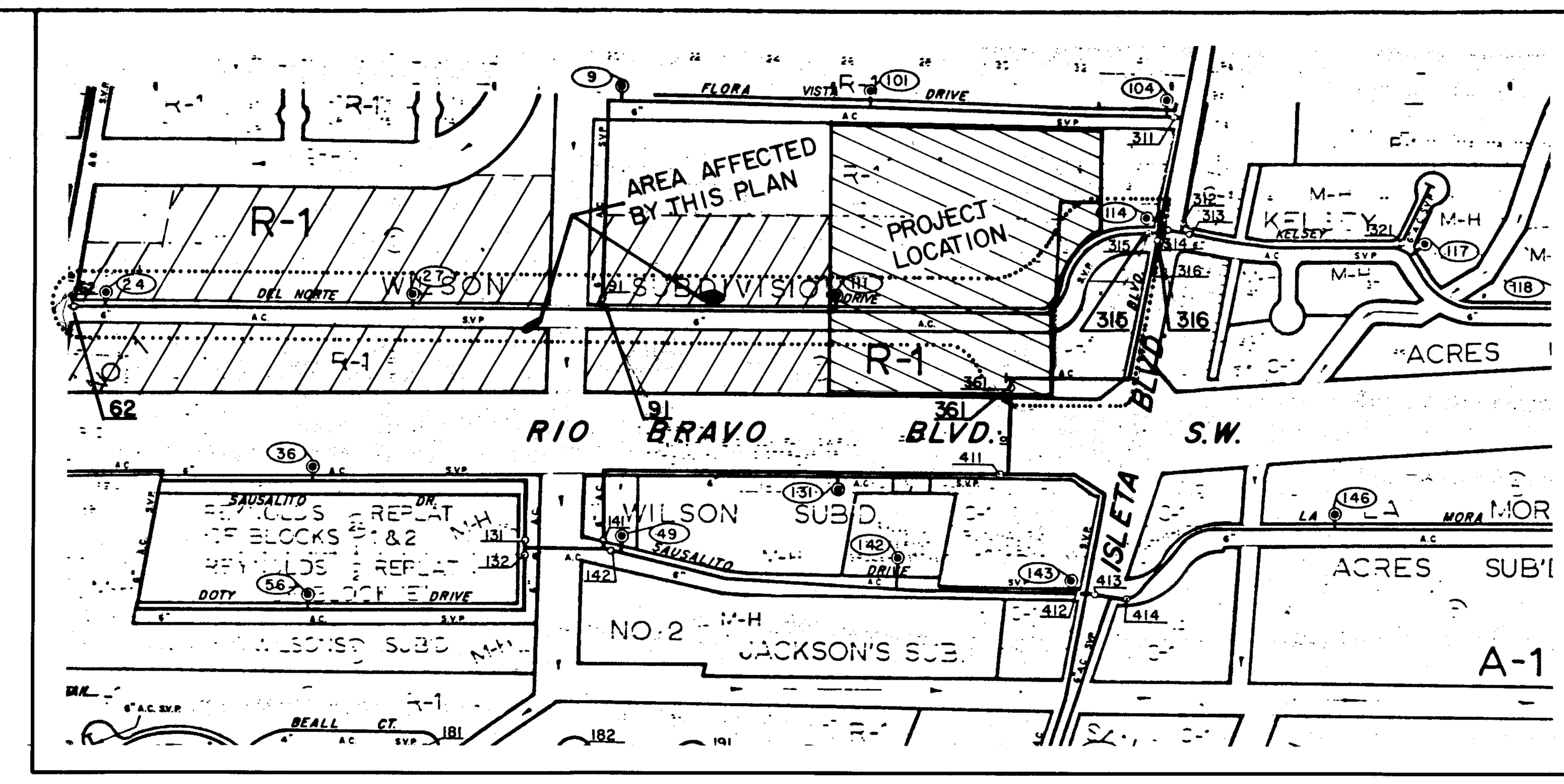
CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: RIO BRAVO SHOPPING CENTER
LINE 'B' - WATERLINE PLAN & PROFILE

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair	[illegible]	11/17/88			
Trans. Dev.	NA				
Utility Dev.	[illegible]	11/4/88			

DRAWING NO.	MAP NO.	SHEET	OF
3593	P-12	7	8

JOB No. 50233



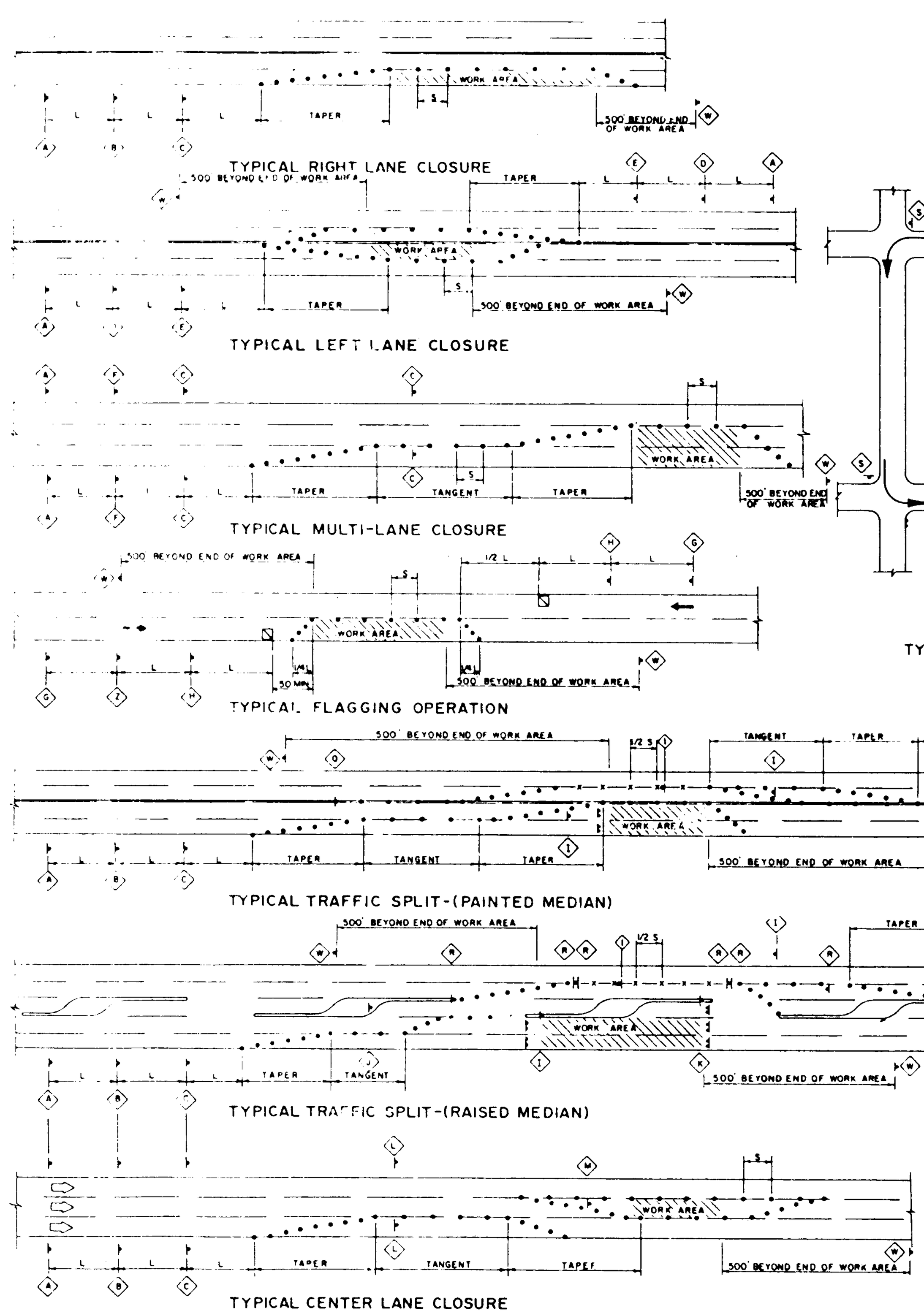
VALVE SHUT-OFF PLAN

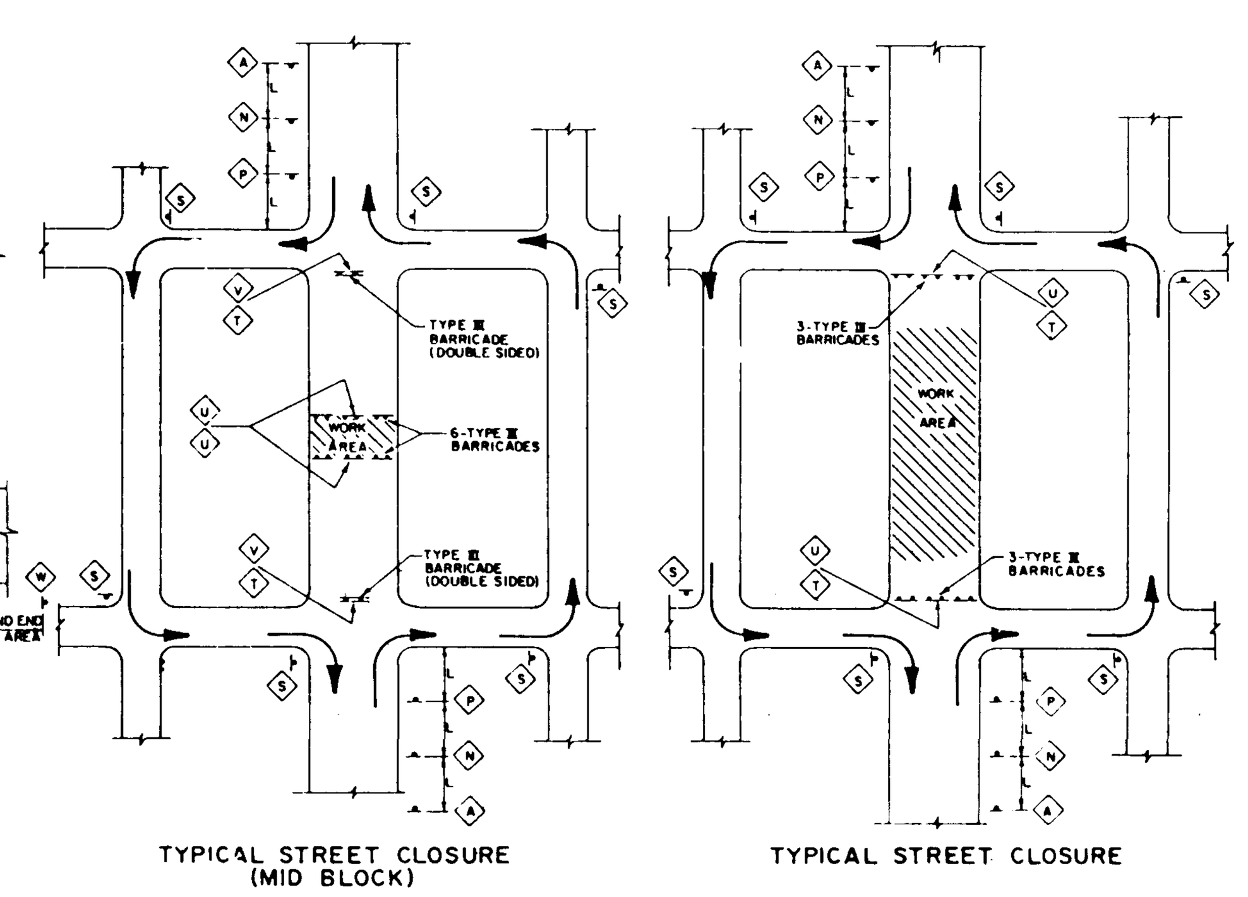
P-12-N

VALVE SHUT-OFF PLAN

1. CLOSE VALVES 62, 91 AND 315 FOR CONNECTIONS ALONG EXISTING 6" LINE IN DEL NORTE DRIVE. THE CONNECTIONS SHALL ALL BE MADE DURING ONE SHUT-OFF PERIOD TO MINIMIZE SHUT DOWN TIME.

2. CLOSE VALVES 316 AND 361 ON EXISTING 10" LINE FOR EAST END OF LINE "A" CONNECTION.





NOTES

ALL ADVANCE WARNING SIGNS ARE TO BE DOUBLE INDICATED WHENEVER MEDIANS ARE PRESENT.

TRANSFORMATION FROM EXISTING SIGNALS TO SPAN WIRE IS TO OCCUR AT OFF PEAK HOURS

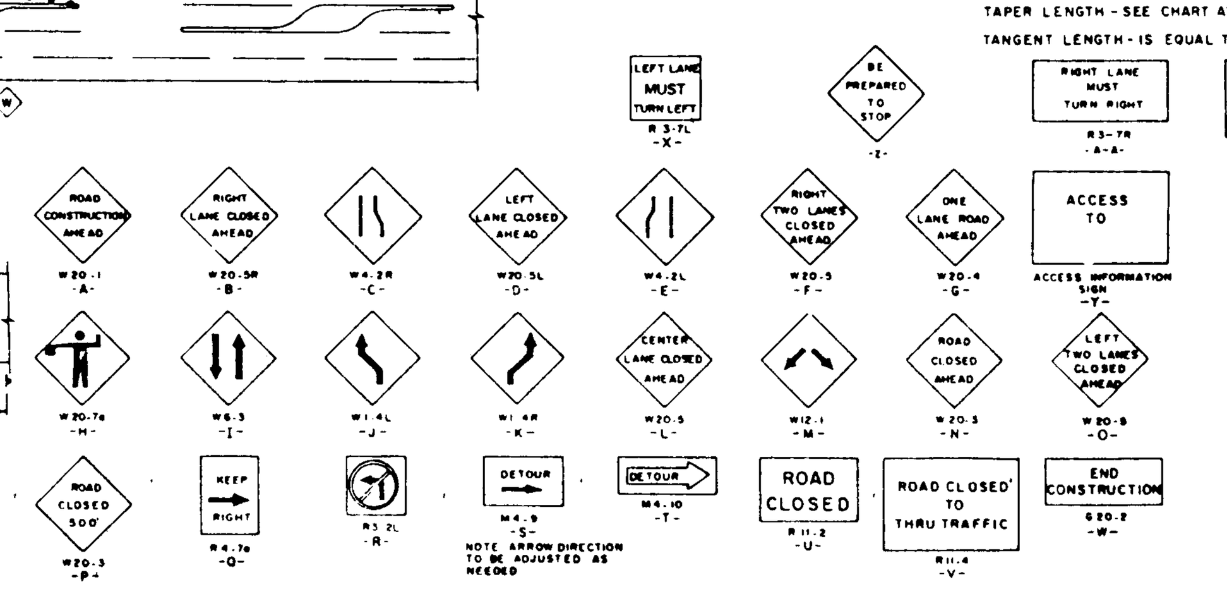
LEGEND

TAPER REQUIREMENTS

SPEED LIMIT (MPH)	TAPER LENGTH (FEET) 10' LANE	11' LANE	12' LANE	MAXIMUM DISTANCE BETWEEN DEVICES (FEET)	MINIMUM NUMBER OF DEVICES REQUIRED
25	104	115	125	25	6
30	150	165	185	30	7
35	204	225	245	35	8
40	267	293	320	40	9
45	450	495	540	45	13
50	500	550	600	50	13
55	550	605	660	55	13

▨ WORK AREA
TRAFFIC SIGN & QUANTITY (SEE THIS SHEET FOR DESIGNATION)
● BARRICADE - TYPE I, TYPE II, OR BARREL
BARRICADE - TYPE III
x VERTICAL PANEL
WARNING SIGN
L DISTANCE BETWEEN SIGNS - A DISTANCE MEASURED IN FEET EQUAL TO A VALUE OF TEN TIMES THE SPEED LIMIT OF THE STREET
FLAGMAN POSITION
S SPACING BETWEEN BARRICADES - A DISTANCE MEASURED IN FEET EQUAL TO THE SPEED LIMIT OF THE STREET

TAPER LENGTH - SEE CHART AT LEFT
TANGENT LENGTH - IS EQUAL TO THE TAPER LENGTH FOR A GIVEN STREET



TRAFFIC CONTROL DETAILS

TRAFFIC CONTROL

1. CONTRACTOR SHALL COMPLY WITH SECTION 19 OF THE CITY OF ALBUQUERQUE STANDARD SPECIFICATION FOR CONSTRUCTION, 1986.

AS BUILT INFORMATION
CONTRACTOR
WORK STAKED BY DATE
INSPECTOR'S ACCEPTANCE BY DATE
FIELD VERIFICATION BY DATE
DRAWINGS CORRECTED BY DATE

MICRO-FILM INFORMATION
RECORDED BY DATE
NO

BENCH MARKS
NMSHC / ACS STATION NM 500-3, BEING A STANDARD NMSHC BRASS TABLET STAMPED "STA NM 500-3", SET IN TOP OF A CONC. POST FLUSH W/ GROUND. STATION IS LOCATED IN THE INTER-SECTION OF RIO BRAVO BLVD. & ISLETA BLVD., IN THE CENTER OF THE EAST MEDIAN ON RIO BRAVO, ABOUT 15 FEET EAST OF THE MEDIAN NOSE.
ELEVATION = 4930.55 FEET (M.S.L.D.)

SURVEY INFORMATION
FIELD NOTES
NO.	BY	DATE

ENGINEER'S SEAL
JEFFREY G. MORTENSEN
NEW MEXICO
8547
REGISTERED PROFESSIONAL ENGINEER
09-30-

REVISIONS
NO.	DATE	REMARKS	BY

DESIGN
DESIGNED BY P.M.L. DATE 6-88
DRAWN BY C.V.M. DATE 6-88
CHECKED BY J.G.M. DATE 6-88

JMA
JEFF MORTENSEN & ASSOCIATES, INC.
811 DALLAS, N.E. ALBUQUERQUE, NM 87110
ENGINEERS TELEPHONE (505) 265-5611

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE:
RIO BRAVO SHOPPING CENTER
VALVE SHUT-OFF PLAN / TRAFFIC CONTROL DETAILS

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
DRC Chair	[illegible]	11/17/88			
Trans Dev.	NA.	"			
Utility Dev	[illegible]	11/4/88			

26 3593 0889

JOB No. 50233

DRAWING NO.	MAP NO.	SHEET	OF
3593	P-12	8	8

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