98TH ST. MASTERPLAN

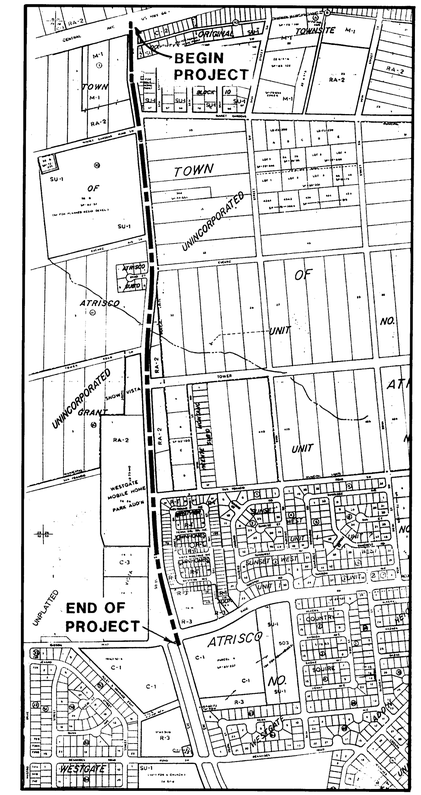
30" WATER LINE

WATER LINE CONSTRUCTION

PLANS FOR

UTILITY DEVELOPMENT DIVISION

CITY OF ALBUQUERQUE



ZONE ATLAS: L-9 & M-9 SCALE: 1"=750'±

LOCATION MAP

NOTES

1. CONTRACTOR SHALL COORDINATE CLOSURE OF EXISTING VALVES AND REQUIRED TIE-INS WITH THE WATER SYSTEMS DIVISION OF THE CITY OF ALBUQUERQUE BY CALLING EITHER 823-4200 OR 768-2730 A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO ANY PLANNED CONSTRUCTION.
2. CONTRACTOR SHALL CONDUCT WORK IN SUCH A WAY THAT TRAFFIC ON 98TH STREET IS SAFELY ROUTED AROUND THE AREA(S) AFFECTED BY CONSTRUCTION. PARKED VEHICLES AND STORED EQUIPMENT & MATERIALS WILL NOT BE ALLOWED WITHIN 15 FEET OF TRAFFIC LANES OF 98TH STREET. ALL REQUIRED WARNING AND CAUTIONARY SIGNS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
3. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OR SURVEYOR SO THAT THE CONFLICT CAN BE RESOLVED WITH MINIMUM AMOUNT OF DELAY.
5. 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 FOR PUBLIC WORKS CONSTRUCTION 1986.

INDEX

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2. MASTER UTILITY PLAN
3. WATER VALVE SHUT-OFF PLAN
4.-9. PLAN & PROFILE SHEETS
10. WATER LINE DETAILS
11. TRAFFIC CONTROL DETAILS & NOTES

for 6/14/87

26 3377 0189

AS-BUILT 11-18-88

REV.	SHEETS	CITY ENGR.	DATE	USER DEPT.	DATE	USER DEPT.	DATE

APPROVAL OF REVISIONS

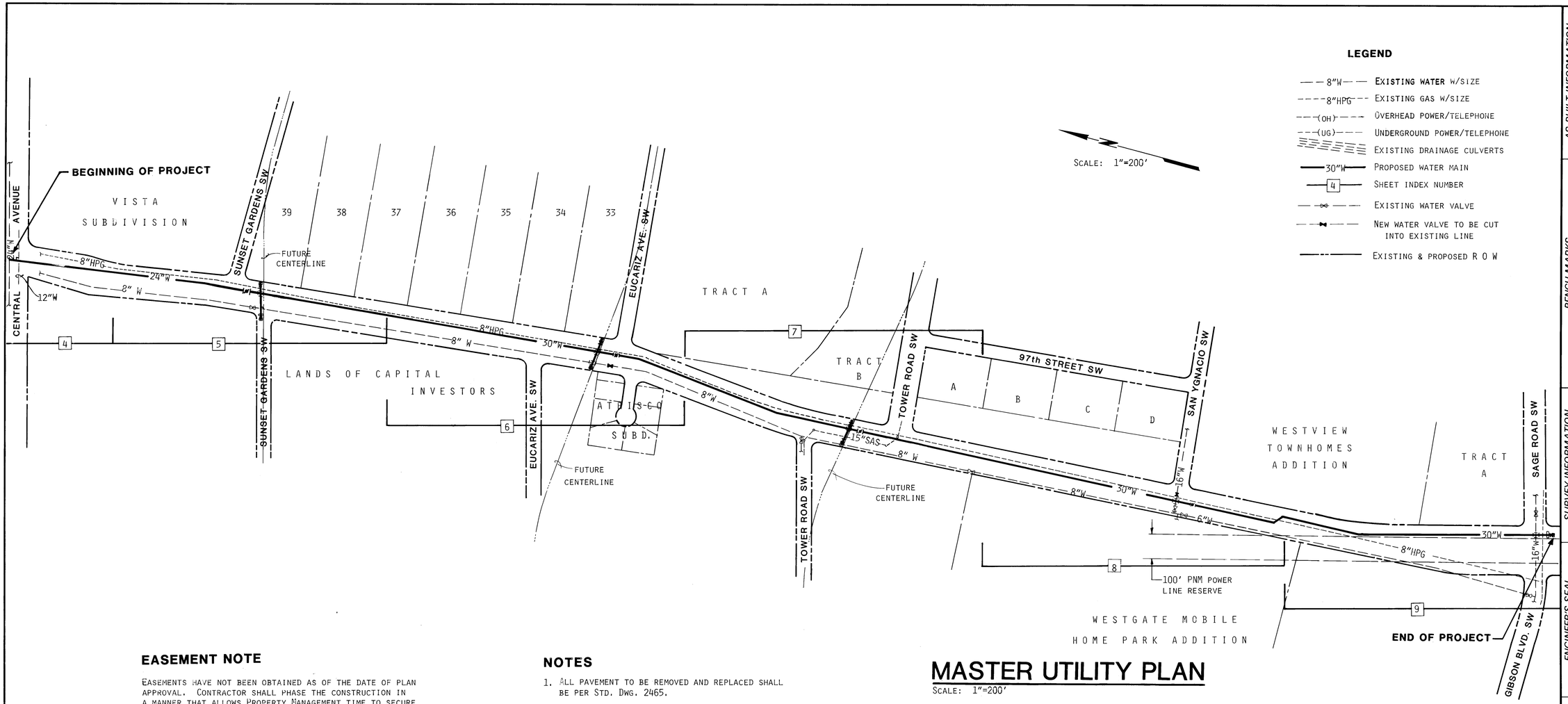
FRED C. ARFMAN NEW MEXICO 7322 REGISTERED PROFESSIONAL ENGINEER
12-23-87

Isaacson & Arfman, P.A.
CONSULTING ENGINEERING ASSOCIATES
Albuquerque, New Mexico

APPROVED FOR CONSTRUCTION
4/5/88

PROJECT NO. 3377

SHEET 1 OF 11



MASTER UTILITY PLAN

SCALE: 1"=200'

EASEMENT NOTE

EASEMENTS HAVE NOT BEEN OBTAINED AS OF THE DATE OF PLAN APPROVAL. CONTRACTOR SHALL PHASE THE CONSTRUCTION IN A MANNER THAT ALLOWS PROPERTY MANAGEMENT TIME TO SECURE THE EASEMENTS. IF EASEMENTS HAVE NOT BEEN OBTAINED, THEN CONTRACTOR SHALL INSTALL A SHORTENED LATERAL THAT WILL TERMINATE FOUR (4) FEET INSIDE THE EXISTING RIGHT-OF-WAY LINE. THE FIELD LOCATED VALVE SHALL BE FLANGE BY MECHANICAL JOINT FOR WHICH NO ADDITIONAL PAYMENT WILL BE MADE.

CONSTRUCTION NOTE

NO SEPARATE PAYMENT WILL BE MADE FOR FLANGED OUTLETS, RESTRAINED JOINTS, OR MECHANICAL JOINT FITTINGS AS NOTED ON THE PLANS. THESE ITEMS TO BE CONSIDERED INCIDENTAL TO THE LINEAL FOOT COST OF THE WATER LINE.

NOTES

1. ALL PAVEMENT TO BE REMOVED AND REPLACED SHALL BE PER STD. DWG. 2465.
2. THE REALIGNED INTERSECTIONS WITH SUNSET GARDENS ROAD, EUCARIZ AVE, AND TOWER ROAD SW ARE BASED ON ALIGNMENTS APPROVED IN CONCEPT BY THE TRANSPORTATION PLANNING DEPARTMENT. THE REQUIRED RIGHTS-OF-WAY HAVE NOT BEEN OBTAINED NOR HAS THE PROPOSED EXCESS RIGHTS-OF-WAY BEEN VACATED.
3. ALL STATIONING IS STREET CENTERLINE STATIONING.
4. SURVEY CENTERLINE IS SHOWN TO PROVIDE ADDITIONAL PROFILE INFORMATION WHERE WATER LINE IS DESIGNED OUT FROM UNDER THE EXISTING PAVEMENT.
5. THE DESIGN SHOWN HEREIN REFLECTS THE USE OF CONCRETE CYLINDER PIPE. SHOULD THE CONTRACTOR ELECT TO INSTALL DUCTILE IRON PIPE, THE FOLLOWING FITTING SCHEDULE WILL REPLACE THE BUILT-IN DEFLECTIONS POSSIBLE WITH CONCRETE CYLINDER PIPE.

DEFLECTION ANGLE		REQUIRED FITTING
FROM	TO	SUBSTITUTE
0°	7°	DEFLECT JOINTS ≤ 2°20'
7°	17°	11-1/4° BEND
17°	28°	22-1/2° BEND
28°	39°	11¼° AND 22½° BENDS
39°	51°	45° BEND
51°	62°	45° AND 11¼° BENDS
62°	73°	45° AND 22½° BENDS
73°	84°	11¼° AND 90° BENDS
84°	90°	90° BEND

WARNING - UTILITY LINE LOCATIONS

Any existing utility lines, pipelines, or underground utility lines shown on these drawings 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 utility or pipeline company, the owner, or by others, 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. 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, in planning and conducting excavation, whether by calling or notifying the utilities, complying with "blue stakes" procedures, or otherwise.

AS BUILT INFORMATION
CONTRACTOR CCM DATE 6/85
WORK STAKED BY SDG DATE 10/86
INSPECTORS ACCEPTANCE BY BLS DATE
FIELD VERIFICATION BY DATE
DRAWINGS CORRECTED BY I&A DATE 11/85
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
ACS "2-L9" ELEVATION = 5195.19
ACS "5-M9" ELEVATION = 5150.92

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE
1	W.P.	10/87

ENGINEER'S SEAL
FRED C. ARCHIBEQUE NEW MEXICO 7322 REGISTERED PROFESSIONAL ENGINEER 18-EZ-21

NO.	DATE	REMARKS	BY
		REVISIONS	

DESIGN
DESIGNED BY DATE
DRAWN BY DATE
CHECKED BY DATE

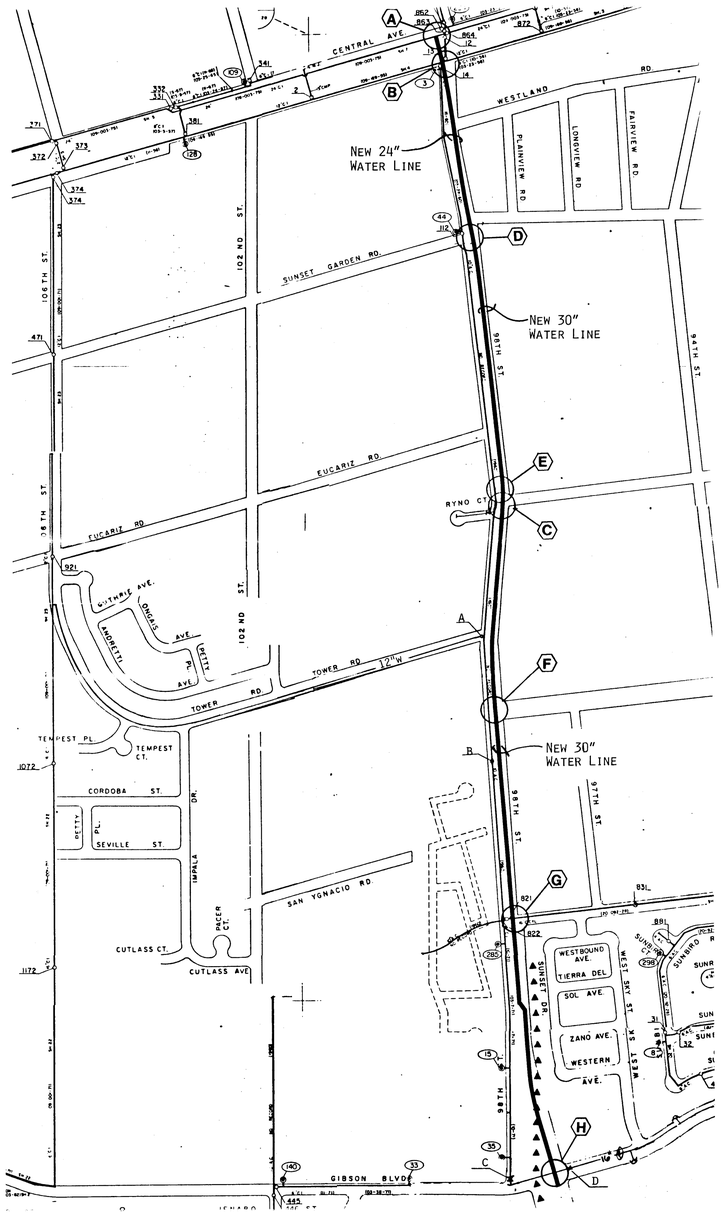
1 2 3 4 5 6 7 8 9 10 11* 12
2 6 3 3 7 7 0 2 8 9

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

TITLE: 98th STREET WATERLINE
MASTER UTILITY PLAN

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer		3/30/88	Liquid Waste		3/17/88
A.C.E. Design	" "	" "	Traffic		3/30/88
A.C. E.-Hydrology		2/24/88	Water		3/17/88

DRAWING NO. 3377 MAP NO. L-9, M-9 SHEET 2 OF 11



WATER VALVE SHUT-OFF PLAN

SCALE: 1" = 400'

KEYED LOCATION	PROCEDURE
A	CONNECTION TO EXISTING 24" LINE SHALL BE MADE WITH VALVES NO. 371, 372, 863, 864, AND 12 CLOSED. SHUT DOWN LIMITED TO EIGHT (8) HOURS.
B	PRESSURE CONNECTION TO EXISTING 12" LINE SHALL BE MADE WITHOUT CLOSING ANY VALVES.
C	INSERTION OF 8" VALVE IN EXISTING LINE (AT STATION 27+90±) SHALL BE MADE BY CLOSING VALVES NO. 112, A, AND B. SHUT DOWN LIMITED TO EIGHT (8) HOURS.
D	CONNECTION TO EXISTING 8" LINE SHALL BE MADE BY CLOSING VALVE NO. 112 AND THE NEW VALVE INSTALLED IN PART C ABOVE. THERE ARE NO SERVICES IN THIS REACH, THEREFORE SHUT DOWN TIME WILL BE LIMITED TO THIRTY-SIX (36) HOURS.
E	CONNECTION TO EXISTING 8" LINE SHALL BE MADE BY THE SAME PROCEDURE DESCRIBED IN PART D ABOVE. SHUT DOWN TIME LIMITED TO THIRTY-SIX (36) HOURS.
F	CONNECTION TO EXISTING 8" LINE SHALL BE MADE WITH VALVES NO. A, B, AND THE NEW VALVE, INSTALLED IN PART C ABOVE, CLOSED. SHUT DOWN TIME LIMITED TO EIGHT (8) HOURS.
G	CONNECTION TO EXISTING 16" LINE SHALL BE MADE WITH VALVES NO. 821 AND 831 CLOSED. THE EXISTING 16" LINE WILL NEED TO BE LOWERED PRIOR TO MAKING THIS CONNECTION, THEREFORE SHUT DOWN TIME LIMITED TO SIXTY (60) HOURS.
H	CONNECTION TO EXISTING 16" LINE SHALL BE MADE WITH VALVES NO. C AND D CLOSED. SHUT DOWN TIME LIMITED TO THIRTY-SIX (36) HOURS.

APPROVED:

WATER OPERATIONS — DATE: 3-21-88

AS BUILT INFORMATION

CONTRACTOR CCM
WORK STAKED BY EDG DATE 9/88
INSPECTORS DATE 10/88
ACCEPTANCE BY BLS DATE
FIELD VERIFICATION BY DATE
CORRECTED BY I&A DATE 11/88
MICRO-FILM INFORMATION
RECORDED BY DATE
NO

BENCH MARKS

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	

DESIGNED BY SMM DATE 2/88
DRAWN BY SMM DATE 2/88
CHECKED BY FCA DATE 2/88

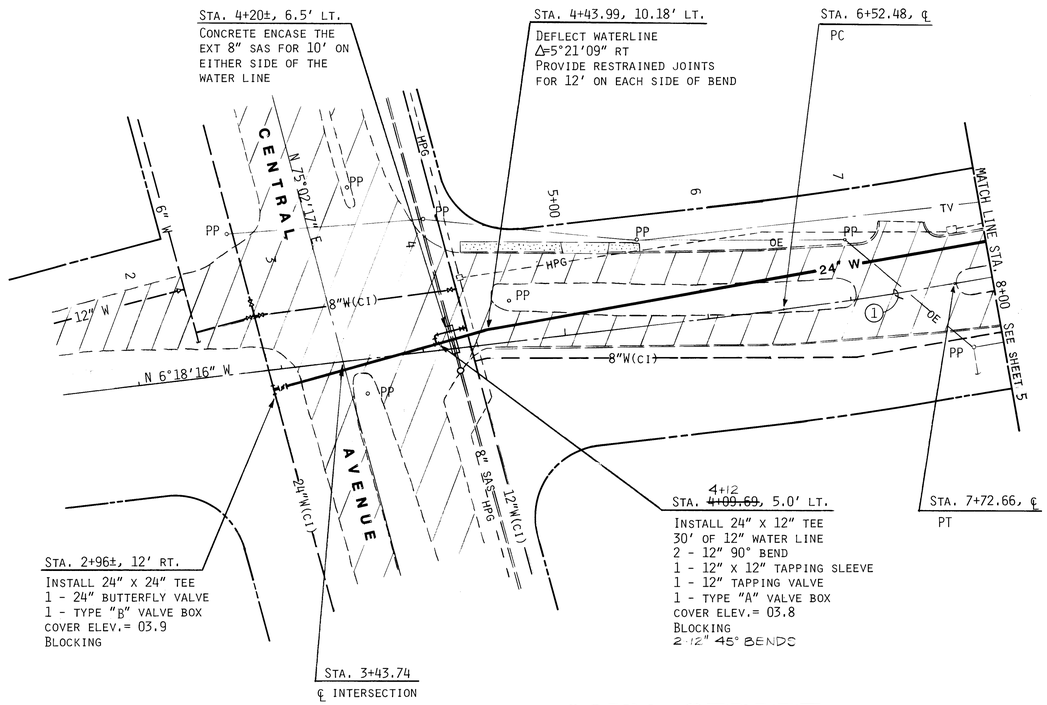
1 2 3 4 5 6 7 8 9 10 11 12
2 6 3 3 7 7 0 3 8 9

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

TITLE: 98th STREET WATERLINE
WATER VALVE
SHUT OFF PLAN

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer		7/30/88	Liquid Waste		3/17/88
A.C.E. Design	" "	"	Traffic		3/30/88
A.C.E.-Hydrology	GSK	2/26/88	Water		3/17/88

DRAWING NO. 3377 | MAP NO. L-9, M-9 | SHEET 3 OF 11



98TH STREET

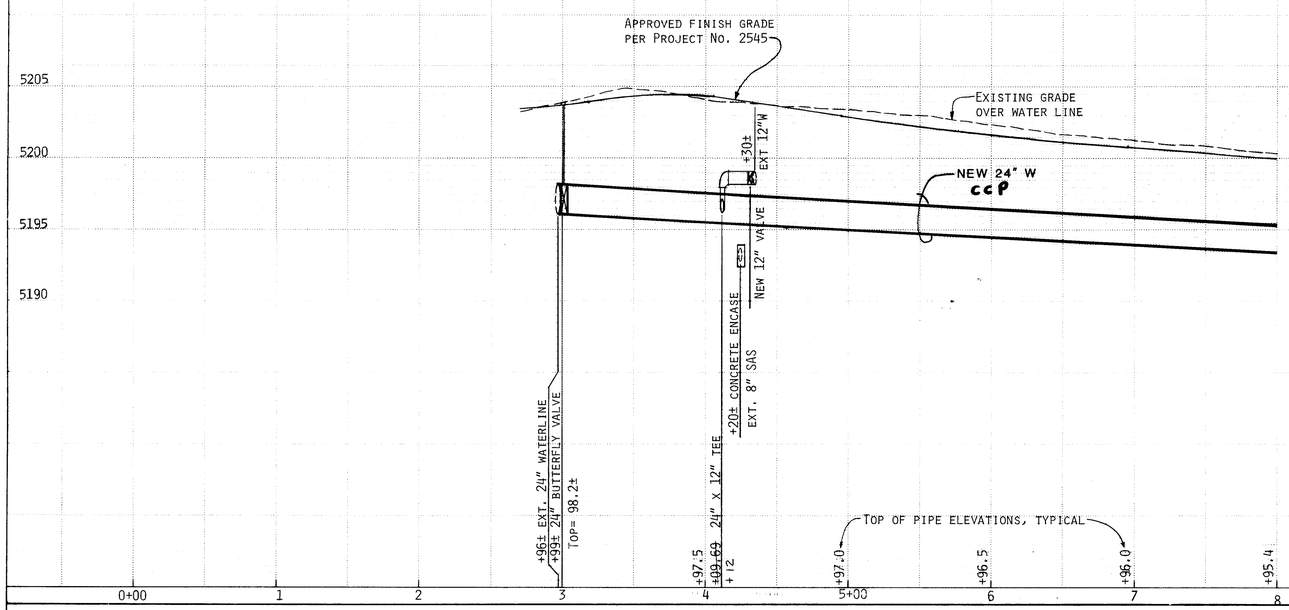
SCALE: 1" = 50' HORIZONTAL
1" = 5' VERTICAL

℄ Curve Data

No.	Radius	Delta	Arc
1	2083.48'	3°18'18"	120.18'

NOTICE TO CONTRACTOR:

SHOULD PUBLIC WORKS PROJECT No. 2545 BE BUILT EITHER PRIOR TO OR CONCURRENT WITH THIS WATERLINE, THEN THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE FINAL GRADES ASSOCIATED WITH THE AFOREMENTIONED PROJECT.



DATE	BY	REMARKS
2/88	SWM	REVISIONS
2/88	SWM	DESIGN
2/88	FCA	

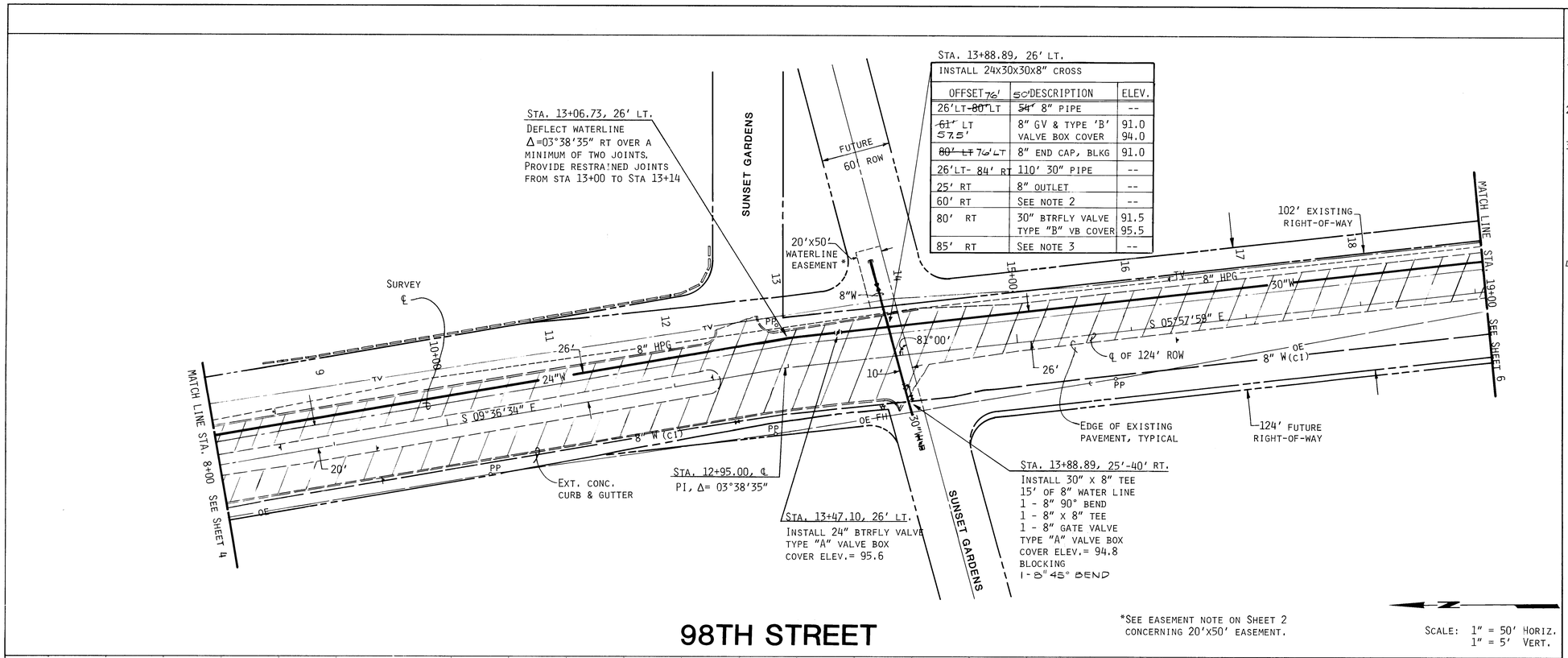
26 3377048 9

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT
ENGINEERING DIVISION

TITLE: 98th STREET WATERLINE
PLAN & PROFILE
STA. 2+96 TO STA. 8+00

APPROVALS		
City Engineer		7/20/88
A.C.E.-Design		2/24/88
A.C.E. Hydrology		

DRAWING NO. 3377 | MAP NO. K-9 | SHEET 4 OF 11



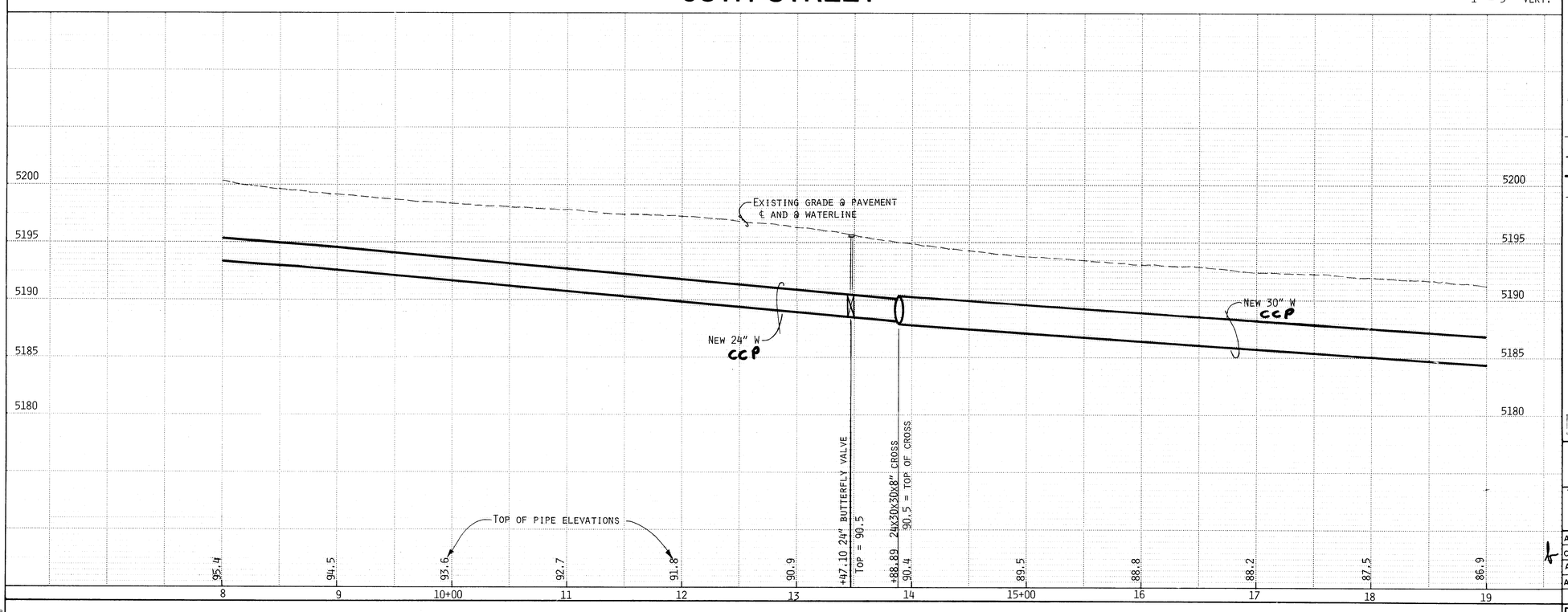
STA. 13+88.89, 26' LT.
INSTALL 24x30x30x8" CROSS

OFFSET ~~76'~~	~~50'~~ DESCRIPTION	ELEV.
26'LT-~~80'~~LT	~~54'~~ 8" PIPE	--
~~61'~~ LT 57.5'	8" GV & TYPE 'B' VALVE BOX COVER	91.0 94.0
~~80' LT~~ 76'LT	8" END CAP, BLKG	91.0
26'LT- 84' RT	110' 30" PIPE	--
25' RT	8" OUTLET	--
60' RT	SEE NOTE 2	--
80' RT	30" BTRFLY VALVE TYPE "B" VB COVER	91.5 95.5
85' RT	SEE NOTE 3	--

98TH STREET

*SEE EASEMENT NOTE ON SHEET 2 CONCERNING 20'x50' EASEMENT.

SCALE: 1" = 50' HORIZ.
1" = 5' VERT.



CONSTRUCTION NOTES

1. ELEVATIONS GIVEN IN NOTE TABLE ARE EITHER TOP OF PIPE OR VALVE BOX COVER ELEVATIONS AS SHOWN.
2. BUILD SHEAR KEY / DEADMAN PER DETAIL ON SHEET 10.
3. THE CONTRACTOR SHALL INSTALL A 30" HARNESSED BLIND FLANGE PER THE DETAIL ON SHEET 10. A 2" AIR RELEASE VALVE SHALL BE INSTALLED IN LIEU OF THE 6" DRAIN LINE.
4. PROVIDE 85' OF RESTRAINED JOINT PIPE FROM THE CROSS AT STATION 13+88.89 WEST TO THE HARNESSED BLIND FLANGE.

LEGEND

- EXISTING R.O.W. LINE
- PROPOSED R.O.W. LINE
- FUTURE CENTER LINE
- EXT. CONCRETE CURB
- TV — EXT. UG TELEVISION
- 8"HPG — EXT. GAS MAIN
- 8"W — EXT. WATER LINE
- 30"W — NEW WATERLINE
- OE — PP — EXT. POWER POLE W/OH ELECTRIC
- FH — EXT. FIRE HYDRANT
- EXT. TRAFFIC SIGN

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

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE
1	W.P.	10/87

BENCH MARKS

ACS CONTROL POINT "2-L9", A 60 PENNY NAIL IN A POWER POLE ON THE WEST SIDE OF 98TH STREET SW LOCATED 0.2 MILES SOUTH OF CENTRAL AVENUE.

ELEVATION: 5195.19

AS BUILT INFORMATION

CONTRACTOR CCM
WORK STAKED BY SDG DATE 4/88
INSPECTORS FIELD CHANGE BY BCJ DATE 10/88
FIELD VERIFICATION BY DATE
DRAWINGS CORRECTED BY I.&A. DATE 11/88
MICRO-FILM INFORMATION
RECORDED BY DATE
NO. DATE

ENGINEER'S SEAL

FRED C. ARCHIBA
NEW MEXICO
7327
REGISTERED PROFESSIONAL ENGINEER
12-23-87

NO.	DATE	REMARKS	BY

REVISIONS

		DATE
DESIGNED BY	SMM	12/87
DRAWN BY	NAF	12/87
CHECKED BY	FCA	12/87

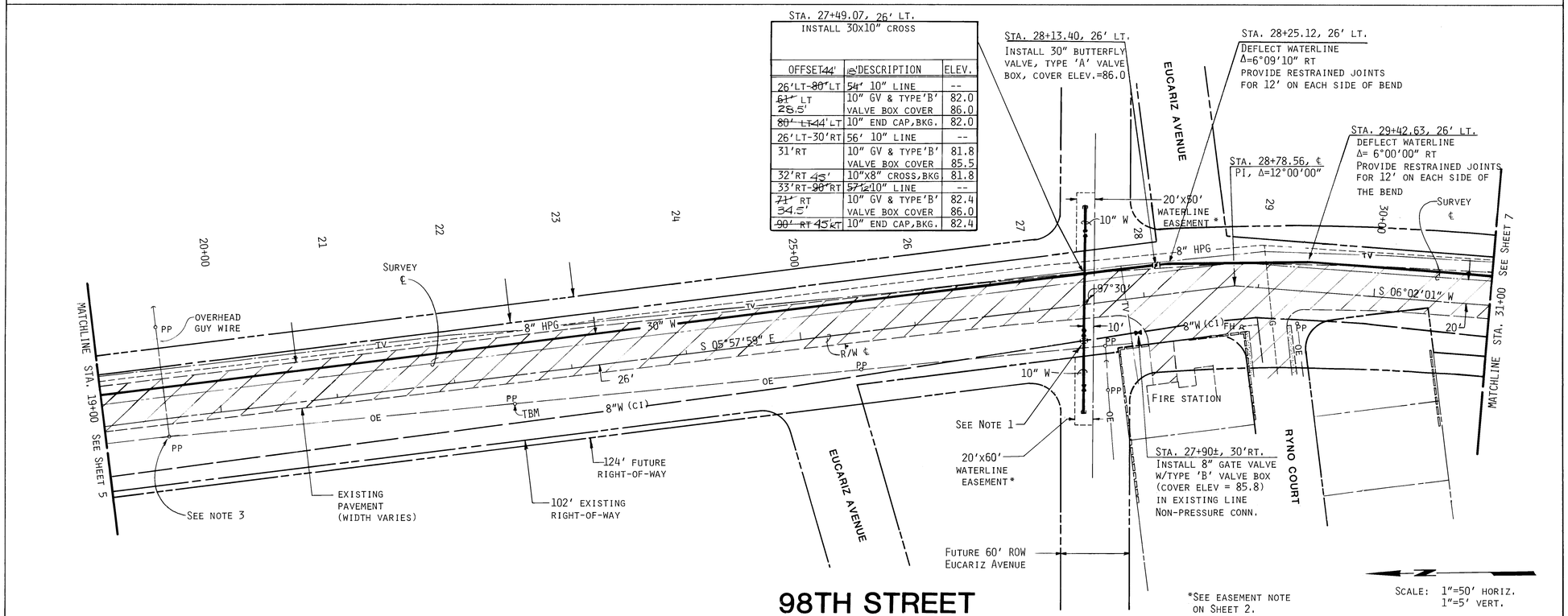
CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

TITLE: 98th STREET WATERLINE
PLAN & PROFILE
STA. 8+00 TO STA. 19+00

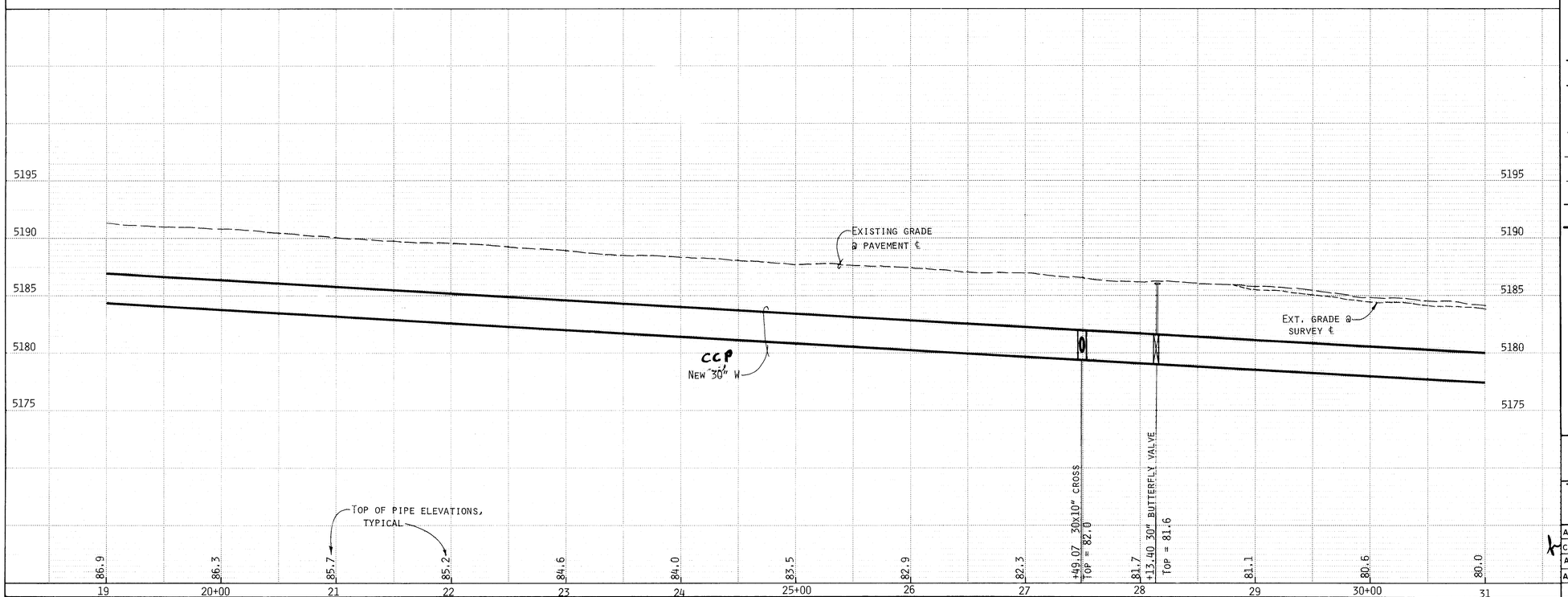
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer		3/30/88	Liquid Waste		3/17/88
A.C.E.-Design	" "	"	Traffic		3/30/88
A.C.E.-Hydrology		3/24/88	Water		3/17/88

DRAWING NO. 3377 | MAP NO. L-9 | SHEET 5 OF 11

STA. 27+49.07, 26' LT. INSTALL 30x10" CROSS		
OFFSET	DESCRIPTION	ELEV.
26'LT-~~80'~~ LT	54' 10" LINE	--
~~61'~~ LT 28.5'	10" GV & TYPE'B' VALVE BOX COVER	82.0 86.0
~~80' LT~~ 44' LT	10" END CAP,BKG.	82.0
26'LT-30'RT	56' 10" LINE	--
31'RT	10" GV & TYPE'B' VALVE BOX COVER	81.8 85.5
32'RT ~~45'~~	10"x8" CROSS,BKG	81.8
33'RT-~~90'~~ RT	~~57~~ 12 10" LINE	--
~~71'~~ RT 34.5'	10" GV & TYPE'B' VALVE BOX COVER	82.4 86.0
~~90' RT 45' RT~~	10" END CAP,BKG.	82.4



98TH STREET



CONSTRUCTION NOTES

1. THE EXISTING 8" WATER LINE SHALL BE REMOVED AND RE-INSTALLED AS REQUIRED TO INSTALL THE CROSS AT THE DESIGN GRADE.
2. ELEVATIONS LISTED IN NOTE TABLE REFER EITHER TO TOP OF PIPE OR VALVE BOX COVER ELEVATIONS.
3. CONTRACTOR SHALL INSTALL AND MAINTAIN PROTECTIVE TRAFFIC DEVICES AROUND EXISTING POWER POLE IF TRAFFIC IS SHIFTED WEST OFF OF THE EXISTING ASPHALT PAVEMENT.

LEGEND

- EXT. R.O.W. LINE
- FUTURE R.O.W. LINE
- FUTURE CENTERLINE
- 8"HPG — EXT. GAS MAIN
- OE — EXT. OVERHEAD ELECTRIC
- TV — EXT. BURIED TV CABLE
- 8"W — EXT. 8" WATERLINE
- 30"W — PROPOSED WATERLINE

2 6 3 3 7 7 0 6 8 9

AS BUILT INFORMATION
CONTRACTOR C.C.M.
WORK STAKED BY SPC DATE 6/85
INSPECTOR'S ACCEPTANCE BY BCJ DATE 10/87
FIELD VERIFICATION BY DATE
DRAWINGS CORRECTED BY I & A DATE 1/85
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
ACS CONTROL POINT "2-L9", A 60 PENNY NAIL IN A POWER POLE ON THE WEST SIDE OF 98TH STREET SW LOCATED 0.2 MILES SOUTH OF CENTRAL AVENUE.
ELEVATION: 5195.19

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE
1	W.P.	10/87

ENGINEER'S SEAL
FRED C. ARFMAN NEW MEXICO 7322 REGISTERED PROFESSIONAL ENGINEER
12-2-87

NO.	DATE	REMARKS	BY

REVISIONS

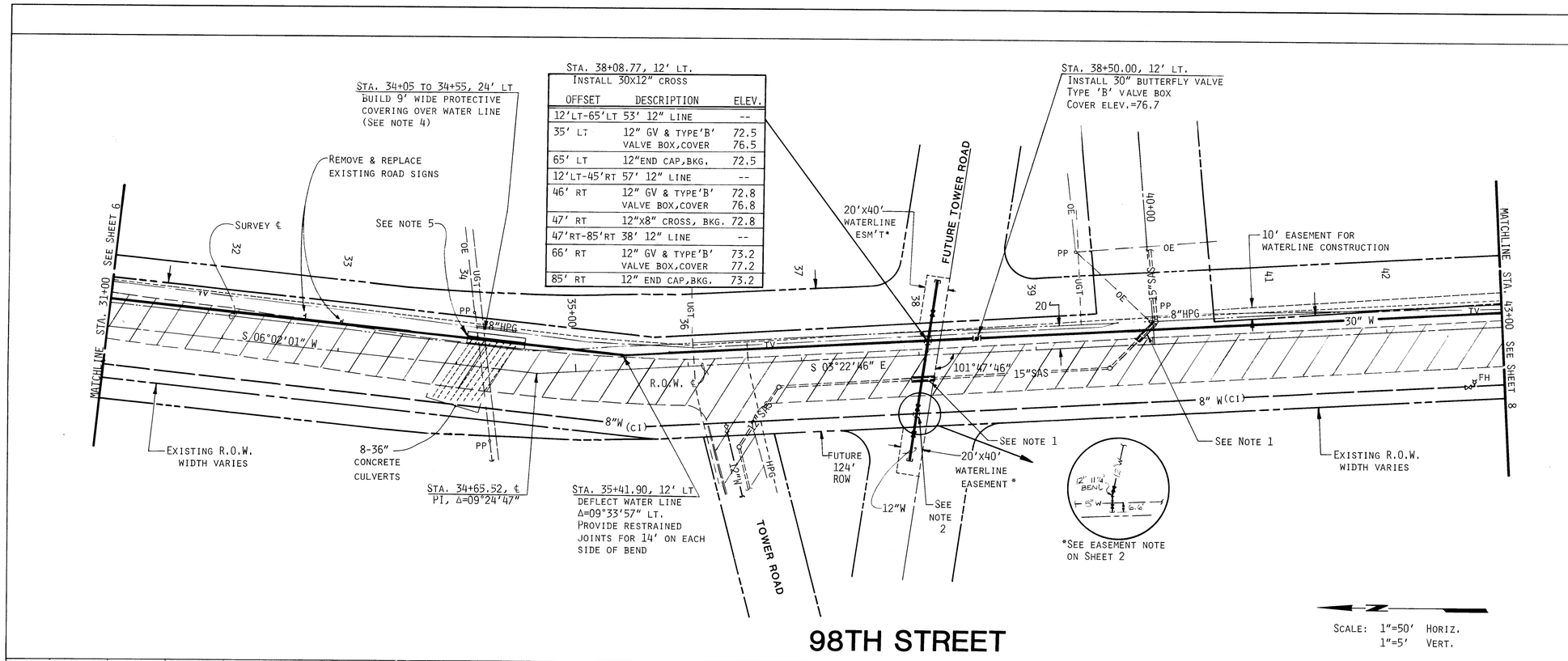
DESIGN		
DESIGNED BY	SMM	DATE 12/87
DRAWN BY	NAF	DATE 12/87
CHECKED BY	FCA	DATE 12/87

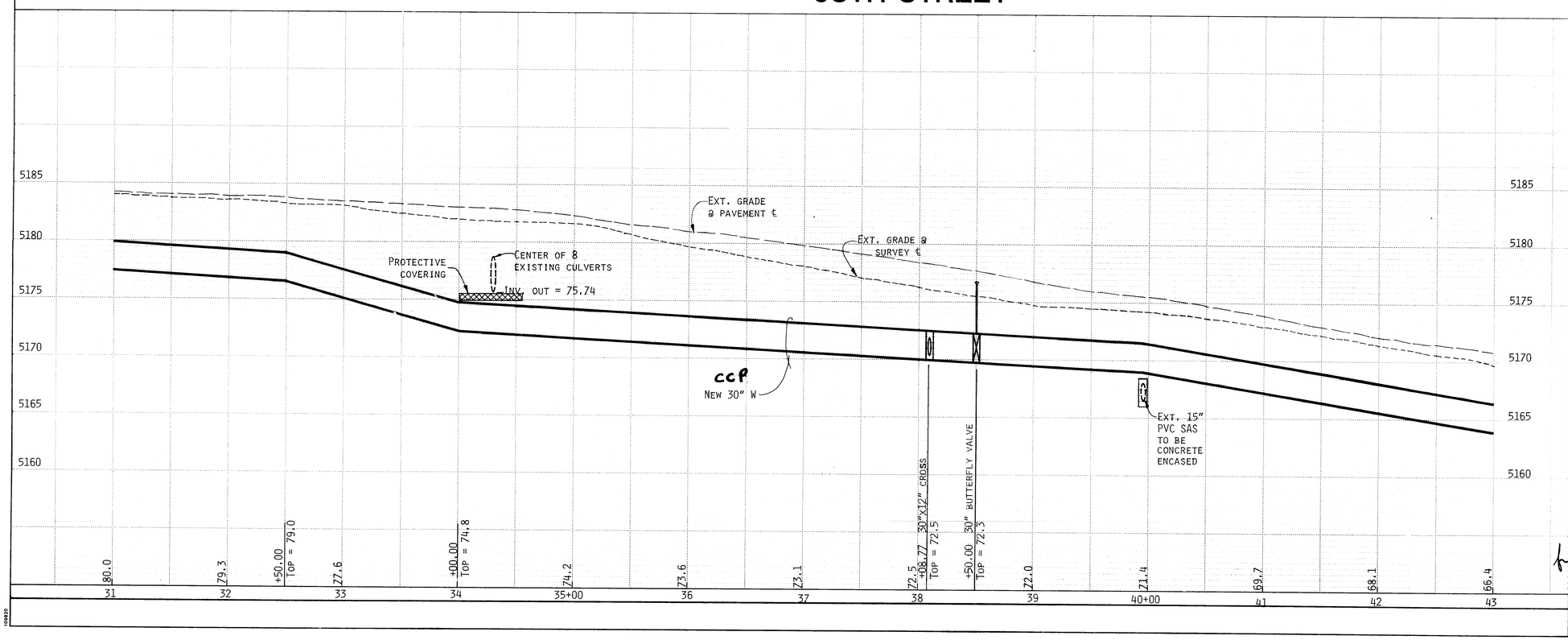
CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

TITLE: 98th STREET WATERLINE PLAN & PROFILE STA. 19+00 TO STA. 31+00

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer		3/30/88	Liquid Waste		3/17/88
A.C.E.-Design	" "	"	Traffic		3/30/88
A.C.E.-Hydrology		2/26/88	Water		3/17/88

DRAWING NO. 3377 | MAP NO. L-9 | SHEET 6 OF 11





CONSTRUCTION NOTES

1. THE EXISTING 15" PVC SANITARY SEWER LINE SHALL BE CONCRETE ENCASED FOR 10' ON EITHER SIDE OF THE WATERLINE
2. THE EXISTING 8" WATER LINE SHALL BE REMOVED AND RE-INSTALLED AS REQUIRED TO INSTALL THE CROSS AT THE DESIGN GRADE.
3. ELEVATIONS LISTED IN NOTE TABLE ARE EITHER TOP OF PIPE OR VALVE BOX COVER ELEVATIONS.
4. PROTECTIVE COVERING SHALL BE EITHER FIFTY FOOT LONG GABION MATTRESS: NINE (9) FEET WIDE AND NINE (9) INCHES THICK, CENTERED OVER WATER LINE (LIGHT DUTY ROCK)

   OR

   FIFTY FEET OF NON-STRUCTURAL CONCRETE (2500 PSI MIN) WITH THE ABOVE DIMENSIONS, ROUGH FINISHED WITH A 1" CROWN
5. EXISTING UNDERGROUND TELEPHONE IS SHOWN APPROXIMATELY. THE CONTRACTOR SHALL HAVE A UTILITY REPRESENTATIVE STANDING BY BEFORE TRENCHING IN THE AREA BEGINS.

LEGEND

- EXT. R.O.W. LINE
- FUTURE R.O.W. LINE
- FUTURE CENTERLINE
- 8"HPG — EXT. GAS MAIN
- PP — OE — EXT. POWER POLE W/OH ELEC.
- UGT — EXT. BURIED TELE.
- 15"SAS — EXT. SANITARY SEWER
- 8"W — EXT. WATER LINE
- 30"W — PROPOSED WATER LINE

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

AS BUILT INFORMATION
NAME OF PLAN: C.C.M.
PLAN PREPARED BY: SDS DATE
INSPECTED BY: DATE
FIELD CHANGES BY: DATE
VERIFICATION BY: DATE
CORRECTED BY: I&A DATE 12/87
MICRO-FILM INFORMATION
MICROFILMED BY: DATE
NO.

BENCH MARKS
ACS CONTROL POINT "2-L9", A 60 PENNY NAIL IN A POWER POLE ON THE WEST SIDE OF 98TH STREET SW LOCATED 0.2 MILES SOUTH OF CENTRAL AVENUE.
ELEVATION: 5195.19

SURVEY INFORMATION
FIELD NOTES

NO	BY	DATE
1	W.P.	10/87

ENGINEER'S SEAL
FRED C. ARGRAM NEW MEXICO 7322 REGISTERED PROFESSIONAL ENGINEER
12-23-87

REVISIONS

NO	DATE	REMARKS	BY

DESIGN

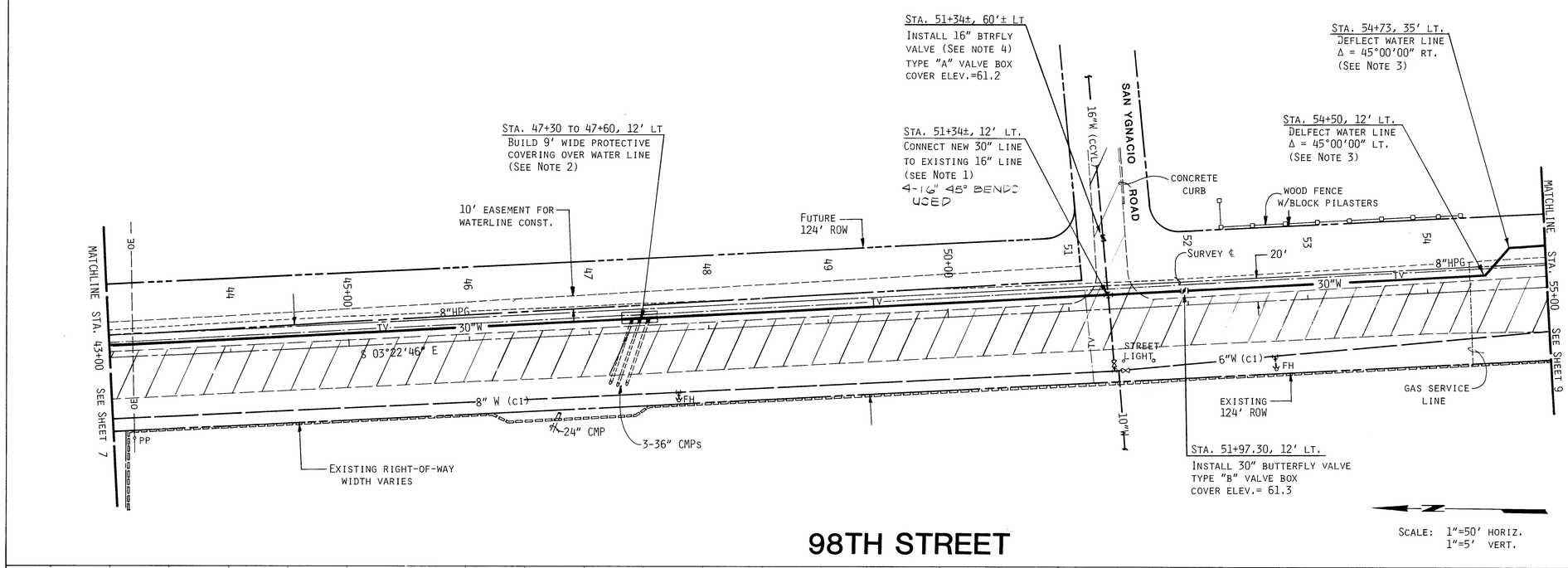
		DATE
DESIGNED BY	SMM	12/87
DRAWN BY	NAF	12/87
CHECKED BY	FCA	12/87

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

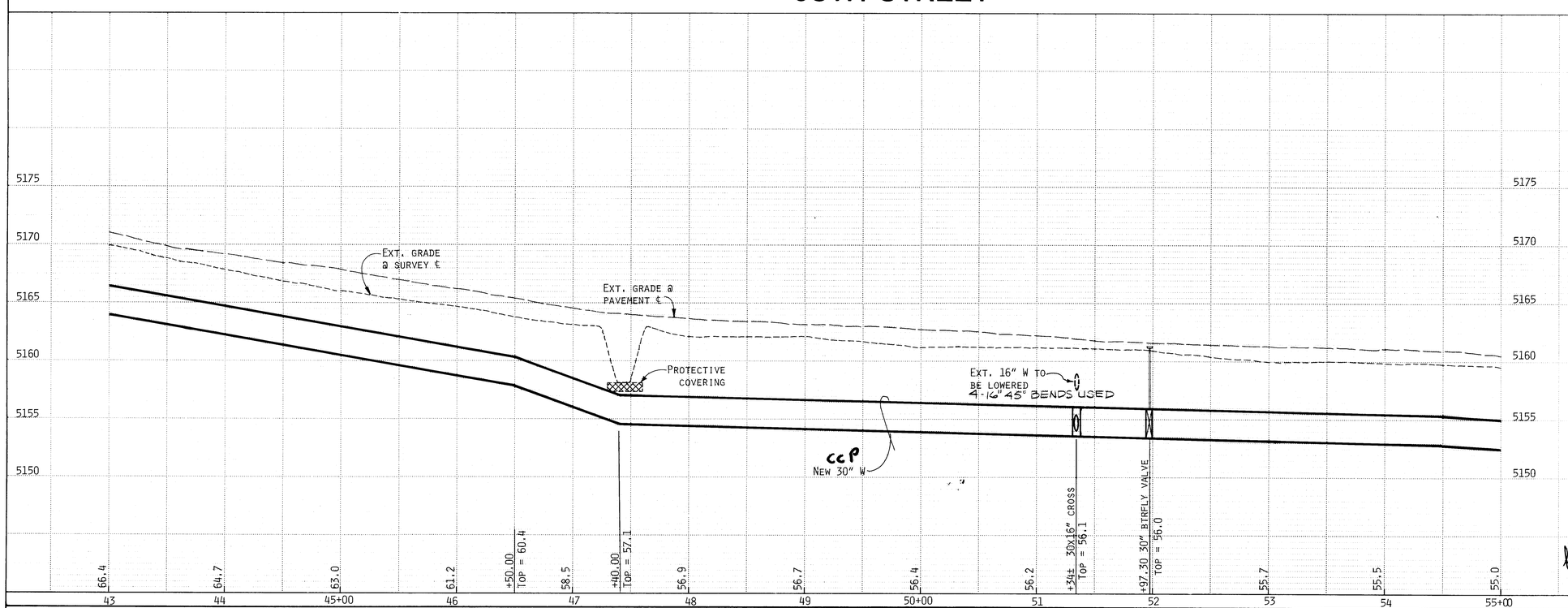
TITLE: 98th STREET WATERLINE
PLAN & PROFILE
STA. 31+00 TO STA. 43+00

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer		3/30/88	Liquid Waste		3/17/88
A C E - Design	"	"	Traffic		3/30/88
A C E - Hydrology		2/24/88	Water		3/17/88

DRAWING NO. 3377 | MAP NO. L-9 | SHEET 7 OF 11



98TH STREET



CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL UNCOVER THE EXISTING 16" WATER LINE PRIOR TO ANY EXCAVATION, TO VERIFY THE HORIZONTAL & VERTICAL ALIGNMENT. THE 16" LINE SHALL BE REMOVED & RE-INSTALLED AS REQUIRED TO INSTALL THE 30" BY 16" CROSS AT THE DESIGN GRADE SHOWN.
2. PROTECTIVE COVERING SHALL BE EITHER:

   A THIRTY FOOT LONG GABION MATTRESS NINE(9) FEET WIDE, NINE (9) INCHES THICK, CENTERED OVER THE WATER-LINE (LIGHT DUTY ROCK)

   OR

   THIRTY FEET OF NON-STRUCTURAL CONCRETE (2500 PSI MIN) WITH THE ABOVE DIMENSIONS, ROUGH FINISHED WITH A 1" CROWN.
3. PROVIDE RESTRAINED JOINTS FROM STA. 53+90 TO STATION 55+33.
4. NEW 16" BUTTERFLY VALVE SHALL BE LOCATED AT THE NEAREST JOINT AFTER THE EXISTING 16" LINE HAS BEEN REMOVED AND BEFORE IT IS RE-INSTALLED AT THE LOWER GRADE.

LEGEND

- EXT. R.O.W. LINE
- FUTURE R.O.W. LINE
- 16"W — EXT. WATERLINE
- EXT. CMP CULVERT
- OE — OVERHEAD ELECTRIC
- 8"HPG — EXT. GAS MAIN
- 30"W — PROPOSED WATER LINE

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

AS BUILT INFORMATION
CONTRACTOR CCM DATE 6/85
WORK STAKED BY SP DATE
INSPECTOR'S ACCEPTANCE BY BLS DATE 10/88
FIELD VERIFICATION BY I&A DATE
DRAWINGS CORRECTED BY MICRO-FILM DATE 1/95
RECORDED BY DATE
NO

BENCH MARKS
ACS CONTROL POINT "2-L9", A 60 PENNY NAIL IN A POWER POLE ON THE WEST SIDE OF 98TH STREET SW LOCATED 0.2 MILES SOUTH OF CENTRAL AVE.
ELEVATION: 5195.19

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE
1	W.P.	10/87

ENGINEER'S SEAL
JOHN E. AFFRAN NEW MEXICO 7322 REGISTERED PROFESSIONAL ENGINEER
12-22-87

NO	DATE	REMARKS	BY
		REVISIONS	

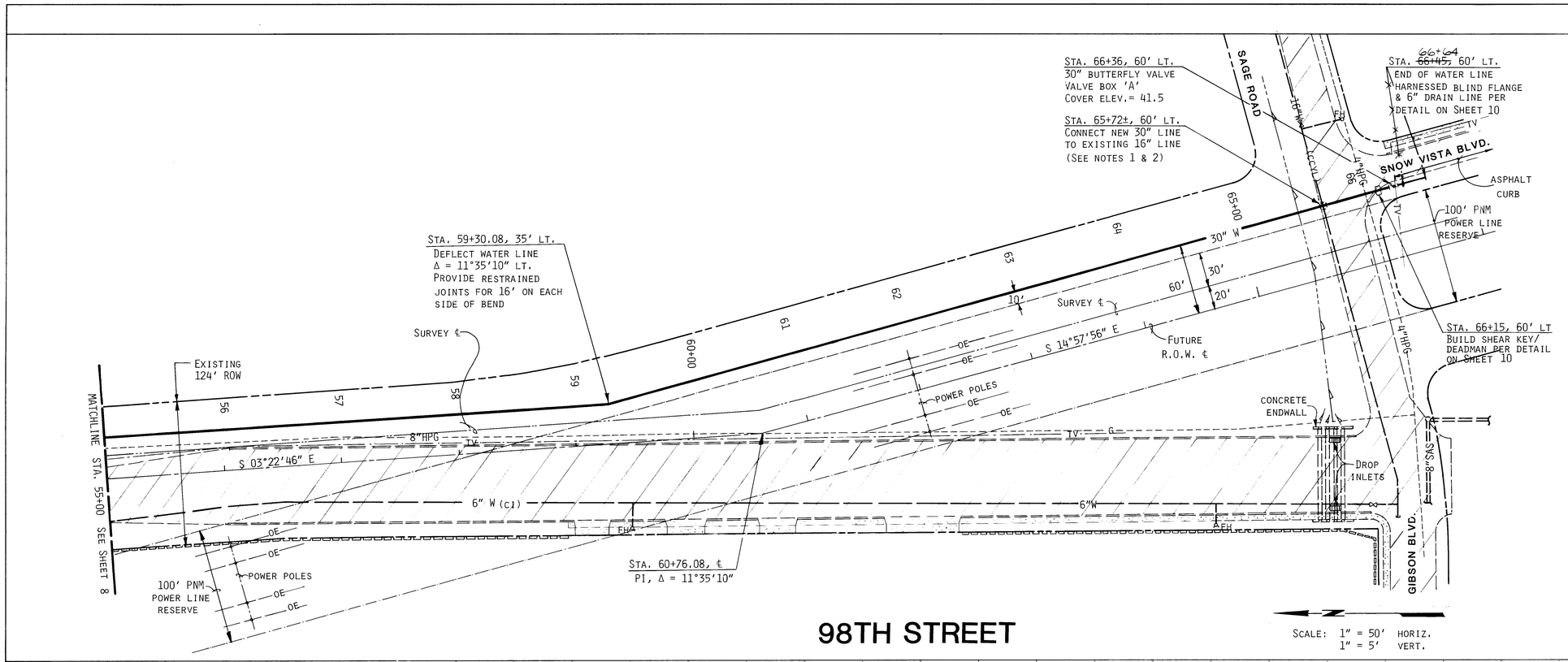
		DATE
DESIGNED BY	SMM	12/87
DRAWN BY	NAF	12/87
CHECKED BY	FCA	12/87

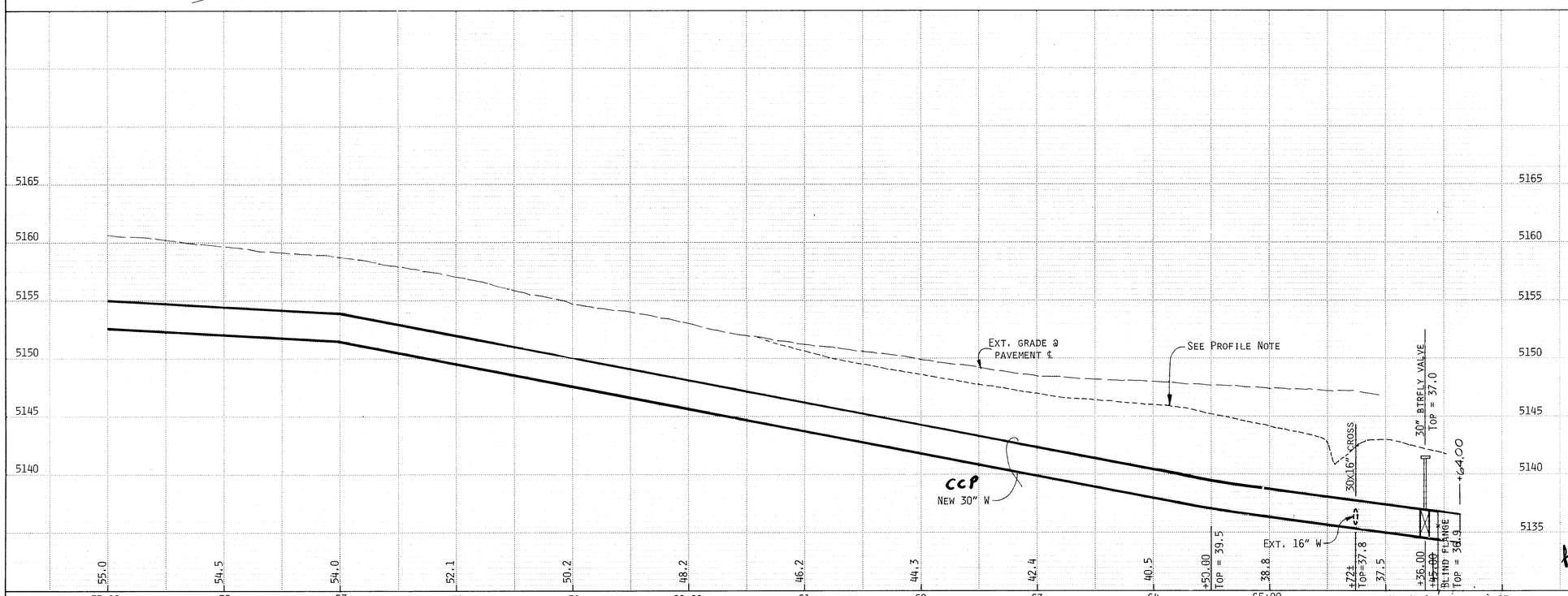
CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

TITLE: 98th STREET WATERLINE PLAN & PROFILE STA. 43+00 TO STA. 55+00

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer		3/30/88	Liquid Waste		3/17/88
A C E - Design	" "	"	Traffic		3/30/88
A C E - Hydrology		2/26/88	Water		3/17/88

DRAWING NO. 3377 | MAP NO. L-9 | SHEET 8 OF 11





CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL UNCOVER THE EXISTING 16" WATER LINE, PRIOR TO ANY EXCAVATION, TO VERIFY THE HORIZONTAL & VERTICAL ALIGNMENT. THE 16" LINE SHALL BE REMOVED & RE-INSTALLED AS REQUIRED TO INSTALL THE 30" BY 16" CROSS AT THE DESIGN GRADE SHOWN.
2. PROVIDE RESTRAINED JOINTS FROM STA. 65+42 TO STA. 66+45.

PROFILE NOTE

SECOND PROFILE LINE SHOWN IS EXISTING GROUND ALONG THE EASTERLY LINE OF THE 100' PNM POWER LINE RESERVE.

LEGEND

- EXT. R.O.W. LINE
- EXT. CONCRETE CURB
- EXT. DRAINAGE DITCH
- 16"W — EXT. WATERLINE
- 8"SAS — EXT. SANITARY SEWER
- 30"W — PROPOSED WATER LINE
- 8" HPG — EXT. GAS MAIN
- TV — EXT. TELEVISION CABLE

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

AS BUILT INFORMATION
CONTRACTOR: C.C.M.
WORK STAKED BY: SDG DATE 6/88
AS-BUILTED BY: 865 DATE 10/88
FIELD VERIFICATION BY: DATE
DRAWINGS CORRECTED BY: I & A DATE 1/89
MICRO-FILM INFORMATION
RECORDED BY: DATE
NO:

BENCH MARKS
ACS CONTROL POINT "5-M9", AN 'X' CUT ON THE NE BONNET BOLT OF THE FIRE HYDRANT LOCATED ON THE WEST SIDE OF 98TH STREET SW 150 FEET NORTH OF GIBSON BLVD.
ELEVATION: 5150.92

SURVEY INFORMATION
FIELD NOTES

NO	BY	DATE
1	W.P.	10/87

ENGINEER'S SEAL
ROBERT E. LAFFERTY
NEW MEXICO
7326
REGISTERED PROFESSIONAL ENGINEER
12-22-87

NO	DATE	REMARKS	BY
		REVISIONS	

DESIGN

		DATE
DESIGNED BY	SMM	12/87
DRAWN BY	NAF	12/87
CHECKED BY	FCA	12/87

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

TITLE: 98th STREET WATERLINE
PLAN & PROFILE
STA. 55+00 TO STA. 66+45

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer		3/30/88	Liquid Waste		3/17/88
A.C.E.-Design		" "	Traffic		3/30/88
A.C.E.-Hydrology		2/26/88	Water		3/17/88

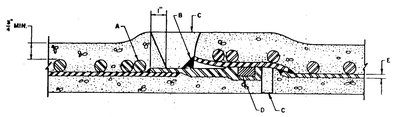
DRAWING NO. 3377 | MAP NO. M-9 | SHEET 9 OF 11

GENERAL NOTES:

1. SEE PLAN AND PROFILE SHEETS FOR LENGTH IN FEET OF RIGID PIPE ON EITHER SIDE OF BEND IN LIEU OF BLOCKING.
2. CARE MUST BE EXERCISED NOT TO OVERHEAT RUBBER GASKET WHEN WELDING.

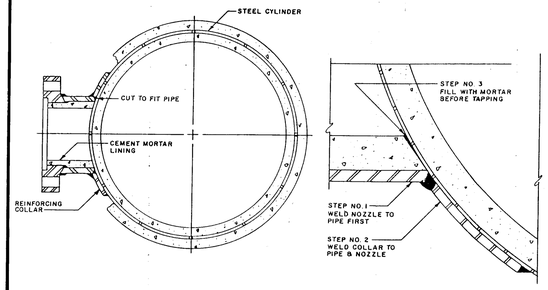
CONSTRUCTION NOTES:

A. COMPLETE COIL PARALLEL TO END OF PIPE.
B. FIELD WELD AS NOTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER
C. FIELD-APPLIED CEMENT MORTAR COATING.
D. $\frac{5}{8}$" $\frac{5}{8}$" RUBBER GASKET.
E. STEEL CYLINDER PORTION OF PIPE.

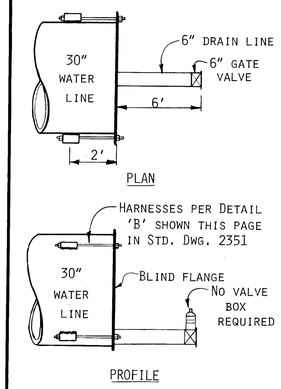


STEEL AND CONCRETE CYLINDER

REVISIONS	CITY OF ALBUQUERQUE WATER RIGID PIPE JOINT DETAIL DWG. 2305 AUG 1986



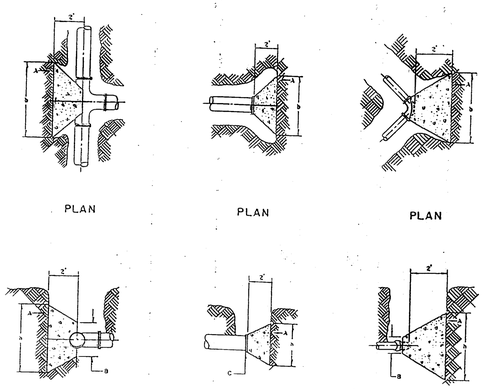
REVISIONS	CITY OF ALBUQUERQUE WATER CEMENT LINED FLANGED NOZZLE WITH COLLAR DWG. 2306 AUG 1986



NOTE: DRAIN LINE REQUIRED AT STA. 66+45 ONLY

HARNESSED BLIND FLANGE

NO SCALE



GENERAL NOTES:

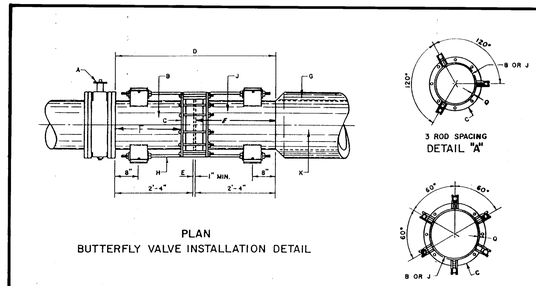
1. THE ENGINEER SHALL PROVIDE DESIGN FOR ALL JOINTS GREATER THAN 14".

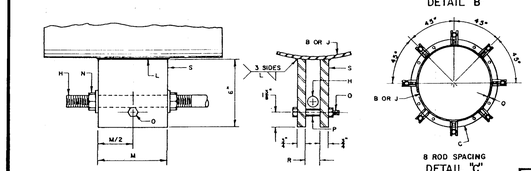
PIPE SIZE	ELBOW ANGLE	ELBOW (a) MIN.	ELBOW (b) DIM.	TEE OR PLUG (a) DIM.	TEE OR PLUG (b) DIM.
8"				3'	3'
8"	90°	3'	3'		
8"	45°	2'	2'		
8"	22½°, 11¼°	2'	2'		
10"				3'	3'
10"	90°	3'-6"	3'-6"		
10"	45°	3'	3'		
10"	22½°, 11¼°	2'	2'		
12"				3'-6"	3'-6"
12"	90°	4'	4'		
12"	45°	3'-6"	3'-6"		
12"	22½°, 11¼°	2'	2'		
14"				4'	4'
14"	90°	5'	5'		
14"	45°	3'-6"	3'-6"		
14"	22½°, 11¼°	3'	3'		
16"	cross			4'-6"	4'-6"
16"	90°	5'	5'		
24"	cross			5'-6"	5'-6"
24"	90°	6'	6'		
30"	cross			6'	6'
30"	90°	6'-6"	6'-6"		

CONSTRUCTION NOTES:

A. UNDISTURBED EARTH.
B. O.D. OF PIPE + 8".
C. O.D. OF CAP OR PLUG, MIN. 12" x 12".

REVISIONS	CITY OF ALBUQUERQUE WATER CONCRETE BLOCKING DESIGN DWG. 2320 AUG. 1986





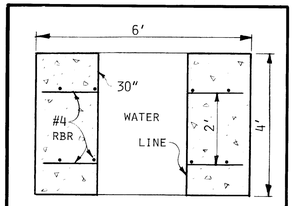
GENERAL NOTES:

PIPE DIA.	ROD DIA. (N)	WELD (L)	PLATE LGTH. (M)	MIN. SPOOL THICKNESS (Q)	ROD SPACING DETAIL
16"	7/8	1/4	6"	1/2	"A"
18"	1"	1/4	6"	1/2	"A"
20"	1 1/8	1/4	8"	1/2	"A"
24"	1 3/8	1/4	8"	1/2	"A"
30"	1 3/8	1/4	8"	1/2	"B"
36"	1 1/2	5/16	8"	5/8	"B"
42"	1 1/2	5/16	8"	5/8	"C"

CONSTRUCTION NOTES:

A. FLANGED BUTTERFLY VALVE.
B. PIPE SPOOL, FLANGE TO PLAIN END.
C. DRESSER COUPLING, LONG BODY-SEE SPEC'S.
D. SURFACE TO BE TAR PAPER, WRAPPED AS PER AWWA SPEC'S. C 209.
E. JOINT GAP, 1" MIN. SEE SPEC'S.
F. APPLY COAL-TAR ENAMEL.
G. GROUT.
H. ROD, TO BE A-36 STEEL. SEE CHART ABOVE.
J. PIPE SPOOL, PLAIN END.
K. CONCRETE CYLINDER PIPE.
L. WELD, SEE CHART ABOVE.
M. PLATE LENGTH, SEE CHART ABOVE.
N. NUT AND WASHER, EACH END.
O. BOLT, $\frac{1}{2}$" DIA.
P. PIPE SPACER, $\frac{1}{2}$" LB.
Q. SPOOL, PLAIN END SEE CHART ABOVE.
R. ROD DIA. PLUS $\frac{1}{8}$".
S. 3/4" STEEL PLATE.

REVISIONS	CITY OF ALBUQUERQUE WATER CONC. CYL. BUTTERFLY VALVE INSTALLATION DETAILS DWG. 2351 AUG 1986

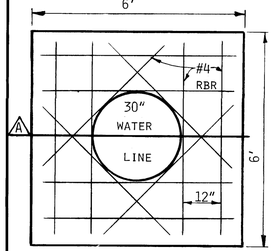


2 REBAR MATS REQUIRED @ 24" OC

SECTION A

NO SCALE

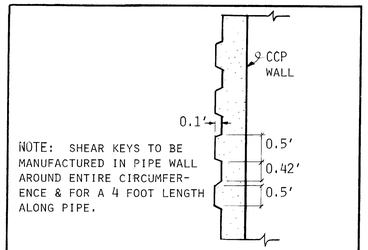
NOTE: SEE SHEAR KEY DETAIL THIS SHEET



DEADMAN SECTION

DEADMAN DETAIL

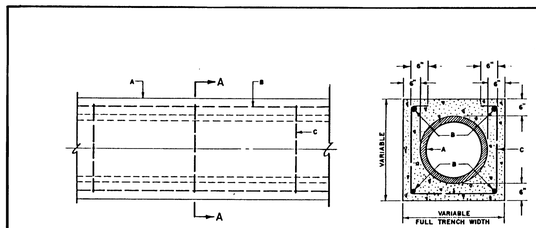
NO SCALE



NOTE: SHEAR KEYS TO BE MANUFACTURED IN PIPE WALL AROUND ENTIRE CIRCUMFERENCE & FOR A 4 FOOT LENGTH ALONG PIPE.

SHEAR KEY DETAIL

NO SCALE



GENERAL NOTES:

1. WHERE A WATER LINE PASSES BENEATH OR LESS THAN 18 IN. ABOVE AN EXIST. SEWER LINE, THE SEWER LINE SHALL BE ENCASED IN CONC. 6" THICK AS DETAILED, FOR AT LEAST 10FT. ON EACH SIDE OF THE WATER LINE, OR THE SEWER LINE SHALL BE D.I. OR C.I. PIPE WITH PRESSURE-TYPE JOINTS FOR AT LEAST 10FT. ON EACH SIDE OF THE WATER LINE. THIS SHALL ALSO APPLY WHERE A PARALLEL WATER LINE IS LESS THAN 10FT. HORIZONTALLY AND LESS THAN 2FT. ABOVE THE SEWER LINE.

CONSTRUCTION NOTES:

A. SANITARY SEWER LINE AS SHOWN ON PLANS.
B. 4-NO. 4 BARS, CONT. WITH 3" CLEARANCE.
C. NO. 4 BARS, AT 36" O.C.

REVISIONS	CITY OF ALBUQUERQUE SEWER ENCASEMENT DETAILS DWG. 2140 AUG 1986

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

AS BUILT INFORMATION

CONTRACTOR	CCM
WORK STAKED BY	DATE 6/88
INSPECTOR'S ACCEPTANCE BY	DATE 10/88
FIELD VERIFICATION BY	DATE
DRAWINGS CORRECTED BY	DATE 11/88

MICRO-FILM INFORMATION

RECORDED BY	
DATE	
NO.	

BENCH MARKS: N/A

SURVEY INFORMATION

NO.	FIELD NOTES BY	DATE

ENGINEER'S SEAL

FRED C. ARTHAM NEW MEXICO 7322 REGISTERED PROFESSIONAL ENGINEER 12-23-87

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	

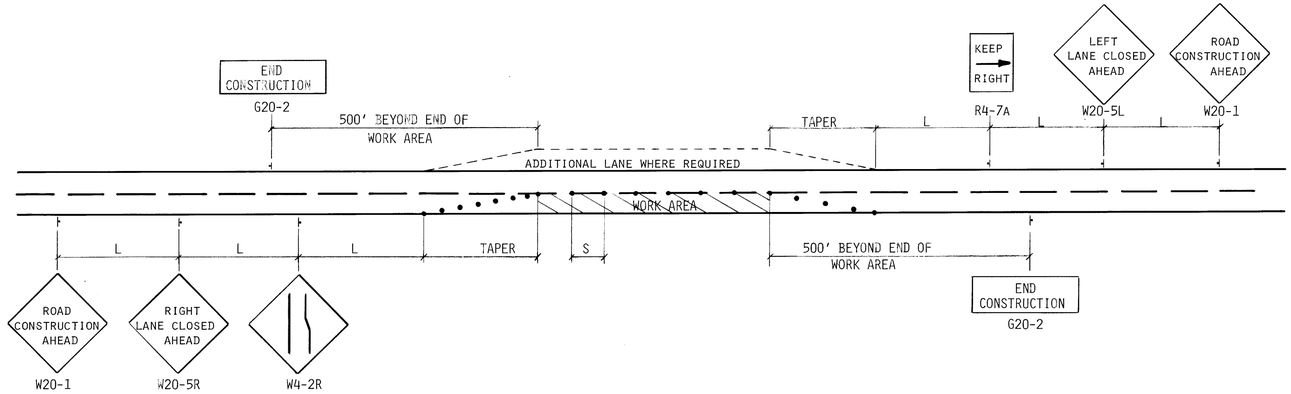
		DATE
DESIGNED BY	SMM	12/87
DRAWN BY	NAF	12/87
CHECKED BY	FCA	12/87

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

TITLE: 98th STREET WATERLINE
WATERLINE DETAILS

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer		3/30/88	Liquid Waste		3/17/88
A.C.E. Design	" "	"	Traffic		3/30/88
A.C. E.-Hydrology		2/26/88	Water		3/17/88

DRAWING NO.	MAP NO.	SHEET	OF
3377	M-9	10	11



Typical Lane Closure /Detour

NO SCALE

LEGEND

	WORK AREA
•	BARRICADE - TYPE I, II, OR BARREL
	WARNING SIGN
L	DISTANCE BETWEEN SIGNS - A DISTANCE (FEET) EQUAL TO 10 TIMES THE SPEED LIMIT
S	SPACING BETWEEN BARRICADES - A DISTANCE (FEET) EQUAL TO THE SPEED LIMIT
TAPER	SEE CHART FOR LENGTH

TAPER REQUIREMENTS

SPEED LIMIT MPH	TAPER LENGTH (FEET)			MAXIMUM DISTANCE BETWEEN DEVICES (FEET)	MINIMUM NUMBER OF DEVICES REQUIRED
	10' LANE	11' LANE	12' LANE		
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

Traffic Control Notes

1. THE CONTRACTOR SHALL COMPLY WITH SECTION 19 OF THE GENERAL CONDITIONS OF THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR CONSTRUCTION, 1986.
2. THE CONTRACTOR SHALL COMPLY WITH SECTION SP - 3 OF THE PUBLIC WORKS CONTRACT REGARDING CONSTRUCTION NOTICE PUBLICATIONS.
3. THE CONTRACTOR SHALL COMPLY WITH ALL NEW MEXICO STATE HIGHWAY DEPARTMENT REGULATIONS WHEN WORKING WITHIN THE RIGHT OF WAY OF CENTRAL AVENUE.
4. THE LENGTH OF OPEN TRENCH SHALL BE LIMITED TO NO MORE THAN FOUR HUNDRED (400) FEET. THE CONTRACTOR MAY NOT PROCEED WITH EXCAVATION UNTIL PREVIOUS EXCAVATION IS READY FOR TRAFFIC (EVEN WHERE ASPHALTIC PAVEMENT IS REQUIRED).
5. WHEN THE WIDTH OF THE TRAVELED WAY OF 98TH STREET IS REDUCED TO LESS THAN TWENTY-FOUR (24) FEET, THE CONTRACTOR SHALL GRADE, COMPACT, AND WATER TWICE DAILY AN ADDITIONAL LANE OFF 98TH STREET.
6. THE CONTRACTOR SHALL INSURE THAT THE FIRE STATION, LOCATED AT RYNO COURT AND 98TH STREET, HAS EASY ACCESS TO ROADWAY AT ALL TIMES.
7. ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES ON 98TH STREET AND ON CENTRAL AVENUE.
8. AT THE INTERSECTION OF SAGE ROAD AND 98TH STREET, THE CONTRACTOR SHALL INSTALL PIPE BY QUADRANT SECTIONS. THE CONTRACTOR SHALL MAINTAIN ONE LANE OF TRAFFIC IN EACH DIRECTION FOR THE ENTIRE INTERSECTION.
9. RECOMMENDED SPEED LIMIT IN AREA OF CONSTRUCTION NOT TO EXCEED 25 MPH.

AS BUILT INFORMATION
CONTRACTOR C.C.M
WORK STAKED BY
INSPECTORS ACCEPTANCE BY
FIELD VERIFICATION BY
DRAWINGS CORRECTED BY
MICRO-FILM INFORMATION
RECORDED BY
NO. DATE

BENCH MARKS

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ENGINEER'S SEAL

NO.	DATE	REMARKS	BY
		REVISIONS	

DESIGNED BY SMM DATE 2/88
DRAWN BY SMM DATE 2/88
CHECKED BY FCA DATE 2/88

26 3377 11 89

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

TITLE: 98th STREET WATERLINE
TRAFFIC CONTROL
DETAILS & NOTES

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer		3/30/88	Liquid Waste		3/17/88
A.C.E. Design			Traffic		3/30/88
A.C.E.-Hydrology		2/26/88	Water		3/17/88

DRAWING NO. 3377 | MAP NO. L-9, M-9 | SHEET 11 OF 11