# CITY OF ALBUQUERQUE

CONSTRUCTION PLANS FOR

BRIDGE BLVD., SAGE RD., TOWER RD., AND ARENAL ROAD WILL REQUIRE EXTENDED HOUR CONSTRUCTION UNTIL

# ATRISCO TRUNK MASTER PLAN WATER LINE -PHASE 2

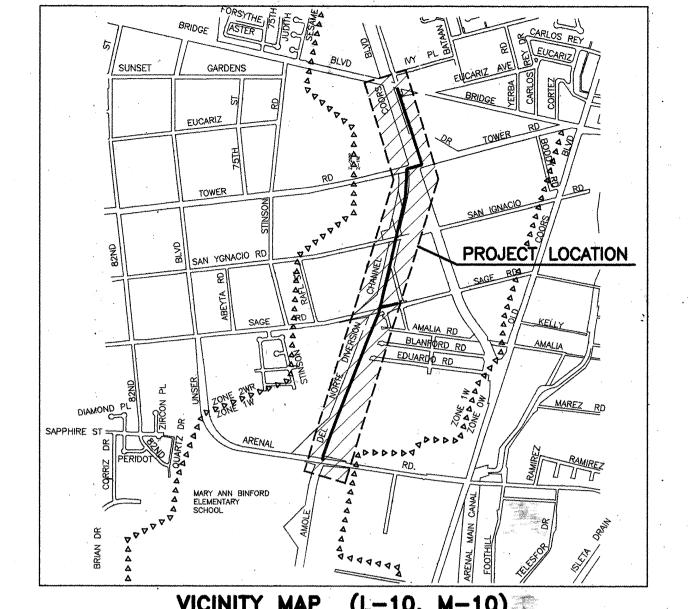
SEPTEMBER 1997

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APPROVAL OF AS BUILT DRAWINGS CHIEF CONSTRUCTION ENGINEER

THIS IS A RECORD DRAWING OF THE FACILITIES IDENTIFIED IN THE TITLE BLOCK ONLY AND HAS BEEN PREPARED IN PART OF THE BASIS OF INFORMATION COMPILED AND FURNISHED BY OTHERS. THE ENGINEER/ARCHITECT AND OTHER (S) WILL NOT BE RESPONSIBLE FOR ANY ERROR (S) OR OMISSION (S) WHICH BE RESPONSIBLE FOR ANY ERROR (S) OR OMISSION (S) WHICH HAVE BEEN INCORPORATED INTO THIS DRAWING. ACTUAL CONDITIONS WILL VARY SOMEWHAT FROM THE CONDITIONS SHOWN HEREON AND AT SOME LOCATIONS THE VARIANCE MAY BE LARGE. IF THE PRECISE LOCATION OF ANY FACILITY IS REQUIRED, THE FACILITY SHOULD BE FIELD LOCATED IN THE PRESENCE OF AN EMPLOYEE OF THE DISTRICT OR THE OWNER (S) OF THE UTILITIES INVOLVED.



(L-10, M-10)

GENERAL NOTES

(AS AMENDED THROUGH UPDATE #6.) REFERENCED TO

COORDINATION DIVISION. CONTRACTOR SHALL NOTIFY BARRICADE ENGINEER (768-2551) PRIOR TO OCCUPYING AN INTERSECTION.

5. THE LOCATION OF EXISTING UNDERGROUND UTILITIES HAS BEEN DETERMINED BY INFORMATION PROVIDED BY OTHERS, AND SHALL BE CONSIDERED APPROXIMATE ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION AND SIZE OF ALL EXISTING UTILITY LINES PRIOR TO CONSTRUCTION AND SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGES RESULTING FROM FAILURE TO LOCATE ANY AND ALL UTILITIES.

. THE CONTRACTOR SHALL SUPPORT AND MAINTAIN OPERATIONAL ALL UTILITIES EXPOSED DURING TRENCHING AND OTHER CONSTRUCTION OPERATIONS. ALL CONSTRUCTION ACTIVITIES INVOLVING GAS. POWER, WATER, FIBER OPTIC, TRAFFIC SIGNAL EQUIPMENT, AND/OR OTHER UTILITY LINES SHALL BE COORDINATED WITH THE OWNER OF THE UTILITY PRIOR TO ANY DISTURBANCE. NO UTILITY SERVICE SHALL BE DISRUPTED WITHOUT FIRST NOTIFYING ALL AFFECTED PARTIES 48 HOURS IN ADVANCE.

THE CONTRACTOR SHALL NOTIFY WATER UTILITY DIVISION OF PUBLIC WORKS (PH. 857-8200) AND THE CITY OF ALBUQUERQUE FIRE DEPARTMENT AT LEAST FIVE (5) WORKING DAYS IN ADVANCE OF ANY DAY THAT FIRE HYDRANTS WILL BE TAKEN OUT OF AND RETURNED TO SERVICE. REFER TO SECTION 18 (GENERAL CONDITIONS) OF THE SPECIFICATIONS.

THE CONTRACTOR SHALL FIELD VERIFY ALL WATERLINE CONNECTIONS TO EXISTING FACILITIES SUFFICIENTLY IN ADVANCE OF CONSTRUCTION TO ALLOW OBTAINING CORRECT ADAPTERS AND OTHER FITTINGS.

ALL SALVAGED MATERIALS SHALL BE HANDLED IN ACCORDANCE WITH SECTION 801.15 OF THE

UNLESS OTHERWISE DIRECTED BY THE ENGINEER. SMOOTH TRANSITIONS SHALL BE MADE BETWEEN EXISTING PAVEMENT WHICH REMAINS IN PLACE AND PAVEMENT WHICH IS BEING REPLACED.

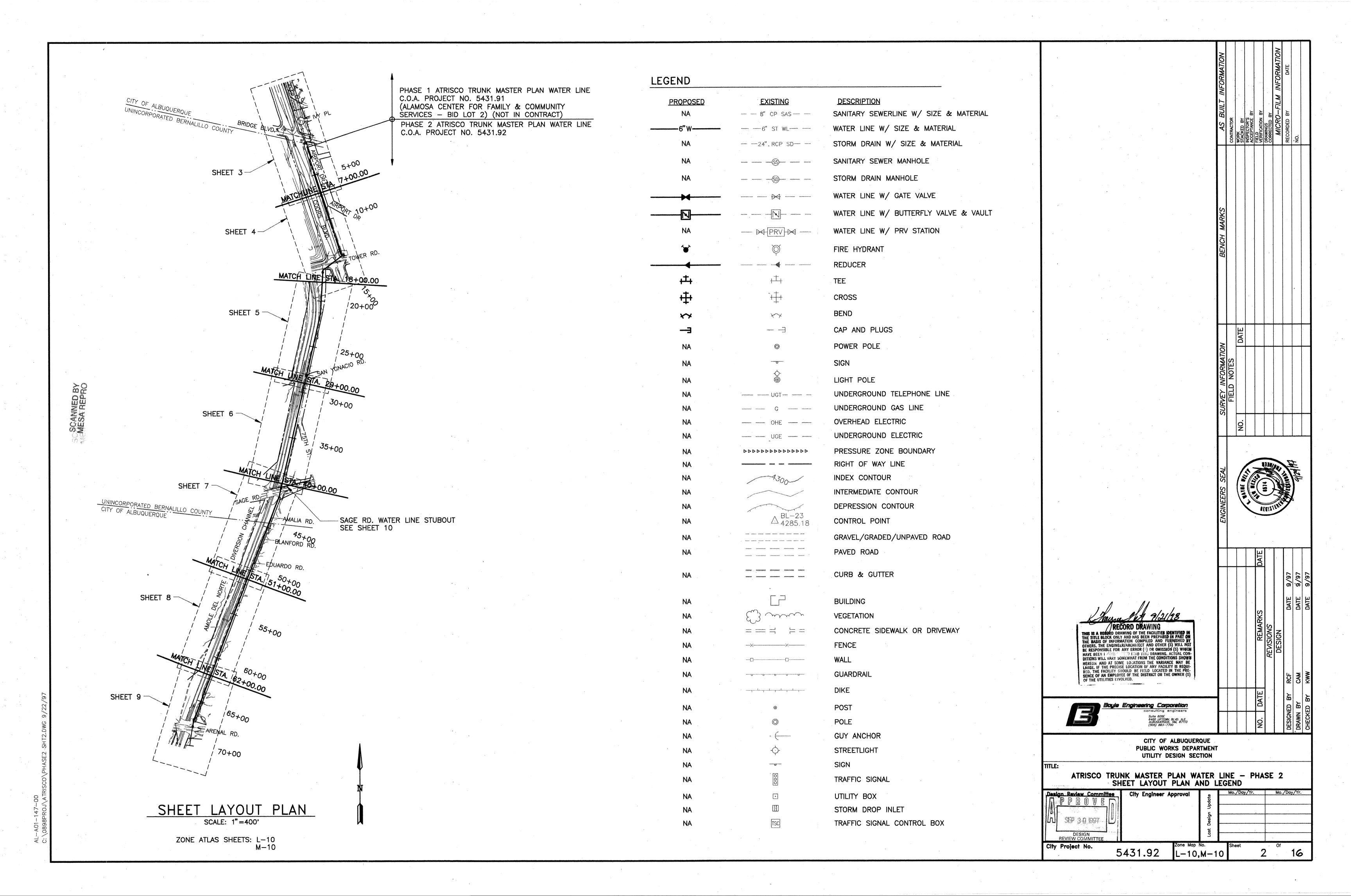
14. ALL WATER VALVE BOXES AND SEWER MANHOLES WITHIN THE NEW PAVEMENT ARE TO BE ADJUSTED TO FINISH GRADE PER COA STANDARD DETAILS OR AS SHOWN IN IN THIS PLAN SET.

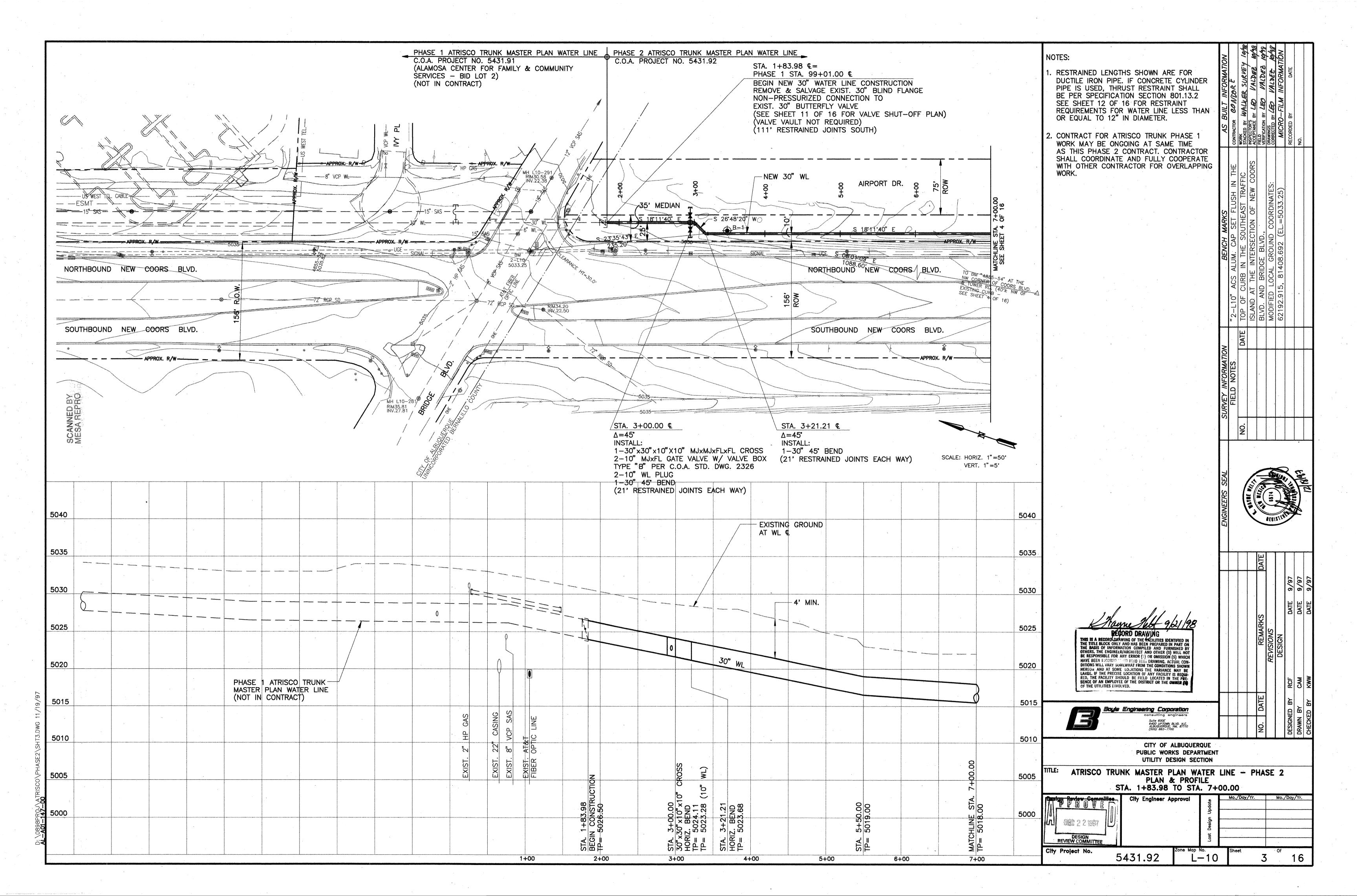
15. ALL STREET STRIPING AND MARKING ALTERED OR DESTROYED SHALL BE REPLACED WITH PLASTIC REFLECTORIZED PAVEMENT MARKINGS BY THE CONTRACTOR TO SAME LOCATION AS EXISTING OR AS SHOWN IN THIS PLAN SET.

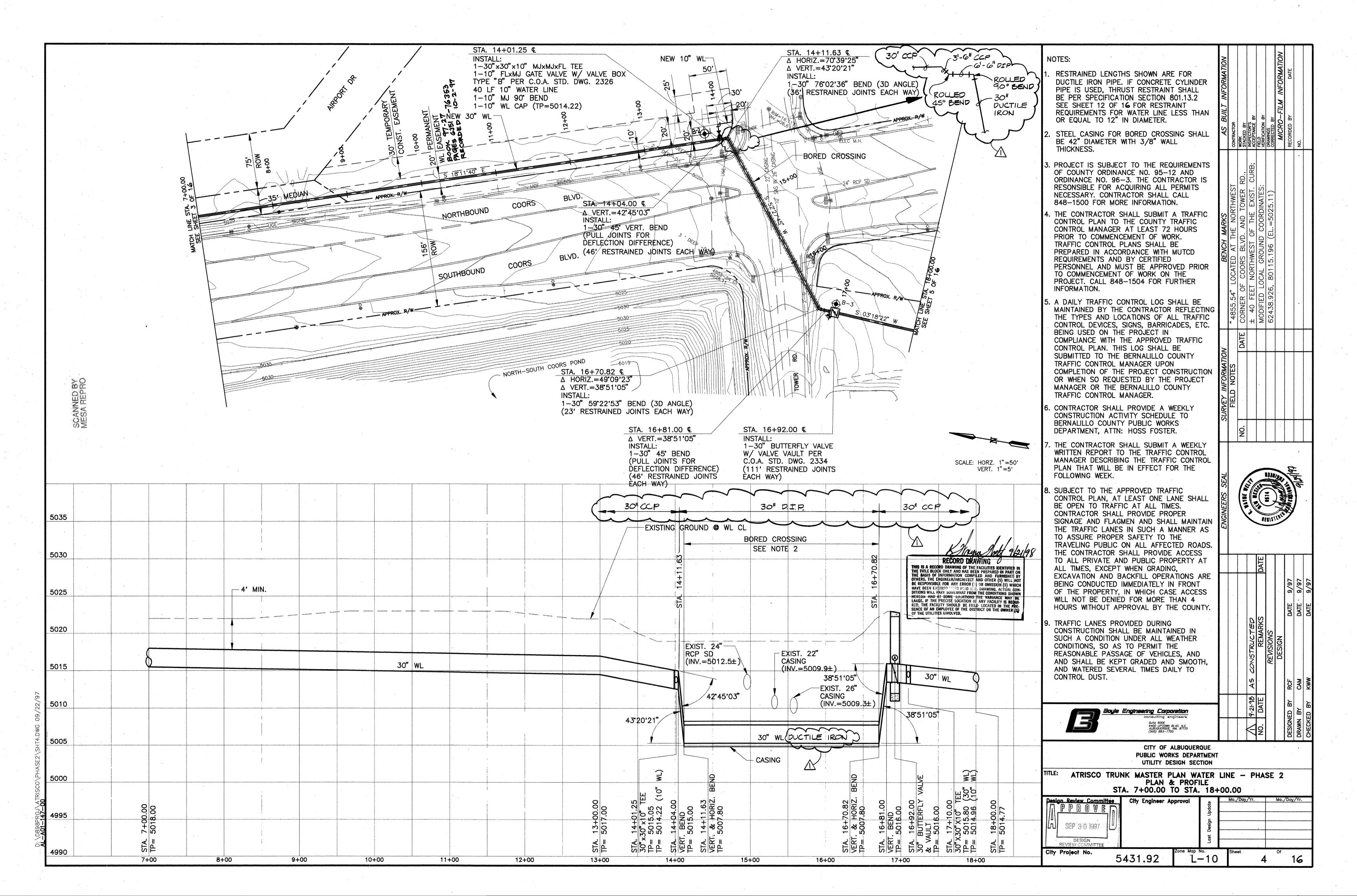
16. ALL AREAS DISTURBED BY THE CONTRACTOR SHALL BE SEEDED WITH NATIVE GRASS SEED FOR SANDY SOIL. SEE SECTION 1011 OF THE SPECIFICATIONS.

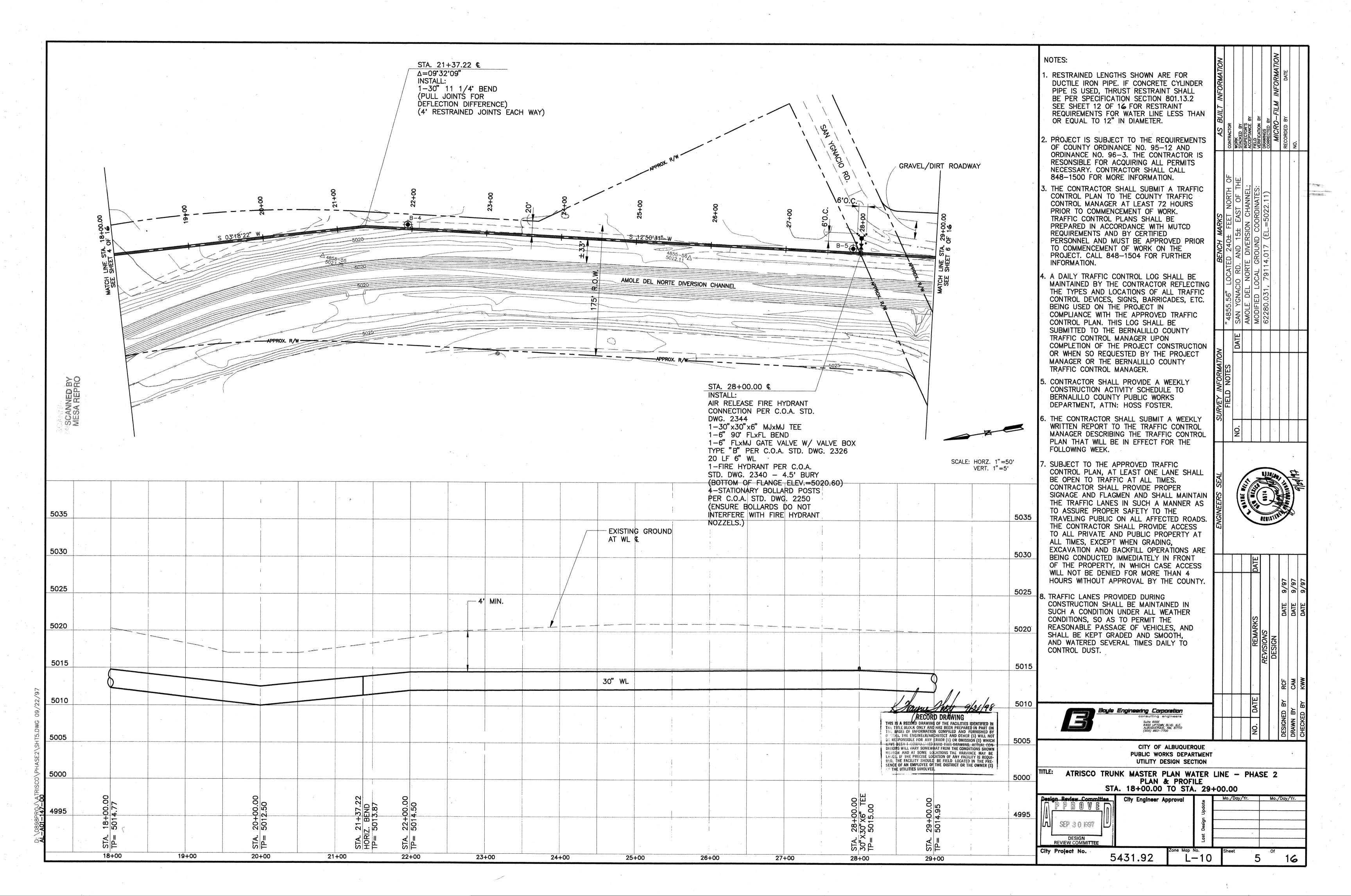
17. THE CONTRACTOR SHALL MAINTAIN ALL TRENCHES IN A SAFE CONDITION PROTECTING THE WORKERS AND THE GENERAL PUBLIC. TRENCH PROTECTION SHALL BE IN ACCORDANCE WITH O.S.H.A. 29CFR 1926.650 SUBPART EXCAVATIONS SHALL BE SLOPED, BRACED OR SHEERED AS REQUIRED BY O.S.H.A. REGULATIONS. THE CON-TRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY, AND FOR KNOWLEDGE AND COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS. NO ADDITIONAL

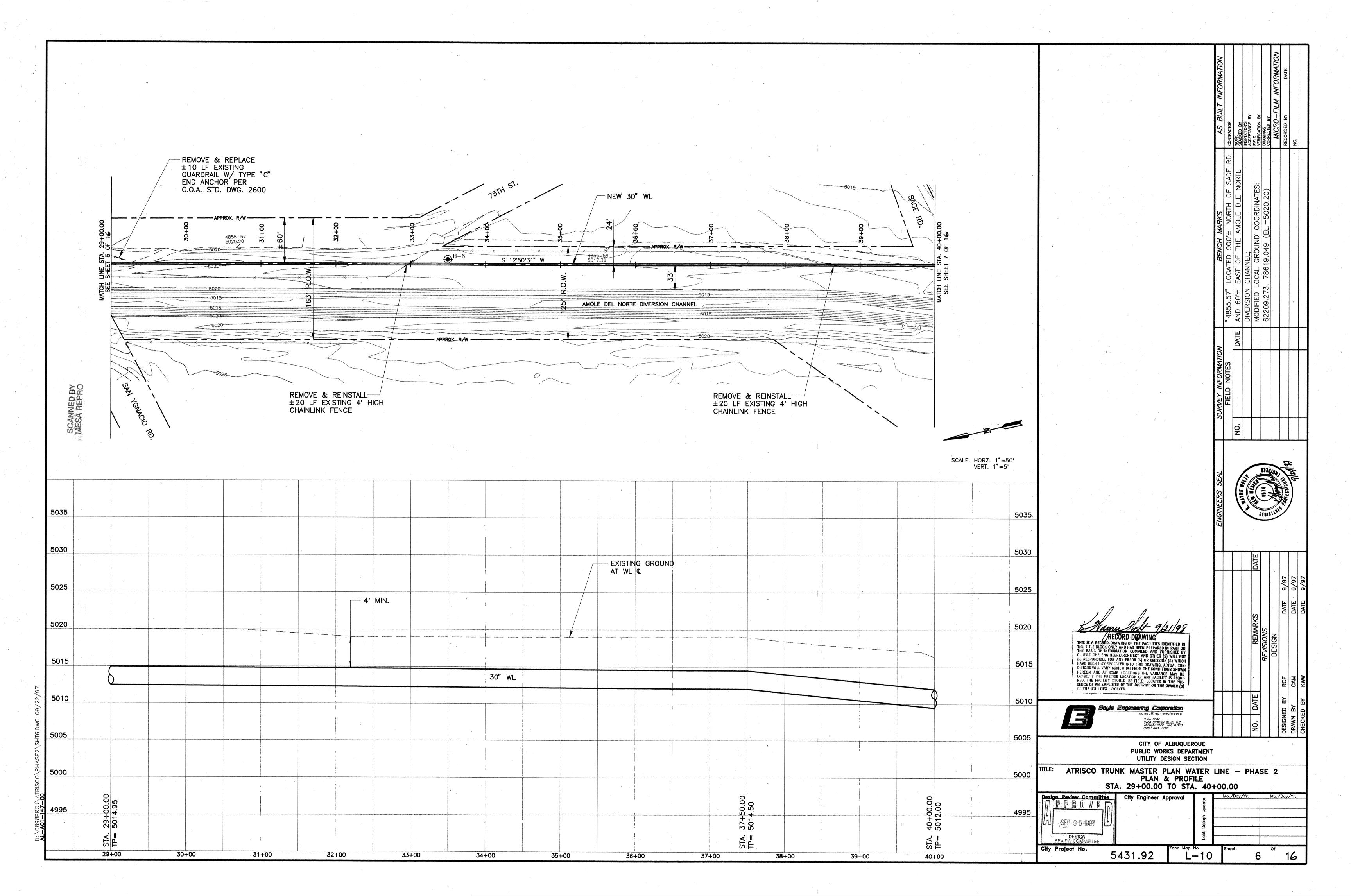
COMPENSATION WILL BE MADE THEREFOR. 18. FOR TRAFFIC CONTROL NOTES IN BERNALILLO COUNTY STREETS SEE SHEETS 4, 5, & 7. oyle Engineering Corporation REV. SHEETS CITY ENGINEER USER DEPARTMENT DATE ENGINEERS STAMP & SIGNATURE DRC Chairman ransportation Constr. Mngmnt. 5431.92

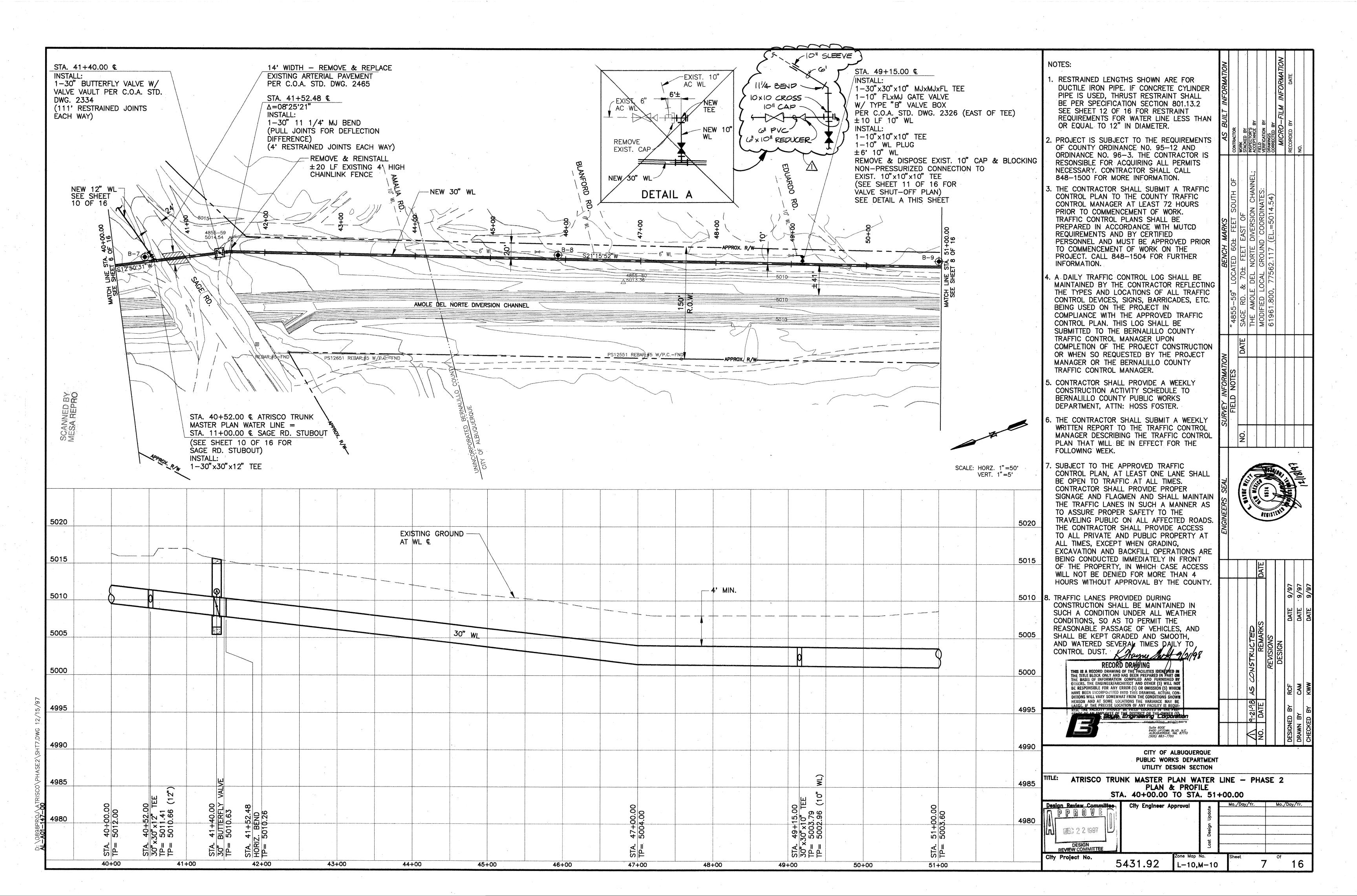


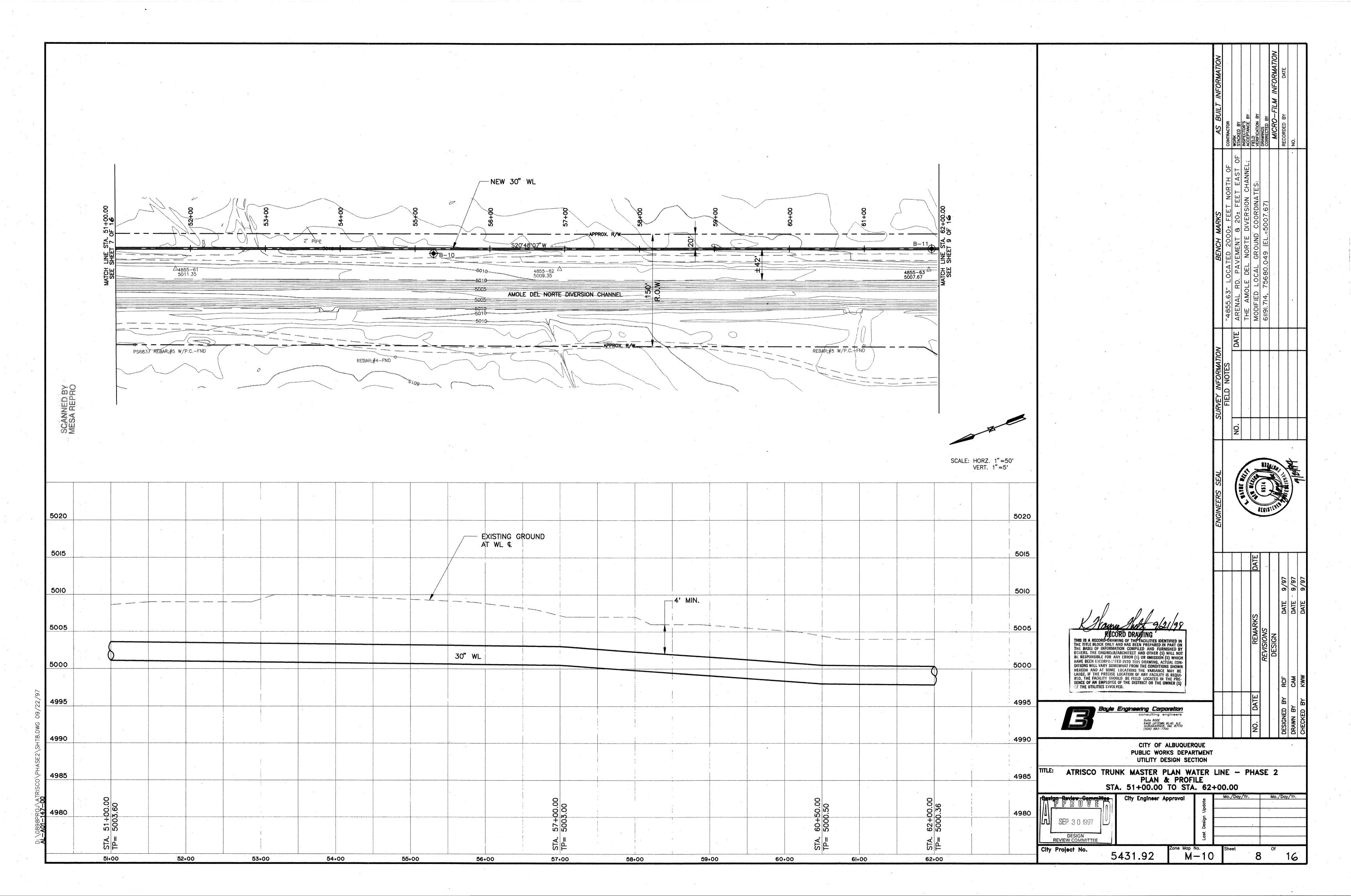


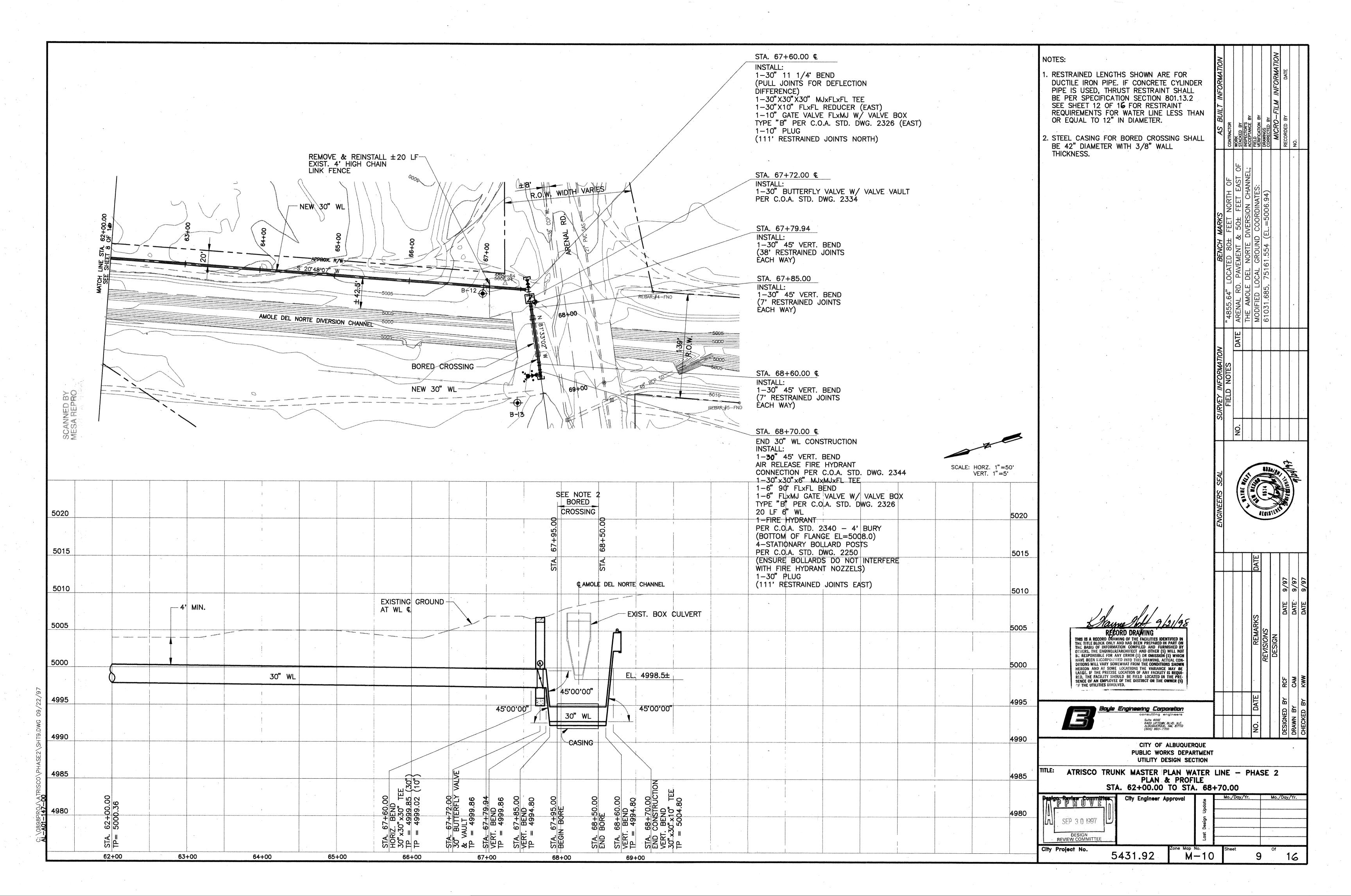


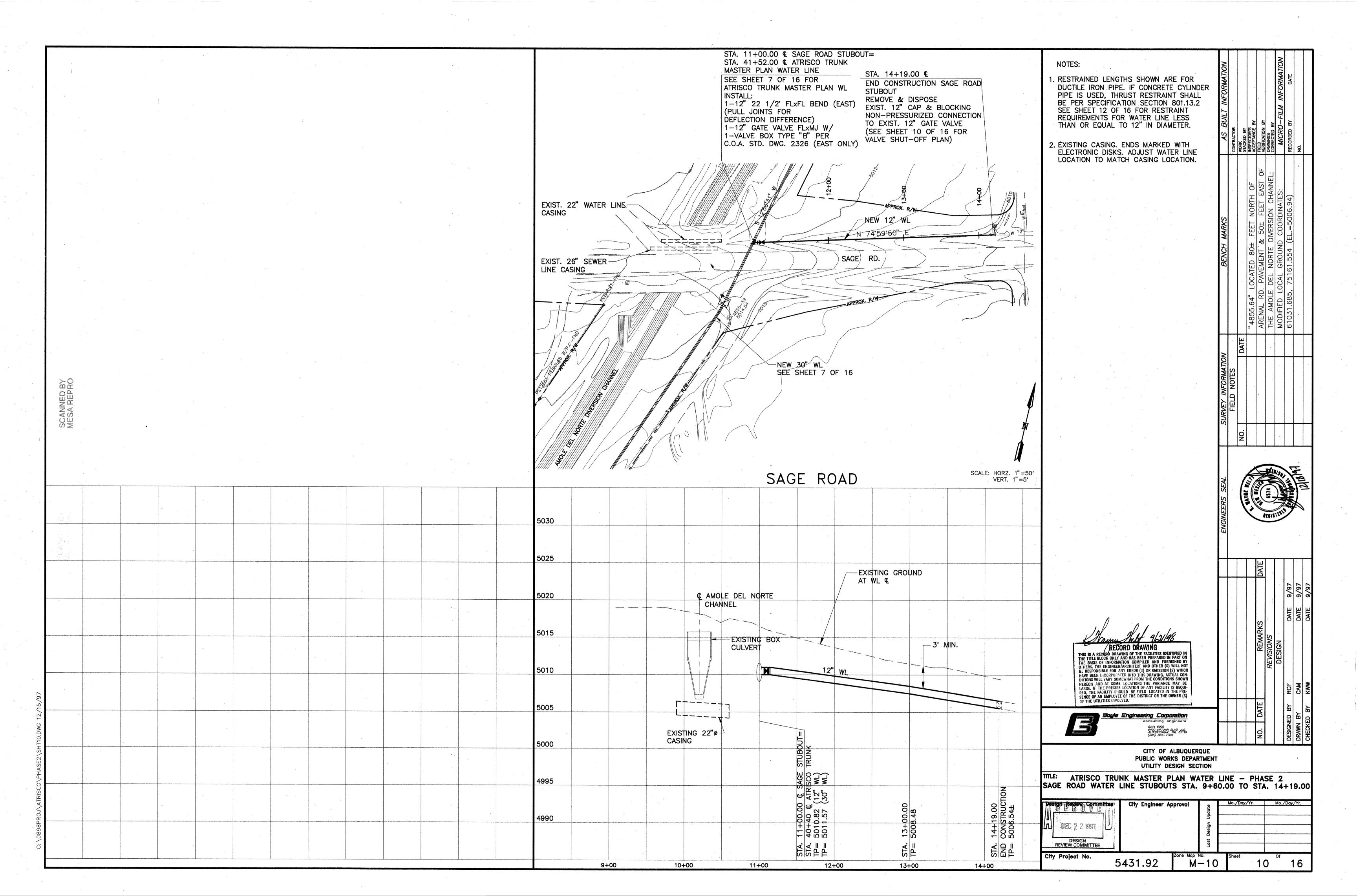


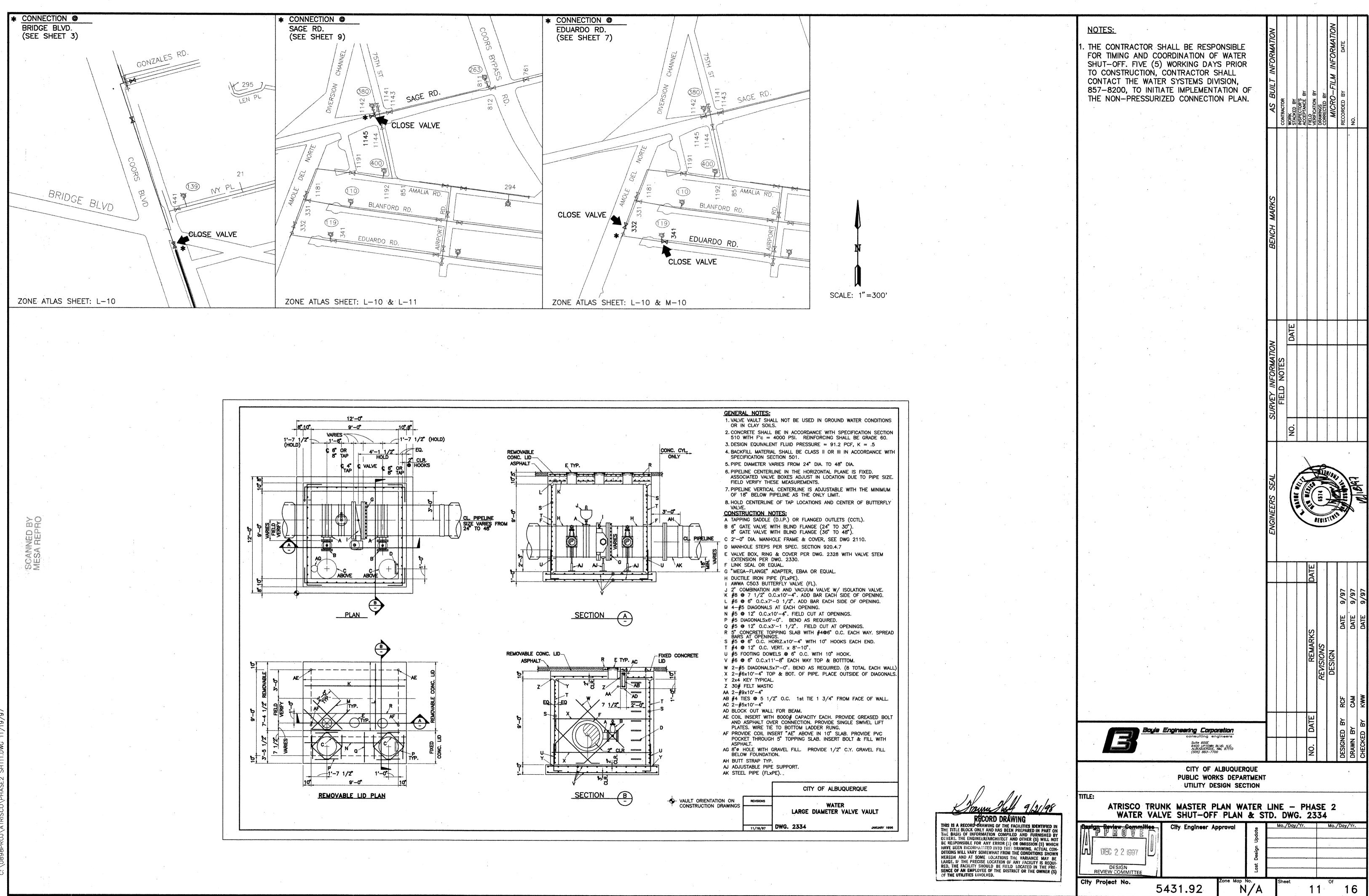






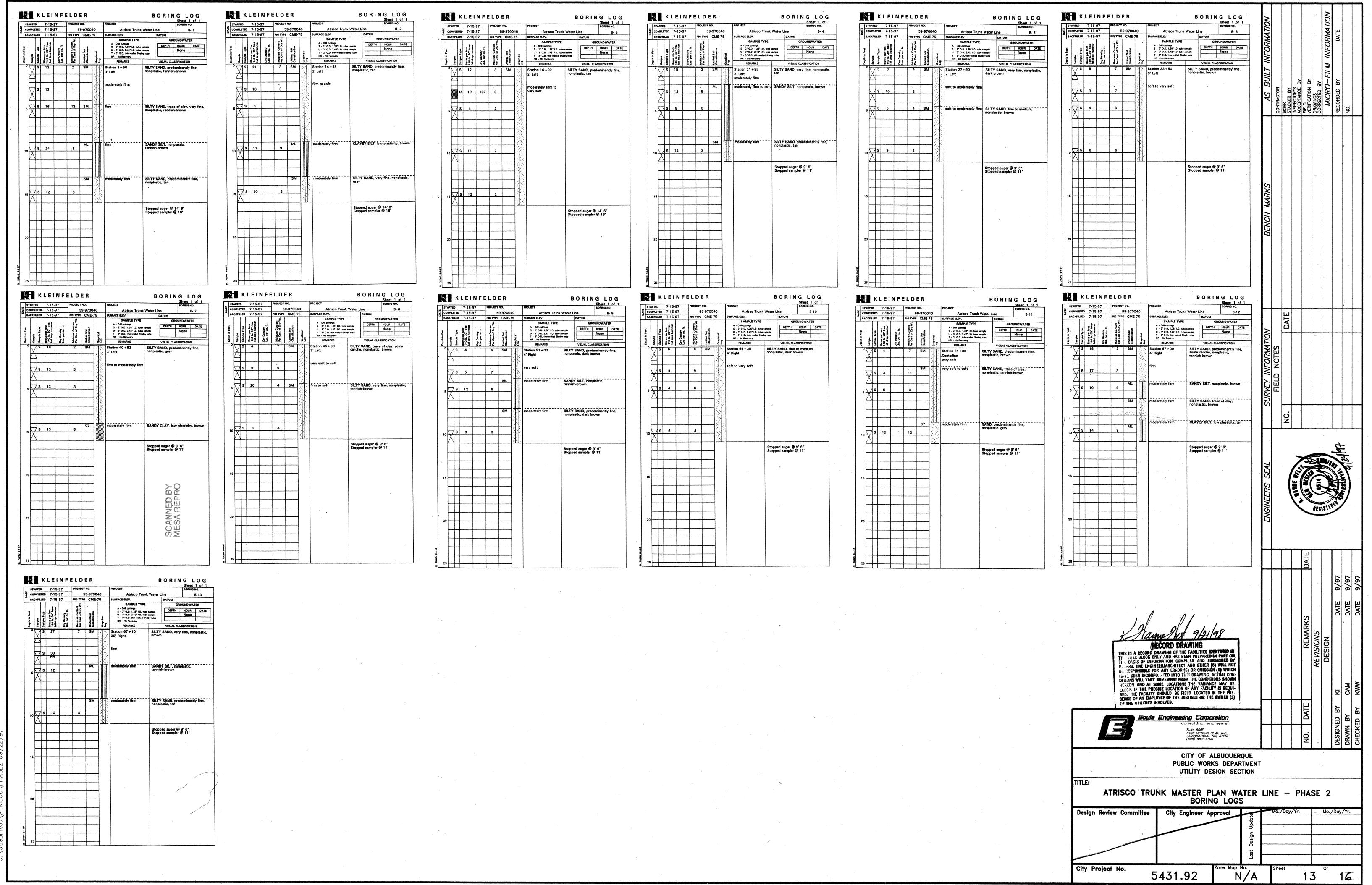






AL-A01-147-00

#### NOTES: RESTRAINED JOINTS FOR SMALL DIAMETER PVC WATER LINES ALL JOINTS AND FITTINGS WITHIN THE SPECIFIED RESTRAINED LENGTH, MUST BE RESTRAINED. REDUCER 2. ALL LENGTHS ARE IN FEET. Ls/Ll LARGE END ALL RESTRAINED JOINT LENGTHS ARE BASED ON THE CONDITIONS NOTED END 12" 10" UNDER "BASIS OF DESIGN". ANY RESTRAINED JOINTS -42'/28' 100'/52' 169'/70' 256'/88 CHANGES TO THESE CONDITIONS MUST HORIZONTAL BEND BE NOTED AND LENGTHS RECALCULATED | 39'/30' | 87'/53' |146'/74' AND SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION. 36'/29' 81'/54' Lr 36'/30' PIPE SIZE BEND THE CONTRACTOR SHALL NOTE THE ANGLE 10" 12" LOCATION, TYPE AND EXTENT OF ALL NOTE: IF THE SMALLER SIDE OF THE REDUCER IS 20' 26' 31' RESTRAINED JOINTS INSTALLED ON 36' 14' UN-OBSTRUCTED (FREE OF BENDS, VALVES, TEES OR OTHER FITTINGS) FOR A MINIMUM THIS PROJECT AS PART OF THE RECORD BEND ANGLE 13' 15' 45° DRAWINGS. LENGTH OF Ls, THEN NO RESTRAINT IS REQUIRED; 22 1/2° 3' 5' 6' 7' RESTRAINED JOINTS OTHERWISE THE PIPE MUST BE RESTRAINED FOR 3' 11 1/4° A LENGTH OF LI, ON THE LARGER SIDE OF THE THE CONTRACTOR SHALL SUBMIT THRUST REDUCER. RESTRAINT DESIGN FOR PIPE THAT IS Lr = LENGTH OF PIPE TO BE RESTRAINED NOT THE SIZE OR MATERIAL TYPE SHOWN Ls = UN-OBSTRUCTED STRAIGHT RUN LENGTH IN THESE DETAILS. AVAILABLE ON THE SMALLER SIDE OF REDUCER LI = LENGTH OF PIPE TO BE RESTRAINED ON THE LARGER SIDE OF REDUCER CAP OR PLUG-RESTRAINED JOINTS-VERTICAL OFFSET (45°) 45° VERT. DOWN BEND Lhs & Lls BASIS OF DESIGN RESTRAINED JOINTS IN-LINE VALVES & DEAD ENDS PIPE SIZE PIPE MATERIAL = PVC 6" 8" 10**"** Lr 23' 36' 16' 30' Lhs 2. TEST PRESSURE = 150 PSI PIPE SIZE 10' 12' 5' 6' LIS SOIL TYPE = "SM" (ASTM STANDARD Lhs = LENGTH OF PIPE TO BE RESTRAINED D2487) 72' 55' ON VERTICAL DOWN BENDS TRENCH TYPE & BEDDING = TYPE 4, NOTE: VALVES SHALL BE RESTRAINED ON BOTH SIDES. LIS = LENGTH OF PIPE TO BE RESTRAINED (ANSI/AWWA C150/A21.50) ON VERTICAL UP BENDS Lr = LENGTH OF PIPE TO BE RESTRAINED 45° VERT. UP BEND 5. PIPE COVER = 3' MINIMUM - IN-LINE VALVE RESTRAINED JOINTS Lbr (Lrn=0.5') / Lbr (Lrn=10') RUN SIZE BRANCH 12" SIZE 8" 10" 36'/F0 | 35'/F0 | 34'/F0 | 32'/F0 | 31'/F0 52'/3' | 51'/FO | 50'/FO | 49'/FO RESTRAINED JOINTS 69'/19' 69'/5' 68'/FO Boyle Engineering Corporation 84'/33' 83'/21' 10" 99'/47' NOTE: IF Lrn > 20', THEN ALL TEE SIZES NEED TO BE RESTRAINED AT THE FITTING ONLY (FO). CITY OF ALBUQUERQUE **PUBLIC WORKS DEPARTMENT** UTILITY DESIGN SECTION Lrn = SHORTEST LENGTH OF PIPE RESTRAINED ON EITHER SIDE OF THE TEE ATRISCO TRUNK MASTER PLAN WATER LINE - PHASE 2 RESTRAINED JOINT DETAILS Lbr = LENGTH OF PIPE TO BE RESTRAINED ON IS A RECORD DRAWING OF THE FACILITIES IDENTIFIED IN HATLE BLOCK ONLY AND HAS BEEN PREPARED IN PART ON HATLE BLOCK ONLY AND HAS BEEN PREPARED IN PART ON HASSIS OF INFORMATION COMPILED AND FURNISHED BY HAS THE ENGINEER/ARCHITECT AND OTHER (S) WILL NOT HE PONSIBLE FOR ANY ERROR (S) OR OMISSION (S) WHICH HE BEEN HACORPORT FED INTO THIS DRAWING, ACTUAL CONHAS WILL VARY SOME MOCATIONS THE VAPIANCE MAY RE THE BRANCH City Engineer Approval **SEP** 3 0 1997 N AND AT SOME LOCATIONS THE VARIANCE MAY BE IF THE PRECISE LOCATION OF ANY FACILITY IS REQUIRED. HE FACILITY SHOULD BE FIELD LOCATED IN THE PRESENCE OF AN EMPLOYEE OF THE DISTRICT OR THE OWNER (S) DESIGN REVIEW COMMITTEE F THE UTILITIES INVOLVED. City Project No. 5431.92



1. - A01-147-00

# CONSTRUCTION TRAFFIC CONTROL GENERAL NOTES

- 1. CONTRACTOR MUST OBTAIN FROM CONSTRUCTION COORDINATION AN EXCAVATION/BARRICADING PERMIT BEFORE ENGAGING IN ANY CONSTRUCTION MAINTENANCE OR REPAIR WORK IN ANY OF THE CITY OF ALBUQUERQUE'S RIGHTS-OF-WAY. EMERGENCY WORK THAT WOULD PRESERVE LIFE OR PROPERTY IS EXCLUDED WITH THE UNDERSTANDING, THAT A PERMIT SHALL BE OBTAINED WITHIN 24 TO 48 HOURS.
- 2. CONTRACTOR SHALL AT THE TIME OF PERMIT REQUEST, SUBMIT FOR APPROVAL BY CONSTRUCTION COORDINATION, A TRAFFIC CONTROL PLAN DETAILING ALL EXISTING TOPOGRAPHY SUCH AS LANE WIDTHS, DRIVEWAYS, AND BUSINESS/RESIDENTIAL ACCESSES. THE TRAFFIC CONTROL PLAN SHALL INCLUDE ALL PHASES OF WORK AND SCHEDULES INVOLVED IN THE CONSTRUCTION PROJECT. ANY SEPARATE PHASES OF A CONSTRUCTION PROJECT SHALL BE GIVEN AN INDIVIDUAL PERMIT EACH. BLANKET PERMITS WILL NOT BE ISSUED.
- 3. THESE TYPICAL TRAFFIC CONTROL PLANS DO NOT REFLECT THE EXISTING TOPOGRAPHY SUCH AS DRIVEWAYS, LANE WIDTHS, AND BUSINESS/RESIDENTIAL ACCESSES. EVERY LOCATION THAT REQUIRES CONSTRUCTION TRAFFIC CONTROL SHALL HAVE A DETAILED TRAFFIC CONTROL PLAN SHOWING ALL EXISTING TOPOGRAPHY.
- 4. CONSTRUCTION SHALL NOT BEGIN UNLESS A TRAFFIC CONTROL PLAN HAS BEEN APPROVED AND VERIFIED BY CONSTRUCTION COORDINATION.
- 5. CONSTRUCTION COORDINATION SHALL BE NOTIFIED 48 HOURS PRIOR TO ANY TRAFFIC CONTROL CHANGES NEEDED BY CONTRACTOR, THAT WERE NOT PREVIOUSLY APPROVED. THESE TRAFFIC CONTROL CHANGES SHALL BE REQUESTED IN WRITING ACCOMPANIED WITH A TRAFFIC CONTROL PLAN REFLECTING SUCH CHANGES.
- 6. ALL CONSTRUCTION TRAFFIC CONTROL DEVICES SHALL COMPLY TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL, SERVICE AND MAINTAIN ALL TRAFFIC CONTROL DEVICES. TRAFFIC CONTROL DEVICES SHALL NOT BE REMOVED OR ALTERED IN ANY WAY WITHOUT THE APPROVAL OF CONSTRUCTION COORDINATION. PER SECTION 6A-4 OF THE MUTCD, LATEST EDITION.
- 7. THE CONSTRUCTION TRAFFIC CONTROL INITIAL SET-UP SHALL BE BY AN AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA) CERTIFIED WORKSITE TRAFFIC SUPERVISOR. THE MAINTENANCE AND SERVICING SHALL ALSO BE DONE BY AN ATSSA CERTIFIED WORKSITE TRAFFIC SUPERVISOR OR EQUIVALENT.
- 8. CONTRACTOR IS RESPONSIBLE TO MAINTAIN AND SERVICE ALL TRAFFIC CONTROL DEVICES 24 HOURS A DAY, 7 DAYS A WEEK THROUGHOUT LENGTH OF PROJECT. CONTRACTOR IS RESPONSIBLE THAT ALL TRAFFIC CONTROL DEVICES COMPLY WITH THE MUTCD, LATEST EDITION.
- 9. ALL ADVANCE WARNING SIGNS SHALL BE DOUBLE INDICATED WHENEVER THERE ARE MULTI-LANE TRAFFIC IN ANY ONE GIVEN DIRECTION AND THERE IS SUFFICIENT MEDIAN SPACE.
- 10. ALL BARRICADES IN ALL TAPERS AND TANGENTS SHALL BE PLACED APART, A DISTANCE MEASURED IN FEET, EQUAL TO THAT OF THE POSTED SPEED LIMIT. NO EXCEPTIONS UNLESS APPROVED BY CONSTRUCTION COORDINATION PER MUTCD SECTION 6A-4.
- 11. ALL WORK IN ARTERIAL ROADWAYS SHALL BE ON A CONTINUOUS 24 HOUR PER DAY BASIS UNTIL COMPLETED.
- 12. CONTRACTOR IS RESPONSIBLE TO PROVIDE CONSTRUCTION COORDINATION. A WEEKLY LOG OF DAILY INSPECTIONS OF BARRICADE AND MAINTENANCE SCHEDULES ON PROJECTS THAT ARE OVER ONE WEEK DURATION.
- 13. EQUIPMENT OR MATERIALS SHALL NOT BE STORED WITHIN 15 FEET OF A TRAVELLED TRAFFIC LANE DURING NON-WORKING HOURS WITHOUT THE APPROVAL OF CONSTRUCTION COORDINATION
- 14. CONTRACTOR SHALL PROVIDE AND MAINTAIN A SAFE AND ADEQUATE MEANS OF CHANNELIZING PEDESTRIAN TRAFFIC AROUND AND THROUGH THE CONSTRUCTION AREA.
- 15. CONTRACTOR IS RESPONSIBLE FOR OBLITERATION OF ANY CONFLICTING STRIPING AND RESPONSIBLE FOR ALL TEMPORARY STRIPING.
- 16. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL FACILITIES, BUSINESSES AND/OR RESIDENTS AT ALL TIMES.
- 17. CONTRACTOR SHALL PROVIDE ACCESS SIGNS FOR BUSINESSES LOCATED WITHIN THE CONSTRUCTION AREA UNDER THE SUPERVISION OF CONSTRUCTION COORDINATION. EACH ACCESS SIGN SHALL HAVE 5 INCH, WHITE OPAQUE LETTERING ON BLUE REFLECTORIZED BACKGROUND. ACCESS SIGNS SHALL BE CONSIDERED INCIDENTAL TO THE BID AND NOT PART OF THE CONTRACT UNLESS OTHERWISE STATED. NO MORE THAN 3 BUSINESSES SHALL BE LISTED ON A ACCESS SIGN SHOPPING CENTERS AND MALLS SHALL BE LISTED AS SUCH.
- 18. ALL ADVANCE WARNING SIGNS SHALL MEET THE MINIMUM REFLECTIVE INTENSITY REQUIREMENTS SET FORTH BY THE CITY OF ALBUQUERQUE. CONSTRUCTION COORDINATION SHALL DETERMINE ALL REQUIREMENTS AND APPROVE OR DISAPPROVE ANY ADVANCE WARNING SIGN PER SECTION 6A-4 OF THE MUTCD, LATEST EDITION.
- 19.2-348 HOURS PRIOR TO OCCUPYING OR CLOSING OF A RIGHT-OF-WAY, CONTRACTOR SHALL NOTIFY: POLICE, FIRE DEPARTMENT, SCHOOLS. HOSPITALS, TRANSIT AUTHORITY, BUSINESSES AND/OR RESIDENTS THAT WILL BE AFFECTED BY THE CONSTRUCTION.
- 20. ANY FIELD ADJUSTMENTS SHALL BE APPROVED BY CONSTRUCTION COORDINATION.

- 21. EXCAVATIONS SHALL BE PLATED, TEMPORARILY PATCHED OR RESURFACED PRIOR TO OPENING OF TRAFFIC. A MINIMUM OF 11 FEET SHALL BE PROVIDED FOR TRAFFIC IN ANY GIVEN DIRECTION. CONTRACTOR IS RESPONSIBLE FOR ANY WORK INVOLVED IN SATISFYING THESE REQUIREMENTS.
- 22. CONTRACTOR SHALL AT ALL TIMES COMPLY WITH THE FOLLOWING: 1. STANDARDS AND REQUIREMENTS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION. 2. THE CITY OF ALBUQUERQUE TRAFFIC CODE, LATEST EDITION. 3. SECTION 19 OF THE CITY OF ALBUQUERQUE'S STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION, AS WELL AS OTHER SECTIONS.
- 23. FAILURE TO COMPLY WITH ANY OF THE ABOVE MENTIONED, WILL BE ADEQUATE CAUSE TO CEASE ALL WORK ON ANY CONSTRUCTION PROJECT. WORK WILL NOT RESUME UNTIL ALL REQUIREMENTS ARE ADDRESSED AND APPROVED BY CONSTRUCTION COORDINATION.
- 24. ALL TRAFFIC CONTROL DEVICES SHALL BE KEPT IN NEW-CLEAN CONDITION. WASHING OF EQUIPMENT IS INCIDENTAL TO IT'S PLACEMENT AND MAINTENANCE.
- 25. TRAFFIC CONTROL STANDARDS APPLY ONLY WHERE THE CONSTRUCTION TRAFFIC CONTROL PLANS ARE NOT SPECIFIC.

R5-1a

THRU TRAFFIC KEEP LEFT

SPECIAL

PREPARED TO

**SPECIAL** 

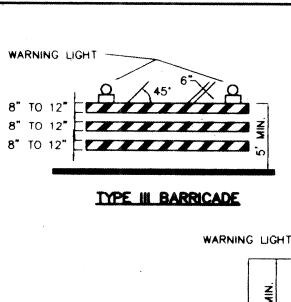
TRAFFIC KEEP

SPECIAL

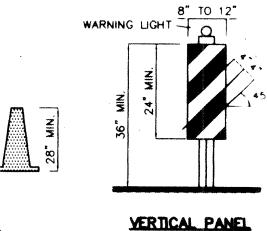
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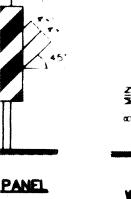
SPECIAL

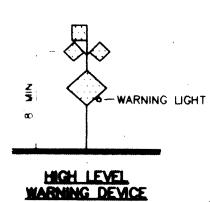
- 26. ADVANCE WARNING SIGNS SHALL BE 36"x36" MIN. WITH SUPER ENGINEERING GRADE SHEETING OR BETTER. MOUNTING HEIGTH AT TOP OF SIGN SHALL BE THE SAME AS FOR A 48" SIGN AS INDICATED IN THE M.U.T.C.D. 3
- 27. CONTRACTOR SHALL MAINTAIN A GRAFFITI-FREE WORKSITE. ALL GRAFFITI SHALL BE PROMPTLY REMOVED FROM ALL EQUIPMENT, BOTH PERMANENT AND TEMPORARY. 4



BASE VARIES







# LEGEND

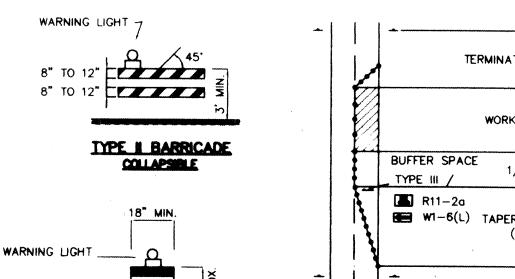
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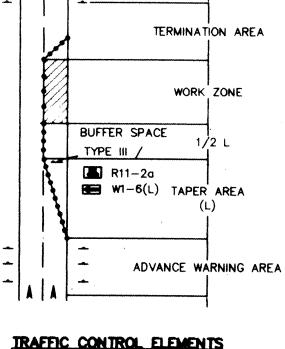
WORK AREA

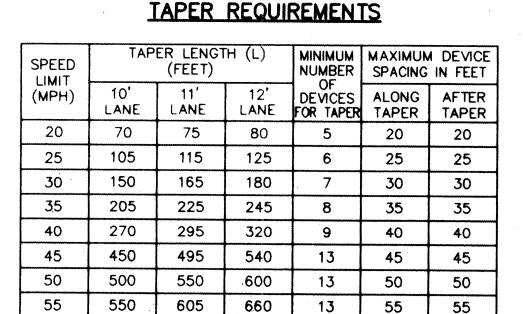
- BARRICADE TYPE I, TYPE II, OR BARREL
- BARRICADE TYPE III
- VERTICAL PANEL
- WARNING SIGN
- DISTANCE BETWEEN SIGNS A DISTANCE MEASURED IN FEET EQUAL TO A VALUE OF TEN TIMES THE SPEED LIMIT OF THE STREET
- FLAGMAN POSITION SPACING BETWEEN BARRICADES- A DISTANCE MEASURED IN FEET
- EQUAL TO THE SPEED LIMIT OF THE STREET

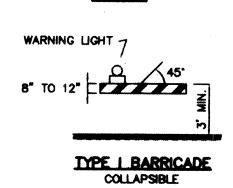
TAPER LENGTH - SEE CHART BELOW

THE TANGENT LENGTH IS EQUAL TO THE TAPER LENGTH FOR A GIVEN STREET.

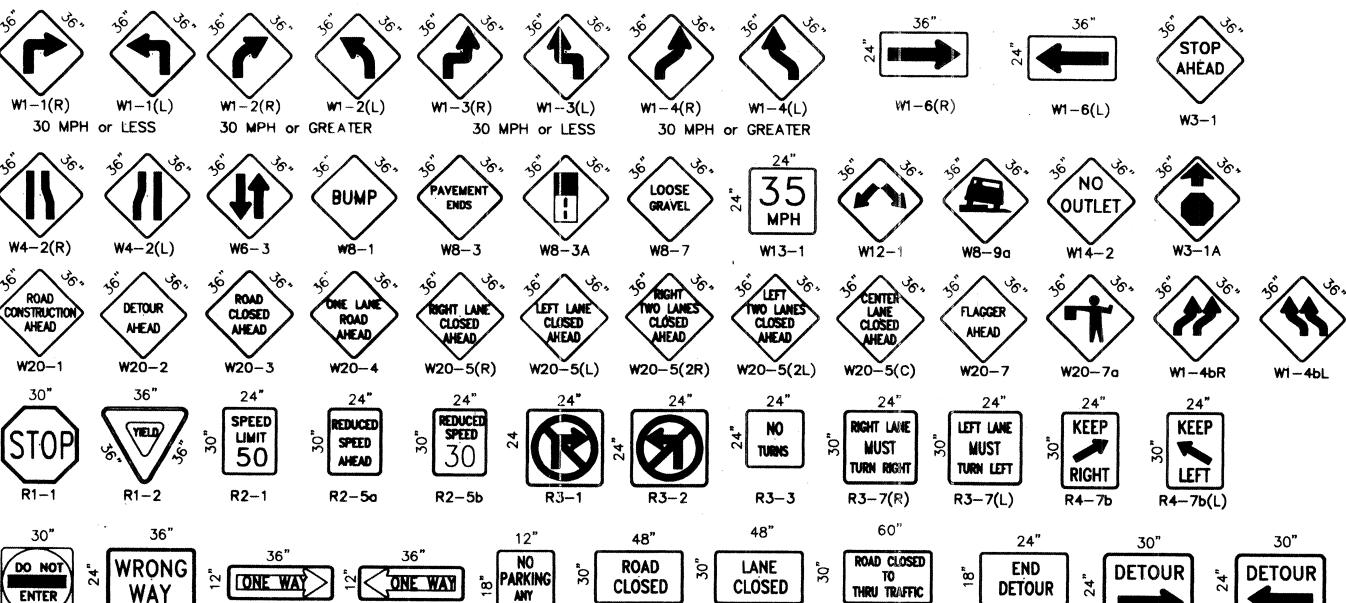






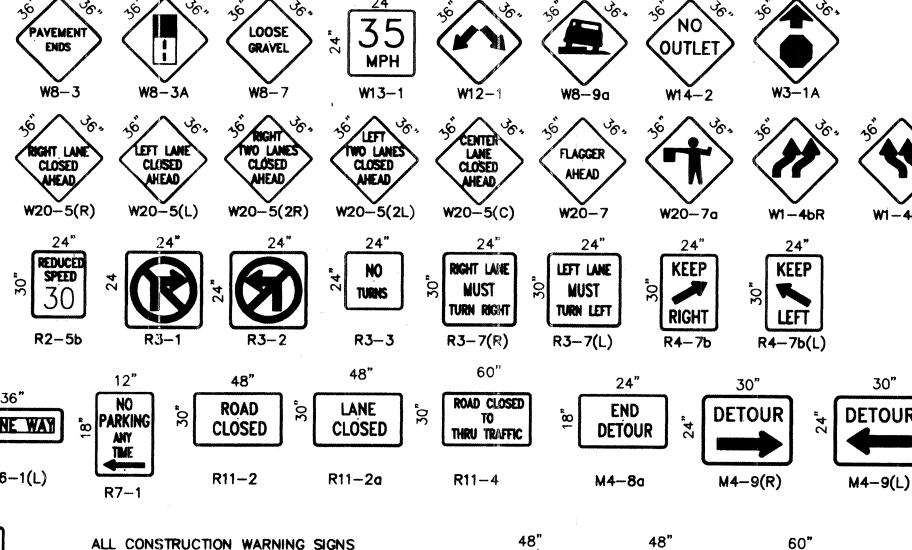


# SIGN FACE DETAILS



SHALL HAVE A BLACK LEGEND ON A

ORANGE BACKGROUND.



**OETOUR** DETOUR END CONSTRUCTION M4-10(L) G20-2

RECOMMENDED SIGN SPACING(D) FOR ADVANCE WARNING SIGN SERIES MINIMUM DISTANCE IN FEET

MILES PER HOUR	BETWEEN SIGNS	FROM LAST SIGN TO TAPER				
0-20	10 X SPEED LIMIT	10 X SPEED LIMIT				
25-30	10 X SPEED LIMIT	10 X SPEED LIMIT				
30-35	10 X SPEED LIMIT	10 X SPEED LIMIT				
40-45	10 X SPEED LIMIT	10 X SPEED LIMIT				
50-60	10 X SPEED LIMIT	10 X SPEED LIMIT				

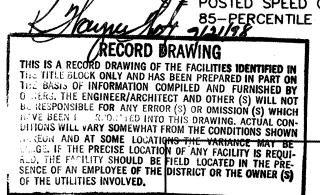
### TAPER CRITERIA

UPSTREAM TAPER:	•
MERGING TAPER	L MINIMUM
SHIFTING TAPER	1/2 L MINIMUM
SHOULDER TAPER	1/2 L MINIMUM
TWO-WAY TRAFFIC TAPER	100 FEET MAXIMUM
DOWNSTREAM TAPERS	100 FEET PER LANE

# TAPER LENGTH COMPUTATION

40 M	PH C	R	LESS	L	=	<b>W</b> S	<sup>2</sup>
45 M	PH C	R	GREATER			W	

L = TAPER LENGTH W = WDTH OF OFFSET IN FEET POSTED SPEED OR OFF-PEAK 85-PERCENTILE SPEED IN MPH



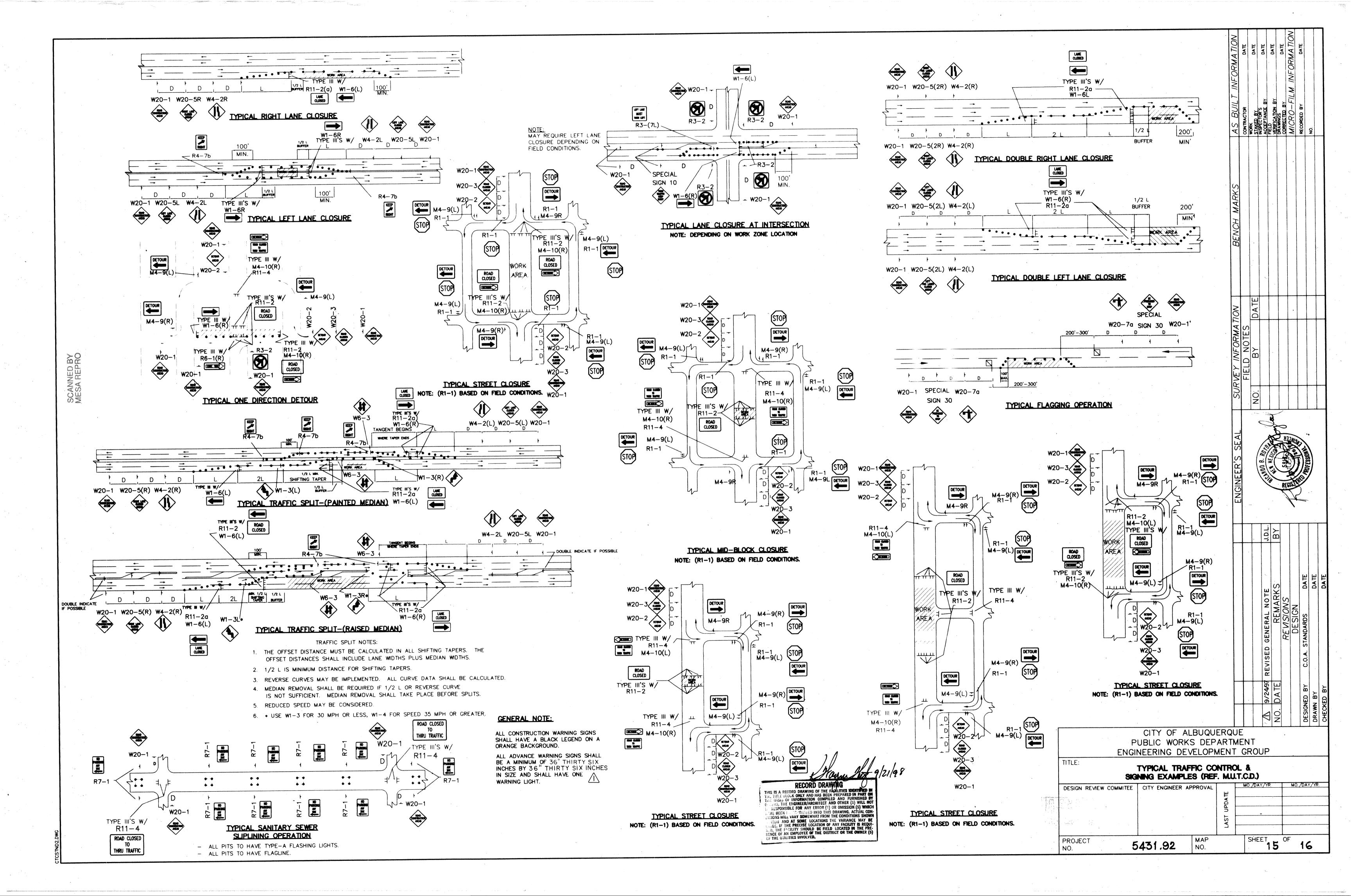
CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING DEVELOPMENT GROUP

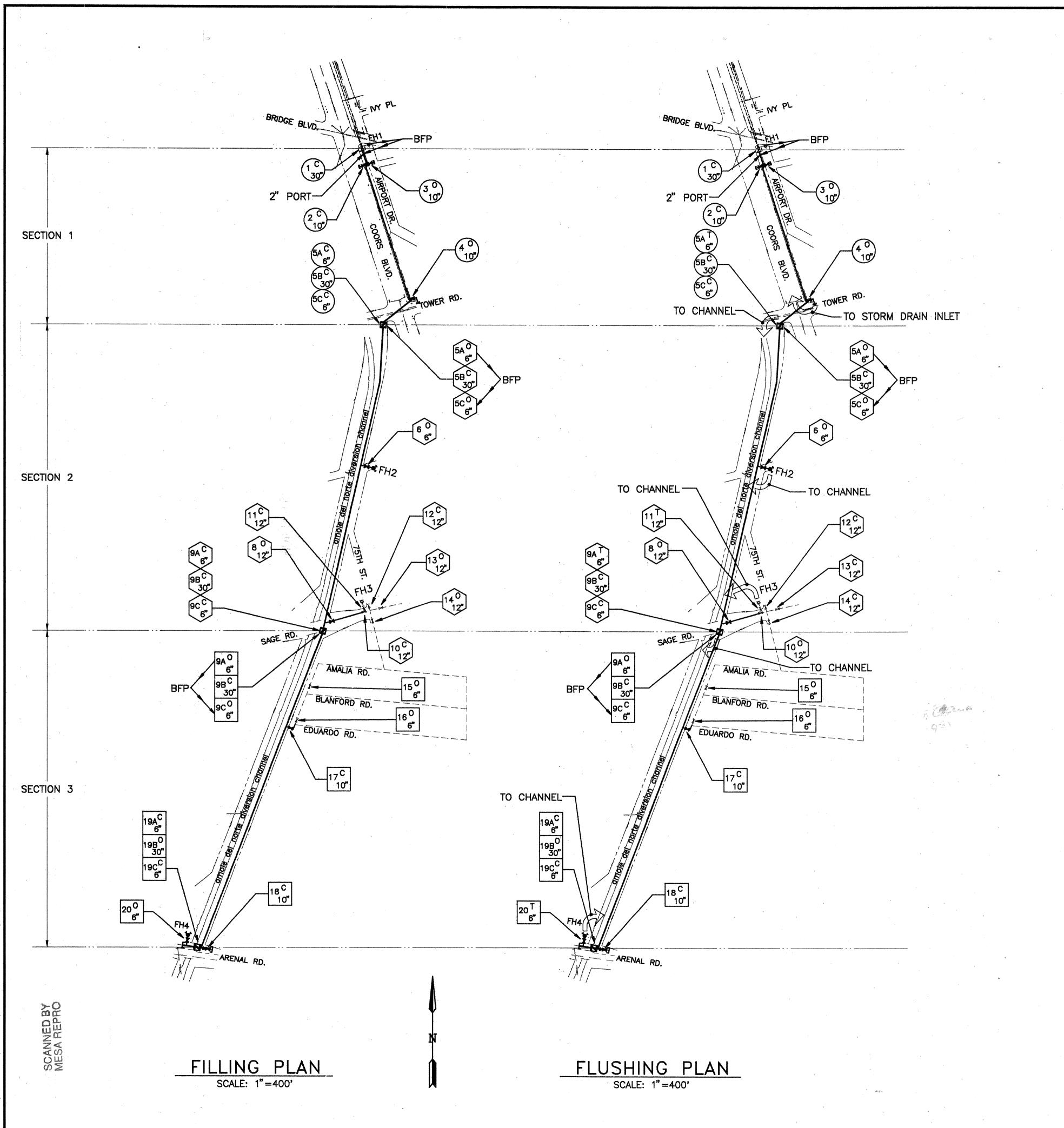
TITLE: SIGNING AND CONSTRUCTION TRAFFIC CONTROL STANDARDS

PROJECT NO.	5	431.92	MAP NO.		SHEET 14	OF 16
÷	, , , , , , , , , , , , , , , , , , , ,			AST UPDATE		
DESIGN REVIE	W COMMITEE	CITY ENGINEER	APPROVAL		MO./DAY/YR.	MO./DAY/YR

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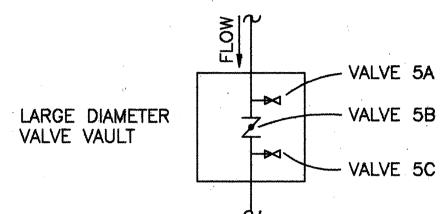
# **LEGEND**

VALVE OPEN/CLOSED OR THROTTLED VALVE LABEL VALVE SIZE

VALVE OPEN OR CLOSE

VALVE LABEL → VALVE SIZE

- VALVE OPEN OR CLOSE VALVE LABEL - VALVE SIZE



FH1 = FIRE HYDRANT

BFP = APPROVED BACK FLOW PREVENTION DEVICE

WATER LINE FLUSHING

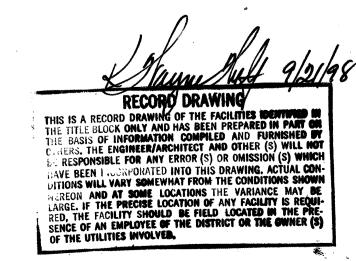
--- WATER LINE FILLING

#### WATER LINE SECTION SEQUENCE NOTES

SECTION 1 INSTALL BACK FLOW PREVENTION DEVICE BETWEEN EXISTING FIRE HYDRANT FH1 AT BRIDGE AND THE NEW 30" WL VIA A 2" PORT. CLOSE ALL NEW VALVES IN SECTION 1 EXCEPT 3 AND 4. FILL THE WATER LINE FROM FH1. AFTER PRESSURE TESTING, INTRODUCE CHLORINE BY THROTTLING THE UPSTREAM 6" BYPASS VALVE 5A, SUPPLYING WATER FROM FH1; DISCHARGE TO THE AMOLE DEL NORTE DRAINAGE CHANNEL. AFTER THE SLUG HAS REACHED THE DISCHARGE POINT, INTRODUCE CHLORINE TO THE 10" SUB OUT THROUGH VALVE 4 VIA A 2" PORT AT THE 10" CAP FOR 5 MINUTES. DISCHARGE TO THE THE EXISTING STORM DRAIN INLET IN COORS. USE THE SAME PROCEDURE AFTER THE APPROPRIATE CONTACT TIME FOR FLUSHING UNTIL THE CHLORINE CONCENTRATION IS LESS THAN 2.0 mg/L.

SECTION 2
INSTALL BACK FLOW PREVENTION DEVICE BETWEEN THE UPSTREAM BYPASS VALVE 5A AND THE DOWNSTREAM BYPASS VALVE 5C. CLOSE ALL NEW VALVES IN SECTION 2 EXCEPT 5C, 6, AND 8. LEAVE ALL EXISTING VALVES OPEN. FILL THE WATER LINE FROM VALVE 5A. AFTER PRESSURE TESTING, INTRODUCE CHLORINE BY THROTTLING THE UPSTREAM 6" BYPASS VALVE 9A, SUPPLYING WATER FROM VALVE 5A; DISCHARGE TO THE AMOLE DEL NORTE DRAINAGE CHANNEL. AFTER THE SLUG HAS REACHED THE DISCHARGE POINT. INTRODUCE CHLORINE TO THE NEW FIRE HYDRANT FH2 FOR 5 MINUTES. DISCHARGE TO THE AMOLE DEL NORTE DRAINAGE CHANNEL. THEN CLOSE THE EXISTING VALVES 13 & 14 AND OPEN VALVE 10; INTRODUCE CHLORINE TO THE 12" WATER LINE IN SAGE THROUGH EXISTING FIRE HYDRANT FH3 FOR 5 MINUTES. DISCHARGE TO THE AMOLE DEL NORTE DRAINAGE CHANNEL. CLOSE VALVE 10 AND RE-OPEN VALVES 13 AND 14 DURING CONTACT TIME. USE THE SAME PROCEDURE AFTER THE APPROPRIATE CONTACT TIME FOR FLUSHING UNTIL THE CHLORINE CONCENTRATION IS LESS THAN 2.0 mg/L.

SECTION 3
INSTALL BACK FLOW PREVENTION DEVICE BETWEEN THE UPSTREAM BYPASS VALVE 9A AND THE DOWNSTREAM BYPASS VALVE 9C. CLOSE ALL NEW VALVES IN SECTION 3 EXCEPT 9C AND 19B. FILL THE WATER LINE FROM VALVE 9A. AFTER PRESSURE TESTING, INTRODUCE CHLORINE BY THROTTLING VALVE 20. DISCHARGE THROUGH THE NEW FIRE HYDRANT FH4 TO THE AMOLE DEL NORTE DRAINAGE CHANNEL. USE THE SAME PROCEDURE AFTER THE APPROPRIATE CONTACT TIME FOR FLUSHING UNTIL THE CHLORINE CONCENTRATION IS LESS THAN 2.0 mg/L.



## **GENERAL NOTES**

DISINFECTION AND FILLING OF WATER LINES SHALL CONFORM TO THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS 801.17 EXCEPT AS MODIFIED HEREIN.

2. ALL NECESSARY MEASURES SHALL BE TAKEN TO PREVENT CONTAMINATED MATERIALS FROM ENTERING THE WATER LINE DURING STORAGE, CONSTRUCTION, OR REPAIR INCLUDING CAPPING THE WATER LINE AT NIGHT AND DURING ALL BREAKS IN PIPE LAYING.

REMOVE ANY MATERIALS, DIRT OR DEBRIS THAT MAY HAVE ENTERED THE WATER LINE PRIOR TO DISINFECTION.

4. ADD A FLUSHING/DRAINING PORT TO ALL DEAD END LINES DISCHARGE POINTS AND FILLING POINTS WHICH ARE NOT FIRE HYDRANTS. PORT SHALL BE 2" MIN UNLESS SHOWN OTHERWISE. PORT SHALL ALLOW PIPE TO FULLY DRAIN.

5. FILL THE WATER LINE PER THE PLAN SHOWN ON THIS SHEET THROUGH AN APPROVED BACK FLOW PREVENTION DEVICE. CONTRACTOR SHALL USE NECESSARY METHODS TO ALLOW ALL AIR IN THE WATER LINE TO RELEASE WITHOUT CONTAMINATING ANY EXISTING WATER LINES OR FIELD TAPPING CONCRETE CYLINDER

6. PRESSURE TEST IN ACCORDANCE WITH CITY OF ALBUQUERQUE STANDARD SPECIFICATION 801.16.

DISINFECT THE WATER LINE PER CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS 801.17 AND AWWA C651 (LATEST EDITION). SODIUM OR CALCIUM HYPOCHLORITE ARE THE ONLY PERMISSIBLE FORMS OF CHLORINE TO BE USED. GRANULES OR TABLETS SHALL NOT BE PLACED IN THE WATER LINE, HOWEVER THEY MAY BE USED TO PREMIX A HIGHLY CHLORINATED SOLUTION. CONTRACTOR SHALL ENSURE THAT GRANULES OR TABLETS NOT DISSOLVED ARE NOT INTRODUCED INTO THE WATER LINE FROM THE HIGHLY CHLORINATED WATER BY SCREENING THE DISCHARGE FROM THE PRE-MIXING VESSEL OR BY OTHER PROVEN MEANS.

THE SLUG METHOD SHALL BE USED (WITH PRELIMINARY FLUSHING ON LINES LESS THAN 24" IN DIAMETER AND BROOM SWEEPING ON LINES 24" AND

9. AFTER THE 3 HOUR RETENTION PERIOD, HEAVILY CHLORINATED WATER SHALL BE FLUSHED FROM FROM THE WATER LINE PER THIS PLAN. INTRODUCE FLUSH WATER THROUGH AN APPROVED BACK FLOW DEVICE. DECHLORINATION IS REQUIRED WHEN NOTED ON THIS PLAN.

10. FLUSH THE WATER LINE BY CAREFULLY THROTTLING THE VALVE AT THE DISCHARGE END TO PREVENT A VACUUM IN THE WATER LINE AND TO PREVENT INUNDATING THE DISCHARGE STRUCTURE.

11. IF FLUSHING INTO A SANITARY SEWER NOTIFY THE WASTEWATER UTILITY DIVISION AT 873-7015 PRIOR TO FLUSHING. IF FLUSHING TO A CITY OF ALBUQUERQUE STORM SEWER OR DRAINAGE CHANNEL NOTIFY THE HYDROLOGY DIVISION AT 768-3654. IF FLUSHING TO AN AMAFCA STRUCTURE NOTIFY AMAFCA AT 884-2215 PRIOR TO FLUSHING. FLUSHING LINE SHALL BE SUPPORTED BY A STAND TO MAINTAIN AN 18" SEPARATION BETWEEN THE FLUSHING LINE AND THE DISCHARGE POINT OR MANHOLE RIM.

12. WHEN THE FLUSH WATER RESIDUAL CHLORINE IS LESS THAN 2.0 mg/L, THE CITY WILL TAKE A POTABILITY TEST. UPON PASSING THE CONTRACTOR SHALL REMOVE THE METER AND BACK FLOW PREVENTION DEVICE. IF LINE DOES NOT PASS, CONTRACTOR SHALL REPEAT DISINFECTION AND/OR FLUSHING UNTIL UNTIL LINE PASSES.

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PROVIDE CITY WITH A RECORD OF THE WATER UME USED TO FILL AND FLUSH THE WATER LINE ED ON WATER METER READINGS.				DATE			***		
CONTRACTOR MAY SUBMIT AN ALTERNATE FILLING, NFECTING, AND FLUSHING PLAN FOR REVIEW AND ROVAL AT LEAST 5 WORKING DAYS PRIOR TO FILLING.				à			11/97	11/97	11/97
THROTTLING SHALL BE PERFORMED USING /ES NOT FIRE HYDRANTS.						,	DATE	DATE	DATE
THE CONTRACTOR SHALL BE GRANTED FREE WATER TESTING AND FLUSHING. IF THE WATER LINE S THE HYDROSTATIC OR POTABILITY TEST, THE ITRACTOR SHALL PAY FOR THE ADDITIONAL WATER UIRED FOR RETESTING.		•		REMARKS	REVISIONS	DESIGN		Ü	<u>د</u>
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Boyle Engineering Corporation consulting engineers				DATE			ED BY	ď	À C
Suite 600E 6400 UPTOWN BLVD. N.E. ALBUQUERQUE, NM, 87110 (506) 883-7700				NO.		,	DESIGNED	DRAWN	CHECKED
CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT UTILITY DESIGN SECTION					< .			•	

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ATRISCO TRUNK MASTER PLAN WATER LINE - PHASE 2

WATER LINE	FILLING, DISIN			PLAN
DESIGN REVIEW COMMITTEE	City Engineer App	poord Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.
City Project No.	431.92	Zone Map No. L-10,M-1	Sheet 1	6 16