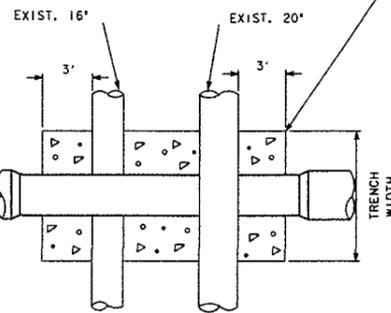


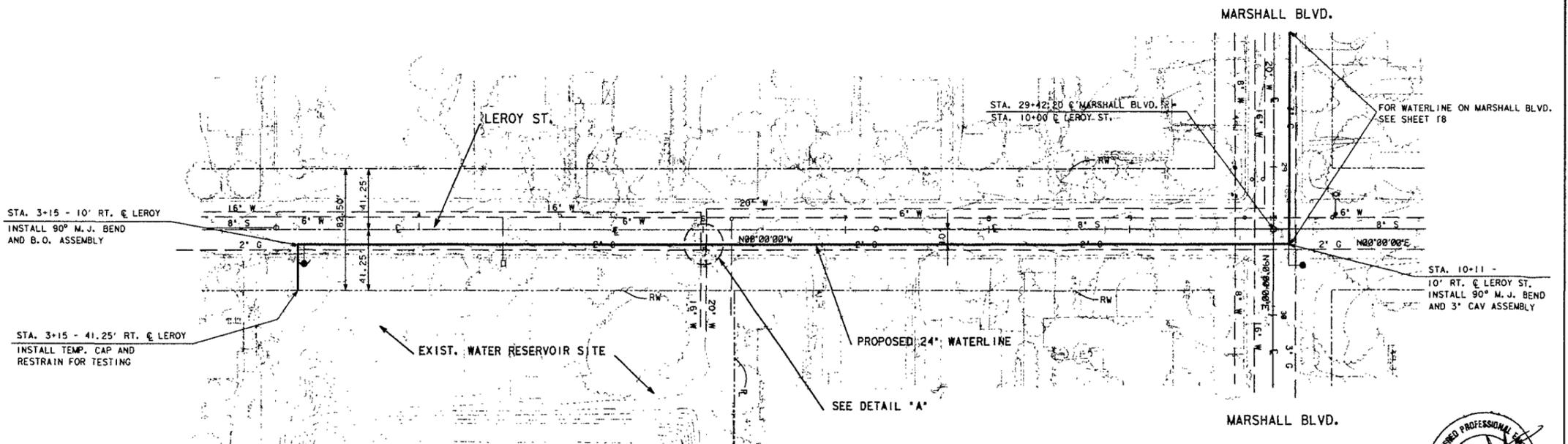
PROFILE SCALE
 HORIZ. 1" = 40'
 VERT. 1" = 4'

CONCRETE ENCASE PROPOSED 20" PIPE
 DEPTH BELOW 20" PIPE = SPRING LINE OF BOTTOM OF PIPE (16")
 HEIGHT ABOVE 20" PIPE = SPRING LINE OF TOP PIPE (20")



NOTE: VERIFY LOCATION AND DEPTHS OF EXISTING 16" & 20" PIPE PRIOR TO INSTALLING 20". MINIMUM SEPARATION BETWEEN CROSSING PIPES SHALL BE 0.20 FT. ADJUST GRADE ACCORDINGLY.

DETAIL "A"



IF SHEET IS LESS THAN
 24"x36"
 IT IS A REDUCED PRINT.
 SCALE REDUCED ACCORDINGLY.



JOB No. 62370.60 - FILE No. CA-PRO-NEWMARK WATER

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
REVISIONS					

DESIGNED BY: STL
 DRAWN BY: JW
 CHECKED BY: DHD

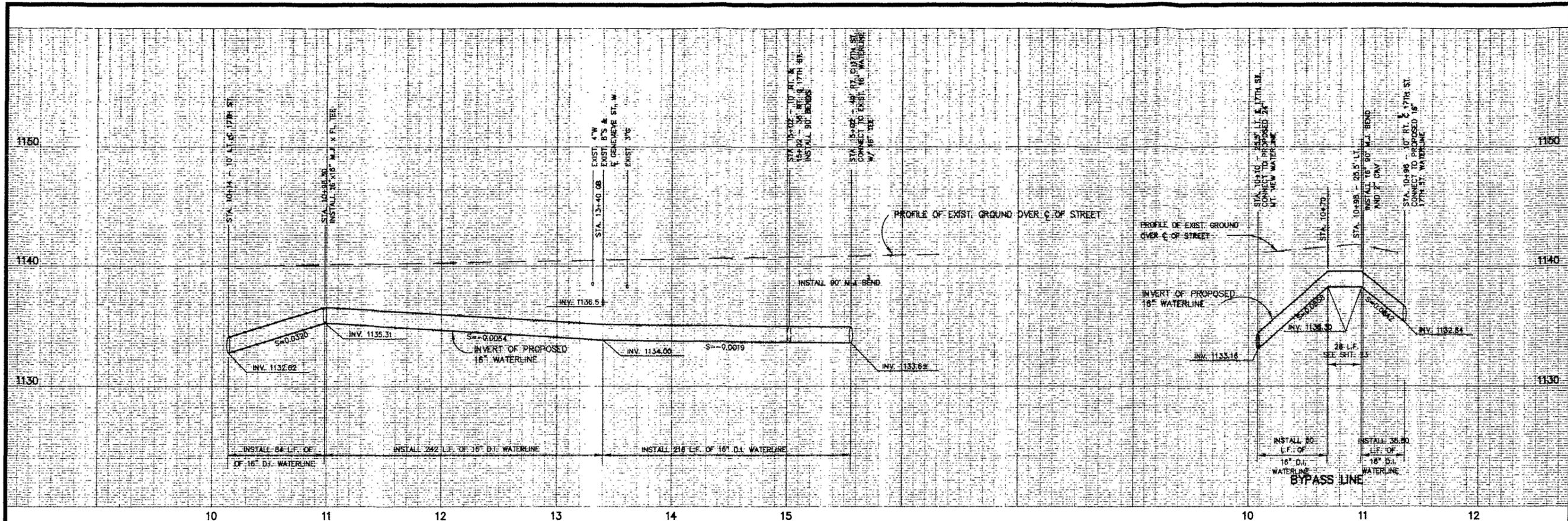
URS URS Consultants, Inc.
 CONSULTING ENGINEERS
 SACRAMENTO CALIFORNIA



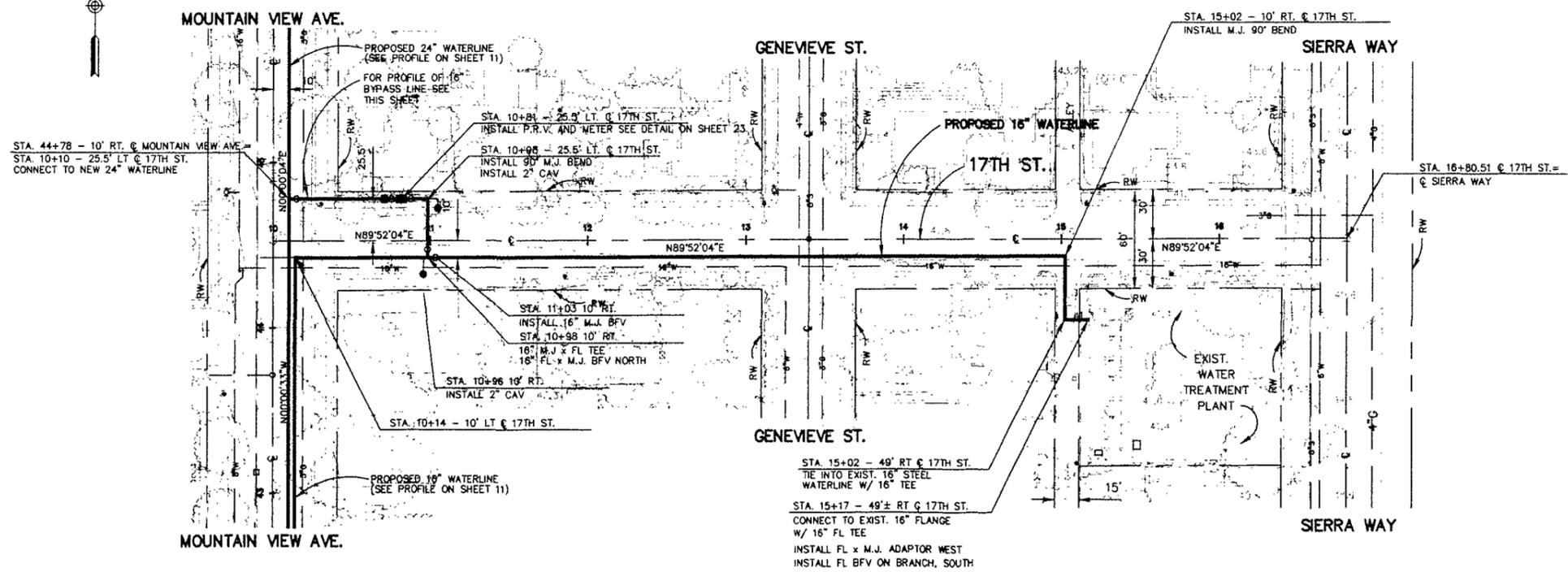
NEWMARK OU REMEDIAL DESIGN
 NEWMARK GROUNDWATER
 CONTAMINATION SUPERFUND SITE
 SOUTH PLANT TRANSMISSION PIPELINE

PLAN AND PROFILE
 LEROY ST.
 STA. 10+00 TO STA. 5+96

Scale: HORIZ. 1" = 40', VERT. 1" = 4'
 Date: SEPT 18, 1996
 Dwg. No.: 19



PROFILE SCALE
 HORIZ. 1" = 40'
 VERT. 1" = 4'



IF SHEET IS LESS THAN 24"x36" IT IS A REDUCED PRINT. SCALE REDUCED ACCORDINGLY.



REV	DATE	DESCRIPTION	REV	DATE	DESCRIPTION

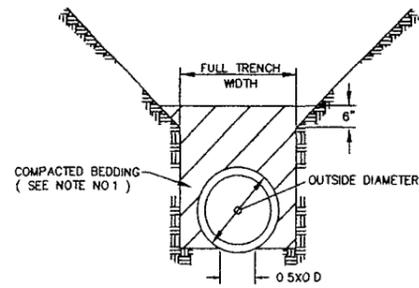
DESIGNED BY: STL
 DRAWN BY: JW
 CHECKED BY: DHD

URS URS Consultants, Inc.
 CONSULTING ENGINEERS
 SAN BERNARDINO CALIFORNIA
 JOB NO. 62370-60

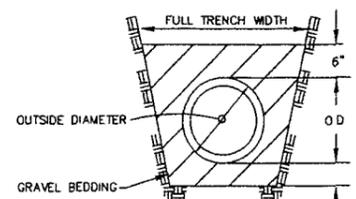
NEWMARK OU REMEDIAL DESIGN
 NEWMARK GROUNDWATER
 CONTAMINATION SUPERFUND SITE
 SOUTH PLANT TRANSMISSION PIPELINE

PLAN AND PROFILE
 17TH ST.
 STA. 10+14 TO STA. 15+07
 Scale: Horiz. 1"=40' Date: Dwg. No.:
 Vert. 1"=4' SEPT 18, 1996 21

03/25/96



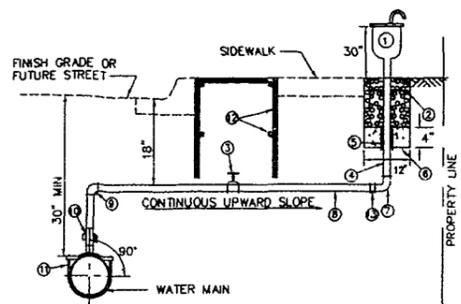
NOTES.
1 EARTH TO BE COMPACTED IN MAXIMUM OF 6" LIFTS



NOTES.
1 EARTH TO BE COMPACTED IN MAXIMUM OF 6" LIFTS
2 "A" = 4" FOR PIPE WITH OUTSIDE DIAMETERS 27" AND SMALLER
"A" = 6" FOR PIPE WITH OUTSIDE DIAMETERS 30" AND LARGER

RIGID PIPE BEDDING

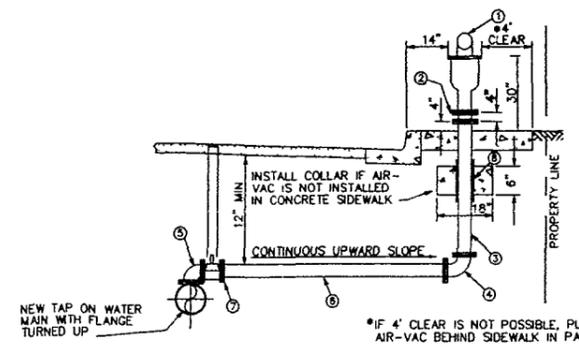
FLEXIBLE PIPE BEDDING



ITEM	QTY	DESCRIPTION	ITEM	QTY	DESCRIPTION
1	1 EA	SELECT ONE OF THE FOLLOWING A) 1" OR 2" AIR RELEASE VALVE - CRISPIN PL10A/PL20, APCO NO 200A OR EQUAL B) 2" AIR VACUUM VALVE - CRISPIN A20 APCO 144, OR EQUAL C) 2" COMBINATION AIR AND VACUUM RELEASE VALVE - CRISPIN UNIVERSAL AIR RELEASE VALVE NO U20, APCO NO 145C, OR EQUAL	2	0.3 FT	2,000 PSI CONCRETE
2	1.3 FT	3/4" POORLY GRADED GRAVEL	3	1 EA	2" GALVANIZED QUARTER BEND (FEM PIPE THREAD)
3	1 EA	2" BRONZE WHEEL VALVE	4	1 EA	2" TYPE L HARD COPPER TUBING (SBMWD APPROVED U.S. MANUFACTURE)
4	24 IN	2" THREADED GALVANIZED IRON PIPE	5	1 EA	2" BRASS COMPRESSION QUARTER BEND
5	12 IN	3" FLEXIBLE VINYL SLEEVE	6	1 EA	2" BRONZE CORPORATION STOP MUELLER H15023 OR EQUAL
			7	2 EA	12"x18"x12" METER BOX ARMORCAST 6001425A OR EQUAL
			8	1 EA	1" x 2" SERVICE SADDLE OR 2" WELD-ON THREAD-0-LET
			9	1 EA	INSULATOR COUPLING (COMPRESSION x MALE PIPE THREAD)

NOTE: USE 2" PIPE AND FITTINGS FOR ALL SIZE AIR RELEASES

1" AND 2" AIR RELEASE VALVES, 2" VACUUM VALVE, AND 2" COMBINATION VALVE

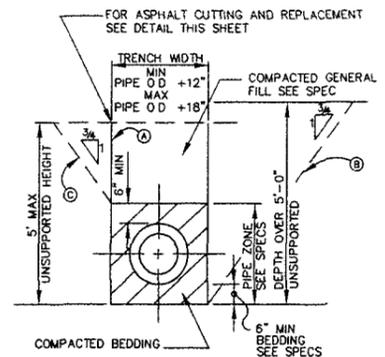


NOTE: PROVIDE ADEQUATE DRAINAGE FOR AIR VAC IF ADEQUATE SURFACE DRAINAGE IS NOT PRACTICAL. USE A 2 CUBIC FOOT GRAVEL FILLED SEEPAGE PIT TO AVOID POSSIBLE DAMAGE CAUSED BY SURFACE WATER RUN OFF

ITEM	QTY	DESCRIPTION
1	1 EA	3" AIR VACUUM VALVE [COMBINATION HIGH PRESSURE AIR RELEASE AND VACUUM VALVE] DIRECT BLOW OFF TOWARD THE CURB USING GALVANIZED PIPING [CRISPIN, APCO, OR APPROVED EQUAL]
2	1 EA	3" FLANGED BREAKAWAY EXTENSION SPOOL MORTAR LINED AND PAINTED TO MATCH AIR-VAC (INCLUDE HOLLOW BREAKAWAY BOLTS) FOR 3" AIR-VAC USE A 3" x 4" ADAPTOR SPOOL
3	1 LF	3" SCH 40 STEEL PIPE RISER FOR 3" AIR VAC USE 4" PIPE
4	1 LF	90° DUCTILE IRON BEND (MJK/FLG)
5	1 EA	90° DUCTILE IRON BEND (FLGxPE)
6	1 LF	3" PRESSURE CLASS 150 (THICKNESS CLASS 51) DUCTILE IRON PIPE WITH FIELD LOCK GASKETS
7	1 EA	3" MJ BUTTERFLY VALVE ASSEMBLY PER SBMWD STD NO W3.2 WITH MEGALUG RETAINER RING
8	12 IN	10" FLEXIBLE VINYL SLEEVE

* MATCH SIZE OF VALVE INLET

3" AND LARGER COMBINATION AIR VACUUM AND RELEASE VALVE AND AIR VACUUM VALVE



1 ALTERNATIVE TRENCH SECTIONS (A, B, AND C) ARE FOR USE ONLY WHERE STABLE COMPACT SOIL CONDITIONS EXIST WHERE BOULDERS OR LARGE CONSTRUCTIONS ARE ENCOUNTERED, THE TRENCH SECTIONS MAY BE WIDER & DEEPER THAN THAT SHOWN

A VERTICAL TRENCH WALLS - SECTION
1 FOR DEPTHS UP TO 5 FEET, NO TRENCH SUPPORT IS REQUIRED
2 FOR DEPTHS EXCEEDING 5 FEET, SHORING OR SOLID SHEATHING IS REQUIRED

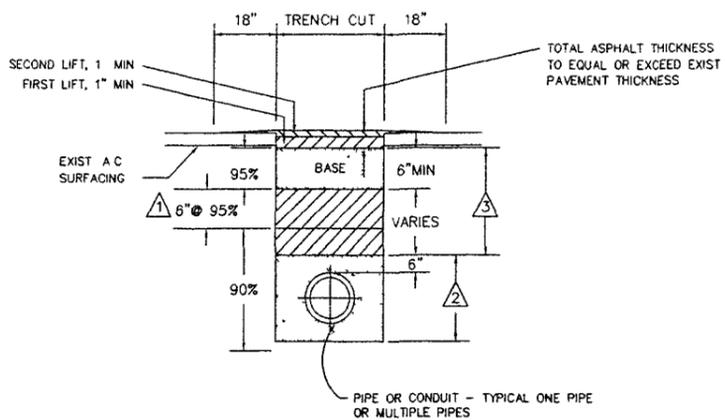
B SLOPING TRENCH WALLS - SECTION
1 SLOPING TRENCH WALL SECTION SHALL NOT BE USED WITHOUT APPROVAL OF ENGINEER, UNLESS SPECIFICALLY DESIGNATED ON PLANS OR SPECIFICATIONS
2 EXCEPT AS APPROVED BY ENGINEER UNSUPPORTED SLOPING TRENCH WALL SHALL NOT BE STEEPER THAN 3/4 HORIZ TO 1 VERT OR AS SHOWN IN SOILS REPORT WHICH SHALL CONTROL

C COMBINATION OF VERTICAL AND SLOPING TRENCH WALLS - SECTION
1 TRENCH DEPTHS NOT EXCEEDING 5 FEET SHALL HAVE VERTICAL WALLS IN PIPE ZONE UNLESS OTHERWISE APPROVED, BY ENGINEER, OR WHERE SPECIFIED
2 FOR TRENCHES WITH COMBINED WALLS AND ANY DEPTH EXCEEDING 5 FEET, DESIGN CALCULATIONS BY A REGISTERED CIVIL ENGINEER AND APPROVAL BY GOVERNING AGENCY OF SUPPORTED METHODS ARE REQUIRED

2 WHERE WET, UNSTABLE OR RUNNING SOIL IS ENCOUNTERED, SOLID SHEATHING IS REQUIRED FOR ALL VERTICAL TRENCH WALLS

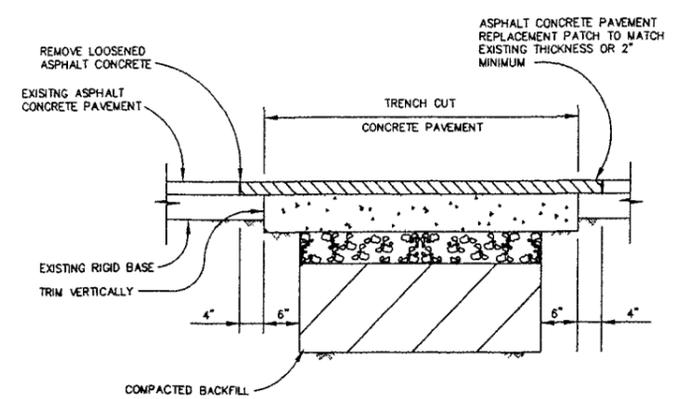
3 ASPHALT PAVEMENT SHALL BE A MINIMUM THICKNESS EQUAL TO THE EXISTING SECTION
NOTE TRENCH SECTIONS SHOWN DO NOT DESIGNATE PAY LINES

TYPICAL TRENCH SECTION



1 THE TOP 6" OF SUBGRADE SHALL BE COMPACTED TO 95% RELATIVE DENSITY
2 SAND EQUIVALENT AND PERMEABILITY SHALL COMPLY WITH SPECIFICATIONS
3 TRENCH BACKFILL SHALL BE PER STANDARD SPECIFICATION
4 ALL WORK AREA PROTECTION SHALL BE IN ACCORDANCE WITH THE STATE MANUAL OF TRAFFIC CONTROLS FOR CONSTRUCTION AND MAINTENANCE WORK ZONES

ASPHALT PAVEMENT PATCHING DETAIL



PAVEMENT PATCHING DETAIL RIGID PAVEMENT WITH ASPHALTIC CONCRETE SURFACE



REV	DATE	DESCRIPTION	REV	DATE	DESCRIPTION

DESIGNED BY: STL
DRAWN BY: JW
CHECKED BY: DHD

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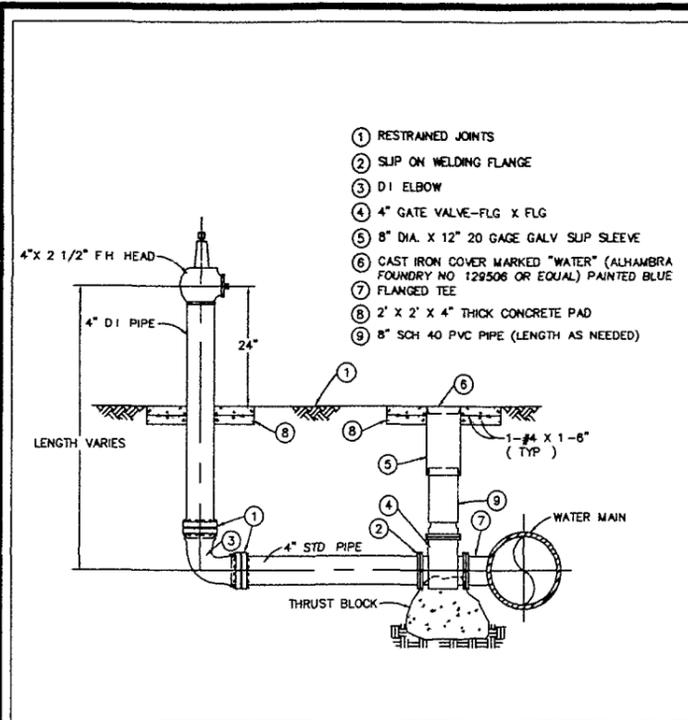
JOB NO. 62370-60

NEWMARK OJ REMEDIAL DESIGN
NEWMARK GROUNDWATER
CONTAMINATION SUPERFUND SITE
SOUTH PLANT TRANSMISSION PIPELINE

MISCELLANEOUS DETAILS

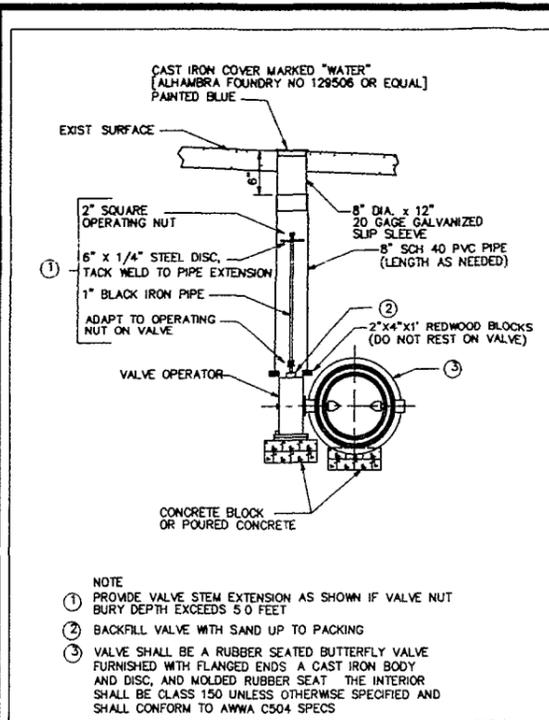
Scale	Date	Dwg. No.
NONE	SEPT 18, 1996	22

04/19/96



- 1 RESTRAINED JOINTS
- 2 SLIP ON WELDING FLANGE
- 3 D1 ELBOW
- 4 4" GATE VALVE-FLG X FLG
- 5 8" DIA. X 12" 20 GAGE GALV SLIP SLEEVE
- 6 CAST IRON COVER MARKED "WATER" (ALHAMBRA FOUNDRY NO 129506 OR EQUAL) PAINTED BLUE
- 7 FLANGED TEE
- 8 2' X 2' X 4" THICK CONCRETE PAD
- 9 8" SCH 40 PVC PIPE (LENGTH AS NEEDED)

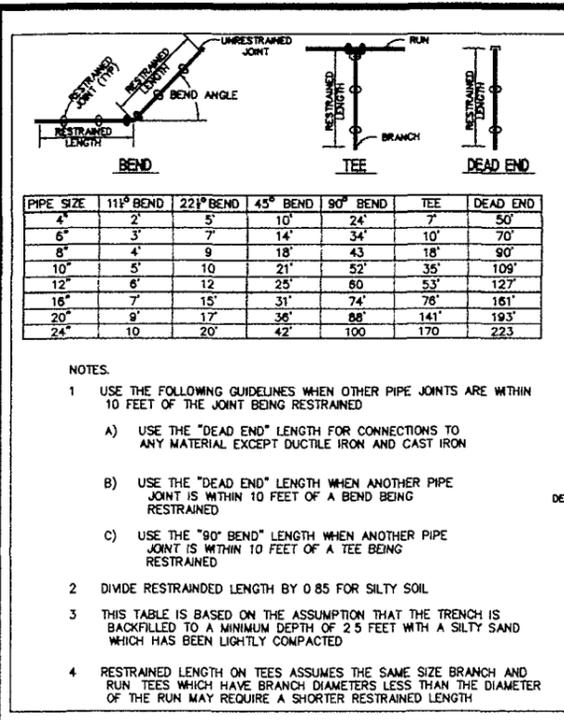
BLOW-OFF



- EXIST SURFACE
- CAST IRON COVER MARKED "WATER" (ALHAMBRA FOUNDRY NO 129506 OR EQUAL) PAINTED BLUE
- 2" SQUARE OPERATING NUT
- 6" X 1/4" STEEL DISC, TACK WELD TO PIPE EXTENSION
- 1" BLACK IRON PIPE
- ADAPT TO OPERATING NUT ON VALVE
- VALVE OPERATOR
- CONCRETE BLOCK OR POURED CONCRETE
- 8" DIA. X 12" 20 GAGE GALVANIZED SLIP SLEEVE
- 8" SCH 40 PVC PIPE (LENGTH AS NEEDED)
- 2" X 4" X 1" REDWOOD BLOCKS (DO NOT REST ON VALVE)

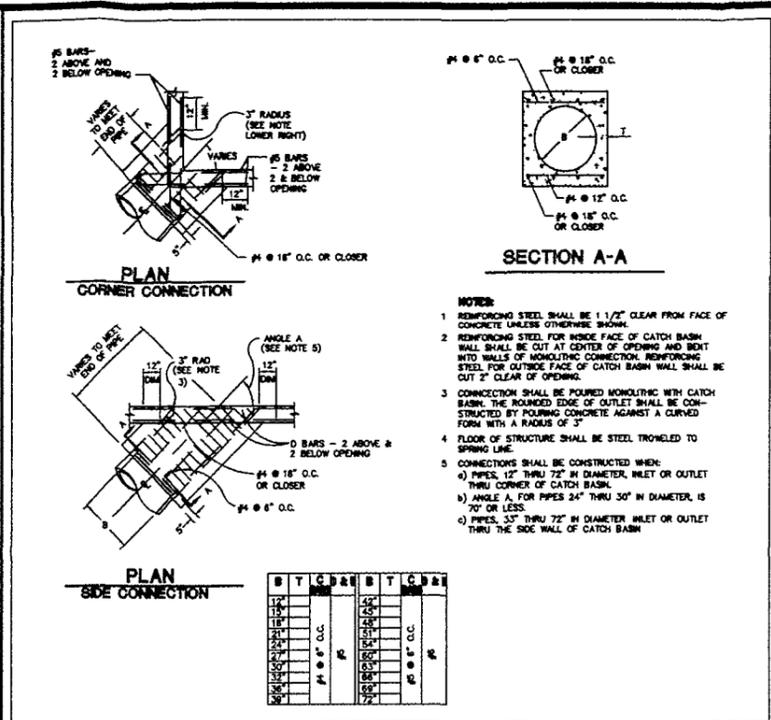
- NOTE
- 1 PROVIDE VALVE STEM EXTENSION AS SHOWN IF VALVE NUT BURY DEPTH EXCEEDS 5.0 FEET
 - 2 BACKFILL VALVE WITH SAND UP TO PACKING
 - 3 VALVE SHALL BE A RUBBER SEATED BUTTERFLY VALVE FURNISHED WITH FLANGED ENDS A CAST IRON BODY AND DISC, AND MOLDED RUBBER SEAT. THE INTERIOR SHALL BE CLASS 150 UNLESS OTHERWISE SPECIFIED AND SHALL CONFORM TO AWWA C504 SPECS

TYPICAL BUTTERFLY VALVE INSTALLATION



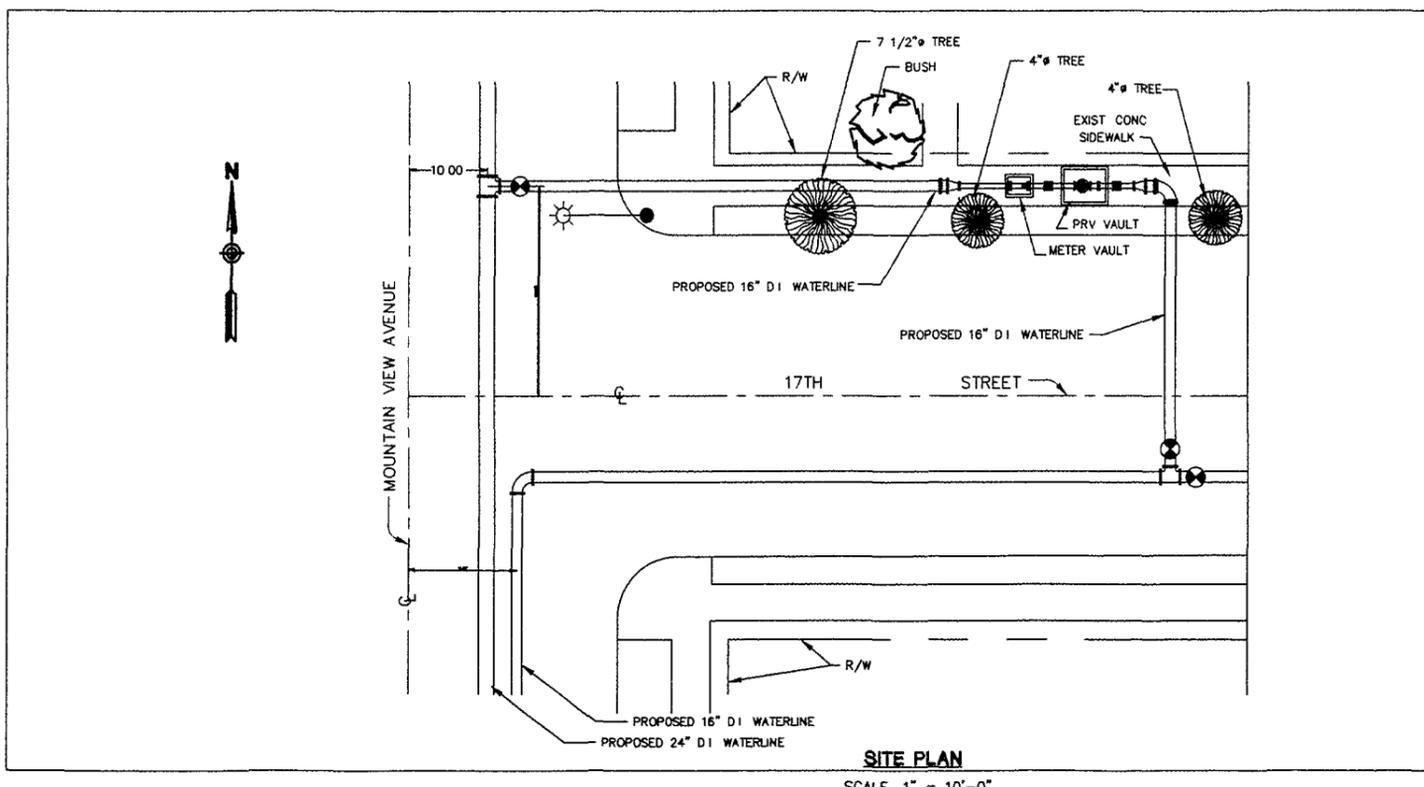
- NOTES
- 1 USE THE FOLLOWING GUIDELINES WHEN OTHER PIPE JOINTS ARE WITHIN 10 FEET OF THE JOINT BEING RESTRAINED
 - A) USE THE "DEAD END" LENGTH FOR CONNECTIONS TO ANY MATERIAL EXCEPT DUCTILE IRON AND CAST IRON
 - B) USE THE "DEAD END" LENGTH WHEN ANOTHER PIPE JOINT IS WITHIN 10 FEET OF A BEND BEING RESTRAINED
 - C) USE THE "90° BEND" LENGTH WHEN ANOTHER PIPE JOINT IS WITHIN 10 FEET OF A TEE BEING RESTRAINED
 - 2 DIVIDE RESTRAINED LENGTH BY 0.85 FOR SILTY SOIL
 - 3 THIS TABLE IS BASED ON THE ASSUMPTION THAT THE TRENCH IS BACKFILLED TO A MINIMUM DEPTH OF 2.5 FEET WITH A SILTY SAND WHICH HAS BEEN LIGHTLY COMPACTED
 - 4 RESTRAINED LENGTH ON TEES ASSUMES THE SAME SIZE BRANCH AND RUN TEES WHICH HAVE BRANCH DIAMETERS LESS THAN THE DIAMETER OF THE RUN MAY REQUIRE A SHORTER RESTRAINED LENGTH

RESTRAINED JOINT DETAIL

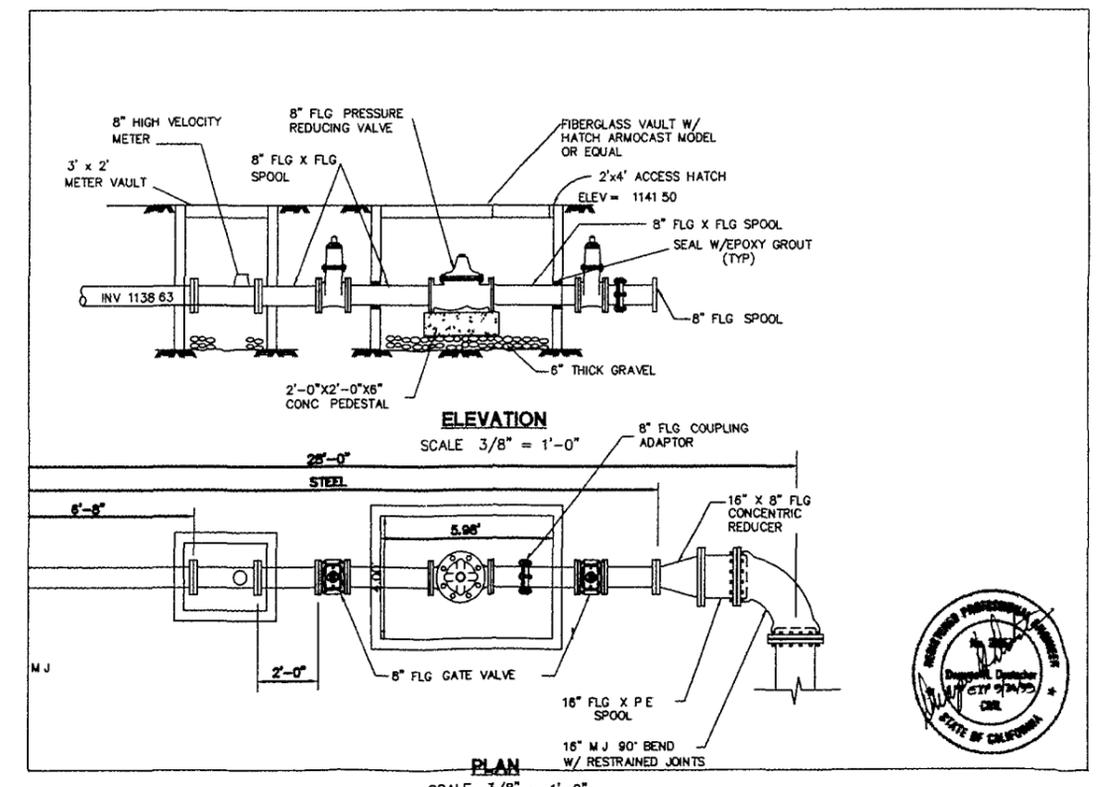


- NOTES
- 1 REINFORCING STEEL SHALL BE 1/2" CLEAR FROM FACE OF CONCRETE UNLESS OTHERWISE SHOWN
 - 2 REINFORCING STEEL FOR INSIDE FACE OF CATCH BASIN WALL SHALL BE CUT AT CENTER OF OPENING AND BENT INTO WALLS OF MONOLITHIC CONNECTION. REINFORCING STEEL FOR OUTSIDE FACE OF CATCH BASIN WALL SHALL BE CUT 2" CLEAR OF OPENING.
 - 3 CONNECTION SHALL BE POURED MONOLITHIC WITH CATCH BASIN. THE ROUNDED EDGE OF OUTLET SHALL BE CONSTRUCTED BY POURING CONCRETE AGAINST A CURVED FORM WITH A RADIUS OF 3"
 - 4 FLOOR OF STRUCTURE SHALL BE STEEL TRIMMED TO SPRING LINE
 - 5 CONNECTIONS SHALL BE CONSTRUCTED WHEN:
 - a) PIPES 12" THRU 72" IN DIAMETER INLET OR OUTLET THRU CORNER OF CATCH BASIN
 - b) ANGLE A FOR PIPES 24" THRU 30" IN DIAMETER IS 70° OR LESS
 - c) PIPES 33" THRU 72" IN DIAMETER INLET OR OUTLET THRU THE SIDE WALL OF CATCH BASIN

12" WASTE LINE CONNECTION TO EXISTING CATCH BASIN DETAIL



SITE PLAN
SCALE 1" = 10'-0"



ELEVATION
SCALE 3/8" = 1'-0"

PLAN
SCALE 3/8" = 1'-0"

PRESSURE REDUCING VALVE INSTALLATION DETAIL

REV	DATE	DESCRIPTION	REV	DATE	DESCRIPTION

DESIGNED BY STL
 DRAWN BY JW
 CHECKED BY DHD

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 SAN BERNARDINO CALIFORNIA

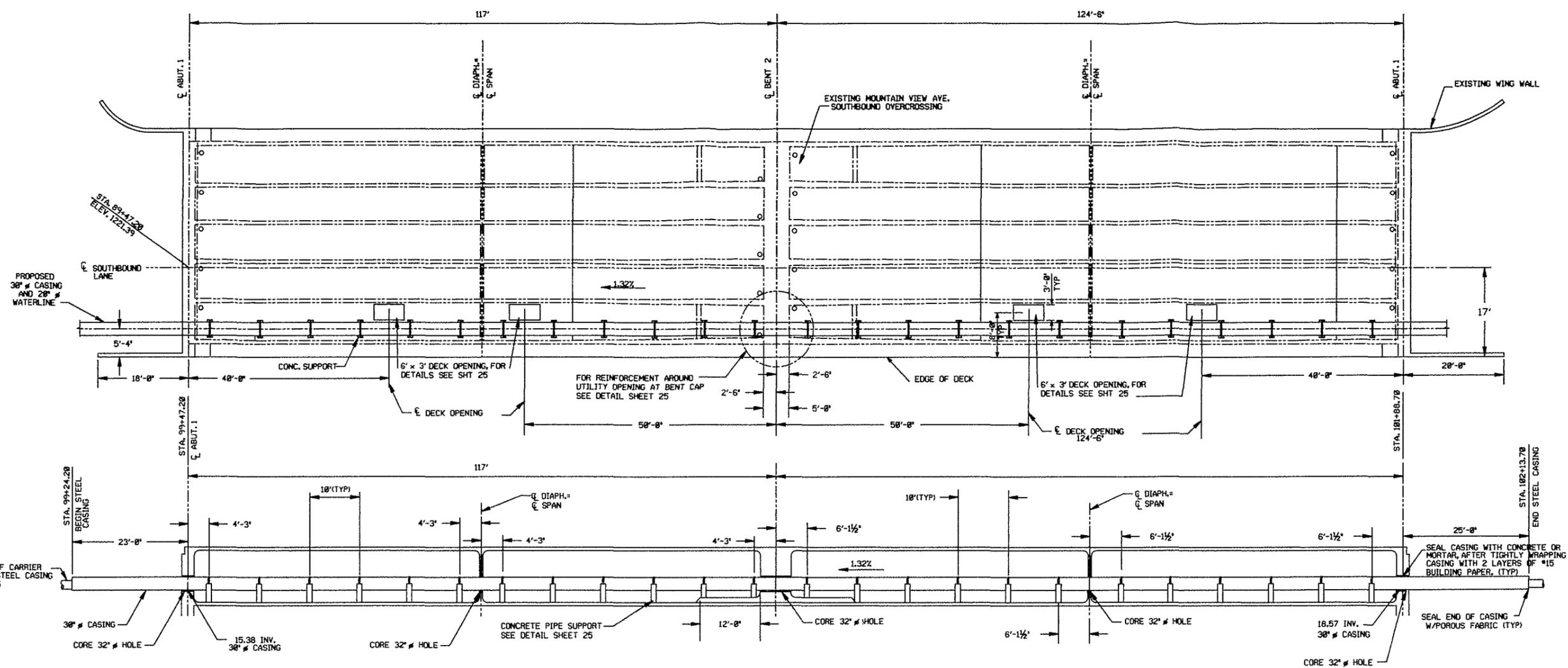
JOB NO

NEWMARK OU REMEDIAL DESIGN
NEWMARK GROUNDWATER
CONTAMINATION SUPERFUND SITE
SOUTH PLANT TRANSMISSION PIPELINE

MISCELLANEOUS DETAILS

Scale:	Date:	Dep. No.
AS SHOWN	1/3/97	23

04/29/96



NOTES:

1. ALL WORK WITHIN CALTRANS RIGHT OF WAY SHALL CONFORM TO THE CALTRANS STANDARD PLANS AND SPECIFICATIONS, DATED JULY, 1992.
2. WHERE SURVEY MONUMENTS EXIST, SUCH MONUMENTS SHALL BE PROTECTED OR SHALL BE REFERENCED AND RESET PURSUANT TO BUSINESS AND PROFESSIONS CODE, SECTIONS 8700 TO 8805 (LAND SURVEYOR'S ACT).
3. NO EQUIPMENT OR MATERIALS SHALL BE STORED OR PARKED WITHIN THE CALTRANS RIGHT OF WAY.
4. TRAFFIC CONTROL SHALL BE AS PER THE CALTRANS STANDARD PLANS AND SPECIFICATIONS AND/OR AS DIRECTED BY THE STATE'S REPRESENTATIVE.
5. TRAFFIC SHALL NOT BE ALLOWED ON THE DECK CLOSURE WITHIN 28 DAYS AFTER THE PLACEMENT OF CONCRETE.

GENERAL NOTES:
LOAD FACTOR DESIGN

DESIGN: BRIDGE DESIGN SPECIFICATIONS (1983 AASHTO WITH INTERIMS AND REVISIONS BY CALTRANS)

DEAD LOAD: INCLUDES 35 psf FOR FUTURE WEARING SURFACE

LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD

REINFORCED CONCRETE: $f_y = 68,000$ psi
 $f'_c = 3,250$ psi
 $n = 9$
 TRANSVERSE DECK SLABS (WORKING STRESS DESIGN)
 $f_s = 28,000$ psi
 $f_c = 1,200$ psi
 $n = 10$

ABUTMENTS: (WORKING STRESS DESIGN)
 $f_s = 28,000$ psi
 $f_c = 1,300$ psi
 $n = 10$

REINFORCEMENT AROUND UTILITY OPENINGS

APPROVED: *Joseph E. Stejskal* May 23, 1997
 J. STEJSKAL, DIRECTOR OF ENGINEERING CONSTRUCTION-MAINTENANCE
 CITY OF SAN BERNARDINO MUNICIPAL WATER DEPARTMENT

C:\JUST\PROJ\SANBRDD\63270-53\BRIDGE

REV	DATE	DESCRIPTION	REV	DATE	DESCRIPTION

DESIGNED BY: SIL
 DRAWN BY: JW
 CHECKED BY: DHD

URS

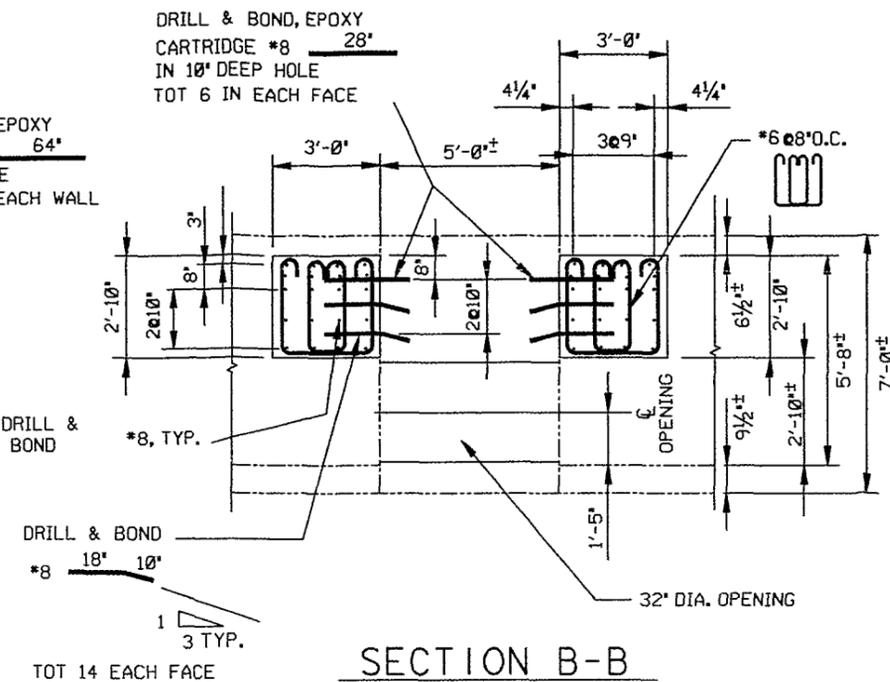
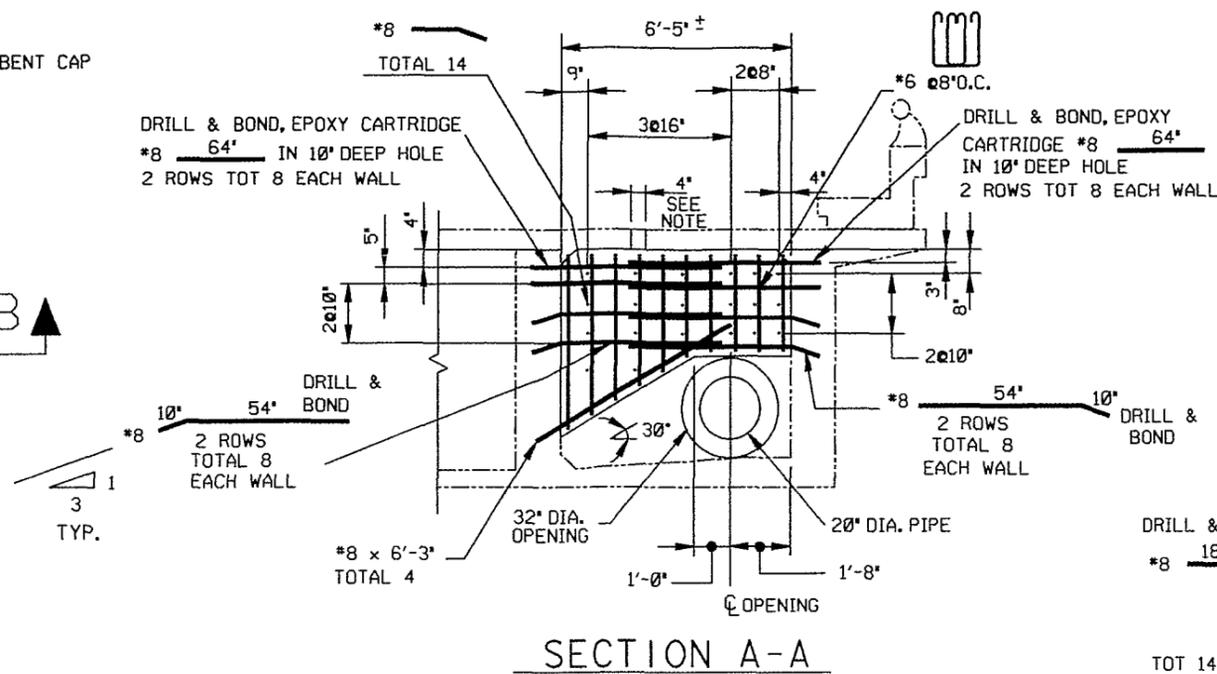
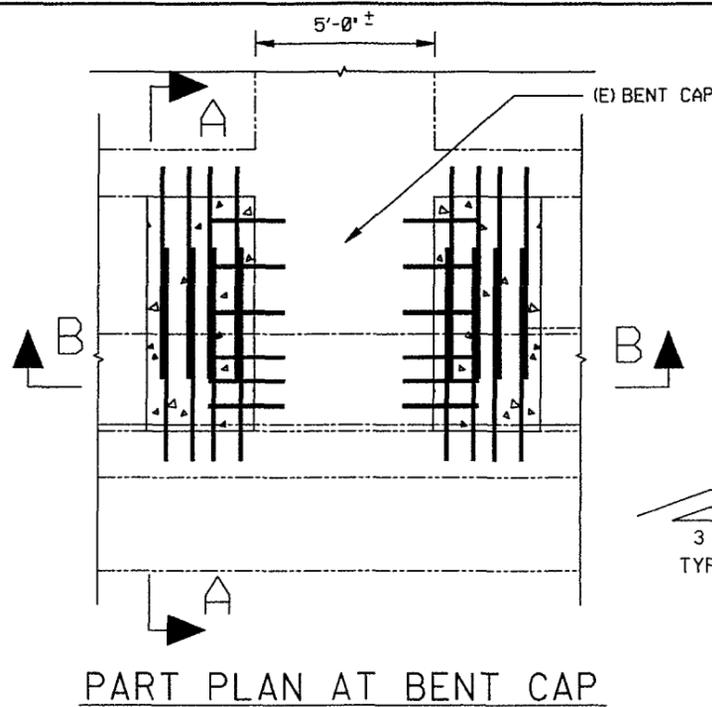
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JOB NO. 62370-60



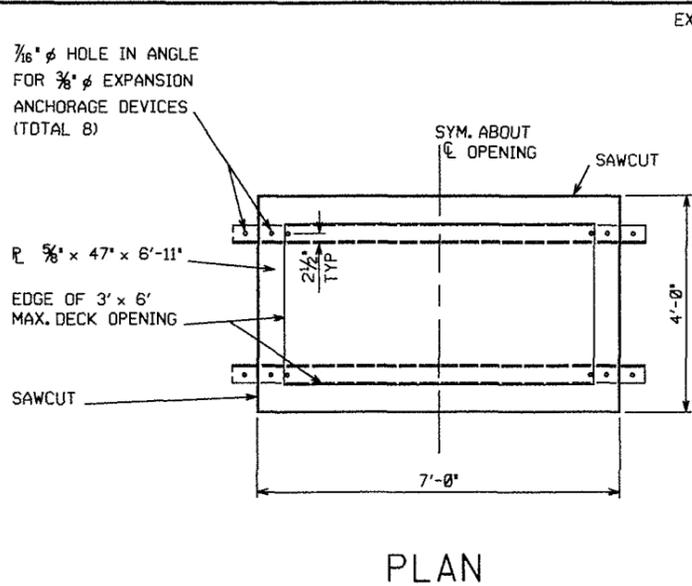
NEWMARK OU REMEDIAL DESIGN
 NEWMARK GROUNDWATER
 CONTAMINATION SUPERFUND SITE
 SOUTH PLANT TRANSMISSION PIPELINE

MOUNTAIN VIEW AVE OVERCROSSING DETAILS		
Scale: 1" = 18'	Date: 5/12/97	Draw. No.: 24

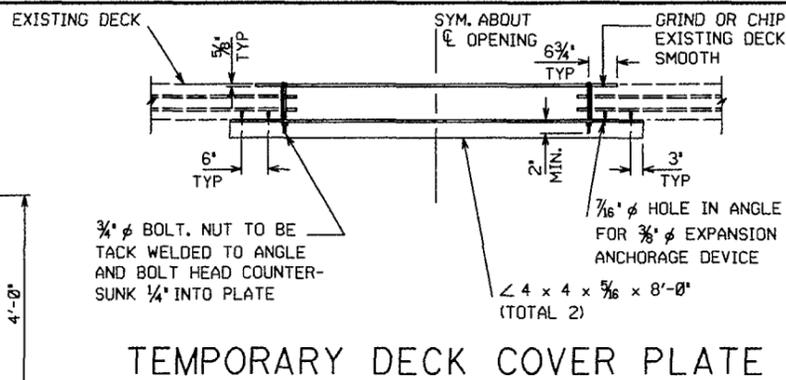


REINFORCEMENT AROUND UTILITY OPENINGS

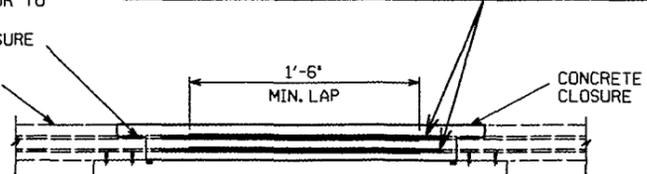
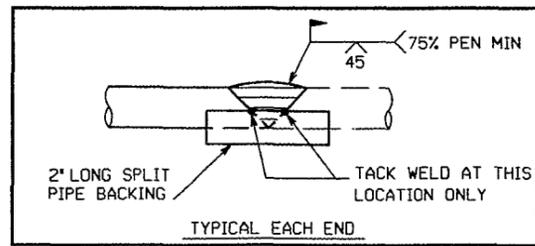
NOTE: 4" HOLES ARE OPTIONAL. THE CONTRACTOR SHALL NOT CUT THE EXISTING REINF. IN THE DECK.



DECK OPENING

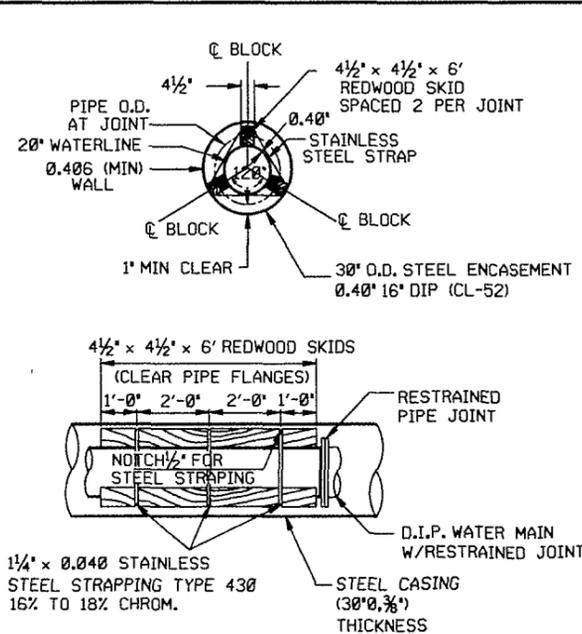


TEMPORARY DECK COVER PLATE

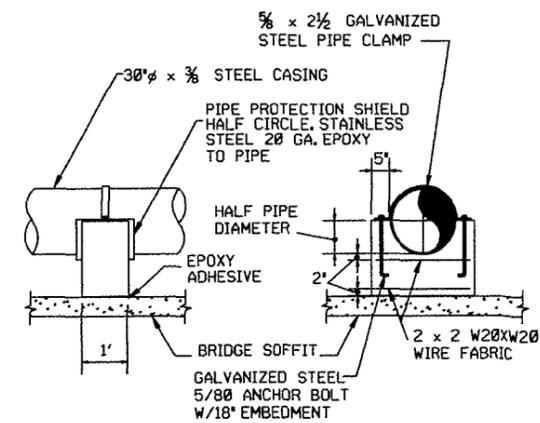


NOTE: REPLACE DECK REINF. EACH DIRECTION. BUTT WELD TO EXISTING.

DECK CLOSURE



CARRIER PIPE INSTALLATION DETAIL



CONCRETE SUPPORT DETAIL

C:\JUST\PROJ\SANBRD\62370-53\BRIDGE

REV	DATE	DESCRIPTION	REV	DATE	DESCRIPTION

DESIGNED BY STL
 DRAWN BY JW
 CHECKED BY DHD

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 SAN BERNARDINO CALIFORNIA

JOB NO. 62370-60



NEWMARK OJ REMEDIAL DESIGN
 NEWMARK GROUNDWATER
 CONTAMINATION SUPERFUND SITE
 SOUTH PLANT TRANSMISSION PIPELINE

APPROVED: *Joseph F. Stejskal* May 23, 1997
 J. STEJSKAL, DIRECTOR OF ENGINEERING CONSTRUCTION MAINTENANCE
 CITY OF SAN BERNARDINO MUNICIPAL WATER DEPARTMENT

MOUNTAIN VIEW AVE
 OVERCROSSING
 DETAILS

Scale: NONE Date: 5/12/97 Draw: 25