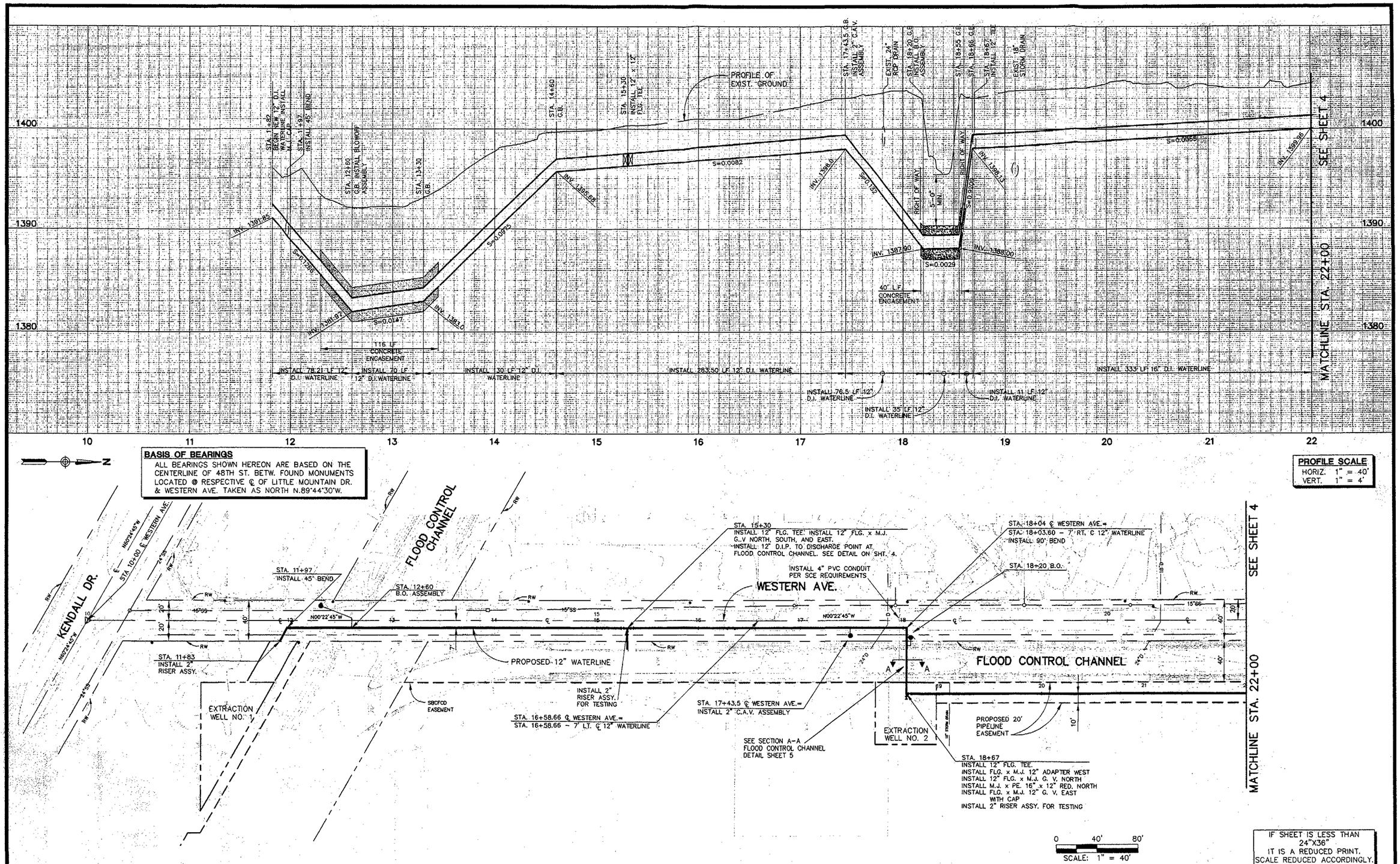


BASIS OF BEARINGS
ALL BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 48TH ST. BETW. FOUND MONUMENTS LOCATED @ RESPECTIVE ℄ OF LITTLE MOUNTAIN DR. & WESTERN AVE. TAKEN AS NORTH N.89°44'30"W.

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

0 40' 80'
SCALE: 1" = 40'

IF SHEET IS LESS THAN 24"X36" IT IS A REDUCED PRINT. SCALE REDUCED ACCORDINGLY.

REV	DATE	DESCRIPTION	REV	DATE	DESCRIPTION

DESIGNED BY STL/MA
DRAWN BY JW/NH
CHECKED BY DHD

URS Consultants, Inc.
CONSULTING ENGINEERS
SAN BERNARDINO CALIFORNIA

JOB NO. 62370.50

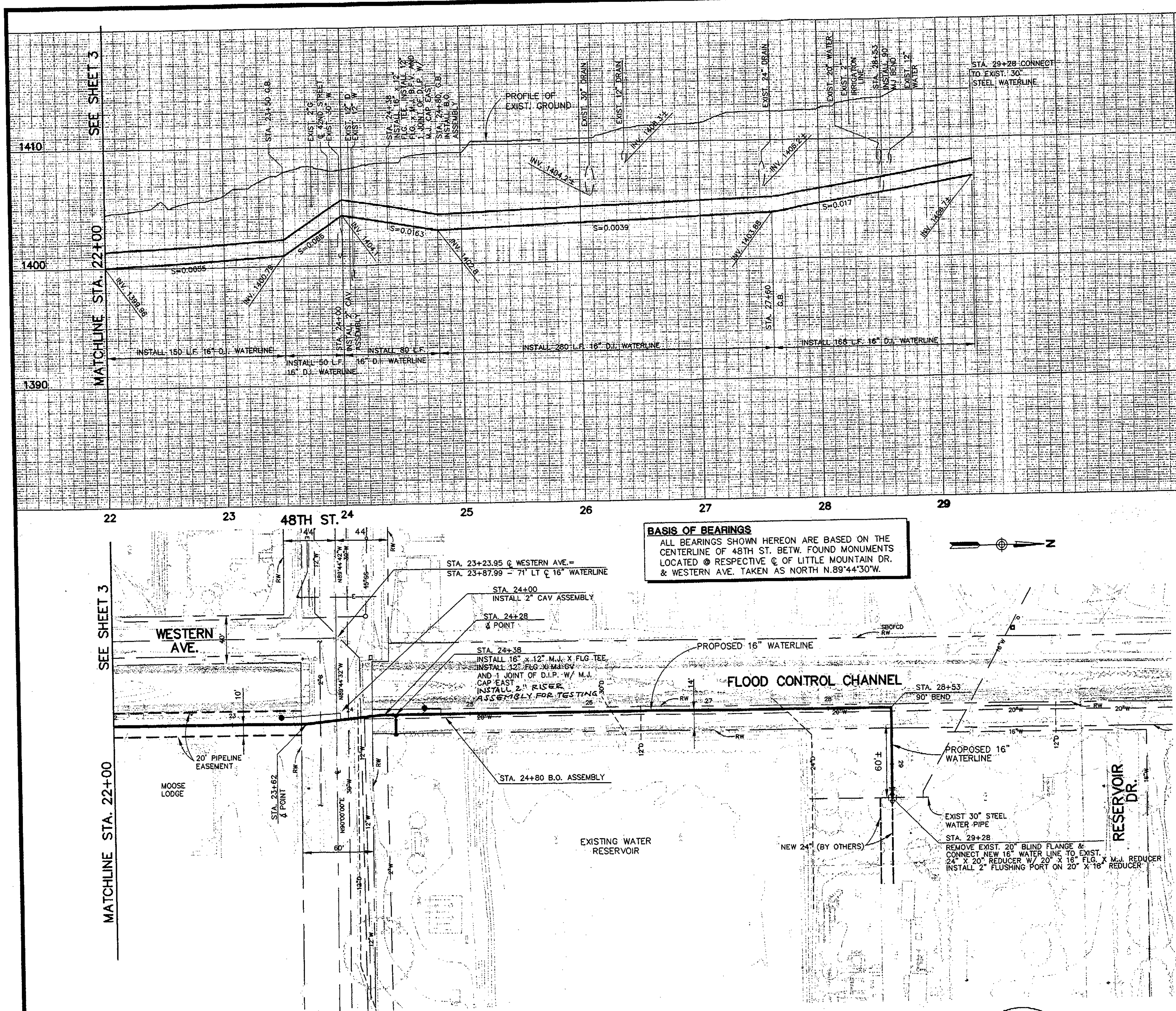
REGISTERED PROFESSIONAL ENGINEER — Douglas H. Deschacher — CIVIL — STATE OF CALIFORNIA

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

PLAN AND PROFILE
WESTERN AVE.
STA. 11+82 TO STA. 22+00

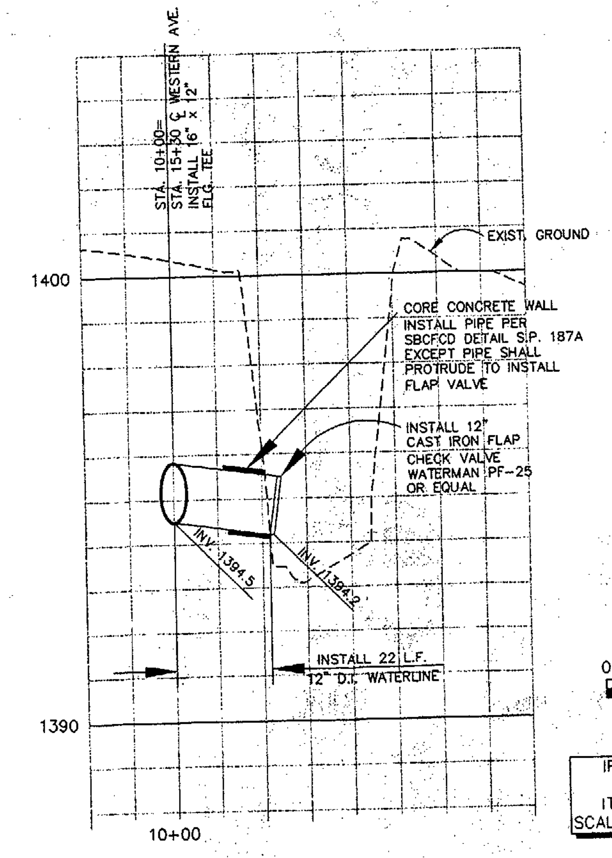
Scale:	Date:	Dwg. No.:
AS SHOWN	JULY 31, 1997	03

03/20/96



BASIS OF BEARINGS

ALL BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF 48TH ST. BETW. FOUND MONUMENTS LOCATED @ RESPECTIVE ⊈ OF LITTLE MOUNTAIN DR. & WESTERN AVE. TAKEN AS NORTH N.89°44'30"W.



WELL DRAIN LINE DISCHARGE DETAIL

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

0 40' 80'
SCALE: 1" = 40'

IF SHEET IS LESS THAN 24"X36" IT IS A REDUCED PRINT. SCALE REDUCED ACCORDINGLY.

REV	DATE	DESCRIPTION	REV	DATE	DESCRIPTION

DESIGNED BY STL/MA
DRAWN BY JW/NH
CHECKED BY DHD

URS — URS Consultants, Inc. CONSULTING ENGINEERS SAN BERNARDINO CALIFORNIA
JOB NO. 62370.50

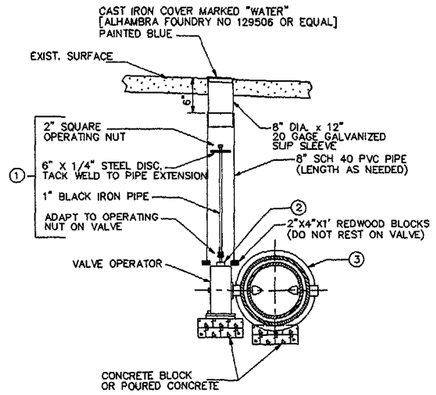
REGISTERED PROFESSIONAL ENGINEER — Dwayne H. Deutscher — CIVIL — STATE OF CALIFORNIA

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

PLAN AND PROFILE
WESTERN AVE FLOOD CONTROL LEVEE
STA. 22+00 TO STA. 29+28

Scale: AS SHOWN | Date: JULY 31, 1997 | Dwg. No.: 04

03/20/96



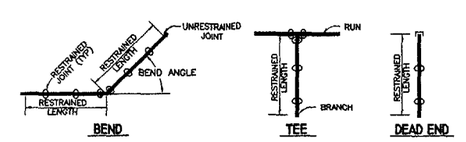
NOTE:

(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

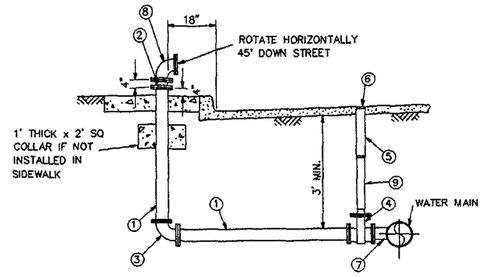


PIPE SIZE	11¼° BEND	22½° BEND	45° BEND	90° BEND	TEE	DEAD END
4"	2'	5'	10'	24'	7'	50'
6"	3'	7'	14'	34'	10'	70'
8"	4'	9'	18'	43'	18'	90'
10"	5'	10'	21'	52'	35'	109'
12"	6'	12'	25'	60'	53'	127'
16"	7'	15'	31'	74'	76'	161'
20"	9'	17'	36'	88'	141'	193'
24"	10'	20'	42'	100'	170'	223'

NOTES:

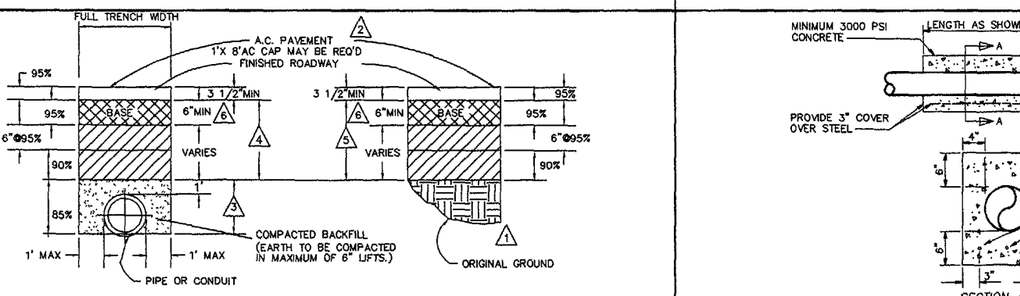
1. Use the following guidelines when other pipe joints are within 10 feet of the joint being restrained:
   a) Use the "dead end" length for connections to any material except ductile iron and cast iron.
   b) Use the "dead end" length when another pipe joint is within 10 feet of a bend being restrained.
   c) Use the "90° bend" length when another pipe joint is within 10 feet of a tee being restrained.
2. Divide restrainded 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



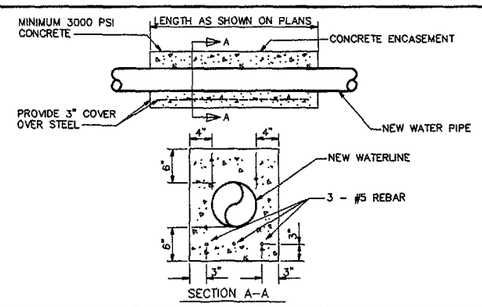
(1) 6" CLASS 150 DI PIPE RESTRAINED WITH MEGALUG OR EQUAL
(2) 6" FLANGE BREAKAWAY SPOOL MOTAR LINED (INCLUDE HOLLOW BREAKAWAY BOLTS)
(3) 6" DI MJ 90° ELBOW RESTRAINED
(4) 6" GATE VALVE-FLG x MJ
(5) 8" DIA. x 12" 20 GAGE GALV. SLIP SLEEVE
(6) CAST IRON COVER MARKED "WATER" (ALHAMBRA FOUNDRY NO. 129506 OR EQUAL) PAINTED BLUE
(7) MJ x FL TEE
(8) 6" FL STEEL 90° BEND W/ BLIND FLANGE
(9) 8" SCH 40 PVC PIPE (LENGTH AS NEEDED)

BLOWOFF

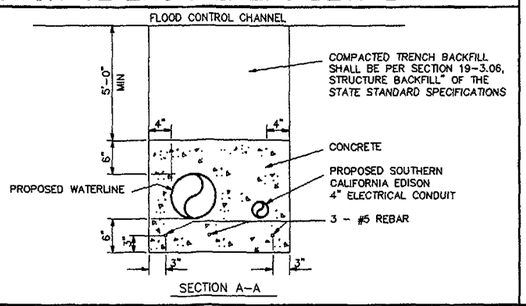


1. THE TOP 6" OF SUBGRADE SHALL BE COMPACTED TO 95% RELATIVE DENSITY.
2. ASPHALT CONCRETE PAVEMENT SHALL BE A MINIMUM OF 2" THICK FOR TEMPORARY TRENCH RESURFACING AND 3 1/2" THICK FOR PERMANENT PAVING, OR AS SHOWN ON THE PLANS. A.C. THICKNESS TO BE 1" GREATER THAN EXISTING A.C. SECTION.
3. SAND EQUIVALENT AND PERMEABILITY SHALL COMPLY WITH SECTION 19-3.06 "STRUCTURE BACKFILL" OF THE STATE STANDARD SPECIFICATIONS.
4. TRENCH BACKFILL SHALL BE PER SECTION 19-3.06, "STRUCTURE BACKFILL" OF THE STATE STANDARD SPECIFICATIONS.
5. SUBGRADE PREPARATION FOR STREET PROJECTS SHALL BE PER SECTION 19, "EARTHWORK" OF THE STATE STANDARD SPECIFICATIONS.
6. 3 1/2" MINIMUM ASPHALT CONCRETE OVER 6" MINIMUM CRUSHED AGGREGATE BASE, OR AS SHOWN ON THE PLANS.
7. ALL WORK AREA PROTECTION SHALL BE IN ACCORDANCE WITH THE STATE MANUAL OF TRAFFIC CONTROLS FOR CONSTRUCTION AND MAINTENANCE WORK ZONES.

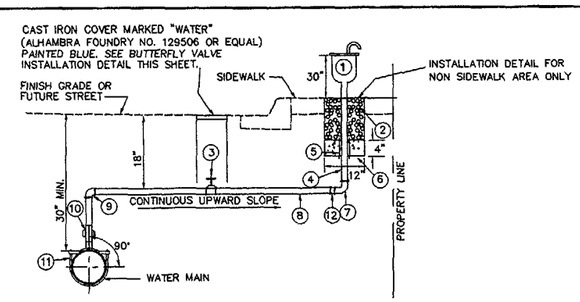
APSHALT PAVEMENT PATCHING AND PIPE BEDDING DETAIL



CONCRETE ENCASEMENT DETAIL



FLOOD CONTROL CHANNEL CONCRETE ENCASEMENT DETAIL



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	1.3 FT.³	3/4" POORLY GRADED GRAVEL
③	1 EA.	2" BRONZE WHEEL VALVE
④	24 IN.	2" THREADED GALVANIZED IRON PIPE
⑤	12 IN.	3" FLEXIBLE VINYL SLEEVE
⑥	0.3 FT.³	2,000 PSI CONCRETE
⑦	1 EA.	2" GALVANIZED QUARTER BEND (FEM PIPE THREAD)
⑧	___ L.F.	2" TYPE L HARD COPPER TUBING (SBMWD APPROVED U.S. MANUFACTURE)
⑨	1 EA.	2" BRASS COMPRESSION QUARTER BEND
⑩	1 EA.	2" BRONZE CORPORATION STOP MUELLER H15023 OR EQUAL
⑪	1 EA.	___" x 2" SERVICE SADDLE OR 2" WELD-ON THREAD-O-LET
⑫	1 EA.	INSOLATOR COUPLING (COMPRESSION x MALE PIPE THREAD)

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

REV	DATE	DESCRIPTION	REV	DATE	DESCRIPTION

DESIGNED BY STL/MA
DRAWN BY JW/NH
CHECKED BY DHD

URS Consultants, Inc.
CONSULTING ENGINEERS
SAN BERNARDINO CALIFORNIA
JOB NO. 62370.50

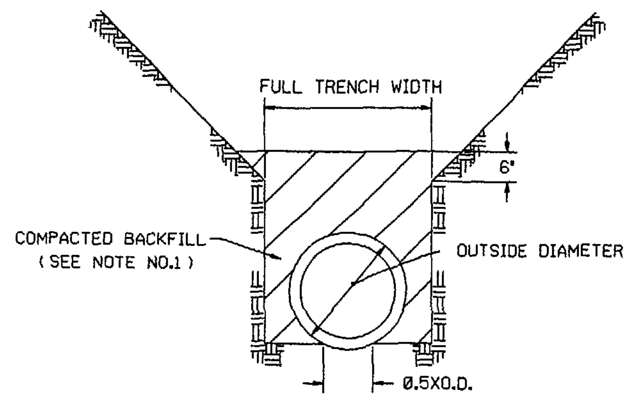
REGISTERED PROFESSIONAL ENGINEER No. 36291 Dwayne H. Dinsbacher EXP. 9/30/99 CIVIL STATE OF CALIFORNIA

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

MISCELLANEOUS DETAILS

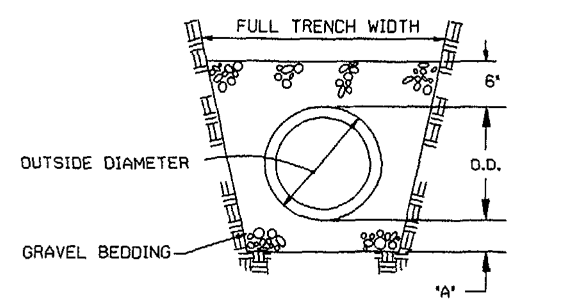
Scale:	Date:	Dwg. No.:
AS SHOWN	JULY 31, 1997	05

03/18/96



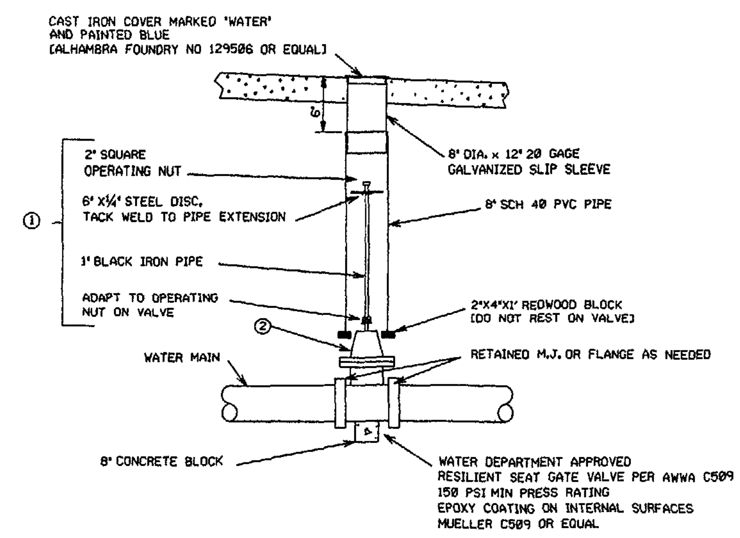
NOTES:
1. EARTH TO BE COMPACTED IN MAXIMUM OF 6" LIFTS.

RIGID PIPE BEDDING



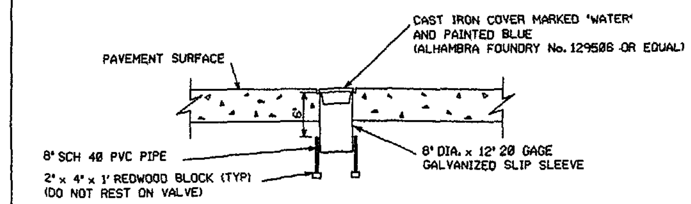
NOTES:
1. EARTH TO BE COMPACTED IN MAXIMUM OF 6" LIFTS.
2. 'A'= 4" FOR PIPE WITH OUTSIDE DIAMETERS 27" AND SMALLER
'A'= 6" FOR PIPE WITH OUTSIDE DIAMETERS 30" AND LARGER

FLEXIBLE PIPE BEDDING

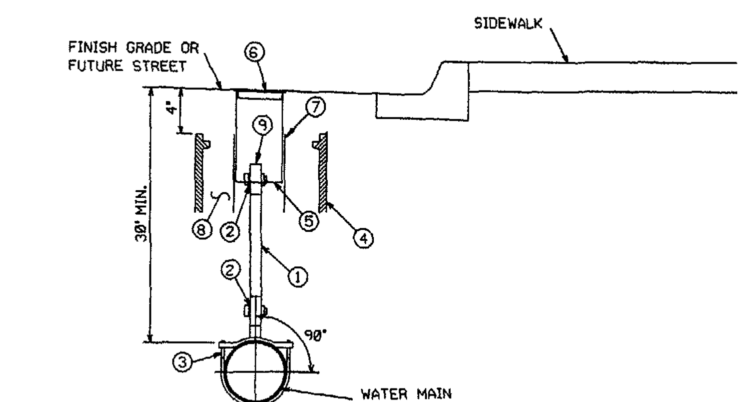


NOTE:
① PROVIDE VALVE STEM EXTENSION AS SHOWN IF VALVE NUT BURY DEPTH EXCEEDS 5.0 FEET.
② BACKFILL VALVE WITH SAND UP TO PACKING

TYPICAL GATE VALVE INSTALLATION

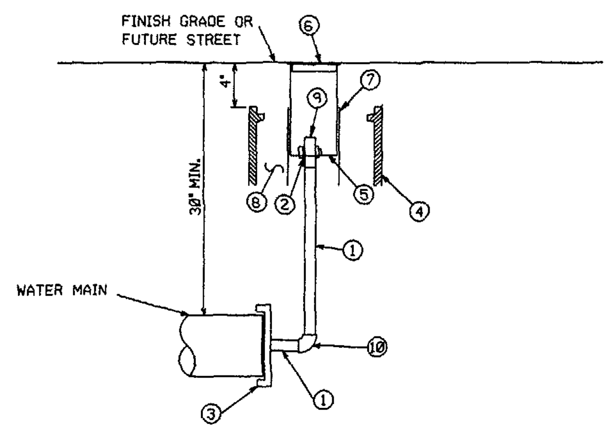


TYPICAL VALVE CAN INSTALLATION



ITEM	QTY	DESCRIPTION
①	-- L.F.	2" TYPE L HARD COPPER TUBING (SBMWD APPROVED U.S. MANUFACTURE)
②	1 EA.	2" BRONZE CORPORATION STOP MUELLER H15023 OR EQUAL
③	1 EA.	---" x 2" SERVICE SADDLE OR 2" WELD ON THREAD-O-LET
④	1 EA.	12"x18"x12" METER BOX ARMORCAST 6001425A OR EQUAL
⑤	1 EA.	8" DIA. x 12" 20 GAGE GALVANIZED SLIP SLEEVE
⑥	1 EA.	CAST IRON COVER MARKED 'WATER' AND PAINTED BLUE [ALHAMBRA FOUNDRY NO 129506 OR EQUAL]
⑦	1.0 LF	8" SCH 40 PVC PIPE
⑧	1.5 CF	CLEAN FINE SAND
⑨	1 EA.	THREADED PVC CAP

FLUSHING PORT DETAIL



ITEM	QTY	DESCRIPTION
①	-- L.F.	2" TYPE L HARD COPPER TUBING (SBMWD APPROVED U.S. MANUFACTURE)
②	1 EA.	2" BRONZE CORPORATION STOP MUELLER H15023 OR EQUAL
③	1 EA.	---" x 2" TAPPED MJ, RESTRAINED END CAP
④	1 EA.	12"x18"x12" METER BOX ARMORCAST 6001425A OR EQUAL
⑤	1 EA.	8" DIA. x 12" 20 GAGE GALVANIZED SLIP SLEEVE
⑥	1 EA.	CAST IRON COVER MARKED 'WATER' AND PAINTED BLUE [ALHAMBRA FOUNDRY NO 129506 OR EQUAL]
⑦	1.0 LF	8" SCH 40 PVC PIPE
⑧	1.5 CF	CLEAN FINE SAND
⑨	1 EA.	THREADED PVC CAP
⑩	1 EA.	2" 90° ELL

2" RISER ASSEMBLY

IF SHEET IS LESS THAN 24" x 36"
IT IS A REDUCED PRINT.
SCALE REDUCED ACCORDINGLY.

REV	DATE	DESCRIPTION	REV	DATE	DESCRIPTION

DESIGNED BY STL
DRAWN BY JW
CHECKED BY DHQ

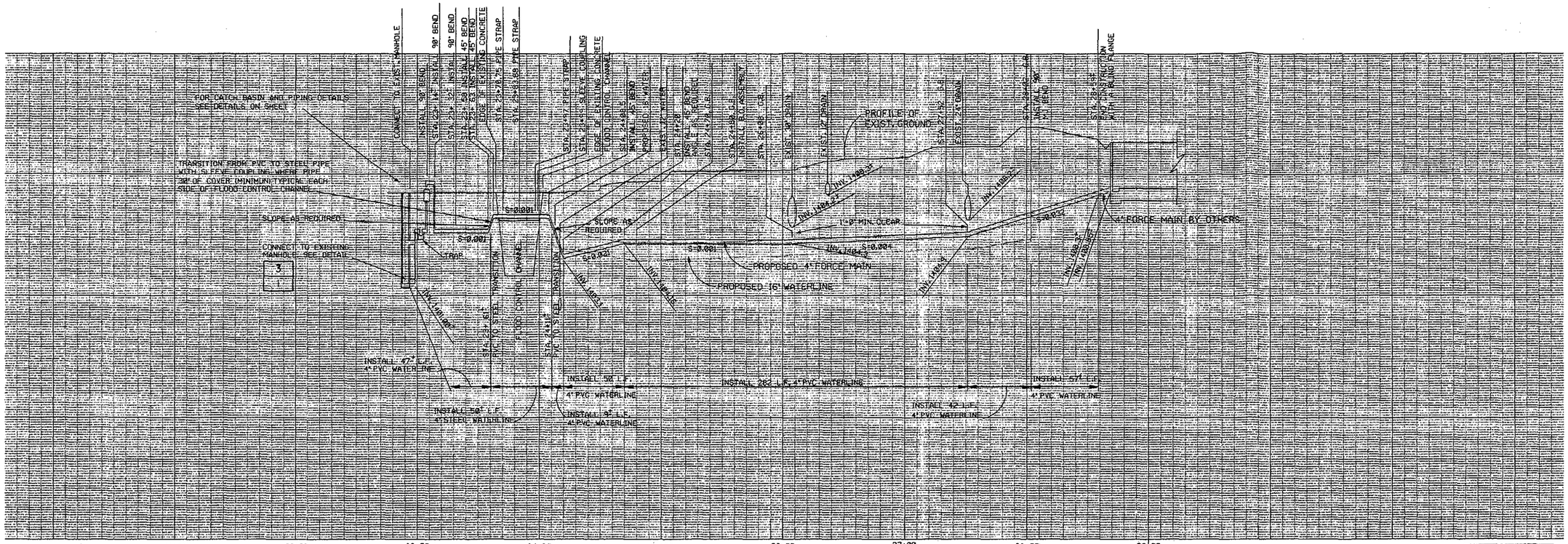
URS — URS Consultants, Inc.
CONSULTING ENGINEERS
SAN BERNARDINO CALIFORNIA
JOB NO. 62370-50

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

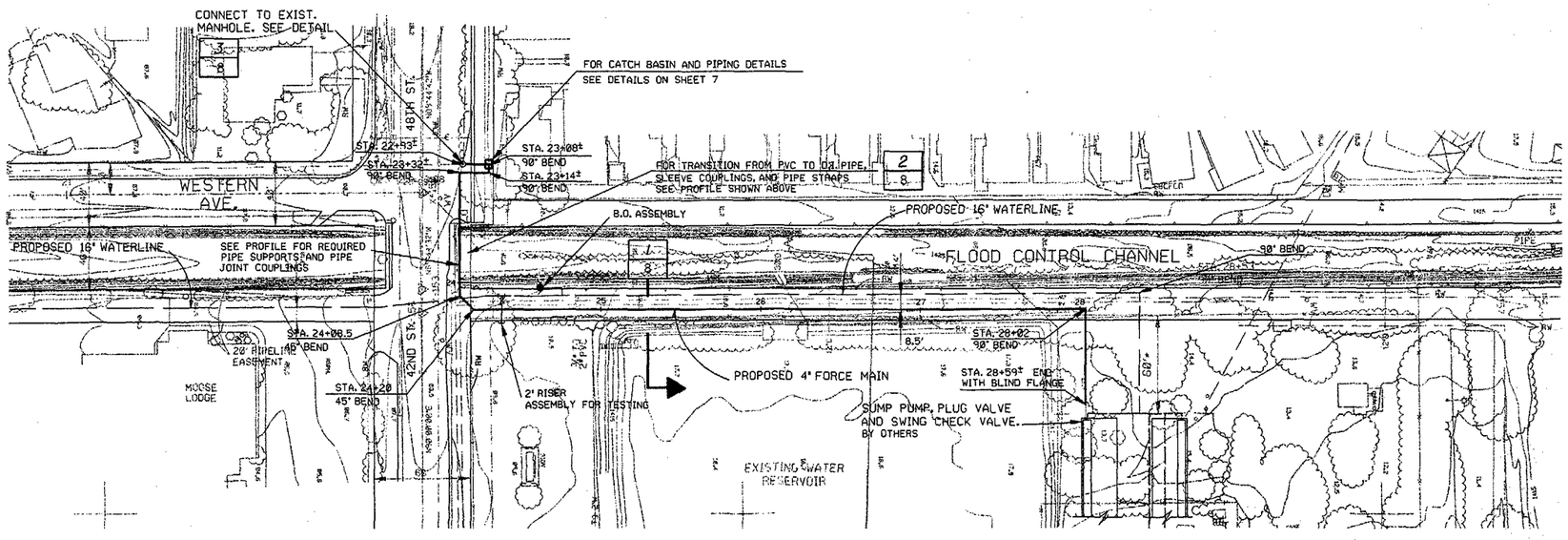
MOUNTAIN VIEW AVE OVERCROSSING DETAILS

Scale:	Date:	Dwg. No.:
NO SCALE	JULY 31, 1997	06

C:/UST5\PROJ\SANBRDO\63270-53\STDDWG2



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



JOB No. 62370.60 FILE No. C:\PROJ\NEWMARK\WATER\

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION

REVISIONS

DESIGNED BY: YN
DRAWN BY: NDH
CHECKED BY: PAS

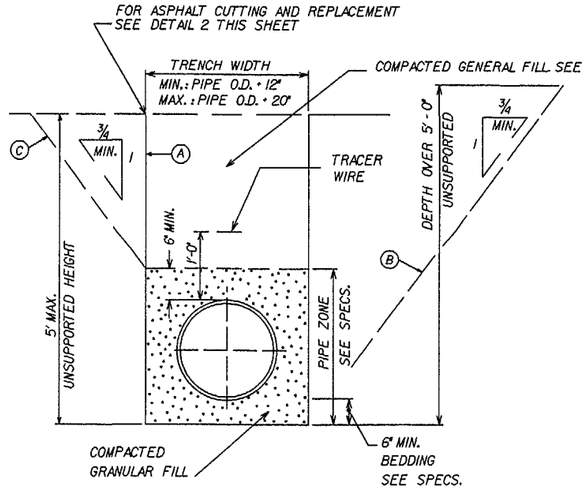
URS Consultants, Inc.
CONSULTING ENGINEERS
SACRAMENTO CALIFORNIA

JOB No. 62370

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

4" FORCE MAIN WASTE LINE

Scale: AS SHOWN | Date: 9/25/97 | Dwg. No.: 7



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 WALLS SHALL NOT BE STEEPER THAN 3/4 HORIZ. TO 1 VERT. OR AS SHOWN IN SOILS REPORT WHICH SHALL CONTROL.

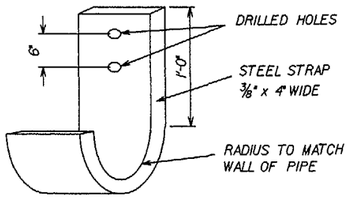
C. COMBINATION OF VERTICAL AND SLOPING TRENCH WALLS - SECTION
   1. TRENCH DEPTHS NOT EXCEEDING 5 FEET SHALL HAVE VERTICAL WALLS IN PIPE ZONE UNLESS OTHERWISE APPROVED BY ENGINEER, OR WHERE SPECIFIED
   2. FOR TRENCHES WITH COMBINED WALLS AND ANY DEPTH EXCEEDING 5 FEET. DESIGN CALCULATIONS BY A REGISTERED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

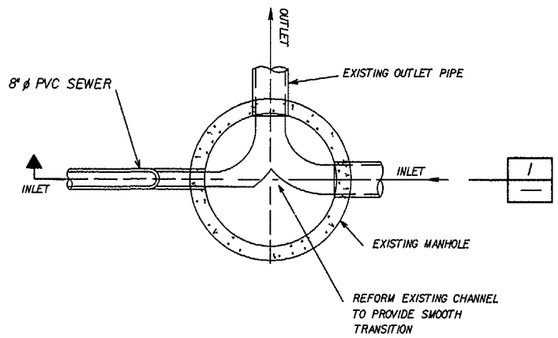
TYPICAL TRENCH SECTION 1 / TYP



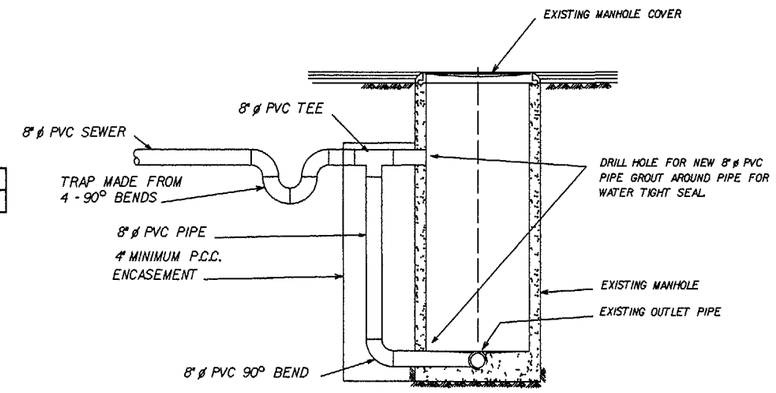
NOTES:

1. USE 2 - 3/4" SS WEDGE TYPE EXPANSION ANCHORS. HILTI QUIK-BOLT II STUD ANCHOR OR APPROVED EQUAL.
2. PIPE STRAP TO BE HOT-DIP GALVANIZED AFTER FABRICATION.

PIPE STRAP 2 / 7

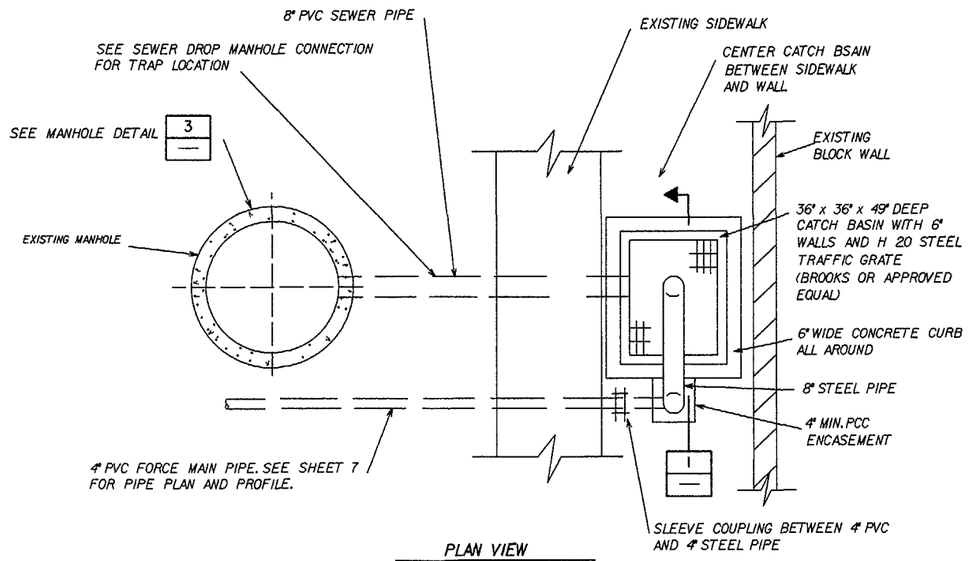


SECTIONAL PLAN

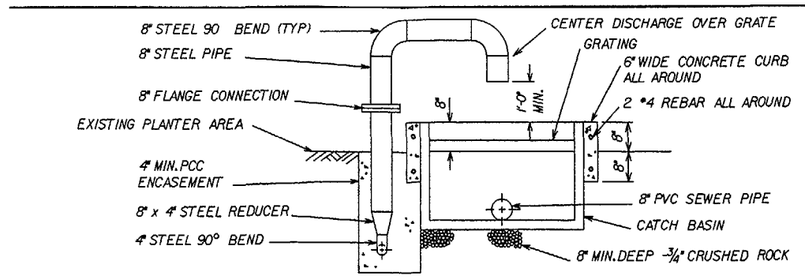


SECTION 1 / —

SEWER DROP MANHOLE CONNECTION 3 / 7



PLAN VIEW



SECTION 1 / —

AIR GAP 4 / 7

JOB No. 62370.60 FILE No. C:\PROJ\NEWMARK\WATER\DRAINPIP.DGN

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION

REVISIONS

DESIGNED BY: YN
DRAWN BY: NDH
CHECKED BY: PAS

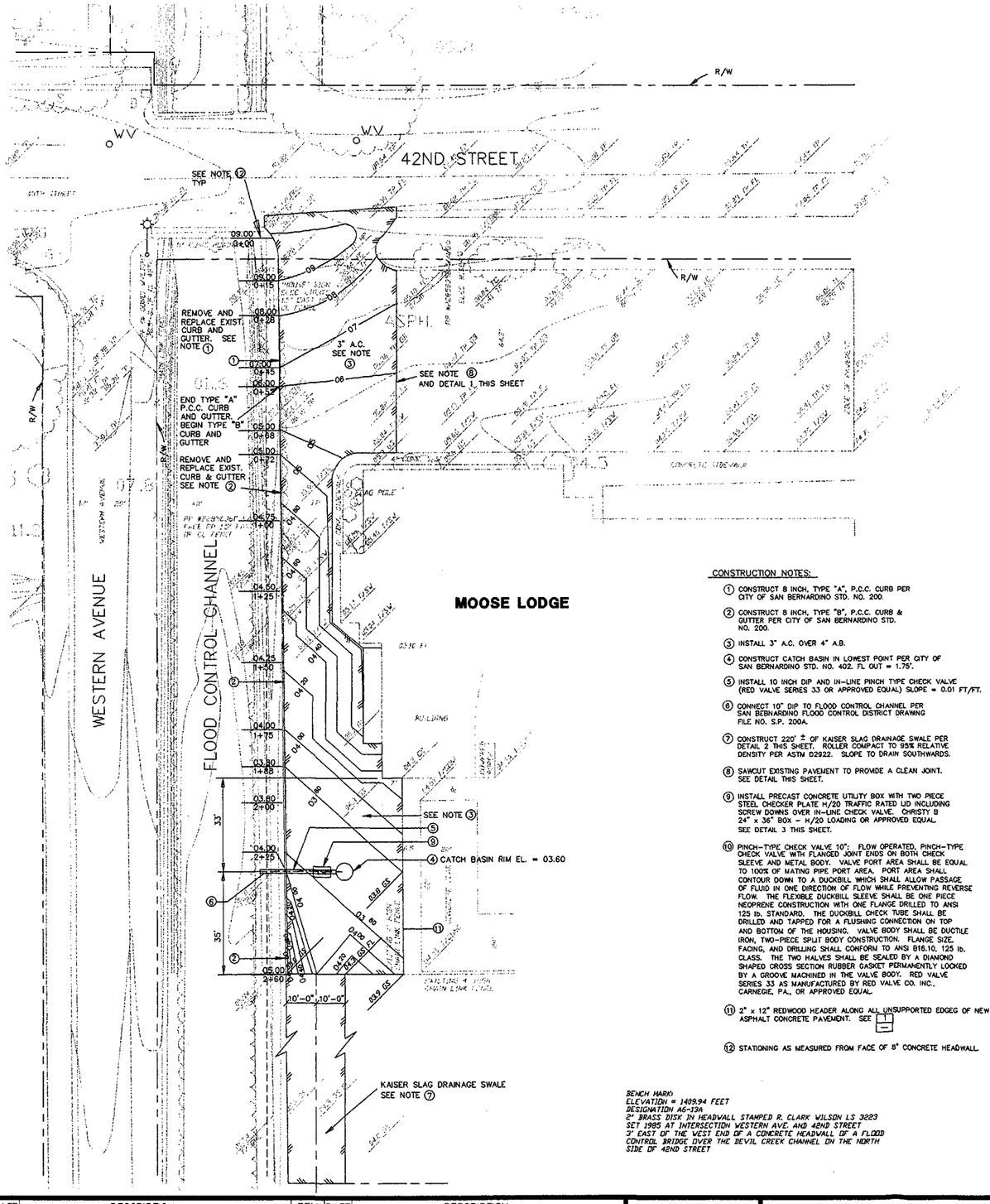
URS Consultants, Inc.
CONSULTING ENGINEERS
SACRAMENTO CALIFORNIA

JOB No. 62370

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

DETAILS

Scale: NOT TO SCALE | Date: 9/25/97 | Dwg. No.: 8



N

SCALE: 1" = 20'

CONSTRUCTION NOTES:

(1) CONSTRUCT 8 INCH, TYPE "A", P.C.C. CURB PER CITY OF SAN BERNARDINO STD. NO. 200.

(2) CONSTRUCT 8 INCH, TYPE "B", P.C.C. CURB & GUTTER PER CITY OF SAN BERNARDINO STD. NO. 200.

(3) INSTALL 3" A.C. OVER 4" A.B.

(4) CONSTRUCT CATCH BASIN IN LOWEST POINT PER CITY OF SAN BERNARDINO STD. NO. 402. FL OUT = 1.75'.

(5) INSTALL 10 INCH DIP AND IN-LINE PINCH TYPE CHECK VALVE (RED VALVE SERIES 33 OR APPROVED EQUAL) SLOPE = 0.01 FT/FT.

(6) CONNECT 10" DIP TO FLOOD CONTROL CHANNEL PER SAN BERNARDINO FLOOD CONTROL DISTRICT DRAWING FILE NO. S.P. 200A.

(7) CONSTRUCT 220' ± OF KAISER SLAG DRAINAGE SWALE PER DETAIL 2 THIS SHEET. ROLLER COMPACT TO 95% RELATIVE DENSITY PER ASTM D2922. SLOPE TO DRAIN SOUTHWARDS.

(8) SAWCUT EXISTING PAVEMENT TO PROVIDE A CLEAN JOINT. SEE DETAIL THIS SHEET.

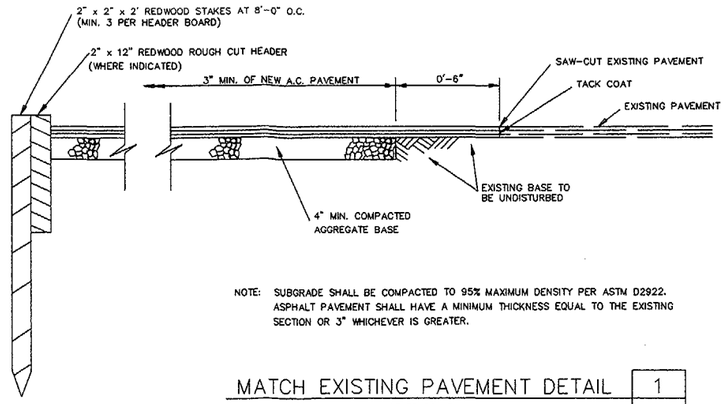
(9) INSTALL PRECAST CONCRETE UTILITY BOX WITH TWO PIECE STEEL CHECKER PLATE H/20 TRAFFIC RATED LID INCLUDING SCREW DOWNS OVER IN-LINE CHECK VALVE. CHRISTY B 24" x 36" BOX - H/20 LOADING OR APPROVED EQUAL. SEE DETAIL 3 THIS SHEET.

(10) PINCH-TYPE CHECK VALVE 10". FLOW OPERATED, PINCH-TYPE CHECK VALVE WITH FLANGED JOINT ENDS ON BOTH CHECK SLEEVE AND METAL BODY. VALVE PORT AREA SHALL BE EQUAL TO 100% OF MATING PIPE PORT AREA. PORT AREA SHALL CONTOUR DOWN TO A DUCKBILL WHICH SHALL ALLOW PASSAGE OF FLUID IN ONE DIRECTION OF FLOW WHILE PREVENTING REVERSE FLOW. THE FLEXIBLE DUCKBILL SLEEVE SHALL BE ONE PIECE NEOPRENE CONSTRUCTION WITH ONE FLANGE DRILLED TO ANSI 125 lb. STANDARD. THE DUCKBILL CHECK TUBE SHALL BE DRILLED AND TAPPED FOR A FLUSHING CONNECTION ON TOP AND BOTTOM OF THE HOUSING. VALVE BODY SHALL BE DUCTILE IRON, TWO-PIECE SPLIT BODY CONSTRUCTION. FLANGE SIZE, FACING, AND DRILLING SHALL CONFORM TO ANSI B16.10, 125 lb. CLASS. THE TWO HALVES SHALL BE SEALED BY A DIAMOND SHAPED CROSS SECTION RUBBER GASKET PERMANENTLY LOCKED BY A GROOVE MACHINED IN THE VALVE BODY. RED VALVE SERIES 33 AS MANUFACTURED BY RED VALVE CO. INC., CARNEGIE, PA., OR APPROVED EQUAL.

(11) 2" x 12" REDWOOD HEADER ALONG ALL UNSUPPORTED EDGEG OF NEW ASPHALT CONCRETE PAVEMENT. SEE [ ]

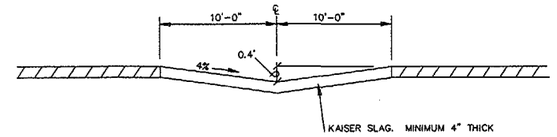
(12) STATIONING AS MEASURED FROM FACE OF 8" CONCRETE HEADWALL.

BENCH MARK
ELEVATION = 1409.94 FEET
DESIGNATION AG-13A
2" BRASS DISK IN HEADWALL STAMPED R. CLARK WILSON LS 3223
SET 1995 AT INTERSECTION WESTERN AVE. AND 42ND STREET
3' EAST OF THE WEST END OF A CONCRETE HEADWALL OF A FLOOD CONTROL BRIDGE OVER THE DEVIL CREEK CHANNEL ON THE NORTH SIDE OF 42ND STREET

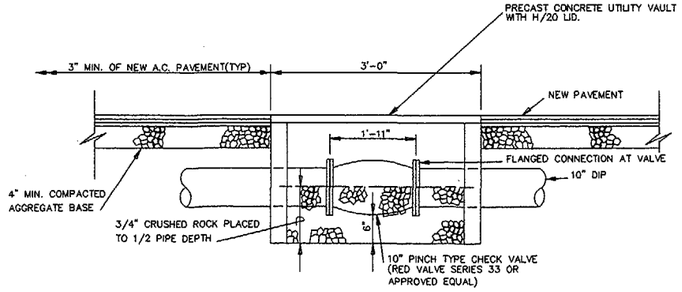


NOTE: SUBGRADE SHALL BE COMPACTED TO 95% MAXIMUM DENSITY PER ASTM D2922. ASPHALT PAVEMENT SHALL HAVE A MINIMUM THICKNESS EQUAL TO THE EXISTING SECTION OR 3" WHICHEVER IS GREATER.

MATCH EXISTING PAVEMENT DETAIL | 1 | —
NOT TO SCALE



KAISER SLAG DRAINAGE SWALE DETAIL | 2 | —
NOT TO SCALE



CHECK VALVE VAULT | 3 | —
NOT TO SCALE

REV	DATE	DESCRIPTION	REV	DATE	DESCRIPTION

DESIGNED BY PAS
DRAWN BY NDH
CHECKED BY DHD

URS Consultants, Inc.
CONSULTING ENGINEERS
SAN BERNARDINO CALIFORNIA

JOB NO. 62370.50

REGISTERED PROFESSIONAL ENGINEER No. 24677 Raymond H. Deutscher exp 9/30/98 CIVIL STATE OF CALIFORNIA

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

MOOSE LODGE
SITE DRAINAGE IMPROVEMENTS

Scale:	Date:	Dwg. No.:
AS SHOWN	AUGUST 18, 1997	1

DATE