

APPENDIX A

RECORD DRAWINGS

EAST ORANGE COUNTY WATER DISTRICT

PETERS CANYON RESERVOIR STORM WATER DRAINAGE IMPROVEMENTS

OCTOBER
2015

CAROLLO PROJECT NO. 9711A.00
EOCWD PROJECT NO. 71102C1A

VOLUME II



PLANS APPROVED BY:

EAST ORANGE COUNTY WATER DISTRICT

Lisa Ohlund

LISA OHLUND, GENERAL MANAGER

DATE: 10/30/2015



3150 BRISTOL STREET
SUITE 500
COSTA MESA, CA 92626
PHONE: 714.593.5100 FAX: 714.593.5101

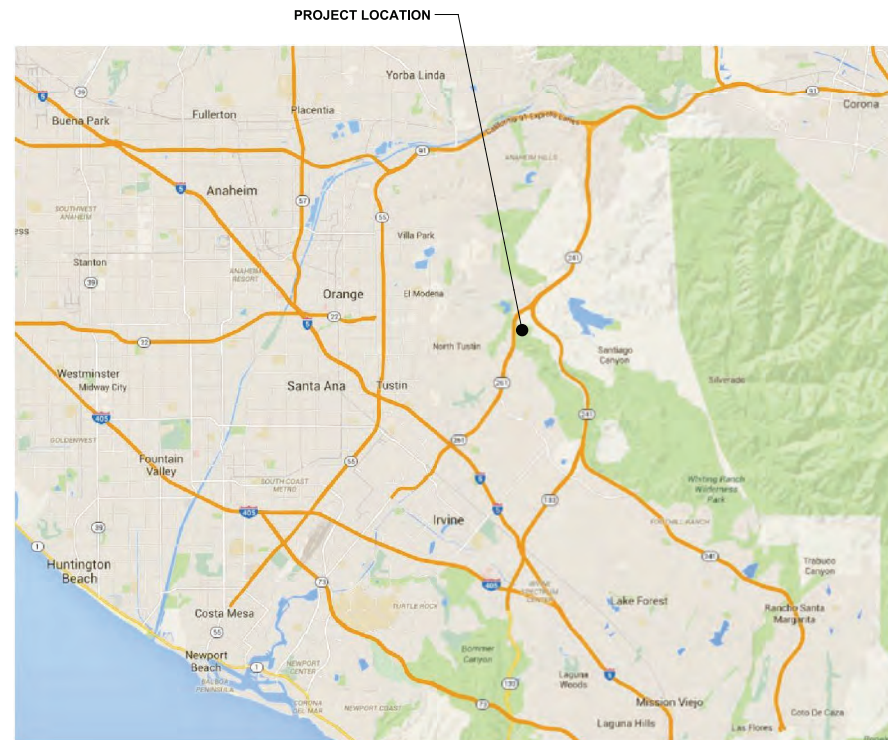


VICINITY MAP

9312 JAMBOREE RD. ORANGE, CA 92614
PHONE: (714) 538-5815 FAX: (714) 538-0334

DRAWING LIST

SHEET NO.	DRAWING NO.	DESCRIPTION
1	G-001	COVER SHEET AND DRAWING LIST
2	G-002	AERIAL PHOTO AND SURVEY DATA
3	G-003	LEGENDS AND NOTES
4	C-001	SITE LAYOUT AND DRAINAGE PLAN
5	C-002	CIVIL DETAILS SHEET I
6	C-003	CIVIL DETAILS SHEET II
7	C-004	CIVIL DETAILS SHEET III
8	C-005	CIVIL DETAILS SHEET IV



LOCATION MAP

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Plot Date: 30-OCT-2015 5:42:19 PM
User: ddonk
Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo Std Pen_v0905.pen PlotScale: 2:1
LAST SAVED BY: ddonk



OCS BENCHMARK
DESCRIBED BY OCS 2002 - FOUND 3 3/4" OCS ALUMINUM BENCHMARK DISK STAMPED "3G-32-91". SET IN THE NORTHEASTERLY CORNER OF A 4 F.T. BY 6 F.T. CONCRETE CATCH BASIN. MONUMENT IS LOCATED ALONG THE WESTERLY SIDE OF JAMBOREE ROAD, 0.6 MILES SOUTHERLY OF THE CENTERLINE OF CANYON VIEW AVENUE, 74 FT. WESTERLY OF THE CENTERLINE OF JAMBOREE ROAD AND 1 F.T. WESTERLY OF THE WEST CURB ALONG JAMBOREE. MONUMENT IS SET LEVEL WITH THE SIDEWALK.
ELEVATION: 604.665 FT (NAV088)

OCS BASIS OF BEARING
CALIFORNIA STATE PLANE ZONE VI OCS 2007.00 ADJUSTMENT.

REV	DATE	BY	DESCRIPTION

DESIGNED
DJD
DRAWN
DBJ
CHECKED
GJJ
DATE
OCTOBER 2015



EAST ORANGE COUNTY WATER DISTRICT
PETERS CANYON RESERVOIR - STORM WATER DRAINAGE
GENERAL
AERIAL PHOTO AND
SURVEY DATA

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
9711A.00
DRAWING NO.
G-002
SHEET NO.
2 OF 8

Plot Date: 30-Oct-2015 5:42:33 PM

User: ddonk

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo Std Pen_v0805.pen PlotScale: 2:1

LAST SAVED BY: ddonk

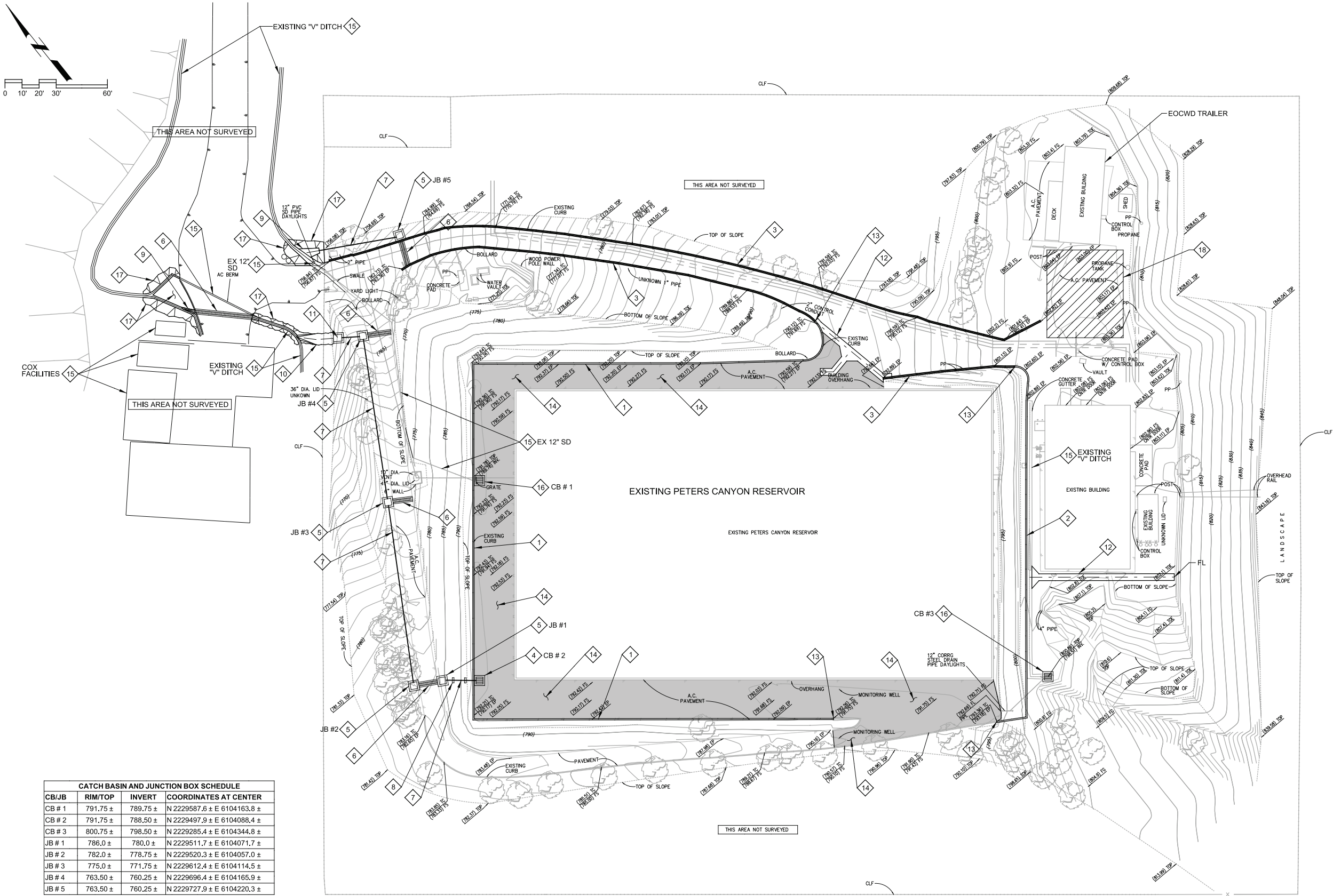
1	2	3	4	5	6	7	8	9	10	11	12	13	
NOTES				LINE WORK			COORDINATES		SYMBOLS				
GENERAL PIPELINE NOTES 1. DIMENSIONS TO STRUCTURES, REFERENCED PIPING, PAVING, AND OTHER IMPROVEMENTS IS APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND CONDITIONS 14 DAYS IN ADVANCE OF THE CONSTRUCTION PROGRESS. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER. 2. CONTRACTOR SHALL MAINTAIN A MINIMUM CLEARANCE OF 10 FEET HORIZONTAL AND 3 FEET VERTICAL BETWEEN THE SEWER LINES AND EXISTING WATER LINES. 3. REFER TO THE GEOTECHNICAL REPORT LOCATED IN THE APPENDIX OF THE SPECIFICATIONS FOR ADDITIONAL INFORMATION ON THE GEOTECHNICAL CONDITIONS AND BORING INFORMATION. 4. IN ALL LOCATIONS WHERE TRENCH PLATE IS USED FOR VEHICULAR OR PEDESTRIAN TRAFFIC, THE CONTRACTOR SHALL APPLY SKID RESISTANT COATING ON THE TRENCH PLATES AND COLD MIX ASPHALT CONCRETE AT THE EDGES, THE TRENCH PLATES SHALL BE NOTCHED INTO THE ASPHALT, CONCRETE, OR TRAVELED SURFACE TO PREVENT SLIPPAGE AND ROCKING UNDER TRAFFIC. 5. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES ADJACENT TO THE WORK, THROUGHOUT THE CONSTRUCTION PERIOD. 6. ALL OPEN TRENCHES, WORK AREAS AND SHAFTS SHALL HAVE A SHORING SYSTEM IN ACCORDANCE WITH OSHA, STATE AND LOCAL REQUIREMENTS. 7. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, COUNTY, AND LOCAL LAWS AND ORDINANCES RELATING TO THE SAFETY AND CHARACTER OF WORK, EQUIPMENT AND PERSONNEL. THIS INCLUDES BUT IS NOT LIMITED TO SHEETING, SHORING, BRACING, VENTILATION, CONFORMANCE WITH TRAFFIC CONTROL AND MAINTENANCE OF BARRICADES AND WARNING DEVICES. 8. LAYOUT DRAWINGS ARE REQUIRED FOR PIPING INSTALLED. 9. ALL RIPARIAN AREAS DISTURBED SHALL BE RESTORED PER THE _____ DRAWINGS. 10. ALL ROAD DITCHES, FENCE LINES, PASTURES AND SIMILAR AREAS SHALL BE RESTORED PER SPECIFICATION 02925. 11. ALL CROPPED AREAS DISTURBED SHALL HAVE THE TOPSOIL REPLACED AND THE ENTIRE AREA DISTURBED SHALL BE RIPPED 2 FT DEEP PER THE LAND OWNERS REQUIREMENTS. 12. CONTRACTOR SHALL TAKE ALL PRACTICAL PRECAUTIONS TO MINIMIZE DISTURBANCES TO STREAMS, VEGETATION, TREES AND CROP LANDS, WHEREVER PRACTICAL LEAVE EXISTING TREES AND VEGETATED AREAS UNDISTURBED. UTILITY NOTES 1. EXISTING UTILITIES IN THE PROJECT MAY BE IN A FRAGILE CONDITION, THE CONTRACTOR SHALL EXERCISE NECESSARY CAUTION WHEN WORKING NEAR EXISTING UTILITIES. 2. PLAN LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES ARE BASED ON RECORD DRAWINGS, POTHOLING AND SURVEY INFORMATION AND ARE CONSIDERED APPROXIMATE ONLY. WHERE NO ELEVATIONS ARE SHOWN, NO INFORMATION WAS AVAILABLE DURING THE DESIGN PERIOD. 3. SOME UTILITY SERVICES MAY NOT BE SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL TAKE NECESSARY MEASURES TO LOCATE AND PROTECT SERVICE DURING CONSTRUCTION. 4. CONTRACTOR SHALL CALL THE "LOCAL UTILITY LOCATOR" AT _____ PRIOR TO ANY EXCAVATION ACTIVITIES. 5. THE LOCATION, SIZE, AND MATERIALS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THESE DRAWINGS ARE APPROXIMATE AND IS SHOWN FOR BIDDING PURPOSES. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT THE UTILITY OWNERS SO THAT THOSE UTILITIES MAY MARK THE LOCATION OF THEIR UTILITIES PRIOR TO ANY EXCAVATION ACTIVITIES. THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AND PROTECT EXISTING UTILITIES. EARTHWORK NOTES 1. CLEAR THE CONSTRUCTION AREA OF NATURAL OBSTRUCTIONS EXISTING FOUNDATIONS, BUILDINGS, FENCES, LUMBER, WALLS, STUMPS, BRUSH, WEEDS, RUBBISH, TREES, BOULDERS, AND ANY OTHER ITEMS WHICH INTERFERES WITH CONSTRUCTION OPERATIONS OR ARE DESIGNATED FOR REMOVAL. 2. GRUB OUT AND DISPOSE OF TREE TRUNKS AND ROOT MATERIAL BELOW THE GROUND SURFACE REMAINING AFTER CLEARING. 3. DISPOSE OF THE UNACCEPTABLE BACKFILL MATERIAL FROM THE CLEARING AND GRUBBING OPERATIONS AT NO ADDITIONAL COST TO THE OWNER. 4. STRIP AND STOCKPILE THE TOPSOIL, THE DEPTH OF STRIPPING SHALL BE ESTIMATED TO BE 12-INCHES BUT WILL BE DETERMINED IN THE FIELD AS SOIL CONDITIONS DICTATE. 5. REPLACE STOCKPILED SOIL AND RESTORE SITE AS SPECIFIED. 6. ROCK AND AGGREGATE STORAGE AREAS SHALL BE RESTORED BY EXCAVATING ANY SOILS CONTAINING ROCK OR AGGREGATE AND BACKFILLING WITH TOPSOIL. SOIL REMOVED FOR TRENCH BACKFILL ABOVE THE PIPE ZONE AND 3 FEET BELOW FINISHED GRADE.				NEW STRUCTURES EXISTING STRUCTURES (SCREENED) NEW PIPING (TRIPLE LINES) NEW PIPING (SINGLE LINE) EXISTING PIPING (TRIPLE LINES) (SCREENED) EXISTING PIPING (SINGLE LINE)(SCREENED) HIDDEN LINE CENTER, MONUMENT, OR SURVEY LINE GUARDRAIL EXISTING CONTOURS (SCREENED) NEW CONTOURS (MAJOR) NEW CONTOURS (MINOR) NEW FENCE EXISTING FENCE (SCREENED) REMOVE OR ABANDONED (CROSS HATCHING: FENCE SHOWN AS EXAMPLE) POWER POLE & LINE PROPERTY LINE OR RIGHT OF WAY EDGE OF PAVEMENT SLOPE NEW ROAD FUTURE ROAD EXISTING ROAD (SCREENED) CURB & GUTTER CURB ROAD CENTERLINE SWALE (3' WIDE) ROAD CROSS GUTTER (10' WIDE) FLOWLINE FUTURE IMPROVEMENTS			PLANT COORDINATES AT STRUCTURES (OUTSIDE FACE AT FINISHED GRADE) COORDINATES (IN FEET) ELEVATION/SLOPES CONTROL POINT SPOT ELEVATION (AT PAVEMENT) SPOT ELEVATION (AT DIRT) SPOT ELEVATION (AT FLOWLINE) SPOT ELEVATION (AT HIGH POINT) SPOT ELEVATION (AT TOP CURB) SPOT ELEVATION (FINISH ELEV) ELEVATION SLOPE CALLOUT SURFACE SLOPE ROADWAY GRADE DRAINAGE DITCH OR CHANNEL GRADE ROADWAY/PIPE CURVES ROADWAY/PIPE CURVE PATTERNING STABILIZED CONSTRUCTION ENTRANCE STAGING AREA CONCRETE PAVEMENT RIP RAP ASPHALT PAVEMENT		SYMBOL DESCRIPTION SYMBOL DESCRIPTION SYMBOL DESCRIPTION BENCH MARK TRANSIT POINT FLANGE VERTICAL CONTROL POINT ANCHOR POINT VALVE MONUMENT PARSHALL FLUME CLOSED VALVE SOIL BORING LOCATIONS GUARD POST VALVE W/ CONNECTION TEST BORING LOCATIONS HEADWALL CLOSED VALVE W/ CONNECTION PERCOLATION TEST LOCATIONS ROCK WALL OPERATOR/ OPERATOR CLOSED POT HOLE/ POT HOLE NUMBER RIP RAP VALVE W/ OPERATOR IRON PIN SHRUB/HEDGE CLOSED VALVE W/ OPERATOR IRON ROD TREE VALVE W/ OPERATOR AND CONNECTION DATUM POINT SIGN/SIGN POST CLOSED VALVE W/ OPERATOR AND CONNECTION VALVE W/ TWO CONNECTIONS LIGHT CLOSED VALVE W/ TWO CONNECTIONS VALVE W/ OPERATOR AND TWO CONNECTIONS FLOW ARROW TRAFFIC LIGHT POLE CLOSED VALVE W/ OPERATOR AND TWO CONNECTIONS FLOW/SLOPE DIRECTION TRAFFIC LIGHT POLE GATE VALVE W/ BLIND FLANGE AND CONNECTION DIRECTION ARROW SINGLE TRAFFIC LIGHT POLE CHECK VALVE PROPERTY HOOK GUYED LIGHT POLE PLUG VALVE MANHOLE (PLAN) UTILITY POLE CLOSED PLUG VALVE MANHOLE (PROFILE) UTILITY POLE GUY WIRE PIPE CAP OR CONNECTION PA SPEAKER CROSS CURB MANHOLE 2 WAY PA SPEAKER REDUCER CATCH BASIN (SQUARE) 3 WAY PA SPEAKER REDUCER W/ CONNECTION CATCH BASIN (ROUND) 4 WAY PA SPEAKER REDUCER W/ CONNECTION DROP INLET FIRE HYDRANT - 2 WAY REDUCER FLANGED DROP MANHOLE FIRE HYDRANT - 3 WAY REDUCER W/ FLANGE AND CONNECTION ELECTRICAL MANHOLE AND PULL BOX YARD HYDRANT REDUCER W/ TWO CONNECTIONS PULL BOX CLEANOUT FLANGED TEE TELEPHONE PEDESTAL AIR RELEASE VALVE TEE W/ CONNECTIONS CABLE TV BLOW OFF VALVE TEE W/ FLANGE AND CONNECTIONS X JUNCTION BOX HOSE BIBB BURIED VALVE / JUNCTION BOX SERVICE CONNECTION I JUNCTION BOX GAS VALVE OPEN/CLOSED GAS METER GATE *** ALL SYMBOLS SHOWN AS NEW. EXISTING SYMBOLS ARE SCREENED.				
DESIGNED DJD DRAWN DJD CHECKED GJJ DATE OCTOBER 2015 PROJECT ENGINEER CIVIL ENGINEER 10/30/2015				carollo EAST ORANGE COUNTY WATER DISTRICT		EAST ORANGE COUNTY WATER DISTRICT PETERS CANYON RESERVOIR - STORM WATER DRAINAGE LEGENDS AND NOTES			VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY		JOB NO. 9711A.00 DRAWING NO. G003 SHEET NO. 3 OF 8		
1	2	3	4	5	6	7	8	9	10	11	12	13	

Plot Date: 30-OCT-2015 5:42:42 PM

User: ddonk

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo Std Pen_v0905.pen PlotScale: 2:1

LAST SAVED BY: ddonk



CATCH BASIN AND JUNCTION BOX SCHEDULE			
CB/JB	RIM/TOP	INVERT	COORDINATES AT CENTER
CB # 1	791.75 ±	789.75 ±	N 2229587.6 ± E 6104163.8 ±
CB # 2	791.75 ±	788.50 ±	N 2229497.9 ± E 6104088.4 ±
CB # 3	800.75 ±	798.50 ±	N 2229285.4 ± E 6104344.8 ±
JB # 1	786.0 ±	780.0 ±	N 2229511.7 ± E 6104071.7 ±
JB # 2	782.0 ±	778.75 ±	N 2229520.3 ± E 6104057.0 ±
JB # 3	775.0 ±	771.75 ±	N 2229612.4 ± E 6104114.5 ±
JB # 4	763.50 ±	760.25 ±	N 2229696.4 ± E 6104165.9 ±
JB # 5	763.50 ±	760.25 ±	N 2229727.9 ± E 6104220.3 ±

GENERAL NOTES

- SEE DRAWING G-002 FOR SURVEY CONTROL DATA.
- SEE DRAWING G-003 FOR NOTES AND LEGENDS.
- REFER TO SECTION 01140 OF SPECIFICATIONS FOR WORK RESTRICTIONS.

KEY NOTES

- REMOVE EXISTING AC CURB AND REPLACE WITH A1-200 CONCRETE CURB PER STD PLAN 120-1 DWG. C-004 (MATCH EXISTING ELEVATIONS), NEW CF=8"
- CONSTRUCT A1-200 CONCRETE CURB PER STD PLAN 120-1 DWG. C-004 (MATCH EXISTING ELEVATIONS), NEW CF=8"
- REMOVE EXISTING AC CURB AND REPLACE WITH D1-200 AC CURB PER STD PLAN 120-1 DWG. C-004 (MATCH EXISTING ELEVATION), NEW CF=8"
- CONSTRUCT 3'-0" X 3'-0" CATCH BASIN PER TYP DETAIL C002 DWG. C-002.
- CONSTRUCT 3'-0" X 3'-0" JUNCTION BOX PER TYP DETAIL C002 DWG. C-002.
- CONSTRUCT PRECAST TRENCH DRAIN WITH AC RAMP PER SPECIFICATIONS AND SECT. A ON DWG. C-002 (SLOPE BOTTOM AT 2%).
- CONSTRUCT 15" HDPE (MINIMUM 24" OF COVER).
- CONSTRUCT PIPE ANCHORS (2 EACH) PER STD. PLAN 221-1 DWG. C-004.
- CONSTRUCT "V" DITCH AND TRANSITION CONNECTION SIMILAR TO SECT C ON DWG. C-002.
- CONSTRUCT TRANSITION STRUCTURE PER SECT. B ON DWG. C-002.
- CONSTRUCT CONCRETE ENERGY DISSIPATER W = 4'-0" PER STD PLAN 384-1 ON DWG. C-004 AND DWG. C-005.
- CONSTRUCT 3'-0" WIDE CROSS GUTTER PER C104/TYP ON DWG. C-002.
- AC CURB TO CONCRETE CURB CHANGE.
- CONSTRUCT AC SLURRY PER SPECIFICATIONS.
- PROTECT IN PLACE.
- REMOVE EXISTING CATCH BASIN AND CONSTRUCT 3'-0" X 3'-0" CATCH BASIN PER C002/TYP ON DWG. C-002. (CONNECT EXISTING STORM DRAIN TO NEW C.B.)
- CONSTRUCT GROUTED RIPRAP BLANKET, D50=12"
- CONTRACTOR STAGING / LAY DOWN AREA. MAINTAIN ACCESS TO ADJACENT EOCWD TRAILER.

REV	DATE	BY	DESCRIPTION

DESIGNED
GAT
DRAWN
GAT
CHECKED
ADW
DATE
OCTOBER 2015



carollo

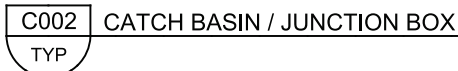
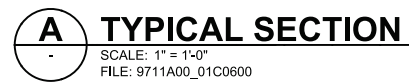


EAST ORANGE COUNTY WATER DISTRICT
PETERS CANYON RESERVOIR - STORM WATER DRAINAGE

CIVIL
SITE LAYOUT
AND DRAINAGE PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
9711A.00
DRAWING NO.
C-001
SHEET NO.
4 OF 8



1. PROVIDE 3/4" EXPANSION JOINTS AT ENDS OF CONCRETE PLACEMENT, AT POINTS OF CURVATURE, AT INTERSECTIONS AND AT MAXIMUM SPACING OF 30 FEET. EXPANSION JOINTS SHALL BE 3/4" WIDE WITH 1/4" RADIUS CONCRETE EDGES AT BOTH SIDES OF JOINT. USE BITUMINOUS FIBER EXPANSION JOINT MATERIAL.
2. DO NOT PASS REINFORCING BARS THROUGH EXPANSION JOINTS.
3. PROVIDE WEAKENED PLANE JOINTS AT 10 FEET OC MAXIMUM, AT FRONT, TOP AND BACK FACES, PROVIDE 1/2" RADIUS EDGE EACH SIDE AT JOINTS.

C104	CROSS GUTTER AND VALLEY GUTTER
TYP	

REV	DATE	BY	DESCRIPTION

DESIGNED
DJD
DRAWN
DBJ
CHECKED
GJJ
DATE
OCTOBER 2015



10/30/2015



EAST ORANGE COUNTY WATER DISTRICT	
PETERS CANYON RESERVOIR - STORM WATER DRAINAGE	
CIVIL	
CIVIL DETAILS	
SHEET I	

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING

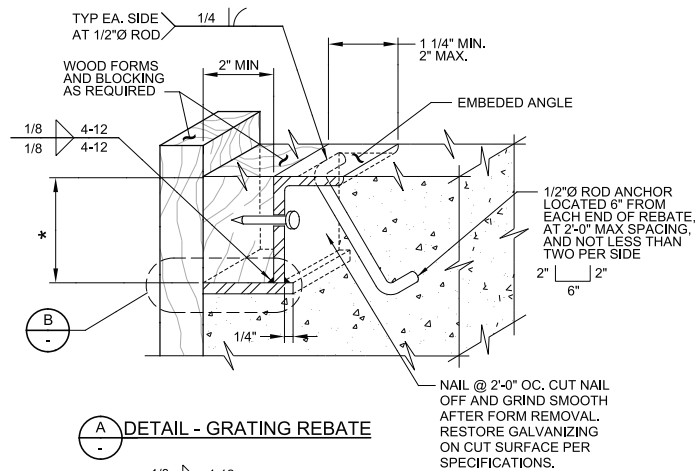
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

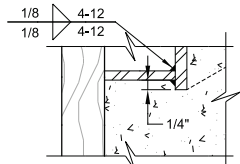
JOB NO.
9711A.00

DRAWING NO.
C-002

SHEET NO.
5 OF 8



A DETAIL - GRATING REBATE

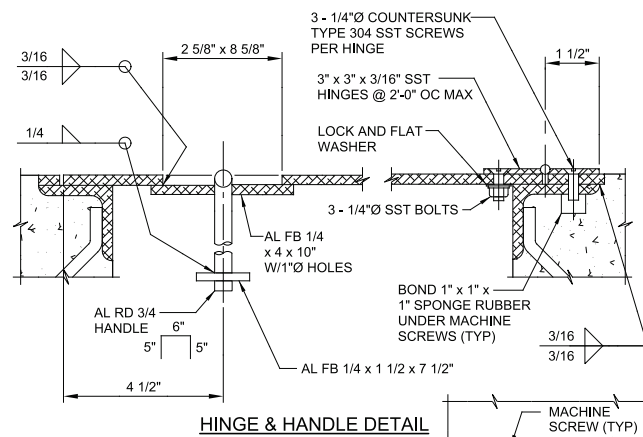


B DETAIL - ALTERNATE GRATING REBATE

NOTES:

1. SEE SPECIFICATIONS FOR H-20 HEAVY DUTY HOT-DIP GALVANIZED STEEL GRATING.
2. REBATE SHALL BE CONTINUOUS AROUND OPENING.
3. ANGLE AND BEARING PLATE SHALL BE 1/4" MIN THICK.
4. HOT-DIP GALVANIZED AFTER FABRICATION.
5. * = DIMENSION AS REQUIRED BY GRATING MANUFACTURER.

A406	H-20 HEAVY DUTY HOT-DIP GALVANIZED
TYP	GRATING REBATE



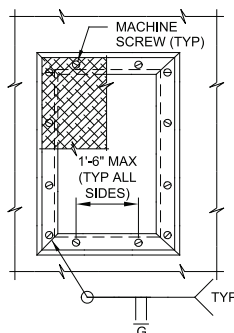
HINGE & HANDLE DETAIL

THICKNESS OF TREAD PLATE "T" (INCH)						
LIVE LOAD (PSF)	SHORTER SPAN "L" (FT-IN)					
	12"	16"	20"	26"	30"	40"
100	3/16	1/4	3/8	1/2	1/2	3/8 *
150	1/4	3/8	1/2	1/2	3/8 *	3/8 *
200	1/4	3/8	1/2	3/8 *	3/8 *	3/8 *
250	1/4	3/8	1/2	3/8 *	3/8 *	3/8 *
300	1/4	3/8	1/2	3/8 *	3/8 *	3/8 *
350	3/8	1/2	3/8 *	3/8 *	3/8 *	3/8 *
400	3/8	1/2	3/8 *	3/8 *	3/8 *	3/8 *

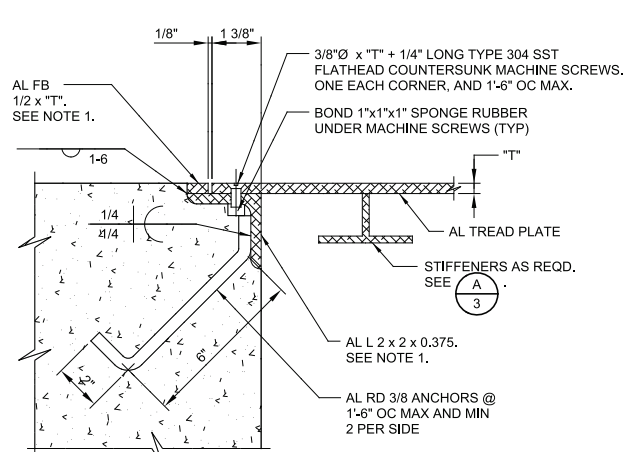
SCHEDULE FOR TREAD PLATE

NOTE:

1. * 3/8" PLATE W/ AL T 3.00 x 3.00 x 2.55 STIFFENERS. SEE SECTION, $\left(\frac{A}{2}\right)$, $\left(\frac{B}{2}\right)$, AND $\left(\frac{C}{2}\right)$

SEAT PLAN

A500	ALUMINUM TREAD PLATE
------	----------------------

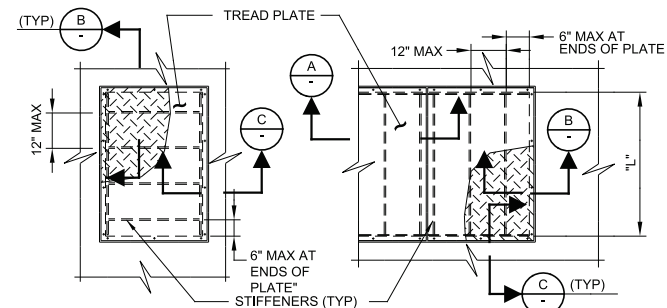


SECTION - REBATE

NOTES:

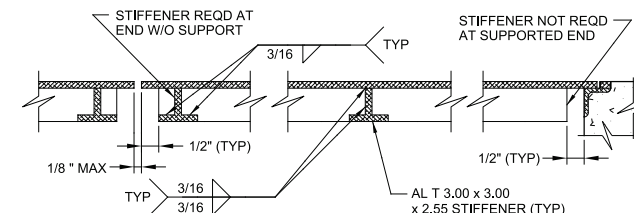
1. ALUMINUM ANGLE AND BAR MAY BE EXTRUDED.
2. COAT ALUMINUM SURFACE IN CONTACT WITH CONCRETE AS SPECIFIED.
3. OMIT PERIMETER MACHINE SCREWS WHERE HINGE IS INDICATED ON THE DRAWINGS.
4. HINGE AND HANDLE DETAIL SHALL APPLY WHERE INDICATED ON THE DRAWINGS.
5. TREAD PLATE LIVE LOAD SHALL BE SAME AS FLOOR LIVE LOAD.
6. TREAD PLATE SHALL BE FABRICATED IN UNITS THAT DO NOT WEIGH MORE THAN 75 POUNDS.

A500	ALUMINUM TREAD PLATE
------	----------------------



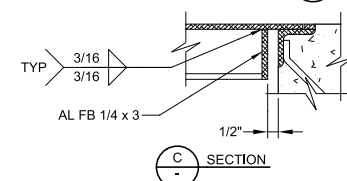
PLAN - PLATE SUPPORTED
ON 4 SIDES

PLAN - PLATE SUPPORTED
ON 2 SIDES



A SECTION

B SECTION



C SECTION

A500	ALUMINUM TREAD PLATE
TVR	

REV	DATE	BY	DESCRIPTION

DESIGNED
DJD
DRAWN
DBJ
CHECKED
GJJ
DATE
OCTOBER 2015



EAST ORANGE COUNTY WATER DISTRICT
PETERS CANYON RESERVOIR - STORM WATER DRAINAGE

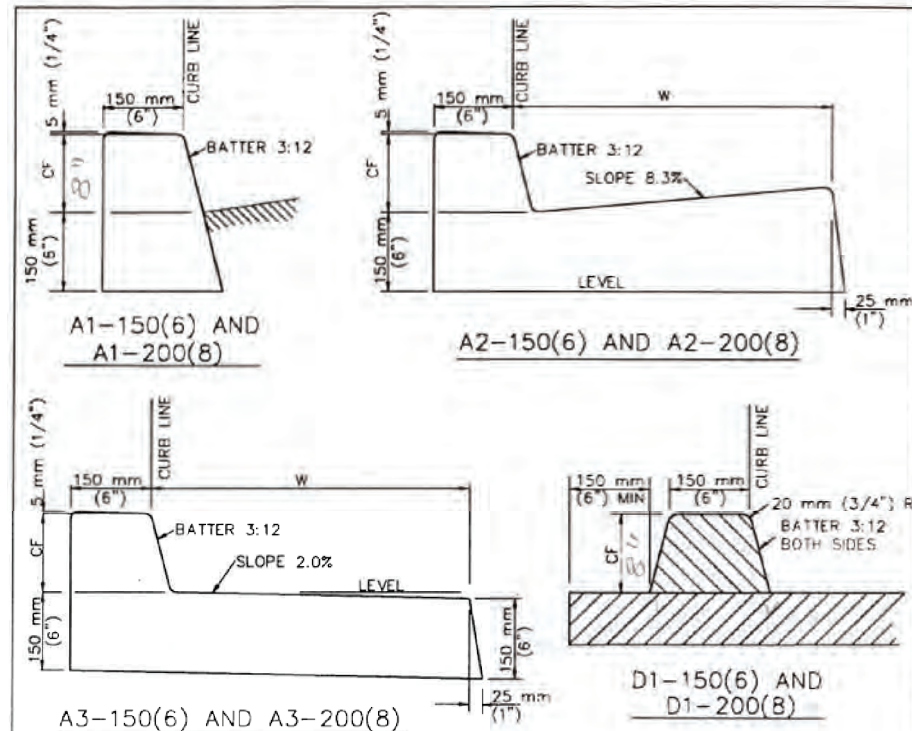
CIVIL
CIVIL DETAILS
SHEET II

VERIFY SCALES

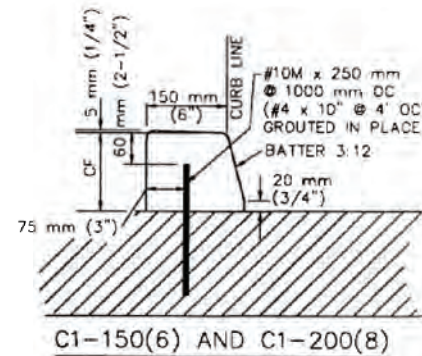
BAR IS ONE INCH ON
ORIGINAL DRAWING

0  1"

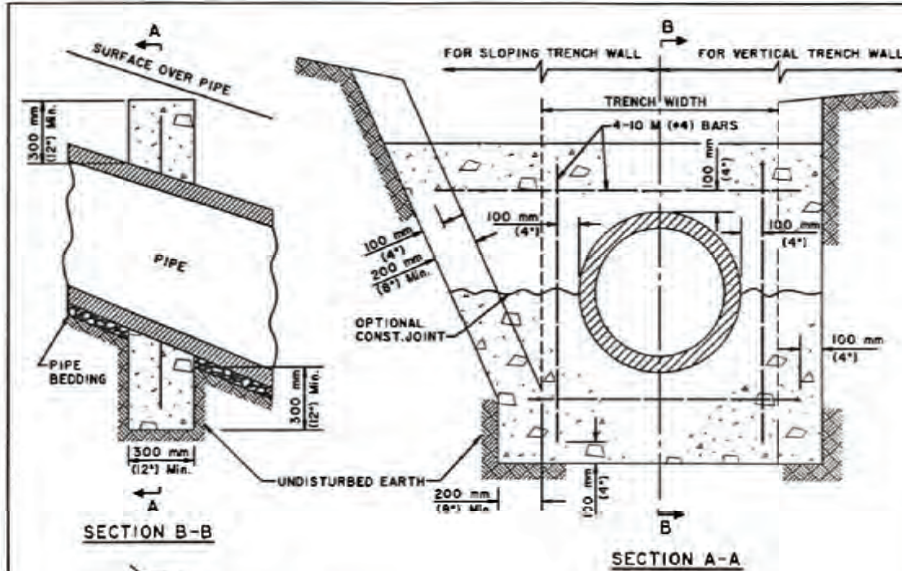
IF NOT ONE INCH ON
THIS SHEET, ADJUST
SCALES ACCORDINGLY



- NOTES:
1. THE LAST NUMBER IN THE DESIGNATION IS THE CURB FACE (CF) HEIGHT, 24" (INCHES).
 2. GUTTER WIDTH, W, IS 500 mm (24") UNLESS OTHERWISE SPECIFIED
 3. TYPES A1, A2, A3 AND C1 SHALL BE CONSTRUCTED FROM PCC.
 4. TYPE D1 CURB SHALL BE CONSTRUCTED FROM ASPHALT CONCRETE.
 5. TYPE C1 CURB SHALL BE ANCHORED WITH STEEL DOWELS AS SHOWN OR WITH AN EPOXY APPROVED BY THE ENGINEER.
 6. ALL EXPOSED CORNERS ON PCC CURBS AND GUTTERS SHALL BE ROUNDED WITH A 15 mm (1/2") RADIUS.
 7. DIMENSIONS SHOWN ON THIS PLAN FOR METRIC AND ENGLISH UNITS ARE NOT EXACTLY EQUAL VALUES. USE EITHER METRIC OR ENGLISH VALUES, AS REQUIRED, BUT NOT BOTH, EXCEPT THAT ASTM 615 REINFORCING STEEL MAY BE SUBSTITUTED FOR ASTM 615M STEEL.



AMERICAN PUBLIC WORKS ASSOCIATION - SOUTHERN CALIFORNIA CHAPTER		
PROMULGATED BY THE PUBLIC WORKS STANDARDS INC. GREENBOOK COMMITTEE 1984 REV. 1996	CURB AND GUTTER — BARRIER	STANDARD PLAN METRIC 120 - 1
USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION		SHEET 1 OF 1



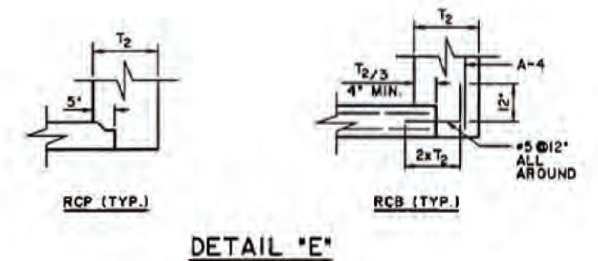
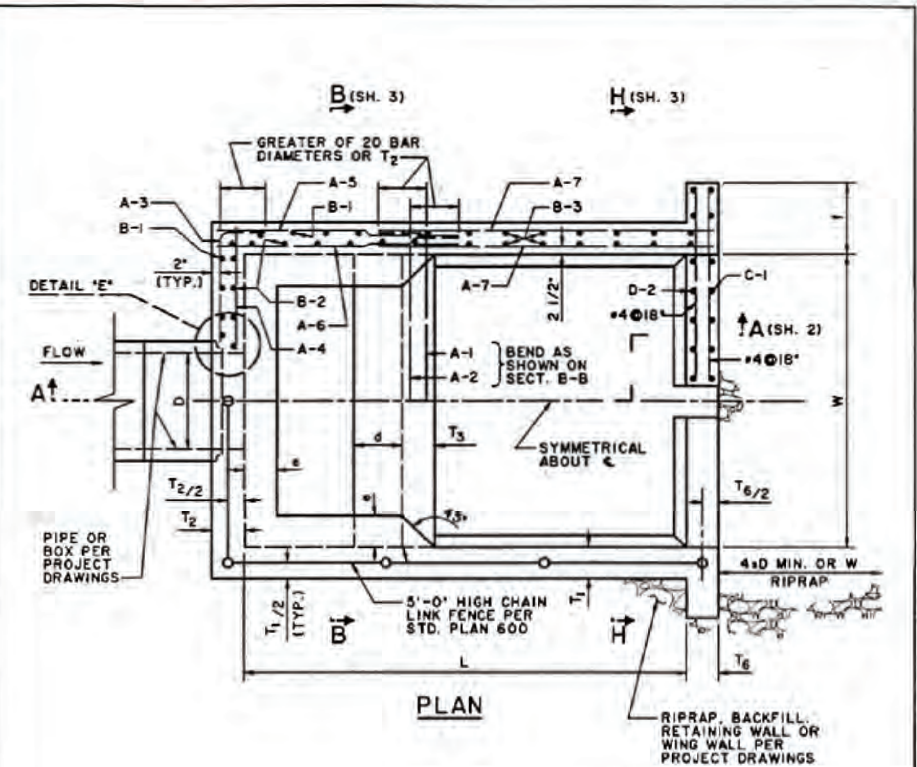
PIPE SLOPE(%) Y/(100)	L DISTANCE (MAX.)	Z DISTANCE (MAX.)
100	3.65 m (12')	1.20 m (4')
67	4.25 m (14')	2.40 m (8')
50	4.90 m (16')	3.65 m (12')
40	5.50 m (18')	5.50 m (18')
33	6.00 m (20')	6.00 m (20')

ELEVATION
PIPE ANCHORS

- NOTES:**
1. ANCHORS SHALL BE CLASS 265C14 (450-C-2000) CONCRETE.
 2. FOR CLAY PIPE, ANCHORS SHALL NOT BE PLACED WITHIN 50 mm (6 INCHES) OF THE PIPE JOINT.
 3. TRENCH SHALL BE BACKFILL PER NOTE 4 ON SHEET 2.
 4. SPACING OF ANCHORS FOR PIPE SLOPES BETWEEN VALUES SHOWN IN TABLE "A" MAY BE PROPORTIONED.
 5. DIMENSIONS SHOWN ON THIS PLAN FOR METRIC AND ENGLISH UNITS ARE NOT EXACT EQUAL VALUES. IF METRIC UNITS ARE USED, ALL VALUES USED FOR CONSTRUCTION SHALL BE METRIC VALUES WITH THE EXCEPTION OF REINFORCING BAR SIZES FOR WHICH ENGLISH (IMPERIAL) BAR SIZES MAY BE SUBSTITUTED FOR METRIC BAR SIZES. IF ENGLISH UNITS ARE USED, ALL VALUES USED FOR CONSTRUCTION SHALL BE ENGLISH VALUES.

ANCHORS

AMERICAN PUBLIC WORKS ASSOCIATION - SOUTHERN CALIFORNIA CHAPTER		
PROMULGATED BY THE PUBLIC WORKS STANDARDS INC., GREENBOOK COMMITTEE 1994 REV. 1996	PIPE ANCHORS AND BACKFILL STABILIZERS	STANDARD PLAN METRIC 221 - 1
	USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION	SHEET 1 OF 2



AMERICAN PUBLIC WORKS ASSOCIATION - SOUTHERN CALIFORNIA CHAPTER		
PROMULGATED BY THE PUBLIC WORKS STANDARDS INC., GREENBOOK COMMITTEE 1993 REV. 1996	ENERGY DISSIPATOR - IMPACT BASIN WITH VERTICAL BAFFLE WALL USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION	STANDARD PLAN 384 - 1 SHEET 1 OF 8

G					DESIGNED DJJ	PROJECT ENGINEER 
					DRAWN DBJ	
					CHECKED GJJ	
					DATE OCTOBER 2015	
	REV	DATE	BY	DESCRIPTION		



EAST ORANGE COUNTY WATER DISTRICT
PETERS CANYON RESERVOIR - STORM WATER DRAINAGE
CIVIL CIVIL DETAILS SHEET III

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING  IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	JOB NO. 9711A.00
	DRAWING NO. C-004
	SHEET NO. 7 OF 8

PROJECT NO. 9711A00 FILE NAME: 9711A00_01C005.dgn

EAST ORANGE COUNTY WATER DISTRICT
CONSTRUCTION PLANS
FOR
PETERS CANYON RESERVOIR STORM DAMAGE MITIGATION
DRAINAGE CURB INSTALLATION, ROAD SLURRY SEAL
AND EROSION GULLY REPAIR

BOARD OF DIRECTORS

WILLIAM VANDERWERFF - PRESIDENT
DOUGLAS M. CHAPMAN - VICE PRESIDENT
RICHARD B. BELL
RICHARD E. BARRETT
JOHN DULEBOHN

JANUARY 2012



STEVEN ANDREWS ENGINEERING
26501 RANCHO PARKWAY SOUTH, SUITE 204
LAKE FOREST, CA 92630
(949) 215-5050
(949) 215-6464 fax



SHEET INDEX

DRAWING NO.	DESCRIPTION
G1	TITLE SHEET
C1	DRAINAGE CURB INSTALLATION AND ROAD SLURRY SEAL
C2	EROSION GULLY REPAIR

APPROVED BY:

LISA OHLUND
E.O.C.W.D. GENERAL MANAGER

DATE

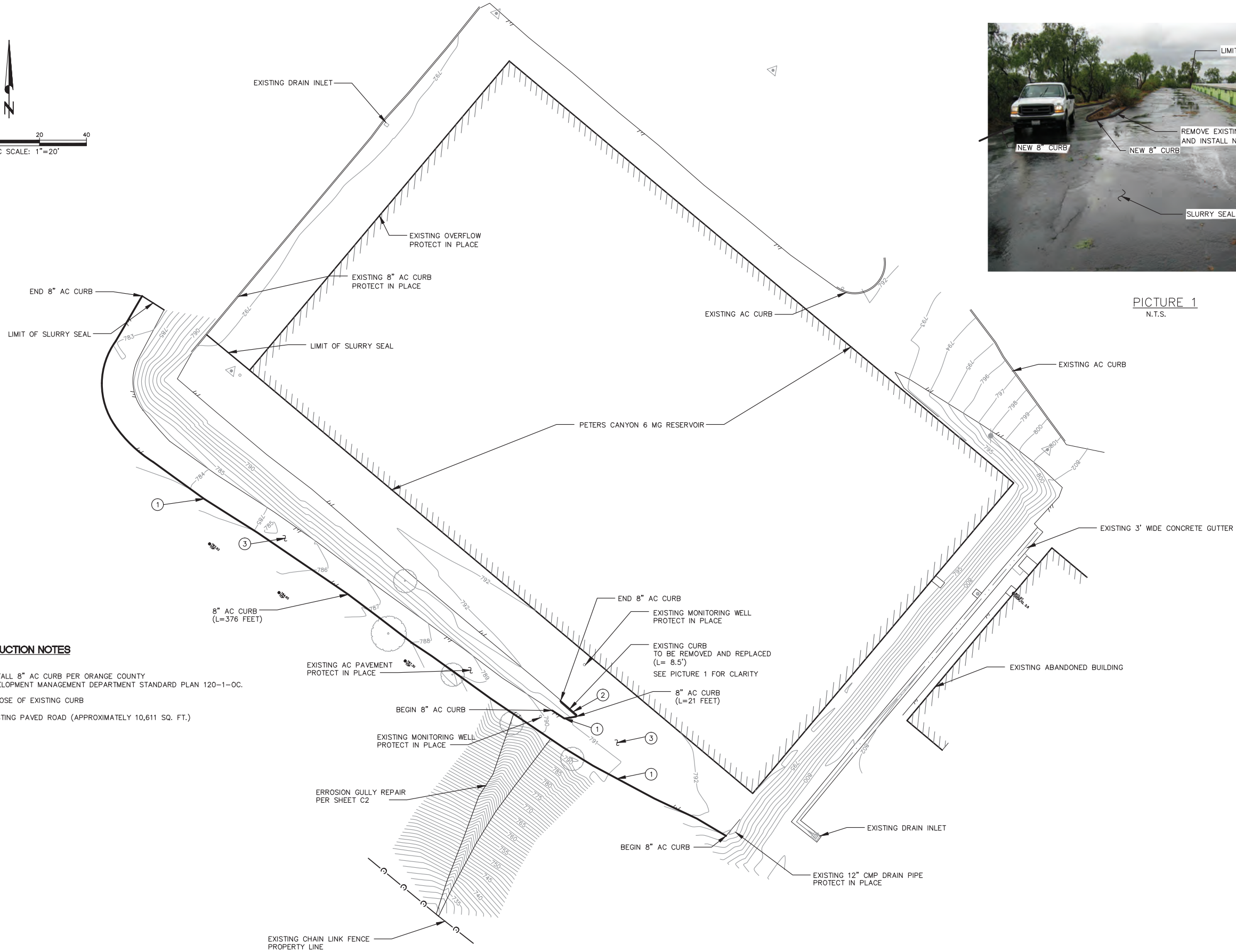
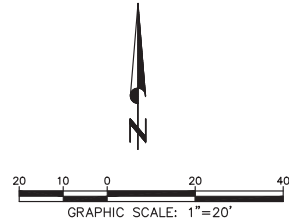
STEVEN R. ANDREWS
PRINCIPAL ENGINEER

R.C.E. 31259

DATE

EAST ORANGE COUNTY WATER DISTRICT PETERS CANYON RESERVOIR STORM DAMAGE MITIGATION DRAINAGE CURB INSTALLATION, ROAD SLURRY SEAL AND EROSION GULLY REPAIR TITLE SHEET	PROJECT NO.
	SHEET NO. G1 DWG. NO. 1 OF 3

DWG Name: M:\East Orange County Water District\Storm Damage Repair 224-03\CADD\Sheets\C1-drainage curb&slurry.dwg Plotted by: cramirez on Jan 04, 2012 - 15:12:10



- CONSTRUCTION NOTES**
- 1 FURNISH AND INSTALL 8" AC CURB PER ORANGE COUNTY RESOURCE & DEVELOPMENT MANAGEMENT DEPARTMENT STANDARD PLAN 120-1-OC.
 - 2 REMOVE AND DISPOSE OF EXISTING CURB
 - 3 SLURRY SEAL EXISTING PAVED ROAD (APPROXIMATELY 10,611 SQ. FT.)



PICTURE 1
N.T.S.

REV	DESCRIPTION	ENGR	DATE	APPD	DATE

SCALE:
AS SHOWN
DATE:
JUNE 2011
FILENAME:

DESIGNED BY: CAR
DRAWN BY: STAFF
CHECKED BY: SRA



STEVEN ANDREWS ENGINEERING
26501 RANCHO PARKWAY SOUTH, SUITE 204
LAKE FOREST, CA 92630
(949) 215-5050

STEVEN R. ANDREWS RCE 31259 DATE

PREPARED FOR:
EAST ORANGE COUNTY WATER DISTRICT
185 N. McPHERSON RD.
ORANGE, CA 92869
(714) 538-5815

EAST ORANGE COUNTY WATER DISTRICT
PETERS CANYON RESERVOIR
STORM DAMAGE MITIGATION

DRAINAGE CURB INSTALLATION
AND ROAD SLURRY SEAL

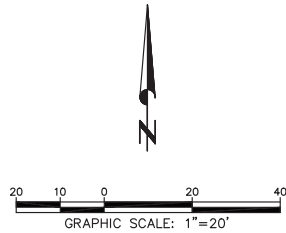
PROJECT NO.

SHEET NO.

C1

DWG. NO. 2 OF 3

DWG Name: M:\East Orange County Water District\Storm Damage Repair 224-03\CADD\Sheets\C2-Erosion Gully Repair.dwg Plotted by: cramirez on Jan 16, 2012 - 12:58:44



- CONSTRUCTION NOTES**
- FURNISH AND INSTALL FILL MATERIAL REINFORCEMENT PER DETAIL 1 OR DETAIL 2 HEREON.
 - IMPORT FILL MATERIAL AND COMPACT TO 90% RELATIVE COMPACTION
 - REMOVE UPPER PART OF ADJACENT SLOPE TO A DEPTH OF 3 FEET BELOW THE HEAD OF THE EROSION GULLY AND RECOMPACT TO 90% RELATIVE COMPACTION.
 - REUSE EXISTING NATIVE MATERIAL AS FILL MATERIAL.

EXISTING DRAIN INLET

EXISTING OVERFLOW PROTECT IN PLACE

REINSTALL CHAIN LINK FENCE AS REQUIRED

REMOVE NATIVE MATERIAL AND REUSE AS FILL MATERIAL

EXISTING AC CURB

PETERS CANYON 6 MG RESERVOIR

EXISTING MONITORING WELL PROTECT IN PLACE

EXISTING AC PAVEMENT PROTECT IN PLACE

EXISTING AC CURB

8" AC CURB PER SHEET C1

EXISTING MONITORING WELL PROTECT IN PLACE

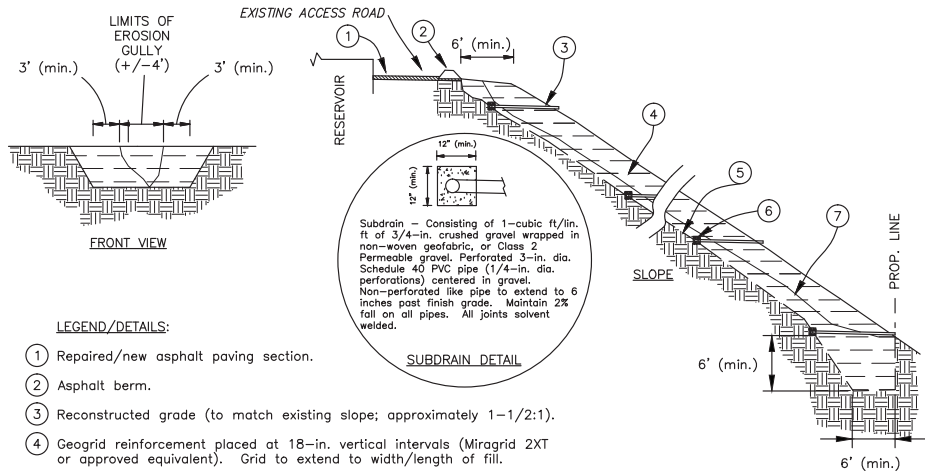
INSTALL WOVEN GEOGRID VERTICAL SPACING 18-INCHES ALONG EROSION GULLY

EXISTING EROSION GULLY FILL WITH NATIVE AND IMPORT FILL AND COMPACT (L= 89.6± FEET) SEE PICTURE 2

EXISTING CHAIN LINK FENCE PROPERTY LINE PROTECT IN PLACE

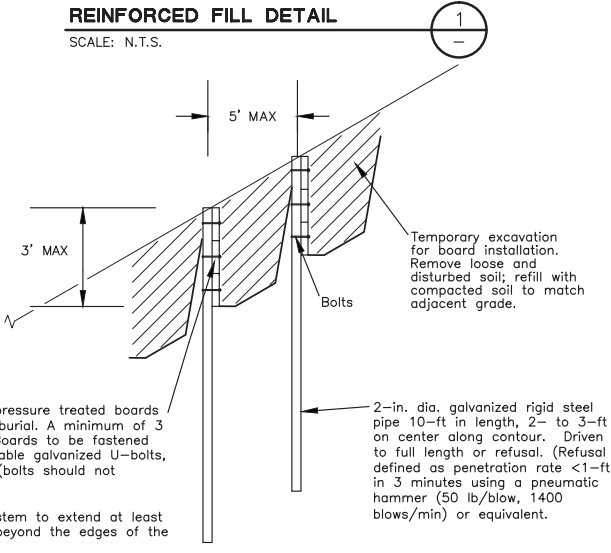


PICTURE 1
N.T.S.



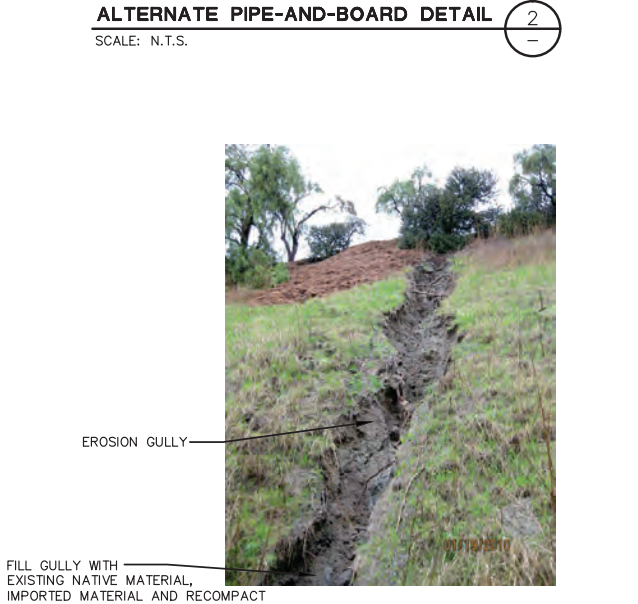
REINFORCED FILL DETAIL

SCALE: N.T.S.



ALTERNATE PIPE-AND-BOARD DETAIL

SCALE: N.T.S.



PICTURE 2
N.T.S.

REV	DESCRIPTION	ENGR	DATE	APPD	DATE

SCALE:
AS SHOWN
DATE:
JUNE 2011
FILENAME:

DESIGNED BY: CAR
DRAWN BY: CADD
CHECKED BY: SRA



STEVEN ANDREWS ENGINEERING
26501 RANCHO PARKWAY SOUTH, SUITE 204
LAKE FOREST, CA 92630
(949) 215-5050

PREPARED FOR:
EAST ORANGE COUNTY WATER DISTRICT
185 N. McPHERSON RD.
ORANGE, CA 92869
(714) 538-5815

EAST ORANGE COUNTY WATER DISTRICT
PETERS CANYON RESERVOIR
STORM DAMAGE MITIGATION

EROSION GULLY REPAIR

PROJECT NO.

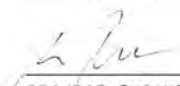
SHEET NO.

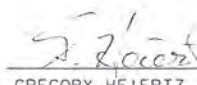
C2

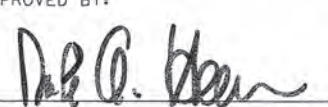
DWG. NO. 3 OF 3

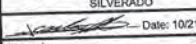
**CONSTRUCTION PLANS
FOR THE
EASTERN TRANSPORTATION CORRIDOR
STATE ROUTE 261
IN ORANGE COUNTY**

**CROSSING 4028
27-INCH INFLUENT WATER LINE
& 24-INCH EFFLUENT WATER LINE
RELOCATION**

ASL CONSULTING ENGINEERS ONE JENNER ST IRVINE, CA 92718	
	7-18-97
PROJECT ENGINEER	DATE
REGISTERED CIVIL ENGINEER	
	
PLANS APPROVAL DATE	

APPROVED IRVINE RANCH WATER DISTRICT	
	1/15/97
GREGORY HEIERTZ	RCE C33084 DATE

EAST ORANGE COUNTY WATER DISTRICT	
APPROVED BY:	
	10-15-97
DALE HEUERMAN, GENERAL MANAGER	DATE

RELEASED FOR CONSTRUCTION BY SILVERADO	
	Date: 10/21/97
Silverado	
Date of Release for Construction: 05/23/97	
DCN: R11470	Section: 10

BENCHMARK

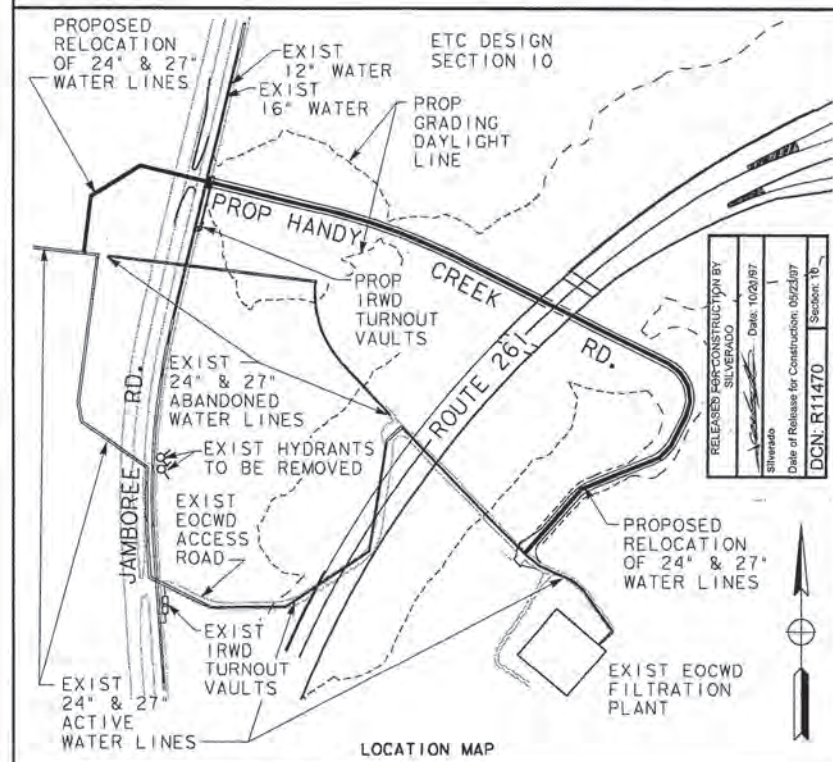
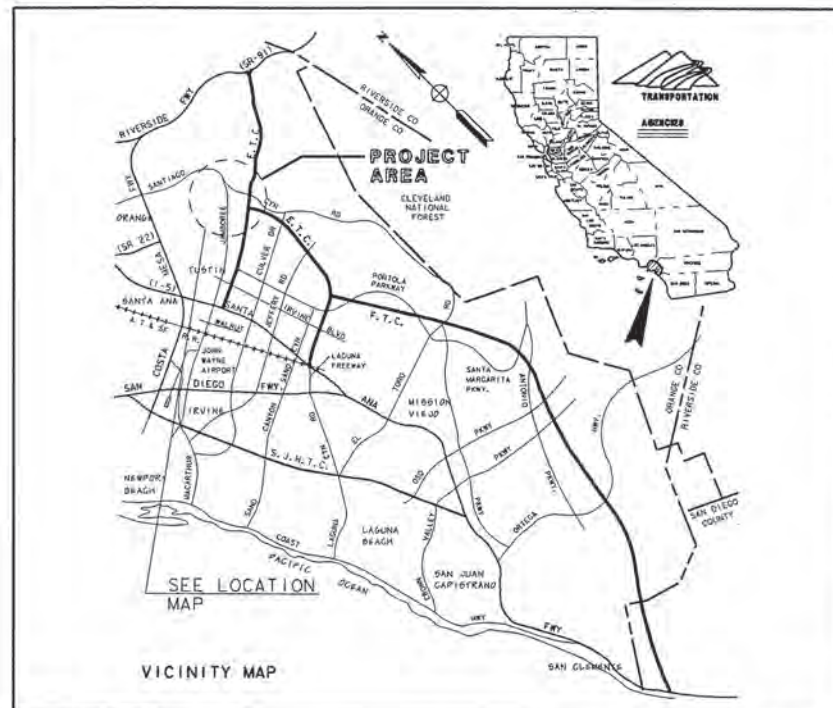
ELEVATIONS AS SHOWN HEREON ARE IN TERMS OF THE ORANGE COUNTY SURVEYOR'S 1-1-76 ADJUSTMENT OF THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 BASED LOCALLY UPON THE FOLLOWING BENCHMARK: ORANGE COUNTY SURVEYOR BENCHMARK - 3D-119-71. ABOUT 1.1 MILES SOUTHEAST ALONG SANTIAGO CANYON ROAD FROM THE INTERSECTION OF CHAPMAN AVENUE TO THE INTERSECTION OF PETERS CANYON ROAD. IN THE NORTHEAST PART OF THE INTERSECTION, 86 FEET NORTHEAST OF THE CENTERLINE OF SANTIAGO, 18.5 FEET SOUTHEAST OF THE CENTERLINE OF PETERS CANYON ROAD, 4.5 FEET SOUTHEAST OF THE SOUTHEAST GATE POST OF GATE LEADING INTO IRVINE PARK, SET IN A CONCRETE POST, 0.3 OF A FOOT ABOVE GROUND, ABOUT LEVEL WITH PETERS CANYON ROAD. ELEVATION PER 1976 ADJUSTMENT - 667.735

DATUM STATEMENT

COORDINATES ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM, (CCS83), ZONE VI 1983 (1988 O.C.S. GPS ADJUSTMENT). ALL COORDINATES SHOWN HEREON ARE GRID.

BASIS OF BEARING

THE BEARINGS SHOWN HEREON ARE BASED UPON THE ORANGE COUNTY SURVEYOR'S 1988 ADJUSTMENT OF NAD83 (EPOCH 1984.0) CALIFORNIA COORDINATE SYSTEM (CCS83), ZONE VI, BASED LOCALLY UPON HORIZONTAL CONTROL STATIONS AND COORDINATES AS SHOWN ON RECORD OF SURVEY NO. 90-1075, R.S.B. 128/1-12.



DIAL TOLL FREE
1-800-422-4133
AT LEAST TWO DAYS
BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

GENERAL NOTES

1. ACTUAL FIELD CONDITIONS MAY VARY FROM THOSE SHOWN ON PLAN AND PROFILE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ACTUAL ABOVE GROUND CONDITIONS.
2. INFORMATION ON EXISTING UTILITIES AND OTHER SUB-STRUCTURES WAS OBTAINED FROM THE APPROPRIATE AGENCIES. EXISTING UTILITIES SHALL BE MAINTAINED IN PLACE BY THE CONTRACTOR. LOCATIONS OF EXISTING UTILITIES AND SUB-STRUCTURES SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, ELEVATIONS, AND DIMENSIONS IN THE FIELD PRIOR TO CONSTRUCTION IN THE AREA OF THE SPECIFIC SUB-STRUCTURE.
3. ALL BEDDING, COMPACTION, AND ENCASEMENT PIPE (SLEEVES) SHALL COMPLY WITH SECTION 600 OF THE CALTRANS ENCROACHMENT PERMITS MANUAL (1993 EDITION), AND CALTRANS STANDARD SPECIFICATIONS (1992 EDITION), AND THE EASTERN TRANSPORTATION CORRIDOR GENERAL SPECIAL PROVISIONS WITHIN FUTURE STATE RIGHT OF WAY.
4. ALL CONSTRUCTION OUTSIDE OF STATE RIGHT OF WAY AND CONSTRUCTION OF CARRIER PIPE WITHIN STATE RIGHT OF WAY SHALL COMPLY WITH THE EOCWD "STANDARD SPECIFICATION" AS LAST REVISED.
5. THE CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION FOR CONSTRUCTION OF PUBLIC WORKS.
6. THE CONTRACTOR SHALL CONFIRM ELEVATION AND MATERIAL TYPES OF EXISTING FACILITIES PRIOR TO BEGINNING OF INSTALLATION. SHOULD A SPECIFIC ITEM NOT BE COVERED ON THIS PLAN OR IN THE EOCWD STANDARD SPECIFICATIONS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE SILVERADO SEGMENT ENGINEER.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DRAINING EXISTING WATER LINE AND SHALL PROVIDE ALL NECESSARY MATERIALS REQUIRED TO MAKE CONNECTIONS PRIOR TO BEGINNING CONNECTION WORK.
8. THE CONTRACTOR SHALL COORDINATE ALL SHUTDOWN OF EXISTING FACILITIES WITH EOCWD. AT NO TIME SHALL ANY SHUTDOWN EXCEED 24 HOURS.
9. BEFORE START OF CONSTRUCTION CONTRACTOR SHALL INFORM "UNDERGROUND SERVICES ALERT" (USA) 1 (800) 422-4133 FOR FIELD MARKING OF UTILITIES.
10. THE CONTRACTOR SHALL COMPLY WITH EOCWD STD DWG W-22 (DEVELOPERS CHECK LIST) AND STD DWG W-23 (WATER NOTES) FOR THE CONSTRUCTION SHOWN IN THESE PLANS.
11. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTION NOT TO DISTURB OR DAMAGE EXISTING IMPROVEMENTS WHICH ARE TO REMAIN IN PLACE. ALL IMPROVEMENTS DAMAGED BY THE CONTRACTOR SHALL BE EXPEDITIOUSLY REPAIRED OR RECONSTRUCTED TO THE EOCWD ENGINEER'S SATISFACTION AT THE CONTRACTOR'S EXPENSE WITHOUT ADDITIONAL COMPENSATION. ALL EXISTING FENCING REMOVED OR RELOCATED FOR THE PURPOSE OF CONSTRUCTING THE UTILITY RELOCATIONS SPECIFIED IN THESE PLANS SHALL BE REPLACED IN KIND.
12. ADJUST ALL VALVE BOXES TO FINISH GRADE UNLESS OTHERWISE DIRECTED OR SHOWN ON THE DRAWINGS.
13. FOR TRAFFIC CONTROL PLANS DURING CONSTRUCTION ACROSS JAMBOREE RD, CONTRACTOR SHALL REFER TO STAGE CONSTRUCTION PLAN SHEETS.
14. TEMPORARY EROSION CONTROL AND RESTORATION DURING CONSTRUCTION OF THE CORRIDOR SHALL BE IN ACCORDANCE WITH THE APPROVED NPDES PERMIT FOR THE PROJECT. POST-CONSTRUCTION EROSION CONTROL AND RESTORATION SHALL BE IN ACCORDANCE WITH THE TRANSPORTATION CORRIDOR AGENCY AND CALTRANS STANDARDS WITHIN THE FUTURE STATE RIGHT-OF-WAY. EROSION CONTROL AND RESTORATION OUTSIDE THE LIMITS OF THE FUTURE STATE RIGHT-OF-WAY SHALL MEET THE REQUIREMENTS OF THE PROPERTY OWNER AND THE LOCAL GOVERNING AGENCY.
15. FOR INFORMATION REGARDING THE EXISTING #4028 WATER LINES AND ANY APPURTENANCES OR ALIGNMENT, SEE EOCWD CONSTRUCTION PLANS TITLED "RELOCATION PLAN - 27" S.A.C. INLET LINE - 24" TREATMENT PLANT OUTLET LINE" DATED JULY 1988.
16. PRIOR TO SUBMITTAL OF SHOP DRAWINGS, CONTRACTOR SHALL POTHOLE ALL CONNECTION POINTS TO DETERMINE THE INVERTS OF THE EXISTING INFLUENT AND EFFLUENT MAINS. AT THE CONNECTION AT STATION 10+00 AND 50+00, CONTRACTOR SHALL CHIP THE MORTAR COATING TO DETERMINE IF THE EXISTING PIPE IS CML&C STEEL PIPE OR CCP. IF CCP IS ENCOUNTERED, CONTRACTOR SHALL LOCATE CLOSEST PIPE JOINT ON PORTION OF EXISTING LINE THAT WILL NOT BE ABANDONED AND CHIP COATING TO EXPOSE STEEL CYLINDER ON THE SPIGOT. CONTRACTOR SHALL MEASURE THE O.D. OF THE SPIGOT END FOR USE IN ORDERING A NEW PIECE OF PIPE TO CONNECT TO THE EXISTING CCP.
17. FOR INFORMATION REGARDING EASTERN TRANSPORTATION CORRIDOR PROJECT GRADING, ROADWAY, DRAINAGE, BRIDGE, OR OTHER PROJECT RELATED CONSTRUCTION OTHER THAN THIS UTILITY RELOCATION, PLEASE REFER TO PROJECT PLANS TITLED, "SECTION 10 PROJECT PLANS".
18. CONTRACTOR TO PROVIDE REDLINED AS BUILT SET OF DRAWINGS TO EOCWD AT COMPLETION OF THE JOB.

UTILITY AND AGENCY INDEX

EOCWD GENERAL MANAGER - DALE HEUERMAN	(714) 538-5815
DISTRICT ENGINEER - HARVEY GOBAS (BOYLE ENG.)	(714) 476-3330
ORANGE COUNTY FIRE AUTHORITY	(714) 744-6676
THE IRVINE COMPANY	(714) 544-0190
IRWD ENGINEERING	(714) 453-5585
IRWD OPERATIONS	(714) 453-5745
IRWD CONSTRUCTION INSPECTION	(714) 453-5615

LIST OF ABBREVIATIONS

ALIGN.	ALIGNMENT
A.B.	AGGREGATE BASE
A.C.	ASPHALT CONCRETE
ACP	ASPHALT CONCRETE PIPE
AOL	AGENCY OWNED LAND
BB	BEGIN BRIDGE
BFLG	BLIND FLANGE
BFV	BUTTERFLY VALVE
B.O.	BLOW OFF
CCP	CONCRETE CYLINDER PIPE
C.I.	CAST IRON
CL	CLASS
CML&C	CEMENT MORTAR LINED & COATED
CPLG	COUPLING
CP TEST	CATHODIC PROTECTION TEST STATION
CSP	CORRUGATED STEEL PIPE
D OR DIA.	DIAMETER
DI	DUCTILE IRON
DOM	DOMESTIC
E	ELECTRICAL CABLE
EA	EACH
EB	END BRIDGE
EC	END OF CURVE
ECC	ECCENTRIC
EL	ELEVATION
ELL	ELBOW
EP	EDGE OF PAVEMENT
EO	EQUAL
ESMT	EASEMENT
EXIST	EXISTING
FG	FINISHED GRADE
FLG	FLANGE
GV	GATE VALVE
ID	INSIDE DIAMETER
INV	INVERT
LF	LINEAR FEET
OD	OUTSIDE DIAMETER
OG	ORIGINAL GROUND
PRV	PRESSURE REGULATING VALVE
PVC	POLY-VINYL CHLORIDE
RED	REDUCER
R/W	RIGHT-OF-WAY
RW	RECLAIMED WATER (IRRIGATION)
S	SLOPE
SD	STORM DRAIN
SS	STAINLESS STEEL
STA	STATION
STL	STEEL
T	TELEPHONE CABLE
T/B	THRUST BLOCK
THK	THICKNESS
TYP.	TYPICAL
TV	CABLE TELEVISION

STANDARD SYMBOLS

①	CONSTRUCTION NOTE
①/3	DETAIL NUMBER
③/3	SHEET ON WHICH DETAIL APPEARS
R/W	CITY OR COUNTY RIGHT-OF-WAY
—	ASPHALT BERM
—	CONCRETE CURB
—	CURB & CUTTER
—W—	DOMESTIC OR RECLAIMED WATER
—SS—	SEWER
—SD—	STORM DRAIN
—T—	TELEPHONE CABLE OR CONDUIT
—E—	ELECTRICAL DUCT
—G—	GAS
—	PROPOSED LINE
—	EASEMENT
—	EDGE OF EXISTING PAVEMENT
—	BLOW-OFF
—	ENCASED PIPELINE
—	CENTERLINE
—	REDUCER
—	PLUG AND THRUST BLOCK
—	AIR/VACUUM VALVE
—	VALVE
—	CATHODIC PROTECTION
—	ORIGINAL GROUND
—	STATE R/W
—	AOL

SHEET NO. TITLE

1	TITLE SHEET
2	VICINITY & LOCATION MAPS, GENERAL NOTES
3	ABBREVIATIONS, SYMBOLS, UTILITY AND AGENCY INDEX
4	PLAN AND PROFILE 27-INCH INFLUENT STA 10+00.00 TO STA 22+00.00
5	PLAN AND PROFILE 27-INCH INFLUENT STA 22+00.00 TO STA 31+00.00
6	PLAN AND PROFILE 27-INCH INFLUENT STA 31+00.00 TO STA 37+41.05
7	PLAN AND PROFILE 24-INCH EFFLUENT STA 50+00.00 TO STA 62+00.00
8	PLAN AND PROFILE 24-INCH EFFLUENT STA 62+00.00 TO STA 70+00.00
9	PLAN AND PROFILE 24-INCH EFFLUENT STA 70+00.00 TO STA 77+27.51
10	DETAILS
11	DETAILS
12	DETAILS
13	PLAN AND PROFILE TURNOUT VAULT
14	TURNOUT VAULT DETAILS
E-1	ELECTRICAL PLAN
E-2	ELECTRICAL DETAILS
E-3	ELECTRICAL DIAGRAMS



NO.	DATE	OWN	CHD	APPR

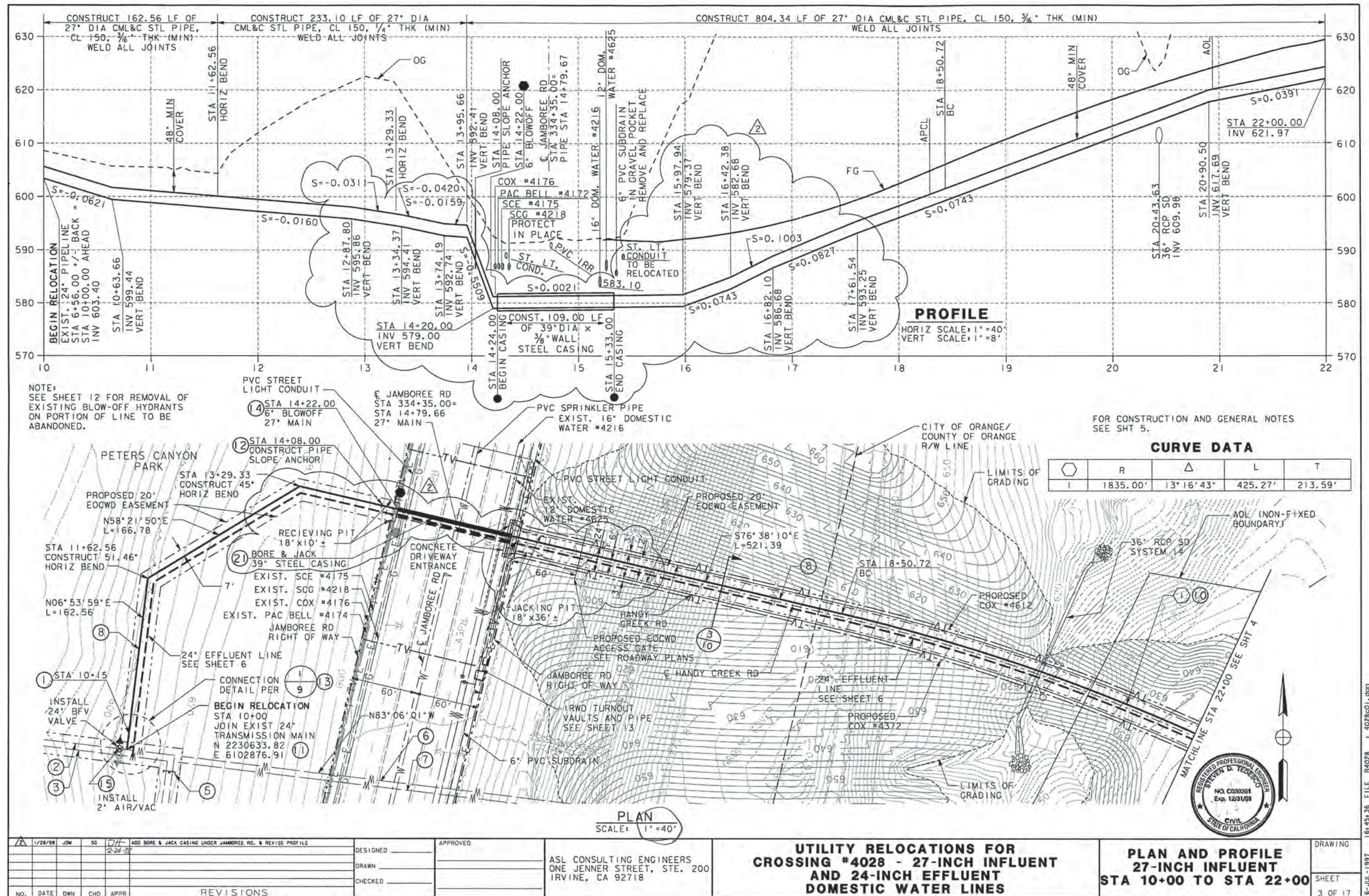
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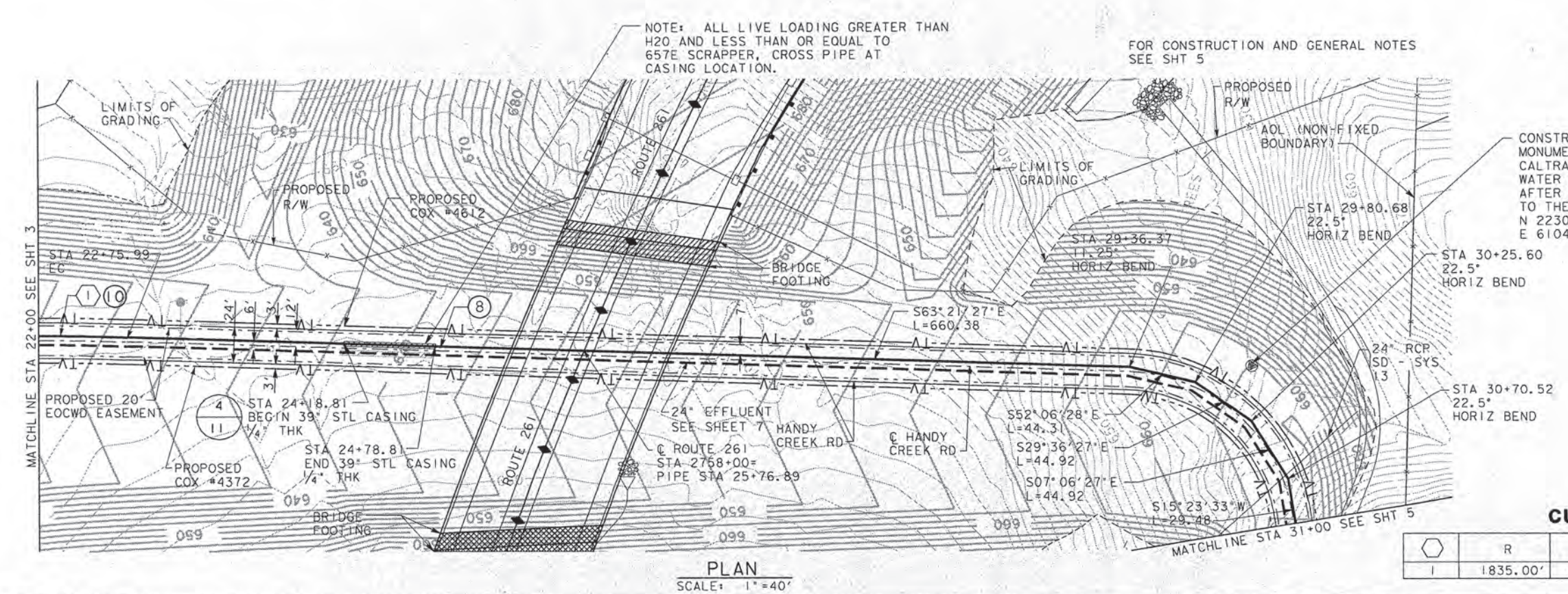
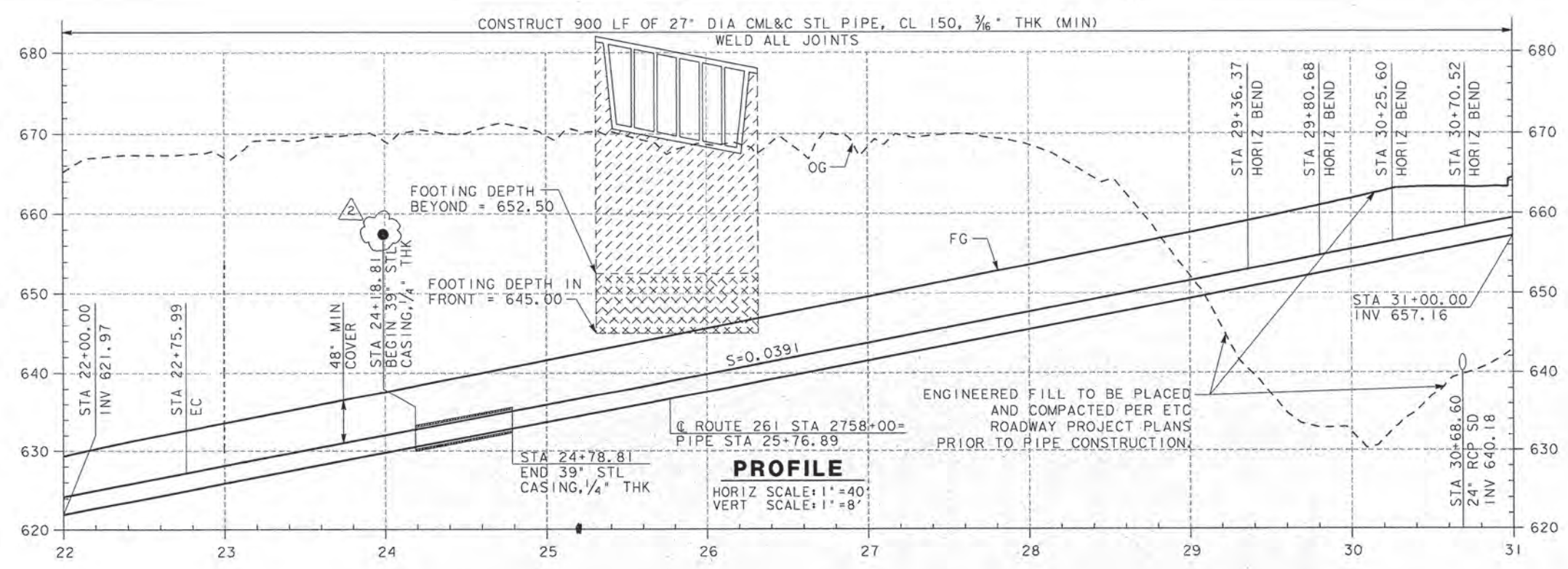
ASL CONSULTING ENGINEERS
ONE JENNER STREET, STE. 200
IRVINE, CA 92718

UTILITY RELOCATIONS FOR
CROSSING #4028 - 27-INCH INFLUENT
AND 24-INCH EFFLUENT
DOMESTIC WATER LINES

VICINITY & LOCATION
MAPS, GENERAL NOTES,
ABBREVIATIONS,
SYMBOLS, UTILITY AND
AGENCY INDEX

DRAWING
SHEET
2 OF 17





RELEASED FOR CONSTRUCTION BY
SILVERADO
Date: 10/21/97
Silverado
Date of Release for Construction: 05/23/97
DCN: R11470 Section: 10

CONSTRUCT SETTLEMENT MONITORING MONUMENT AT FINISHED SURFACE PER CALTRANS STD PLAN A74 OR EQUIVALENT. WATER LINES SHALL BE CONSTRUCTED AFTER RESIDUAL SETTLEMENT IS ACCEPTABLE TO THE GEOTECHNICAL ENGINEER.
N 2230287.94
E 6104607.63

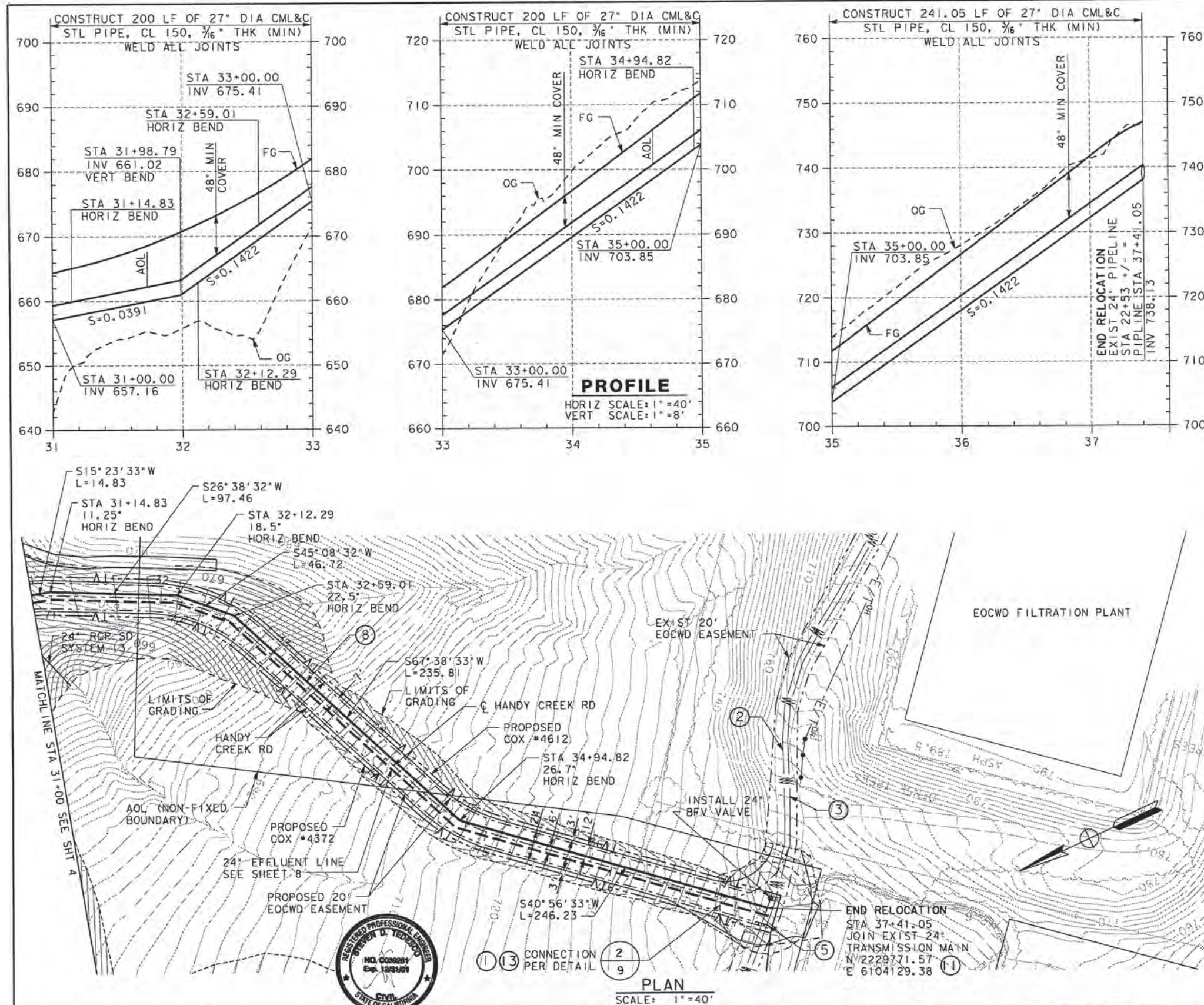


CURVE DATA

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MAR 03 1998



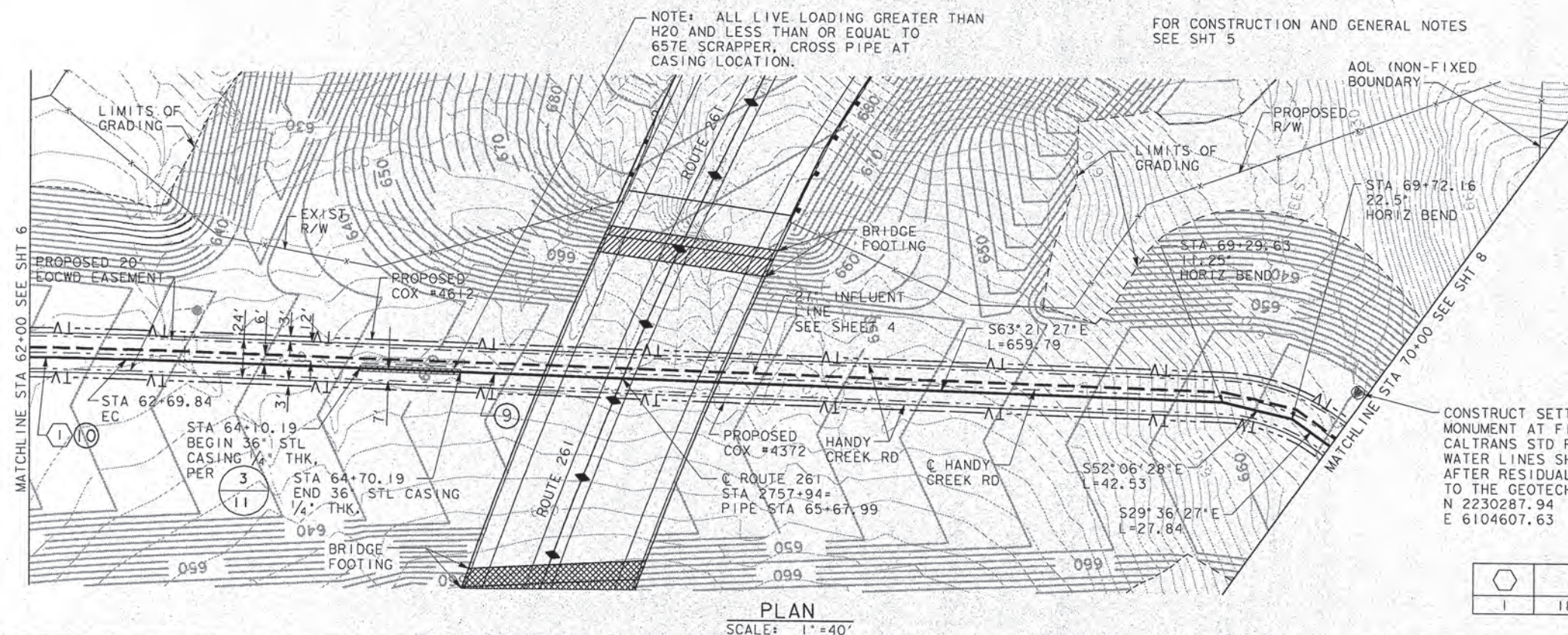
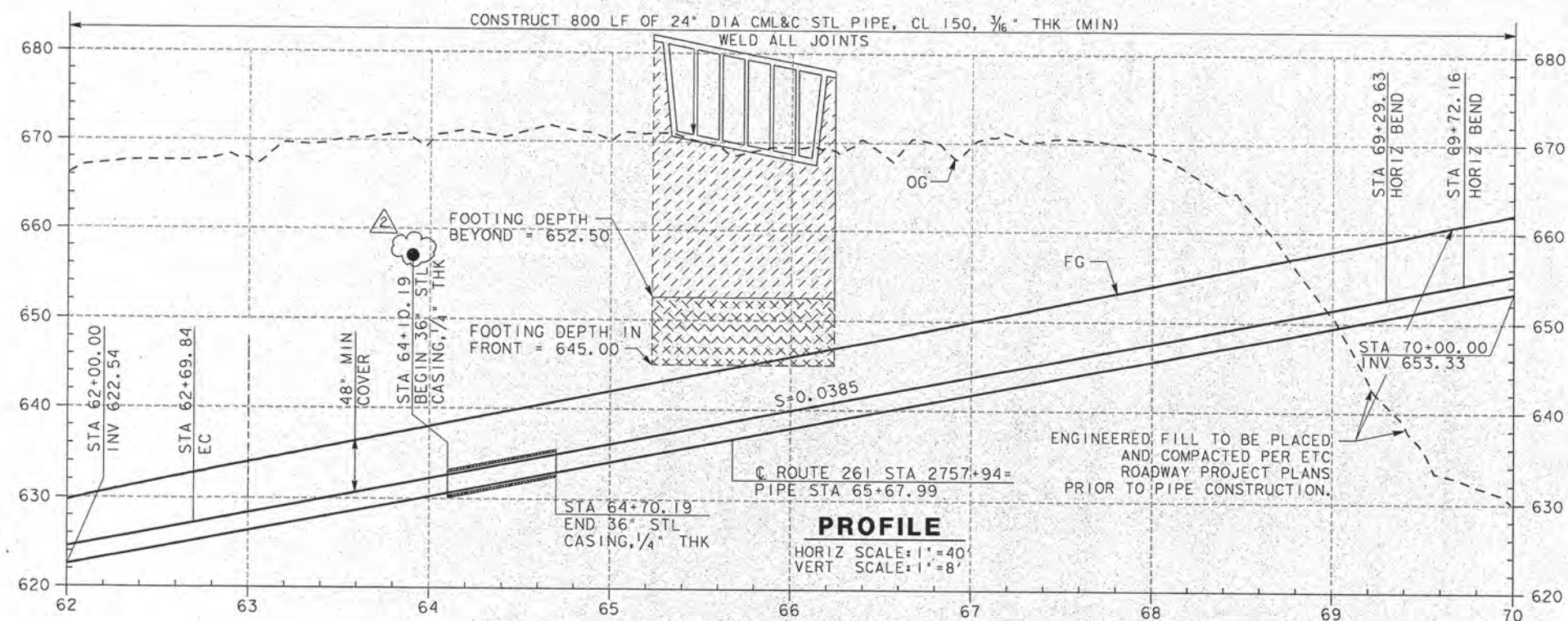
CONSTRUCTION NOTES:

- ① CONSTRUCT TEMPORARY TEST BULKHEAD AND BLOWOFF PER 1.2
CONNECT EXISTING AND NEW PIPELINE AFTER ALL 10
HYDROSTATIC TESTING AND DISINFECTION.
- ② PROTECT IN PLACE EXISTING 24" INFLUENT MAIN.
- ③ PROTECT IN PLACE EXISTING 21" EFFLUENT MAIN.
- ④ CUT AND CAP EXISTING 24" INFLUENT MAIN. 4
REMOVE EXISTING BLOWOFF HYDRANTS PER 12
- ⑤ CUT AND CAP EXISTING 27" EFFLUENT MAIN. 4
REMOVE EXISTING BLOW-OFF HYDRANTS PER 12
- ⑥ ABANDONED EXISTING 24" INFLUENT MAIN.
- ⑦ ABANDONED EXISTING 21" EFFLUENT MAIN.
- ⑧ CONSTRUCT 27" DIA CML&C CL 150 STL PIPE PER EOCWD
STD DWG W-8 OR CALTRANS STD PLANS. SEE GENERAL
NOTES 3 & 4 ON SHEET 2.
- ⑨ CONSTRUCT 24" DIA CML&C CL 150 STL PIPE PER EOCWD
STD DWG W-8 OR CALTRANS STD PLANS. SEE GENERAL
NOTES 3 & 4 ON SHEET 2.
- ⑩ BEVEL PIPE TO ALLOW CONSTRUCTION OF CURVE DATA SHOWN.
- ⑪ CONSTRUCT THRUST BLOCK PER 4
9
- ⑫ CONSTRUCT PIPE SLOPE ANCHOR PER EOCWD
STD DWG W-11
- ⑬ CP TEST STATION PER EOCWD STD DWG W-18. SEE NOTE 3.
- ⑭ CONSTRUCT 6" BLOWOFF PER 3
11
- ⑮ INSTALL 2" AIR RELEASE AND VACUUM VALVE 1 2
9 12
- ⑯ CONSTRUCT 16" CML&C STL PIPE, CL 150.
TRENCH PER IRWD STD DWG W-11. REPLACE ANY
PARKWAY IMPROVEMENTS DAMAGED DURING
CONSTRUCTION IN KIND.
- ⑰ CONSTRUCT PRV AND METER VAULT
PER SHEET 14
- ⑱ CONSTRUCT 2" SCH 40 PVC ELEC CONDUIT
WITH PULL ROPE TO SCE STANDARDS, INSTALL
CONDUIT IN JOINT TRENCH WITH 16' TURNOUT
LINE WHERE POSSIBLE
- ⑲ CONSTRUCT ELEC PULL BOX BEHIND CURB
- ⑳ CONSTRUCT SCE SERVICE METER AND PEDESTAL,
SEE SHEET E-1
- ㉑ BORE & JACK 109.00 LF 39" DIA x 3/8" WALL
STEEL CASING
- ㉒ BORE & JACK 109.00 LF 36" DIA x 3/8" WALL
STEEL CASING

NOTES:

1. PULLED JOINTS SHALL BE LIMITED TO MANUFACTURER'S
RECOMMENDATION.
2. HYDRAULIC GRADELINE FOR HYDROSTATIC TEST SHALL
BE ELEV. 925. THE TEST PRESSURE SHALL NOT EXCEED
200 PSI AT ANY POINT ON THE PIPELINE DURING TESTING.
3. THERMITE WELDS SHALL BE TESTED BY STRIKING THE SIDE OF
THE WELD SHARPLY WITH A 16 OUNCE OR LARGER HAMMER. IF
THE WELD BREAKS FREE, THE PIPE SHALL BE CLEANED AGAIN
AND THE WELD REAPPLIED UNTIL IT HOLDS FIRM AFTER BEING
STRUCK BY THE HAMMER.

NO.	DATE	DWN	CHD	APPR	REVISIONS	DESIGNED	DRAWN	CHECKED	APPROVED	ASL CONSULTING ENGINEERS ONE JENNER STREET, STE. 200 IRVINE, CA 92718	UTILITY RELOCATIONS FOR CROSSING #4028 - 27-INCH INFLUENT AND 24-INCH EFFLUENT DOMESTIC WATER LINES	PLAN AND PROFILE 27-INCH INFLUENT STA 31+00 TO STA 37+41.05	DRAWING SHEET 5 OF 17
1	1/28/98	JOM	SC	DH	ADD CONSTRUCTION NOTES NO. 21 & NO. 22								
2	2-24-98												



CURVE DATA

	R	Δ	L	T
1	1829.00'	13° 16' 43"	423.88'	212.89'

2/11/98 JDM 2-28-98 DH - ADDED CATHODIC TEST STATION TO CASING

NO.	DATE	DWN	CHO	APPR

REVISIONS

DESIGNED
DRAWN
CHECKED

APPROVED

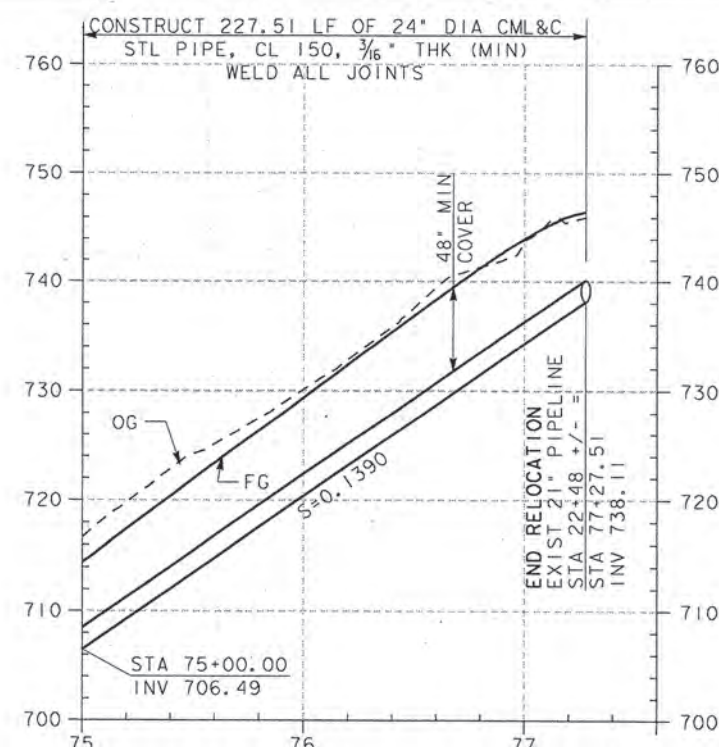
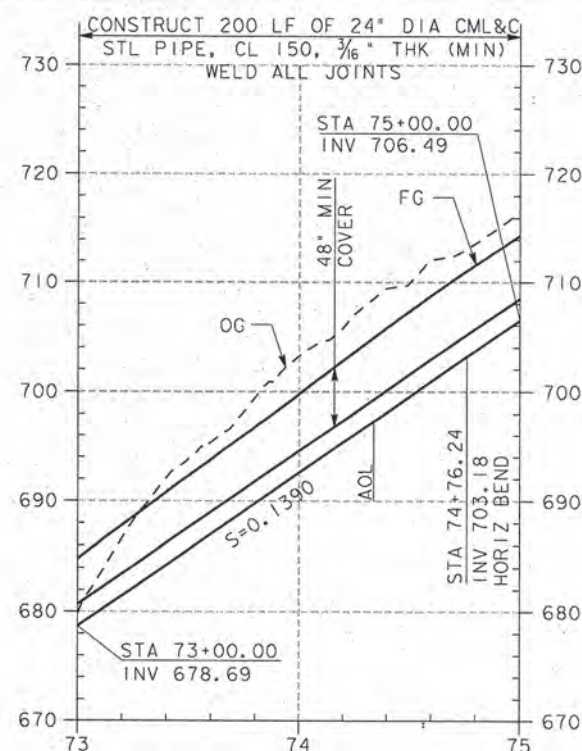
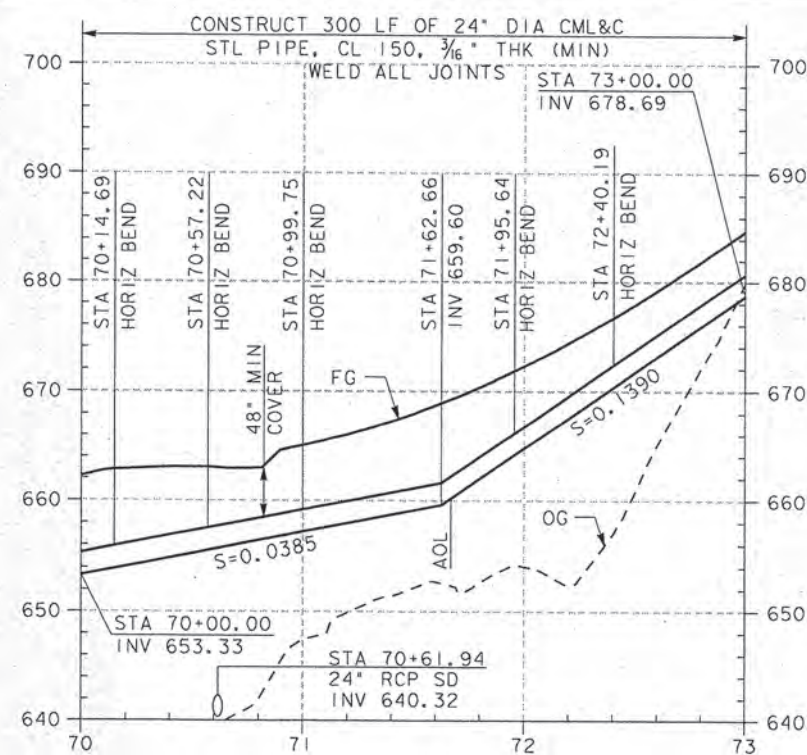
ASL CONSULTING ENGINEERS
ONE JENNER STREET, STE. 200
IRVINE, CA 92718

**UTILITY RELOCATIONS FOR
CROSSING #4028 - 27-INCH INFLUENT
AND 24-INCH EFFLUENT
DOMESTIC WATER LINES**

**PLAN AND PROFILE
24-INCH EFFLUENT
STA 62+00 TO STA 70+00**

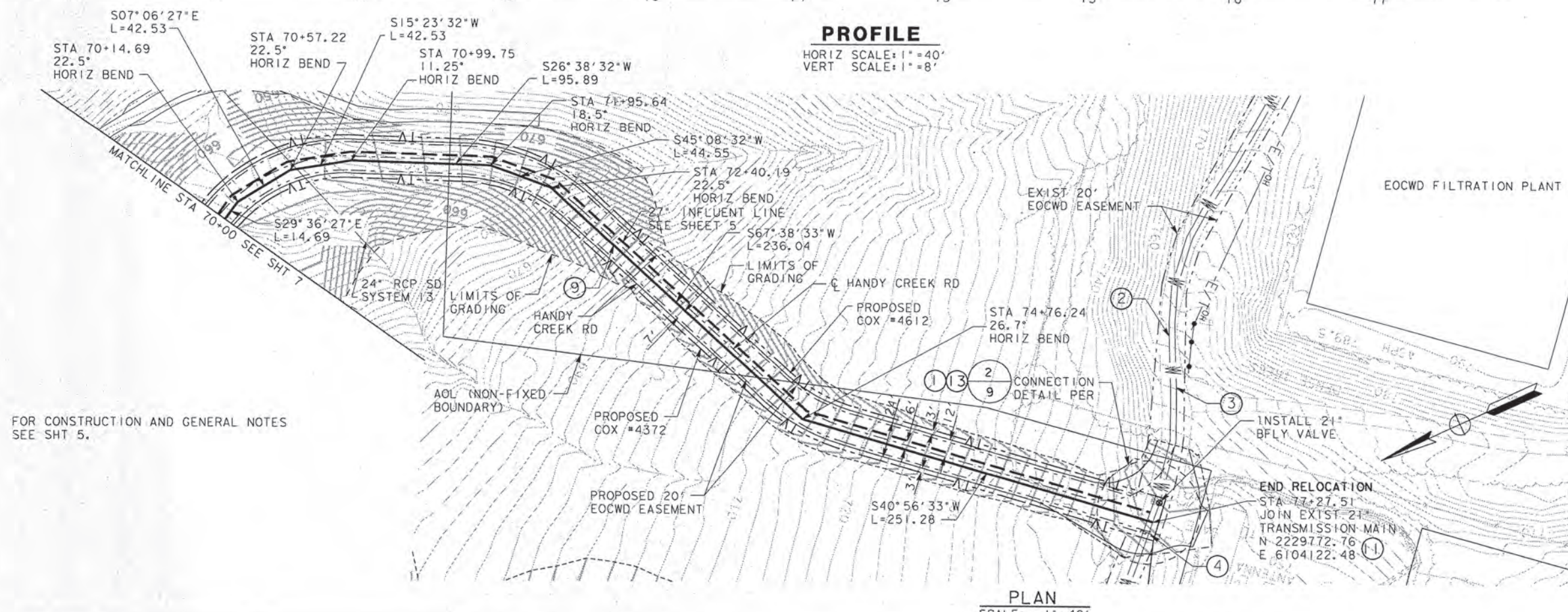
DRAWING
SHEET
7 OF 17

MAR 03 1998



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=8'



FOR CONSTRUCTION AND GENERAL NOTES
SEE SHT 5.

RELEASED FOR CONSTRUCTION BY
SILVERADO
Date: 10/21/97
Date of Release for Construction: 05/23/97
DCN: R11470 Section: 10



NO.	DATE	DWN	CHD	APPR	REVISIONS

DESIGNED	APPROVED
DRAWN	
CHECKED	

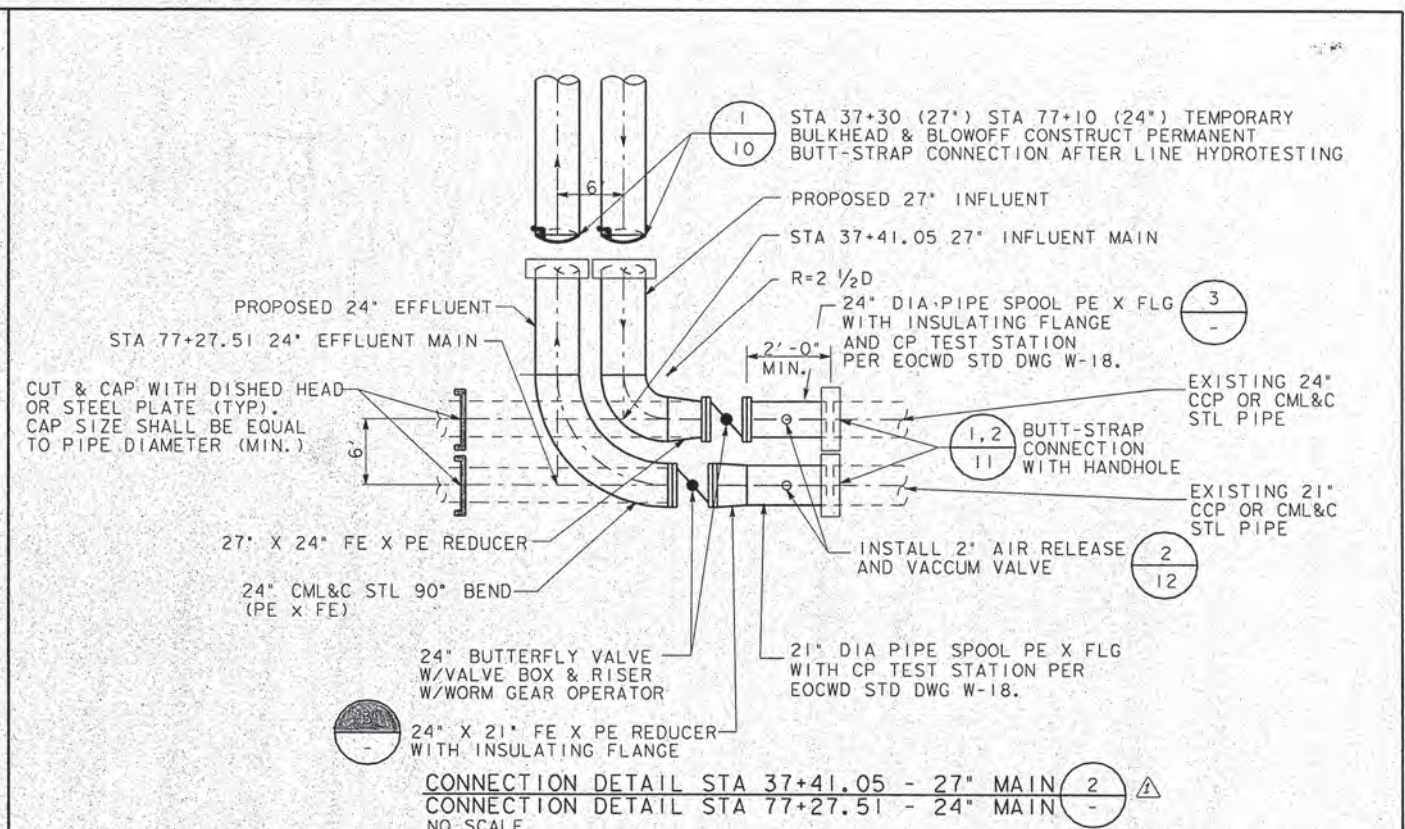
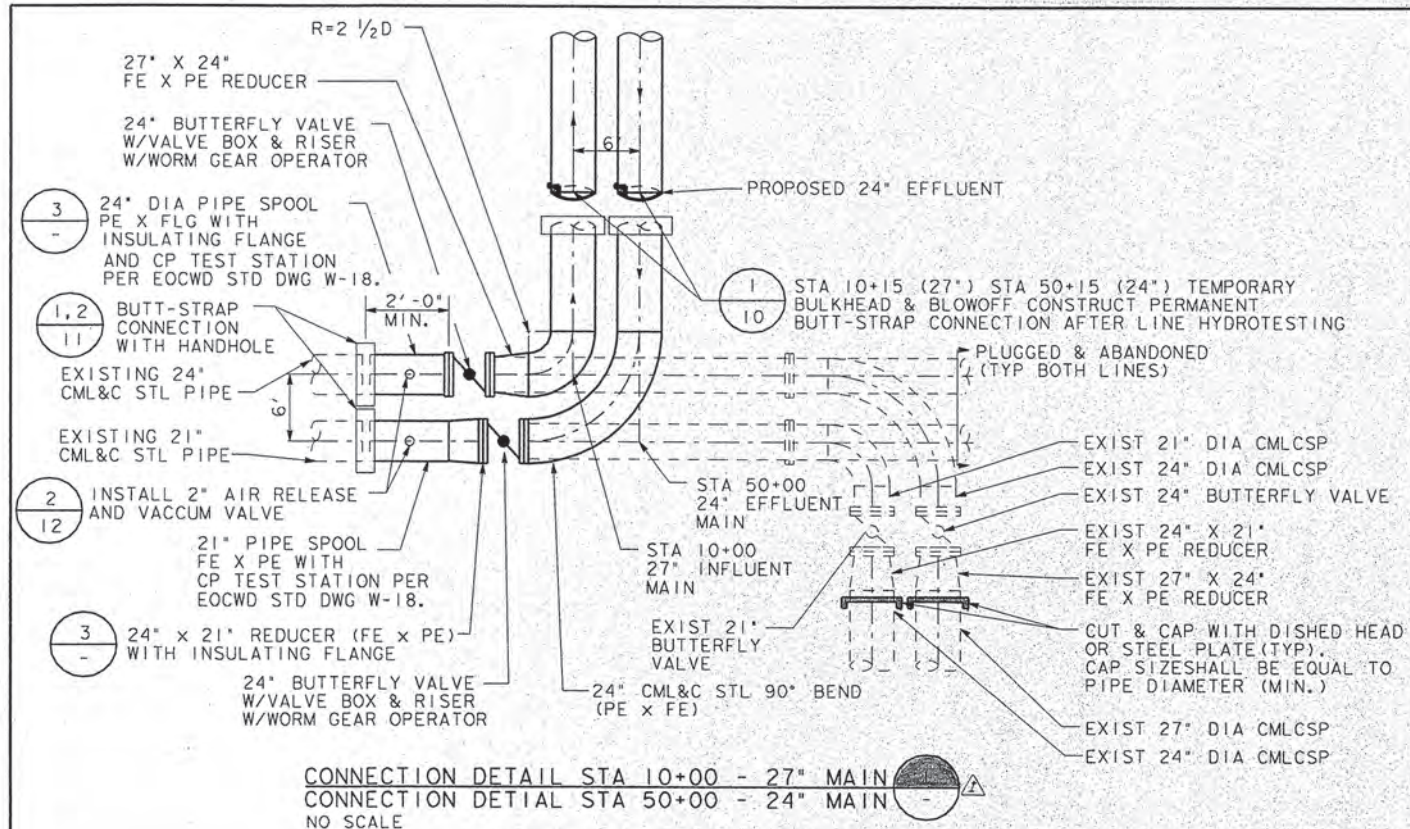
ASL CONSULTING ENGINEERS
ONE JENNER STREET, STE. 200
IRVINE, CA 92718

**UTILITY RELOCATIONS FOR
CROSSING #4028 - 27-INCH INFLUENT
AND 24-INCH EFFLUENT
DOMESTIC WATER LINES**

**PLAN AND PROFILE
STA 70+00 TO
STA 77+27.51**

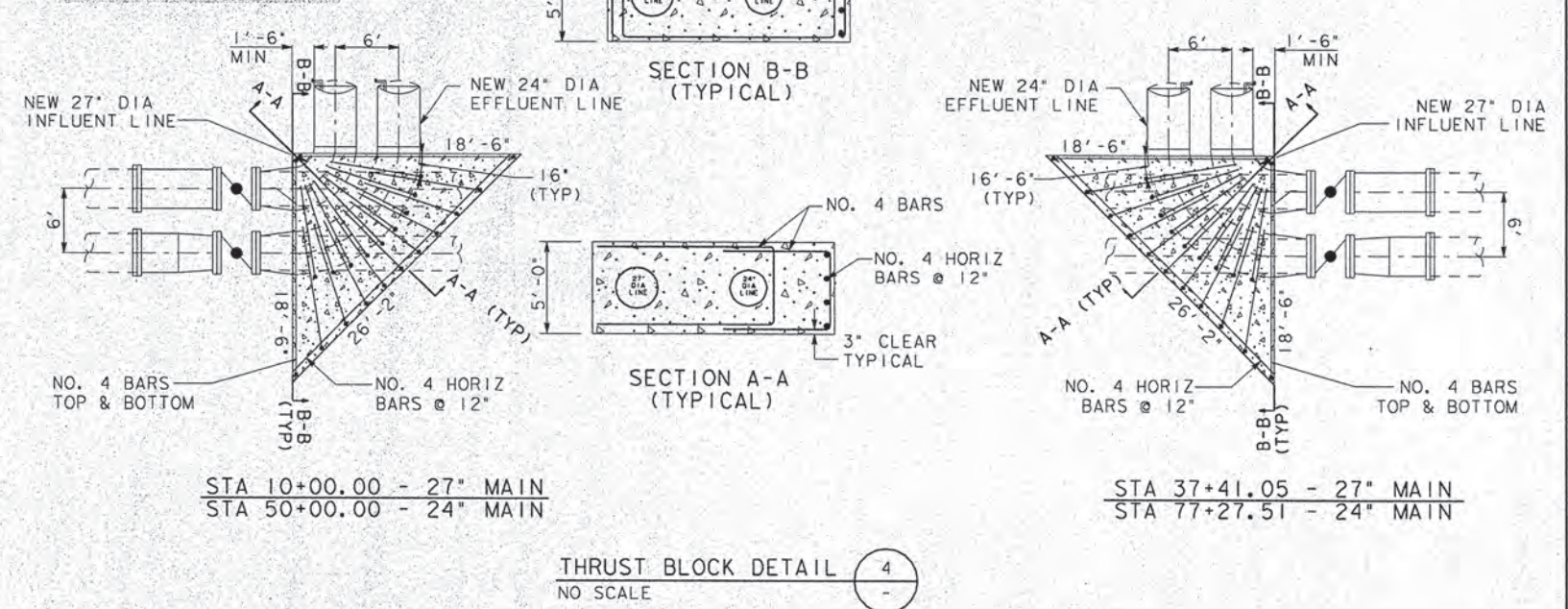
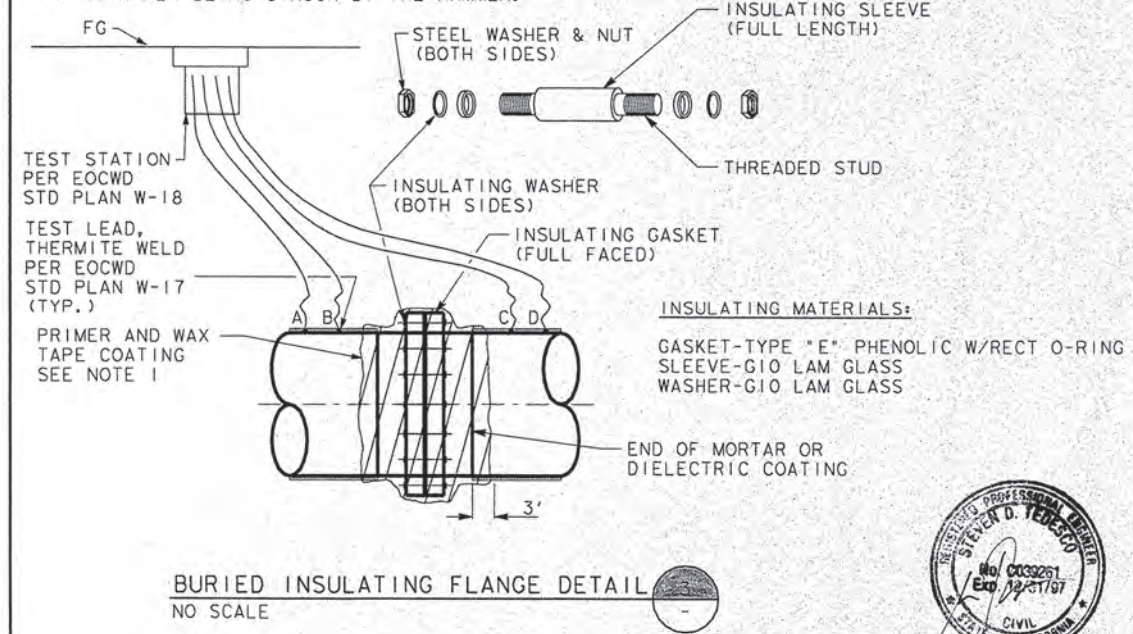
DRAWING
SHEET
8 OF 17

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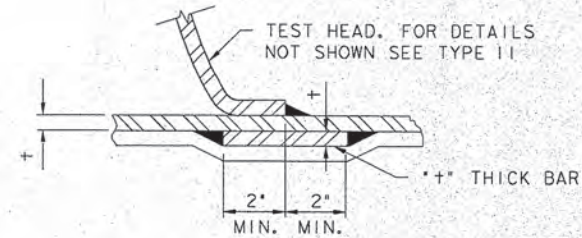


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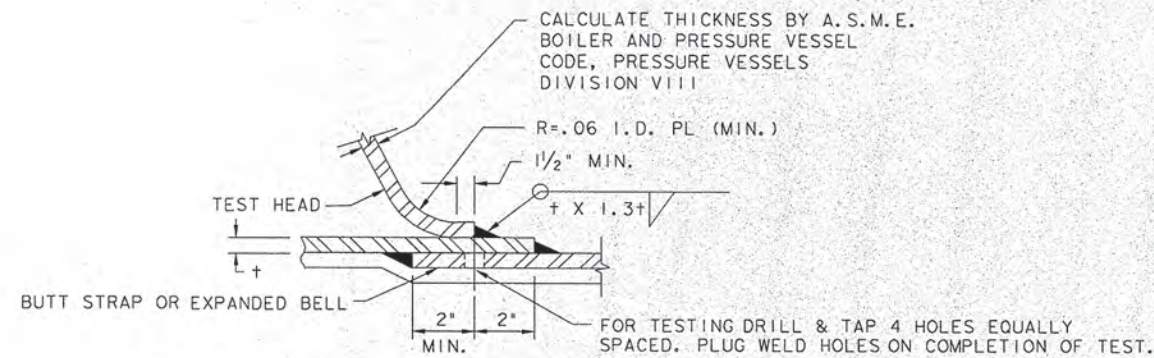
1. COAT INSULATING FLANGE WITH PRIMER AND WAX TAPE. USE TRENTON WAX-TAPE PRIMER AND TRENTON #1 WAX TAPE OR APPROVED EQUAL.
2. THERMITE WELD SHALL BE TESTED BY STRIKING THE SIDE OF THE WELD WITH A 16 OUNCE OR LARGER HAMMER. IF THE WELD BREAKS FREE, THE PIPE SHALL BE CLEANED AGAIN AND THE WELD REAPPLIED UNTIL IT HOLDS FIRM AFTER BEING STRUCK BY THE HAMMER.



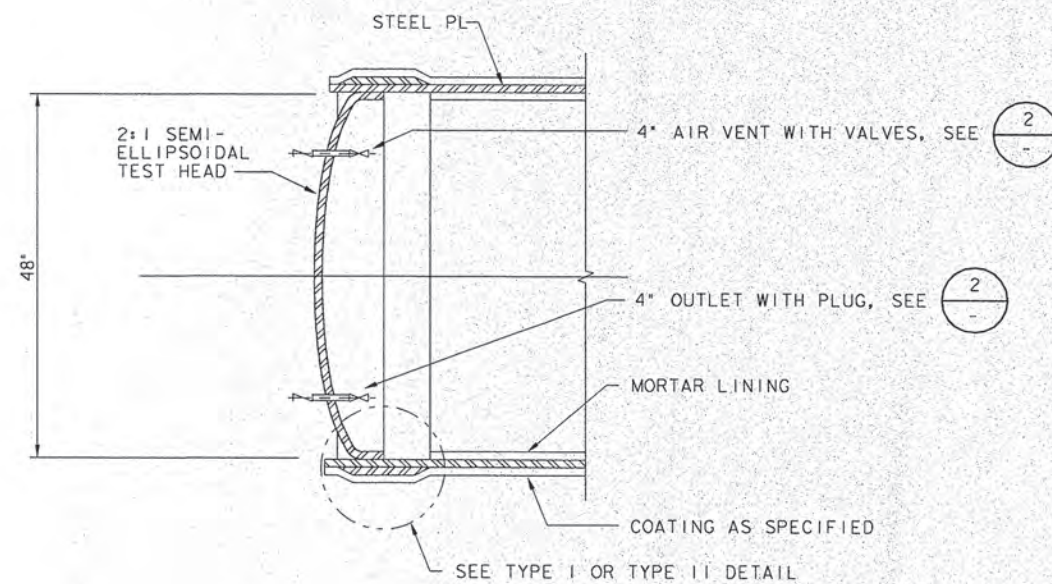
DESIGNED _____					APPROVED _____					ASL CONSULTING ENGINEERS ONE JENNER STREET, STE. 200 IRVINE, CA 92718					UTILITY RELOCATIONS FOR CROSSING #4028 - 27-INCH INFLUENT AND 24-INCH EFFLUENT DOMESTIC WATER LINES					DRAWING				
DRAWN _____					CHECKED _____										DETAILS					SHEET				
NO. DATE DWN CHD APPR					REVISIONS										9 OF 17									



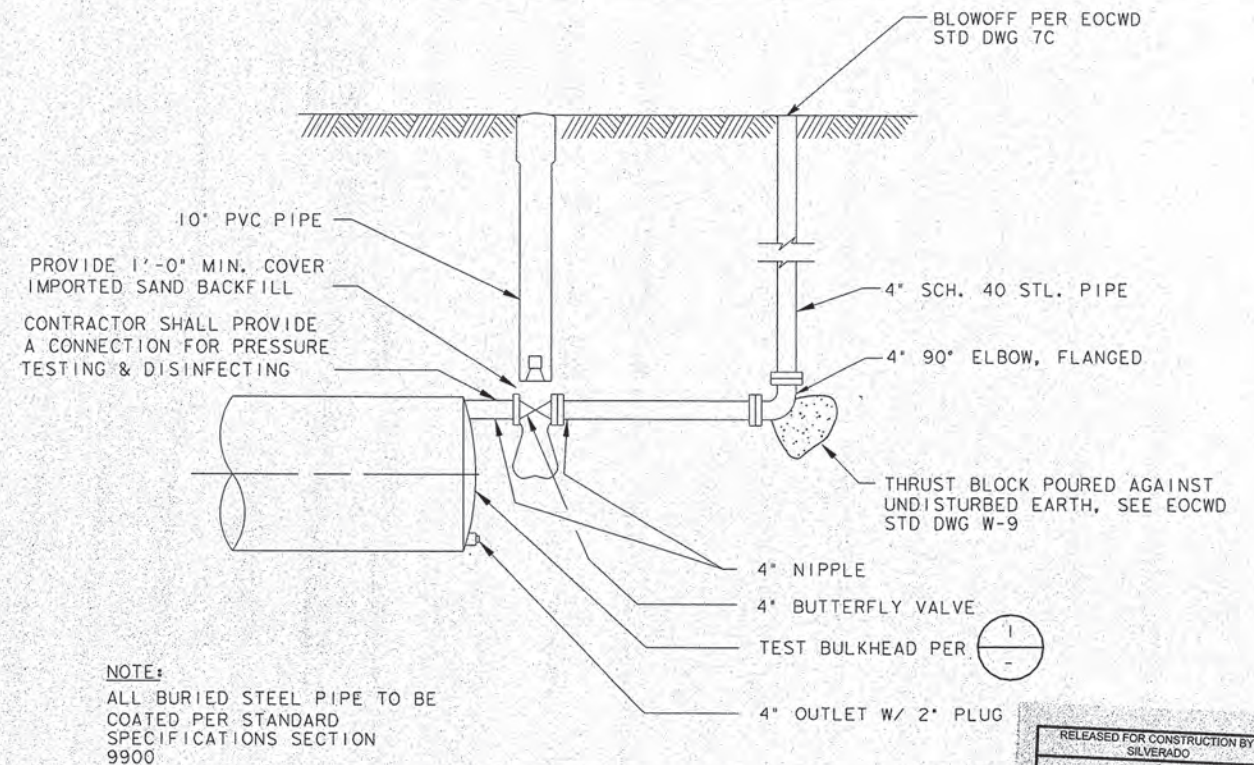
TEST BULKHEAD WITHIN PIPE SECTION - TYPE I



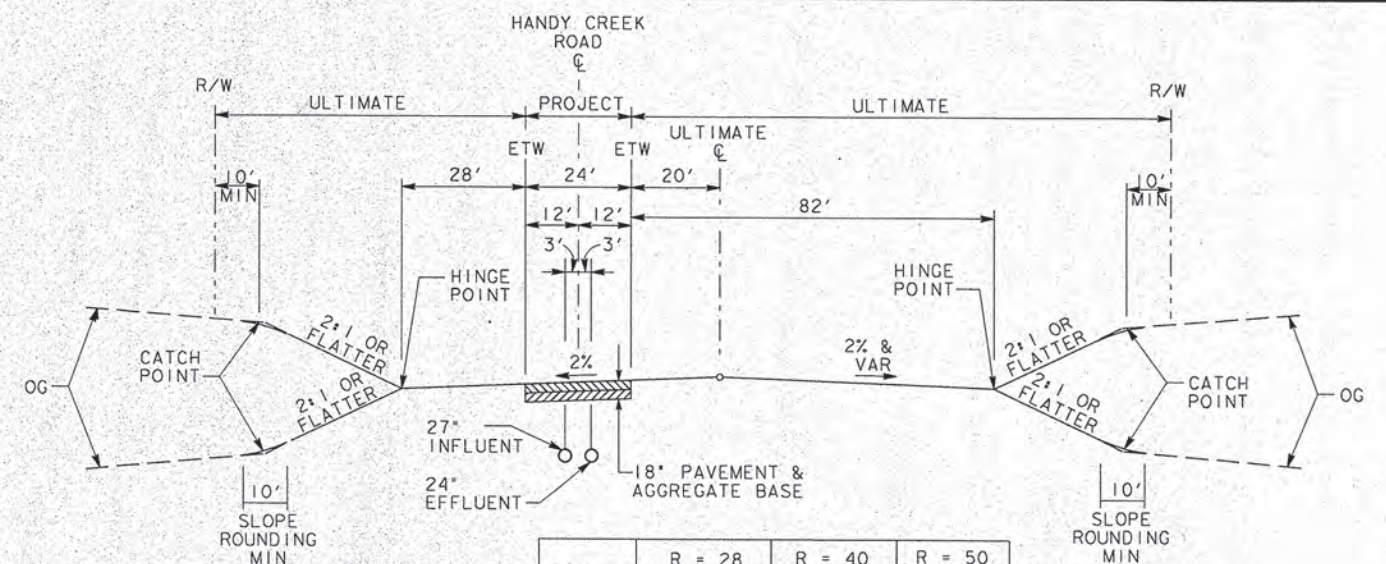
TEST BULKHEAD AT END OF PIPE SECTION - TYPE II



TEST BULKHEAD DETAIL
NO SCALE



TEMPORARY BULKHEAD & BLOW-OFF DETAIL
NO SCALE



	R = 28	R = 40	R = 50
A. C.	0.45'	0.45'	0.45'
BASE	1.15'	0.80'	0.55'

HANDY CREEK ROAD CROSS SECTION
NO SCALE



NO.	DATE	DWN	CHD	APPR	REVISIONS

DESIGNED		APPROVED	
DRAWN			
CHECKED			

ASL CONSULTING ENGINEERS
ONE JENNER STREET, STE. 200
IRVINE, CA 92718

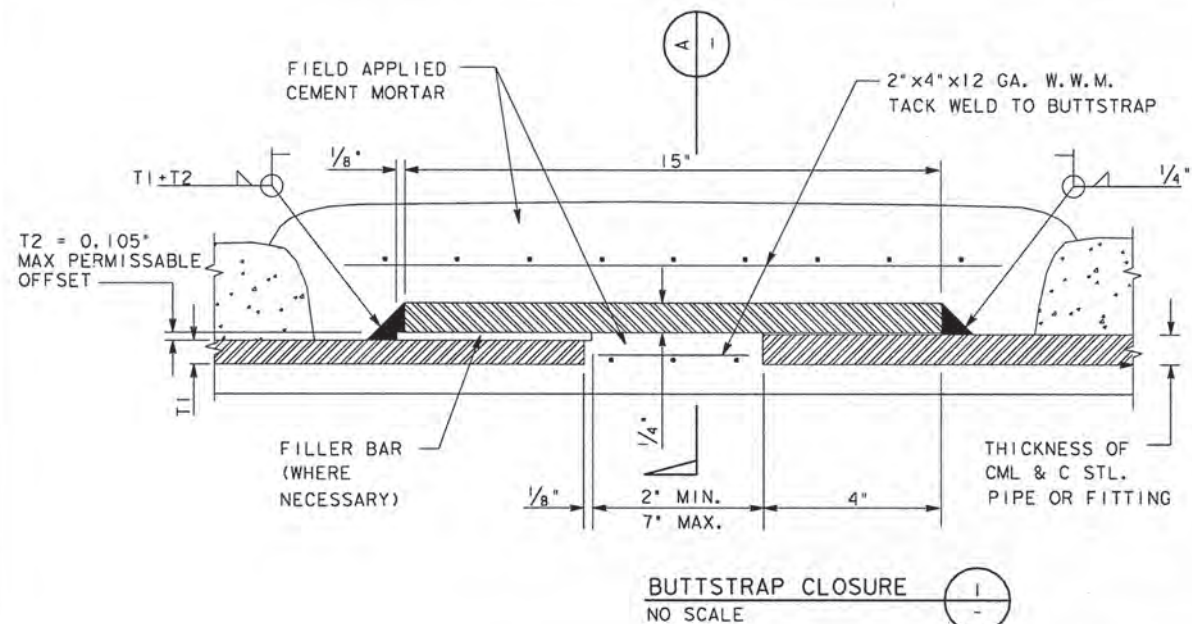
**UTILITY RELOCATIONS FOR
CROSSING #4028 - 27-INCH INFLUENT
AND 24-INCH EFFLUENT
DOMESTIC WATER LINES**

DETAILS

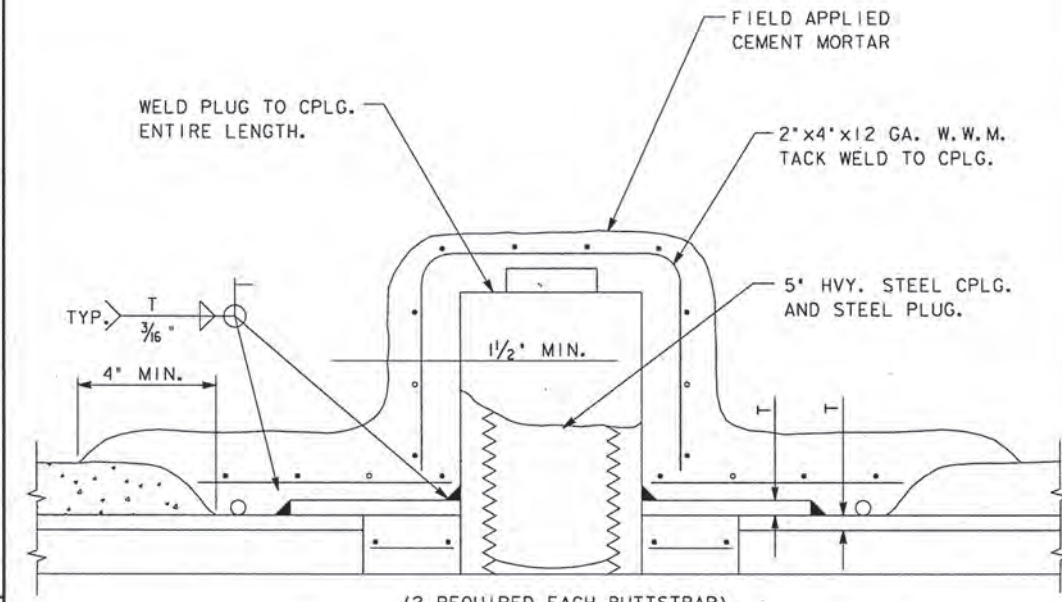
DRAWING
SHEET
10 OF 17

MAR 03 1998

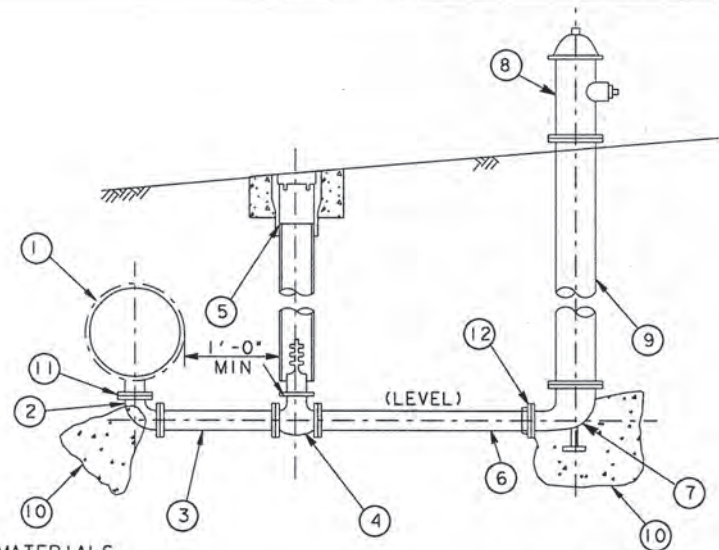
12:01:09 FILE R4028 4028c08.dgn



SECTION A
NO SCALE



HANDHOLE DETAIL
NO SCALE

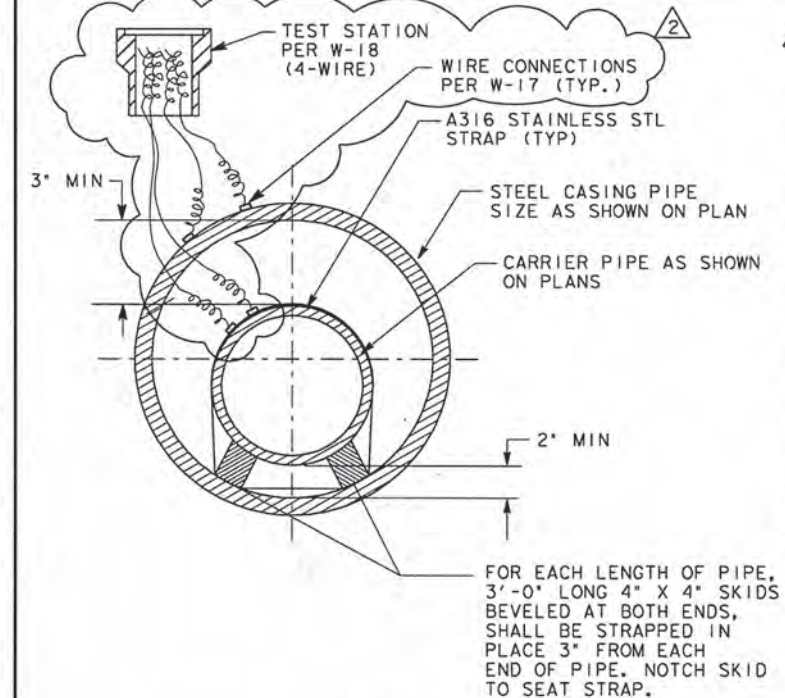


MATERIALS

- | | |
|---|---|
| <ul style="list-style-type: none"> ① PIPE DIA X 6\" WELDED STEEL TEE, FLANGED ② 6\" DI 90° ELL, FLG X FLG ③ 6\" DI PIPE FLG X FLG ④ 6\" RESILIENT WEDGE GATE VALVE, FLG X FLG ⑤ VALVE AND VALVE BOX INSTALLATION PER E.O.C.W.D STD. DWG. W-6 ⑥ 6\" DI PIPE FLG X PE ⑦ LONG RADIUS BURY ELBOW | <ul style="list-style-type: none"> ⑧ JONES MODEL J-3710 OR APPV'D EQUAL WITH 4' BURY AND 3' AC SHOE ⑨ HYDRANT EXTENSION ⑩ THRUST BLOCKS PER E.O.C.W.D STD DWG. W-9 ⑪ INSULATING FLANGE PER ③/⑨ ⑫ 6\" DI FLG ADAPTOR COUPLING |
|---|---|

6\" BLOW OFF DETAIL
NO SCALE

- NOTES:**
1. DUCTILE IRON PIPE AND FITTINGS TO BE LINED AND COATED PER SPECIFICATION SECTION 15056. VALVES TO BE COATED PER SECTION 15100.
 2. DUCTILE IRON PIPE CLASS TO BE PER SPECIFICATION SECTION 15056.
 3. SEE EOCWD STD PLAN W-5 FOR HYDRANT PLACEMENT



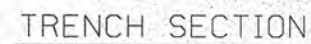
CASING DETAIL
NO SCALE

CASING DETAIL NOTES:

1. CASING TO BE INSTALLED BY THE BORE, JACK AND/OR TUNNEL METHOD
2. UNFINISHED 3\" X 3\" REDWOOD SKIDS SHALL BE PROVIDED AS SHOWN.
3. SIZE AND THICKNESS OF CASING SHALL BE AS SHOWN ON PLANS.
4. VOIDS AROUND CASING SHALL BE PRESSURE GROUTED, 4 TO 1 MIX CEMENT GROUT.
5. ALL CASING SECTIONS TO BE JOINED BY CONTINUOUS WELD.
6. EACH END OF CASING SHALL BE SEALED WITH APPROVED FLEXIBLE SEAL OR CEMENT SAND SLURRY.
7. CASING TO BE FILLED WITH AIR BLOWN SAND.
8. INSTALL TEST STATION ON EACH END OF CASING PIPE, STA 14+24, 15+33, 54+19 AND 55+28.
9. INSTALL TEST STATION AT EITHER END OF CASING AT STA 24+18.81 AND 64+10.19.
10. INSTALL PIPE TEST WIRES PER EOCWD STD PLAN W-17 AND W-18
11. CASING TEST WIRES - USE 2 WIRES OF DIFFERENT SIZE AND INSULATION COLOR THAN PIPE WIRES.



1/28/98 JOW SG 2-24-98 NO. DATE DWN CHD APPR	DESIGNED DRAWN CHECKED REVISIONS	APPROVED ASL CONSULTING ENGINEERS ONE JENNER STREET, STE. 200 IRVINE, CA 92718	UTILITY RELOCATIONS FOR CROSSING #4028 - 27-INCH INFLUENT AND 24-INCH EFFLUENT DOMESTIC WATER LINES	DETAILS	DRAWING SHEET 11 OF 17
--	---	---	--	----------------	------------------------------



1. ALL WORK SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 02223.



1. SEE SPECIFICATIONS FOR STEEL PIPE SHELL THICKNESS AND FOR MORTAR LINING AND COATING THICKNESS.

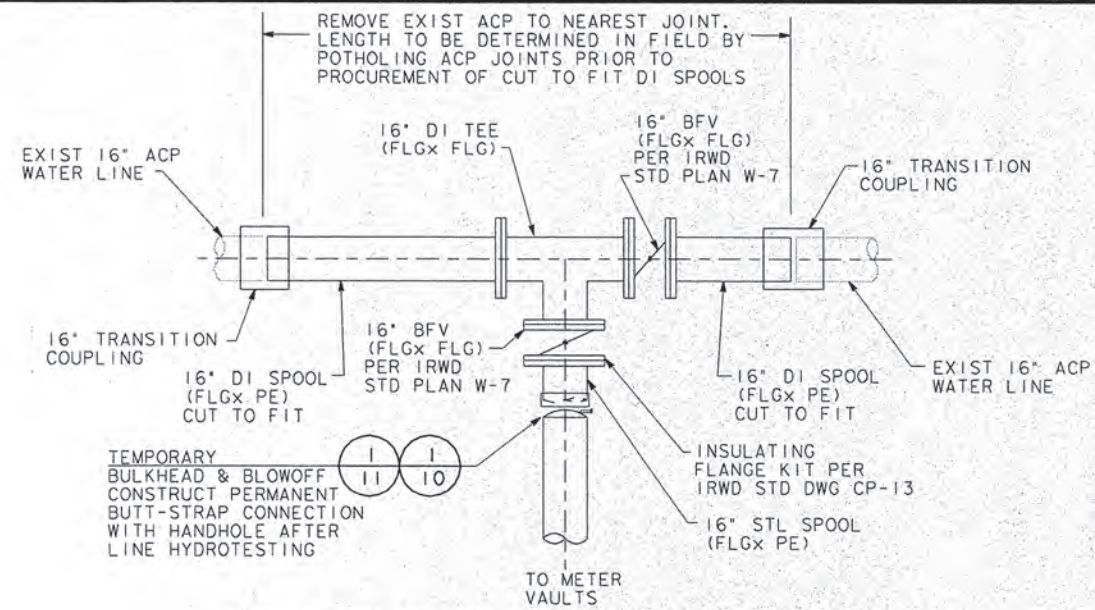
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ASL CONSULTING ENGINEERS
ONE JENNER STREET, STE. 200
IRVINE, CA 92718

DETAILS

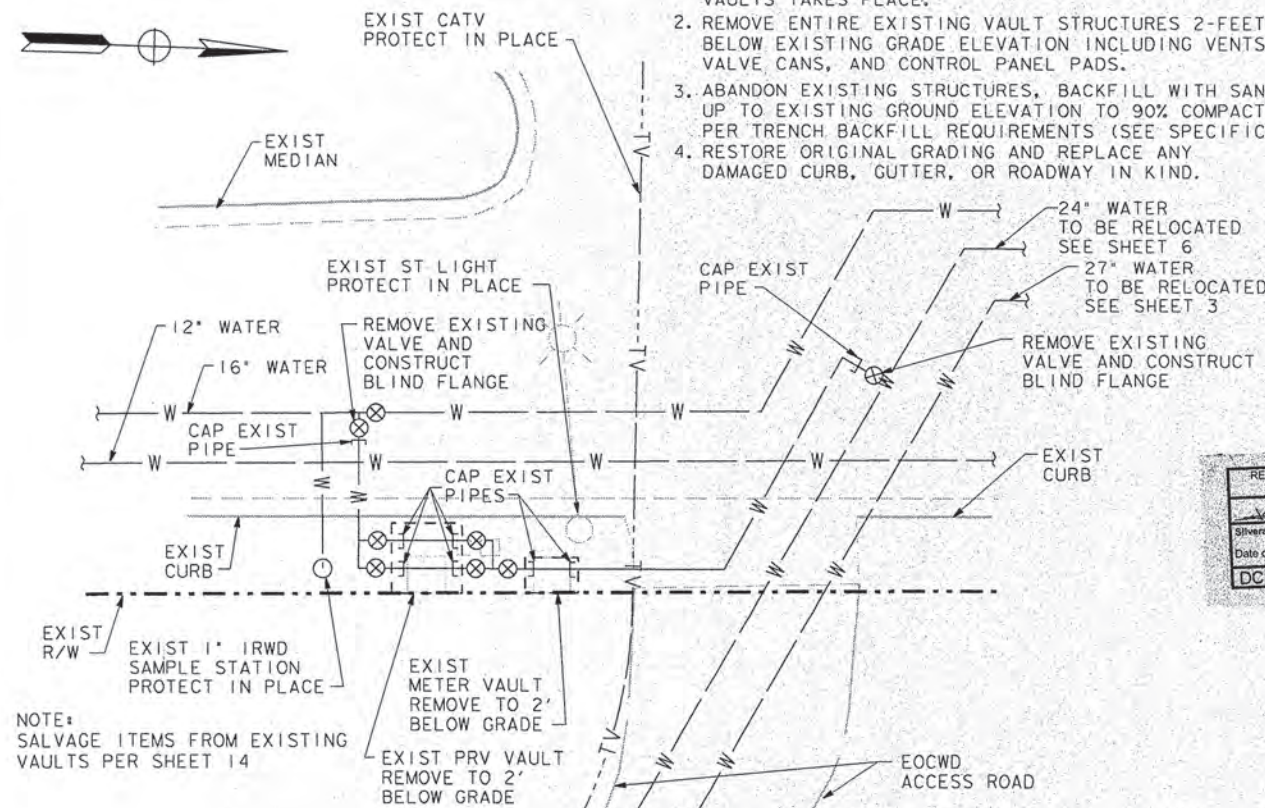
MAR 03 1998



CONNECTION TO EXIST 16" ACP WATER LINE
NO SCALE

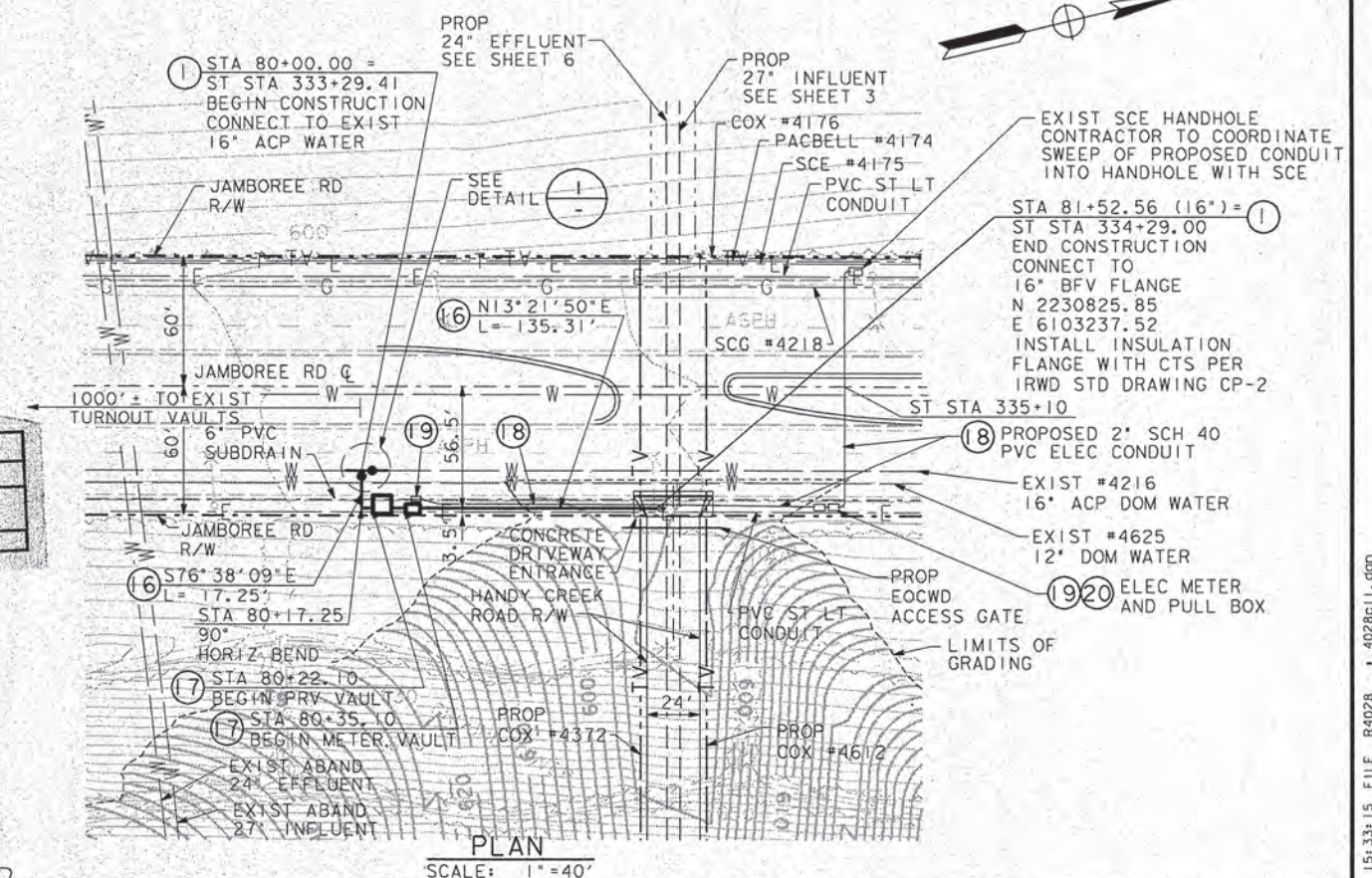
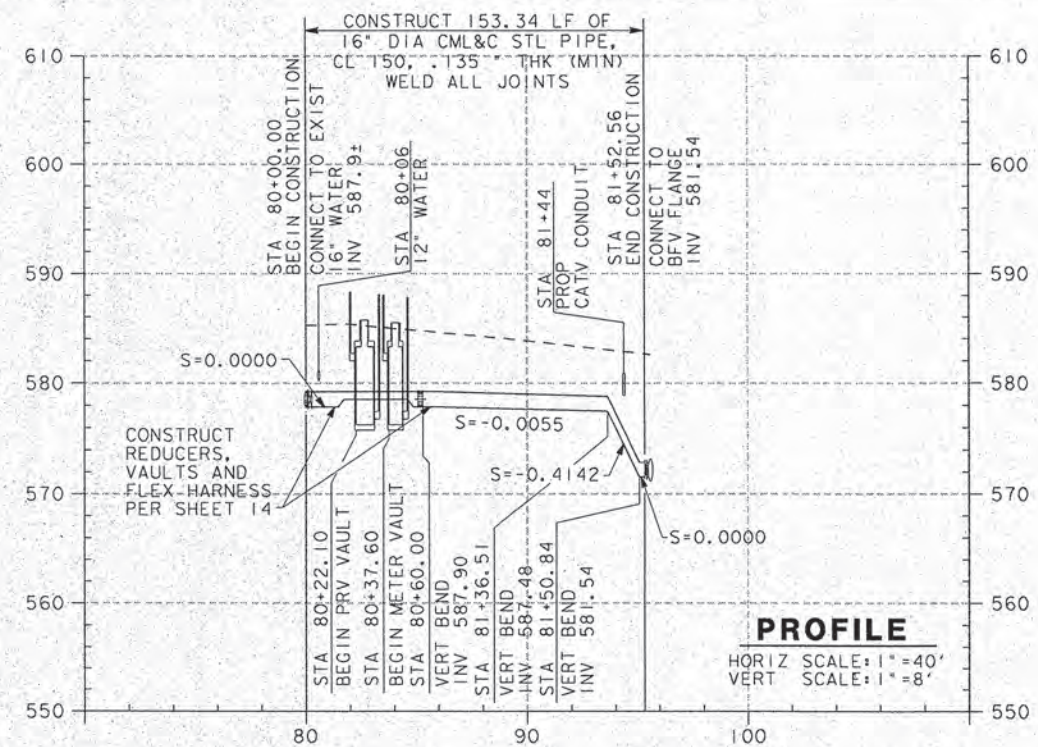
NOTES:

- ITEMS SPECIFIED ON SHEET 14 SHALL BE SALVAGED FROM EXISTING VAULT BEFORE ANY DEMOLITION OF EXISTING VAULTS TAKES PLACE.
- REMOVE ENTIRE EXISTING VAULT STRUCTURES 2-FEET BELOW EXISTING GRADE ELEVATION INCLUDING VENTS, VALVE CANS, AND CONTROL PANEL PADS.
- ABANDON EXISTING STRUCTURES, BACKFILL WITH SAND UP TO EXISTING GROUND ELEVATION TO 90% COMPACTION PER TRENCH BACKFILL REQUIREMENTS (SEE SPECIFICATIONS).
- RESTORE ORIGINAL GRADING AND REPLACE ANY DAMAGED CURB, GUTTER, OR ROADWAY IN KIND.



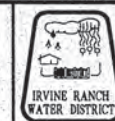
NOTE: SALVAGE ITEMS FROM EXISTING VAULTS PER SHEET 14

ABANDONMENT OF EXIST VAULTS
SCALE: 1"=10'



No.	DATE	REVISIONS	APPROVED	DATE

ASL CONSULTING ENGINEERS
ONE JENNER STREET, STE. 200
IRVINE, CA 92718

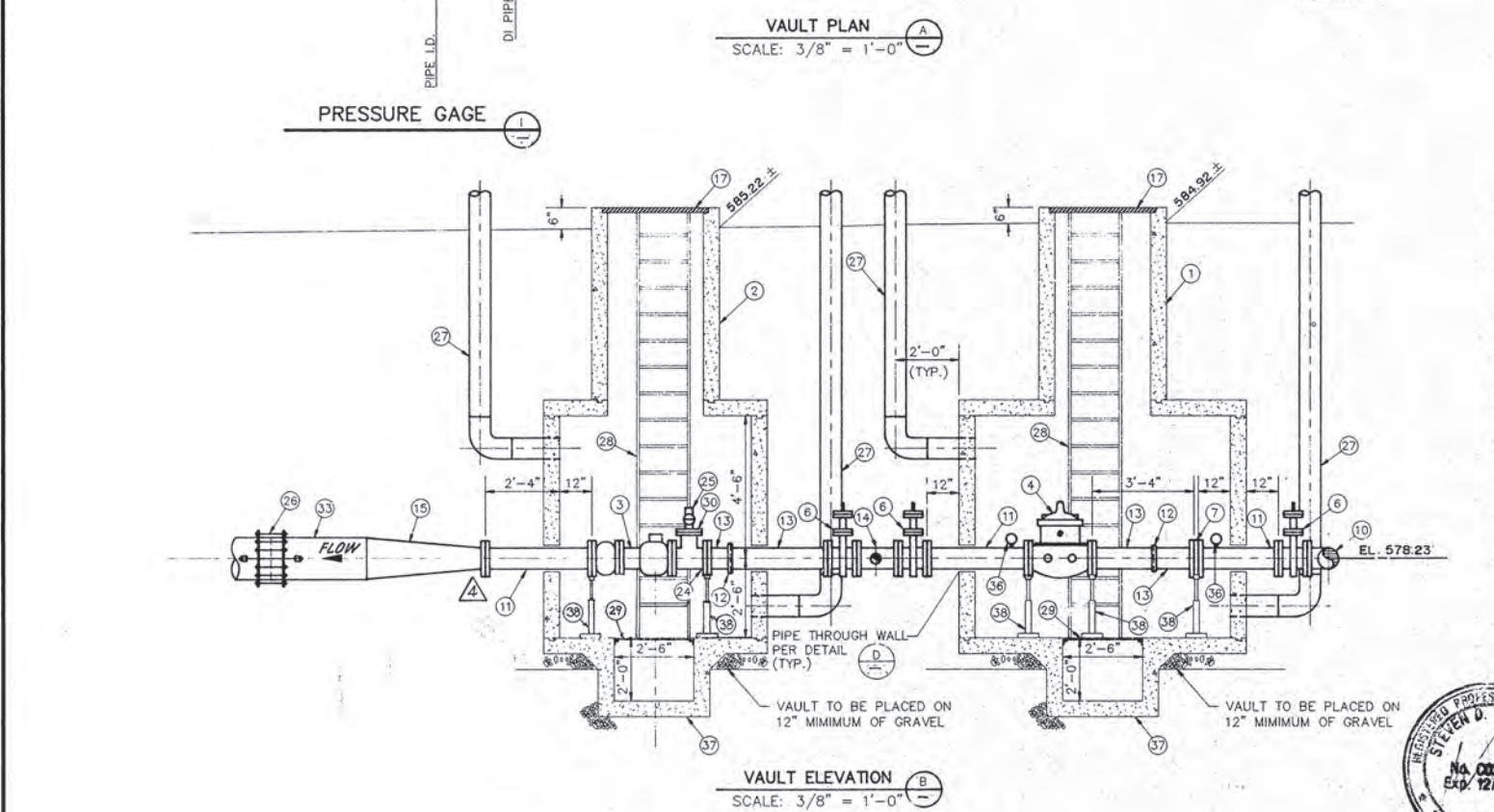
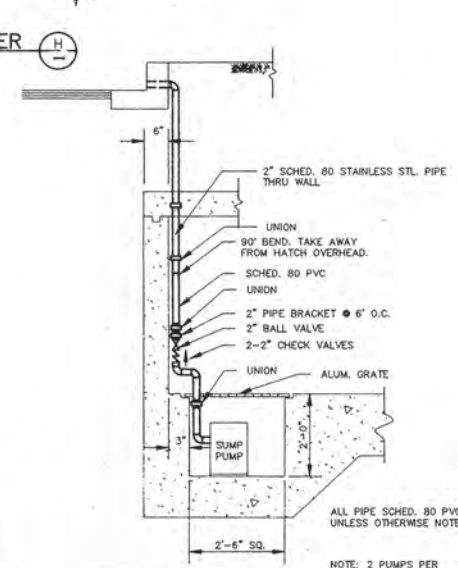
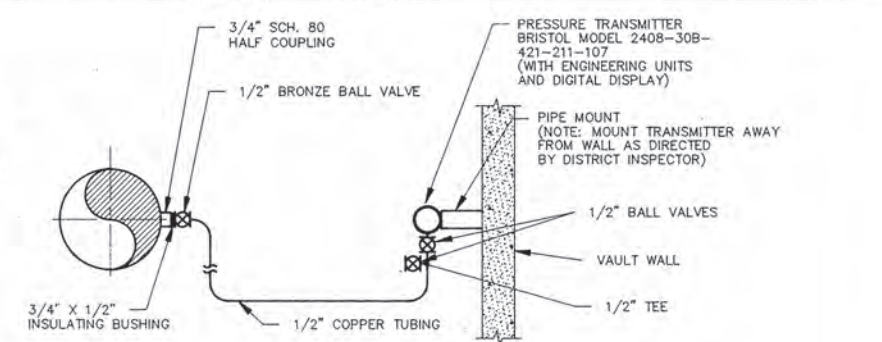
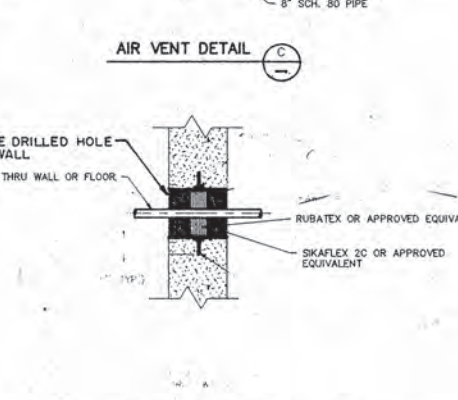
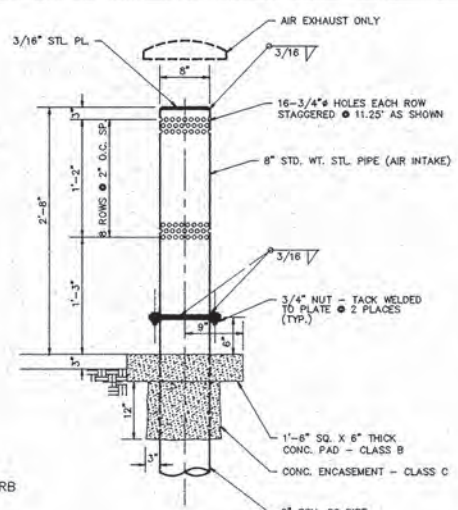
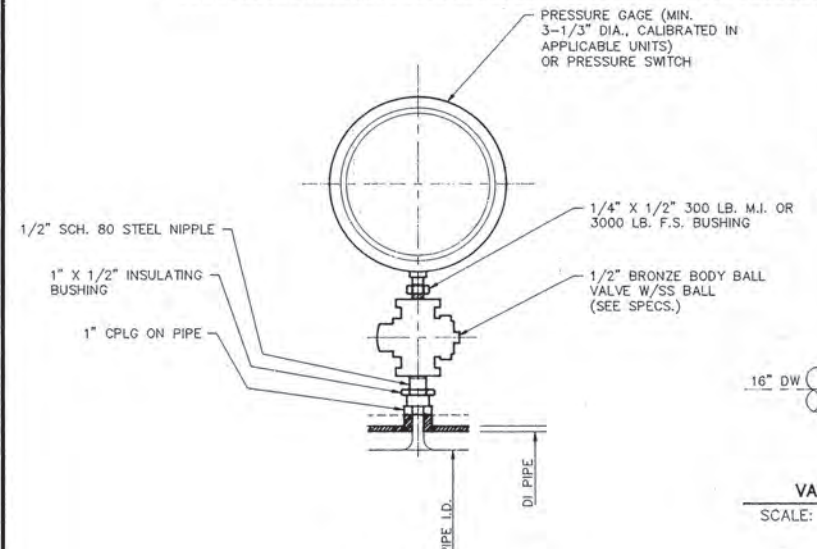
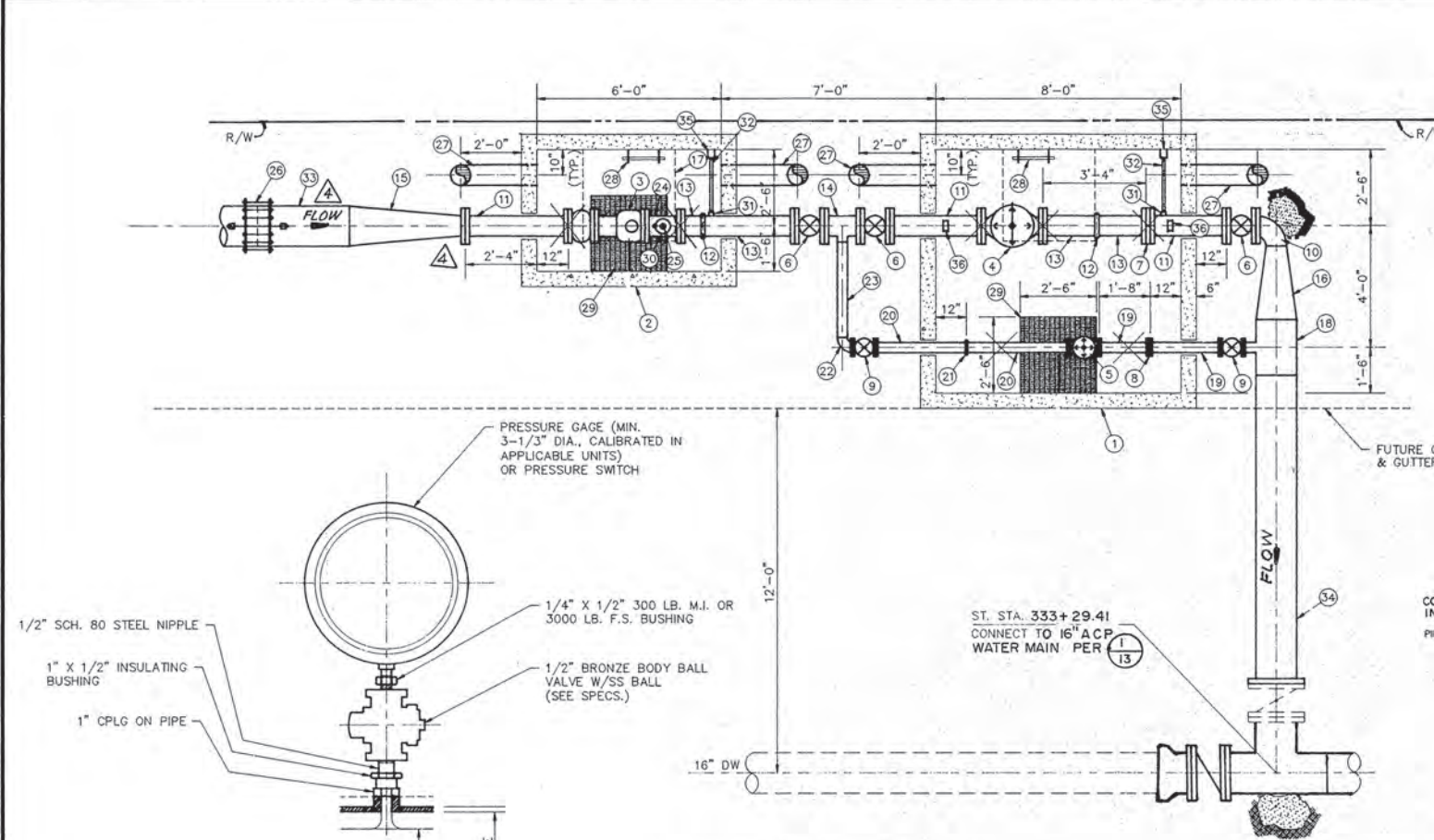


PRINCIPAL ENGINEER (ASL) DATE
PROJECT MANAGER 7-18-97
PRINCIPAL ENGINEER 7-18-97

UTILITY RELOCATIONS FOR
CROSSING #4028 - 27-INCH
INFLUENT AND 24-INCH
EFFLUENT DOMESTIC
WATER LINES

PLAN AND PROFILE
IRWD TURNOUT
VAULT AND
CONNECTION

SHEET
13
OF
17



- TURNOUT GENERAL NOTES**
- ALL VAULT JOINTS AND WALL PENETRATIONS TO BE MADE WATER TIGHT WITH PLASTIC JOINT SEALING COMPOUND (QUICKSEAL OR APPROVED EQUAL).
 - COAT ENTIRE EXTERIOR SURFACE OF VAULT WITH 2 COATS OF BITUMASTIC WATERPROOFING COMPOUND.
 - ALL PAINTING AND COATING OF EXPOSED SURFACES TO BE IN ACCORDANCE WITH THE IRWD CONSTRUCTION MANUAL.
 - ALL PRECAST VAULTS, MANHOLES, NECKING AND COVERS SHALL BE DESIGNED FOR H-20 LOADING.
 - SLOPE VAULT OR MANHOLE FLOOR AT 2 PERCENT TOWARD DRAIN.
 - CONTRACTOR SHALL VERIFY ALL INVERT ELEVATIONS, LOCATIONS AND TYPES OF MATERIALS OF EXISTING UTILITIES AND PIPELINES PRIOR TO FABRICATION AND PLACEMENT OF NEW FACILITIES.
 - PROVIDE VALVE CAN AND RISER FOR ALL VALVES PER IRWD STD. PLAN W-7.
 - SEE SHEETS B-1, B-2 & B-3 FOR CONSTRUCTION OF ELECTRICAL WORK.
 - ALL SALVAGED ITEMS SHALL BE PAINTED PER IRWD CONSTRUCTION MANUAL.

- TURNOUT CONSTRUCTION NOTES**
- 8' X 8' X 7' PRECAST CONCRETE VAULT
 - 4' X 6' X 7' PRECAST CONCRETE VAULT
 - 8" Ø ROCKWELL TURBO-METER W/ STRAINER
 - 8" Ø PRESSURE REDUCING VALVE & RATE OF FLOW CONTROLLER
 - 4" Ø PRESSURE REDUCING VALVE & RATE OF FLOW CONTROLLER
 - 8" Ø RESILIENT WEDGE GATE VALVE
 - 8" Ø ORIFICE PLATE
 - 4" Ø ORIFICE PLATE
 - 4" Ø RESILIENT WEDGE GATE VALVE
 - 8" Ø 90° FLG. X P.E. STL. ELBOW, CML & C
 - 8" Ø FLG. X FLG. STL. PIPE
 - 8" Ø VICTAULIC COUPLING
 - 8" Ø FLG. X VICTAULIC END STL. PIPE
 - 8" Ø X 4" Ø FLG. X P.E. STL. REDUCING TEE
 - 16" Ø X 8" Ø P.E. X FLG. STL. REDUCER, CML & C
 - 16" Ø X 8" Ø P.E. X P.E. STL. REDUCER, CML & C
 - 3' X 3' SPRING OR TORSION ASSISTED HINGED PARKWAY COVER, GALVANIZED
 - 16" Ø X 4" Ø P.E. X P.E. STL. REDUCING TEE, CML & C
 - 4" Ø FLG. X FLG. STL. PIPE
 - 4" Ø FLG. X VICTAULIC END STL. PIPE
 - 4" Ø VICTAULIC COUPLING
 - 4" Ø X 90° FLG. X P.E. STL. ELBOW
 - 4" Ø P.E. X P.E. STL. PIPE
 - 8" Ø X 6" Ø FLG. X FLG. STL. REDUCING TEE
 - 2" CORPORATION STOP M.I.P. X M.I.P.
 - 16" Ø FLEXIBLE COUPLING W/ JOINT HARNESS PER A.W.W.A. M-11.
 - 8" GALVANIZED VENT PIPES W/ CAPS PER DETAIL
 - GALVANIZED LADDER, ALHAMBRA A-3400 OR APPROVED EQUIVALENT
 - ALUMINUM GRATE
 - 6" Ø BLIND FLANGE
 - 3/4" SCH 80 HALF COUPLING WELDED TO DISCHARGE MANIFOLD, 3/4" X 1/2" PVC INSULATING BUSHING, 1/2" CLOSE NIPPLE, 1/2" BRONZE VALVE AND COMPRESSION FITTING.
 - 1/2" TYPE "K" COPPER TUBING TO PRESSURE TRANSMITTER.
 - 16" Ø P.E. X P.E. STL. PIPE, CML & C
 - 16" Ø FLG. X P.E. STL. PIPE, CML & C
 - PRESSURE TRANSMITTER INSTALLED PER DETAIL
 - PRESSURE GAGE PER DETAIL
 - SUMP PUMP PER DETAIL
 - ADJUSTABLE PIPE SUPPORT PER IRWD STD. PLAN W-24
 - SALVAGE ITEM FROM EXISTING VAULT. IRWD INSPECTOR MUST APPROVE CONDITION OF ITEM PRIOR TO REUSE.

NO.	DATE	REVISIONS	APPROVED	DESIGN

ASL Consulting Engineers

ARCADIA CAMARILLO SANTA ANA PALM SPRINGS RANCHO CUCAMONGA

STEVEN D. TERPSTRA
CIVIL ENGINEER
STATE OF CALIFORNIA
No. 0053294
Exp. 12/31/97

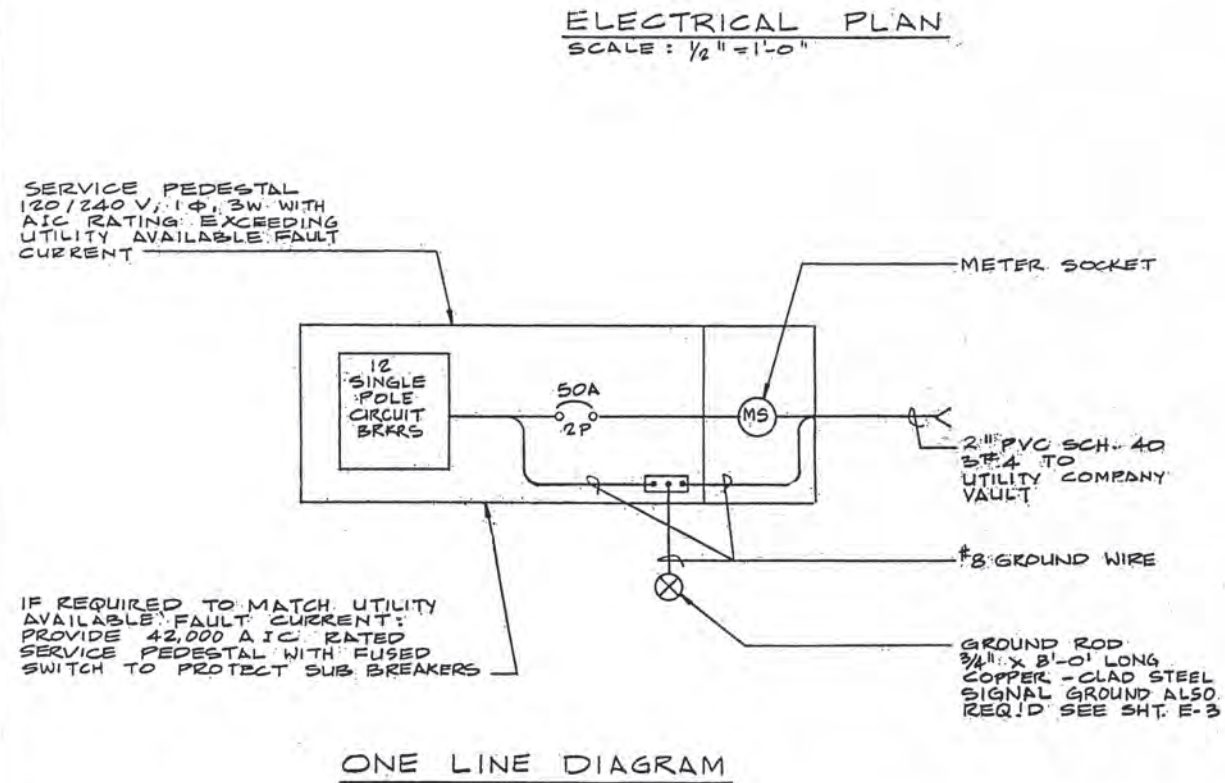
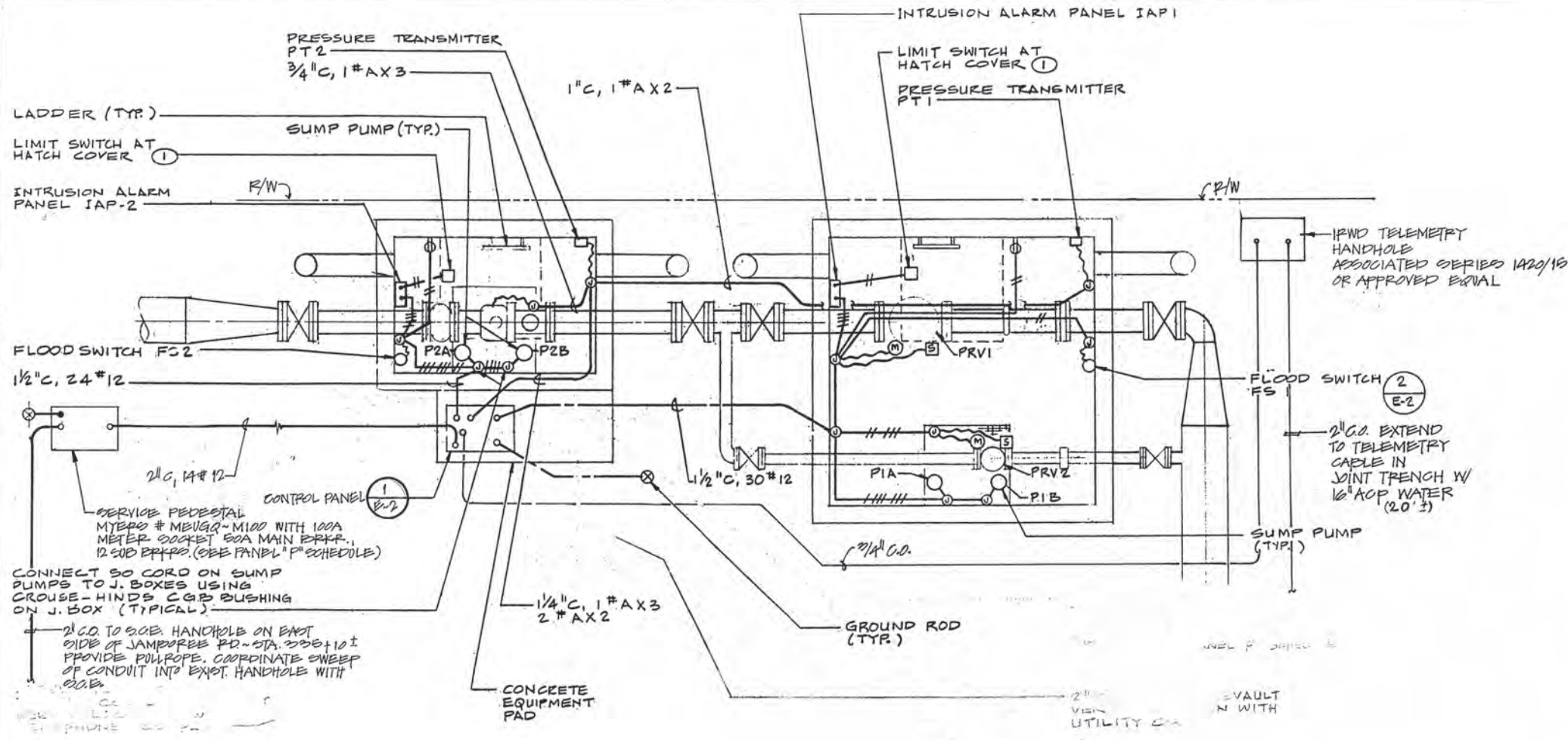
PRINCIPAL ENGINEER 7-18-97
PROJECT MANAGER 7-18-97
PRINCIPAL ENGINEER 7-18-97

UTILITY RELOCATIONS FOR CROSSING NO. 4028 - 27 INCH INFLUENT AND 24 INCH EFFLUENT DOMESTIC WATER LINES

IRWD TURNOUT VAULT DETAILS

SHEET 14 OF 17

MAR 03 1998



PANEL "P" 120/240 VOLT 1PHASE 3 WIRE				AMPERE MAIN LUGS			
LOCATION IN SERVICE PEDESTAL				LOAD 50 KVA 21 AMPERES			
VA LOAD	LINE A	LINE B	LOAD DESCRIPTION	OUTLETS	CKT BRK	OUTLETS	VA LOAD
1	180		RECEPTACLE VAULT 1				900
3	180		RECEPTACLE VAULT 2				900
5	200		INTRUSION ALARM 1				900
7	200		INTRUSION ALARM 2				900
9	400		CONTROL CABINET				100
11			SPARE				100
12	780	380					1900
NOTES:				LINE TOTALS			
				LOAD ADDER			
				TOTAL VAIB			
				LINE AMPS			

RELEASED FOR CONSTRUCTION BY
SILVERADO
Date: 10/21/97
Silverado
Date of Release for Construction: 05/23/97
DCN: R11470 Section: 10



ENGINEERS - CONSULTANTS
Eggett & Helin
INCORPORATED
4444 Riverdale Drive • Norwalk, Calif. 91055-4048
(714) 849-0100

No.	DATE	REVISIONS	APPROVED	DESIGNED:	PROJECT ENGINEER	DATE
					Steve Malloy	7-18-97
				DRAWN:		
				CHECKED:		

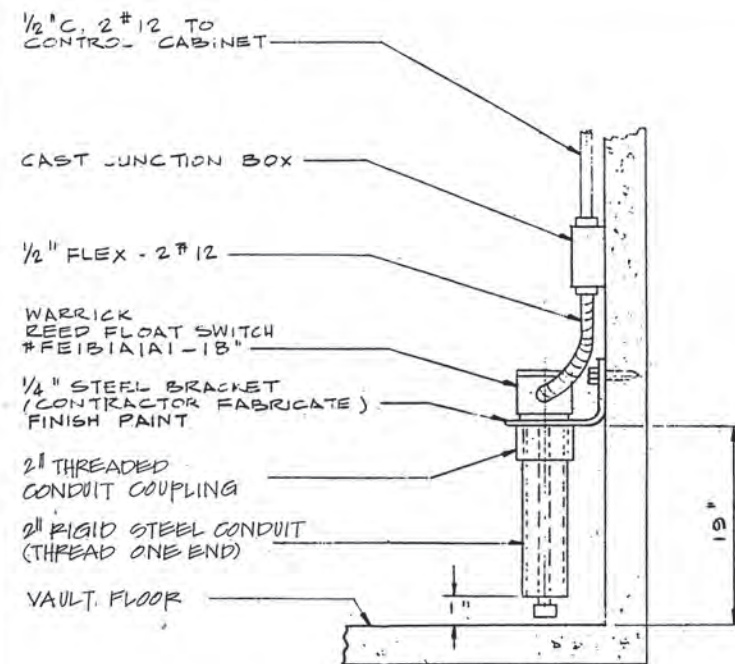
IRVINE RANCH WATER DISTRICT
Irvine, Calif.



UTILITY RELOCATIONS FOR
CROSSING NO. 4028 - 27 INCH INFLUENT
AND 24 INCH EFFLUENT DOMESTIC WATER
LINES

SHEET
E-1
OF
17

MAR 03 1998

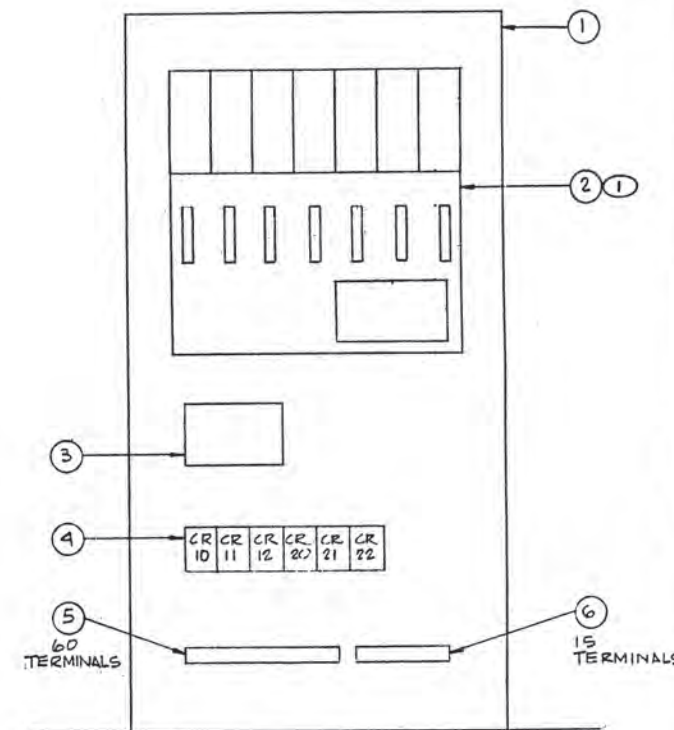


FLOOD SWITCH DETAIL

N.T.S.

2
E-2

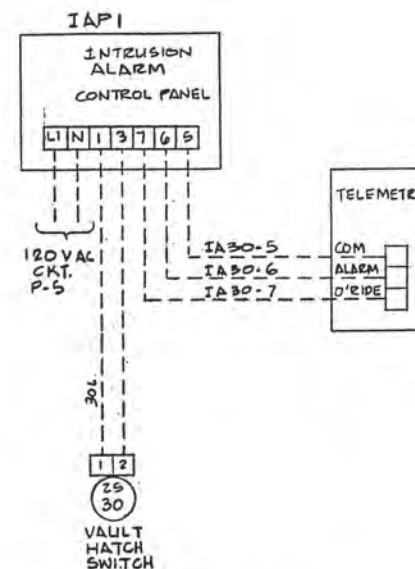
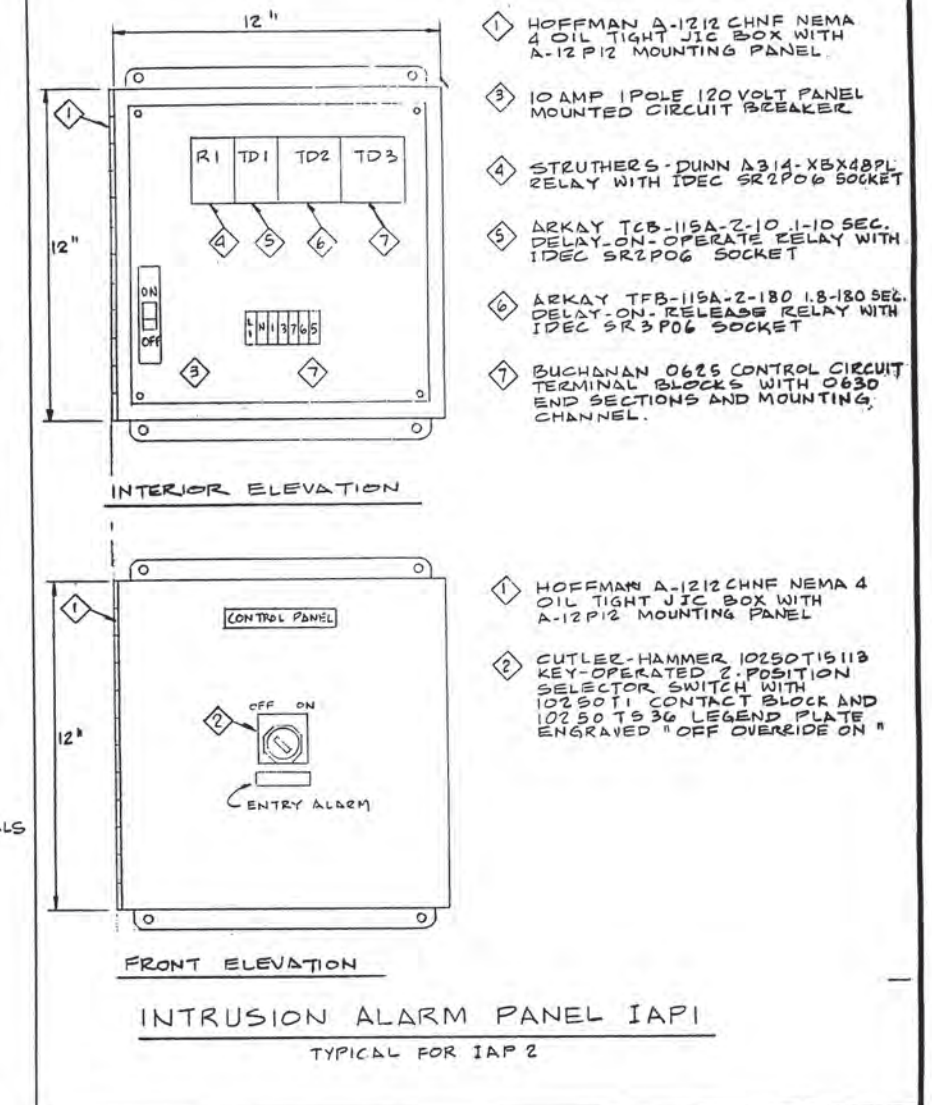
CONTROL PANEL MATERIALS	
ITEM	DESCRIPTION
1	ENCLOSURE - 48" HIGH FLOOR STANDING 24"W X 20"D NEMA 3R WITH GASKETED, HINGED, LATCHING, LOCKING DOOR & MOUNTING PANEL
2	BIF ACCUTEL 5 SLOT MOUNTING RACK # 245-12 WITH THE FOLLOWING BIF MODULES: #245-11, #245-09, #245-06, #245-19, #245-20. (INCLUDES DIGITAL & ANALOG PROVISION.)
3	ROCKWELL #1000D WITH 4-20 MA OUTPUT
4	PLUG-IN RELAY - SQUARE D TYPE K, CLASS B501 WITH SOCKET. (QTY. OF 6)
5	TERMINAL BLOCK - SQUARE D CLASS 9070 TYPE GRC
6	TERMINAL BLOCK - SQUARE D CLASS 9070 TYPE GAG
7	TIMER RELAY - SQUARE D CLASS 9050 TYPE JCK-16
8	INTERVAL RELAY - SQUARE D CLASS 9050 TYPE JCK-31
9	ENCLOSURE - NEMA 4 12"H X 12"W X 6"D PAINTED STEEL
10	KEY SWITCH
11	INDICATING LIGHT - R = RED



CONTROL PANEL

N.T.S.

1
E-2



SWITCHES ARE NORMALLY OPEN HELD CLOSED BY CLOSED DOOR

INTRUSION ALARM PANEL IAPI DIAGRAM

TYP. FOR IAP2

No.	DATE	REVISIONS	APPROVED	DESIGNED: R.A.
				DRAWN: J.L.L.
				CHECKED:

**IRVINE RANCH
WATER DISTRICT**
Irvine, Calif.



PROJECT ENGINEER	DATE
Steve Malloy	7-18-97

UTILITY RELOCATIONS FOR
CROSSING NO. 4028 -27 INCH INFLUENT
AND 24 INCH EFFLUENT DOMESTIC WATER
LINES

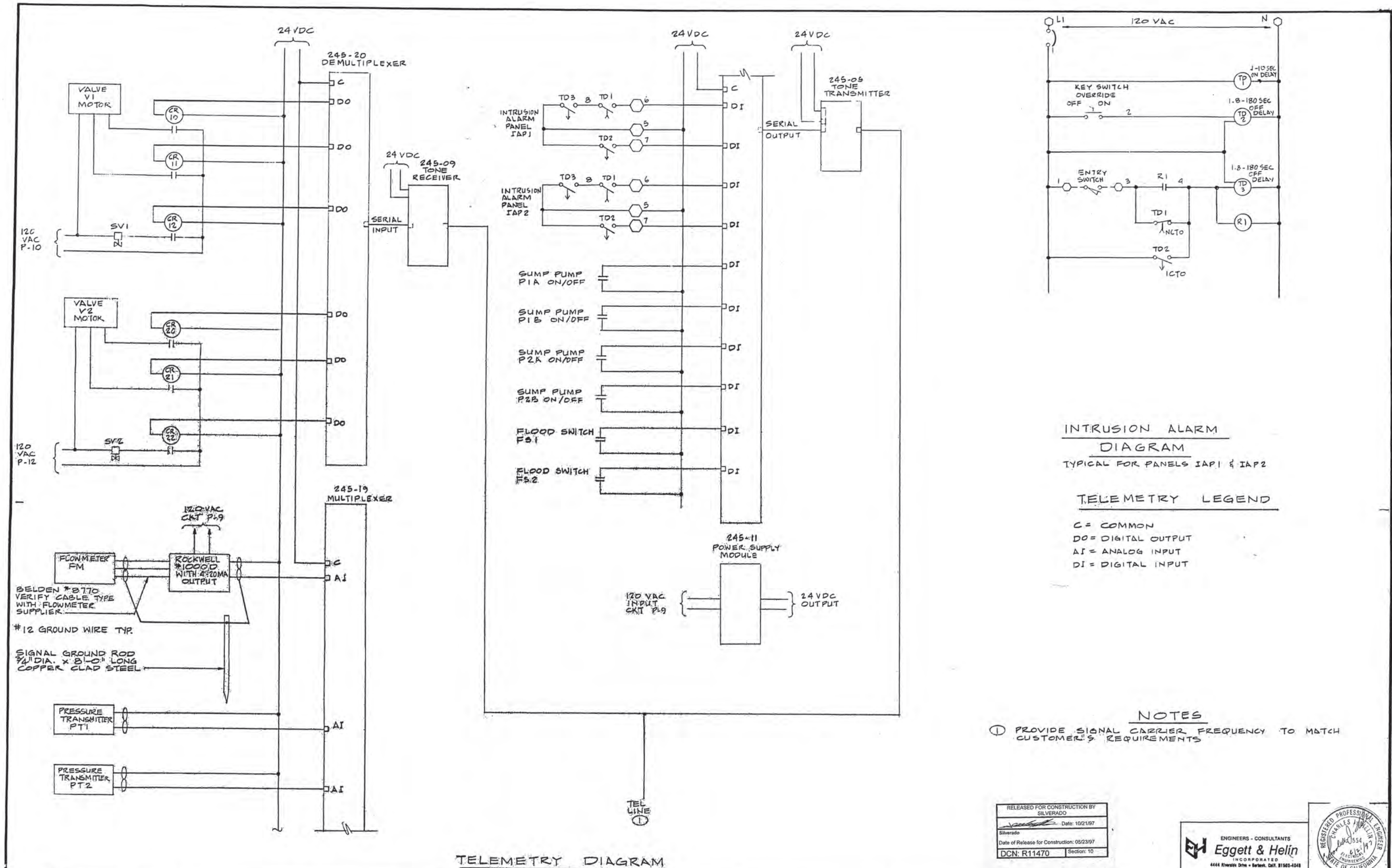
ENGINEERS - CONSULTANTS
Eggett & Helin
INCORPORATED
4444 Riverdale Drive • Berkeley, Calif. 94705-4548
(415) 849-8100



ELECTRICAL DETAILS

SHEET
E-2
OF
17

MAR 23 1998



INTRUSION ALARM
 DIAGRAM
 TYPICAL FOR PANELS IAP1 & IAP2

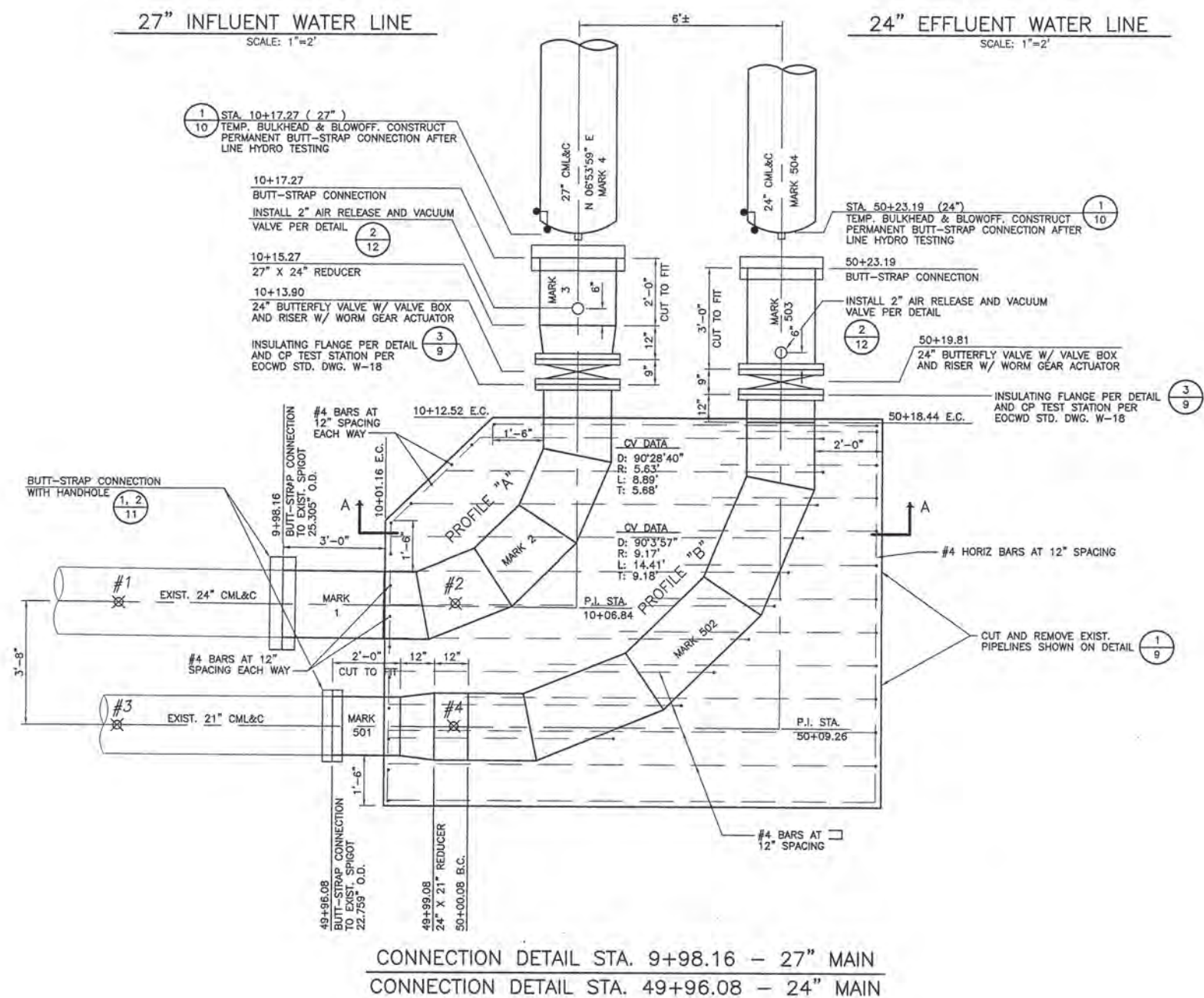
- TELEMETRY LEGEND
- C = COMMON
 - DO = DIGITAL OUTPUT
 - AI = ANALOG INPUT
 - DI = DIGITAL INPUT

NOTES
 ① PROVIDE SIGNAL CARRIER FREQUENCY TO MATCH CUSTOMER'S REQUIREMENTS

RELEASED FOR CONSTRUCTION BY
 SILVERADO
 Date: 10/21/97
 Date of Release for Construction: 05/23/97
 DCN: R11470 Section: 10

ENGINEERS - CONSULTANTS
Eggett & Helin
 INCORPORATED
 4444 Riverdale Drive • Berkeley, Calif. 94705-4048
 (415) 848-8100

REGISTERED PROFESSIONAL ENGINEER
 CHARLES J. HELIN
 No. 554
 State of California



- POTHOLE INFORMATION
TOP OF EXISTING PIPELINE:
- 600.97
 - 603.35
 - 600.63
 - 603.27
- NOTE:
- VALVE ACTUATOR SHALL BE PLACED TOWARD THE OUTSIDE OF THE PIPELINE ALIGNMENT.
 - SEE SHEET 9 OF 17 FOR SECTION A-A.
 - REVISION NO. 1 TO REPLACE DETAIL 1 SHEET 9 OF PIPELINE 4028 PLAN SET.

CONNECTION DETAIL STA. 9+98.16 - 27" MAIN
CONNECTION DETAIL STA. 49+96.08 - 24" MAIN

SUPPLEMENTAL PLANS

PLANS PREPARED BY:
ASL Consulting Engineers
One Jenner Street, Suite 200
Irvine, California 92618
(714) 727-7099

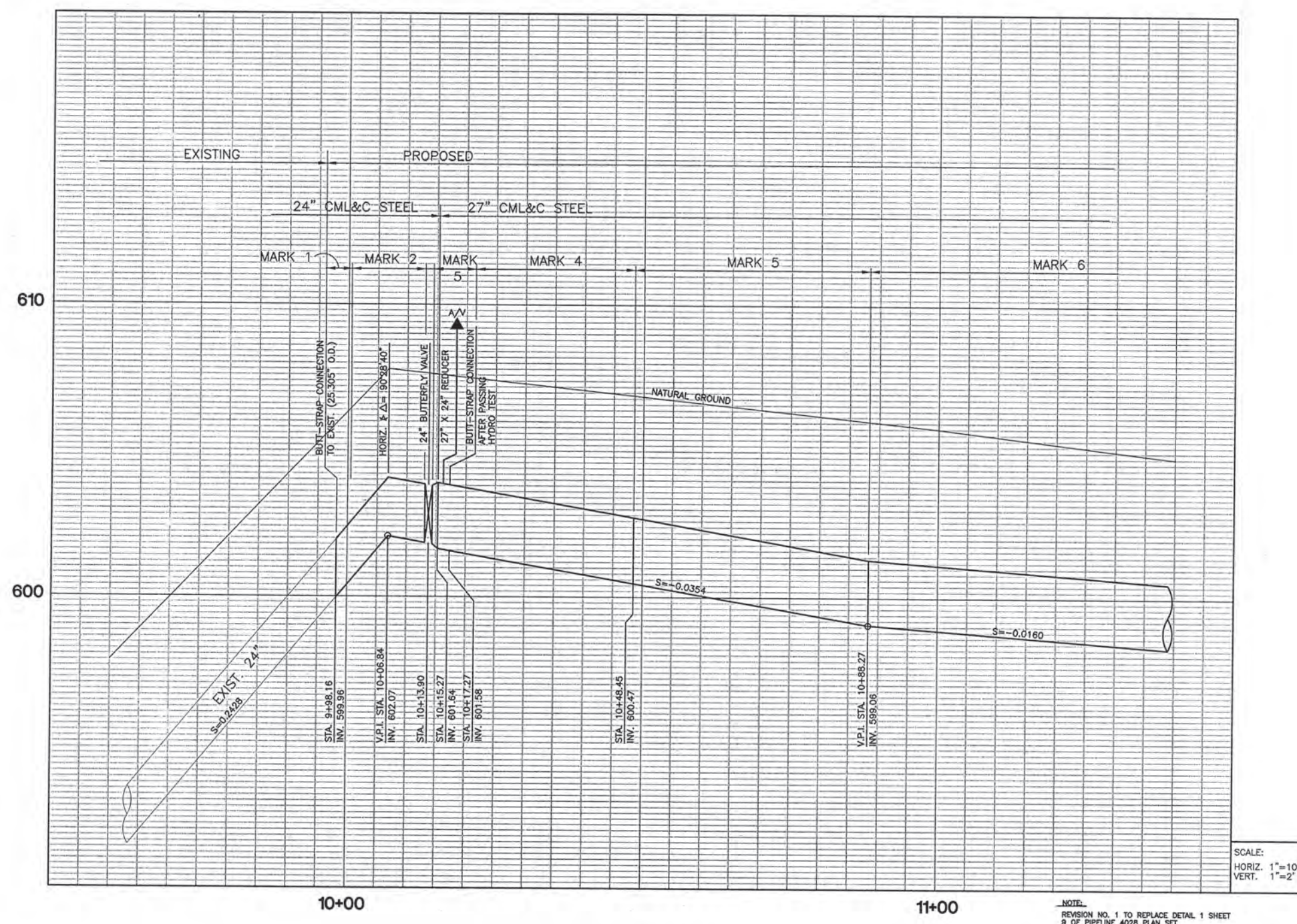
**CROSSING 4028
24" & 27" PIPELINES**



5			
4			
3			
2			
1	1/98	REVISED CONNECTION DETAIL & THRUST BLOCK	SH 1/22/98
NO.	DATE	REVISIONS	APPROVED

**EASTERN
TRANSPORTATION
CORRIDOR**

S-18

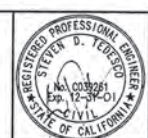


PROFILE "A"

NOTE:
REVISION NO. 1 TO REPLACE DETAIL 1 SHEET
9 OF PIPELINE 4028 PLAN SET.

PLANS PREPARED BY:
ASL Consulting Engineers
One Jenner Street, Suite 200
Irvine, California 92618
(714) 727-7099

**CROSSING 4028
27" PIPELINE**



5			
4			
3			
2			
1	1/98	REVISED CONNECTION DETAIL & THRUST BLOCK	DA 1/22/98
NO.	DATE	REVISIONS	APPROVED

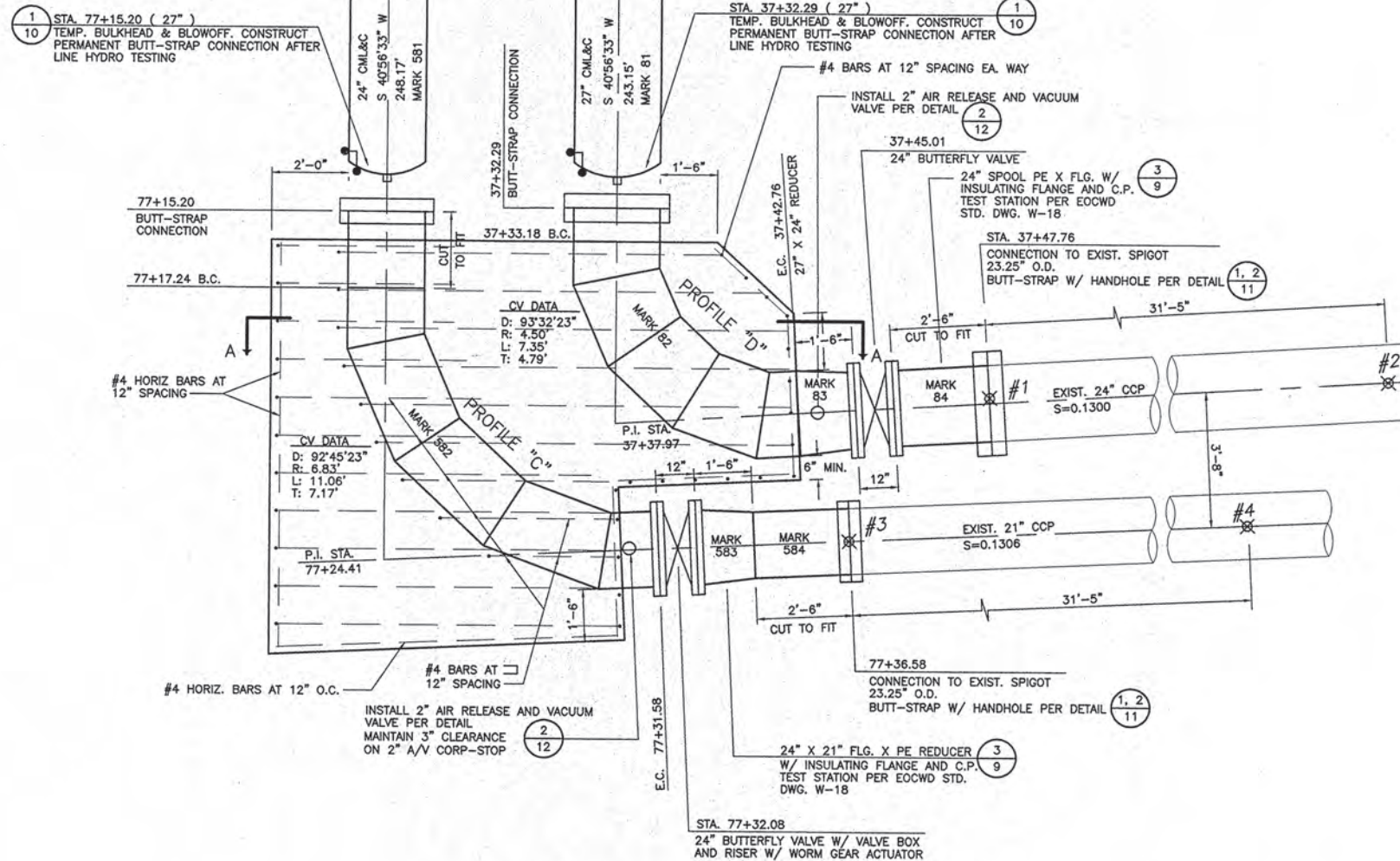
SUPPLEMENTAL PLANS
**EASTERN
TRANSPORTATION
CORRIDOR**

S-19

RE: 3333\4028\WP01.DWG

24" EFFLUENT WATER LINE SCALE: 1"=2'

27" INFLUENT WATER LINE SCALE: 1"=2'



POTHOLE INFORMATION
TOP OF EXISTING PIPELINE:

- 743.15
- 747.43
- 742.19
- 746.30

NOTES:

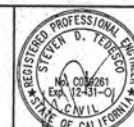
- VALVE ACTUATOR SHALL BE PLACED TOWARD THE OUTSIDE OF THE PIPELINE ALIGNMENT.
- SEE SHEET 9 OF 17 PER SECTION A-A
- REVISION NO. 1 TO REPLACE DETAIL 2 SHEET 9 OF PIPELINE 4028 PLAN SET.

CONNECTION DETAIL STA. 37+47.76 - 27" MAIN
CONNECTION DETAIL STA. 77+36.58 - 24" MAIN

SUPPLEMENTAL PLANS

PLANS PREPARED BY:
ASL Consulting Engineers
One Jenner Street, Suite 200
Irvine, California 92618
(714) 727-7099

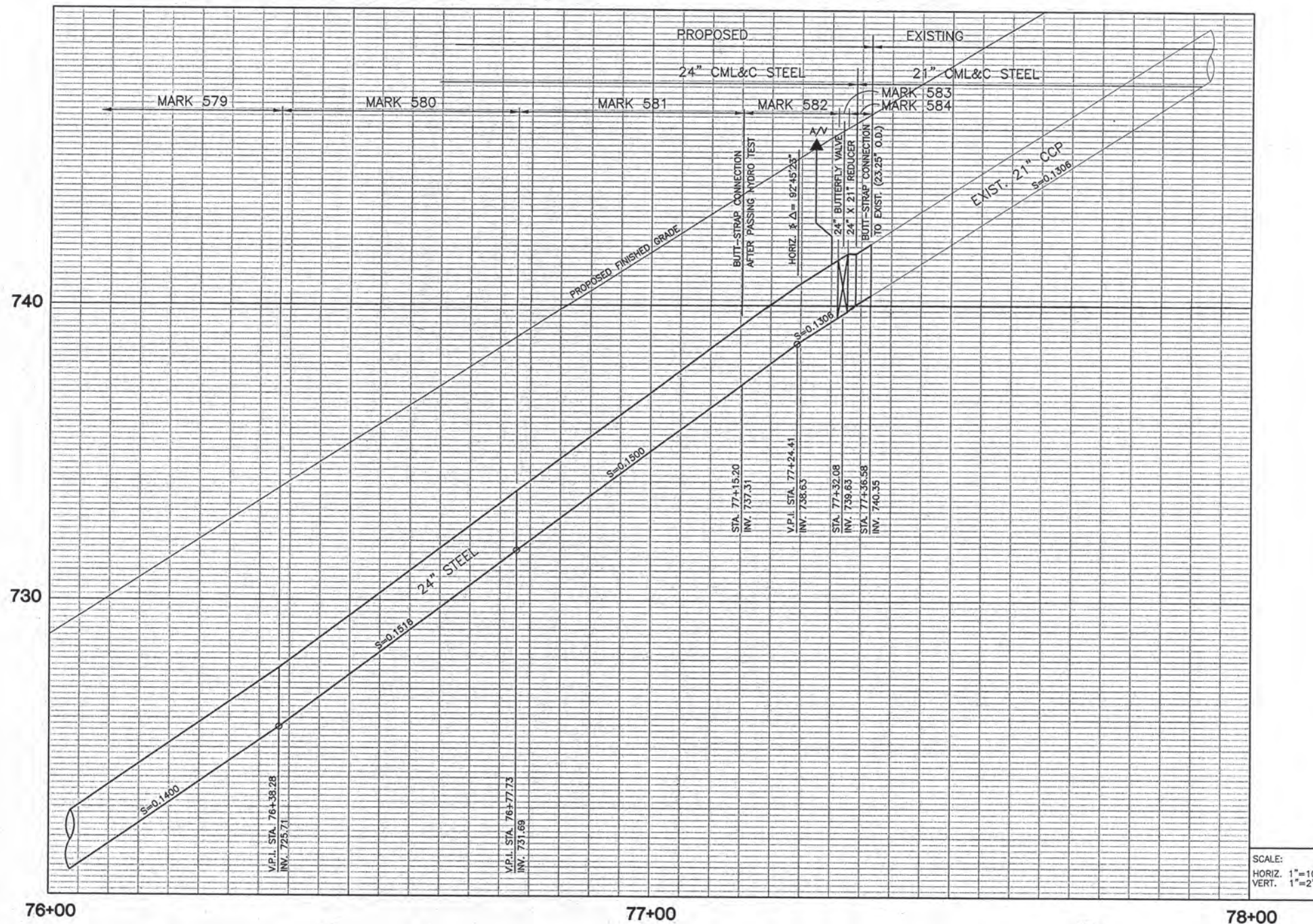
CROSSING 4028 24" & 27" PIPELINES



5			
4			
3			
2			
1	1/98	REVISED CONNECTION DETAIL & THRUST BLOCK	DA 1/22/98
NO.	DATE	REVISIONS	APPROVED

**EASTERN
TRANSPORTATION
CORRIDOR**

S-21

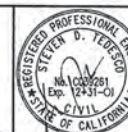


PROFILE "C"

SUPPLEMENTAL PLANS

PLANS PREPARED BY:
ASL Consulting Engineers
One Jenner Street, Suite 200
Irvine, California 92618
(714) 727-7099

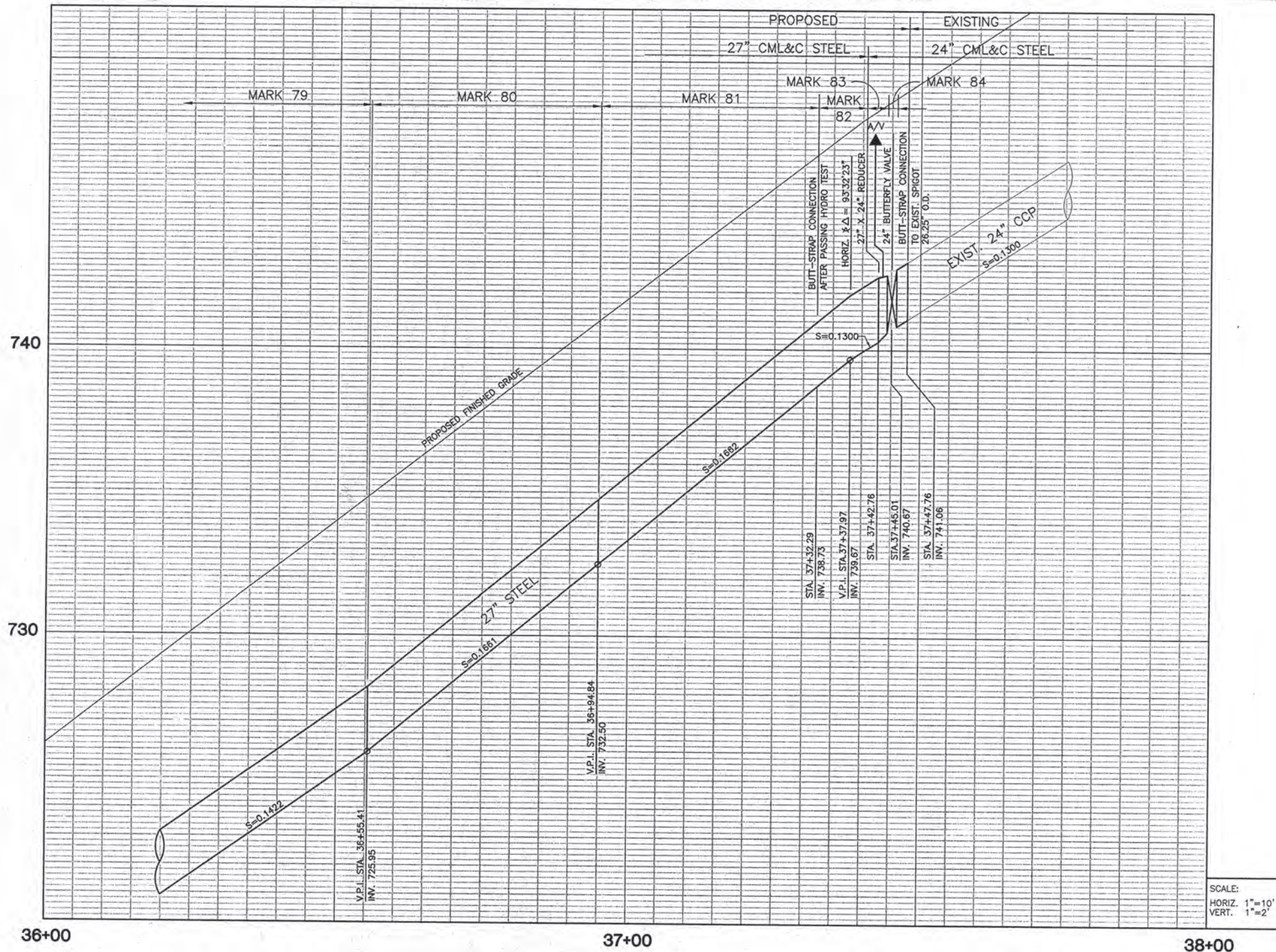
CROSSING 4028
24" PIPELINE



5			
4			
3			
2			
1	1/98	REVISED CONNECTION DETAIL & THRUST BLOCK	DA 4/2/98
NO.	DATE	REVISIONS	APPROVED

EASTERN
TRANSPORTATION
CORRIDOR

S-22



PROFILE "D"

NOTE:
REVISION NO. 1 TO REPLACE DETAIL 1 SHEET
9 OF PIPELINE 4028 PLAN SET.

SCALE:
HORIZ. 1"=10'
VERT. 1"=2'

PLANS PREPARED BY:
ASL Consulting Engineers
One Jenner Street, Suite 200
Irvine, California 92618
(714) 727-7099

**CROSSING 4028
27" PIPELINE**

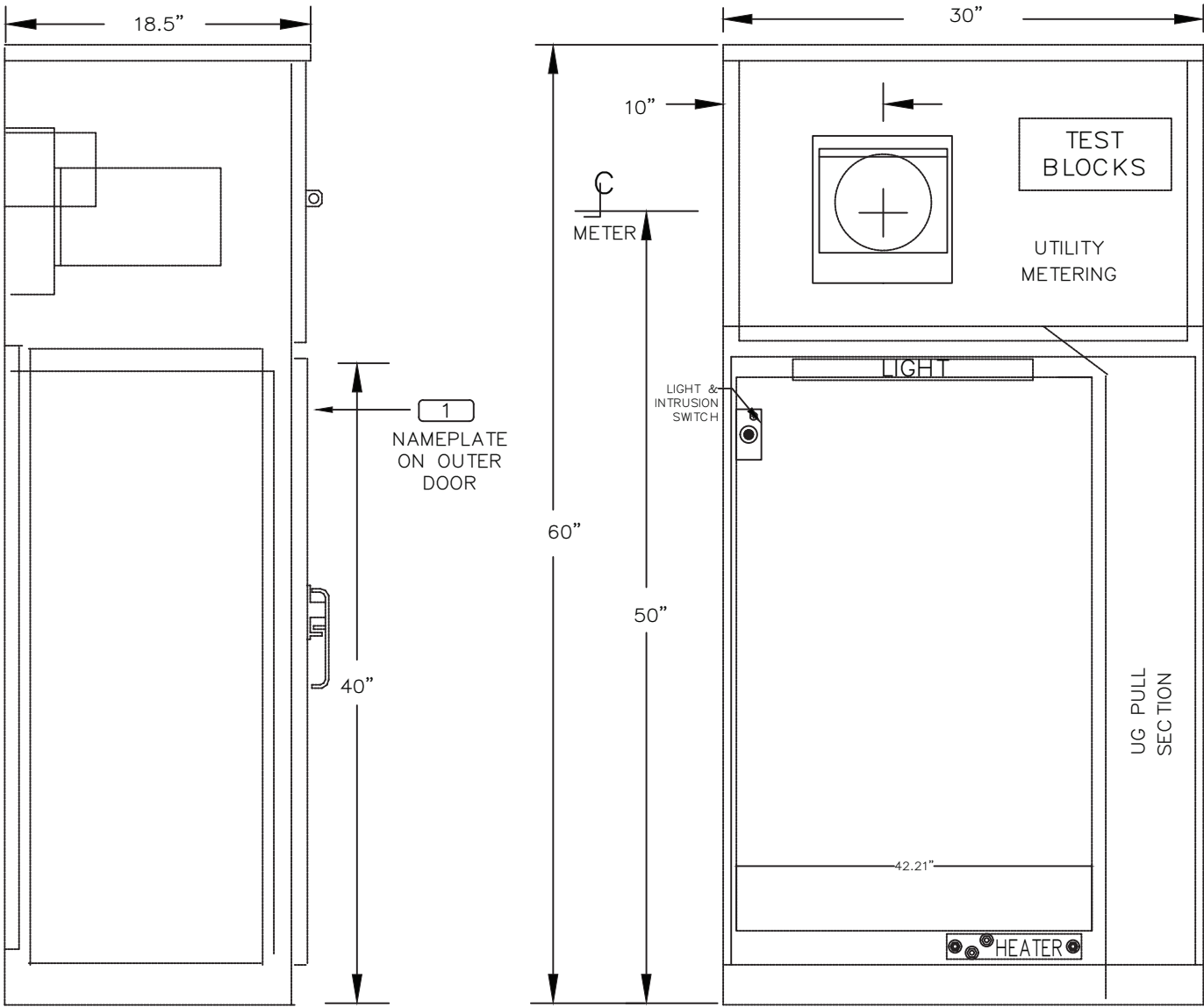


5			
4			
3			
2			
1	1/98	REVISED CONNECTION DETAIL & THRUST BLOCK	
NO.	DATE	REVISIONS	APPROVED

SUPPLEMENTAL PLANS

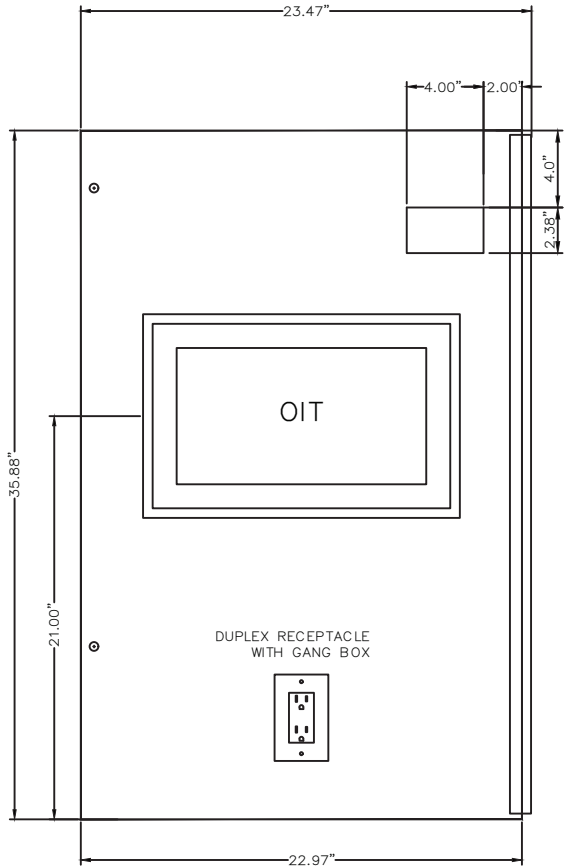
**EASTERN
TRANSPORTATION
CORRIDOR**

S-23

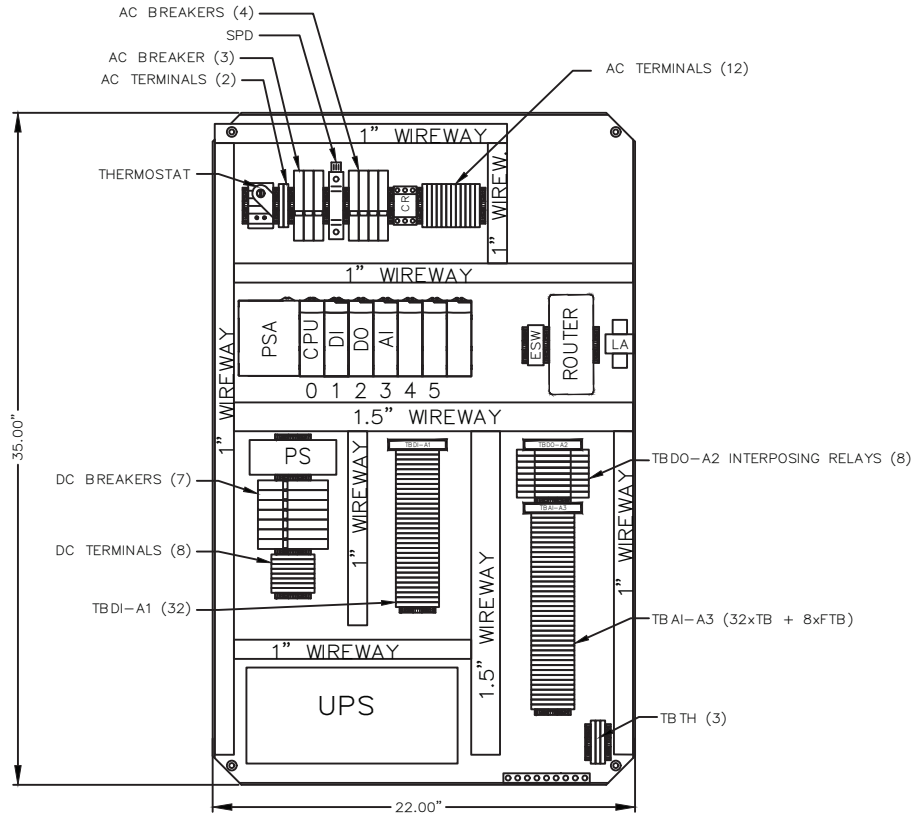


SIDE ELEVATION

FRONT ELEVATION



INNER DEADFRONT DOOR



PANEL BACKPAN

SHOP CONSTRUCTION NOTES

- THE EXISTING METER/RTU PANEL ENCLOSURE WAS SUPPLIED BY TESCO UNDER PROJECT T-21062, AND IT IS SHOWN FOR REFERENCE ONLY.
- TESCO IS ONLY PROVIDING THE NEW BACKPAN AND DEADFRONT DOOR WITH EQUIPMENT SHOWN AND SHIPPED LOOSE ITEMS.

FIELD INSTALLATION NOTES

- TAG THE EXISTING FIELD WIRES AND REMOVE THEM FROM THE EXISTING TERMINAL BLOCKS.
- REMOVE THE EXISTING BACKPAN AND DEADFRONT DOOR FROM THE EXISTING ENCLOSURE.
- INSTALL THE NEW BACKPAN AND DEADFRONT DOOR IN THE EXISTING ENCLOSURE.
- REWIRE THE EXISTING FIELD WIRES TO THE NEW TERMINAL BLOCKS.
- REMOVE EXISTING NAMEPLATE AND REPLACE WITH THE NEW NAMEPLATE – ITEM#1 FROM NAMEPLATE SCHEDULE.
- INSTALL THE NEW HEATER AND WIRE TO THE TERMINAL BLOCKS
- INSTALL THE NEW DOOR INTRUSION SWITCH AND WIRE TO THE EXISTING ENCLOSURE LIGHT AND TO PLC DI.
- WIRE THE NEW OIT AND RECEPTACLE LOCATED ON THE DEADFRONT DOOR.
- THE EXISTING BACKPAN AND PLC WILL BE RETURN TO THE END USER.
- REMOVE THE EXISTING POWER WIRES AND ETHERNET CABLES FROM EXISTING N-TRON ETHERNET SWITCH.
- REMOVE THE EXISTING N-TRON ETHERNET SWITCH.
- INSTALL THE NEW MANAGED ESW.
- RECONNECT THE EXISTING POWER WIRES AND ETHERNET CABLES TO THE NEW MANAGED ESW.
- RETURN N-TRON ETHERNET SWITCH TO CUSTOMER.

NAME PLATE SCHEDULE				
TAG #	QTY	TYPE	SIZE	INSCRIPTION
1	1	PLATE	1" x 4"	RTU 4 6 MG RESERVOIR

NAMEPLATE NOTES:

- 2" X 6" PLATE NAMEPLATE IS WITH 1/2" ENGRAVED LETTERING (TYP).
- 1" X 4" PLATE NAMEPLATE IS WITH 1/4" ENGRAVED LETTERING (TYP).
- 3/4" X 3" PLATE NAMEPLATE IS WITH 3/16" ENGRAVED LETTERING (TYP).
- RING NAMEPLATE WITH 1/4" ENGRAVED LETTERING (TYP).
- NAMEPLATES SHALL BE BLACK WITH WHITE

TESCO
TESCO CONTROLS INC.
916.395-8800
SACRAMENTO, CA.
T-21062XE
N/A

INDUSTRIAL CONTROL PANEL

VOLTAGE	PHASE	WIRES	MAINS AMPERES	HZ
120/240	1	3	20	60

SUITABLE FOR USE ON A CIRCUIT CAPABLE OF DELIVERING NOT MORE THAN:

AMPERES	A	VOLTAGE
42,000	RMS SYM.	120 V

METER SOCKET RATING N/A A. CONT.
ENCLOSURE: TYPE 3R

STEEL ENCLOSURE CONSTRUCTION NOTES

- EXTERIOR 12 GA. H.D. GALV. STEEL AND INTERIOR 14 GA. COLD ROLLED STEEL ELECTRICALLY WELDED AND REINFORCED WHERE REQUIRED.
- CONSTRUCTION WILL BE **TYPE 3R RAIN TIGHT**
- ALL NUTS, BOLTS, SCREWS AND HINGES WILL BE STAINLESS STEEL.
- NUTS, BOLTS & SCREWS WILL NOT BE VISIBLE FROM OUTSIDE OF ENCLOSURE.
- NAMEPLATES WILL BE PROVIDED AS REQUIRED.
- CONTROL WIRING WILL BE MARKED AT BOTH ENDS BY PERMANENT WIRE MARKERS.
- ENCLOSURE WILL BE FACTORY WIRED AND CONFORM TO REQUIRED NEMA AND UL STANDARDS.
- COLOR TO BE: **ANSI 61 GRAY**

TESCO'S POLY-PORC COATING SYSTEM

INCLUDES A FIVE STAGE METAL PREPARATION PROCESS:

- ALKALINE CLEANER/IRON PHOSPHATE APPLICATION @ 160° F.
- DE-IONIZED WATER RINSE #1.
- DE-IONIZED WATER RINSE #2.
- DE-IONIZED WATER RINSE #3.
- INHIBITIVE RINSE TO SEAL PHOSPHATED SURFACES @ 120° F AND FINISHED WITH AN ELECTROSTATICALLY APPLIED DRY POLYESTER POWDER COATING THEN BAKED @ 400° F TO CURE.

REV	DATE	BY	DESCRIPTION
2	10-21-2025	GM	AS INSTALLED -- UPDATED PER NETWORK DIAGRAM
1	08-12-2025	GM	AS INSTALLED -- PER AIC PROJECT#56.1049

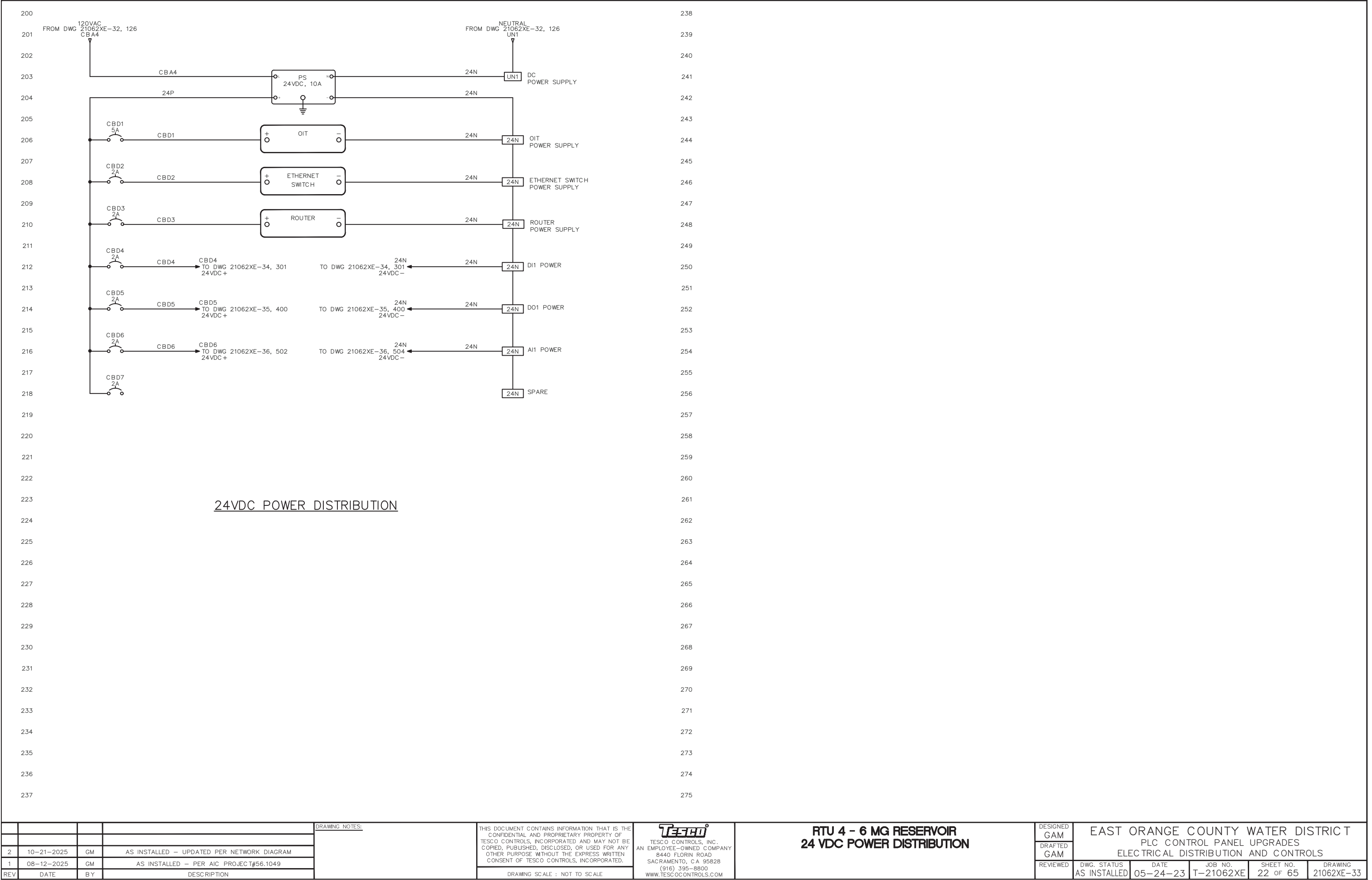
DRAWING NOTES:	

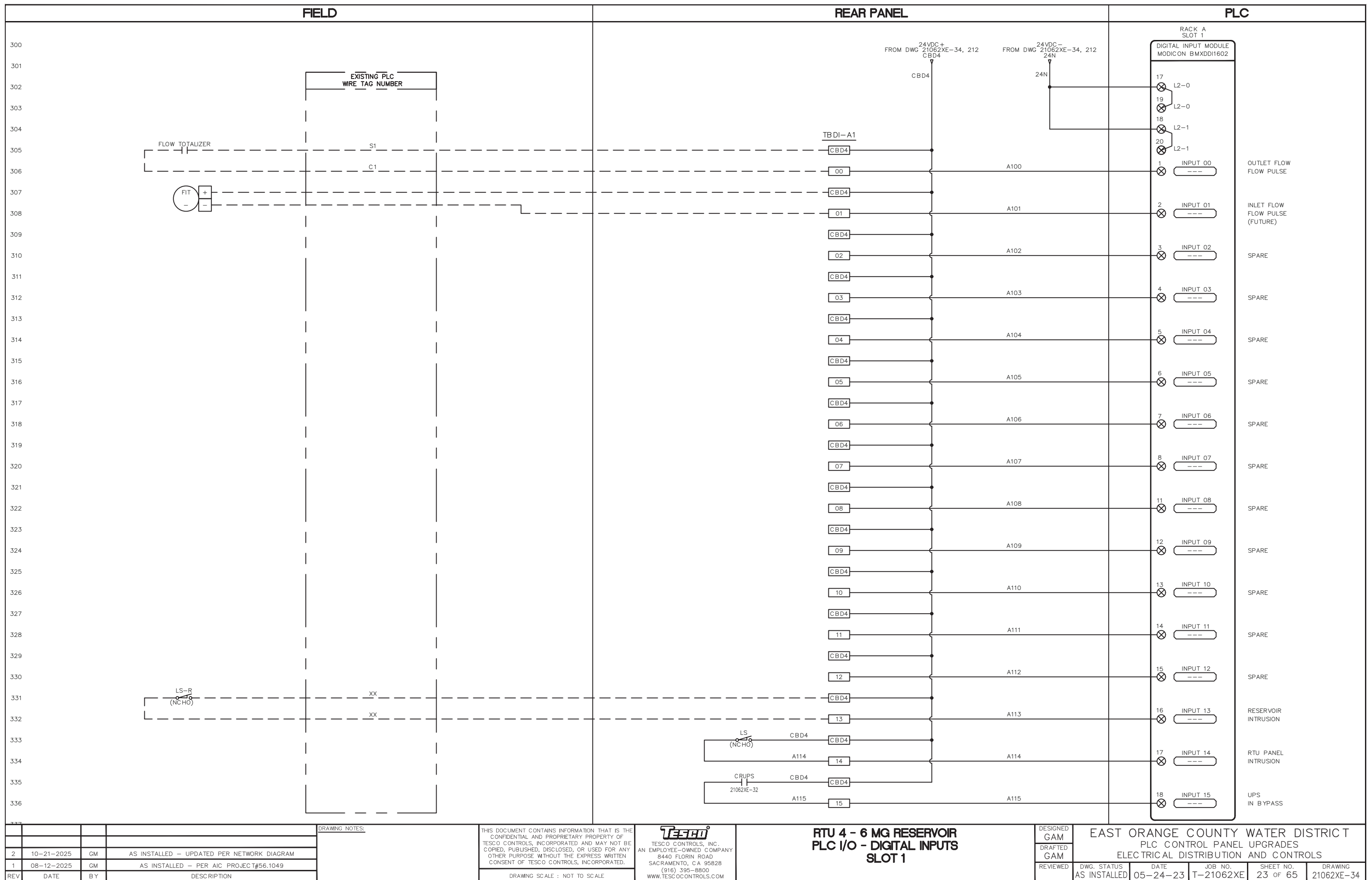
THIS DOCUMENT CONTAINS INFORMATION THAT IS THE CONFIDENTIAL AND PROPRIETARY PROPERTY OF TESCO CONTROLS, INCORPORATED AND MAY NOT BE COPIED, PUBLISHED, DISCLOSED, OR USED FOR ANY OTHER PURPOSE WITHOUT THE EXPRESS WRITTEN CONSENT OF TESCO CONTROLS, INCORPORATED.
DRAWING SCALE : NOT TO SCALE

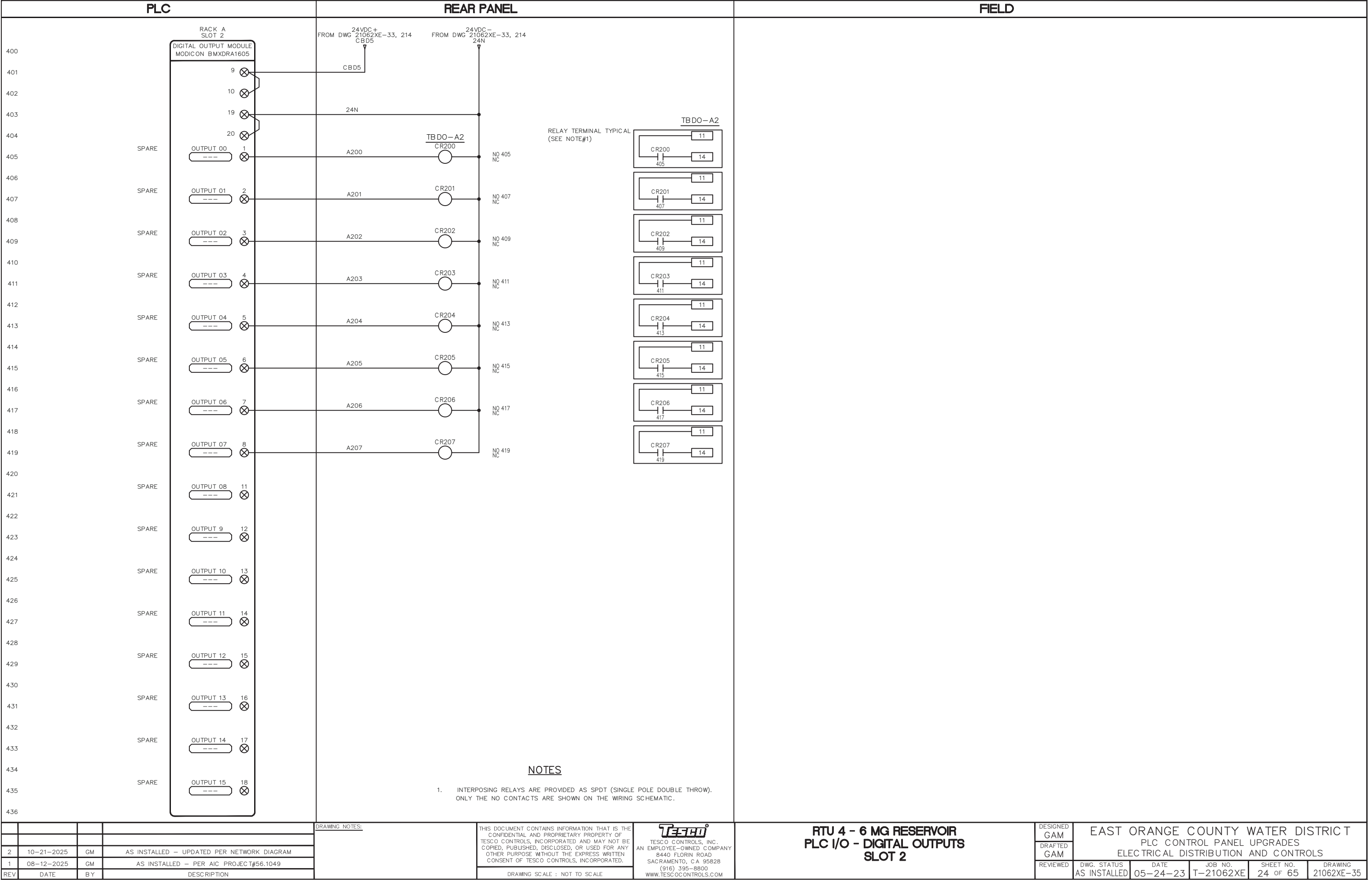
TESCO
TESCO CONTROLS, INC.
AN EMPLOYEE-OWNED COMPANY
8440 FLORIN ROAD
SACRAMENTO, CA 95828
(916) 395-8800
WWW.TESCOCONTROLS.COM

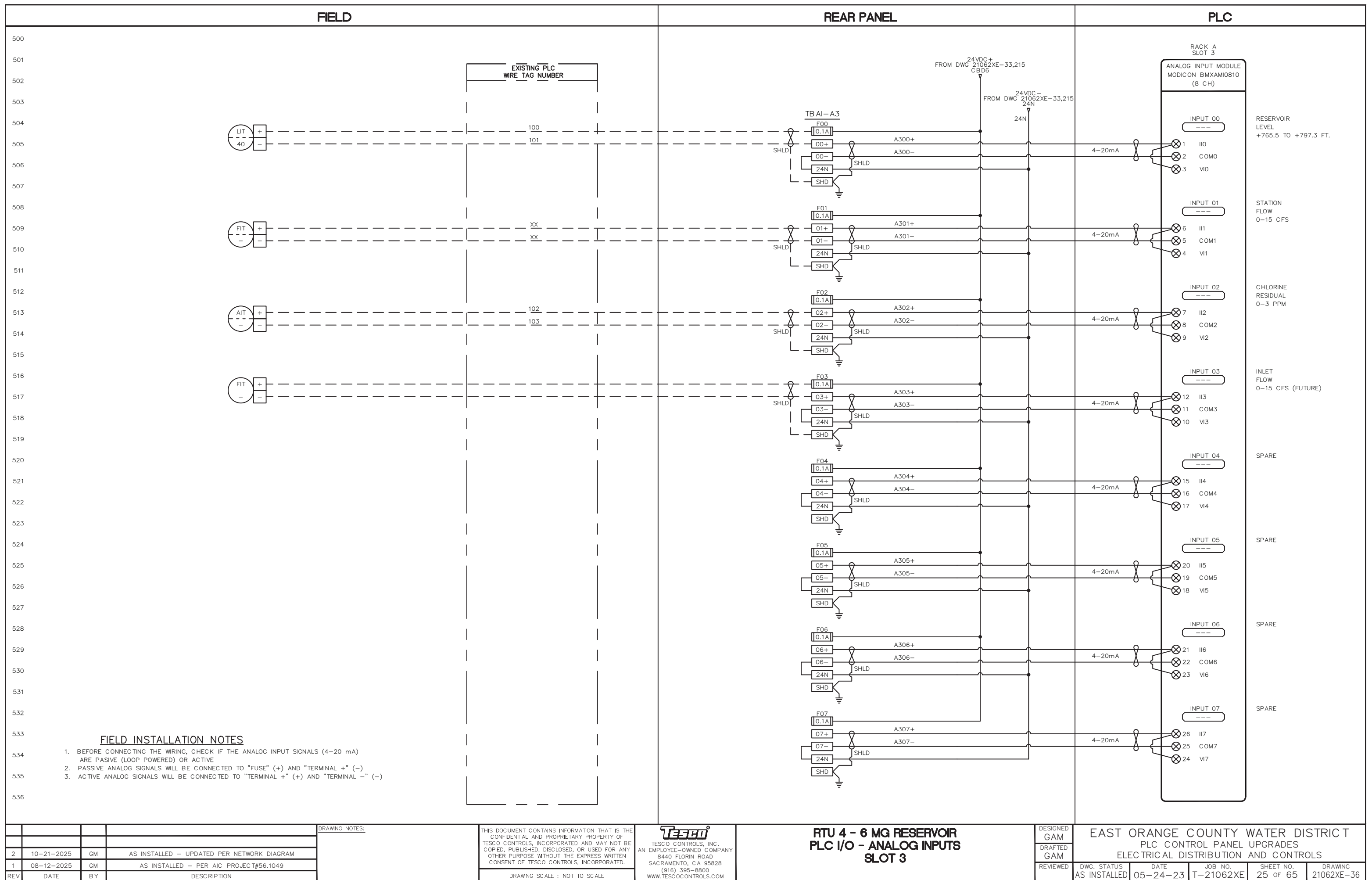
RTU 4 - 6 MG RESERVOIR ELEVATION

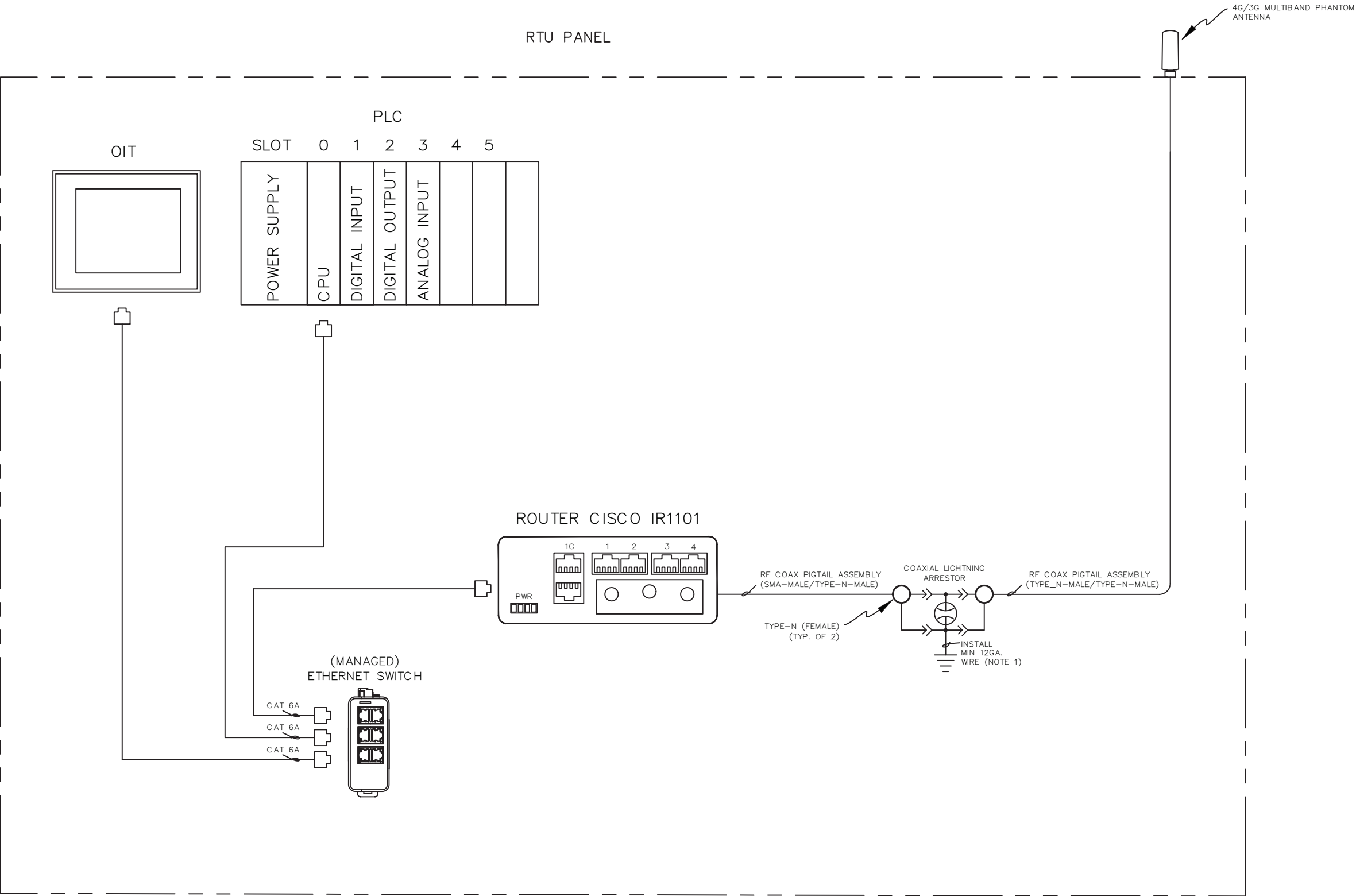
DESIGNED GAM	EAST ORANGE COUNTY WATER DISTRICT PLC CONTROL PANEL UPGRADES ELECTRICAL DISTRIBUTION AND CONTROLS				
DRAFTED GAM					
REVIEWED	DWG. STATUS AS INSTALLED	DATE 05-24-23	JOB NO. T-21062XE	SHEET NO. 20 of 65	DRAWING 21062XE-31











NOTES

1. GROUNDING SYSTEM AND GROUND CONNECTOR BOUNDING PER N.E.C. REQUIREMENTS. CONNECT SHOWN GROUNDS TO GROUNDING ROD.

REV	DATE	BY	DESCRIPTION
2	10-21-2025	GM	AS INSTALLED - UPDATED PER NETWORK DIAGRAM
1	08-12-2025	GM	AS INSTALLED - PER AIC PROJECT#56.1049

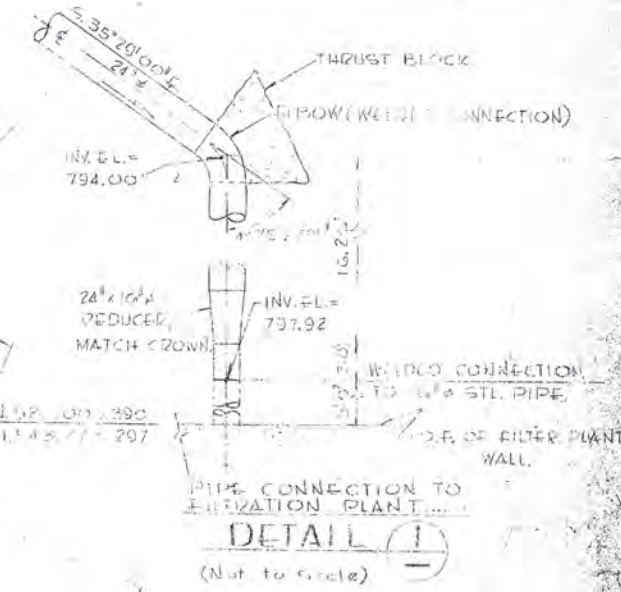
DRAWING NOTES:	
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DRAWING SCALE : NOT TO SCALE

TESCO TESCO CONTROLS, INC. AN EMPLOYEE-OWNED COMPANY 8440 FLORIN ROAD SACRAMENTO, CA 95828 (916) 395-8800 WWW.TESCOCONTROLS.COM
--

RTU 4 - 6 MG RESERVOIR COMMUNICATION DIAGRAM

DESIGNED GAM	EAST ORANGE COUNTY WATER DISTRICT PLC CONTROL PANEL UPGRADES ELECTRICAL DISTRIBUTION AND CONTROLS				
DRAFTED GAM	DWG. STATUS AS INSTALLED	DATE 05-24-23	JOB NO. T-21062XE	SHEET NO. 26 OF 65	DRAWING 21062XE-37



NOTE: 6' HIGH, 3 STRAND BARE WIRE, CHAIN LINK FENCE AS FABRICATED BY "REALOCK" OR APP'D. EQUAL, LINE POSTS SHALL BE 2 1/2" O.D. PIPE AND POSTS 3" O.D. POST SPACING SHALL NOT EXCEED 10' AND SET 36" DEEP IN CONC. ALL FOOTINGS DOWED TO SHED WATER. FABRIC SHALL BE 2" No. 9 GAGE.

RECORD DRAWING

THESE RECORD DRAWINGS APPLY ONLY TO THOSE FACILITIES CONSTRUCTED UNDER THE CONTRACT IDENTIFIED IN THE TITLE BLOCK AND HAVE BEEN PREPARED, IN PART, ON THE BASIS OF INFORMATION COMPILED AND FURNISHED BY OTHERS. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THIS DRAWING AS A RESULT OF THE WORK BY OTHERS. IF THE PRECISE LOCATION OF ANY FACILITY IS REQUIRED, THE FACILITY SHOULD BE FIELD LOCATED IN THE PRESENCE OF DISTRICT PERSONNEL.

LEGEND

1	6-12-79	REVISED BLK. TOP PAD & ADDED SEWER	S.V.H.
2	1-2-80	RELOCATE STUR	D.V.M.
3	6-4-80	DIMENSION REVISIONS	D.V.M.
REV.	DATE	DESCRIPTION	APPROD.
EAST ORANGE COUNTY WATER DISTRICT ORANGE COUNTY, CALIFORNIA.			
6 MG. RESERVOIR RESERVOIR and FILTRATION PLANT PLOT PLAN			
BOYLE ENGINEERING 412 SO. LYON SANTA ANA, CALIF.			
DESIGNED BY d.v.m.-c.w.s.	DRAWN BY d.v.	APPROVED BY <i>[Signature]</i>	SHEET 17a
CHECKED BY d.v.m.	DATE 6-8-83		OF 20 SHEETS

- BILL OF MATERIALS:**
- 20" x 21" ECCENTRIC REDUCER
 - 24" x 20" ECCENTRIC REDUCER
 - SEWER FITTING NOTE NO. 1
 - ALLIS-CHALMERS 20", 125-125 CAST IRON WAFER VALVE, RUBBER SEATS, 125 LB. LINE PRESSURE, 125 LB. SHUTOFF, OR APP'D. EQUAL.

- BILL OF MATERIALS:**
- ASSOC. CONC. PROD. INC. STD. 12" I.D. MIN. W/36" I.D. ECCENTRIC FLAT TOP, OR APP'D. EQUAL.
 - M.H. FRAME AND COVER, 36" MIN. CLR. OPENING, ALHAMBRA FOUNDRY A-1251-B, OR APP'D. EQUAL.

RESERVOIR and FILTRATION PLANT
PLOT PLAN
Scale: 1" = 40.0'
(ALSO SEE SHEET No. 1-A.)

N 588,643.349
E 1,542,071.187

SAFCO PRODUCTS • NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 8552

DRAWING NUMBER

SAPCO PRODUCTS • NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 6552
POSITION LINE OF PRINT ON THIS LINE

DRAWING NUMBER

SAPCO PRODUCTS • NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 6552
POSITION LINE OF PRINT ON THIS LINE

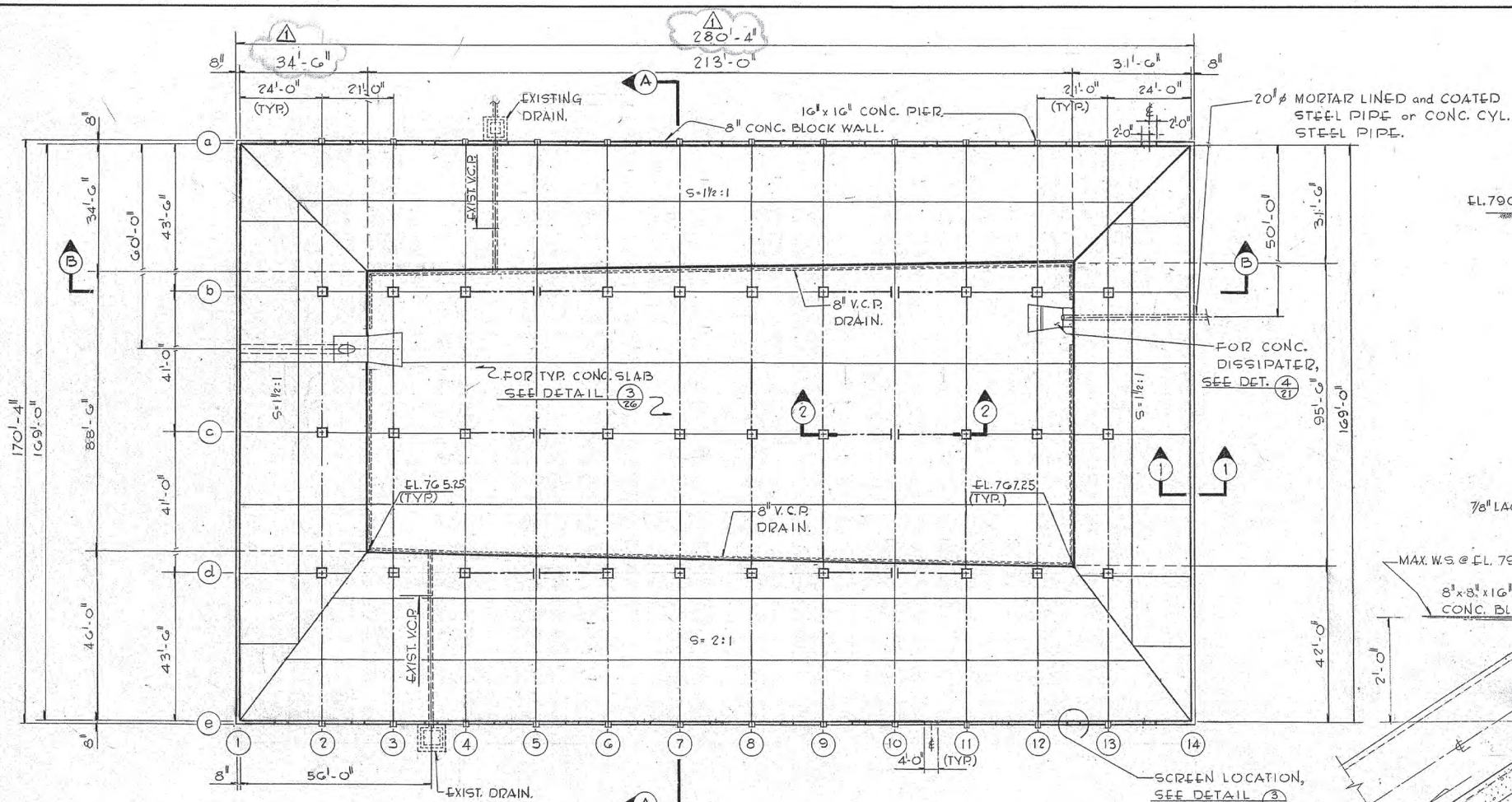
DRAWING NUMBER

SAPCO PRODUCTS • NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 6552
POSITION LINE OF PRINT ON THIS LINE

DRAWING NUMBER

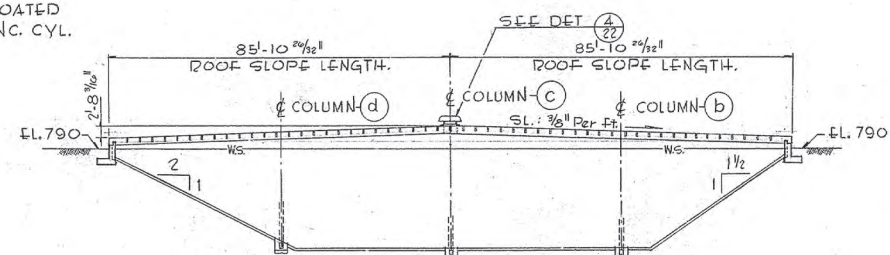
SAPCO PRODUCTS • NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 6552
POSITION LINE OF PRINT ON THIS LINE

EAST FILE COMP. HANGER FEELER

D-1107
Sheet 19 of 26

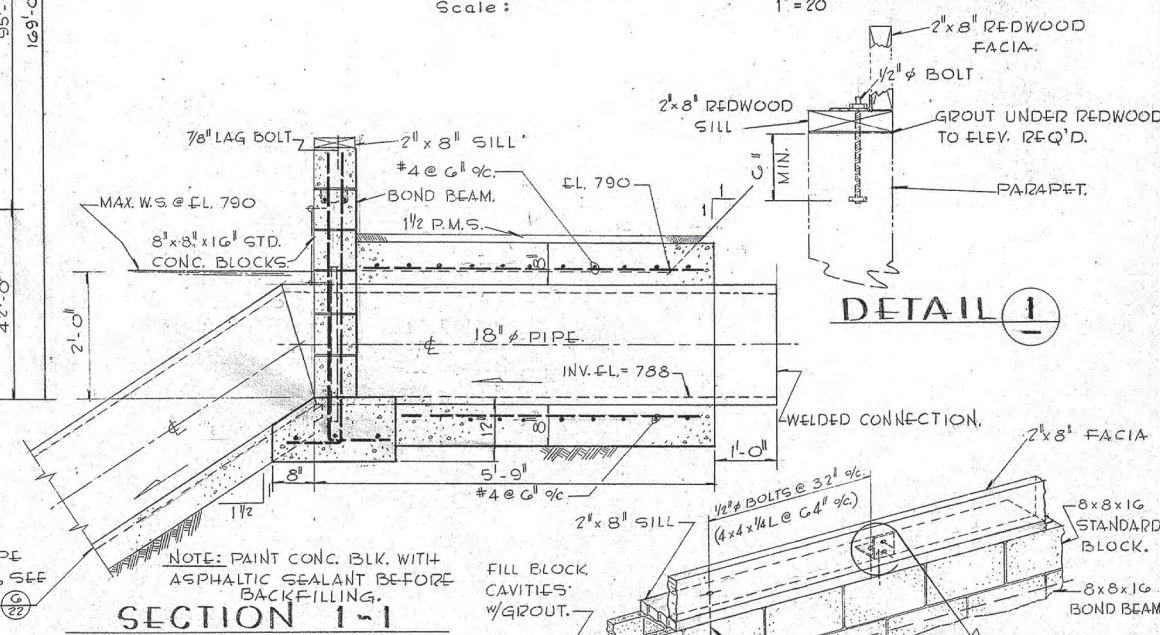
PLAN

Scale: 1" = 20'

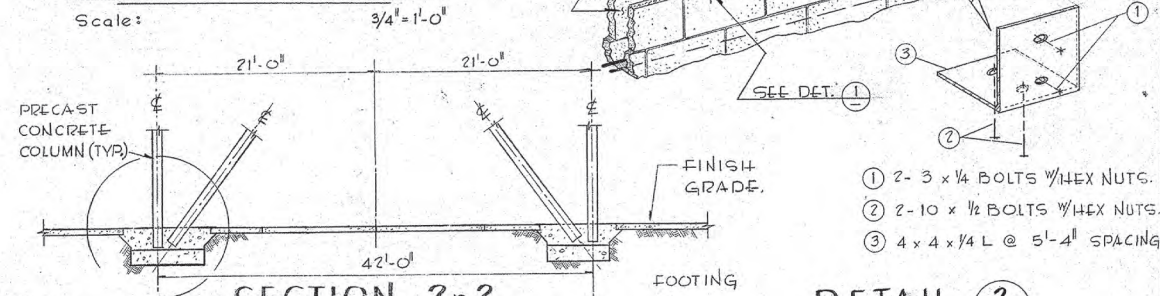


SECTION A-A

Scale: 1" = 20'

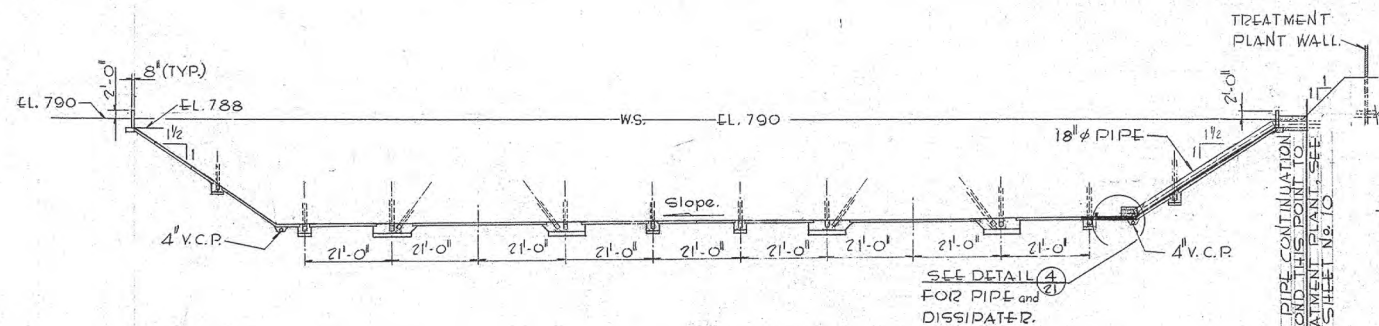


DETAIL 1



SECTION 2-2

Scale: 1/8" = 1'-0'



SECTION B-B

Scale: 1" = 20'

- ① 2-3 x 1/4 BOLTS w/ HEX NUTS.
- ② 2-10 x 1/2 BOLTS w/ HEX NUTS.
- ③ 4 x 4 x 1/4 L @ 5'-4" SPACING

DETAIL 2

Not To Scale.

NORTH & SOUTH SIDE ONLY

REV.	DATE	DESCRIPTION	D.W.M.	APPR'D.
1	6-21-63	DIMENSION CHANGE.		
EAST ORANGE COUNTY WATER DISTRICT				
ORANGE COUNTY, CALIFORNIA				
6 M.G. RESERVOIR				
COLUMN LOCATION PLAN.				
BOYLE ENGINEERING				
412 S. LYON SANTA ANA, CALIF.				
DESIGNED BY:	412 S. LYON	DRAWN BY:	412 S. LYON	SHEET
d.v.m.	d.r.j.	d.v.m.	d.r.j.	19
CHECKED BY:	4-8-63	DATE:	4-8-63	OF 26 SHEETS
d.v.m.	4-8-63			J.N. 83623

DRAWING NUMBER

DRAWING NUMBER

DRAWING NUMBER

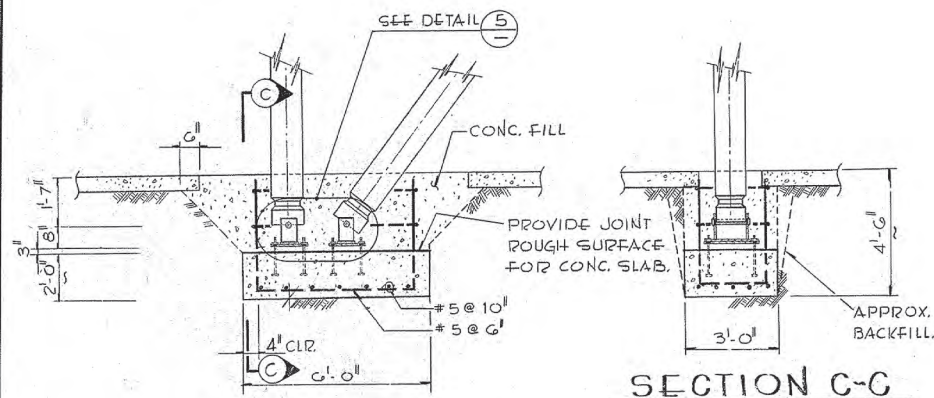
DRAWING NUMBER

SACCO PRODUCTS • NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 6552
POSITION LINE OF PRINT ON THIS LINESACCO PRODUCTS • NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 6552
POSITION LINE OF PRINT ON THIS LINESACCO PRODUCTS • NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 6552
POSITION LINE OF PRINT ON THIS LINESACCO PRODUCTS • NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 6552
POSITION LINE OF PRINT ON THIS LINE

EASH FILE CORP. HANGER EPH115

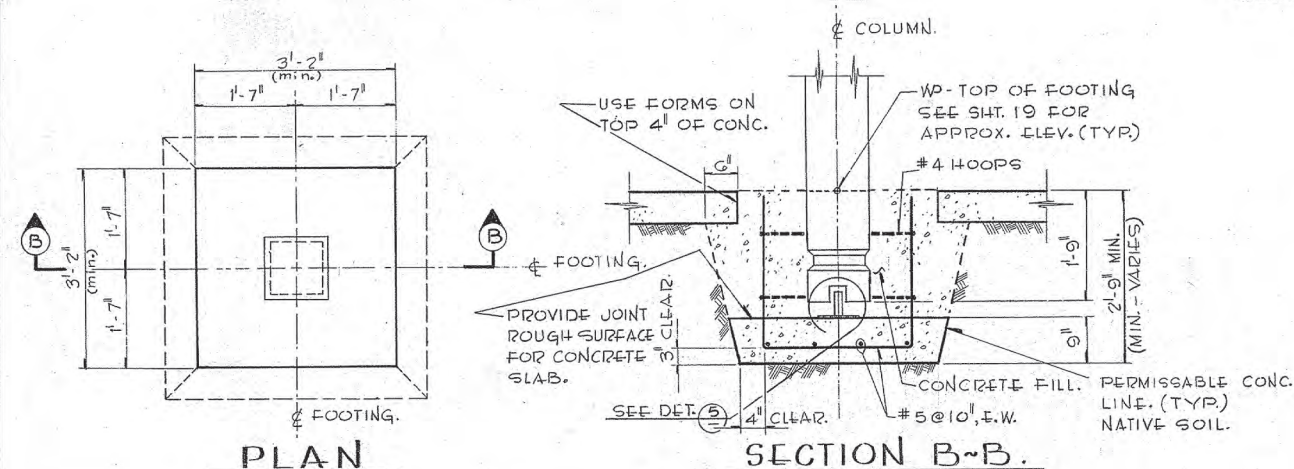
D-1107

Sheet 20 of 26



DETAIL 1

Scale: 3/8" = 1'-0"



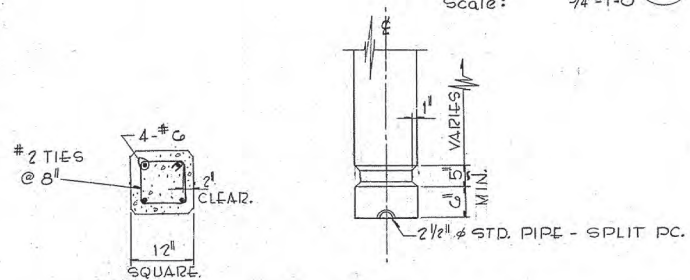
PLAN

SECTION B-B

COLUMN FOOTING

DETAIL 4

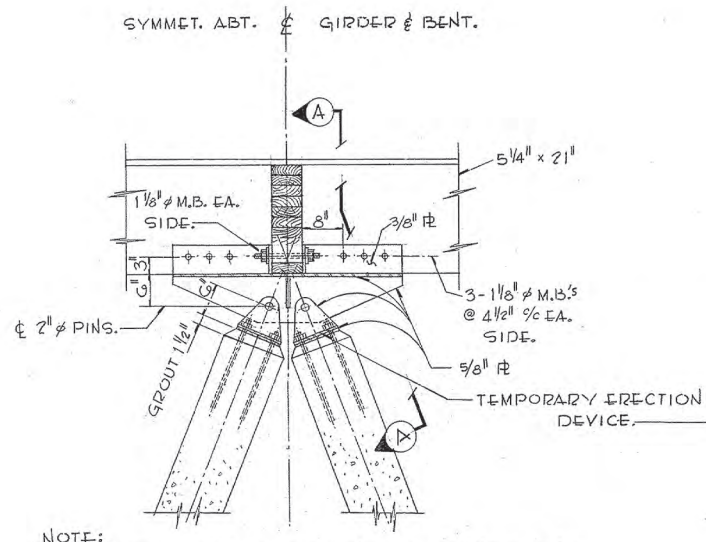
Scale: 3/4" = 1'-0"



TYPICAL PRECAST COLUMN BASE

DETAIL 6

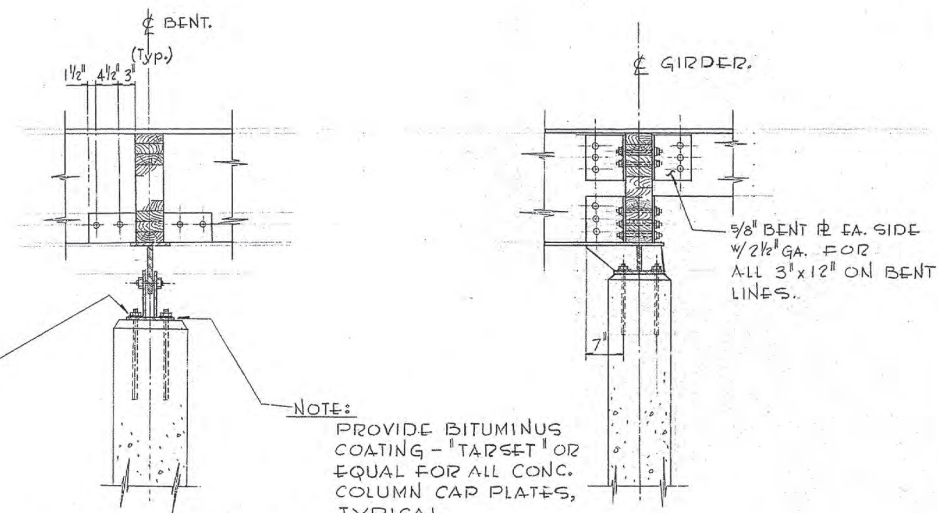
Scale: 3/4" = 1'-0"



NOTE: FABRICATION OF COLUMN CAP CONNECTIONS SIMILAR TO DETAILS

DETAIL 2

Scale: 3/4" = 1'-0"

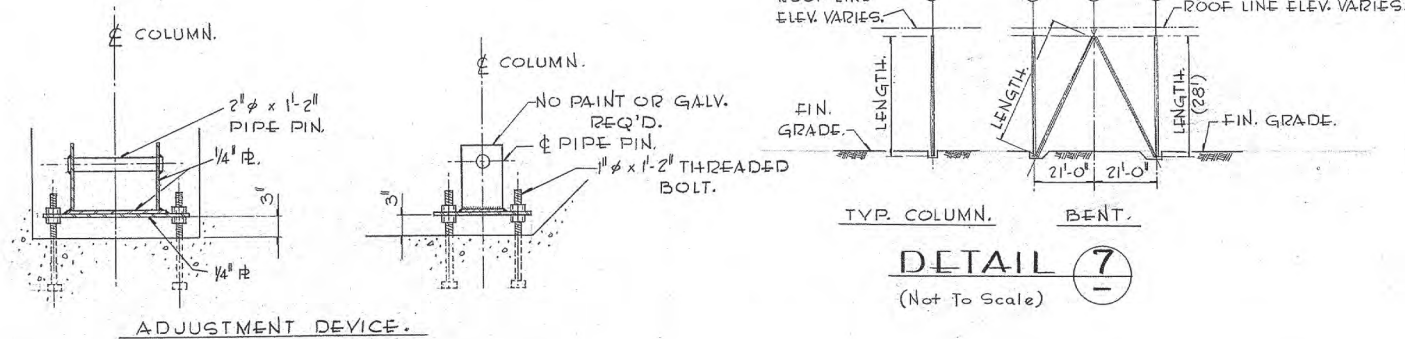


NOTE: PROVIDE BITUMINUS COATING - TAPSET OR EQUAL FOR ALL CONC. COLUMN CAP PLATES, TYPICAL.

SECTION A-A

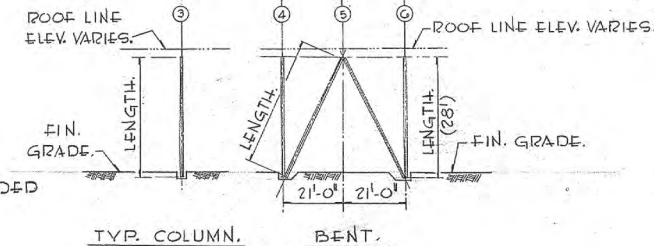
DETAIL 3

Scale: 3/4" = 1'-0"



DETAIL 5

Scale: 1" = 1'-0"



DETAIL 7

(Not To Scale)

NOTES (DET. 6)

- PRECAST:
1. CONCRETE TO DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 3000 P.S.I. IN 28 DAYS. LIGHTWEIGHT AGGREGATE MAY BE USED.
- ERECTION:
1. ERECTOR TO PROVIDE TEMPORARY BRACING REQ'D. FOR STAYING COLUMNS DURING ERECTION.
- GENERAL:
1. COLUMN LENGTHS AS SHOWN ON ARE FOR BID PURPOSES ONLY. CONTRACTOR TO ESTABLISH CORRECTED TOP OF FOOTING ELEV. BEFORE FABRICATION OF COLUMNS.
- GEN'L. (CONT.)
2. EQUIVALENT CONNECTION DETAILS FOR PRECAST COLUMNS MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.
 3. ALL EXPOSED METAL PARTS SHALL BE GALVANIZED.

REV.	DATE	DESCRIPTION	APPR'D.
EAST ORANGE COUNTY WATER DISTRICT ORANGE COUNTY, CALIFORNIA			
6 M.G. RESERVOIR COLUMN DETAILS.			
BOYLE ENGINEERING 412 S. LYON SANTA ANA, CALIF.			
DESIGNED BY: d.v.m.	DRAWN BY: d.r.j.	APPROVED: [Signature]	SHEET 20
CHECKED BY: d.v.m.	DATE: 4-8-63		OF 26 SHEETS

DRAWING NUMBER

DRAWING NUMBER

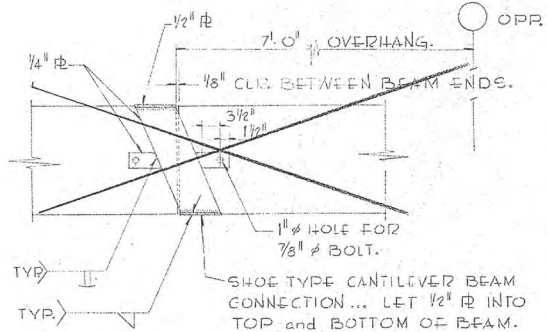
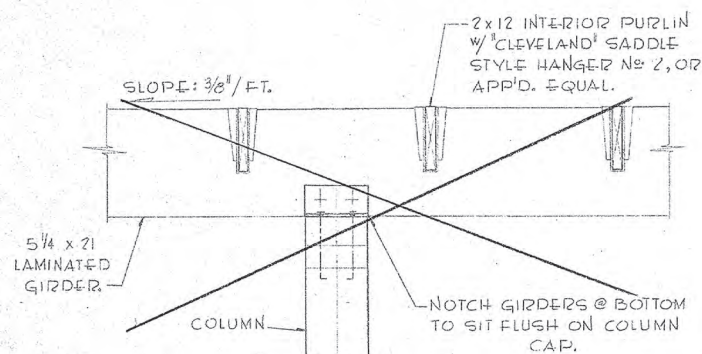
DRAWING NUMBER

DRAWING NUMBER

SARGO PRODUCTS • NEW HOPE, MINNESOTA
REPRODUCED BY PART NUMBER 8032
POSITION LINE OF PRINT ON THIS LINE

EAST ORANGE COUNTY, CALIF. HANGER EP124

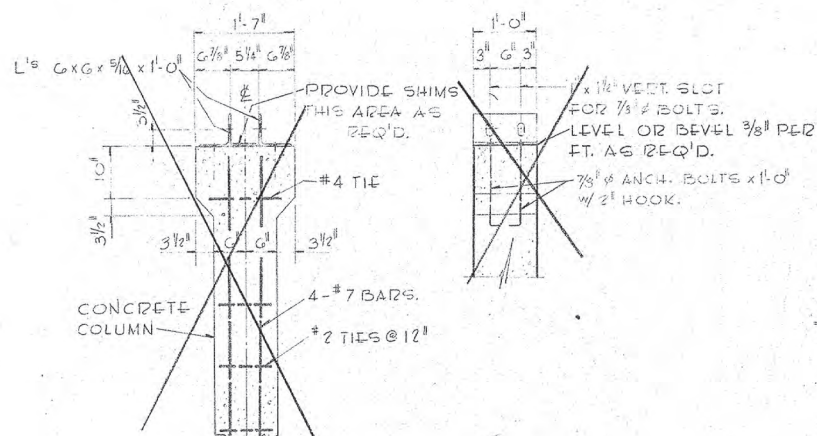
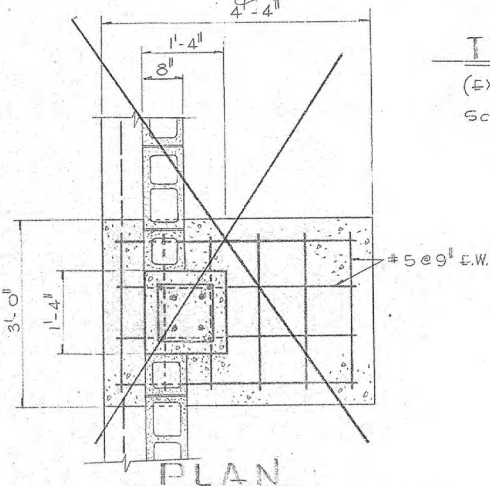
D-1107
21 REVISION



TYPICAL SECTION

(EXCEPT AS OTHERWISE NOTED)

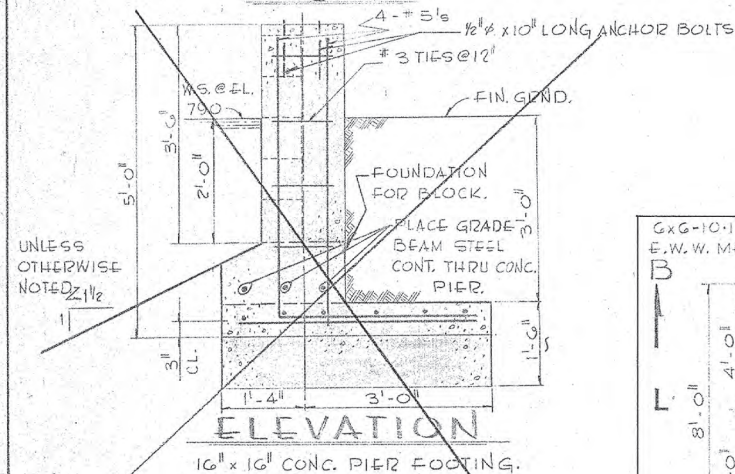
Scale: 3/4" = 1'-0"



DETAIL 2

(TYPICAL)

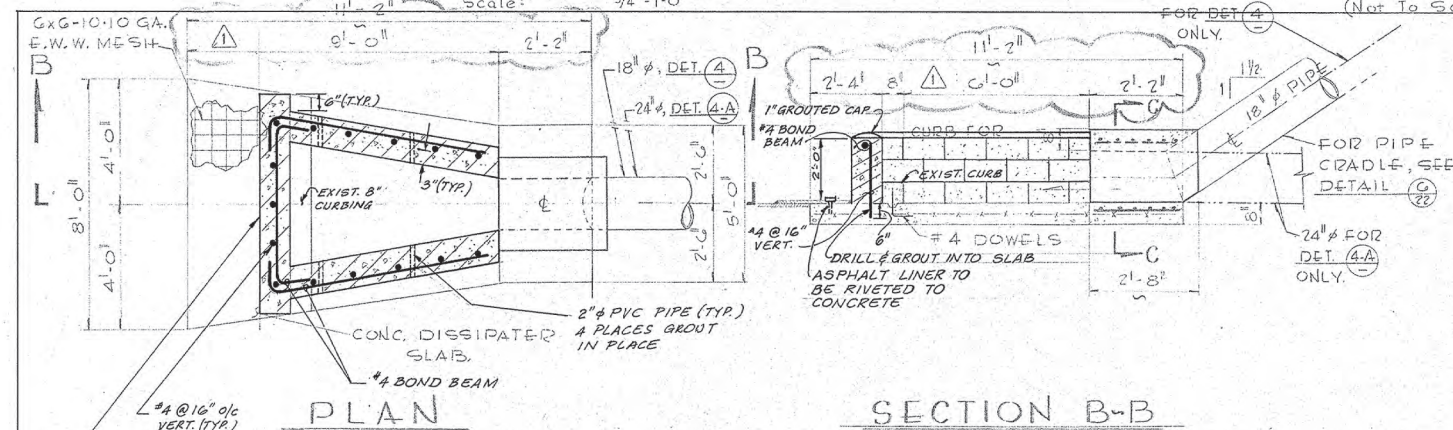
Scale: 3/4" = 1'-0"



DETAIL 1

Scale: 3/4" = 1'-0"

NORTH and SOUTH SIDES.



SECTION B-B

DETAIL 4

Scale: 3/8" = 1'-0"

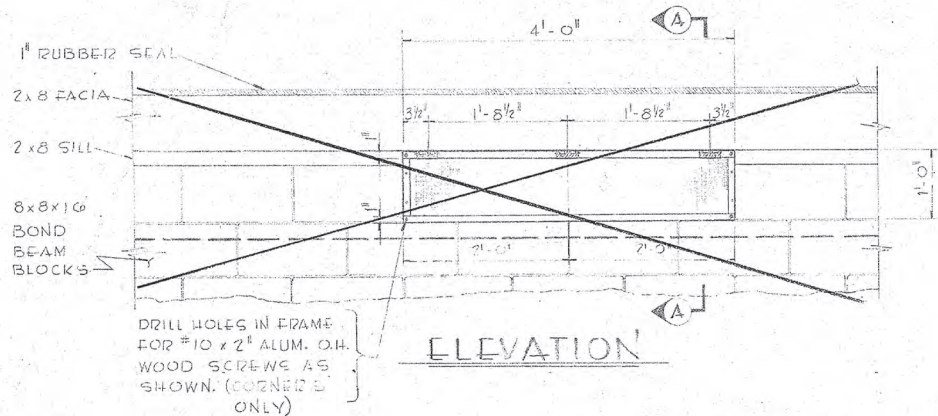
DETAIL 4 INLET

DETAIL 4A OUTLET

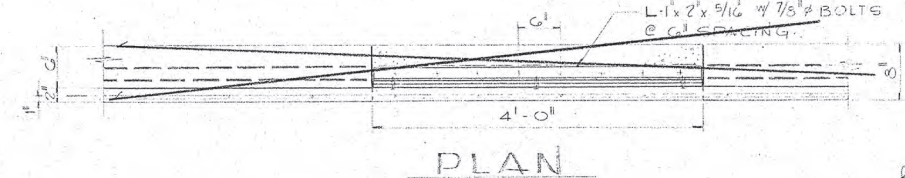
ENERGY DISSIPATER STRUCTURE

DESIGN: H.R.G.
CHECK: D.C.S.
DRAWN: S.V.H.

DATE: 4-22-80

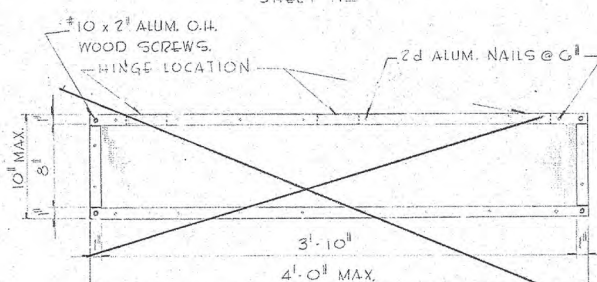


ELEVATION

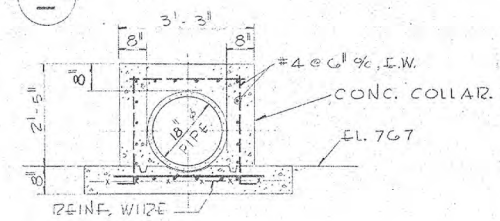


PLAN

NOTE:
FOR SCREEN LOCATIONS
IN CONC. BLOCK WALL,
SEE RESERVOIR PLAN
SHEET NO.

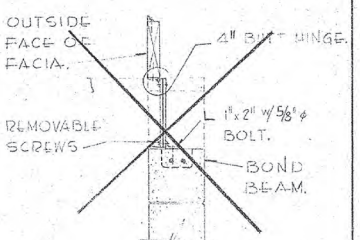


SCREEN and FRAMING DETAILS

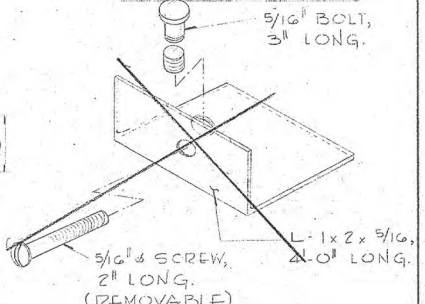


SECTION C-C

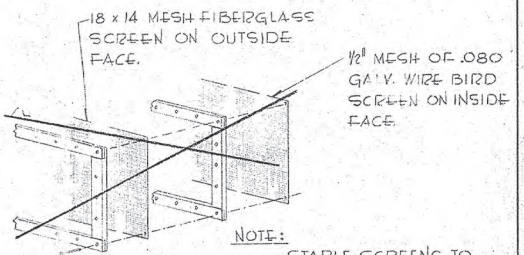
Scale: 1/2" = 1'-0"



SECTION A-A



(Not To Scale)



NOTE:
STAPLE SCREENS TO
REDWOOD FRAMES
w/ 7/8\"/>

REV.	DATE	REVISION	DESCRIPTION	BY	APP'D.
1	9-13-83	REVISE DISSIPATER DIMENSIONS		DYM	
EAST ORANGE COUNTY WATER DISTRICT					
ORANGE COUNTY, CALIFORNIA					
6 M.G. RESERVOIR					
SCREENS & MISC. DETAILS					
BOYLE ENGINEERING					
412 SO. LYON SANTA ANA, CALIF.					
DESIGNED BY:	D.V.M.	DRAWN BY:	S.V.H.	APPROVED BY:	[Signature]
CHECKED BY:	D.V.M.	DATE:	4-8-83	SHEET	21
					OF 26 SHEETS
J.N. 93623					

DRAWING NUMBER

DRAWING NUMBER

DRAWING NUMBER

DRAWING NUMBER

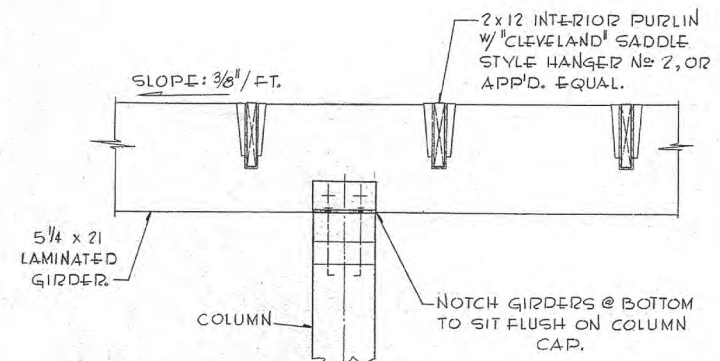
SACCO PRODUCTS • NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 6552
PORTION BASE OF PRINT ON THIS LINE

SACCO PRODUCTS • NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 6552
PORTION BASE OF PRINT ON THIS LINE

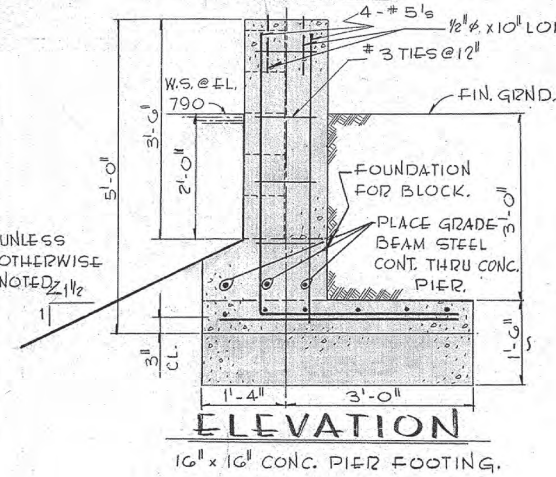
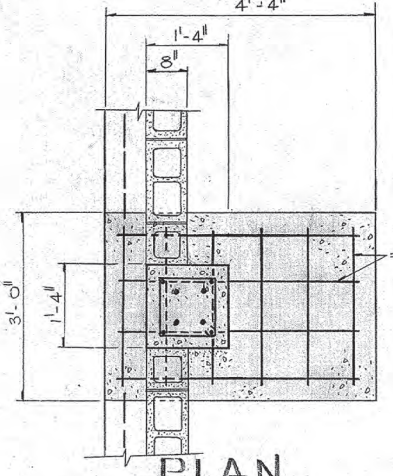
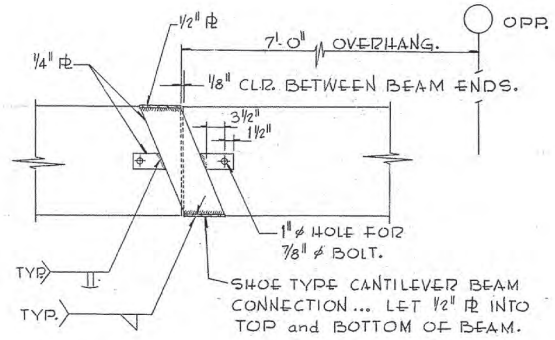
SACCO PRODUCTS • NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 6552
PORTION BASE OF PRINT ON THIS LINE

SACCO PRODUCTS • NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 6552
PORTION BASE OF PRINT ON THIS LINE

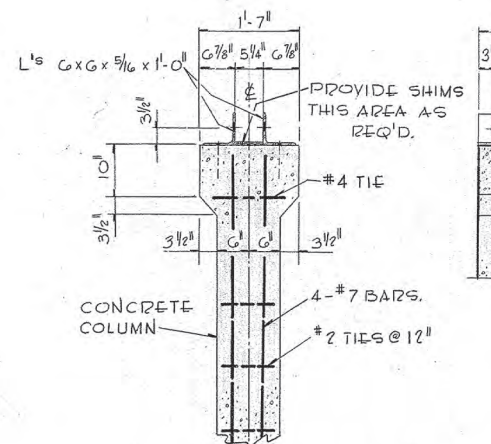
EAST FILE CORP.
HANGER FRAMES
D-1107
Sheet 21 of 26



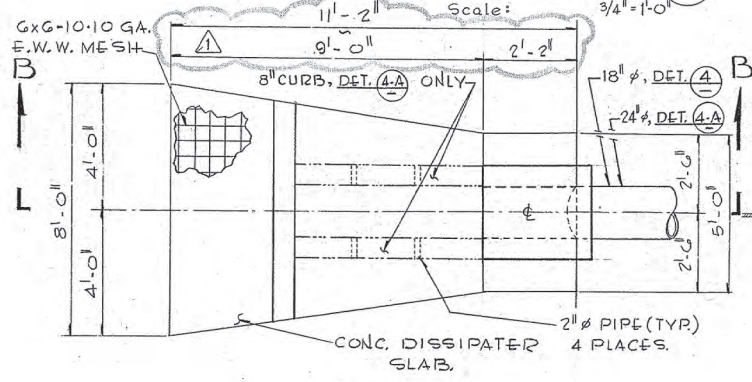
TYPICAL SECTION
(EXCEPT AS OTHERWISE NOTED)
Scale: 3/4\"/>



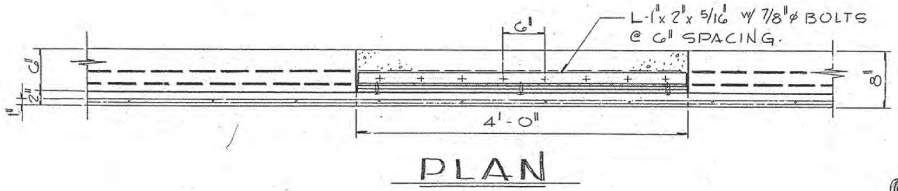
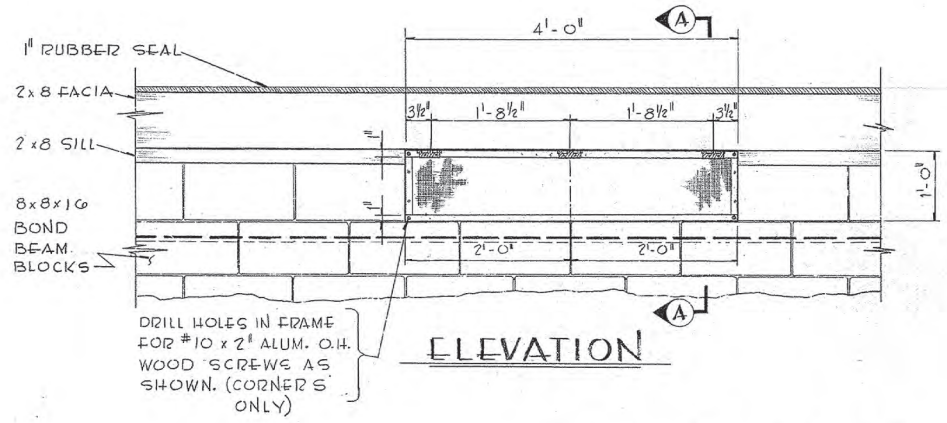
DETAIL 1
Scale: 3/4\"/>



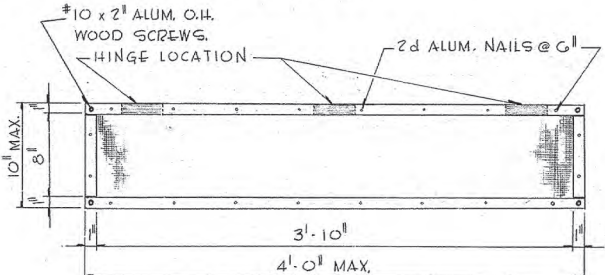
DETAIL 2
(TYPICAL)
Scale: 3/4\"/>



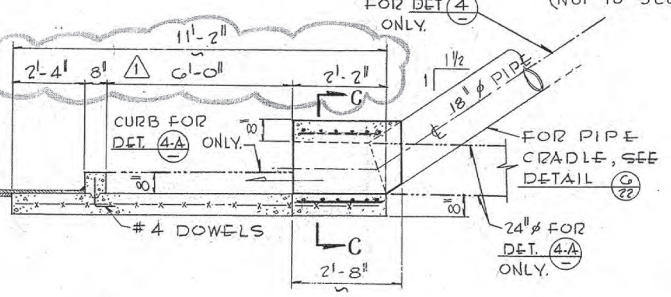
PLAN



NOTE:
FOR SCREEN LOCATIONS
IN CONC. BLOCK WALL,
SEE RESERVOIR PLAN
SHEET NO.

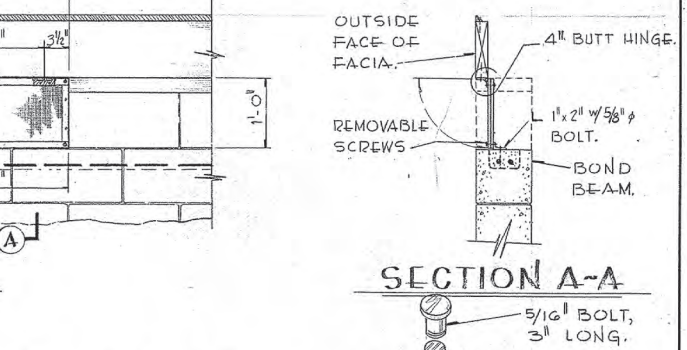


DETAIL 3
(Not To Scale)

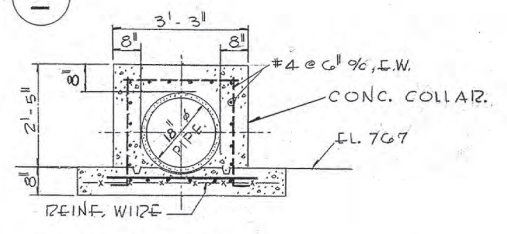
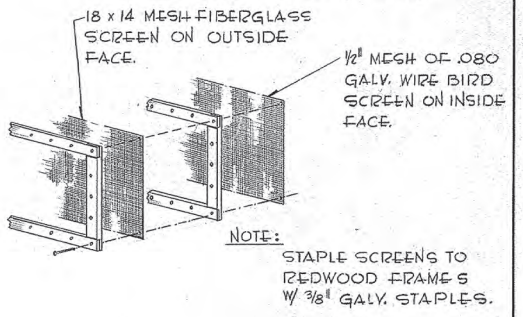
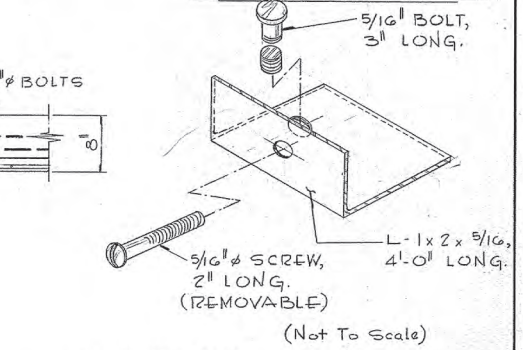


SECTION B-B

DETAIL 4
Scale: 3/8\"/>



SECTION A-A



SECTION C-C
Scale: 1/2\"/>

9-13-63	REVISE DISSIPATER DIMENSIONS	DYM
REV. DATE	DESCRIPTION	APPR'D.
EAST ORANGE COUNTY WATER DISTRICT ORANGE COUNTY, CALIFORNIA		
6 M.G. RESERVOIR		
SCREENS & MISC. DETAILS		
BOYLE ENGINEERING 412 SO. LYON SAN ANA, CALIF.		
DESIGNED BY: d.v.m.	DRAWN BY: d.r.j.	APPROVED BY: <i>[Signature]</i>
CHECKED BY: d.v.m.	DATE: 4-8-63	SHEET 21 OF 26 SHEETS

DRAWING NUMBER

SARGO PRODUCTS • NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 6552
PRINTED DATE OF PRINT ON THIS LINE

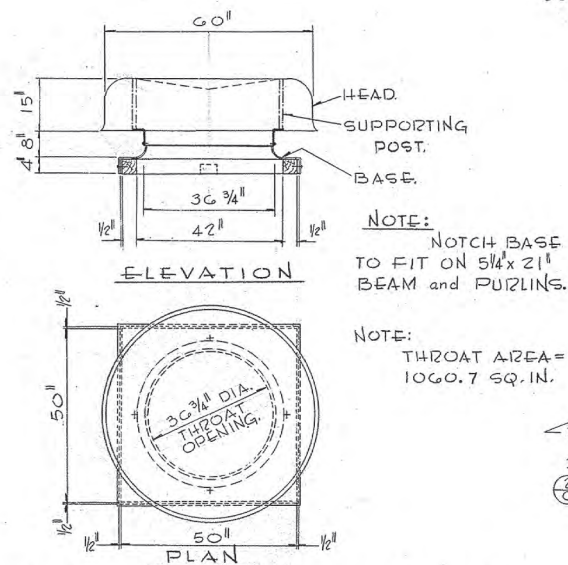
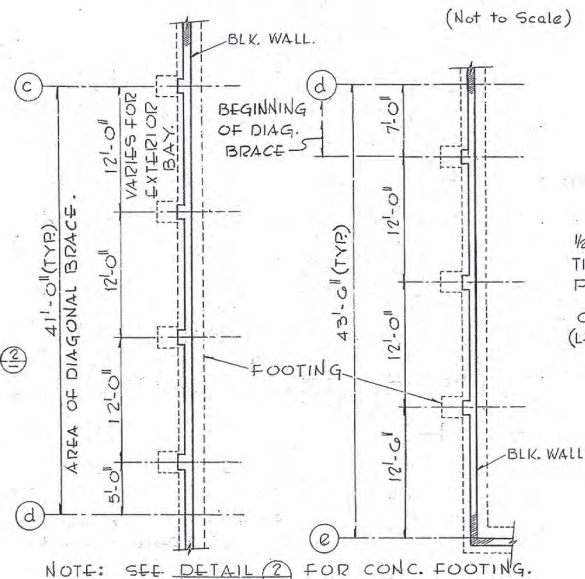
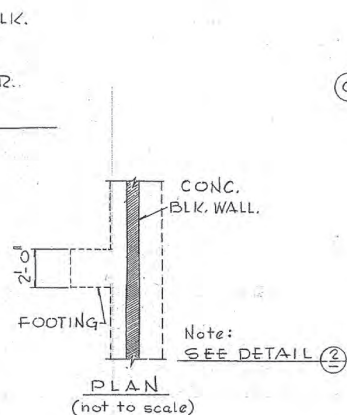
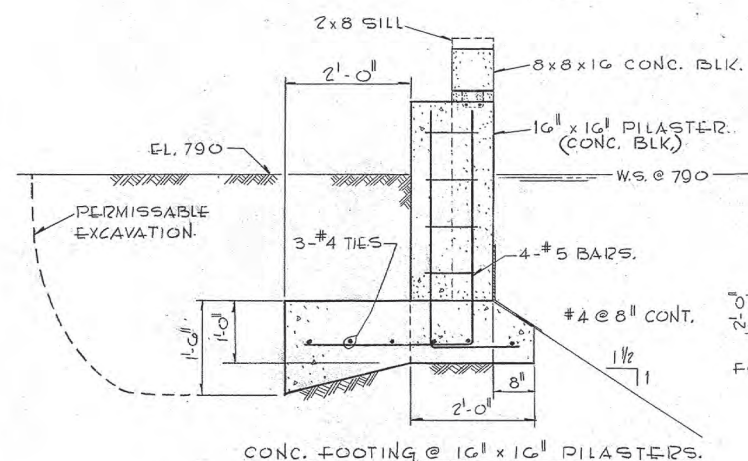
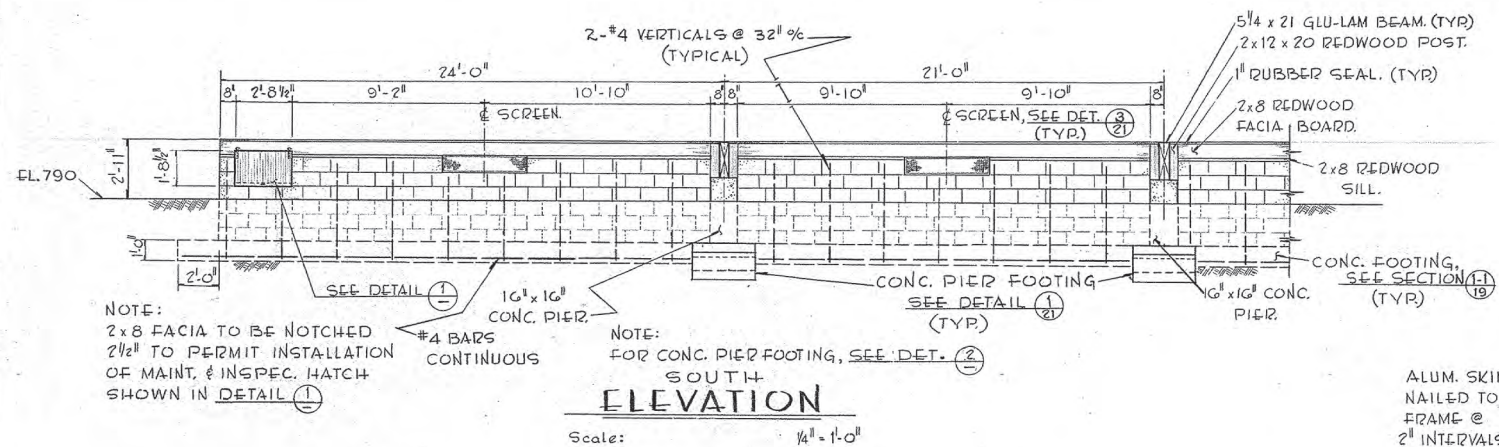
DRAWING NUMBER

SARGO PRODUCTS • NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 6552
PRINTED DATE OF PRINT ON THIS LINE

DRAWING NUMBER

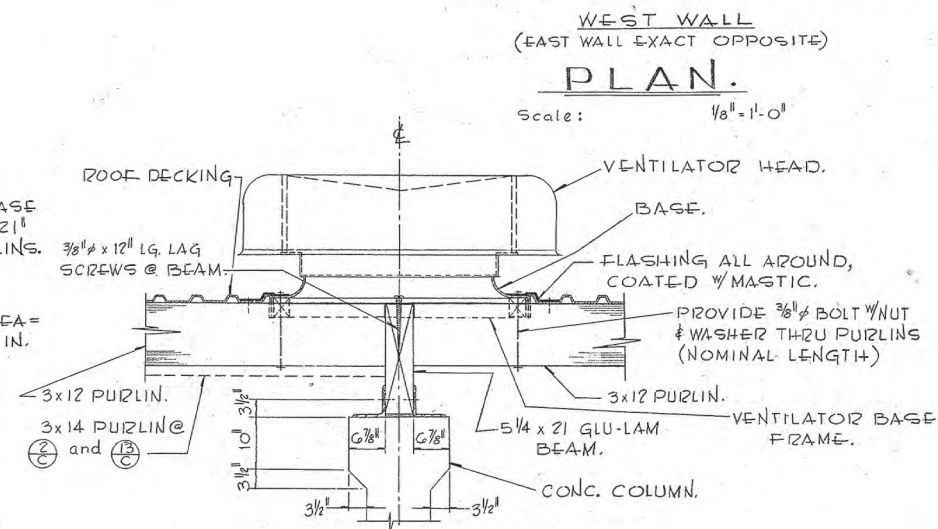
SARGO PRODUCTS • NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 6552
PRINTED DATE OF PRINT ON THIS LINE

DRAWING NUMBER

SARGO PRODUCTS • NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 6552
PRINTED DATE OF PRINT ON THIS LINEEAST FILE CORP.
HANGER EPH1150-1107
Sheet 22 of 26

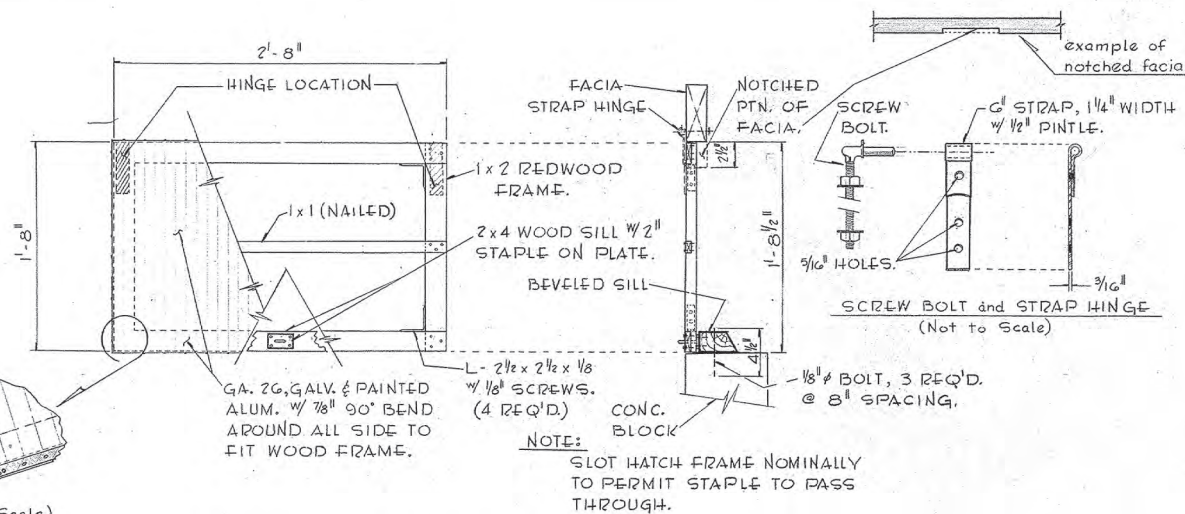
LOREN COOK PR-36 ROOF VENTILATOR
ALL SPUN ALUMINUM CONSTRUCTION.
(GRAVITY TYPE)

DETAIL 4
Scale: 1/2\" = 1'-0\"



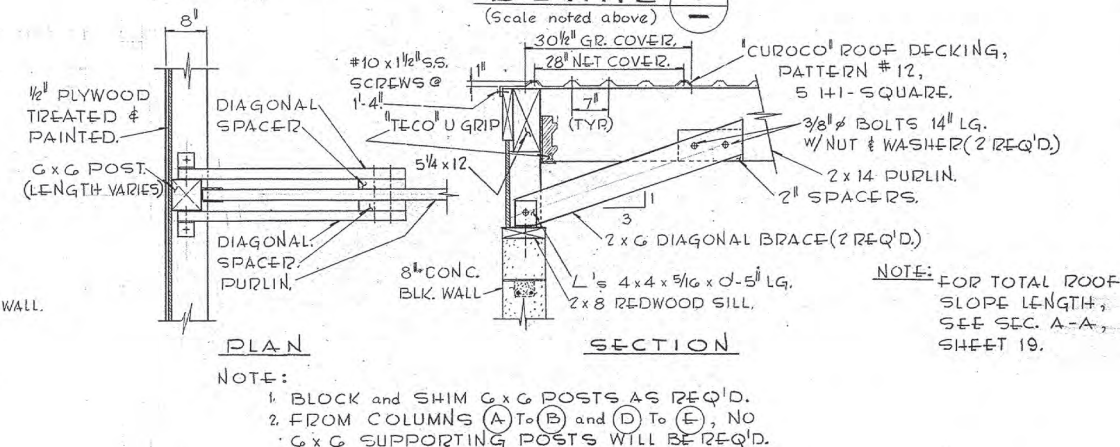
VENTILATOR ATTACHMENT TO
ROOF FRAMING.
(SOUTH ELEVATION)

DETAIL 5
Scale: 3/4\" = 1'-0\"



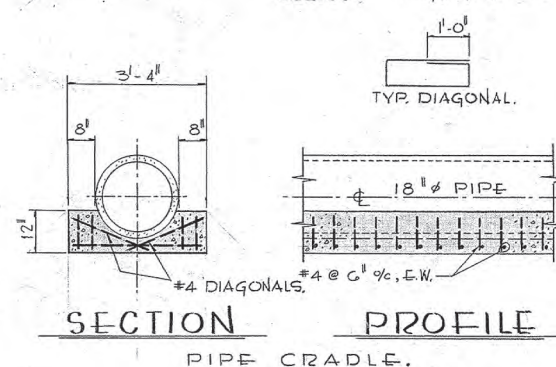
MAINTENANCE and INSPECTION HATCH
Scale: 1 1/2\" = 1'-0\"
4 M. and I. HATCHES REQ'D, 2 ON SOUTH WALL; 2 ON NORTH WALL.
TYP. LOCATION SHOWN ON WALL ELEV., THIS SHEET.

DETAIL 1
(Scale noted above)



NOTE:
1. BLOCK and SHIM G x G POSTS AS REQ'D.
2. FROM COLUMNS (A) TO (B) and (D) TO (E), NO
G x G SUPPORTING POSTS WILL BE REQ'D.

DETAIL 3
Scale: 3/4\" = 1'-0\"



SECTION PROFILE
PIPE CRADLE.

DETAIL 6
Scale: 1/2\" = 1'-0\"

REV.	DATE	DESCRIPTION	APPR'D.
EAST ORANGE COUNTY WATER DISTRICT ORANGE COUNTY, CALIFORNIA			
6 M.G. RESERVOIR			
MAINTENANCE & INSPECTION HATCH MISC. DETAILS.			
BOYLE ENGINEERING 412 SO. LYON SANTA ANA, CALIF.			
DESIGNED BY: d.v.m.	DRAWN BY: d.r.l.	APPROVED BY: <i>[Signature]</i>	SHEET 22 OF 26 SHEETS
CHECKED BY: d.v.m.	DATE: 4-8-63		

DRAWING NUMBER

DRAWING NUMBER

DRAWING NUMBER

DRAWING NUMBER

SACCO PRODUCTS • NEW HOPE, MINNESOTA
REPRODUCED BY PART NUMBER 6552
POSITION BASE OF PRINT ON THIS LINE

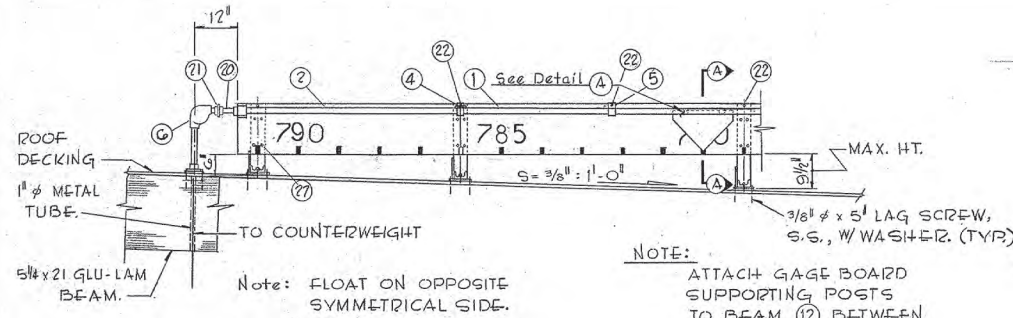
SACCO PRODUCTS • NEW HOPE, MINNESOTA
REPRODUCED BY PART NUMBER 6552
POSITION BASE OF PRINT ON THIS LINE

SACCO PRODUCTS • NEW HOPE, MINNESOTA
REPRODUCED BY PART NUMBER 6552
POSITION BASE OF PRINT ON THIS LINE

SACCO PRODUCTS • NEW HOPE, MINNESOTA
REPRODUCED BY PART NUMBER 6552
POSITION BASE OF PRINT ON THIS LINE

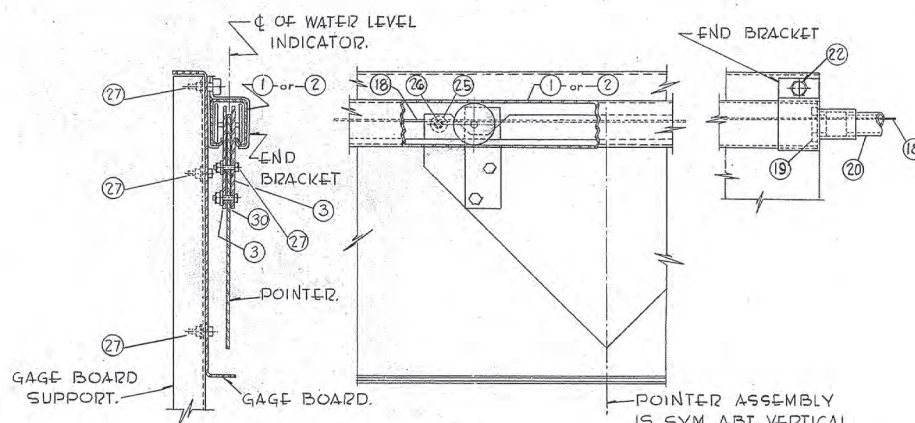
EAST FILE CORP. HANGER EFFLIS

D-1107
Sheet 23 of 26



ELEVATION WATER LEVEL INDICATOR

Scale: $1/2'' = 1'-0''$

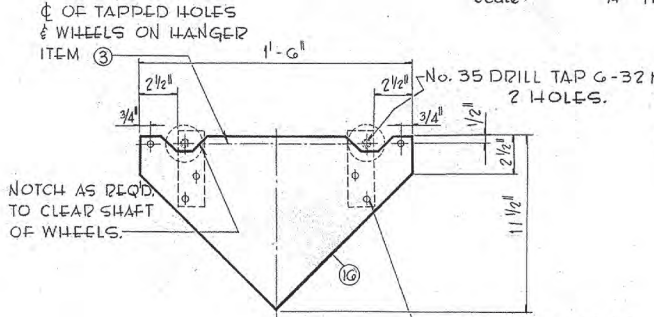


SECTION A-A

Scale: $1/4'' = 1'-0''$

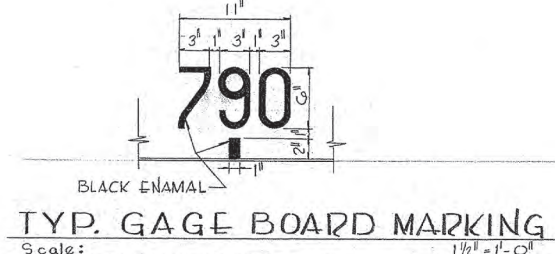
DETAIL A

Scale: $1/4'' = 1'-0''$

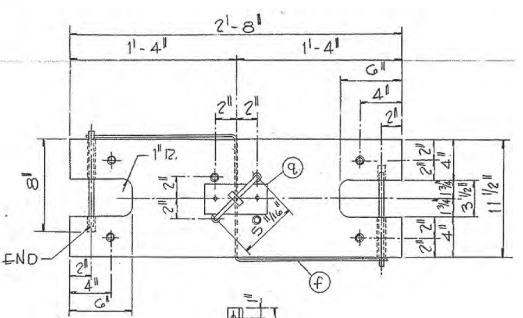


POINTER

Not to Scale...



TYP. GAGE BOARD MARKING
Scale: $1/2'' = 1'-0''$

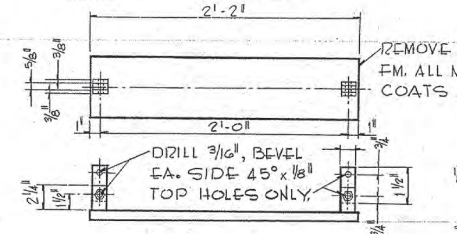


NOTE: ATTACH GAGE BOARD SUPPORTING POSTS TO BEAM (12) BETWEEN BAYS (B) AND (C). SEE SH. 18 FOR LOCATION.

ADD BRONZE BAR (Q) TO PROVIDE ASSEMBLED WEIGHT OF FLOAT EQUAL TO 18 POUNDS.

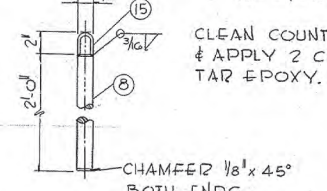
FLOAT

Scale: $1/2'' = 1'-0''$



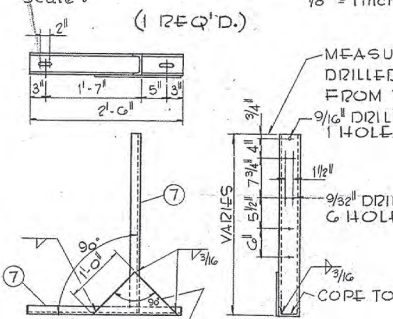
GUIDE WIRE WEIGHT

Scale: $1/2'' = 1'-0''$



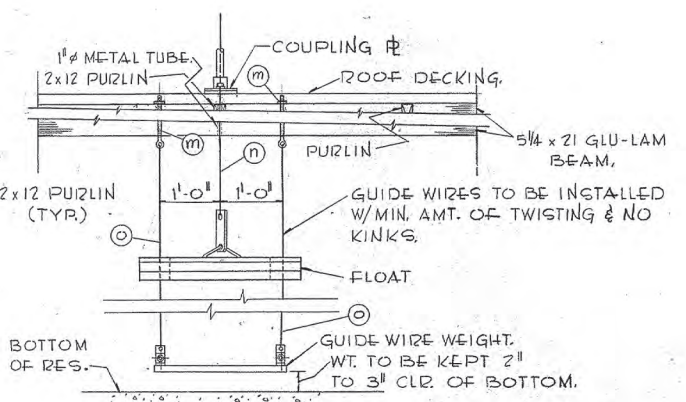
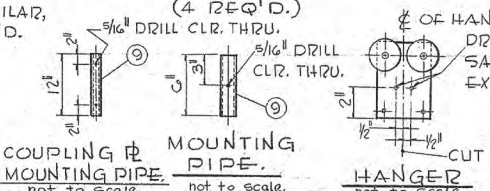
COUNTERWEIGHT

Scale: $1/8'' = 1'-0''$



GAGE BOARD SUPPORT

Scale: $3/4'' = 1'-0''$



ASSEMBLY

Scale: $3/4'' = 1'-0''$

NOTE: 1. EVERDUR MAY BE SUBSTITUTED FOR ANY OF ITEMS 7, 8, OR 9.
2. TIGHTEN FLOAT BOLTS LIGHTLY.

MATERIAL LIST

ITEM	REQUIRED	DESCRIPTION
1	2	TROLLEY RAIL, 7'-6" LONG, NAT'L. MFG. CO., No. 51-16.
2	1	TROLLEY RAIL, 8'-0" LONG, NAT'L. MFG. CO., No. 51-16.
3	2	HANGER W/ NYLON WHEELS, NAT'L. MFG. CO., No. 56.
4	2	JOINT SPLICE BRACKET, NAT'L. MFG. CO., No. G-51.
5	5	TROLLEY RAIL BRACKET, NAT'L. MFG. CO., No. F-51.
6	2	90° HOUSING & SHEAVE ASSEMBLY, SHAND & JUDS, ST 4408.
7	13'-2"	4" 5.4, STEEL.
8	2'-0"	1-1/2" STEEL BAR.
9	6'-0"	1-1/4" STEEL PIPE, SCH. 40.
10	4	1" STEEL COUPLING, EXTRA HVY.
11	2'-2"	1-3/4" x 1-3/4" x 1/4" L, STEEL.
12	4	1/2" x 1-1/2" LONG STEEL BOLT.
13	2'-8"	7/8" x 1/4" STEEL R.
14	2'-0"	12" x 3/16" STEEL R.
15	6'	5/16" x 3/4" STEEL ROD.
16	AS REQ'D.	10 GAGE STEEL.
17	AS REQ'D.	10 GAGE STEEL.
18	90'±	1/8" STAINLESS STL. CABLE, 7x7 STRANDED.
19	4	1" x 3/4" NYLON BUSHING.
20	9'±	1" CONDUIT, GALV.
21	2	1" M.I. UNION, GALV.
22	9	1/2" x 1" STEEL CAP SCREW W/ NUT & WASHER, GALV.
23	8	1/2" STEEL NUT W/ WASHER TO FIT (12), GALV.
24	27	1/4" x 1" CAP SCREW, W/ NUT & WASHER, S.S.
25	2	3/16" I.D. x 3/4" O.D. S.S. WASHER.
26	2	*G ROUND HEAD S.S. MACH. SCREW.
27	AS REQ'D.	SPACER TO FIT (24), S.S.

COUPLING R

Scale: (2 REQ'D.) $1/2'' = 1'-0''$

REMOVE ALL GREASE, SCALE & RUST FM. ALL METAL SURFACES & APPLY 2 COATS OF COAL TAR EPOXY..

DRILL 3/16", BEVEL EA. SIDE 45° x 1/8" TOP HOLES ONLY.

CHAMFER 1/8" x 45° BOTH ENDS.

CLEAN COUNTER WT. ASSEMBLY & APPLY 2 COATS OF COAL TAR EPOXY.

MEASURE ALL DRILLED HOLES FROM TOP.

9/16" DRILL, 1 HOLE.

VARIES

9/16" DRILL, 6 HOLES.

COPE TO FIT.

9/16" DRILL, C'S/K TO 3/64" @ TOP.

9/16" DRILL THRU R FOR INSERTION OF BOLT.

TACK WELD.

HOT DIP GALVANIZE AFTER FABRICATION.

MOUNTING PLATE

not to scale.

REV.	DATE	DESCRIPTION	APPR'D.
EAST ORANGE COUNTY WATER DISTRICT ORANGE COUNTY, CALIFORNIA			
6 M.G. RESERVOIR			
WATER LEVEL INDICATOR			
BOYLE ENGINEERING, SANTA ANA, CALIF.			
DESIGNED BY:	412 SO. LYON	DRAWN BY:	23
CHECKED BY:	DATE:	APPROVED BY:	
d.r.j.	4-8-63		
d.c.m.			

DRAWING NUMBER

DRAWING NUMBER

DRAWING NUMBER

DRAWING NUMBER

S&B PRODUCTS • NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 8552
POSTAGE PAID BY MAILER

S&B PRODUCTS • NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 8552
POSTAGE PAID BY MAILER

S&B PRODUCTS • NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 8552
POSTAGE PAID BY MAILER

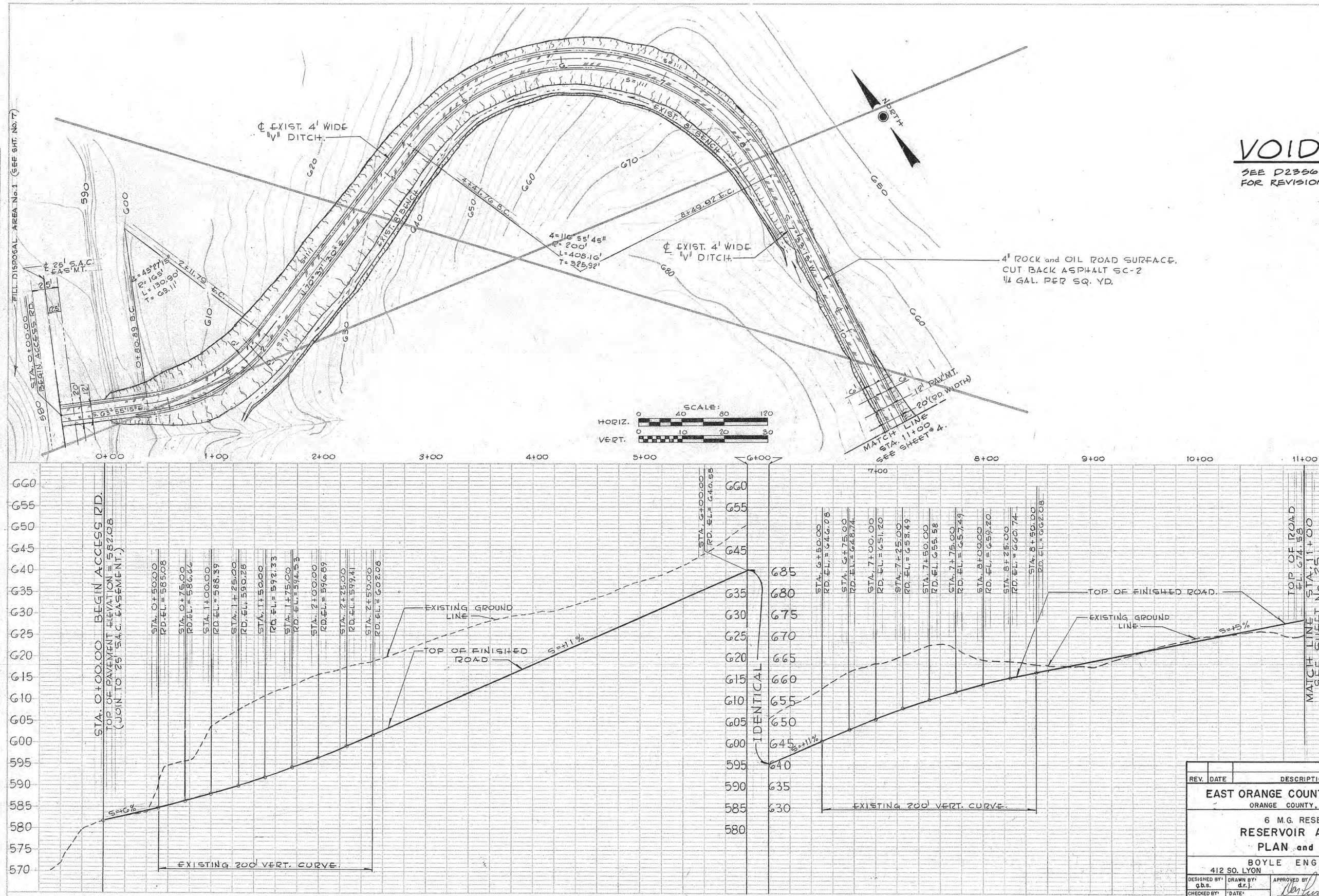
S&B PRODUCTS • NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 8552
POSTAGE PAID BY MAILER

EAST FILE CORP. HANGER EPH115

D-1107
Sheet 24 of 26

PLAN	DATE	BY	CHK
NO. 1	10/1/63	W. J. H. H.	W. J. H. H.
NO. 2	10/1/63	W. J. H. H.	W. J. H. H.
NO. 3	10/1/63	W. J. H. H.	W. J. H. H.
NO. 4	10/1/63	W. J. H. H.	W. J. H. H.
NO. 5	10/1/63	W. J. H. H.	W. J. H. H.
NO. 6	10/1/63	W. J. H. H.	W. J. H. H.
NO. 7	10/1/63	W. J. H. H.	W. J. H. H.
NO. 8	10/1/63	W. J. H. H.	W. J. H. H.
NO. 9	10/1/63	W. J. H. H.	W. J. H. H.
NO. 10	10/1/63	W. J. H. H.	W. J. H. H.

PROFILE	DATE	BY	CHK
NO. 1	10/1/63	W. J. H. H.	W. J. H. H.
NO. 2	10/1/63	W. J. H. H.	W. J. H. H.
NO. 3	10/1/63	W. J. H. H.	W. J. H. H.
NO. 4	10/1/63	W. J. H. H.	W. J. H. H.
NO. 5	10/1/63	W. J. H. H.	W. J. H. H.
NO. 6	10/1/63	W. J. H. H.	W. J. H. H.
NO. 7	10/1/63	W. J. H. H.	W. J. H. H.
NO. 8	10/1/63	W. J. H. H.	W. J. H. H.
NO. 9	10/1/63	W. J. H. H.	W. J. H. H.
NO. 10	10/1/63	W. J. H. H.	W. J. H. H.



VOID
SEE D2366
FOR REVISION

REV.	DATE	DESCRIPTION	APPR'D.
1	10/1/63	EAST ORANGE COUNTY WATER DISTRICT ORANGE COUNTY, CALIFORNIA.	
2	10/1/63	6 M.G. RESERVOIR RESERVOIR ACCESS ROAD PLAN and PROFILE (0+00+11+00)	
3	10/1/63	BOYLE ENGINEERING 412 SO. LYON SANTA ANA, CALIF.	
4	10/1/63	DESIGNED BY: g.b.s. CHECKED BY: d.v.m.	APPROVED BY: [Signature] DATE: 4-8-63
5	10/1/63	SHEET 24 OF 26 SHEETS	J.N. 83623

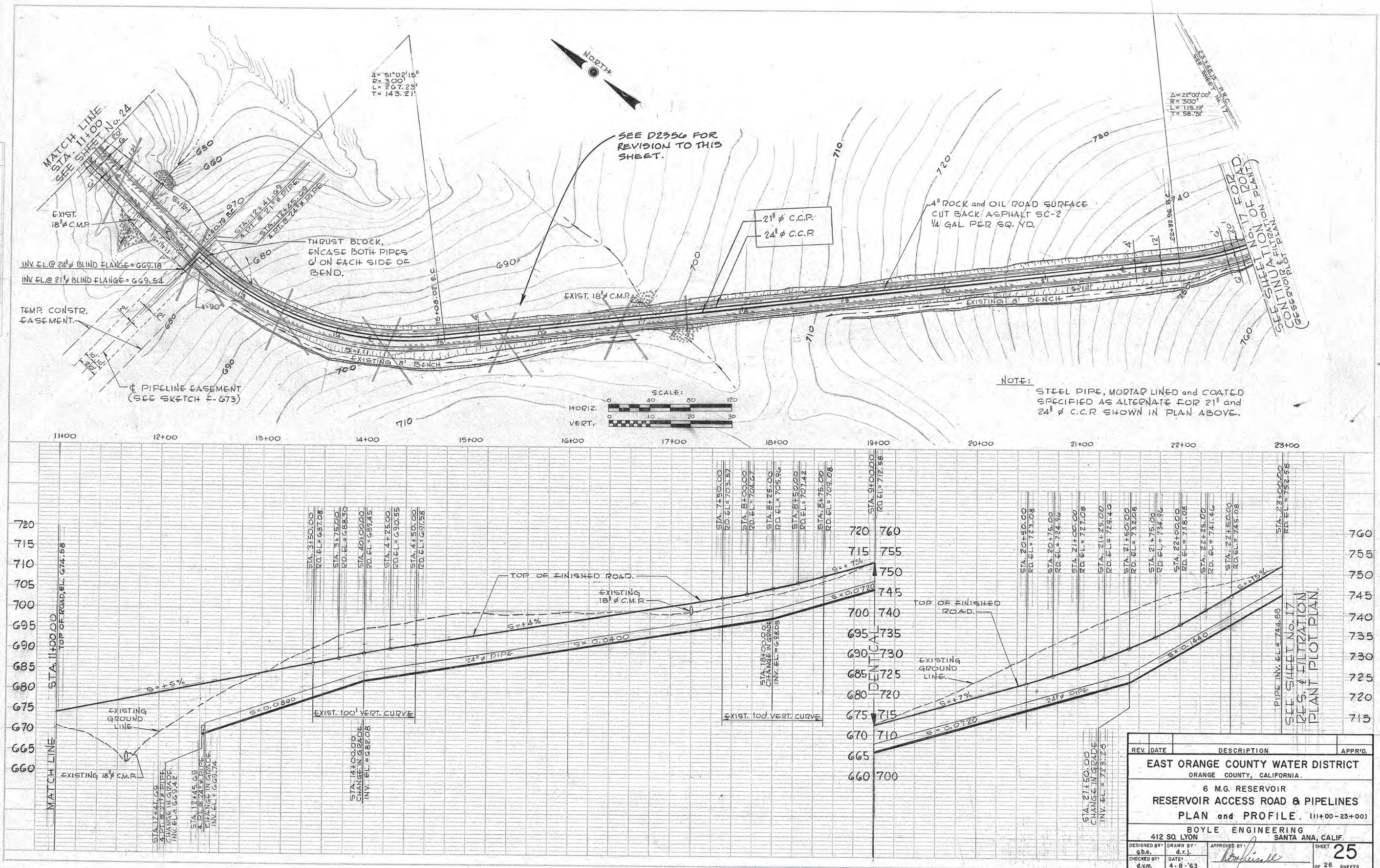
PLATE 1, PLAN-PROFILE
K&E
K & E CO., INC. 3401 N. 10TH ST. SPOKANE, IDAHO 83401

D-1107

D-1107

PLAN	DATE	BY
NOTE: REVISIONS TO THIS SHEET NO. 1		

PROFILE	DATE	BY
NOTE: REVISIONS TO THIS SHEET NO. 1		



REV.	DATE	DESCRIPTION	APPR'D.
EAST ORANGE COUNTY WATER DISTRICT ORANGE COUNTY, CALIFORNIA.			
6 M.G. RESERVOIR RESERVOIR ACCESS ROAD & PIPELINES PLAN and PROFILE. (11+00 - 23+00)			
BOYLE ENGINEERING 412 SO LYON SANTA ANA, CALIF.			
DESIGNED BY: g.b.s.	DRAWN BY: d.r.j.	APPROVED BY: <i>[Signature]</i>	SHEET 25
CHECKED BY: d.v.m.	DATE: 4-8-'63		OF 25 SHEETS J.N. 83673

DRAWING NUMBER

SARGO PRODUCTS • NEW HOPE, MINNESOTA
PRODUCT BY PART NUMBER 8552
POSITION EDGE OF PRINT ON THIS LINE

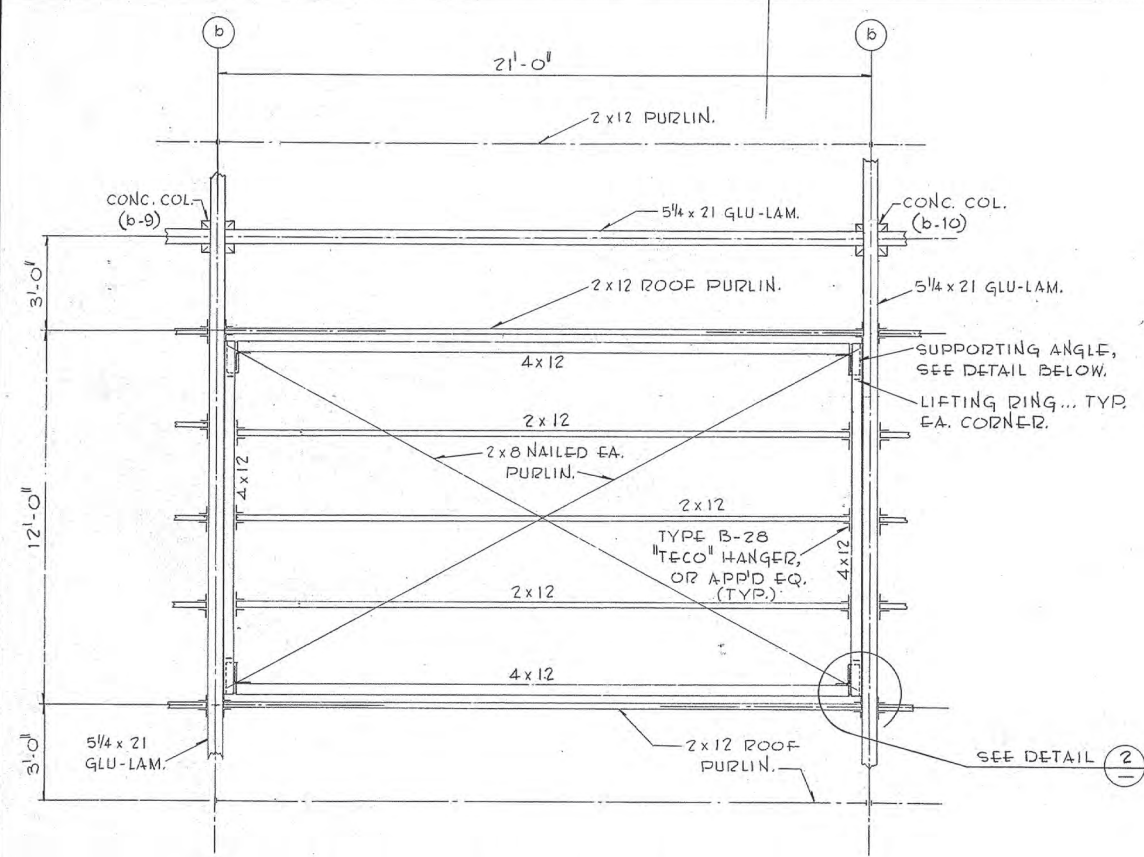
DRAWING NUMBER

SARGO PRODUCTS • NEW HOPE, MINNESOTA
PRODUCT BY PART NUMBER 8552
POSITION EDGE OF PRINT ON THIS LINEEAST FILE CORP.
HANGER EPH115
0-1107
Sheet 26 of 26

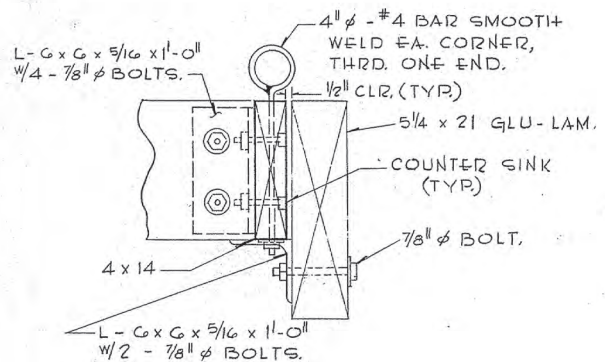
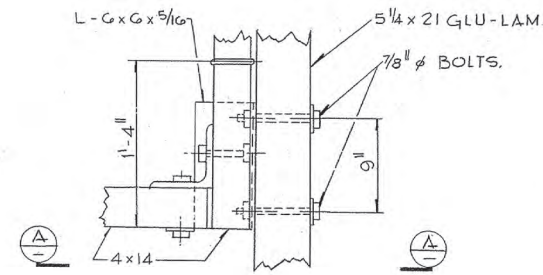
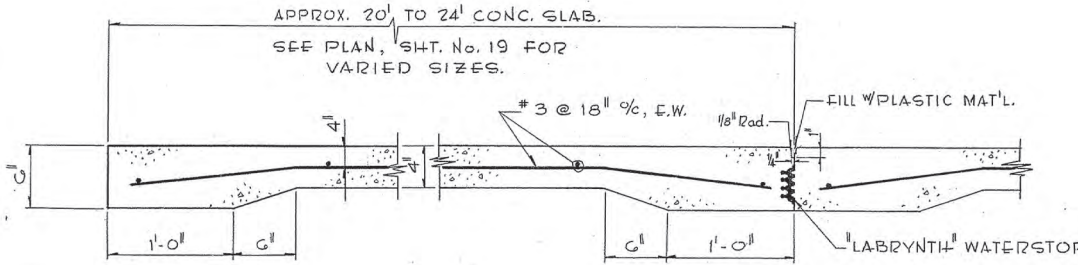
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SARGO PRODUCTS • NEW HOPE, MINNESOTA
PRODUCT BY PART NUMBER 8552
POSITION EDGE OF PRINT ON THIS LINE

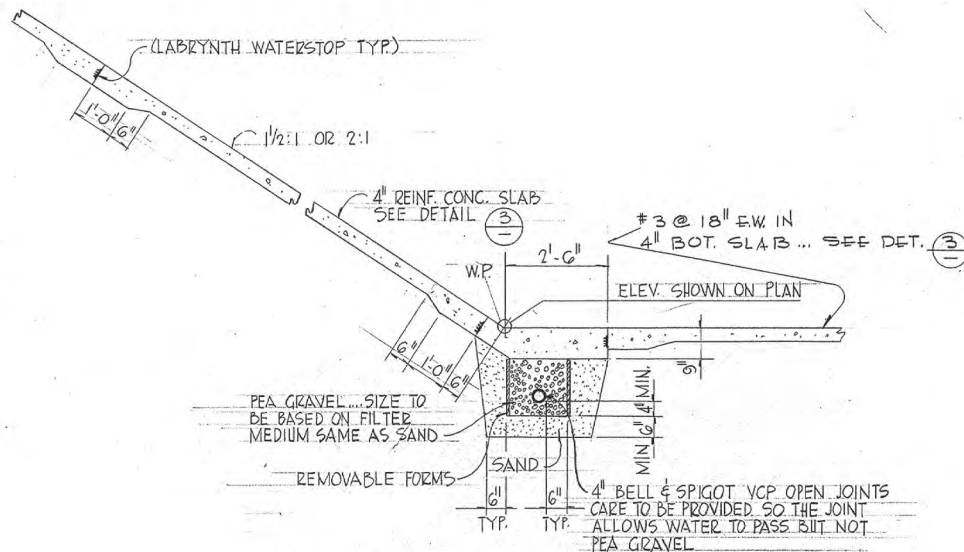
DRAWING NUMBER

SARGO PRODUCTS • NEW HOPE, MINNESOTA
PRODUCT BY PART NUMBER 8552
POSITION EDGE OF PRINT ON THIS LINE

LIFT OUT SECTION

DETAIL 1
Scale: 3/8" = 1'-0"VIEW A
Scale: 1 1/2" = 1'-0"DETAIL 2
Scale: 1 1/2" = 1'-0"

TYPICAL RESERVOIR SLAB and CONSTRUCTION JOINT.

DETAIL 3
Scale: 1 1/2" = 1'-0"CONC. SLAB
SOIL: 5% EXPANSION (SILTSTONE)
MAX. SLOPE: 1 1/2:1
MIN. SLOPE: 2:14" REINFORCED CONC. SLAB WITH THICKENED EDGES
#3 @ 18" IN PANEL ABOUT 20' SQUARE
RECOMMENDED BY (PORTLAND CEMENT ASSOCIATION)

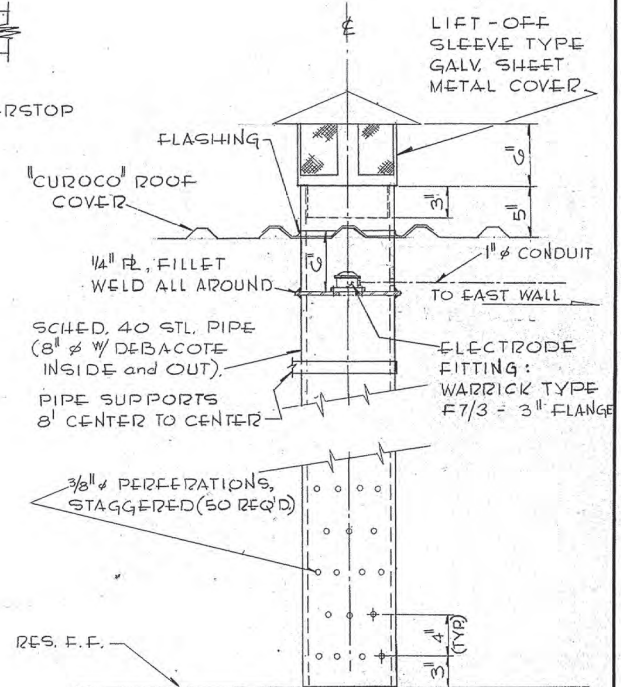
ALTERNATE RESERVOIR LINING

SCALE: 1/2" = 1'-0"

NOTE:

15% OF SIZE OF SAND MATERIAL SHALL NOT EXCEED 4 OR 5 TIMES THE 85% SIZE OF THE FOUNDATION MATERIAL. THE RATIO OF THE 15% SIZES OF SAND MATERIALS and FOUNDATION MATERIALS SHALL EXCEED 4 OR 5.

ELECTRODE HOUSING TO BE LOCATED and FIRMLY ATTACHED TO S.E. CORNER OF COLUMN b-12 BY CONTRACTOR AS DIRECTED BY THE ENGINEER.



FIVE PERFORATED 1" PLASTIC ELECTRODE CONDUITS TO BE FASTENED TOGETHER IN A CLUSTER AND CONTAINED IN 8" HOUSING.

ELECTRODE HOUSING

DETAIL 4
Scale: 1 1/2" = 1'-0"

NOTE:

THE ELECTRODES IN THE RESERVOIR SHALL BE SET TO SENSE THE WATER SURFACE AS FOLLOWS:
SHORTER HIGH LEVEL ELECTRODE ... ELEV. 790;
LONGER HIGH LEVEL ELECTRODE ... ELEV. 789;
SHORTER LOW LEVEL ELECTRODE ... ELEV. 770;
LONGER LOW LEVEL ELECTRODE ... ELEV. 769.
THE GROUNDING ELECTRODE SHALL EXTEND TO WITHIN 0'-6" OF THE BOTTOM OF THE RESERVOIR AT THAT POINT. EACH ELECTRODE SHALL BE SHIELDED THROUGHOUT ITS LENGTH AND SHALL BE ADEQUATELY RESTRAINED LATERALLY. THE THREE LONG ELECTRODES (2- LOW LEVEL and 1- GROUND) SHALL BE S.S. TYPE BIG WIRE THROUGHOUT MOST OF THEIR LENGTH AND TERMINATE IN A 1/4" S.S. ROD.

REV.	DATE	DESCRIPTION	APPR'D.
		EAST ORANGE COUNTY WATER DISTRICT ORANGE COUNTY, CALIFORNIA.	
		6 M.G. RESERVOIR ALTERNATE RESERVOIR LINING and MISC. DETAILS.	
		BOYLE ENGINEERING 412 SO. LYON SANTA ANA, CALIF.	
DESIGNED BY:	DRWN BY:	APPROVED BY:	SHEET
d.v.m.	d.r.j.	Don Perante	26
CHECKED BY:	DATE:		OF 26 SHEETS
d.v.m.	4-8-63		J.N. 8362.3