Plot Date: 23-APR-2018 11:48:15 AM User: svcPW
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CITY OF TURLOCK INC. 1908

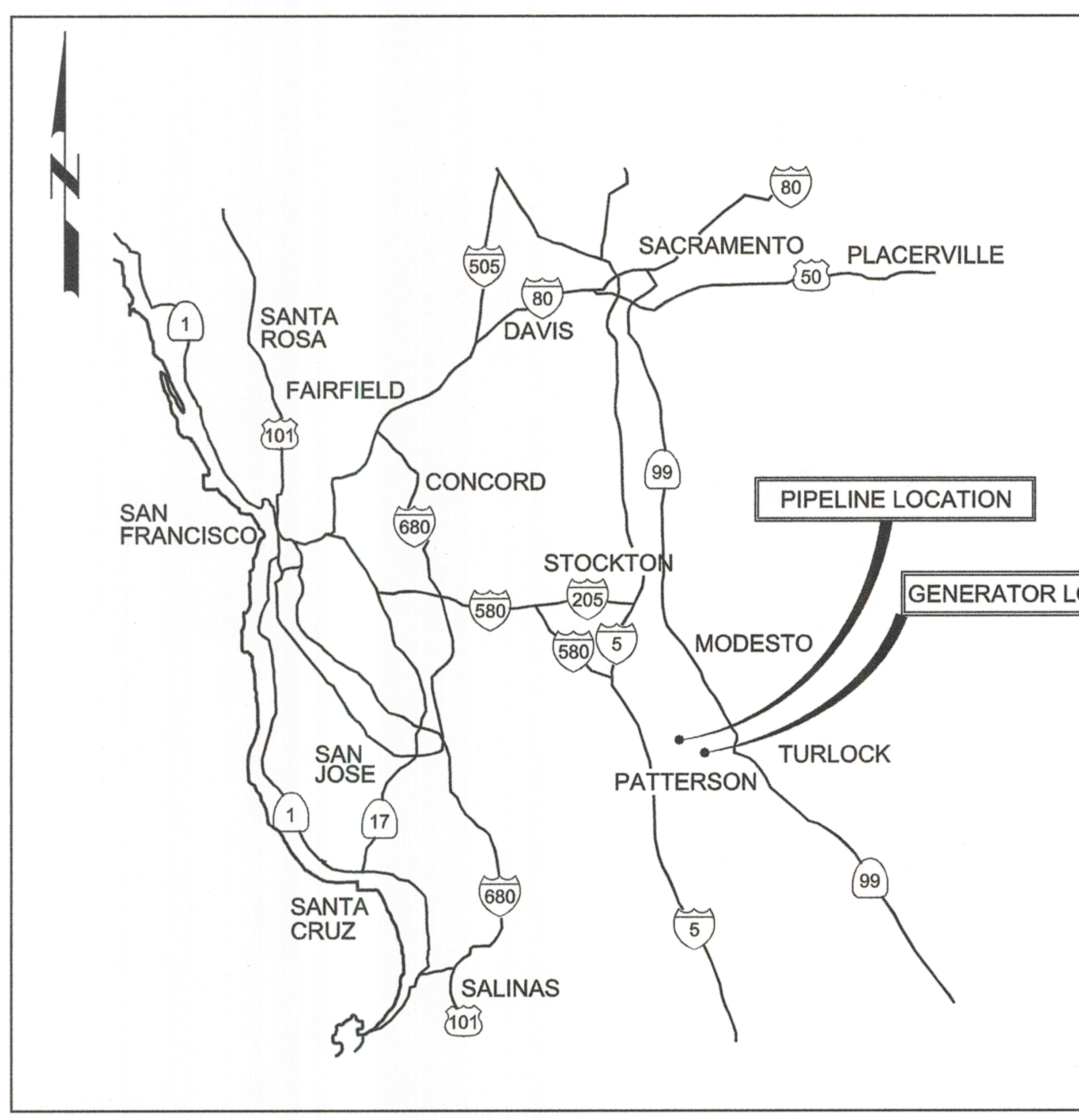
STANISLAUS COUNTY, CALIFORNIA

CONTRACT DOCUMENTS FOR THE CONSTRUCTION OF

NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM TURLOCK COMPONENT

APRIL 2018

VOLUME 3 OF 4 - DRAWINGS



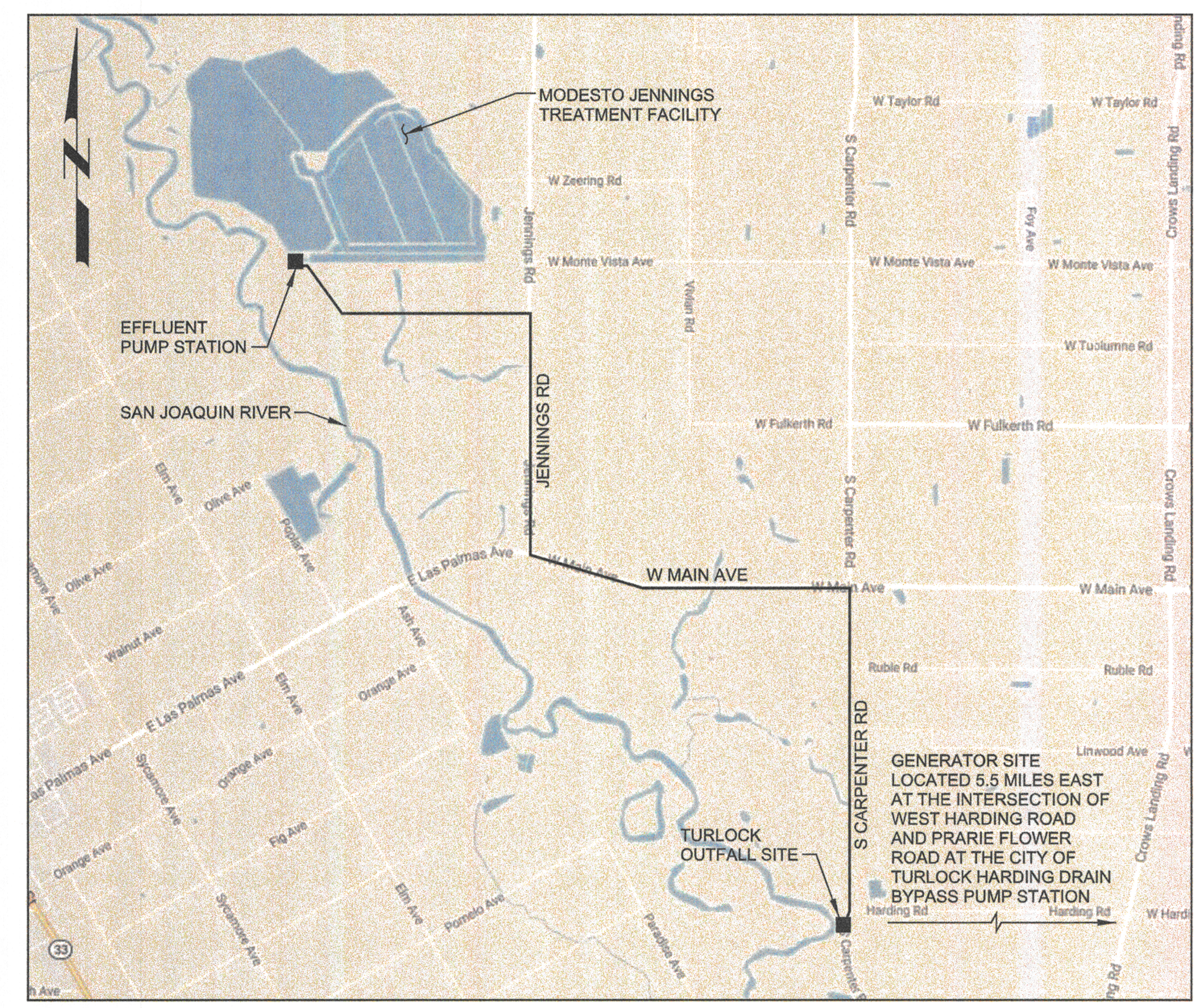
VICINITY MAP

CITY PROJECT NO. 17-22A

Approved by: ______________________
Nathan Bray
Interim Director of Development Services/City Engineer
City of Turlock, California

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 08:58:56-07'00'

REGISTERED PROFESSIONAL ENGINEER
DARREN G. BAUNE
No. 68899
CIVIL
STATE OF CALIFORNIA



LOCATION MAP

carollo®

JOB NO.
10595A.10
DRAWING NO.
G01
SHEET NO.
1 OF 122

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7	G07	SPOILS DISPOSAL, TRUCK ROUTE, AND ACCESS PLAN AT JENNINGS TREATMENT FACILITY
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65	P23	PLAN AND PROFILE - STA 230+00 TO 240+00
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70	P28	PLAN AND PROFILE - STA 280+00 TO 290+00
71	P29	PLAN AND PROFILE - STA 290+00 TO 300+00
72	P30	PLAN AND PROFILE - STA 300+00 TO 310+00
73	P31	PLAN AND PROFILE - STA 310+00 TO 320+00
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REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:03:47-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:31:55-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

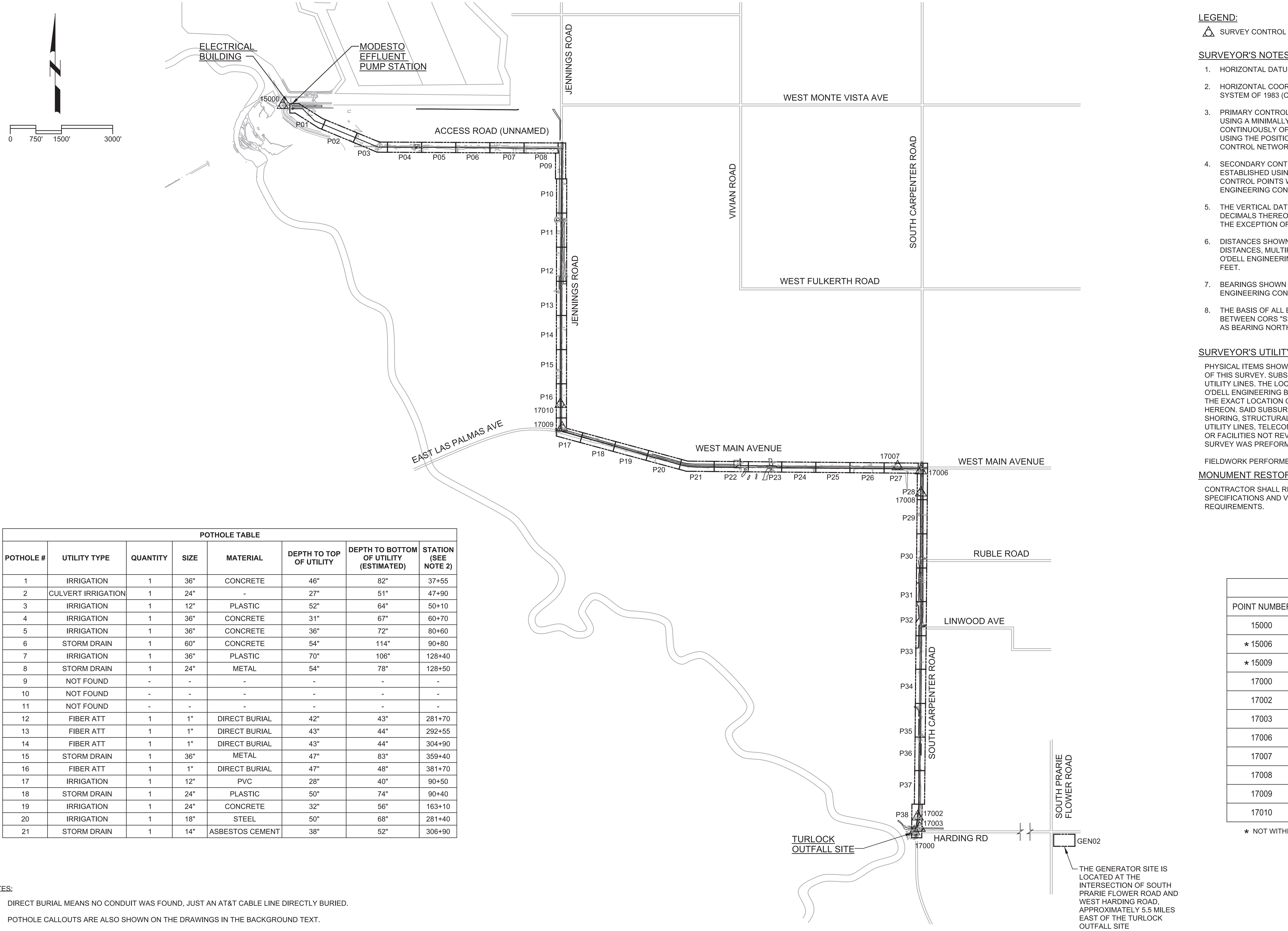
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
GENERAL
DRAWING INDEX

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

JOB NO. 10595A.10
DRAWING NO. G02
SHEET NO. 2 OF 122

PROJECT NO.
FILE NAME: 10595A10G02.dgn

KEY PLAN



POTHOLE TABLE

POTHOLE #	UTILITY TYPE	QUANTITY	SIZE	MATERIAL	DEPTH TO TOP OF UTILITY	DEPTH TO BOTTOM OF UTILITY (ESTIMATED)	STATION (SEE NOTE 2)
1	IRRIGATION	1	36"	CONCRETE	46"	82"	37+55
2	CULVERT IRRIGATION	1	24"	-	27"	51"	47+90
3	IRRIGATION	1	12"	PLASTIC	52"	64"	50+10
4	IRRIGATION	1	36"	CONCRETE	31"	67"	60+70
5	IRRIGATION	1	36"	CONCRETE	36"	72"	80+60
6	STORM DRAIN	1	60"	CONCRETE	54"	114"	90+80
7	IRRIGATION	1	36"	PLASTIC	70"	106"	128+40
8	STORM DRAIN	1	24"	METAL	54"	78"	128+50
9	NOT FOUND	-	-	-	-	-	-
10	NOT FOUND	-	-	-	-	-	-
11	NOT FOUND	-	-	-	-	-	-
12	FIBER ATT	1	1"	DIRECT BURIAL	42"	43"	281+70
13	FIBER ATT	1	1"	DIRECT BURIAL	43"	44"	292+55
14	FIBER ATT	1	1"	DIRECT BURIAL	43"	44"	304+90
15	STORM DRAIN	1	36"	METAL	47"	83"	359+40
16	FIBER ATT	1	1"	DIRECT BURIAL	47"	48"	381+70
17	IRRIGATION	1	12"	PVC	28"	40"	90+50
18	STORM DRAIN	1	24"	PLASTIC	50"	74"	90+40
19	IRRIGATION	1	24"	CONCRETE	32"	56"	163+10
20	IRRIGATION	1	18"	STEEL	50"	68"	281+40
21	STORM DRAIN	1	14"	ASBESTOS CEMENT	38"	52"	306+90

NOTES:

1. DIRECT BURIAL MEANS NO CONDUIT WAS FOUND, JUST AN AT&T CABLE LINE DIRECTLY BURIED.
2. POTHOLE CALLOUTS ARE ALSO SHOWN ON THE DRAWINGS IN THE BACKGROUND TEXT.

LEGEND:

△ SURVEY CONTROL POINT

SURVEYOR'S NOTES:

1. HORIZONTAL DATUM FOR THIS SURVEY IS NAD83(2011), EPOCH 2010.00.
2. HORIZONTAL COORDINATE VALUES SHOWN HEREON ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83), ZONE 3, IN US SURVEY FEET AND DECIMALS THEREOF.
3. PRIMARY CONTROL POINT POSITIONS (POINT NUMBERS IN THE 15,000 RANGE) WERE ESTABLISHED USING A MINIMALLY CONSTRAINED STATIC GPS NETWORK. THE NATIONAL GEODETIC SURVEY (NGS) CONTINUOUSLY OPERATING REFERENCE STATION (CORS) "S300" WAS THE SOLE NETWORK CONSTRAINT USING THE POSITION PUBLISHED BY REDEFINED HORIZONS FOR THE CALIFORNIA CENTRAL VALLEY CONTROL NETWORK (CCVCN), V1.08.
4. SECONDARY CONTROL POINT HORIZONTAL POSITIONS (POINT NUMBERS IN THE 17,000 RANGE) WERE ESTABLISHED USING RTK-GNSS WITH PRIMARY CONTROL POINTS. ELEVATIONS FOR SECONDARY CONTROL POINTS WERE ESTABLISHED BY CLOSED LOOP DIFFERENTIAL LEVELING BASED ON O'DELL ENGINEERING CONTROL POINT #15000.
5. THE VERTICAL DATUM FOR THIS SURVEY IS NAVD88. ELEVATIONS SHOWN ARE IN US SURVEY FEET AND DECIMALS THEREOF AND ARE CALCULATED USTING THE "2012A' GEOID MODEL PUBLISHED BY NGS, WITH THE EXCEPTION OF SECONDARY CONTROL POINT ELEVATIONS AS NOTED ABOVE.
6. DISTANCES SHOWN HEREON ARE GRID DISTANCES. TO CONVERT GRID DISTANCES TO GROUND DISTANCES, MULTIPLY BY A COMBINED SCALE FACTOR (CSF) OF 1.0000606547, AS COMPUTED FROM O'DELL ENGINEERING CONTROL POINT #15000. THE ELEVATION OF CONTROL POINT #15000 IS 59.495 FEET.
7. BEARINGS SHOWN HEREON ARE GRID BEARINGS. THE MAPPING ANGLE AS COMPUTED AT O'DELL ENGINEERING CONTROL POINT #15000 IS +00°21'53".
8. THE BASIS OF ALL BEARING SHOWN HEREON IS CCS83, ZONE 3, AS DETERMINED LOCALLY BY A LINE BETWEEN CORS "S300" AND UNAVCO'S PLATE BOUNDARY OBSERVATORY (PBO) STATION "P258", TAKEN AS BEARING NORTH 37°21'30"WEST.

SURVEYOR'S UTILITY NOTES:

PHYSICAL ITEMS SHOWN ON THIS SURVEY ARE LIMITED TO THOSE SURFACE ITEMS VISIBLE AS OF THE DATE OF THIS SURVEY. SUBSURFACE OBJECTS, IF ANY, ARE NOT SHOWN, WITH THE EXCEPTION OF UNDERGROUND UTILITY LINES. THE LOCATIONS OF THESE LINES HAVE BEEN COMPILED FROM PLANS MADE AVAILABLE TO O'DELL ENGINEERING BY THE CONTROLLING AGENCIES OR BY THE CLIENT. NO WARRANTY IS IMPLIED AS TO THE EXACT LOCATION OF THESE LINES OR AS TO THE COMPLETENESS OF THE UTILITY INFORMATION SHOWN HEREON. SAID SUBSURFACE OBJECTS MAY INCLUDE, BUT ARE NOT LIMITED TO, CONCRETE FOOTINGS, SLABS, SHORING, STRUCTURAL PILES, UTILITY VAULTS, PIPING, UNDERGROUND TANKS, ADDITIONAL UNDERGROUND UTILITY LINES, TELECOMMUNICATION LINES, FIBER OPTIC LINES AND ANY OTHER SUBSURFACE STRUCTURES OR FACILITIES NOT REVEALED BY A SURFACE INSPECTION ON THE DATE THAT THE FIELD WORK FOR THIS SURVEY WAS PREFORMED.

FIELDWORK PERFORMED BY O'DELL ENGINEERING: FEBRUARY 6-10, 13-14 & 22-24, 2017, AND MARCH 7-8, 2017.

MONUMENT RESTORATION

CONTRACTOR SHALL RESTORE MONUMENTS ALTERED OR DAMAGED DURING CONSTRUCTION. SEE SPECIFICATIONS AND VOLUME 4 OF THE CONTRACT DRAWINGS FOR MONUMENT RESTORATION REQUIREMENTS.

SURVEY CONTROL POINT TABLE

POINT NUMBER	NORTHING	EASTING	RAW DESCRIPTION
15000	2013137.00	6388931.98	CUT X
* 15006	2002815.58	6360321.73	2.5 AD
* 15009	2003753.65	6374471.42	SCRIBED X
17000	1991867.26	6407430.82	SET 3/4IN IP W/ CAP AND TACK
17002	1992304.51	6407528.96	SET 3/4IN IP W/ CAP AND TACK
17003	1991969.77	6407587.07	FD 2"AD TURLOCK BM
17006	2002438.22	6407617.86	SET 3/4IN IP W/ CAP AND TACK
17007	2002556.90	6406942.08	SET 3/4IN IP W/ CAP AND TACK
17008	2001791.00	6407623.59	SET 3/4IN IP W/ CAP AND TACK
17009	2003689.97	6397113.52	SET 3/4 IP W/ CAP+TACK
17010	2004383.49	6397066.16	SET 3/4 IP W/ CAP+TACK

* NOT WITHIN KEY PLAN VIEW.

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune Contact Info: Carollo Engineers, Inc. Date: 2018.04.25 09:01:07-07'00'

Digitally signed by Jonathon P. Marshall Contact Info: Carollo Engineers, Inc. Date: 2018.04.25 10:31:45-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
GENERAL
KEY PLAN

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10595A.10
DRAWING NO. G03
SHEET NO. 3 OF 122

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GENERAL NOTES

1. FOLLOWING NOTES ARE GENERAL AND APPLY TO ALL SHEETS OF THESE CONTRACT DOCUMENTS AS IF THEY WERE WRITTEN IN THEIR ENTIRETY ON EACH SHEET.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE STARTING WORK AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING CONDITIONS INCLUDING LOCATION AND DIMENSIONS OF ALL EXISTING CONSTRUCTION AND UTILITIES. CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITY CROSSINGS PRIOR TO COMMENCING CONSTRUCTION AND FABRICATING PIPELINE TO VISUALLY CONFIRM DEPTH OF COVER. CONTRACTOR SHALL NOTIFY ENGINEER IF THERE IS A CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND EXISTING CONSTRUCTION BEFORE PROCEEDING WITH WORK.
3. UNLESS DETAILED, SPECIFIED, OR OTHERWISE INDICATED ON THE DRAWINGS, CONSTRUCTION SHALL BE AS INDICATED IN THE APPLICABLE TYPICAL DETAILS AND GENERAL NOTES. TYPICAL DETAILS SHALL APPLY EVEN THOUGH NOT REFERENCED AT SPECIFIC LOCATIONS ON DRAWINGS.
4. WHERE NO CONSTRUCTION DETAILS ARE SHOWN OR NOTED FOR ANY PART OF WORK. DETAILS SHALL BE IN THE SAME AS FOR OTHER SIMILAR WORK.
5. CONTRACTOR SHALL COMPLY WITH LOCAL CONSTRUCTION STORM WATER DISCHARGE REGULATIONS AND REQUIREMENTS.
6. PRIOR TO EXCAVATION FOR NEW STRUCTURES, ELECTRICAL CONDUIT, FABRICATION OF NEW PIPING AND/OR OTHER PROPOSED UTILITIES, CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL EXISTING PIPING AND UTILITIES IN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL TEMPORARILY RELOCATE CONFLICTING EXISTING UTILITIES AT TIE-IN/CONNECTION LOCATIONS AND REINSTALL THEM AS REQUIRED TO ELIMINATE THE CONFLICT AT NO ADDITIONAL COST TO THE OWNER.
7. ALL PIPELINES 12" AND LARGER SHALL HAVE A MINIMUM COVER OF 48" UNLESS THE COVER DEPTH IS SPECIFICALLY INDICATED ON THE DRAWINGS. PIPE SMALLER THAN 12" SHALL HAVE A MINIMUM COVER OF 30" UNLESS NOTED OTHERWISE. PIPES SHALL BE ROUTED AS SHOWN UNLESS MINOR REVISIONS ARE NECESSARY TO MISS EXISTING PIPES, STRUCTURES, ETC. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL FITTINGS AND ADAPTERS REQUIRED TO MAKE THE ROUTING CHANGES AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL INCLUDE COST FOR THIS IN THE BID.
8. EXISTING FACILITY AND UTILITY INFORMATION SHOWN ON THE DRAWINGS WAS OBTAINED FROM AVAILABLE RECORDS OR ELECTRONIC FILES. NEITHER THE OWNER NOR ENGINEER ASSUMES ANY RESPONSIBILITY FOR FACILITIES AND UTILITIES NOT SHOWN OR NOT IN THE LOCATION SHOWN. THE CONTRACTOR SHALL FIELD VERIFY AND VISUALLY CONFIRM ALL LOCATIONS, SIZES, MATERIAL TYPES, AND ELEVATIONS SHOWN AROUND OR NEAR AREAS OF NEW CONSTRUCTION PRIOR TO START OF CONSTRUCTION.
9. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT FROM DAMAGE EXISTING FACILITIES AND UTILITIES SHOWN OR NOT SHOWN THAT ARE TO REMAIN IN PLACE. ALL FACILITIES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE EXPEDITIOUSLY REPAIRED OR RECONSTRUCTED TO THE ORIGINAL OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE WITHOUT ADDITIONAL COMPENSATION.
10. CONTRACTOR SHALL MAKE CONNECTIONS TO EXISTING PIPE, EQUIPMENT, ETC. AS REQUIRED AND SHALL PROVIDE ALL FITTINGS, ADAPTERS, AND APPURTENANCES REQUIRED TO MAKE THE CONNECTIONS. PROVIDE ALL SUPPORTS REQUIRED FOR A RIGIDLY SUPPORTED COMPLETE AND WORKING SYSTEM.
11. ADJUST ALL VALVE BOXES, VAULTS, PULL BOXES, AND MANHOLES TO FINISHED GRADE UNLESS OTHER-WISE SHOWN OR DIRECTED. MANHOLES IN OPEN FIELDS SHALL BE SET TWELVE INCHES ABOVE FINISHED GRADE AND VAULTS SHALL BE SIX INCHES ABOVE FINISHED GRADE UNLESS OTHERWISE SHOWN OR DIRECTED.
12. CONTRACTOR SHALL VERIFY THAT PIPING SHOWN TO BE ABANDONED OR AS ABANDONED PREVIOUSLY IS NO LONGER IN SERVICE. LINES IN SERVICE SHALL BE MAINTAINED UNTIL NO LONGER REQUIRED BY THE PLANT.
13. CONTRACTOR SHALL REROUTE THE EXISTING PIPING IF REQUIRED TO MISS THE PROPOSED STRUCTURES. THE EXISTING PIPE SHALL REMAIN IN SERVICE UNTIL NEW PIPING IS READY TO BE PLACED INTO SERVICE. DOWNTIME SHALL BE A MAXIMUM OF 2 HOURS, UNLESS SPECIFIED OR SHOWN OTHERWISE.
14. THE CONTRACTOR SHALL TAKE SPECIAL PRECAUTIONS IN THE VICINITY OF ANY OVERHEAD ELECTRIC LINES. CONTRACTOR SHALL ABIDE BY THE NATIONAL ELECTRIC CODE AND CAL-OSHA AND ANY REQUIREMENT BY THE OWNER OF THE ELECTRIC LINES.
15. PROVIDE ALL SHEETING/SHORING REQUIRED TO PROTECT EXISTING STRUCTURES, PIPES AND FACILITIES.
16. CONTRACTOR SHALL VERIFY LOCATION OF ALL ARCHITECTURAL, MECHANICAL, AND ELECTRICAL ITEMS BEFORE PLACING ANY STRUCTURAL STEEL OR CONCRETE. ALSO, STRUCTURAL DIMENSIONS AND OPENINGS CONTROLLED BY ARCHITECTURAL, MECHANICAL, OR ELECTRICAL EQUIPMENT SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
17. MECHANICAL AND ELECTRICAL EQUIPMENT SUPPORTS, ANCHORAGES, OPENINGS, RECESSES, AND REVEALS NOT SHOWN ON THE STRUCTURAL DRAWINGS, THAT ARE REQUIRED BY OTHER CONTRACT DRAWINGS, SHALL BE PROVIDED PRIOR TO CASTING CONCRETE.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING CONDITIONS INCLUDING LOCATION AND DIMENSIONS OF ALL EXISTING CONSTRUCTION AND UTILITIES. CONTRACTOR SHALL NOTIFY ENGINEER IF THERE IS A CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND EXISTING CONSTRUCTION BEFORE PROCEEDING WITH WORK.
19. SEE DRAWING CD04, SPECIFICATION AND DRAFT STANISLAUS COUNTY OVERENCROACHMENT PERMIT IN VOLUME 4 OF 4 FOR PAVING REQUIREMENTS.
20. ALL AT GRADE UTILITY BOXES, VAULTS, HATCHES, AND MANHOLES SHALL BE HS-20 RATED.
21. PER THE SPECIFICATIONS, CONTRACTOR SHALL DEVELOP AND SUBMIT A TRAFFIC CONTROL PLAN FOR ALL WORK ON JENNINGS ROAD, WEST MAIN AVE. AND SOUTH CARPENTER ROAD.

LINE WORK

NEW | EXISTING

CONSTRUCTION

FENCE

GUARDRAIL

FUTURE CONSTRUCTION

CENTER LINE

HIDDEN LINE

REMOVE AND/OR ABANDON

GATE

MATCH LINE — MATCH LINE SEE DWG ##X##

SYMBOLS

BRACKET

PIPE CONTINUATION (SINGLE LINE)

BREAK LINE

KEY NOTE — 34

PIPE BREAK PLAN VIEW

REVISION DELTA — 2

EXISTING ELEVATION — T.O.W. XXXX.X± (EXIST)

PIPE BREAK CROSS SECTION

ELEVATION — TOC XXXX.XX

SCALE — 0 50' 100' 200'

NORTH ARROW/PLANT NORTH — 30° TRUE NORTH PLANT NORTH

EQUIPMENT/DEVICE TAG AND NUMBER — XXX-XX-XXXX
EQUIPMENT
EX-EQUIP = EXISTING EQUIPMENT
EF-EQUIP = FUTURE EQUIPMENT

PIPE TAG — PIPE SIZE, FLOW STREAM — X" XXX
SIZE FLOW STREAM
EX-SIZE FLOW STREAM = EXISTING
EF-SIZE FLOW STREAM = FUTURE

UNDERGROUND/ OVERHEAD WARNING (STATE/REGION SPECIFIC)

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

DETAIL REFERENCES

PLAN/TITLE — VIEW — A **PLAN TITLE**
FILE: FILE
PLAN NOT REFERENCED

SECTION CUT — C / - — VIEW
- = SHOWN ON SAME DRAWING
##X## = SEE INDICATED DRAWING

SECTION OR DETAIL TITLE W/ REFERENCE — C/1 / ##X## — **SECTION/DETAIL TITLE**
ALPHA = SECTION
NUMERIC = DETAIL
SCALE: SCALE
FILE: FILE
DRAWING CUT ORIGINATION

DETAIL CALL-OUT (ENLARGED) — 1 / ##X##
VIEW
SEE INDICATED DRAWING

DRAWING REFERENCE — ##X##
AREA DESIGNATOR (WHEN APPLICABLE)
DISCIPLINE DESIGNATOR
CONSECUTIVE SHEET NUMBER

TYPICAL DETAIL REFERENCE — ? / TYP — TYPICAL DETAIL #

EXTERIOR ELEVATION VIEWS — A / ##X##

PHOTO LOCATION — # / - — ARROW INDICATES POINT OF VIEW

GRID BUBBLE — A 1

TYPICAL DETAIL NUMBER
? / TYP
LINE 3
LINE 1
LINE 2
TYPICAL DETAIL TITLE
MOD — MODIFICATION NOTE
S = STANDARD
J = JOB SPECIFIC
R = REVISED
N = NOTE TO TYPICAL DETAIL USER
SHT # OF # — SHEETS IN DETAIL
VER DATE — DATE CREATED (REVISED)

HATCH PATTERNS

ABC	CLASS "C" CONCRETE
ALUMINUM	GRATING
ASPHALT PAVING	LANDSCAPING
BRICK OR BLOCK	RUBBER
BRONZE, BRASS, OR COPPER	SOIL
CAST IRON OR FIBERGLASS	STEEL
CLASS "A", "B" AND "D" CONCRETE	TREAD PLATE
WETLANDS NO SURFACE IMPACT	DECOMPOSED GRANITE

MISCELLANEOUS

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REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune Contact Info: Carollo Engineers, Inc. Date: 2018.04.25 09:01:21-07'00'

Digitally signed by Jonathon P. Marshall Contact Info: Carollo Engineers, Inc. Date: 2018.04.25 10:31:35-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM TURLOCK COMPONENT
GENERAL
GENERAL NOTES, LEGENDS AND SYMBOLS

VERIFY SCALES
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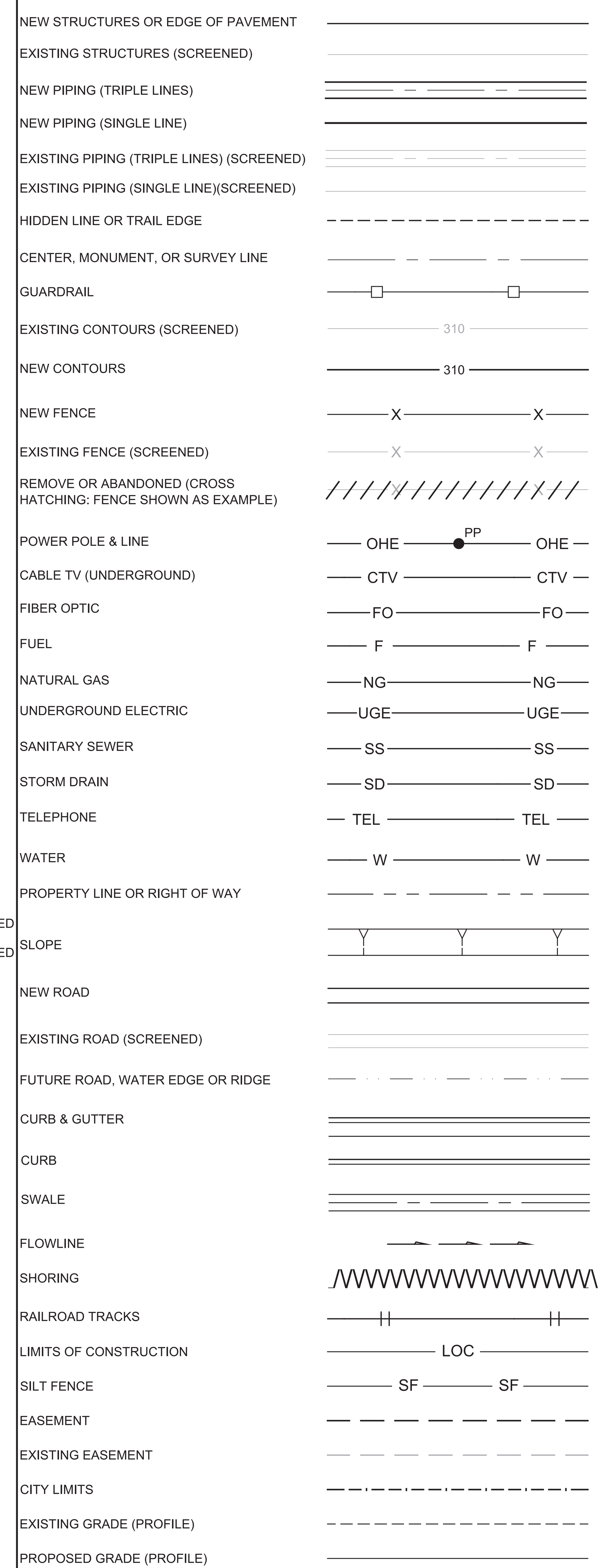
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DRAWING NO. G04
SHEET NO. 4 OF 122

PROJECT NO. FILE NAME: 10595A10G04.dgn

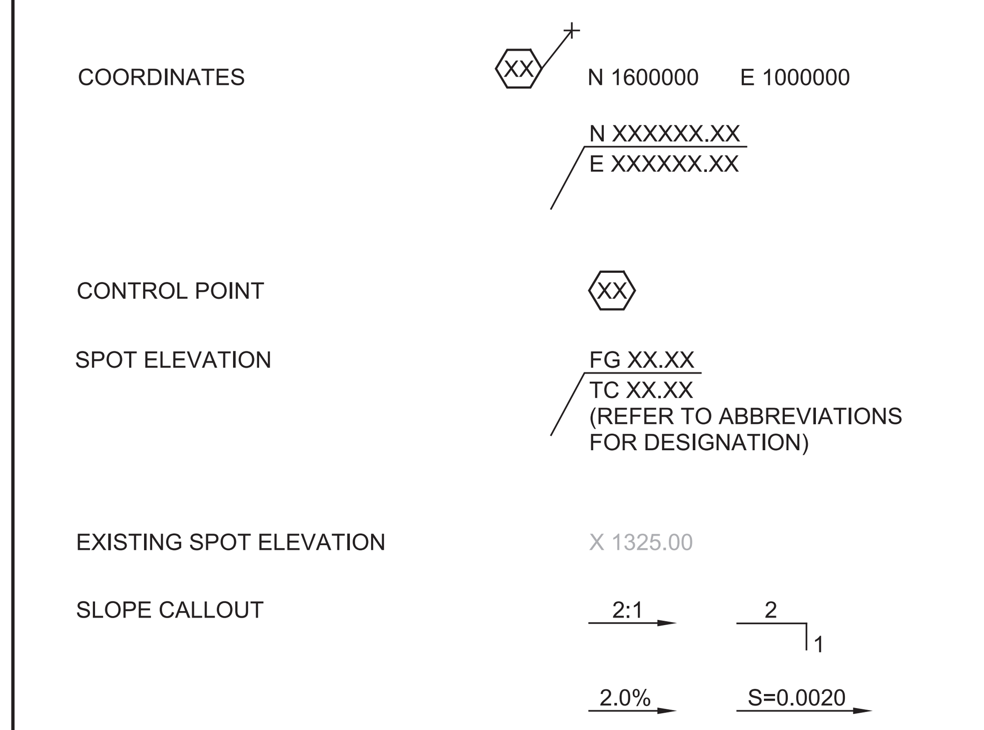
ABBREVIATIONS

Abbreviation	Meaning
△	DELTA, DEFLECTION ANGLE, OR CENTRAL ANGLE
#	NUMBER (REBAR Ø)
@	AT (MEASUREMENT)
+/-	PLUS/MINUS
A	
ABC	AGGREGATE BASE COURSE
AC	ASPHALTIC CONCRETE
ACI	AMERICAN CONCRETE INSTITUTE
ACP	ASBESTOS CEMENT PIPE
ADDL	ADDITIONAL
ADJ	ADJACENT, ADJUST(ABLE)
AL	ALUMINUM
AM	ACCESS MANWAY
ANCH	ANCHOR
APPROX	APPROXIMATE(LY)
ARV	AIR RELEASE VALVE
ASSY	ASSEMBLY
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AVG	AVERAGE
AVV	AIR AND VACUUM VALVE
B	
BC	BEGIN CURVE
BF	BLIND FLANGE
BFG	BELOW FINISHED GRADE
BFP	BACK FLOW PREVENTER
BFV	BUTTERFLY VALVE
BH	BORE HOLE
BLDG	BUILDING
BM	BEAM, BENCH MARK
BO	BLOW OFF
BOC	BACK OF CURB
BOP	BOTTOM OF PIPE
BOT	BOTTOM
BTWN	BETWEEN
BV	BALL VALVE
BVC	BEGINNING OF VERTICAL CURVE
BYP	BYPASS
C	
CA	CONCRETE ANCHOR
CATV	CABLE TV
CAV	COMBINATION AIR VALVE
CB	CATCH BASIN
CC	CENTER OF CURVATURE, CENTER TO CENTER, CONCRETE CURB
CDT	CONDUIT
CF	CUBIC FEET
CFM	CUBIC FOOT PER MINUTE
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CIP	CAST IRON PIPE
CIPP	CURED IN PLACE PIPE
CJ	CONSTRUCTION JOINT
CL	CENTER LINE
CLK	CHAIN LINK
CLR	CLEAR / CLEARANCE
CLSM	CONTROL LOW STRENGTH MATERIAL
CMLC	CEMENT MORTAR LINED AND COATED
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
CONC	CONCRETE
CONN	CONNECT, CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS OR CONTINUATION OR (D)
COORD	COORDINATE
CP	CONTROL POINT
CPLG	COUPLING
CSP	CORRUGATED STEEL PIPE
CTJ	CONTROL JOINT
CTL	CONTROL
CTR	CENTER, CENTERED
CU	CUBIC
CULV	CULVERT
CUP	COPPER PIPE
CY	CUBIC YARD
D	
D	DRAIN, DEPTH
D/W	DRIVEWAY APRON
DEG or °	DEGREE
DEMO	DEMOLISH, DEMOLITION
DET	DETAIL
DI	DROP INLET
DIA or Ø	DIAMETER
DIFF	DIFFERENCE
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DIST	DISTANCE
DR	DRIVE
DRN	DRAIN
DWG(S)	DRAWING(S)
E	
E	ELECTRICAL, EAST
EA	EACH
EC	END OF CURVE
ECC	ECCENTRIC
EL	ELEVATION
ELL	ELBOW
ELEC	ELECTRICAL
EMH	ELECTRICAL MANHOLE
EOA	END OF ALIGNMENT
EOP	END OF PIPE
EP	EDGE OF PAVING
EPS	EFFLUENT PUMP STATION
EQ	EQUAL
EQUIP	EQUIPMENT
ES	EACH SIDE
ESMT	EASEMENT
EUG	ELECTRICAL UNDERGROUND
EVC	END OF VERTICAL CURVE
EW	EACH WAY
ESA	ENVIROMENTALLY SENSITIVE AREA
EX/EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
F	
FBW	BARBED WIRE FENCE
FC	FLEXIBLE COUPLING
FCA	FLANGE COUPLING ADAPTER
FF	FINISHED FLOOR
FG	FINISHED GRADE
FH	FIRE HYDRANT
FIN	FINISH
FL	FLOOR, FLOW LINE
FLEX	FLEXIBLE
FLG	FLANGE(D)
FLGA	FLANGE ADAPTER
FM	FORCE MAIN
FMSS	FORCE MAIN SANITARY SEWER
FND	FOUNDATION
FO	FIBER OPTIC OR CATV
FOC	FACE OF CURB
FPM	FEET PER MINUTE
FSP	FABRICATED STEEL PIPE
FT or '	FOOT, FEET
FTG	FOOTING
G	
G	GAS, GUTTER
GA	GAUGE
GAL	GALLONS
GALV	GALVANIZE(D)
GB	GRADE BREAK
GC	GROOVED COUPLING
GEN	GENERAL, GENERATOR
GM	GAS METER
GND	GROUND
GPD	GALLONS PER DAY
GPM	GALLONS PER MINUTE
GR	GRADE
GRTG	GRATING
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE
H	
HDPE	HIGH DENSITY POLYETHYLENE
HGL	HYDRAULIC GRADE LINE
HORIZ	HORIZONTAL
HP	HIGH POINT
HPGM	HIGH PRESSURE GAS MAIN
HW	HEADWALL, HOT WATER
HWL	HIGH WATER LEVEL
HWY	HIGHWAY
HYD	HYDRANT
I	
I	INTERSECTION OF ANGLE
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IHW	ISOLATION VALVE HOUSING STRUCTURE
IN or "	INCHES
INCL	INCLUDE, INCLUDING
INSTR	INSTRUMENTATION
INV	INVERT
IP	IRON PIPE
IRR	IRRIGATION
J	
JNCT	JUNCTION
JT	JOINT
L	
L	LENGTH
LAT	LATERAL
LB(S)	POUND(S)
LF	LINEAL FEET
LH	LEFT HAND
LP	LOW POINT
LT	LEFT
LWL	LOW WATER LEVEL
M	
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MFR	MANUFACTURER
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANOUS
MJ	MECHANICAL JOINT
MON	MONUMENT
N	
N	NORTH
NA	NOT APPLICABLE
NE	NORTHEAST
NG	NATURAL GAS
NIC	NOT IN CONTRACT
NO OR #	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
NW	NORTHWEST
O	
O.F.	OUTSIDE FACE
OC	ON CENTER
OD	OUTSIDE DIAMETER, OUTSIDE DIMENSION
OHE	OVERHEAD ELECTRIC
OHU	OVERHEAD UTILITIES
OPNG	OPENING
P	
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVE
PCL	PARCEL PROPERTY LINE
PERP	PERPENDICULAR
PH	POTHOLE
PI	POINT OF INTERSECTION
PL	PLATE, PROPERTY LINE
POB	POINT OF BEGINNING
PP	POWER POLE
PRC	POINT OF REVERSE CURVATURE
PROP	PROPERTY
PROP PT	PROPERTY POINT OF TANGENT
PT	POINT, POINT OF TANGENT
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PVT	POINT OF VERTICAL TANGENCY
Q	
QTY	QUANTITY
R	
R/W	RIGHT-OF-WAY
RAD	RADIUS, RADIAL
RCB	REINFORCED CONCRETE BOX CULVERT
RCP	REINFORCED CONCRETE PIPE
RED	REDUCER
REF	REFERENCE
REINF	REINFORCE(D)(ING)(MENT)
REQ'D	REQUIRED
REV	REVISION
RFCA	RESTRAINED FLEX COUPLING ADAPTER
RH	RIGHT HAND
ROW	RIGHT OF WAY
RP	RADIUS POINT
RR	RAILROAD
RT	RIGHT
RTHA	RED TAILED HAWK
RW	RECYCLED WATER
S	
S	SLOPE, SOUTH
SCH	SCHEDULE
SD	STORM DRAIN
SDDI	STORM DRAIN DROP INLET
SDMH	STORM DRAIN MANHOLE
SDVLT	STORM DRAIN VAULT
SE	SOUTHEAST
SECT	SECTION
SHLD	SHOULDER
SHT	SHEET
SIM	SIMILAR
SL	SLOPE
SPEC(S)	SPECIFICATION(S)
SQ	SQUARE
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEANOUT
SSMH	SANITARY SEWER MANHOLE
SST	STAINLESS STEEL
ST	STREET
STA	STATION
STD(S)	STANDARD(S)
STL	STEEL
STRUCT	STRUCTURAL
SW	SOUTHWEST
SWHA	SWAINSON'S HAWK
SWK	SIDEWALK
SYM	SYMMETRICAL
T	
T&B	TOP AND BOTTOM
T.O.	TOP OF
TB	THRUST BLOCK
TC	TOP OF CURB
TEL	TELEPHONE
TF	TOP OF FOOTING
TFM	TAIL WATER FORCE MAIN
TFP	TAIL WATER PIPELINE PRESSURIZED
TG	TOP OF GRATE
TLP	TAIL WATER PIPELINE PRESSURIZED
TMH	TELEPHONE MANHOLE
TOC	TOP OF CONCRETE
TOG	TOP OF GRATING
TOP	TOP OF PIPE
TOS	TOP OF STEEL
TOW or TW	TOP OF WALL
TPS	TAIL WATER PUMP STATION
TRD	TREAD
TS	TOP OF SIDEWALK
TYP	TYPICAL
U	
UG	UNDERGROUND
UGE	UNDERGROUND ELECTRIC
UGG	UNDERGROUND GAS
UGPB	UNDERGROUND POWER BOX
UGTEL	UNDERGROUND TELEPHONE
UNKN	UNKNOWN
UNO	UNLESS NOTED OTHERWISE
USA	UNDERGROUND SERVICE ALERT
V	
V	VERTICAL, VALVE
VAR	VARIES
VB	VALVE BOX
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
VLT	VAULT
VPI	VERTICAL POINT OF INTERSECTION
W	
W	WATER, WIDTH OR WEST
W/	WITH
W/O	WITHOUT
WL	WATER LEVEL
WM	WATER METER
WS	WATER SURFACE
WSE	WATER SURFACE ELEVATION
WSP	WELDED STEEL PIPE
WTDRD	WATER TREATMENT AND DISPOSAL RECORD DRAWINGS
WTF	WATER TREATMENT FACILITY
WV	WATER CONTROL VALVE
WW	WASTEWATER
X	
XFMR	TRANSFORMER
Y	
YD	YARD

LINE WORK



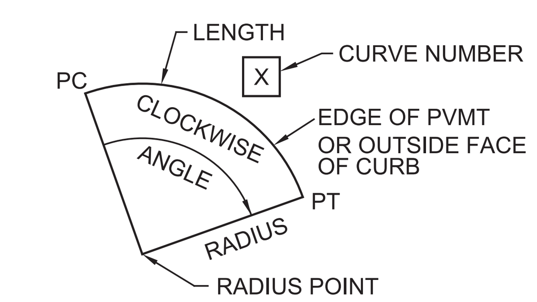
COORDINATES / ELEVATION



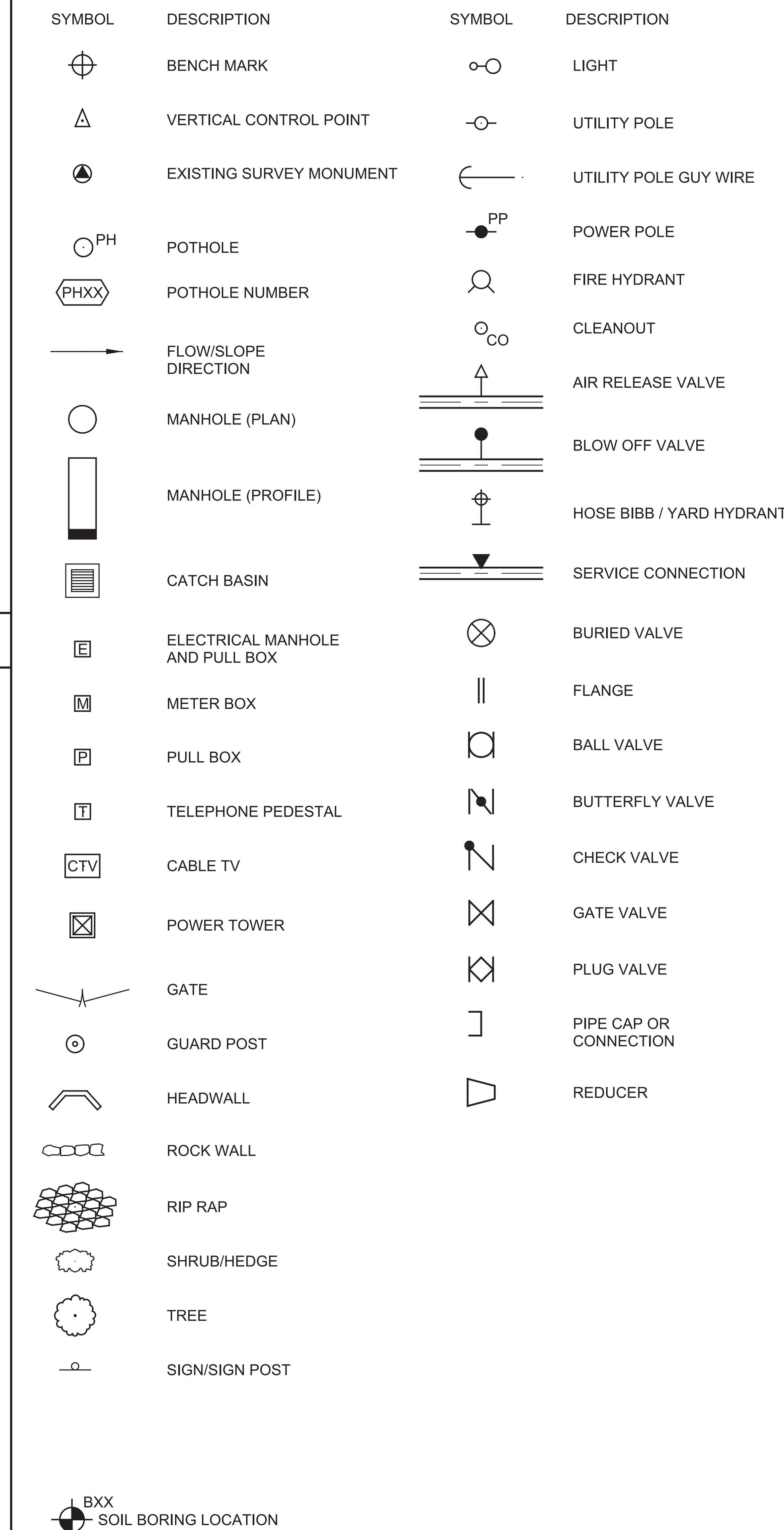
ROADWAY / PIPE CURVES

ROADWAY / PIPE CURVE

(SEE TABLE ON EACH PAVING AND GRADING OR CIVIL PIPING DWG WITH ROADWAY / PIPE CURVES.)



SYMBOLS



THE SOIL BORING LOCATION NUMBERS ("XX") CORRESPOND TO THE FEBRUARY 2018 GEOTECHNICAL REPORT FOR THE PROJECT PREPARED BY CRAWFORD AND ASSOCIATES, INC. SEE SPECIFICATION SECTION 00100 FOR INFORMATION ON OBTAINING A COPY OF THE GEOTECHNICAL REPORT. FOR SOIL BORING LOCATIONS SEE PLAN & PROFILE SHEETS. FOR OVERALL BORING KEY PLAN, SEE GEOTECHNICAL REPORT.

NOTE: ALL SYMBOLS SHOWN AS NEW. EXISTING SYMBOLS ARE SCREENED.

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune Contact Info: Carollo Engineers, Inc. Date: 2018.04.25 09:00:49-07'00'

Digitally signed by Jonathon P. Marshall Contact Info: Carollo Engineers, Inc. Date: 2018.04.25 10:31:25-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

carollo®

CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
GENERAL

GENERAL CIVIL ABBREVIATIONS, LEGENDS AND SYMBOLS

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. 10595A.10
DRAWING NO. G05
SHEET NO. 5 OF 122

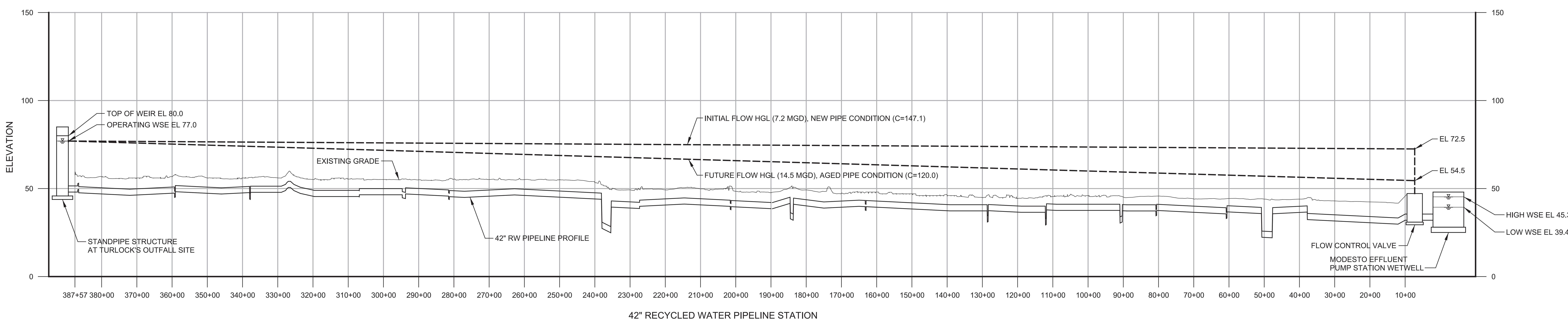
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User: svcPW
Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 2:1
LAST SAVED BY: Alaico

GENERAL NOTES:

1. THE 42" RW PIPELINE CONVEYS TERTIARY TREATED RECYCLED WATER FROM THE STANDPIPE AT THE TURLOCK OUTFALL SITE TO THE MODESTO EFFLUENT PUMP STATION.



HYDRAULIC PROFILE

HORIZ SCALE: 1" = 1500'
VERT SCALE: 1" = 30'
FILE: 10595A10C101

DESIGN CRITERIA:

ITEM	FLOW CONDITION	FLOW RATE
42" RECYCLED WATER PIPE	MAXIMUM CAPACITY (NEW PIPE)	20.0 MGD
	MAXIMUM CAPACITY (AGED PIPE)	18.0 MGD
	FUTURE FLOW	14.5 MGD
	INITIAL FLOW	7.2 MGD
42" INTERNAL DIAMETER		
STEEL PIPE CEMENT-MORTAR LINED		
NEW PIPE C-FACTOR = 147.1		
AGED PIPE C-FACTOR = 120.0		
PIPELINE INTERNAL DESIGN PRESSURE (WORKING + SURGE + 1.25 SAFETY FACTOR)		150 PSI

REV	DATE	BY	DESCRIPTION

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CHECKED AP
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

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Date: 2018.04.25 09:01:42-07'00'

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Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:31:17-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
GENERAL
HYDRAULIC PROFILE AND DESIGN CRITERIA

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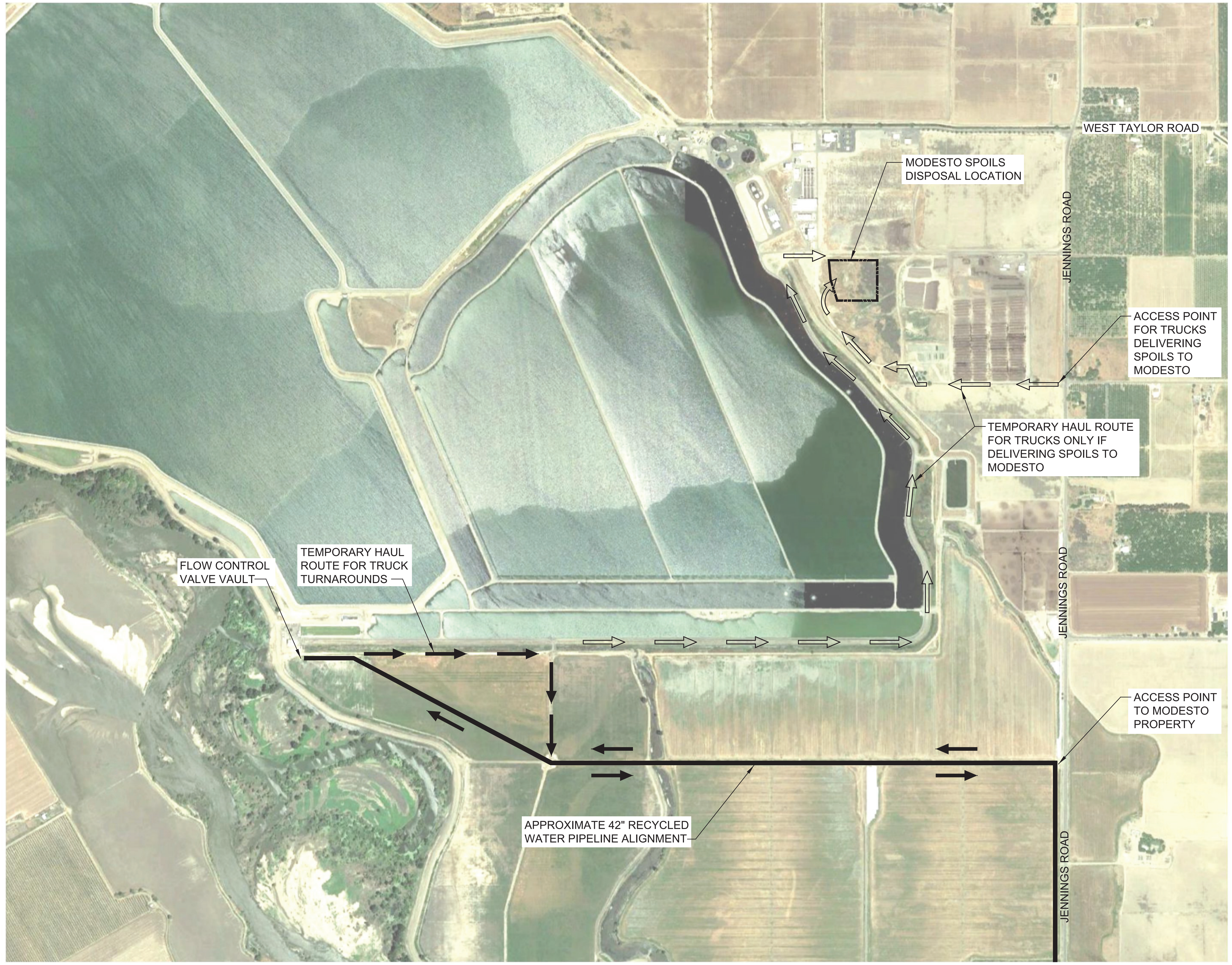
JOB NO. 10595A.10
DRAWING NO. G06
SHEET NO. 6 OF 122

PROJECT NO.
FILE NAME: 10595A10G06.dgn

Plot Date: 19-APR-2018 2:11:18 PM User: svcPW Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 2:1
LAST SAVED BY: DFassbinder

GENERAL NOTES:

1. SEE SPECIFICATIONS FOR WORK RESTRICTIONS.
2. CONTRACTOR SHALL COORDINATE ALL MATERIALS SPOILS DELIVERY WITH THE CITY OF MODESTO AND CONSTRUCTION MANAGER.
3. CONTRACTOR SHALL DOCUMENT CONDITION OF HAUL ROUTES PRIOR TO CONSTRUCTION WITH PHOTOGRAPHS. CONTRACTOR SHALL REPAIR AND/OR REPLACE HAUL ROUTES AFTER CONSTRUCTION TO MATCH PRE-CONSTRUCTION CONDITIONS, OR BETTER.



A PLAN
SCALE: NO SCALE
FILE: 10595A10G07A

REV	DATE	BY	DESCRIPTION

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DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

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Date: 2018.04.25 09:01:52-07'00'

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Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:31:03-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

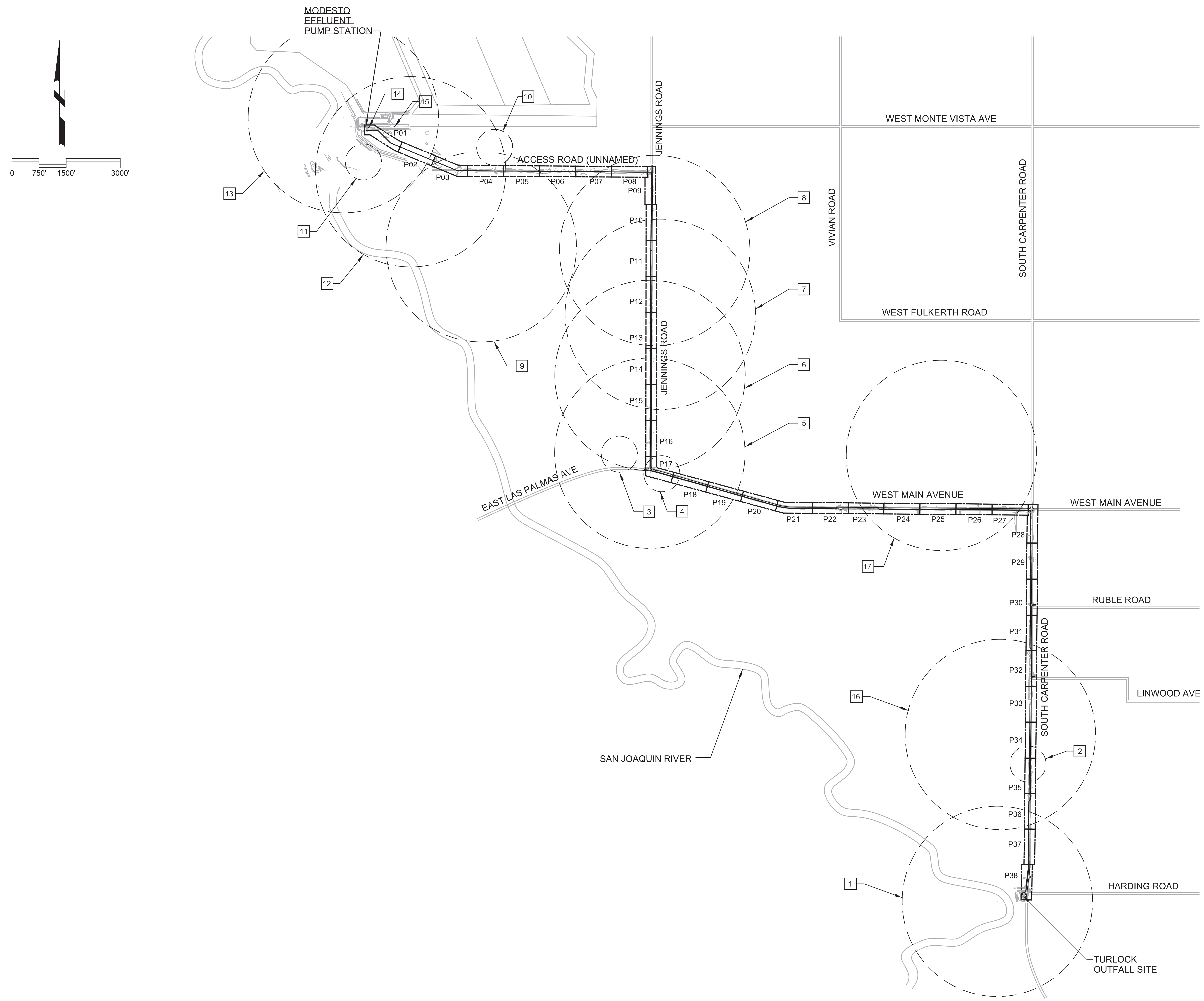
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
GENERAL
SPOILS DISPOSAL, TRUCK ROUTE AND ACCESS PLAN AT JENNINGS TREATMENT FACILITY

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
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JOB NO. 10595A.10
DRAWING NO. G07
SHEET NO. 7 OF 122

PROJECT NO. FILE NAME: 10595A10G07.dgn

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GENERAL NOTES:

1. SEE SPECIFICATIONS FOR WORK RESTRICTIONS.
2. THIS DRAWING SHOWS THE HISTORICAL BIRD NESTING LOCATIONS. THE CONTRACTOR SHALL ASSUME THE NESTING LOCATIONS SHOWN ON THE DRAWING FOR THE PURPOSE OF BIDDING.
3. THE CITY WILL HIRE A THIRD PARTY BIOLOGIST TO PERFORM BIOLOGICAL MONITORING DURING CONSTRUCTION. THE CONTRACTOR SHALL ADHERE TO REQUIREMENTS OF THE MMRP, LOCAL LAWS AND REGULATIONS, AND ENVIRONMENTAL RESTRICTIONS DEVELOPED DURING CONSTRUCTION BY THE CITY'S BIOLOGIST.

BUFFER ZONE LOCATION:

NO.	NEST AND BUFFER ZONE	NORTHING	EASTING
1	SWAINSON'S HAWK TERRITORY (NEST ANTICIPATED) 1/2 MILE RADIUS BUFFER ZONE	N 1991646.59	E 6406698.24
2	RED TAILED HAWK NEST 500 FOOT RADIUS BUFFER ZONE	N 1995457.24	E 6407547.84
3	RED TAILED HAWK NEST 500 FOOT RADIUS BUFFER ZONE	N 2004052.52	E 6396216.39
4	RED TAILED HAWK NEST 500 FOOT RADIUS BUFFER ZONE	N 2003509.27	E 6397394.00
5	SWAINSON'S HAWK NEST 1/2 MILE RADIUS BUFFER ZONE	N 2004078.12	E 6397061.86
6	SWAINSON'S HAWK NEST 1/2 MILE RADIUS BUFFER ZONE	N 2006236.16	E 6397066.71
7	SWAINSON'S HAWK NEST 1/2 MILE RADIUS BUFFER ZONE	N 2007931.07	E 6397351.94
8	SWAINSON'S HAWK NEST 1/2 MILE RADIUS BUFFER ZONE	N 2009702.38	E 6397196.95
9	SWAINSON'S HAWK NEST 1/2 MILE RADIUS BUFFER ZONE	N 2009805.13	E 6392387.90
10	RED TAILED HAWK NEST 500 FOOT RADIUS BUFFER ZONE	N 2012562.86	E 6392755.41
11	RED TAILED HAWK NEST 500 FOOT RADIUS BUFFER ZONE	N 2012156.38	E 6389119.48
12	SWANSON'S HAWK NEST 1/2 MILE RADIUS BUFFER ZONE	N 2011885.23	E 6390427.03
13	SWANSON'S HAWK NEST 1/2 MILE RADIUS BUFFER ZONE	N 2013386.00	E 6388563.02
14	VALLEY ELDERBERRY LONGHORN BEETLE HABITAT 20 FOOT RADIUS BUFFER ZONE WITH ENVIRONMENTAL SENSITIVE AREA FENCING AND SIGNAGE	N 2013105.09	E 6389264.82
15	VALLEY ELDERBERRY LONGHORN BEETLE HABITAT 20 FOOT RADIUS BUFFER ZONE WITH ENVIRONMENTAL SENSITIVE AREA FENCING AND SIGNAGE	N 2013134.61	E 6389979.29
16	SWANSON'S HAWK NEST 1/2 MILE RADIUS BUFFER ZONE	N 1996277.59	E 6406780.81
17	SWANSON'S HAWK NEST 1/2 MILE RADIUS BUFFER ZONE	N 2004017.46	E 6405148.33

NOTES:

1. THE NORTHING AND EASTING LOCATIONS PROVIDED IN THIS TABLE ARE TO THE CENTER POINT OF EACH CIRCULAR BUFFER ZONE.

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune Contact Info: Carollo Engineers, Inc. Date: 2018.04.25 09:02:05-07'00'

Digitally signed by Jonathon P. Marshall Contact Info: Carollo Engineers, Inc. Date: 2018.04.25 10:30:52-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

carollo®

CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK

NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM TURLOCK COMPONENT

GENERAL

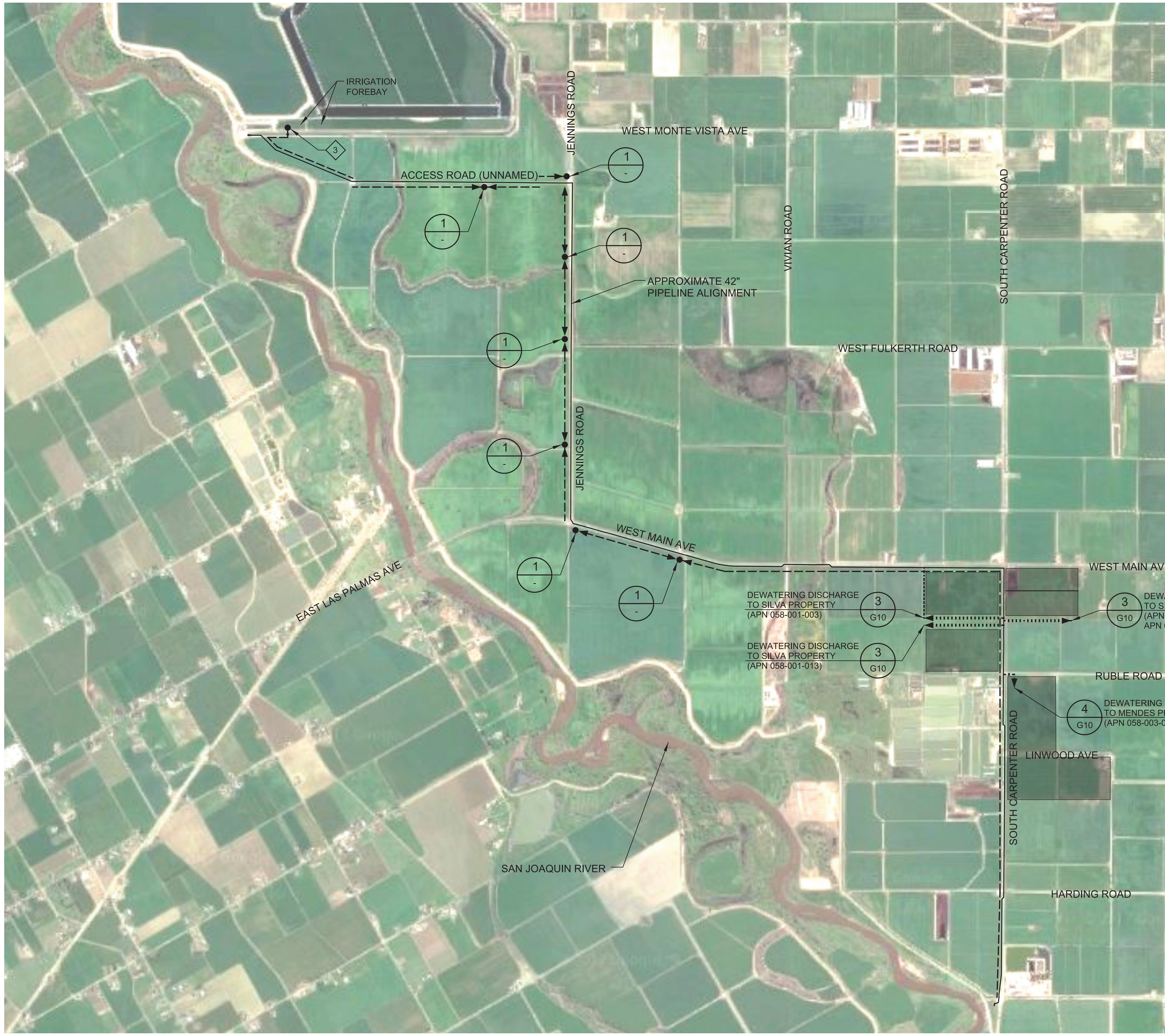
ENVIRONMENTAL RESTRICTIONS

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

JOB NO. 10595A.10
DRAWING NO. G08
SHEET NO. 8 OF 122

PROJECT NO. FILE NAME: 10595A10G08.dgn

Plot Date: 23-APR-2018 11:48:28 AM
User: svcPW
Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 2:1
LAST SAVED BY: JGarretty



A CONSTRUCTION DEWATERING DISPOSAL PLAN

FILE: 10595A10G09C

GENERAL NOTES:

1. SEE DEWATERING SECTION 02240 FOR ADDITIONAL REQUIREMENTS, RESTRICTIONS AND FEES FOR DISCHARGING CONSTRUCTION DEWATERING WATER.
2. THIS CONSTRUCTION DEWATERING DRAWING SHOWS DEWATERING DISCHARGE LOCATIONS AVAILABLE TO THE CONTRACTOR: THE CITY OF MODESTO'S IRRIGATION SYSTEM AND PRIVATE LANDOWNERS. CONTRACTOR SHALL ELECT TO USE SOME OR ALL OF THESE LOCATIONS AT CONTRACTOR'S SOLE DISCRETION AND MEANS AND METHODS FOR CONSTRUCTING THE PROJECT.
3. FIELD VERIFY LOCATION, SIZE, AND CONFIGURATION OF ALL FACILITIES PLANNED TO BE USED FOR DEWATERING OPERATIONS.
4. GROUNDWATER DISCHARGE PIPING SHALL NOT BLOCK ROADS OR DRIVEWAYS. INSTALL PIPING IN A TRENCH, AS NEEDED, TO MAINTAIN ACCESS. WHEN DEWATERING IS COMPLETE, THE PIPING SHALL BE REMOVED AND ROADS AND DRIVEWAYS RESTORED TO PRE-CONSTRUCTION CONDITIONS, UNLESS OTHERWISE INDICATED.
5. DEWATERING FACILITIES SHALL REMAIN WITHIN THE RIGHT-OF-WAY, EASEMENTS, OR OTHER LOCATIONS APPROVED IN WRITING BY THE LANDOWNER.

KEY NOTES:

1. BLOW-OFF PIPING IS APPROXIMATELY 8 INCHES DIAMETER. FIELD VERIFY LOCATION, SIZE AND CONFIGURATION OF EACH BLOW-OFF.
2. DUCTILE IRON PIPING IS PRESSURIZED UP TO THE ISOLATION VALVE. TIE-IN TO THE DOWNSTREAM FLANGE OF THE ISOLATION VALVE TO CONNECT DEWATERING DISCHARGE PIPING. WHEN DEWATERING IS COMPLETE, THE PIPING SHALL BE REMOVED AND BLOWOFF RESTORED TO PRE-CONSTRUCTION CONDITIONS.
3. CONTRACTOR MAY DISCHARGE TO THE MODESTO JENNINGS PLANT IRRIGATION FOREBAY. DISCHARGE PIPING SHALL BE INSTALLED IN A TRENCH THROUGH THE ACCESS ROAD OR IN A PIPE RAMP.

LEGEND:

- – – – ► APPROXIMATE LOCATION OF DEWATERING DISCHARGE PIPING TO CITY OF MODESTO IRRIGATION SYSTEM. CONTRACTOR SHALL DESIGN, PROVIDE, INSTALL AND REMOVE ALL DEWATERING FACILITIES.
- ········► APPROXIMATE LOCATION OF DEWATERING DISCHARGE PIPING TO PRIVATE PROPERTY OWNERS.
- (shaded box) APPROXIMATE PROPERTY PARCEL BOUNDARY.

1 2



1 MODESTO IRRIGATION PIPELINE BLOWOFF

SCALE: NO SCALE
FILE: 10595A10G09B

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN DPF
CHECKED AP
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:02:25-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:30:29-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

carollo®

CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
GENERAL
CONSTRUCTION DEWATERING
PLAN AND PHOTO

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10595A.10
DRAWING NO. G09
SHEET NO. 9 OF 122

Plot Date: 23-APR-2018 11:48:51 AM User: svcPW PlotScale: 2:1 DesignScript: Carollo_Std_Pen_v0905.pen ColorTable: gshade.ctb Model: Layout1
LAST SAVED BY: JGarretty

GENERAL NOTES:

1. SEE DEWATERING SECTION 02240 FOR ADDITIONAL REQUIREMENTS, RESTRICTIONS AND FEES FOR DISCHARGING CONSTRUCTION DEWATERING WATER.

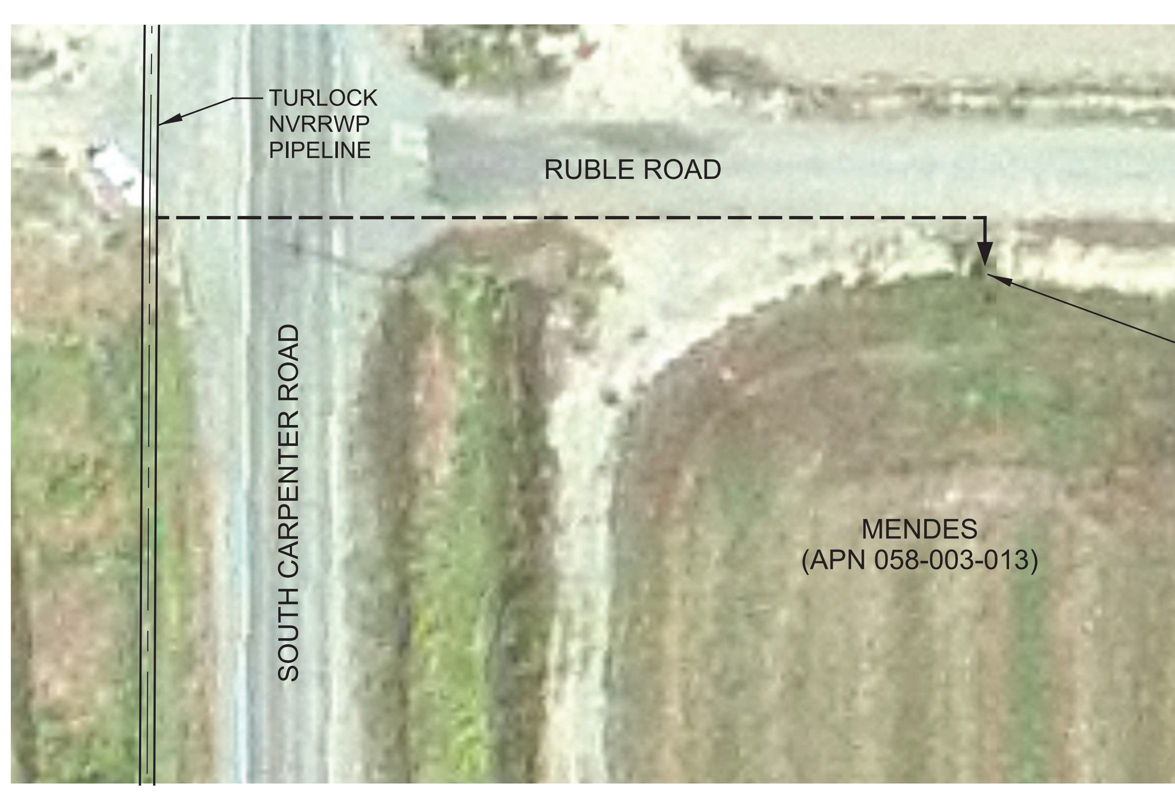
LEGEND

(gated pipe symbol) REPRESENTS LOCATIONS WHERE PROPERTY OWNER REQUIRES A GATED PIPE TO UNIFORMLY APPLY WATER TO THE FIELD. SEE DEWATERING REQUIREMENTS IN SECTION 02240 AND PROPERTY OWNER AGREEMENTS IN VOLUME 4 OF THE CONTRACT DOCUMENTS.

2 NOT USED
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3 SILVA
G09
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4 MENDES
G09
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6 NOT USED
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REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN DPF
CHECKED AP
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:02:36-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:30:17-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

carollo®

CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
GENERAL
CONSTRUCTION DEWATERING
PHOTOS

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

JOB NO. 10595A.10
DRAWING NO. G10
SHEET NO. 10 OF 122

PROJECT NO.
FILE NAME: 10595A10G10.dgn

GENERAL NOTES:

1. USE STRUCTURAL DRAWINGS IN CONJUNCTION WITH PROJECT DRAWINGS BY OTHER DISCIPLINES AND WITH THE SPECIFICATIONS.

2. UNLESS DETAILED, SPECIFIED, OR INDICATED OTHERWISE, CONSTRUCTION SHALL BE AS INDICATED IN THE GENERAL NOTES AND TYPICAL DETAILS.

3. PRESENTATION CONVENTIONS FOR STRUCTURAL DRAWINGS:

   A. SCREENED LINE WORK INDICATES EXISTING CONDITIONS.
   B. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED SIZES.
   C. PLANS ARE TREATED AS HORIZONTAL SECTIONS. (I.E.: "PLAN AT ELEVATION 110" SHOWS CONSTRUCTION AT AND BELOW ELEVATION 110.)

4. VERIFY DIMENSIONS AND CONDITIONS BEFORE BEGINNING WORK. ADVISE ENGINEER IMMEDIATELY OF DISCREPANCIES BETWEEN EXISTING CONDITIONS AND DIMENSIONS, AND INFORMATION SHOWN ON THESE DRAWINGS. CONFIRM THE FOLLOWING BEFORE PREPARATION AND SUBMITTAL OF SHOP DRAWINGS:

   A. DIMENSIONS AND WEIGHTS FOR EQUIPMENT SELECTED.
   B. SIZES AND LOCATIONS OF EQUIPMENT PADS FOR EQUIPMENT SELECTED.

5. TYPICAL DETAILS ARE INCLUDED ON THE "T" DRAWINGS.

   A. TYPICAL DETAILS ARE INTENDED TO APPLY AT LOCATIONS DESCRIBED BY THEIR TITLES, EVEN WHEN NOT SPECIFICALLY REFERENCED ON THE DRAWINGS.
   B. IN STRUCTURAL TYPICAL DETAILS, ORIENTATION OF BARS IN EACH MAT OF REINFORCEMENT (WHETHER "LINES" OR "DOTS"ARE CLOSER TO THE FACE OF THE CONCRETE) IS GENERALLY ARBITRARY. SEE DRAWINGS OF EACH STRUCTURE FOR ORIENTATION REQUIRED AT THAT STRUCTURE.

6. SEE CIVIL DRAWINGS FOR STRUCTURE COORDINATES. POINTS ON THE STRUCTURES TO WHICH SITE COORDINATES REFER ARE SHOWN ON THE STRUCTURAL PLANS.

7. DRAWINGS PREPARED BY OTHER DISCIPLINES INCLUDE OPENINGS, ANCHORS, PIPES, CONDUITS, AND OTHER ITEMS THAT ARE EMBEDDED INTO OR PASS THROUGH STRUCTURES.

   A. CONFIRM SIZE AND LOCATIONS OF OPENINGS, PENETRATIONS AND EMBEDMENT FOR ITEMS AND EQUIPMENT FURNISHED.
   B. IN GENERAL, OPENINGS, EMBEDMENTS, AND PENETRATIONS LESS THAN 12 INCHES IN DIAMETER ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS.
   C. SEE MECHANICAL DRAWINGS FOR DETAILS OF PIPE PENETRATIONS, PIPE SUPPORTS, AND ASSOCIATED STRUCTURAL REQUIREMENTS.
   D. SEE MECHANICAL DRAWINGS FOR EQUIPMENT PADS AND PIPE SUPPORTS.

STRUCTURAL DESIGN CRITERIA - GENERAL:

SEE DRAWINGS OF INDIVIDUAL STRUCTURES FOR SPECIFIC DESIGN CRITERIA BASED ON THESE OVERALL CRITERIA FOR THE SITE.

1. BUILDING CODE:

   A. 2016 CALIFORNIA BUILDING CODE ("CBC 2016") WITH ASCE 7-10.

2. STRUCTURE RISK CATEGORY: III.

3. DEAD LOADS: CALCULATED FOR STRUCTURE SELF-WEIGHT.

4. LIVE LOADS:

   A. FLOOR LIVE LOAD: SEE PLANS.
   B. GRATING AND CHECKERED PLATE: 100 PSF (UNO).
   C. ROOF LIVE LOAD: (20 PSF MINIMUM).

5. FLUID PRESSURE LOADS: 63 PSF/FT (UNO).

6. WIND DESIGN DATA:

   A. SPECIAL WIND REGION: NO
   B. BASIC WIND SPEED (3 SEC GUST, 33 FEET ABOVE GROUND): 115 MPH.

7. EARTHQUAKE DESIGN DATA:

	0.2 SECOND	*1.0 SECOND
A. SITE CLASS: D .		
B. MAPPED SPECTRAL RESPONSE ACCELERATIONS:	Ss = 0.892 g	S1 = 0.325 g
C. DESIGN SPECTRAL RESPONSE ACCELERATIONS:*	Sds = 0.68g	Sd1 = 0.428 g

   (* 5% DAMPED)

8. CONSTRUCTION LOADS:

   STRUCTURES HAVE BEEN DESIGNED FOR OPERATING LOADS ON COMPLETED FACILITIES. UNTIL CONSTRUCTION IS COMPLETE AND MEMBERS HAVE ACHIEVED THEIR DESIGN STRENGTH, PROTECT STRUCTURES AS REQUIRED BY SHORING, BRACING, AND BALANCING.

GEOTECHNICAL REPORT / FOUNDATION DESIGN CRITERIA:

1. GEOTECHNICAL INVESTIGATION REPORT:

   TITLE: GEOTECHNICAL REPORT NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM.
   PREPARED BY: CRAWFORD AND ASSOCIATES, INC.
   DATED: FEBRUARY 2018.

2. FOUNDATION DESIGNS ARE BASED ON RECOMMENDATIONS IN THE GEOTECHNICAL INVESTIGATION REPORT.

   A. NET ALLOWABLE BEARING PRESSURE SEE PLANS.

   B. LATERAL EARTH PRESSURE (UNO):
   SURCHARGE: EQUIVALENT TO 2 FEET OF SOIL ABOVE FINISHED GRADE.

	STATIC		SEISMIC	
	ABOVE GROUNDWATER	BELOW GROUNDWATER	ABOVE GROUNDWATER	BELOW GROUNDWATER
ACTIVE	42	85	7	3
AT REST	62	95	11	5
PASSIVE	124	135		

TYPICAL STRUCTURAL MATERIALS:

1. MATERIALS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

2. SEE PROJECT SPECIFICATIONS AND NOTES ON DRAWINGS OF SPECIFIC STRUCTURES FOR DETAILED AND LOCATION-SPECIFIC REQUIREMENTS.

REINFORCING STEEL (FOR CONCRETE AND MASONRY):

1. DEFORMED BARS:
   A. TYPICAL: ASTM A 615, GRADE 60.
   B. WHERE INDICATED ON THE DRAWINGS: ASTM A 706.

2. WELDED WIRE FABRIC: ASTM A 185.

CONCRETE:

1. NORMAL DENSITY.

2. MINIMUM SPECIFIED CONCRETE COMPRESSIVE STRENGTH, f'c (AT 28 DAYS UNO).

   A. STRUCTURES: "CLASS A"OR "CLASS B" f'c = 4000 PSI.
   B. FILL, THRUST BLOCKS, PIPE ENCASEMENT: "CLASS C" f'c = 2500 PSI.
   C. ELECTRICAL DUCT ENCASEMENT: "CLASS CE" f'c = 2500 PSI.

STRUCTURAL STEEL:

1. SECTIONS

   A. SHAPES W, WT: ASTM A 992 (Fy = 50 KSI)
   B. SHAPES S, ST, M, MT, HP, C, MC, L: ASTM A 36 (Fy = 36 KSI)
   C. PLATES AND BARS: ASTM A 36 (Fy = 36 KSI)
   D. PIPES: ASTM A 53, GRADE B (Fy = 35 KSI)
   E. HOLLOW STRUCTURAL SECTIONS:
      ROUND: ASTM A 500, GRADE B (Fy = 42 KSI)
      SQUARE AND RECTANGULAR: ASTM A 500, GRADE B (Fy = 46 KSI)

2. CONNECTIONS:

   A. BOLTS - STEEL TO-STEEL:
      ASTM A 325 HIGH-STRENGTH BOLTS, WITH LOAD INDICATOR WASHERS.
   B. BOLTS - STEEL TO CONCRETE OR MASONRY:
      ANCHOR BOLTS WITH HEX FORGED HEAD.
      ASTM A193, STAINLESS TYPE 316 (304)
      ASTM F 1554, GRADE 36 GALVANIZED.
   C. WELDS - SHIELDED METAL ARC PROCESS USING E70-XX ELECTRODES.

STAINLESS STEEL:

1. ANSI TYPE 316/316L EXCEPT WHERE TYPE 304/304L IS INDICATED ON THE DRAWINGS.

2. SECTIONS: SHAPES AND BARS: ASTM A 276.

3. BOLTED CONNECTIONS - BOLTS AND ANCHOR BOLTS:

   A. MATCH ALLOY OF THE STRUCTURAL MEMBERS CONNECTED.
   B. TYPE 316/316L: ASTM A 193, GRADE B8M, CLASS 1, HEAVY HEX.
   C. TYPE 304/304L: ASTM A 193, GRADE B8, CLASS 1, HEAVY HEX.

4. WELDED CONNECTIONS:

   A. TYPE 316L: E316L-15 ELECTRODES.
   B. TYPE 304L: E304L-15 ELECTRODES.

ALUMINUM:

1. SECTIONS

   A. SHAPES: ASTM B 308, ALLOY 6061-T6.
   B. SHEET AND PLATE: ASTM B 209, ALLOY 6061-T6.

2. BOLTED CONNECTIONS - BOLTS AND ANCHOR BOLTS:

   A. STAINLESS STEEL - TYPE 316, ASTM A 193, GRADE B8M, CLASS 1, HEAVY HEX.

3. WELDED CONNECTIONS:

   A. GAS METAL ARC (MIG) OR GAS TUNGSTEN ARC (TIG) PROCESS USING FILLER ALLOY 4043 ELECTRODES.

CONSTRUCTION:

CONFORM TO THE FOLLOWING REQUIREMENTS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

EXCAVATION AND BACKFILLING:

1. EXPOSE AND PREPARE SUBGRADE AS SHOWN ON THE DRAWINGS AND SPECIFIED. OBTAIN ENGINEER'S OBSERVATION OF SUBGRADE SURFACES, AS EXPOSED AND AS PREPARED, BEFORE PROCEEDING WITH FOUNDATION CONSTRUCTION.

2. DO NOT PLACE BACKFILL AGAINST WALLS UNTIL STRUCTURES SUPPORTING THE TOP OF THE WALL ARE IN PLACE, ARE COMPLETE, AND (IN THE CASE OF CONCRETE) HAVE CURED TO THEIR MINIMUM SPECIFIED 28-DAY COMPRESSIVE STRENGTH.

3. WHERE BACKFILL MUST BE PLACED AGAINST WALLS BEFORE STRUCTURES ABOVE ARE COMPLETE, PROVIDE BRACING FOR WALLS. KEEP BRACING IN PLACE UNTIL THE STRUCTURE ABOVE IS COMPLETE AND (IN THE CASE OF CONCRETE) HAS CURED TO ITS MINIMUM SPECIFIED 28-DAY COMPRESSIVE STRENGTH.

CONCRETE:

1. SEE S101/TYP FOR CONCRETE NOTES, INCLUDING CLEAR COVER AND LAP SPLICE LENGTH REQUIREMENTS FOR REINFORCING.

2. SUBMIT LOCATIONS OF CONSTRUCTION JOINTS NOT SHOWN ON THE DRAWINGS FOR ACCEPTANCE BY THE ENGINEER BEFORE FORM LAYOUT.

3. PROVIDE CHAMFER AT EXPOSED EDGES OF CAST-IN-PLACE CONCRETE. SEE SPECIFICATION 03102 FOR CHAMFERS.

4. PROVIDE REINFORCING:

   A. AT CORNERS AND JUNCTIONS - AS INDICATED IN S144/TYP, SUPPLEMENT WITH ADDED BARS WHERE INDICATED ON THE DRAWINGS.
   B. AT OPENINGS - AS INDICATED IN S180/TYP.

5. WELDING OF REINFORCING IS NOT PERMITTED UNLESS DETAILED ON THE DRAWINGS OR ACCEPTED IN ADVANCE BY THE ENGINEER.

6. MAINTAIN MINIMUM 3 INCHES CLEAR CONCRETE COVER BETWEEN REINFORCING AND EMBEDMENTS.

7. FINISH CONCRETE AS SPECIFIED IN SECTION 03366.

STEEL, STAINLESS STEEL, AND ALUMINUM - CONNECTIONS:

1. BOLTED:

   A. MADE USING 3/4-INCH DIAMETER BOLTS.
   B. HAVING A MINIMUM OF 2 BOLTS, SPACED NOT CLOSER THAN 3 INCHES ON CENTER.
   C. WITH A DISTANCE OF AT LEAST 1 1/2 INCHES FROM CENTER OF BOLT TO ANY EDGE OF A PLATE OR STRUCTURAL ELEMENT.

2. WELDED:

   A. FILLET WELDS: PER AWS CODE BASED ON THE THICKNESS OF THE MATERIALS BEING JOINED, AND FULL LENGTH OF THE JOINT.

3. INTERFACE BETWEEN MATERIALS:

   A. AT BOLTED CONNECTIONS THAT INCLUDE DIFFERENT METALS (E.G.: STEEL AND STAINLESS STEEL, OR ALUMINUM AND STAINLESS STEEL) PROVIDE ISOLATING SLEEVES AND WASHERS AS SPECIFIED IN SECTION 05190.
   B. WHERE ALUMINUM IS IN CONTACT WITH MASONRY OR CONCRETE, COAT ALUMINUM SURFACES AS SPECIFIED IN SECTION 09960.

4. POST-INSTALLED ANCHORS IN CONCRETE:

   A. INSTALL IN FULL COMPLIANCE WITH ACCEPTED BUILDING CODE EVALUATION REPORT AND MANUFACTURER'S INSTRUCTIONS.
   B. DO NOT CUT, DAMAGE, OR INTERRUPT EXISTING REINFORCEMENT TO INSTALL ANCHORS. USE NON-DESTRUCTIVE TESTING EQUIPMENT TO IDENTIFY LOCATIONS OF REINFORCEMENT IN MEMBERS BEFORE DRILLING HOLES FOR ANCHORS.

METAL FABRICATIONS:

1. HANDRAILS AND GUARDRAILS:

   A. ALUMINUM, EXCEPT WHERE OTHER MATERIALS ARE NOTED.

2. GRATING:

   A. ALUMINUM WITH TYPE 316 STAINLESS STEEL FASTENERS, UNLESS OTHERWISE NOTED.
   B. GRATING AND ITS SEATS OR SUPPORTS SHALL BE OF THE SAME MATERIAL.
   C. UNLESS INDICATED ON THE DRAWINGS AS "REMOVABLE GRATING", SECURELY FASTEN GRATING TO SUPPORTS AS INDICATED IN A414/TYP.

3. COVER PLATES:

   A. ALUMINUM WITH TYPE 316 STAINLESS STEEL FASTENERS, UNLESS OTHERWISE NOTED.
   B. COVER PLATE AND ITS SEATS OR SUPPORTS SHALL BE OF THE SAME MATERIAL.

SPECIAL INSPECTION:

1. SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING STRUCTURAL MATERIALS AND CONSTRUCTION. SEE SPECIFICATION SECTION 01455 FOR DETAILS.

2. DIVISION 2 SITE CONSTRUCTION (EARTHWORK)

   A. EXCAVATION DEPTH.
   B. ADEQUACY OF EXPOSED SURFACE TO PROVIDE REQUIRED SUPPORT.
   C. PREPARATION OF SOILS/SURFACES SUPPORTING CONSTRUCTION.
   D. FILL AND BACKFILL.
   E. DEEP FOUNDATIONS: DRILLED PIERS

3. DIVISION 3 CONCRETE:

   A. LOCATIONS.
   B. FORMWORK AND MEMBER SIZES.
   C. REINFORCING STEEL.
   D. ANCHORS: CAST-IN AND POST-INSTALLED.
   E. CONCRETE MIX AND PLACEMENT.
   F. PROTECTION AND CURING PROCEDURES.

4. DIVISION 5 METALS

   A. GENERAL ALL METALS:
      1) MEMBER LOCATIONS.
      2) MEMBER SIZES/TYPES.
      3) ANCHORS - CAST-IN AND BUILT-IN ANCHOR BOLTS.
      4) ANCHORS - POST-INSTALLED MECHANICAL AND ADHESIVE.

   B. STRUCTURAL ALUMINUM.
      1) BOLTING.
      2) WELDING.

STRUCTURAL OBSERVATION:

1. THE OWNER SHALL RETAIN A DESIGN PROFESSIONAL OTHER THAN THE QUALIFIED INSPECTOR TO PERFORM STRUCTURAL OBSERVATIONS AS REQUIRED BY CHAPTER 17 OF CBC. NON-CONTINUOUS STRUCTURAL OBSERVATIONS SHALL BE PERFORMED TO DETERMINE GENERAL CONFORMANCE WITH CONSTRUCTION DOCUMENTS. STRUCTURAL OBSERVATIONS SHALL APPLY TO ALL ELEMENTS OF THE STRUCTURAL SYSTEM. THE FREQUENCY OF THE STRUCTURAL OBSERVATIONS SHALL BE AT THE DISCRETION OF THE DESIGN PROFESSIONAL.

STRUCTURAL SYMBOLS:

1. SEE DRAWING G03 FOR KEY TO DRAWING TITLES AND SECTION CUTS, AND FOR DEFINITION OF MATERIALS SHADING PATTERNS.

2. WELDING: SYMBOLS: IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) A2.4.

STRUCTURAL ABBREVIATIONS:

1. SEE DRAWING G04 FOR GENERAL LIST OF ABBREVIATIONS USED ON DRAWINGS.

2. ABBREVIATIONS FOR NAMES OF TECHNICAL GROUPS MAY BE FOUND IN THE PROJECT SPECIFICATIONS.

3. STRUCTURAL MEMBERS:

   A. STEEL: ABBREVIATIONS AND DESIGNATIONS ARE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION'S STEEL CONSTRUCTION MANUAL, CURRENT EDITION.

   B. ALUMINUM: ABBREVIATIONS AND DESIGNATIONS ARE IN ACCORDANCE WITH THE ALUMINUM ASSOCIATION'S ALUMINUM DESIGN MANUAL, CURRENT EDITION.

4. ABBREVIATIONS FOR STRUCTURAL DRAWINGS:
   WHEN USED ON THE STRUCTURAL DRAWINGS, THE FOLLOWING ABBREVIATIONS HAVE THE MEANINGS LISTED.

REINFORCEMENT:		OTHER:	
BO	BOTTOM OF	L	ANGLE
EF	EACH FACE	PL	PLATE
I.F.	INSIDE FACE		
O.F.	OUTSIDE FACE		
T.O.	TOP OF		
#	NUMBER (REINFORCING BAR SIZE)		
H2E	HOOKED TWO ENDS		

DEFERRED DESIGN SUBMITTALS

AS DEFINED IN THE BUILDING CODE, DEFERRED DESIGN SUBMITTALS ARE PORTIONS OF THE DESIGN THAT ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION, AND THAT ARE TO BE REVIEWED BY THE REGISTERED DESIGN PROFESSIONAL AND SUBSEQUENTLY SUBMITTED TO THE BUILDING OFFICIAL.

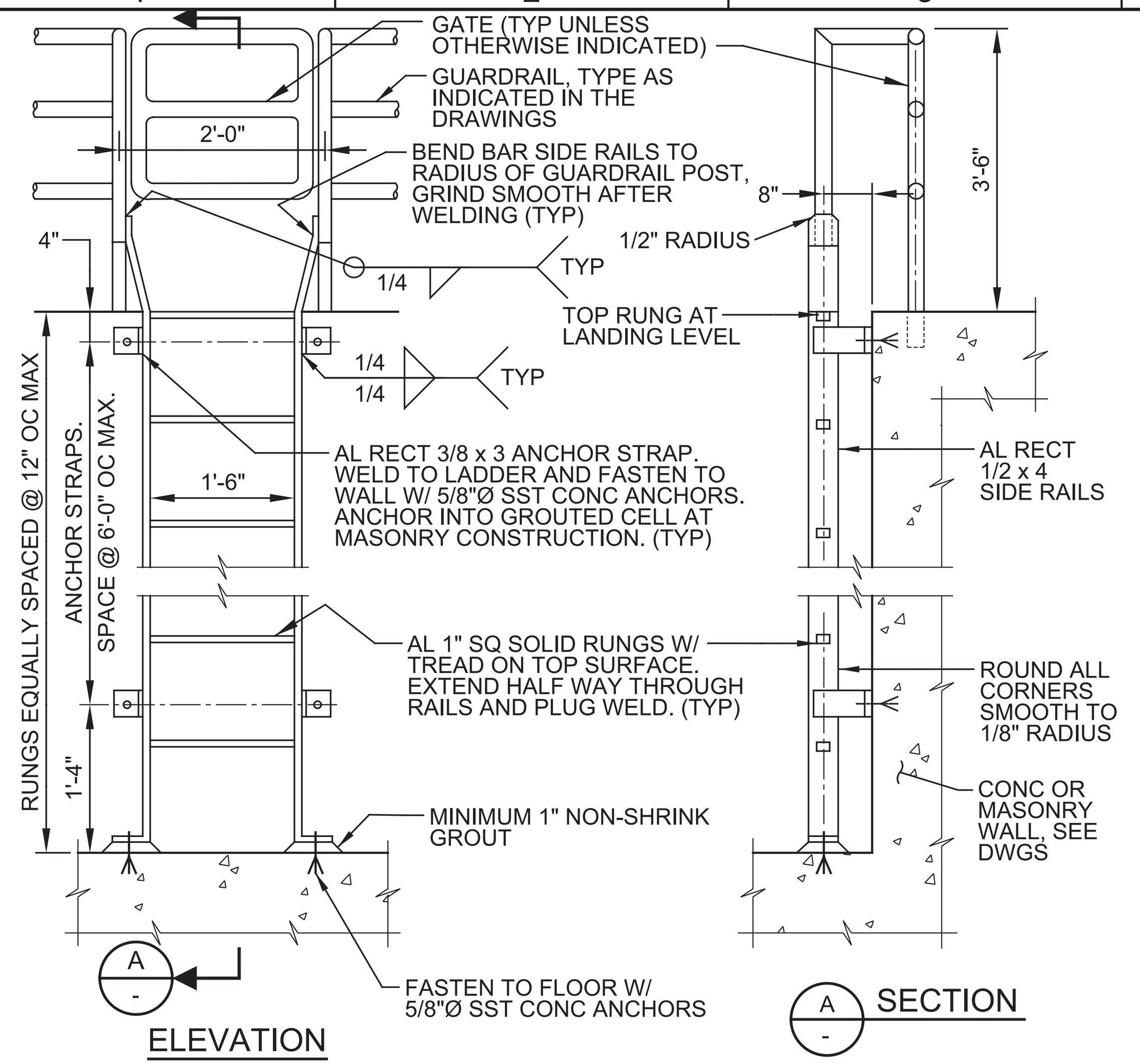
DEFERRED DESIGN SUBMITTALS FOR THIS PROJECT INCLUDE:

1. DIVISION 3 CONCRETE.

   A. 03200 REINFORCING DRAWINGS.
   B. 03300 CONCRETE MIX DESIGN.

2. DIVISION 5 METALS.

   A. 05500 HANDRAILS AND GUARDRAILS.
   B. 005500 GRATING.



NOTES:

1. INSTALL FALL PREVENTION SYSTEM OR SAFETY CAGE WHERE HEIGHT OF LADDER EXCEEDS 20'-0".
2. MINIMUM CLEARANCE TO ANY OBSTRUCTION ADJACENT TO LADDER: 2'-6" ON CLIMBING SIDE (2'-3" AT SMOOTH WALL). 1'-3" EACH SIDE OF CENTER LINE, ON EACH SIDE OF LADDER.
3. COAT ALL AL SURFACES IN CONTACT W/ CONC AND MASONRY, AND INSTALL ISOLATION SLEEVES AND WASHERS AT DISSIMILAR METALS, AS SPECIFIED.
4. WHERE GUARDRAIL IS SST, BOLT PIPE TO RAIL W/ 2 - 1/2"Ø SST BOLTS.

A250 TYP — ALUMINUM LADDER FASTENED TO WALL

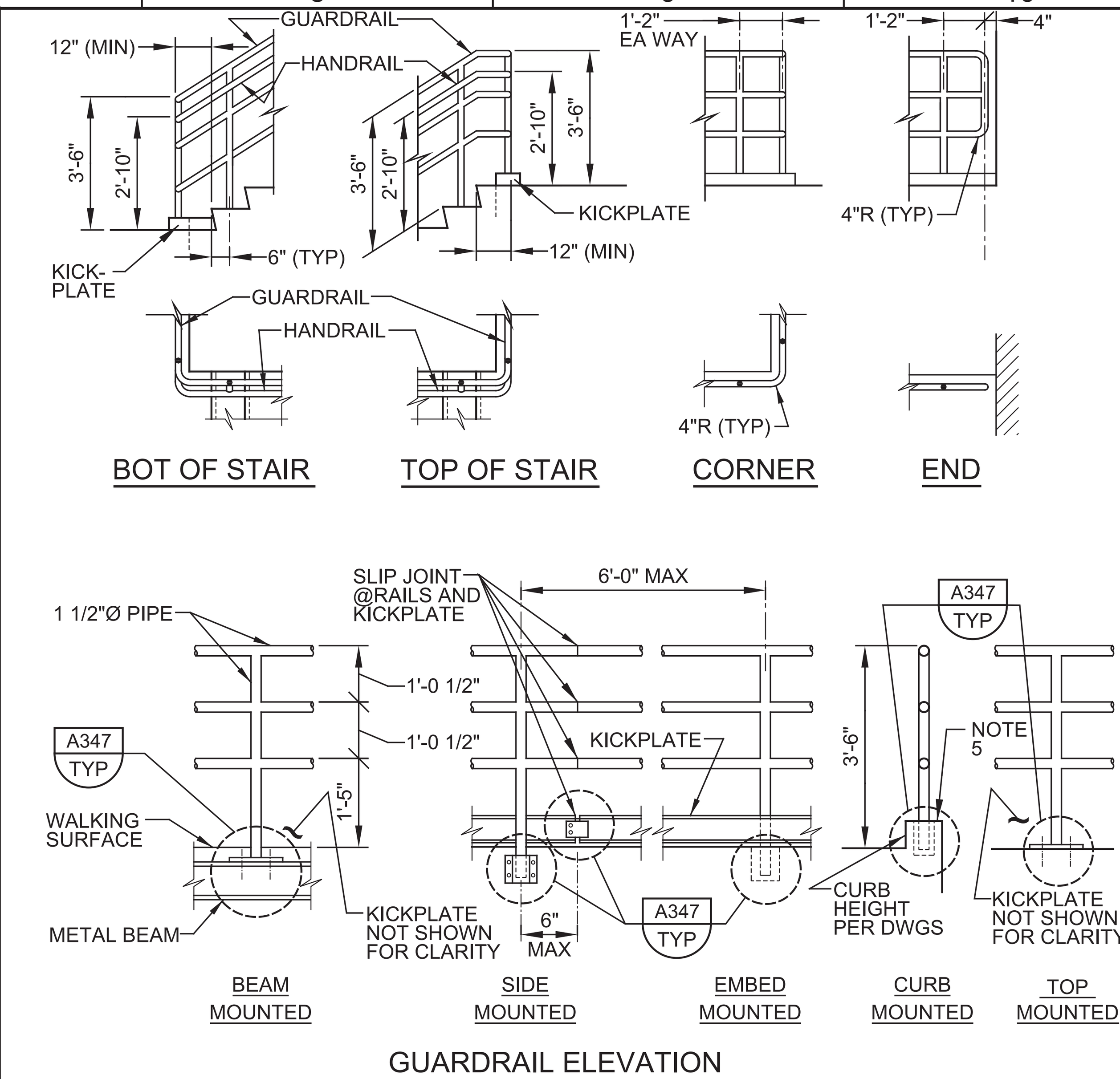
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NOTES:

1. PROVIDE GUARDRAILS AT STAIRS AND AT OPEN SIDED WALKING SURFACES THAT ARE ELEVATED MORE THAN 30" ABOVE GRADE OR ADJACENT CONSTRUCTION.
2. WHERE EQUIPMENT IS LOCATED LESS THAN 10' FROM EDGE OF ROOF AND ELEVATED MORE THAN 30" ABOVE GRADE OR ADJACENT CONSTRUCTION, PROVIDE 42" HIGH GUARDRAIL FORMING A PROTECTIVE BARRIER. PARAPET WALL 42" OR MORE IN HEIGHT MAY BE THE GUARDRAIL AT ROOF LOCATIONS.
3. SEE DRAWINGS AND SPECIFICATIONS FOR GUARDRAIL MATERIAL TYPE(S).
4. PROVIDE HANDRAIL AT BOTH SIDES OF EVERY STAIR HAVING 2 OR MORE RISERS.
5. PROVIDE CONTINUOUS HANDRAIL GRIPPING SURFACES FOR THE FULL LENGTH OF THE STAIR.
6. PROVIDE HANDRAIL EXTENSIONS AT BOTH SIDES OF STAIRS AT TOP AND BOTTOM. HANDRAIL EXTENSION ON STAIR MOUNTED GUARDRAIL MAY BE OMITTED WHERE IT IS PERPENDICULAR TO AND IMPEDES EXIT FLOW.
7. MAKE INSIDE HANDRAIL ON SWITCHBACK STAIRS CONTINUOUS.
8. FOR WALL MOUNTED HANDRAILS, PROVIDE SINGLE RAIL WITH TOP OF RAIL AT 2'-10" HEIGHT ABOVE LANDINGS OR TREAD NOSINGS. PROVIDE MATCHING HANDRAIL ON OPPOSITE SIDE.
9. GUARDRAIL SHALL BE FIXED UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
10. PLACE CENTER OF EMBEDDED POSTS 6" FROM EDGE OF CONCRETE AND 6" FROM FRONT EDGE OF CONCRETE STAIR NOSINGS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
11. PLACE GUARDRAIL POSTS OPPOSITE EACH OTHER WHERE RAILINGS ARE PARALLEL.
12. FOR GUARDRAIL POSTS MOUNTED TO BEAM OR STAIR CHANNEL, PROVIDE MANUFACTURERS REINFORCED CONNECTION FROM POST TO PLATE. PLATE AND REINFORCED INSERTS SHALL BE ALUMINUM OR STAINLESS STEEL.
13. PROVIDE SLIDING JOINTS AT 24' MAX SPACING FOR EXPANSION OF RAIL AND KICKPLATE. LOCATE SLIDING JOINTS NEAR FACE OF POST. GAP AT TIME OF INSTALLATION SHALL BE BASED ON TEMPERATURE OF GUARDRAIL. PROVIDE 1/4" GAP AT 100°F AND 5/8" GAP AT 0°F. INTERPOLATE GAP FOR OTHER INSTALLATION TEMPERATURES. AT CONCRETE EXPANSION JOINTS, PROVIDE MINIMUM 1" GAP IN SLIDING JOINTS BUT NOT LESS THAN WIDTH OF CONCRETE EXPANSION JOINT. MAKE INSERT SLEEVES IN RAILS LONG ENOUGH TO ALLOW FOR THE FULL RANGE OF MOVEMENT.
14. MATERIAL FOR KICKPLATE CHANNEL SLIDING JOINT PLATES, SHALL BE OF THE SAME MATERIAL AS THE GUARDRAIL.
15. JOINTS FOR STAINLESS STEEL GUARDRAIL AND HANDRAIL SHALL BE COPED, WELDED, AND GROUND SMOOTH.
16. PROVIDE KICKPLATE AT ALL LOCATIONS EXCEPT AT SLOPING GUARDRAIL ON STAIRS AND WHERE GUARDRAIL IS MOUNTED ON A 4" MIN CURB. KICKPLATE MAY BE EXTRUDED OR BENT PLATE AND SHALL BE ATTACHED WITH SST BOLTS IN 5/16" x 3/4" SLOTTED HOLES. BOLT KICKPLATE TO POST WITH BOTTOM 1/4" CLEAR ABOVE FLOOR. FOR SIDE MOUNTED GUARDRAIL, PROVIDE STANDARD SPACER BLOCK BETWEEN POST AND KICKPLATE TO MAINTAIN 1/4" MAX CLEAR SPACING. HAND TIGHTEN AND CENTER PUNCH BOLT THREADS TO LOCK.
17. COAT SURFACES OF ALUMINUM IN CONTACT WITH CONCRETE AS SPECIFIED. PROVIDE NEOPRENE GASKET BETWEEN ALUMINUM AND STEEL.

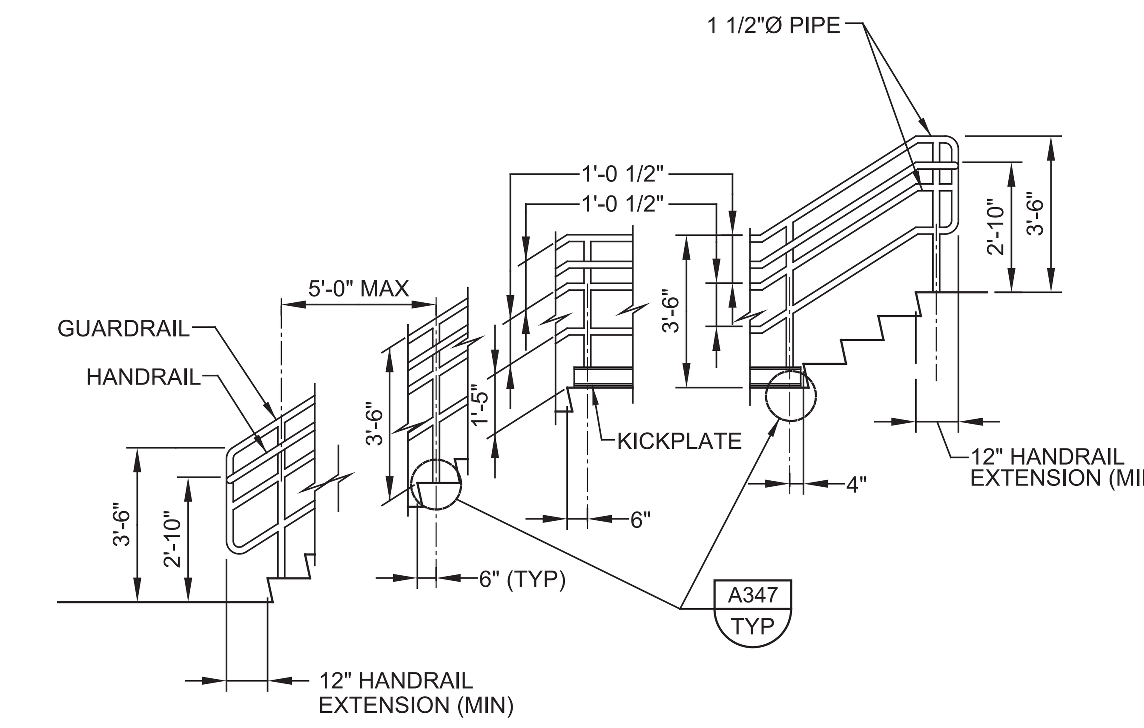
A340 TYP — GUARDRAIL AND HANDRAIL NOTES

NS 09/01/15



A343 TYP — THREE RAIL GUARDRAIL (PRIVATE USE)

NS SHEET 1 OF 3 08/24/15



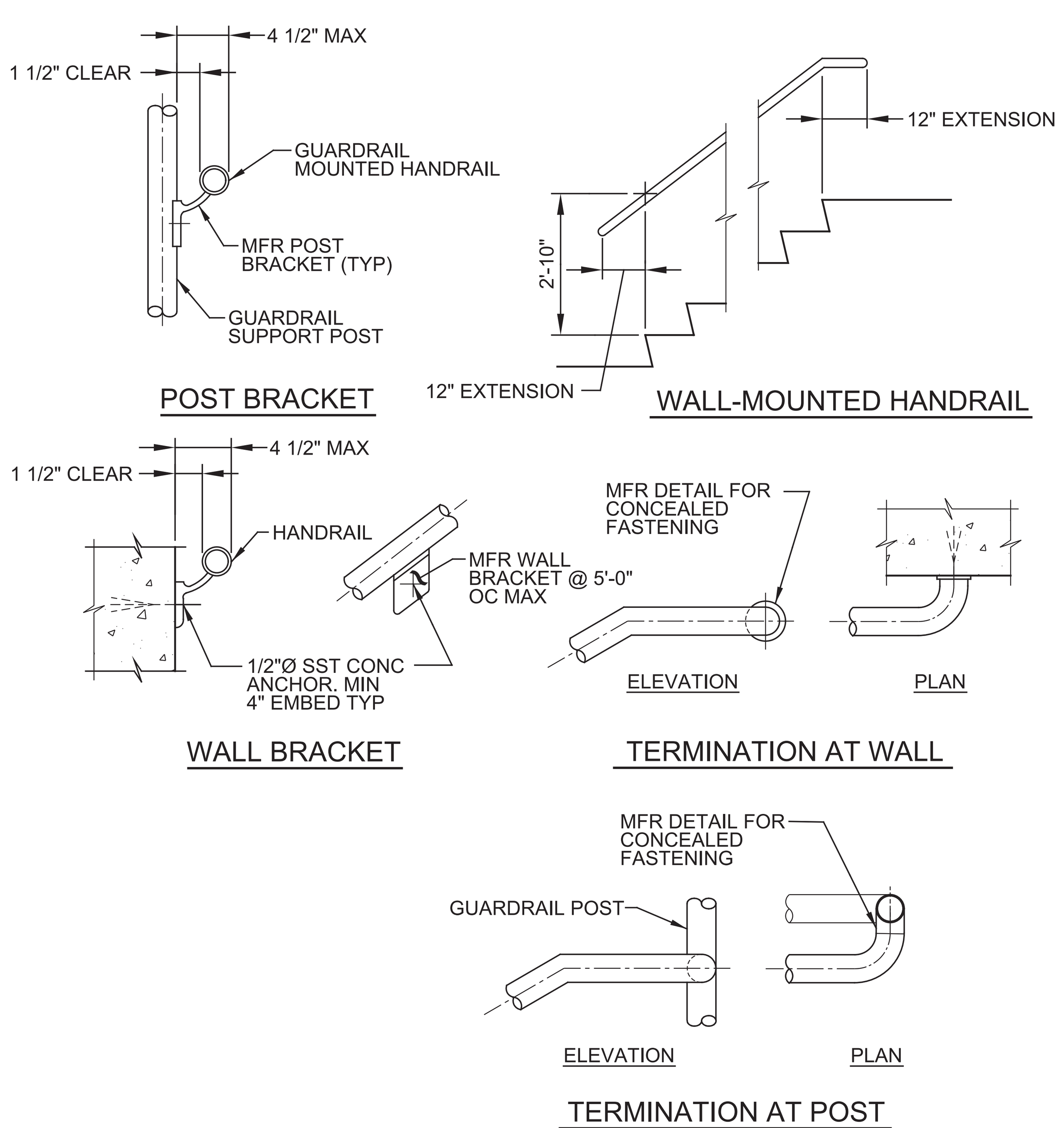
STAIR GUARDRAIL/HANDRAIL ELEVATION

NOTES:

1. THIS DETAIL IS APPLICABLE AT PRIVATE STAIRS IN F, H, AND S OCCUPANCIES WHERE OPERATOR ONLY ACCESS IS REQUIRED. DETAILS AND INSTALLATION SHALL COMPLY WITH THE BUILDING CODE.
2. SEE SPECIFICATIONS AND DETAIL A340/TYP FOR ADDITIONAL REQUIREMENTS.
3. VARIOUS POST MOUNTING DETAILS ARE ILLUSTRATED. SEE DRAWINGS AND DETAIL A347/TYP FOR SPECIFIC MOUNTING REQUIREMENTS.
4. HANDRAIL EXTENSIONS ARE REQUIRED ON BOTH SIDES OF STAIR, EXCEPT WHERE INSIDE HANDRAIL IS CONTINUOUS AT SWITCHBACK STAIR.
5. AT CURB, USE EMBEDDED OR TOP MOUNTED POST AS INDICATED ON THE DRAWINGS.

A343 TYP — THREE RAIL GUARDRAIL (PRIVATE USE)

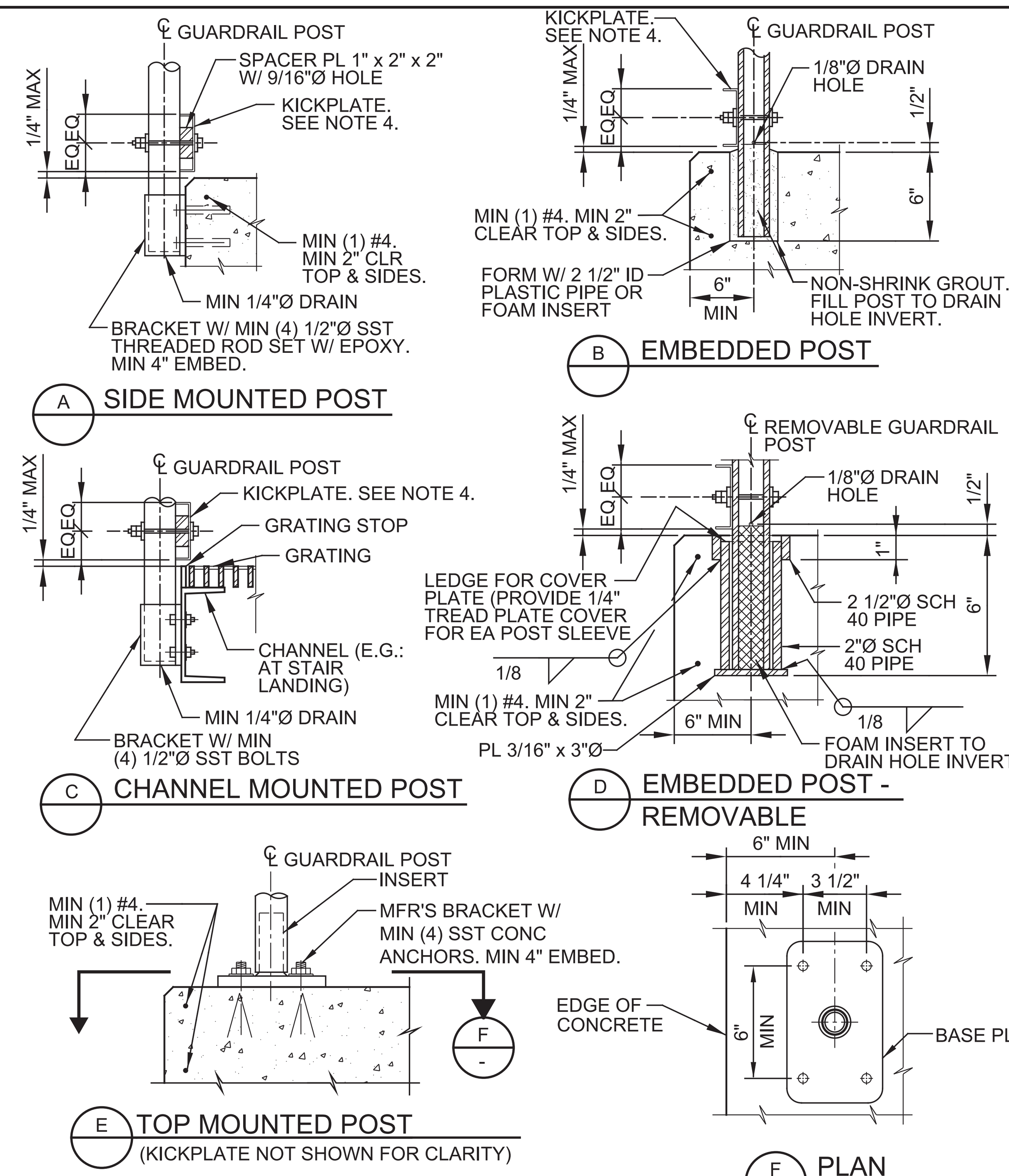
NS SHEET 2 OF 3 08/24/15



HANDRAIL DETAILS

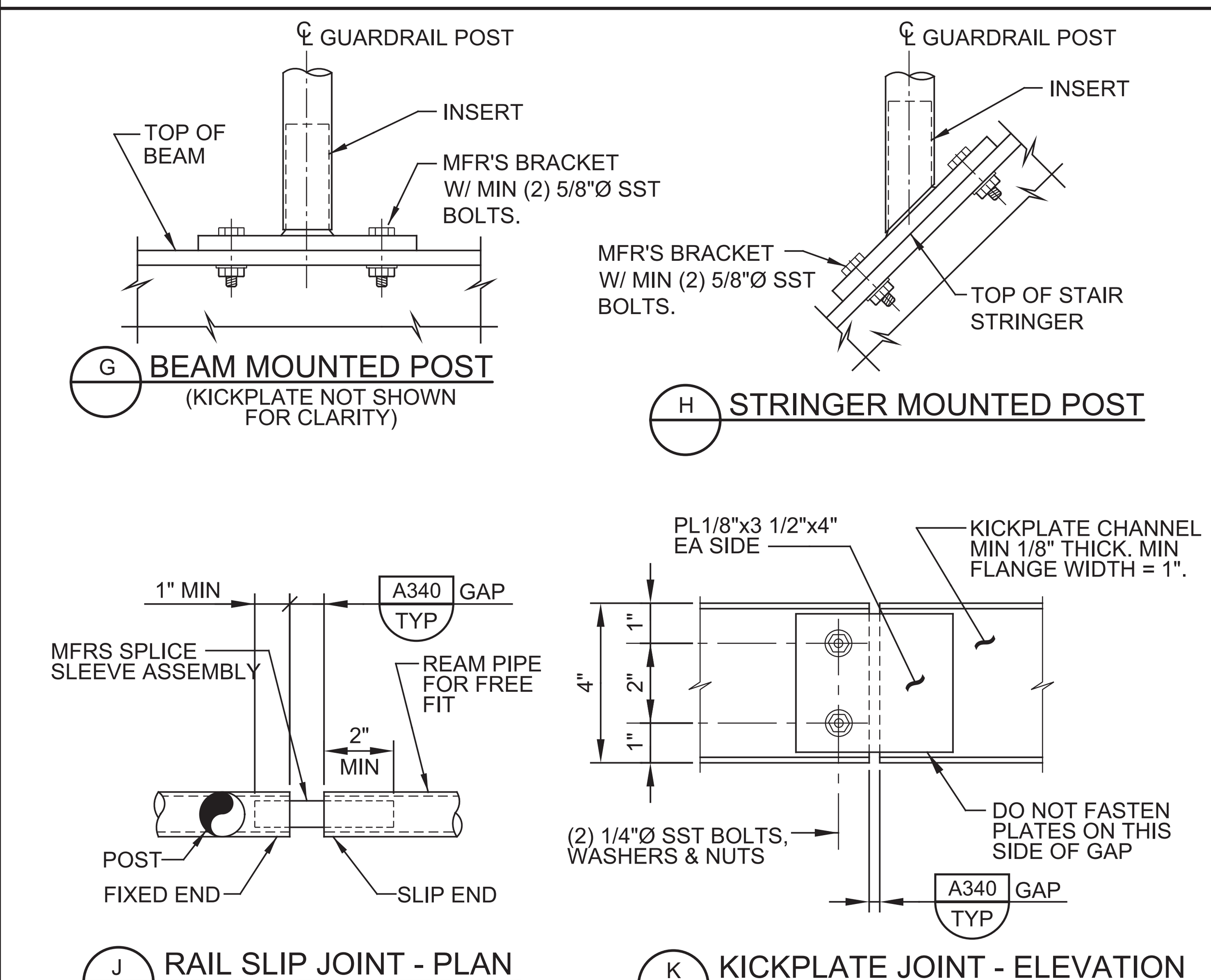
A343 TYP — THREE RAIL GUARDRAIL (PRIVATE USE)

NS SHEET 3 OF 3 08/24/15



A347 TYP — GUARDRAIL MOUNTING DETAILS

NS SHEET 1 OF 2 09/01/15



NOTES:

1. FOR ADDITIONAL REQUIREMENTS, SEE DETAIL A340/TYP.
2. SEE DRAWINGS FOR MATERIAL TYPES.
3. COAT ALUMINUM SURFACES IN CONTACT WITH CONCRETE OR DISSIMILAR METALS AS SPECIFIED.
4. KICKPLATE CONNECTION AT POST: MIN 3/4" HORIZONTAL SLOTTED HOLE IN CHANNEL W/ MIN 1/4"Ø BOLT. PROVIDE WASHER AND DOUBLE NUTS. INSIDE NUT FINGER-TIGHT TO PERMIT EXPANSION AND CONTRACTION.

A347 TYP — GUARDRAIL MOUNTING DETAILS

NS SHEET 2 OF 2 09/01/15

REV	DATE	BY	DESCRIPTION

DESIGNED: CE
DRAWN: CE
CHECKED: IKC
DATE: APRIL 2018

REGISTERED PROFESSIONAL ENGINEER — INDERPREET KAUR CHAGGAR — No. 80512 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.24 13:50:12-07'00'

Digitally signed by Inderpreet Chaggar
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.24 15:11:32-07'00'

REGISTERED PROFESSIONAL ENGINEER — DARREN G. BAUNE — No. 68899 — CIVIL — STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

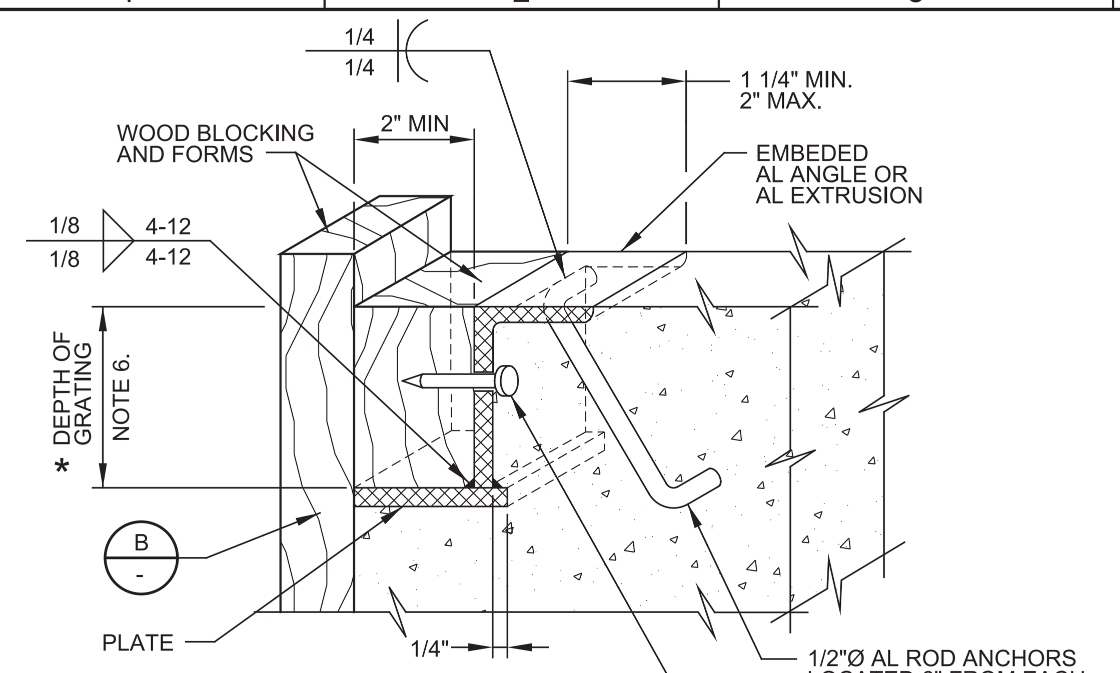
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
TYPICALS
TYPICAL DETAILS
ARCHITECTURAL - I

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
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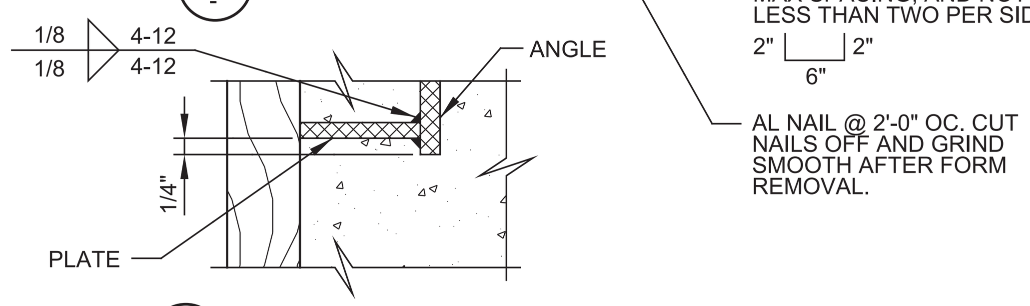
JOB NO. 10595A.10
DRAWING NO. TA01
SHEET NO. 12 OF 122

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User: svcPW
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LAST SAVED BY: Alaico



A - GRATING REBATE



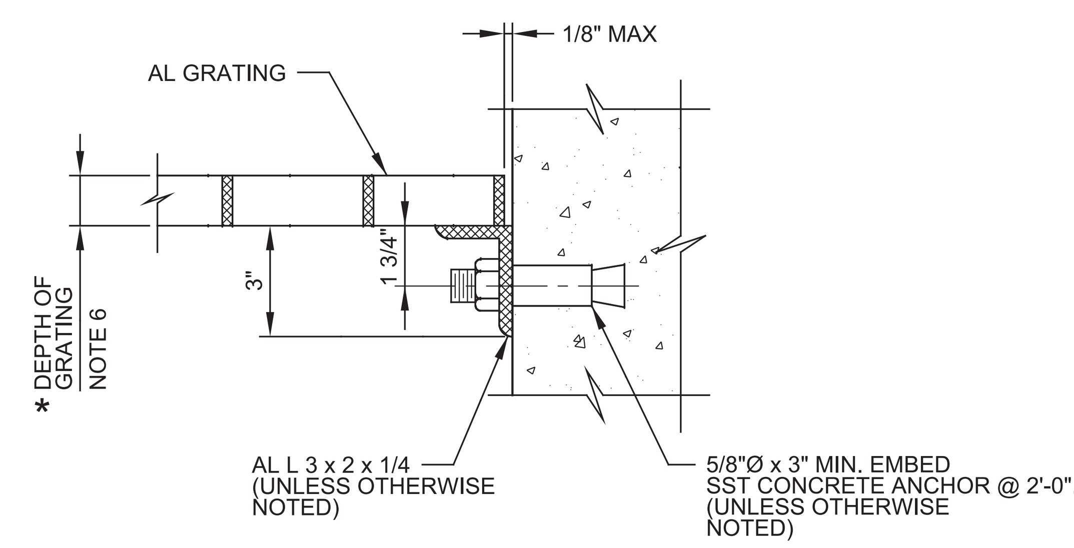
B - ALTERNATE REBATE

NOTES:

1. SEE SPECIFICATIONS FOR ALUMINUM GRATING.
2. MAKE REBATE AND/OR SEAT CONTINUOUS AROUND OPENING.
3. EMBEDDED REBATE ANGLE AND PLATE SHALL BE 1/4" MINIMUM THICKNESS.
4. REBATE MAY BE EXTRUDED, SUBJECT TO ENGINEER'S ACCEPTANCE.
5. COAT ALUMINUM SURFACES IN CONTACT WITH CONCRETE AS SPECIFIED.
6. * = DIMENSION AS REQUIRED BY GRATING MANUFACTURER. SEE SPECIFICATIONS.

A400 TYP ALUMINUM GRATING REBATE AND SEAT

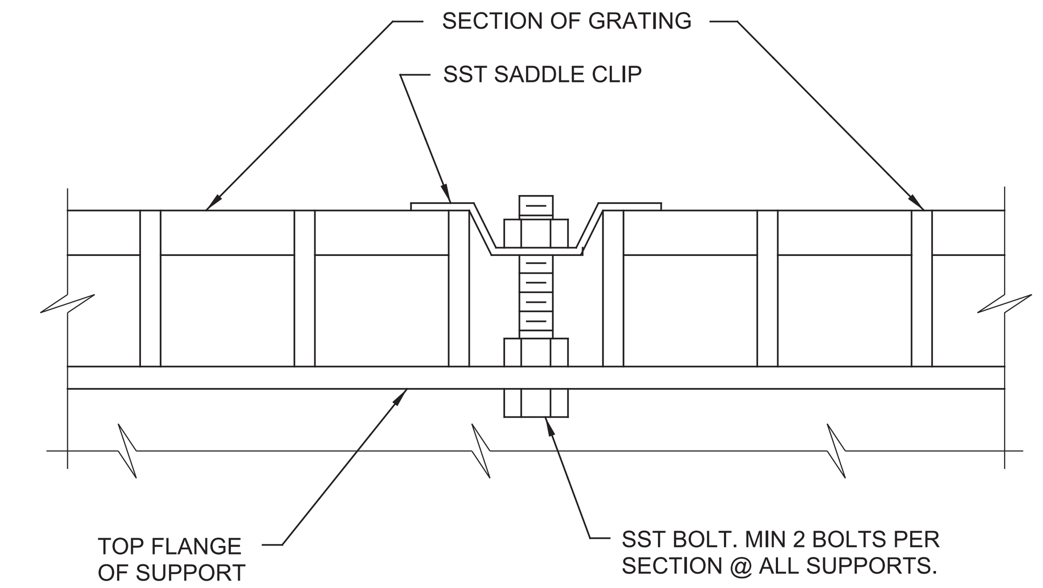
NS SHEET 1 OF 2 04/03/17



C - GRATING SEAT

A400 TYP ALUMINUM GRATING REBATE AND SEAT

NS SHEET 2 OF 2 04/03/17

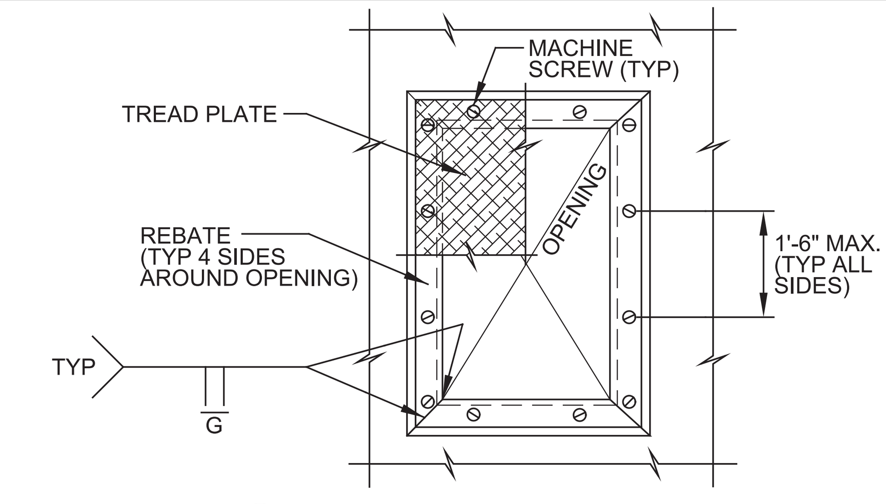


NOTES:

1. GRATING FASTENERS SHALL BE INSTALLED WHERE INDICATED ON THE DRAWINGS.
2. GRATING FASTENERS SHALL BE INSTALLED AT EACH CORNER OF EACH PANEL AND AT SPACING NOT TO EXCEED 8'-0".

A414 TYP GRATING FASTENERS

08/01/05



A - PLAN-TREAD PLATE AND REBATE (WITHOUT HINGES OR HANDLE)

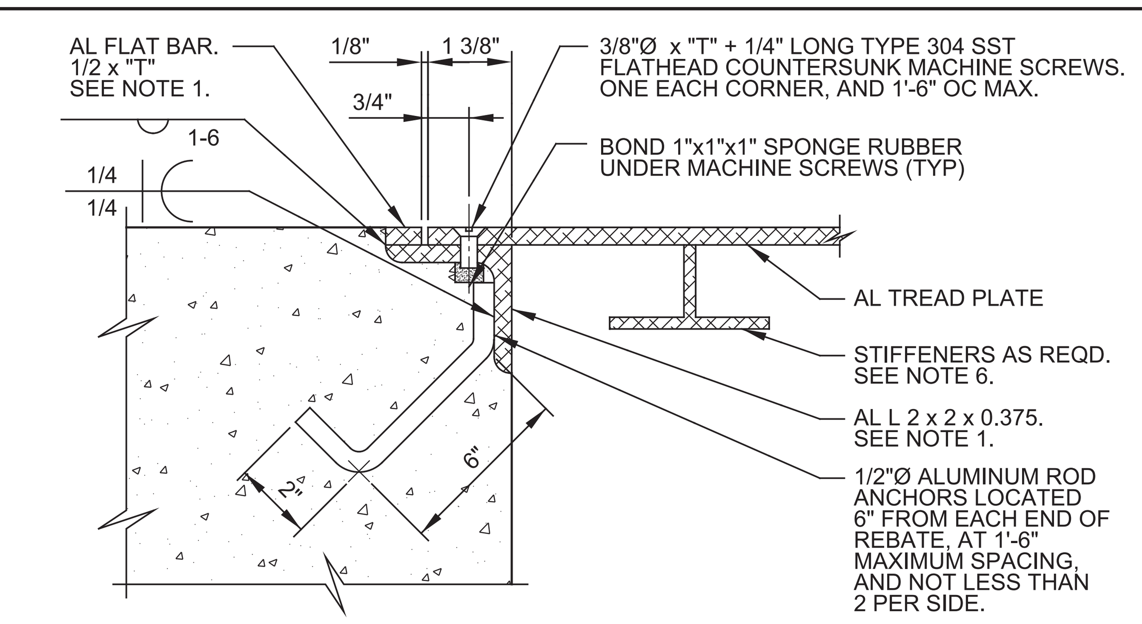
NOTES:

1. REBATE MAY BE EXTRUDED SUBJECT TO ENGINEER'S ACCEPTANCE.
2. COAT ALUMINUM SURFACES IN CONTACT WITH CONCRETE AS SPECIFIED.
3. OMIT PERIMETER MACHINE SCREWS WHERE HINGE IS INDICATED ON THE DRAWINGS.
4. PROVIDE HINGE AND HANDLE WHERE INDICATED ON THE DRAWINGS.
5. TREAD PLATE SHALL BE FABRICATED IN UNITS THAT DO NOT WEIGH MORE THAN 75 POUNDS.
6. "T" = TREAD PLATE THICKNESS IN INCHES. AS SCHEDULED IN TABLE BELOW:
   TREAD PLATE LIVE LOAD SHALL BE SAME AS FLOOR LIVE LOAD.
   * 3/8" PLATE WITH AL T 3.00 x 3.00 x 2.72 STIFFENERS. SEE SECTIONS F, G, AND H ON SHEET 3 OF 3.

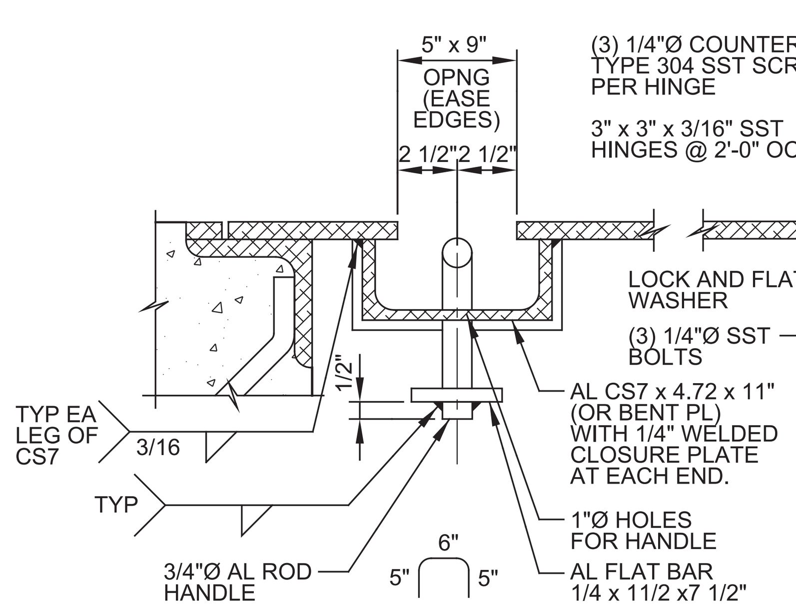
LIVE LOAD (PSF)	SHORTER SPAN "L" (FT-IN)					
	12"	1'-6"	2'-0"	2'-6"	3'-0"	4'-0"
100	3/16	1/4	3/8	1/2	1/2	3/8 *
150	1/4	3/8	1/2	1/2	3/8 *	3/8 *
200	1/4	3/8	1/2	3/8 *	3/8 *	3/8 *
250	1/4	3/8	1/2	3/8 *	3/8 *	3/8 *
300	1/4	3/8	1/2	3/8 *	3/8 *	3/8 *
350	3/8	1/2	3/8 *	3/8 *	3/8 *	3/8 *
400	3/8	1/2	3/8 *	3/8 *	3/8 *	3/8 *

A500 TYP ALUMINUM TREAD PLATE HATCH

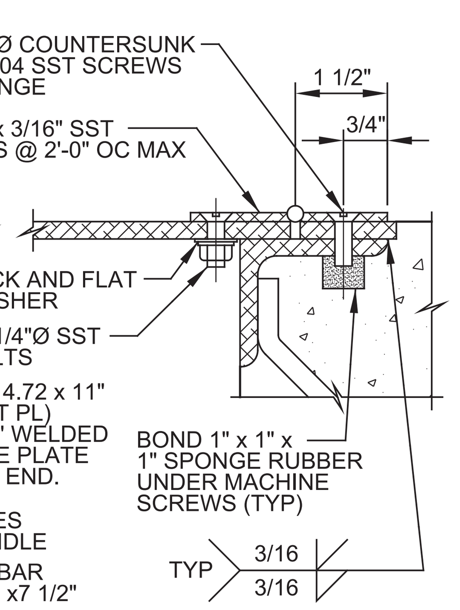
NS SHEET 1 OF 3 04/06/17



A - REBATE DETAIL - WITHOUT HINGE



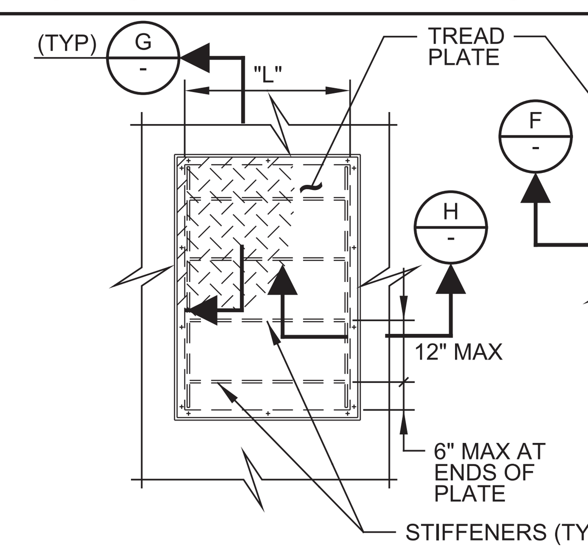
B - HANDLE DETAIL



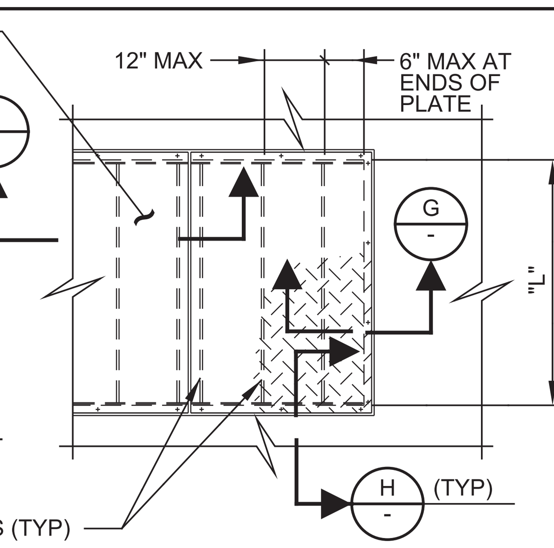
C - HINGE DETAIL

A500 TYP ALUMINUM TREAD PLATE HATCH

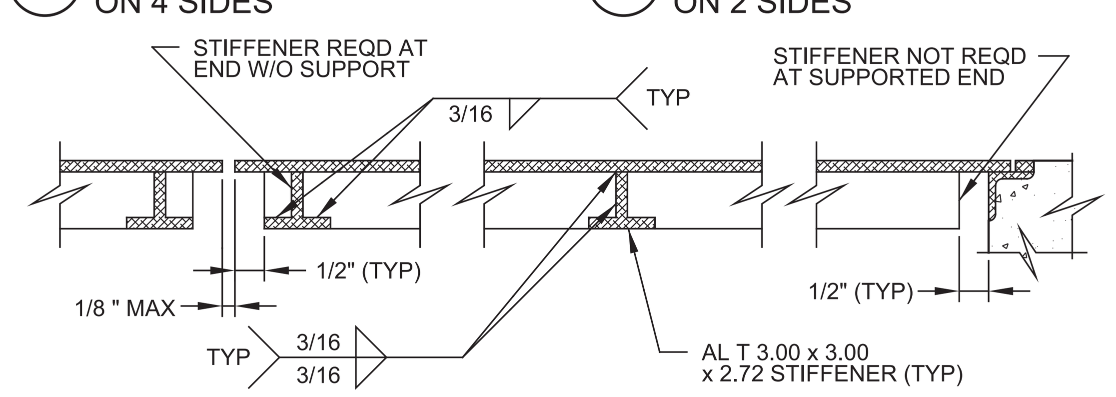
NS SHEET 2 OF 3 04/06/17



D - PLAN - PLATE SUPPORTED ON 4 SIDES

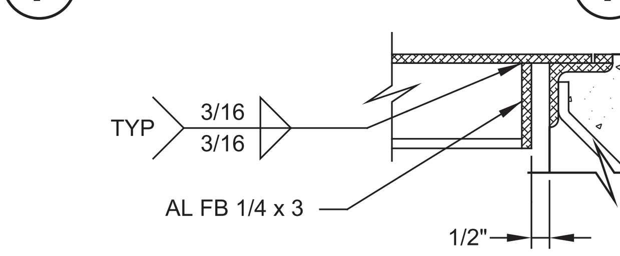


E - PLAN - PLATE SUPPORTED ON 2 SIDES



F - SECTION

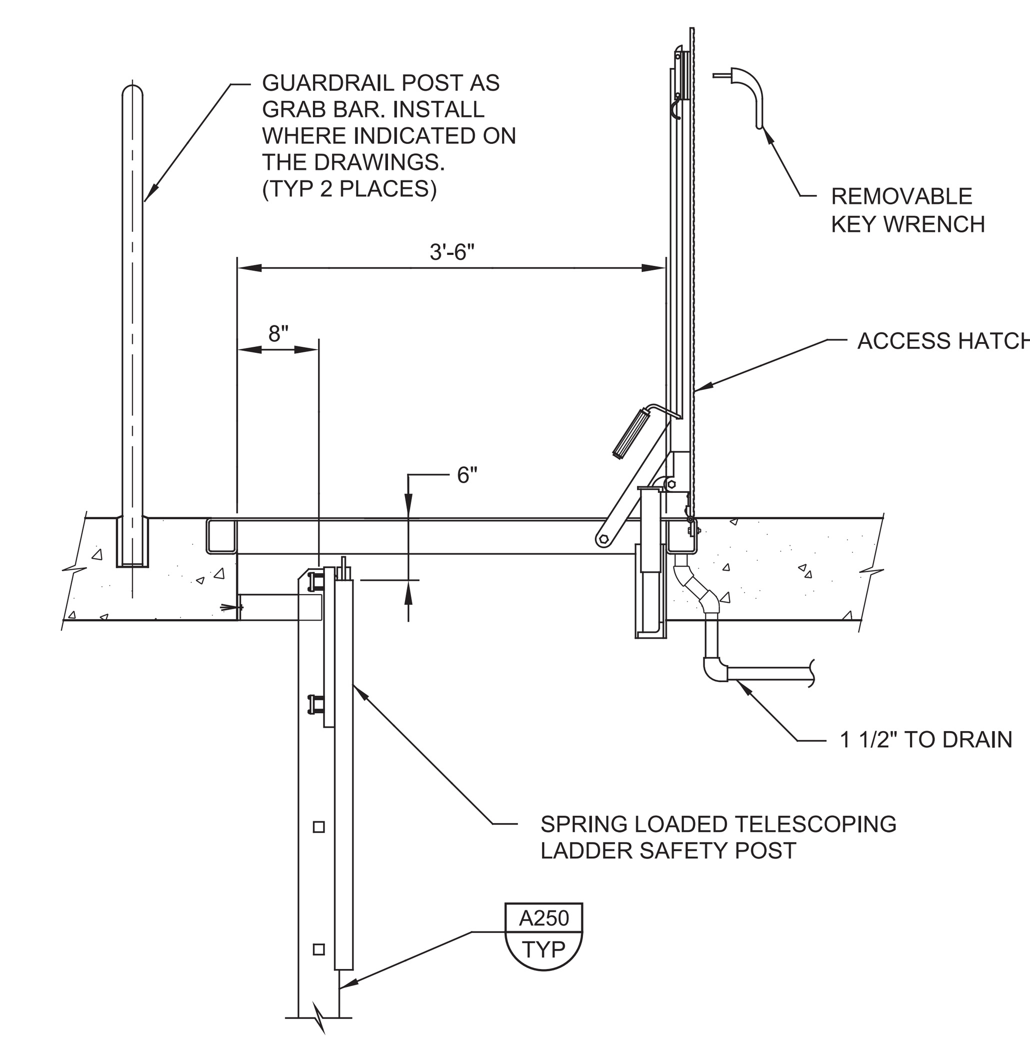
G - SECTION



H - DETAIL

A500 TYP ALUMINUM TREAD PLATE HATCH

NS SHEET 3 OF 3 04/06/17



A504 TYP HATCH WITH LADDER

08/01/05

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED IKC
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER INDERPREET KAUR CHAGGAR No. 80512 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.24 13:50:31-07'00'

Digitally signed by Inderpreet Chaggar
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.24 15:12:02-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK

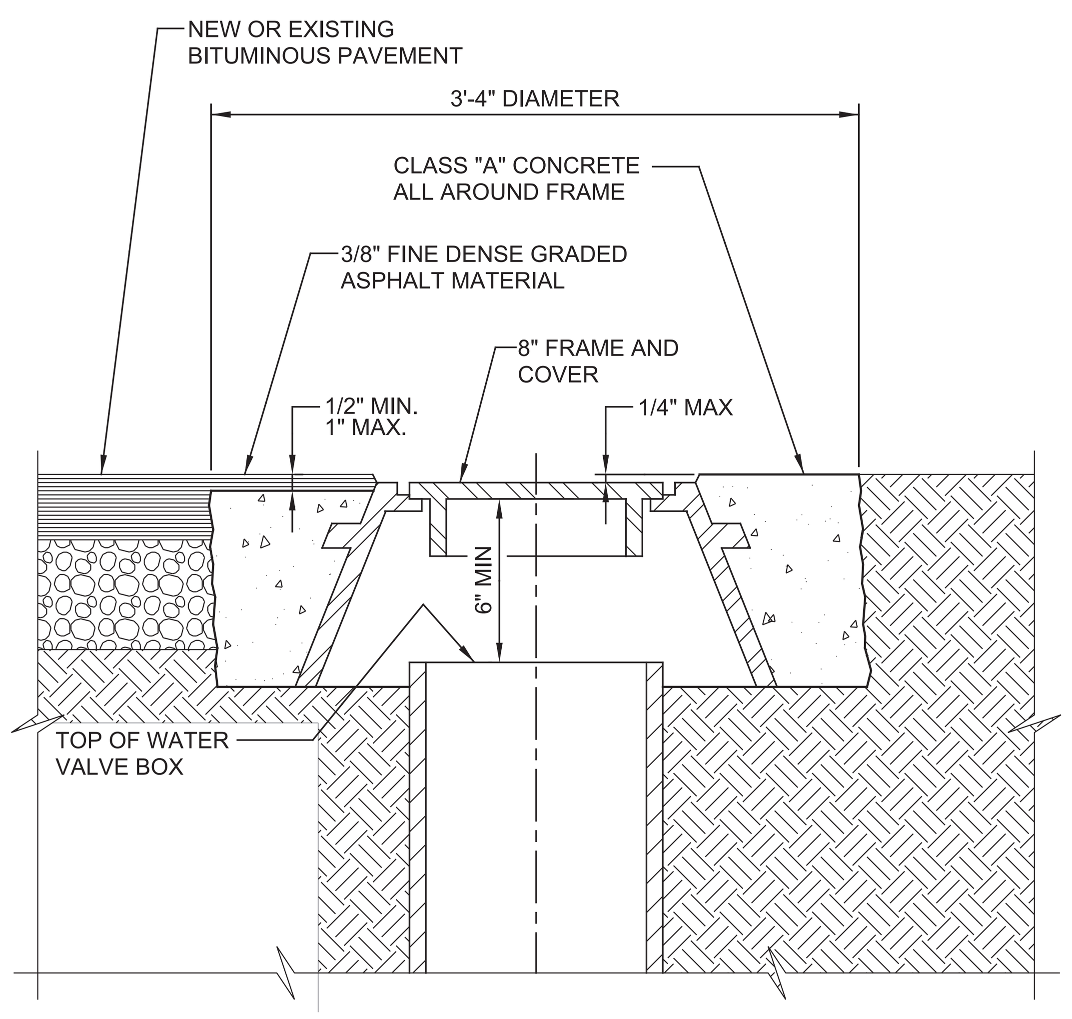
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM TURLOCK COMPONENT

TYPICALS

TYPICAL DETAILS ARCHITECTURAL - II

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DRAWING NO. TA02
SHEET NO. 13 OF 122

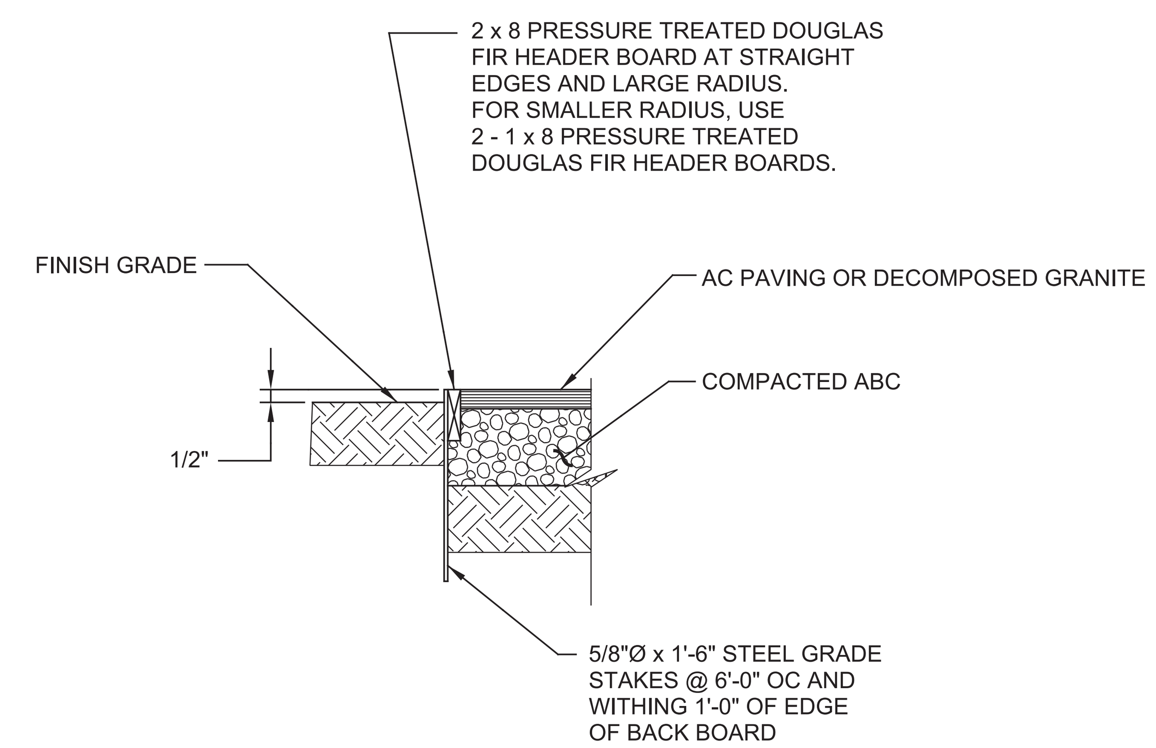


NOTE:

1. ALL AT GRADE UTILITY BOXES SHALL BE HS-20 RATED.

C040 TYP GRADE ADJUSTMENT FOR WATER VALVE

R 04/17/18

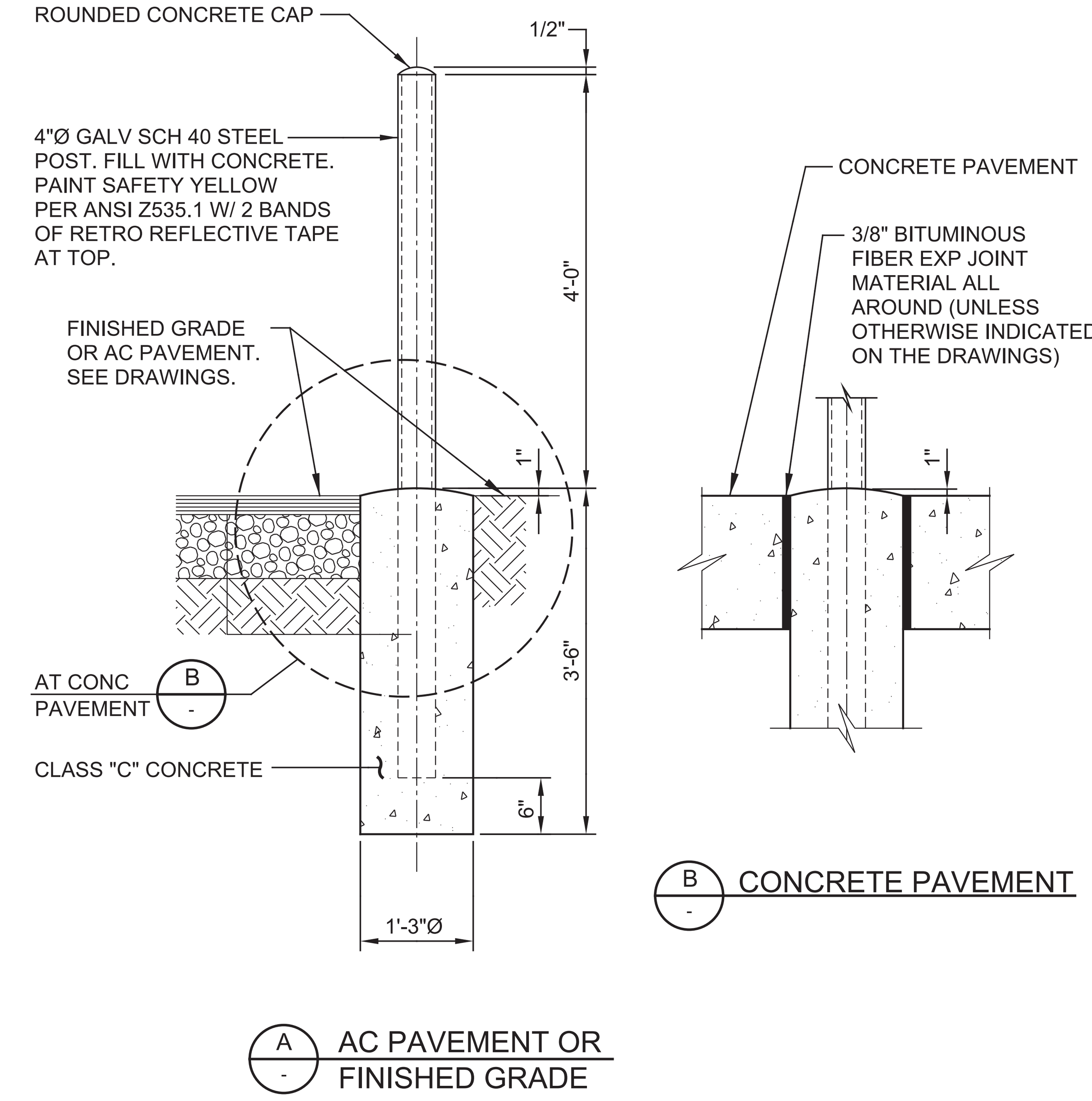


NOTE:

1. SEE DRAWINGS OR SPECIFICATIONS FOR THICKNESSES OF AC PAVING/DECOMPOSED GRANITE AND COMPACTED ABC.

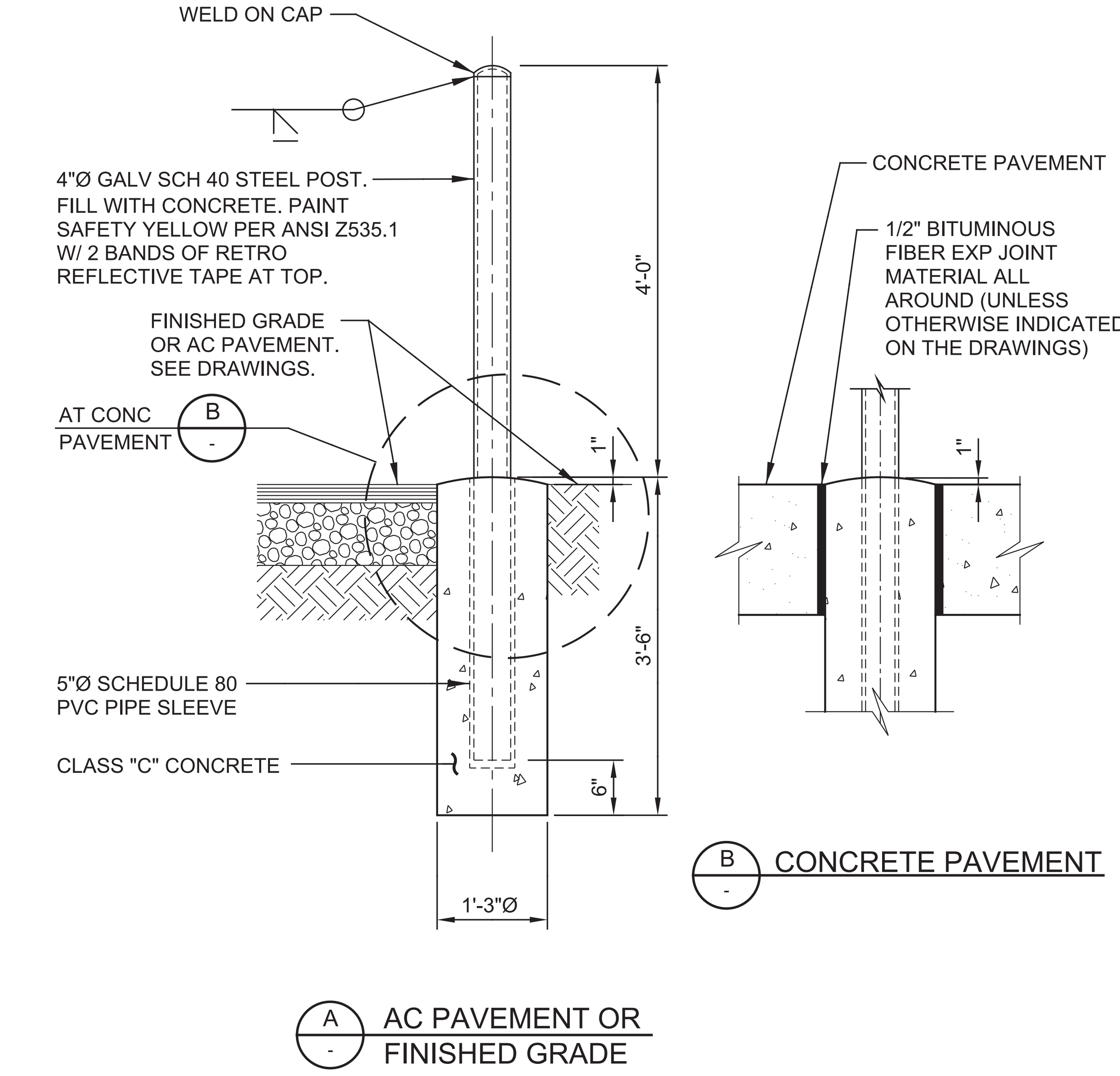
C130 TYP WOOD HEADER

R 10/30/17



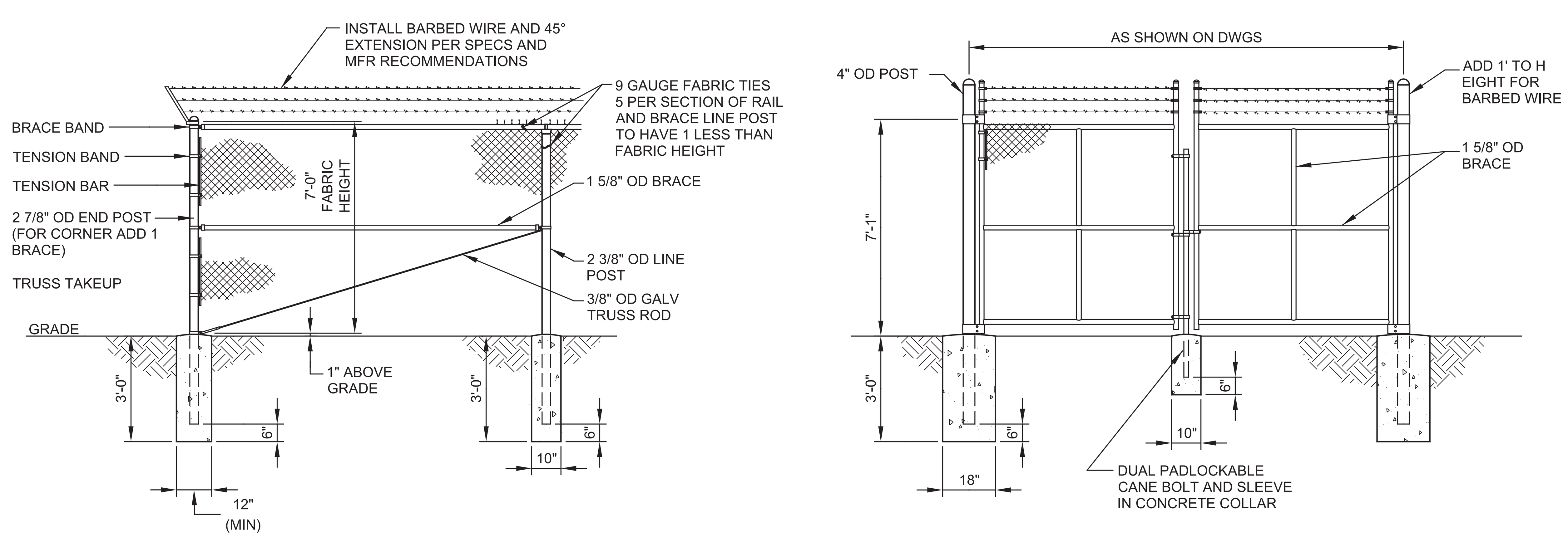
C160 TYP GUARD POST

R 10/30/17



C161 TYP REMOVABLE GUARD POST

R 03/29/18



NOTE:

1. ALL FITTINGS AND CONNECTIONS PER SPECS.

C190 TYP CHAINLINK FENCE AND GATE DETAIL

J 08/28/17

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED JPM
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:27:58-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:30:01-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

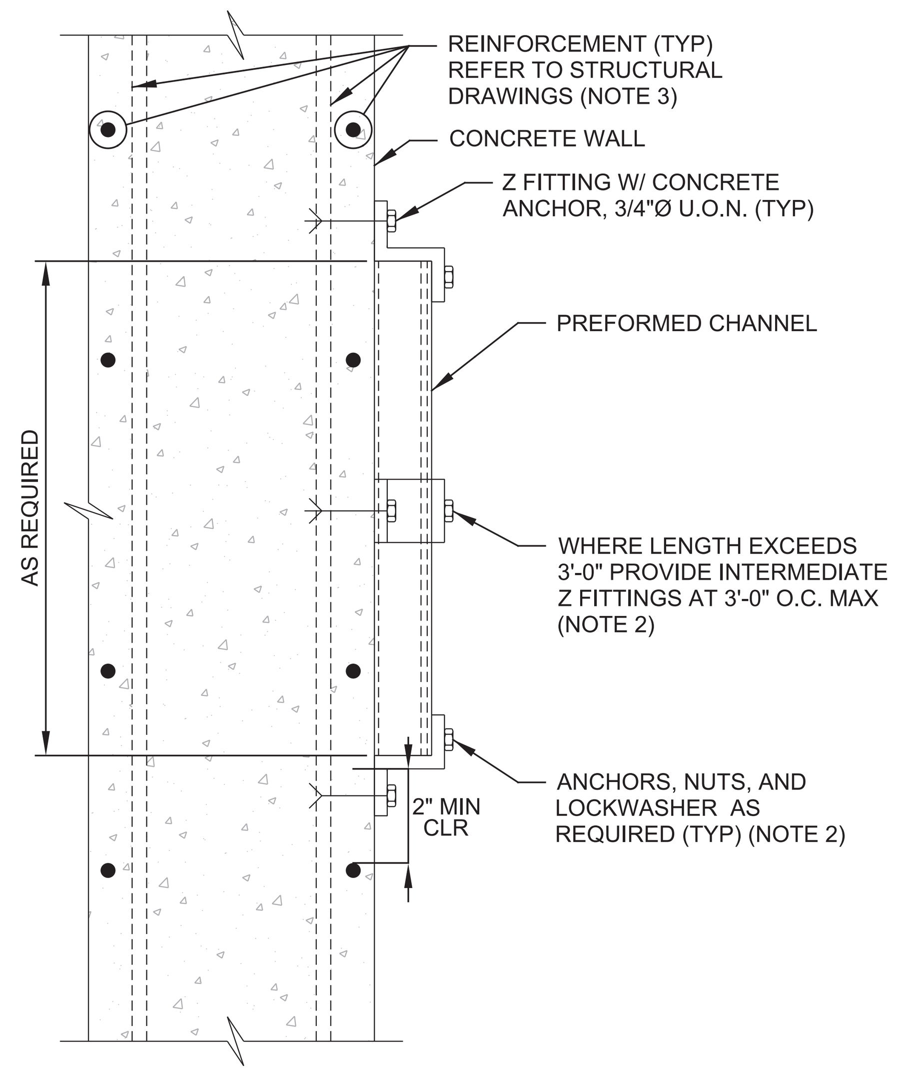
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM TURLOCK COMPONENT

TYPICALS

TYPICAL DETAILS CIVIL

VERIFY SCALES
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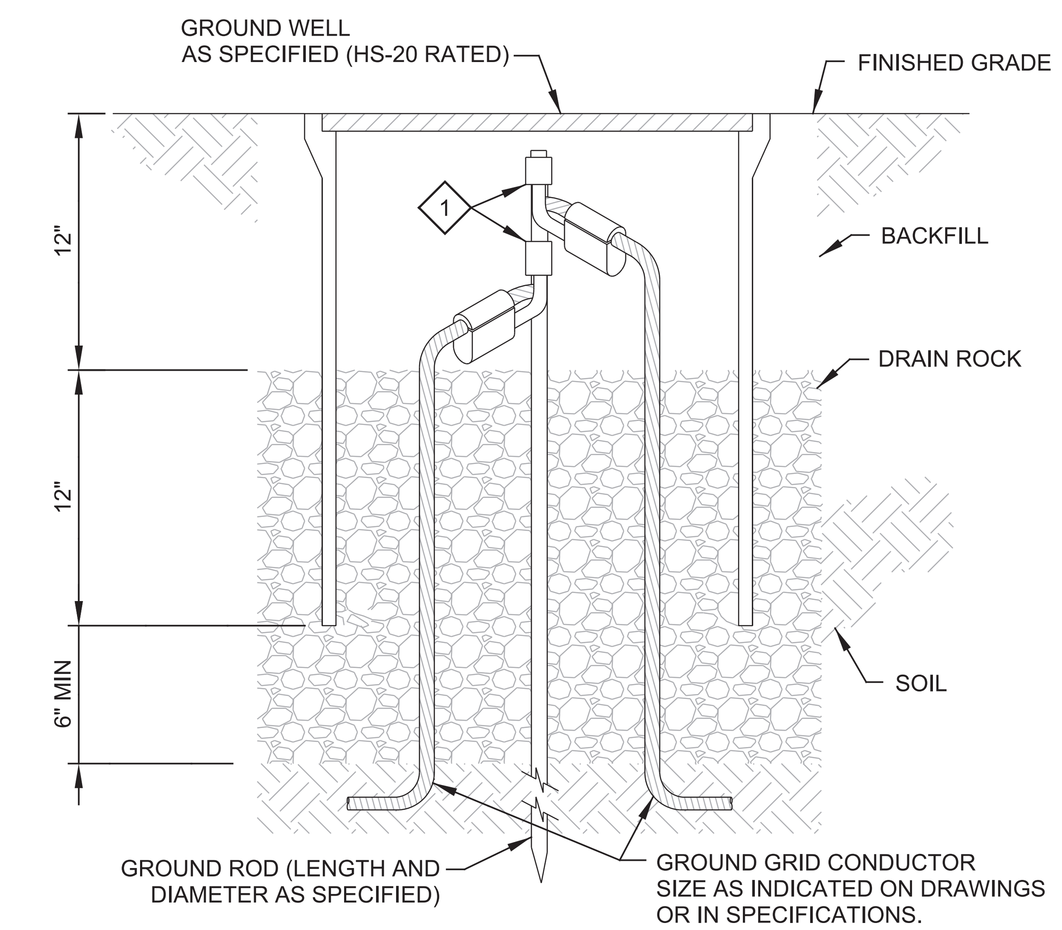
JOB NO. 10595A.10
DRAWING NO. TC01
SHEET NO. 14 OF 122



NOTES:

1. THIS DETAIL TYPICAL FOR BOTH VERTICAL AND HORIZONTAL MOUNTING.
2. SUPPORTS TO BE SPACED IN ACCORDANCE WITH NEC REQUIREMENTS. CONCRETE ANCHORS SHALL BE PER THE SPECIFICATIONS.
3. REFER TO STRUCTURAL DRAWINGS FOR ORIENTATION OF REINFORCEMENT AND BARS.

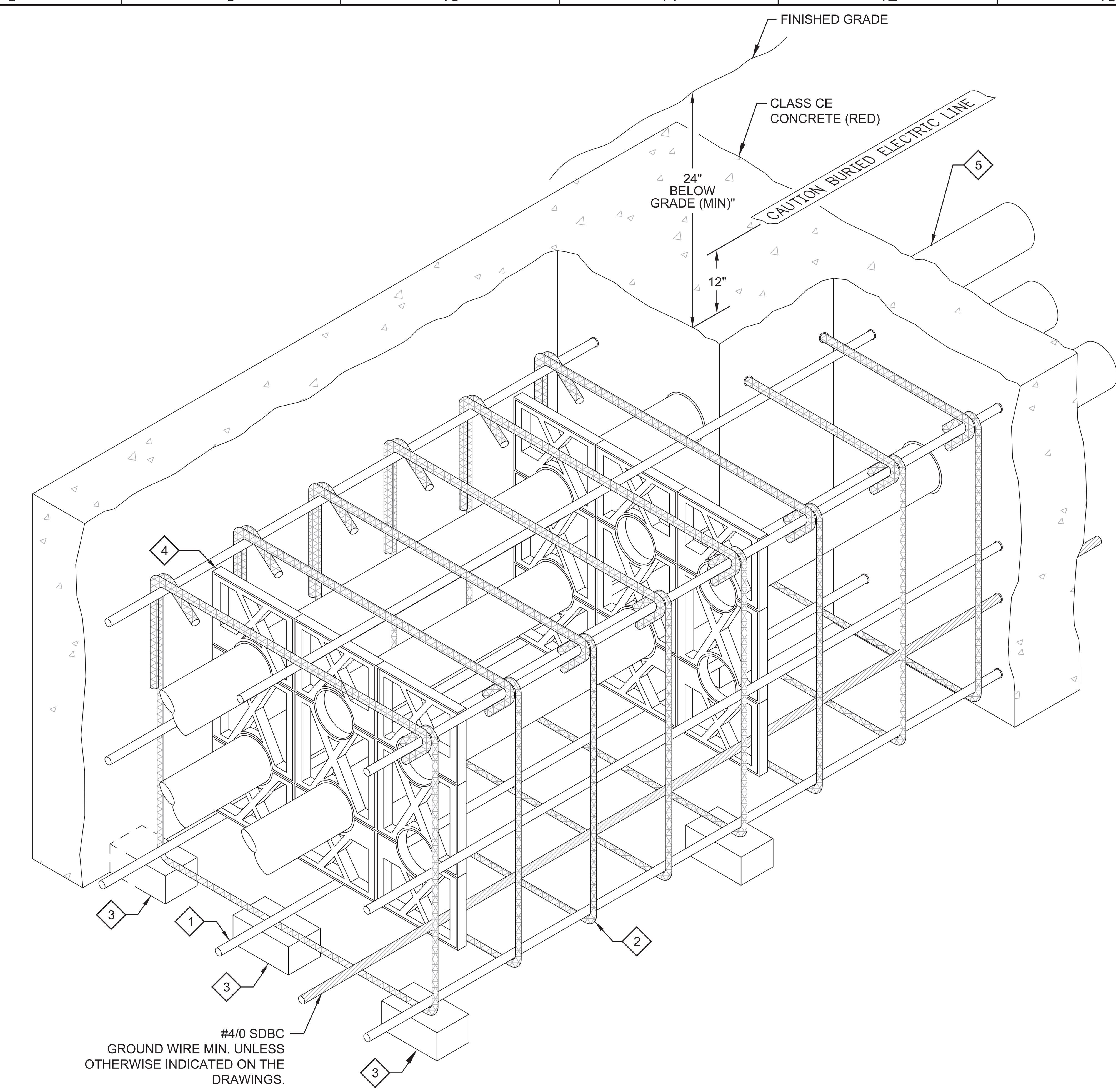
EA070 TYP S — PREFORMED CHANNEL ATTACHMENT TO CONCRETE WALL



KEY NOTES:

1. GROUND ROD TO GROUND GRID CROSS CONNECTOR. SIZE FOR ROD AND CABLE PER CONNECTOR MANUFACTURERS GUIDELINES.

EG001 TYP S — GROUND ROD AND GROUNDWELL COMPRESSION CONNECTION

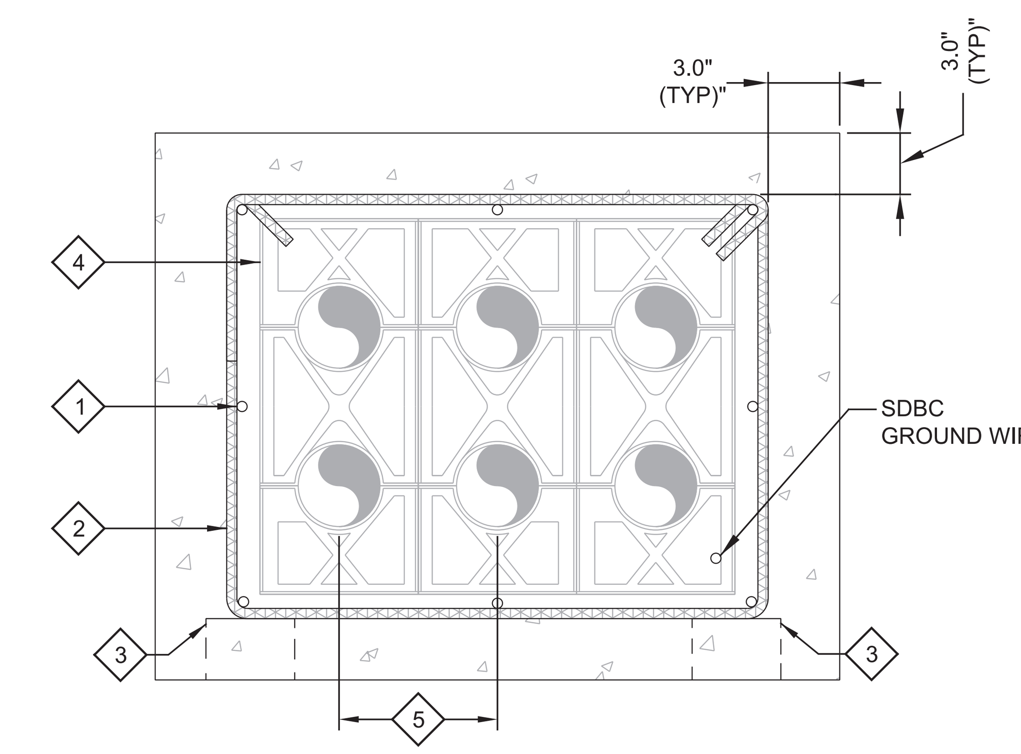


NOTES:

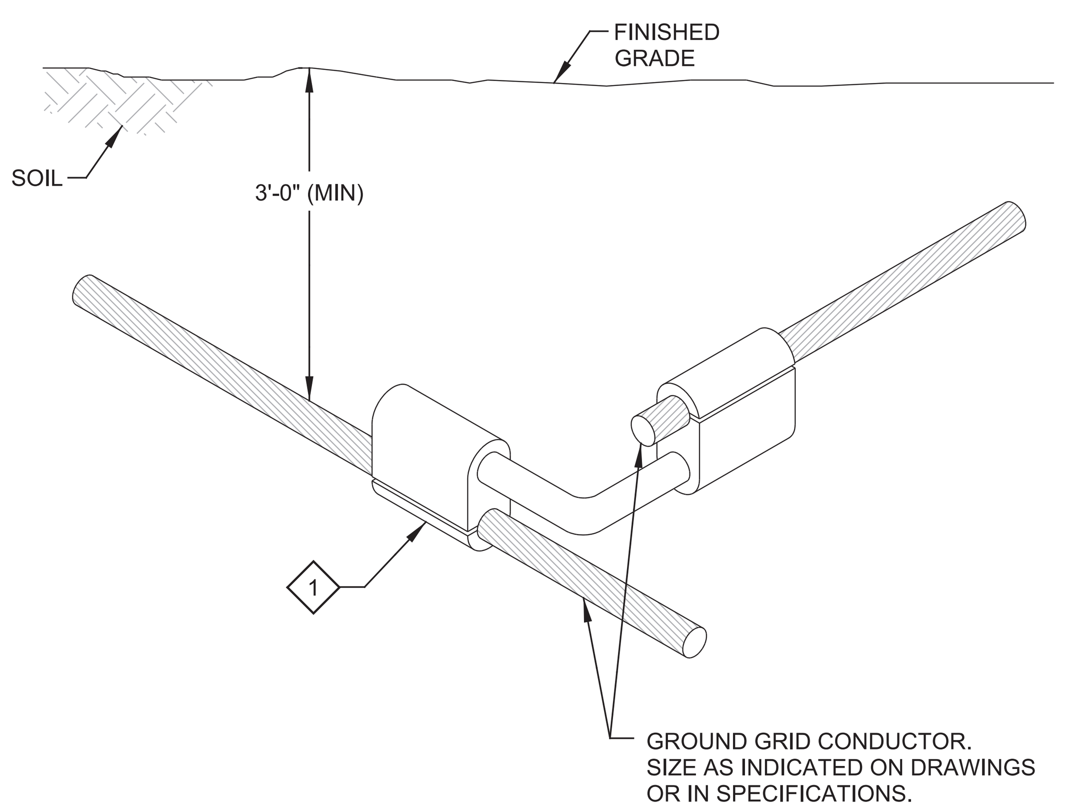
1. DIMENSIONS SHOWN ARE MINIMUM.
2. ADJUST SIZE OF DUCT BANK BASED UPON THESE GUIDELINES AND THE DUCT BANK SPECIFICATION TO ACCOMMODATE ACTUAL NUMBER OF CONDUITS WITHIN DUCT BANK. REFER TO DUCT BANK SECTIONS, AND CONDUIT SCHEDULE FOR NUMBER AND SIZE OF CONDUITS.
3. MAKE PROVISIONS TO PREVENT CONDUIT FLOTATION DURING CONCRETE PLACEMENT & CURING.

KEY NOTES:

1. #4 REINFORCING STEEL 12" MAXIMUM ON CENTER AROUND ENTIRE PERIMETER OF DUCT BANK.
2. #4 REINFORCING STEEL STIRRUPS MAXIMUM 24" ON CENTER ALONG LENGTH OF DUCT BANK.
3. MINIMUM OF TWO PRECAST CONCRETE BAR SUPPORTS PLACED UNDER A STIRRUP AT EACH PVC CONDUIT SPACER ALONG LENGTH OF DUCT BANK. PROVIDE PRECAST BAR SUPPORTS AT INTERVALS OF 24" TO REDUCE DEFLECTION.
4. PVC CONDUIT SPACERS ON 8'-0" CENTERS (MAXIMUM) LOCATE 12" FROM STIRRUPS.
5. REFER TO DUCT BANK SECTIONS AND CONDUIT SCHEDULES FOR CONDUIT REQUIREMENTS.



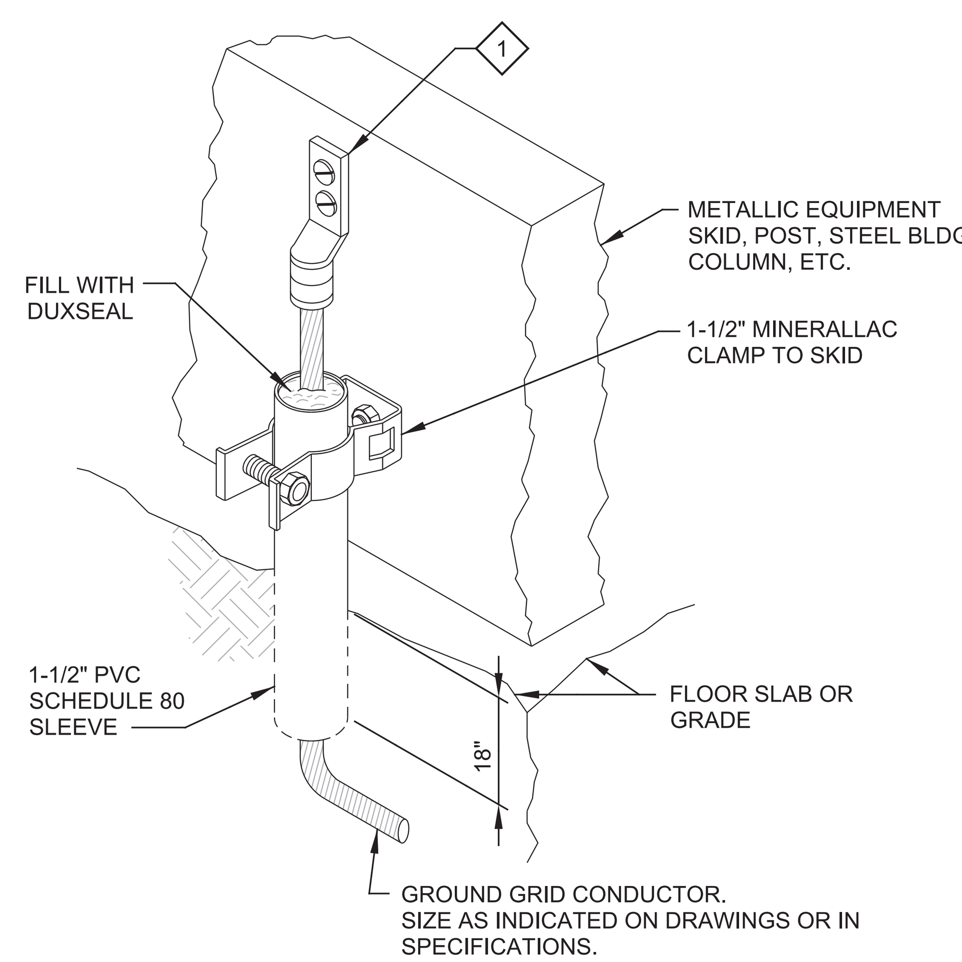
EM001 TYP S — REINFORCED CONCRETE DUCT BANK



KEY NOTES:

1. GROUND GRID CROSS CONNECTOR. SIZE FOR CABLE PER CONECTOR MANUFACTURERS GUIDELINES.

EG101 TYP S — COPPER GROUNDING CABLE CONNECTION COMPRESSION CONNECTION



NOTES:

1. CLEAN ALL PAINTED SURFACES TO BARE METAL BEFORE BOLTING ON THE GROUND LUG.
2. NOTE: BOLT GROUND LUG ONLY TO EQUIPMENT SKIDS OR STRUCTURE, NOT TO EQUIPMENT OR TANK SHELLS.

KEY NOTES:

1. HEAVY DUTY COMPRESSION TERMINAL.

EG201 TYP S — EQUIPMENT SKID GROUNDING COMPRESSION CONNECTION

REV	DATE	BY	DESCRIPTION

DESIGNED: AB
DRAWN: SMB
CHECKED: BJR
DATE: APRIL 2018

REGISTERED PROFESSIONAL ENGINEER — ASHRITHA BANAPURAM — No. 21815 — ELECTRICAL — STATE OF CALIFORNIA

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Contact Info: Carollo Engineers, Inc.
Date: 2018.04.24 13:50:59-07'00'

Digitally signed by Ashritha Banapuram
Contact Info: Carollo Engineers, Inc
Date: 2018.04.24 14:58:27-07'00'

REGISTERED PROFESSIONAL ENGINEER — DARREN G. BAUNE — No. 68899 — CIVIL — STATE OF CALIFORNIA

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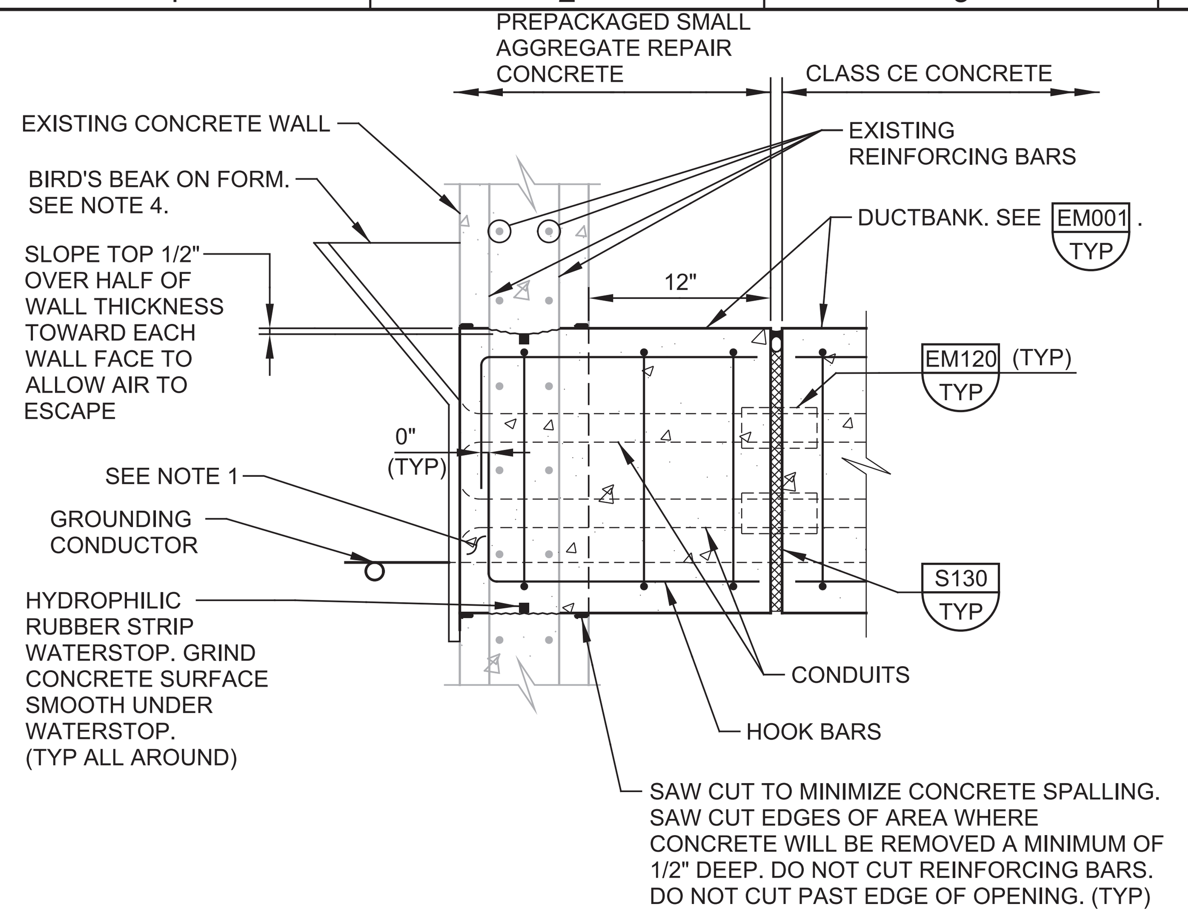
CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
TYPICALS
TYPICAL DETAILS
ELECTRICAL - I

VERIFY SCALES
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JOB NO. 10595A.10
DRAWING NO. TE01
SHEET NO. 15 OF 122

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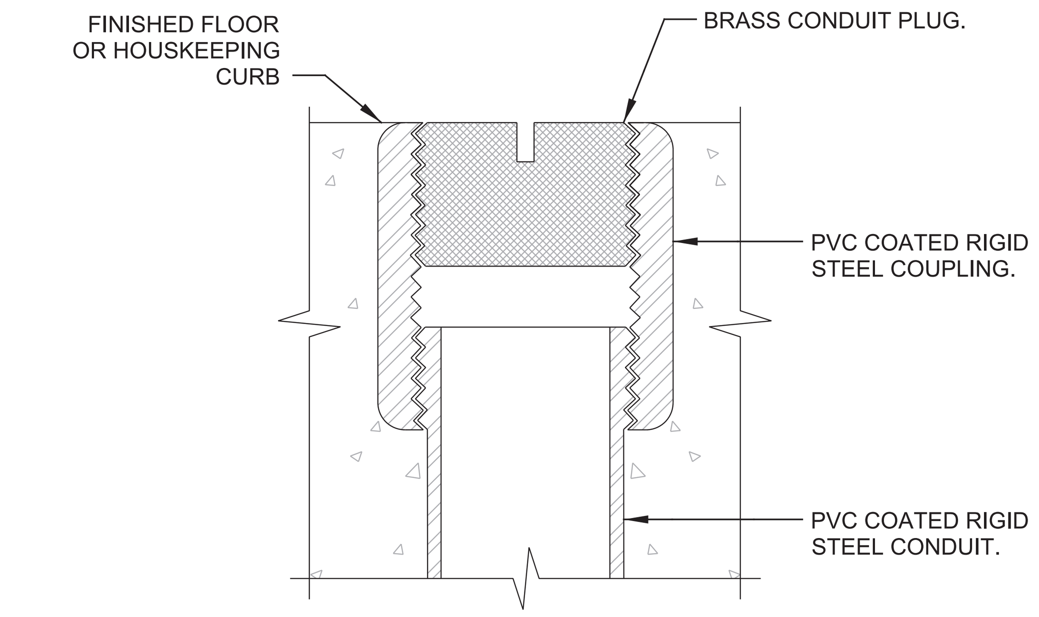


NOTES:

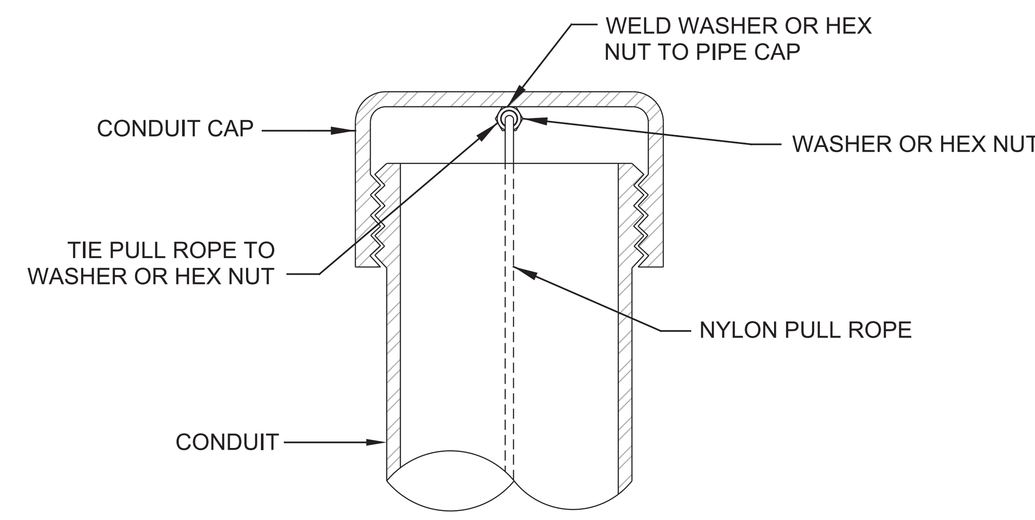
1. USE NON-DESTRUCTIVE REINFORCE BAR LOCATOR TO LOCATE EXISTING REINFORCING BARS IN WALL. ADJUST LOCATION OF CONDUITS IN DUCTBANK TO MISS EXISTING REINFORCING BARS IN WALL.
2. REMOVE CONCRETE AS SHOWN FOR NEW DUCTBANK PENETRATION THROUGH WALL. DO NOT CUT EXISTING REINFORCING BARS.
3. ROUGHEN CONCRETE TO 1/4" AMPLITUDE AND COAT WITH EPOXY RESIN/PORTLAND CEMENT BONDING AGENT.
4. USE FORM WITH "BIRD'S BEAK" FOR ACCESS FOR VIBRATOR AND TO ALLOW CONCRETE TO BE PLACED UNDER SLIGHT PRESSURE. AFTER FORMS ARE REMOVED, REMOVE PROJECTING CONCRETE AND FINISH TO MATCH FINISH OF EXISTING CONCRETE.

EM039 TYP DUCTBANK CONNECTION TO EXISTING WALL

R 08/13/13



ENCASED CONDUITS



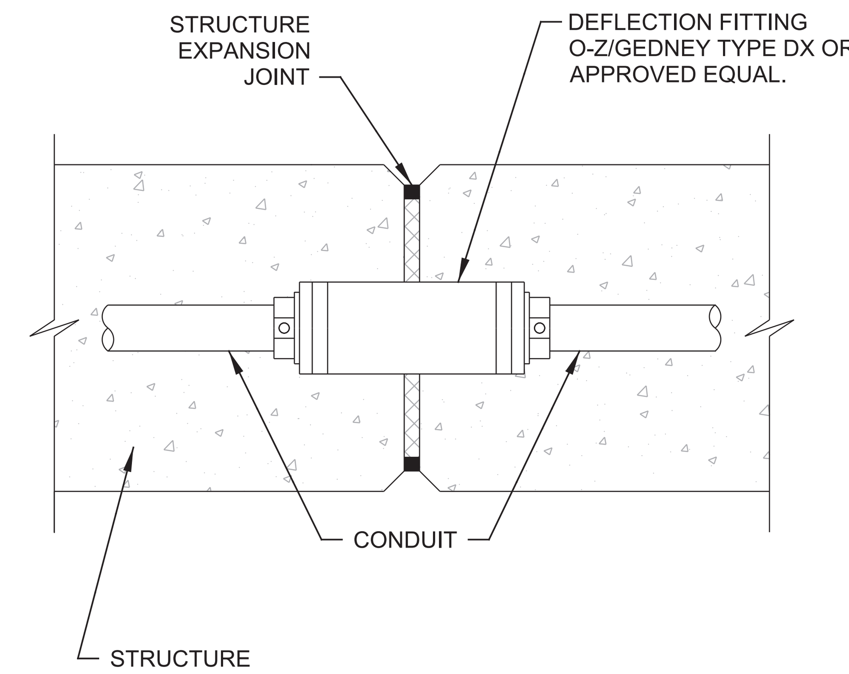
EXPOSED CONDUITS

NOTES:

1. PROVIDE 2" MIN CLEAR BETWEEN ADJACENT CONDUITS

EM105 TYP SPARE CONDUIT DETAIL

S

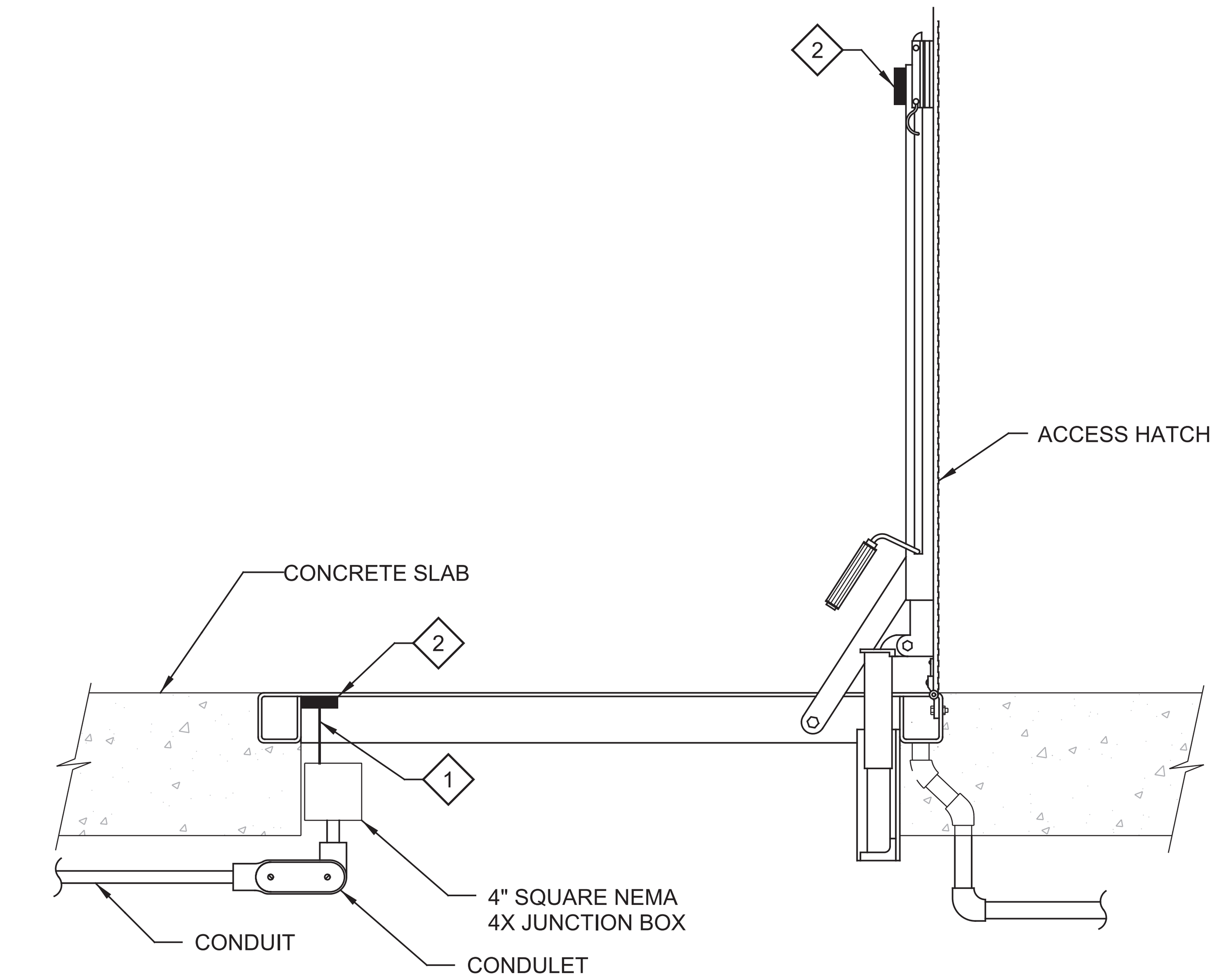


NOTES:

1. PROVIDE ADAPTERS AS REQUIRED TO COUPLE PVC CONDUIT TO THE FITTING.

EM120 TYP EMBEDDED CONDUIT DEFLECTION/EXPANSION FITTING

S



NOTES:

1. CONDUIT AND JUNCTION BOXES PROVIDED UNDER DIVISION 16.

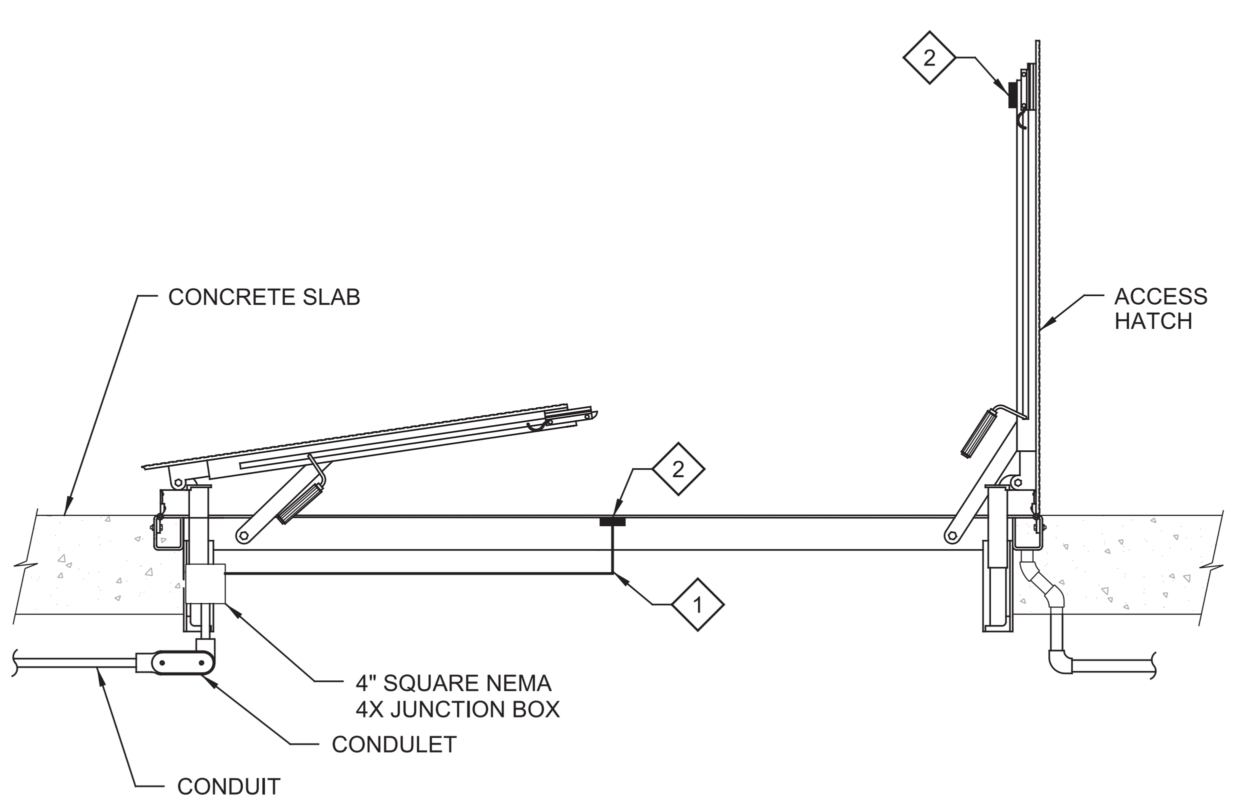
KEY NOTES:

1 1/2" CONDUIT.

2 POSITION CONTACT.

EM907 TYP ROOF HATCH SECURITY

J 3/28/18



NOTES:

1. CONDUIT AND JUNCTION BOXES PROVIDED UNDER DIVISION 16.

KEY NOTES:

1 1/2" CONDUIT.

2 POSITION CONTACT.

EM909 TYP WETWELL ACCESS HATCH SECURITY

J 3/28/18

REV	DATE	BY	DESCRIPTION

DESIGNED AB | DRAWN SMB | CHECKED BJR | DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER ASHRITHA BANAPURAM No. 21815 ELECTRICAL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune Contact Info: Carollo Engineers, Inc. Date: 2018.04.24 13:51:10-07'00'

Digitally signed by Ashritha Banapuram Contact Info: Carollo Engineers, Inc Date: 2018.04.24 14:58:54-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

carollo®

CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

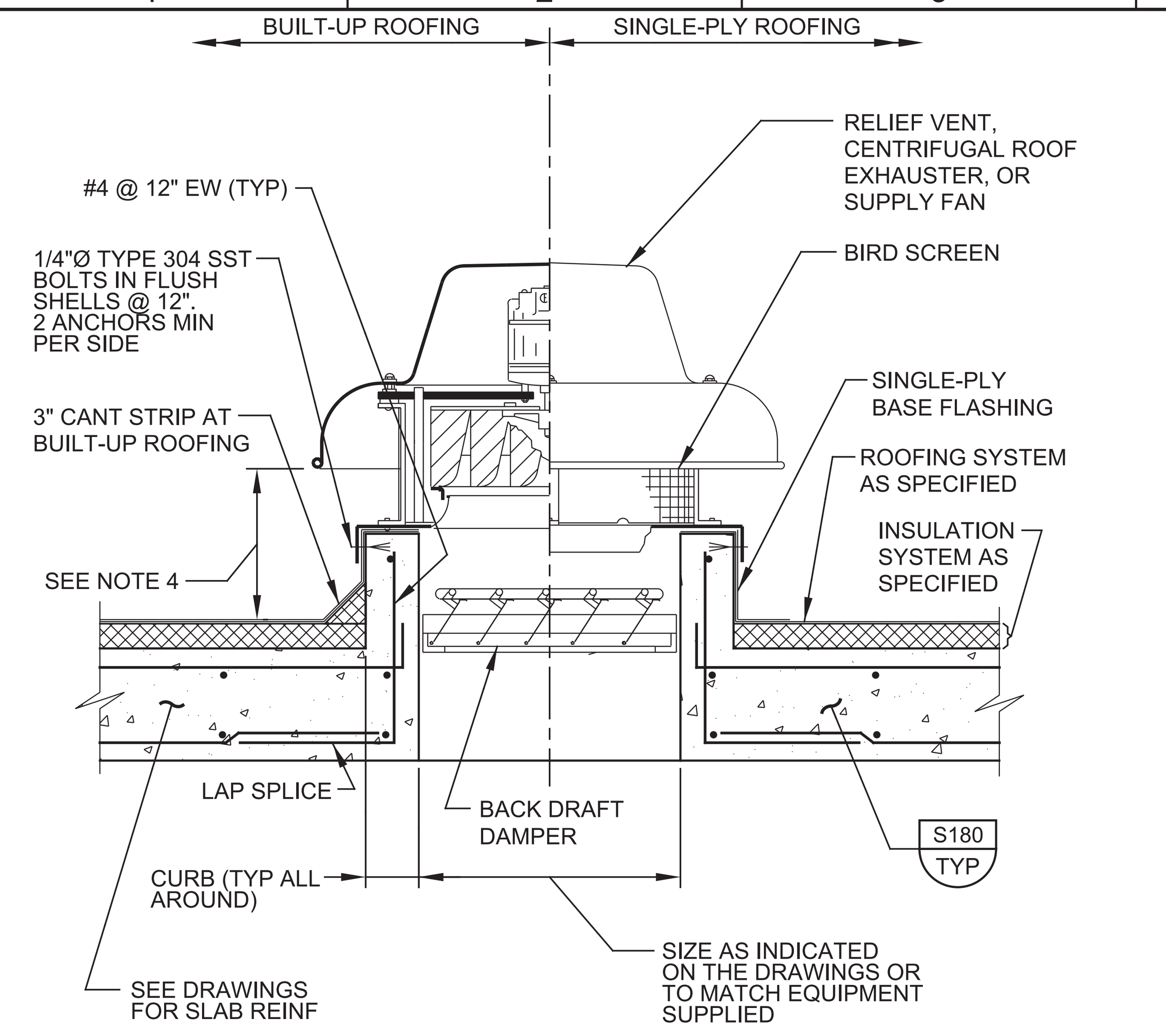
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM TURLOCK COMPONENT
TYPICALS
TYPICAL DETAILS ELECTRICAL - II

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

JOB NO. 10595A.10
DRAWING NO. TE02
SHEET NO. 16 OF 122

PROJECT NO. FILE NAME: 10595A10TE02.dgn

Plot Date: 19-APR-2018 4:25:17 PM User: svcPW PlotScale: 2:1 DesignScript: Carollo_Std_Pen_v0905.pen ColorTable: gshade.ctb Model: Layout1 LAST SAVED BY: mlamagna

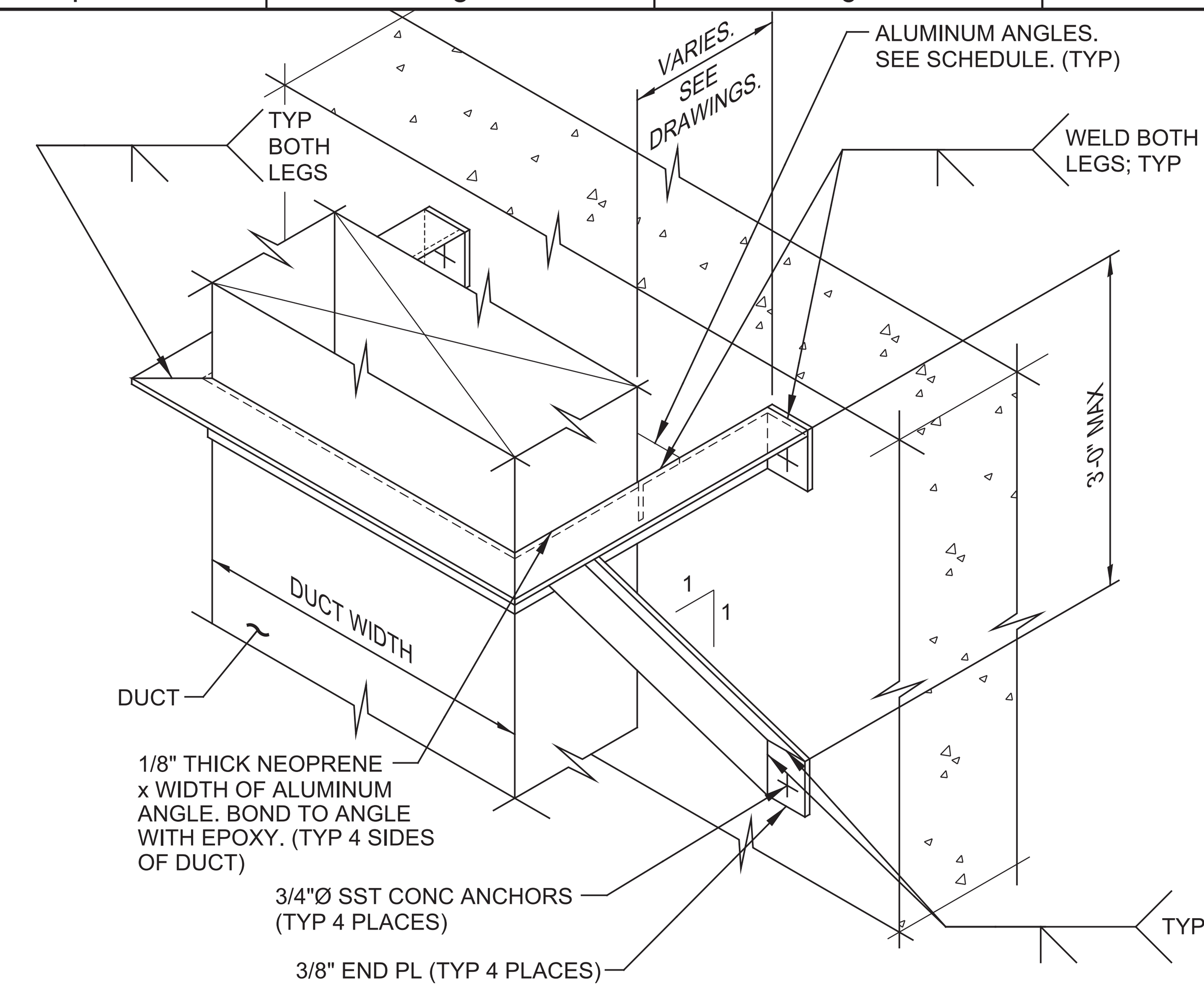


NOTES:

1. TOP OF CURB SHALL BE LEVEL. TAPER CONCRETE CURB AS REQUIRED.
2. CURB SHALL BE 8" HIGH MINIMUM ABOVE FINISH ROOF SURFACE. WIDTH OF CURB SHALL BE PER EQUIPMENT MANUFACTURER'S RECOMMENDATION.
3. PROVIDE BACK DRAFT DAMPERS WHERE SPECIFIED. INSTALL TO OPEN IN DIRECTION OF AIR FLOW.
4. COORDINATE REQD HEIGHT ABOVE ROOF WITH EQUIPMENT MFR.

H014 TYP RELIEF, EXHAUST, AND SUPPLY VENT FOR CONCRETE ROOF

12/08/05



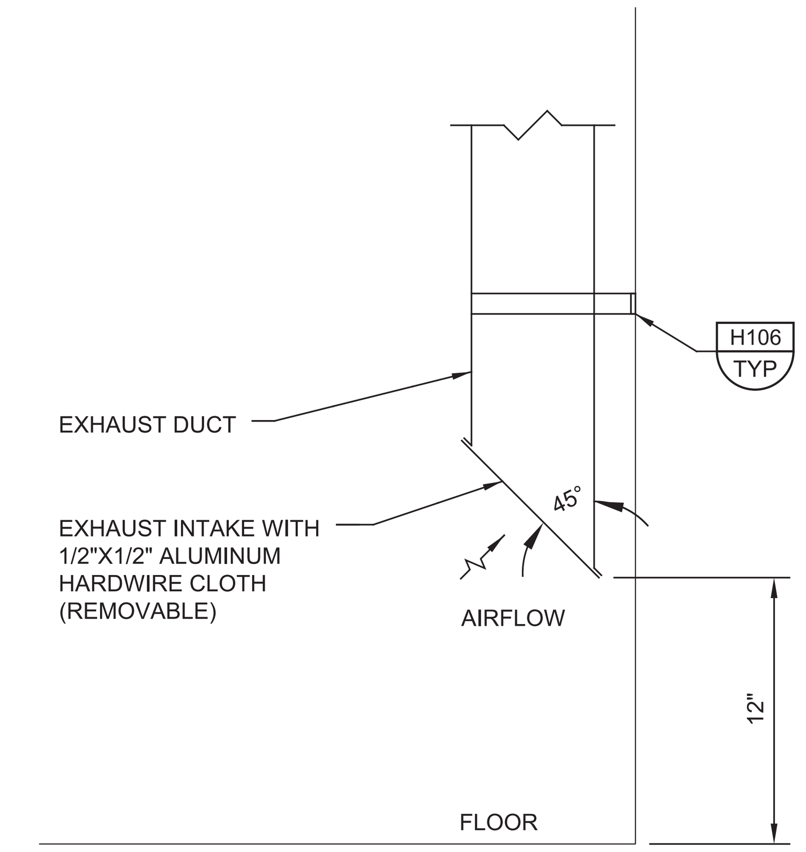
AIR DUCT HANGER AND SUPPORT SCHEDULE		
DUCT WIDTH	ANGLE SIZE	SPACING WHEN NOT INDICATED ON THE DRAWINGS
LESS THAN 18"	L 2 x 2 x 0.250	8'-0" OC MAX
18" THRU 40"	L 2 1/2 x 2 1/2 x 0.375	8'-0" OC MAX
GREATER THAN 40"	L 3 x 3 x 0.375	4'-0" OC MAX

NOTE:

1. DUCT WIDTH SHALL BE THE LONG DIMENSION OF RECTANGULAR DUCT OR THE OUTSIDE DIAMETER OF ROUND DUCT.

H106 TYP VERTICAL RECTANGULAR DUCT SUPPORT - WALL BRACKET OUTSIDE

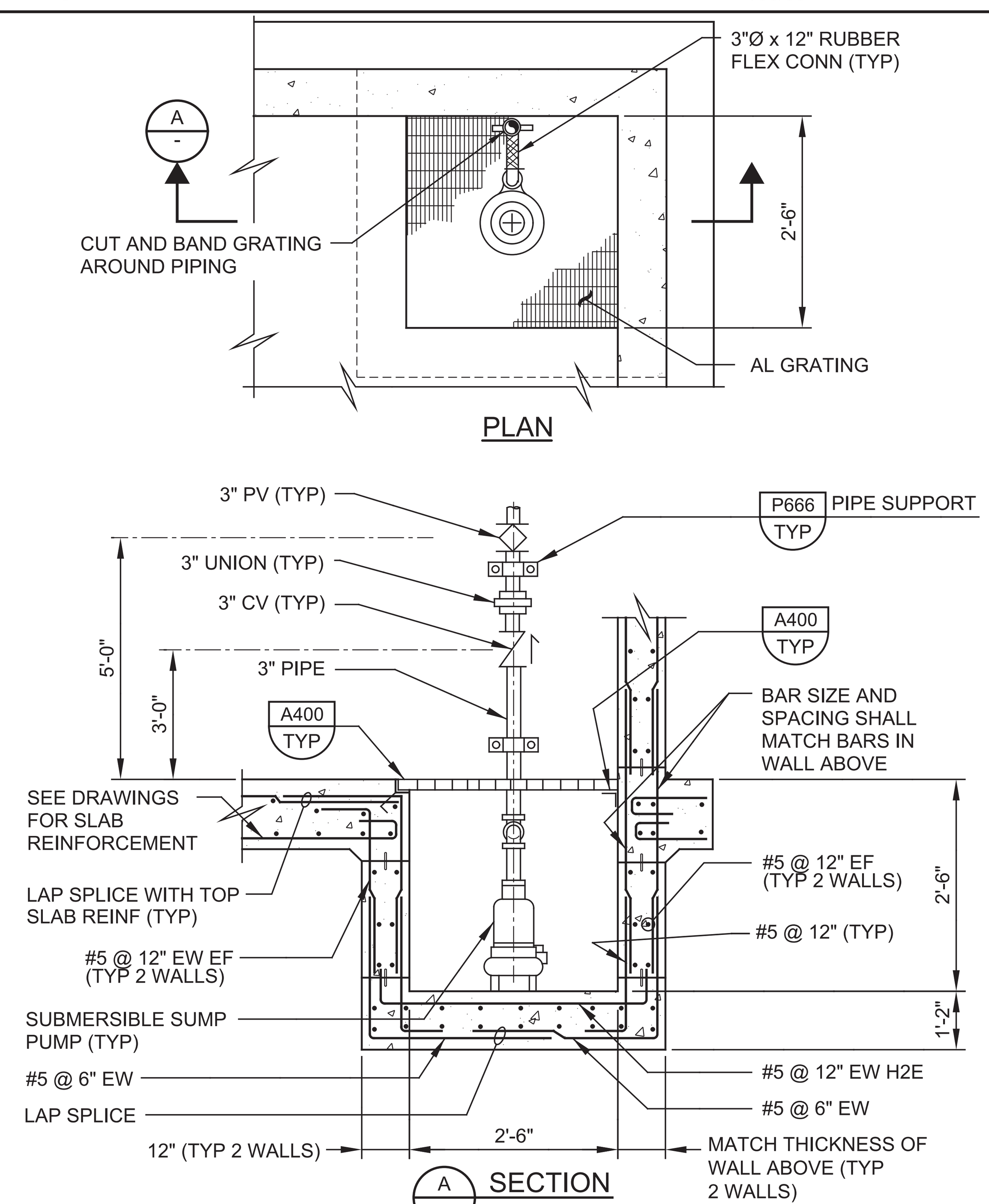
08/01/05



H207 TYP EXHAUST DUCT TERMINATION

J

08/22/17



M243 TYP SUBMERSIBLE SUMP PUMP

07/01/13

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED JPM
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:27:23-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:29:48-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

carollo®

CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
TYPICALS
TYPICAL DETAILS
HVAC AND MECHANICAL

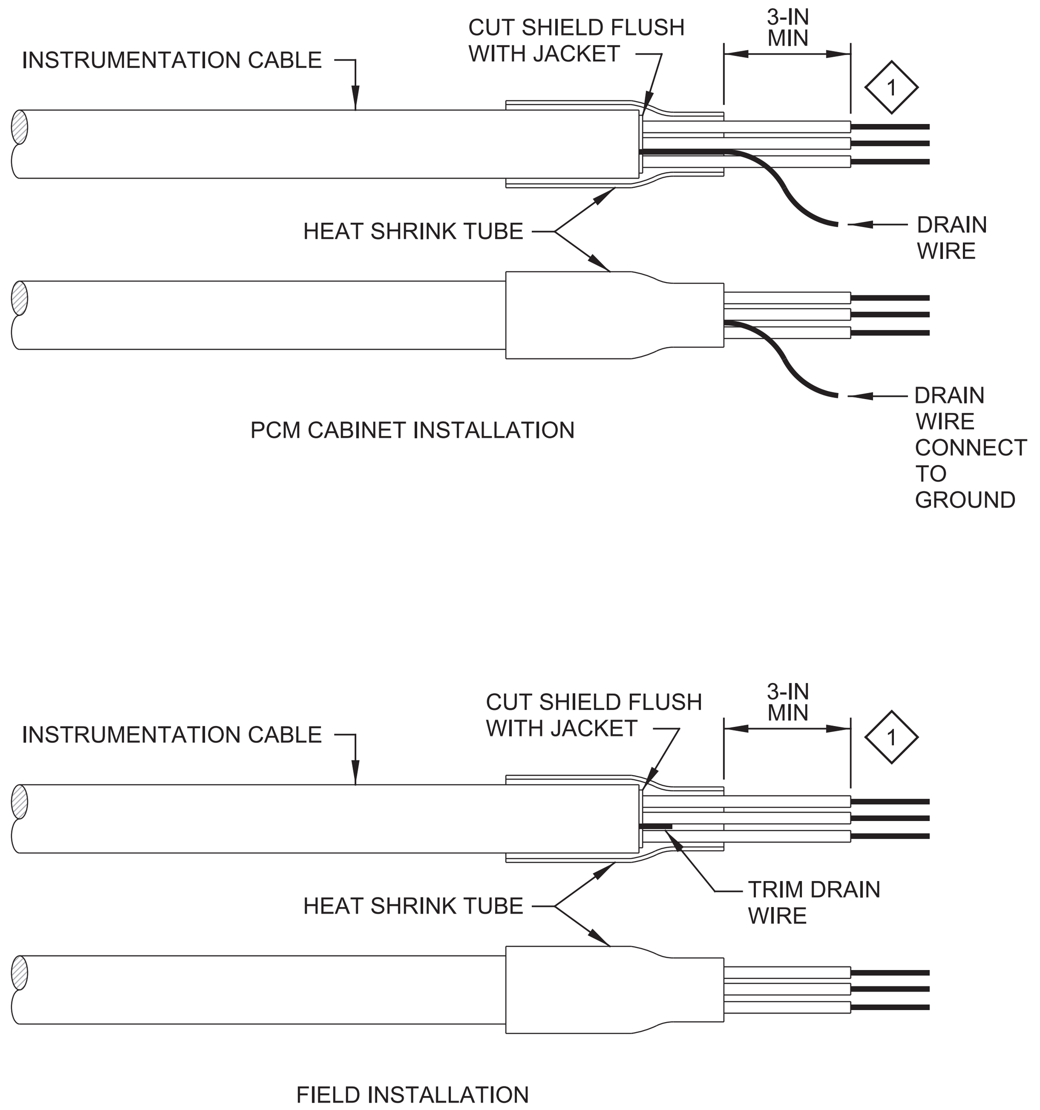
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BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10595A.10
DRAWING NO. TM01

PROJECT NO. FILE NAME: 10595A10TM01.dgn

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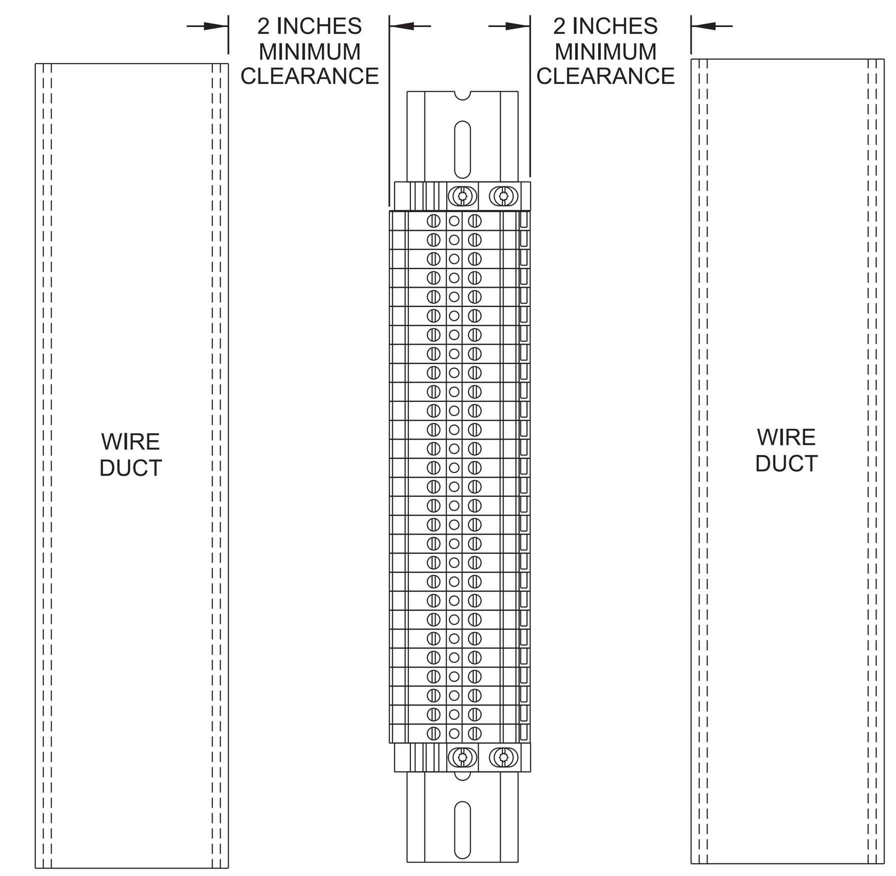
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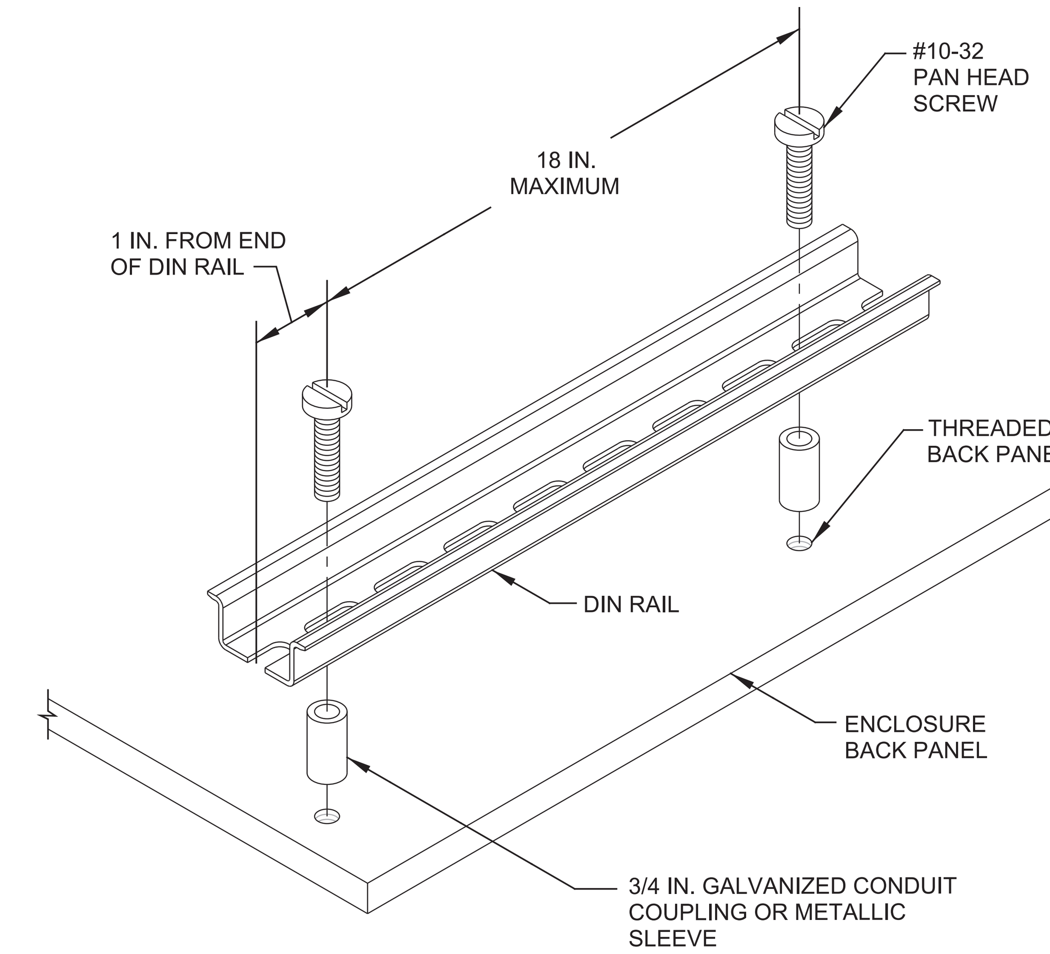
KEY NOTES:

1. SIMILAR FOR 2-CONDUCTOR SHIELDED CABLE

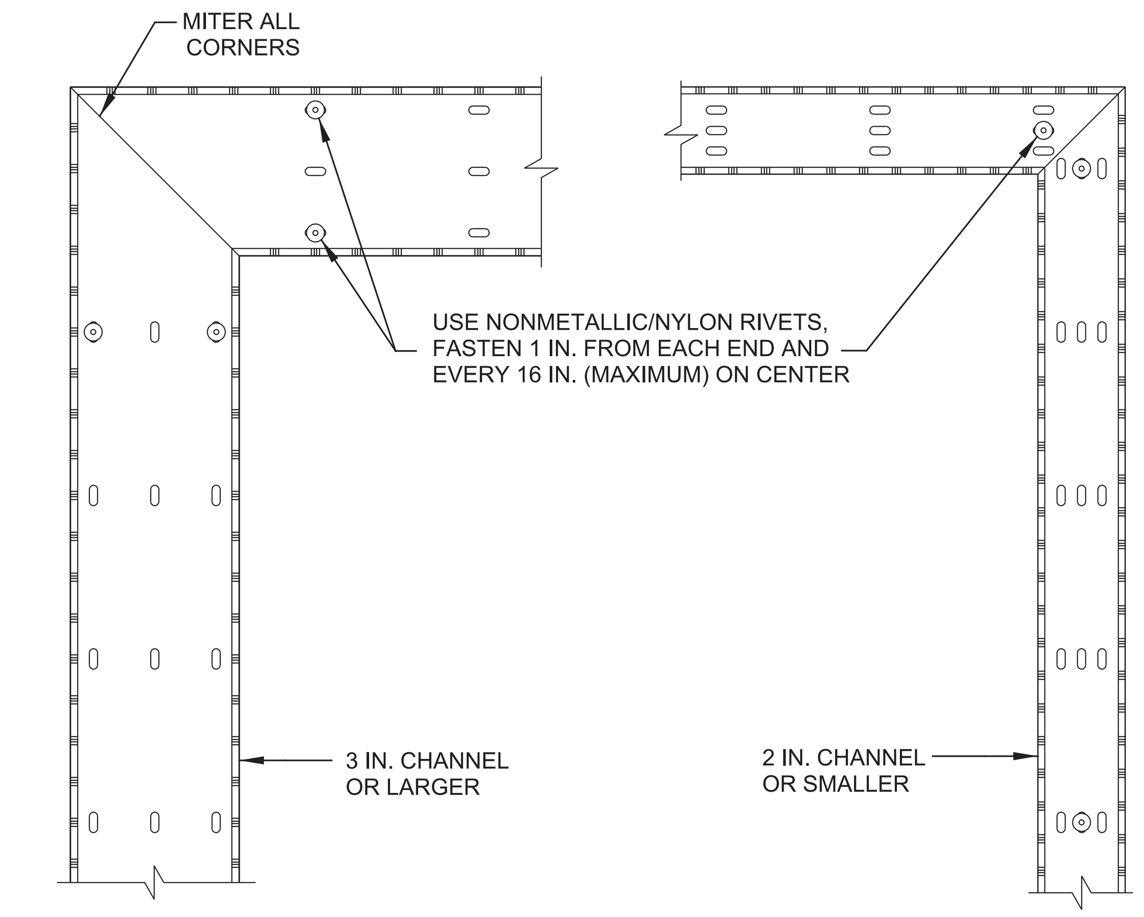
NE101 TYP S — TERMINATION DETAILS INSTRUMENTATION SHIELDED CABLE



NE102 TYP S — TERMINAL BLOCK CLEARANCE



NE103 TYP S — DIN RAIL MOUNTING



NE105 TYP S — PANEL WIRING DUCT MOUNTING

REV	DATE	BY	DESCRIPTION

DESIGNED: AB
DRAWN: MNH
CHECKED: BJR
DATE: APRIL 2018

REGISTERED PROFESSIONAL ENGINEER ASHRITHA BANAPURAM No. 21815 ELECTRICAL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune Contact Info: Carollo Engineers, Inc. Date: 2018.04.24 13:51:33-07'00'

Digitally signed by Ashritha Banapuram Contact Info: Carollo Engineers, Inc Date: 2018.04.24 14:59:17-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

STANISLAUS COUNTY, CALIFORNIA

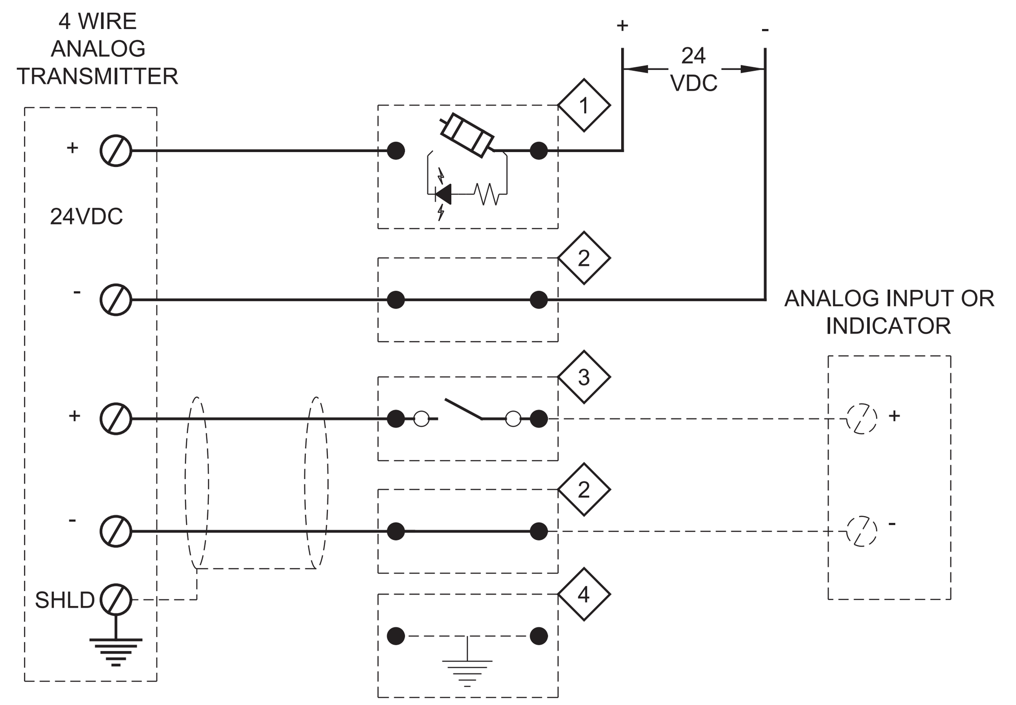
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM TURLOCK COMPONENT
TYPICALS
TYPICAL DETAILS INSTRUMENTATION I

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

JOB NO. 10595A.10
DRAWING NO. TN01
SHEET NO. 18 OF 122

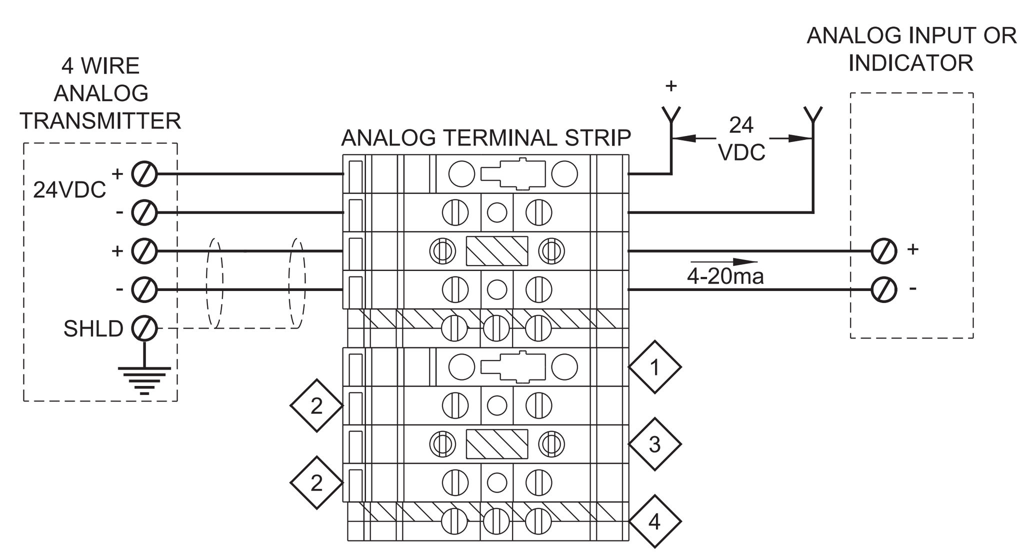
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KEY NOTES:

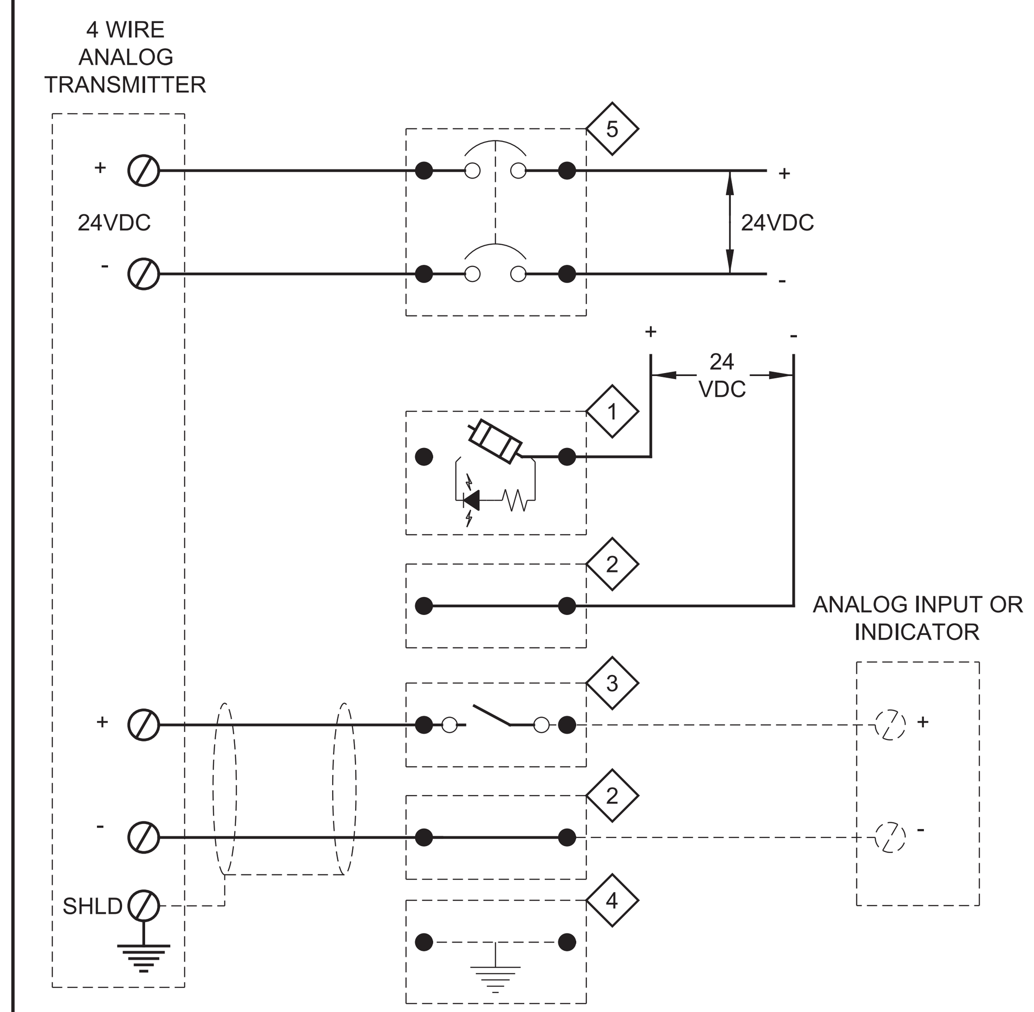
1. FUSED TERMINAL/DISCONNECT BLOCK
2. FEED THROUGH TERMINAL BLOCK
3. TEST BLOCK WITH KNIFE DISCONNECT SWITCH
4. GROUNDING TERMINAL BLOCK



NOTES:

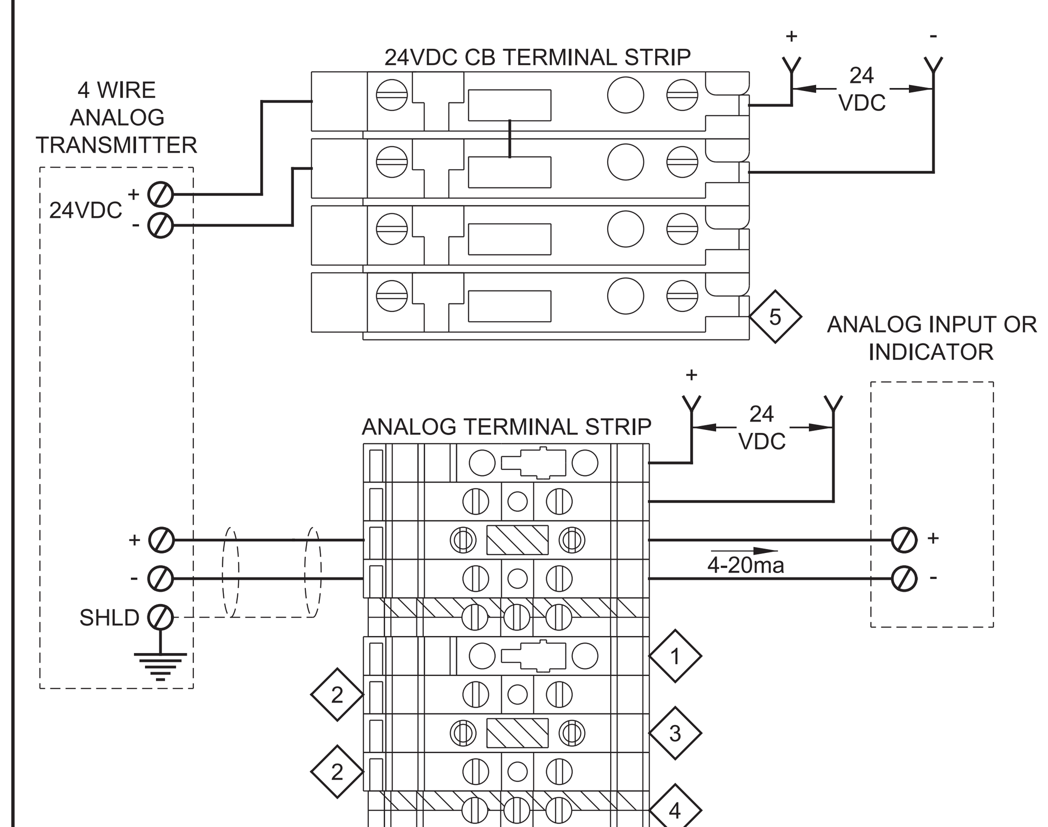
1. GROUND SHIELD AT CLOSEST OPPORTUNITY TO THE LOOP POWER DEVICE.
2. (-)24VDC RETURNS OR COMMONS CAN'T BE PROTECTED OR HAVE A DISCONNECTING MEANS ON SYSTEMS WITH GROUNDED 24VDC POWER SUPPLIES.

FOUR WIRE TRANSMITTER WITH (GROUNDED) 24VDC POWER SUPPLY SCHEMATIC



KEY NOTES:

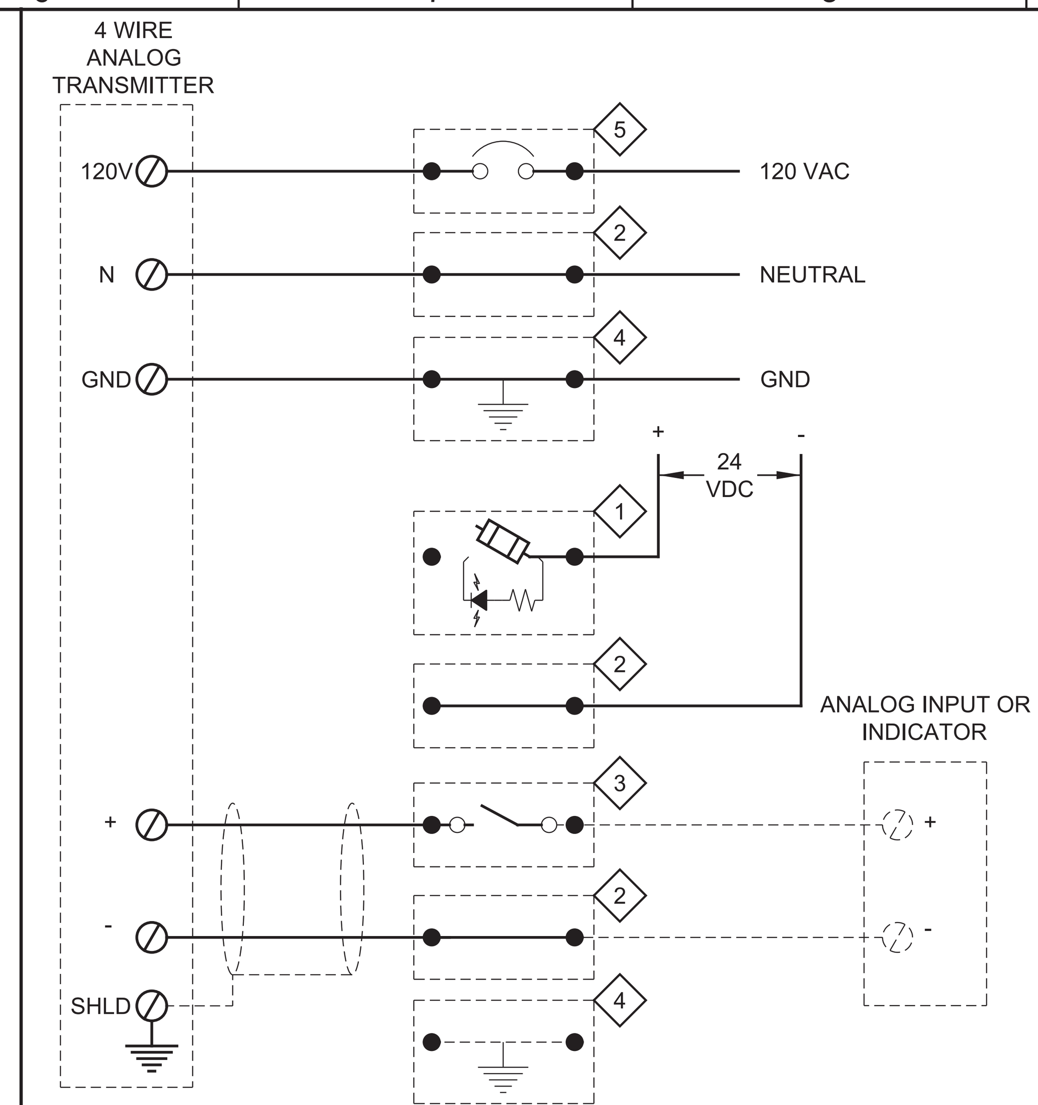
1. FUSED TERMINAL/DISCONNECT BLOCK
2. FEED THROUGH TERMINAL BLOCK
3. TEST BLOCK WITH KNIFE DISCONNECT SWITCH
4. GROUNDING TERMINAL BLOCK
5. 2-POLE 24VDC CIRCUIT BREAKER



NOTES:

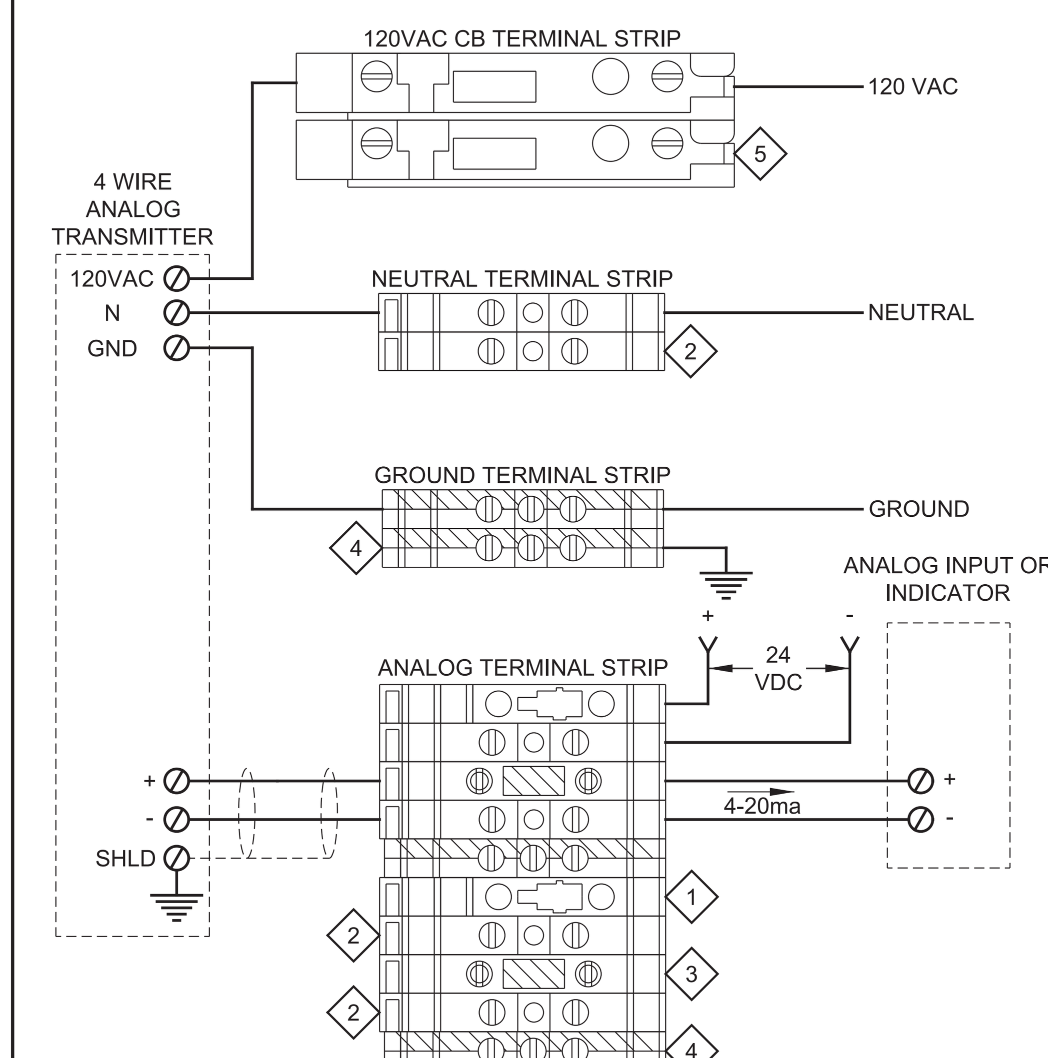
1. GROUND SHIELD AT CLOSEST OPPORTUNITY TO THE LOOP POWER SOURCE.
2. PROVIDE (-)24VDC RETURNS WITH PROTECTION ON ALL UN-GROUNDED 24VDC POWER SUPPLIES.

FOUR WIRE TRANSMITTER WITH (UN-GROUNDED) 24VDC POWER SUPPLY SCHEMATIC



KEY NOTES:

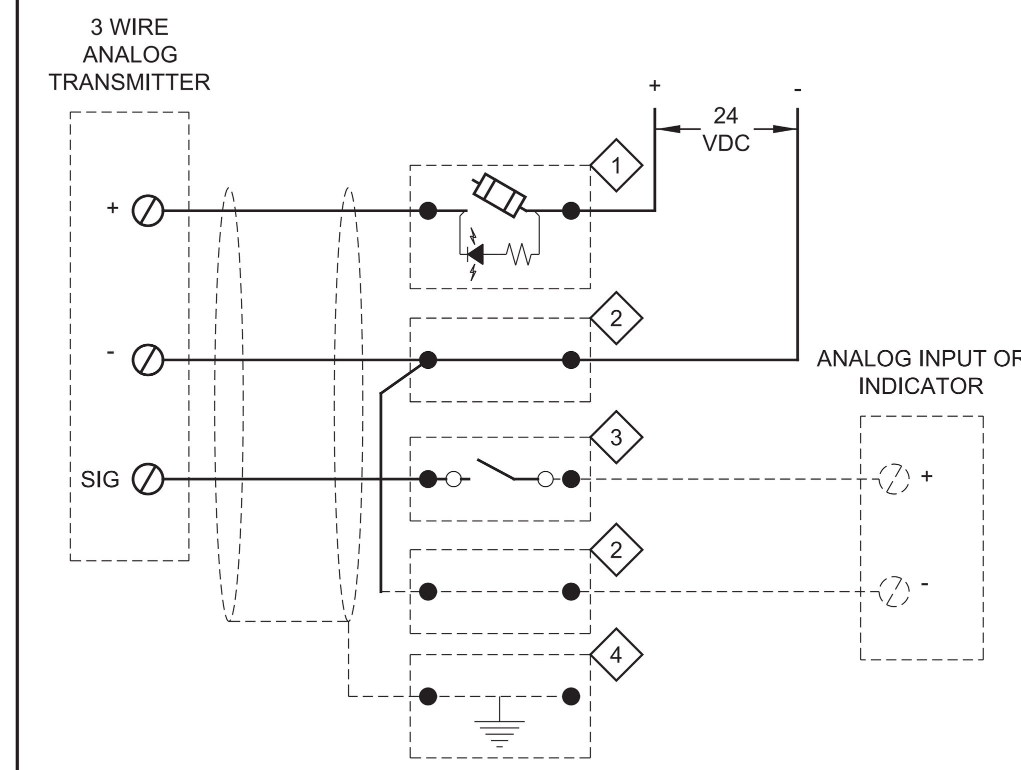
1. FUSED TERMINAL/DISCONNECT BLOCK
2. FEED THROUGH TERMINAL BLOCK
3. TEST BLOCK WITH KNIFE DISCONNECT SWITCH
4. GROUNDING TERMINAL BLOCK
5. 120VAC CIRCUIT BREAKER



NOTES:

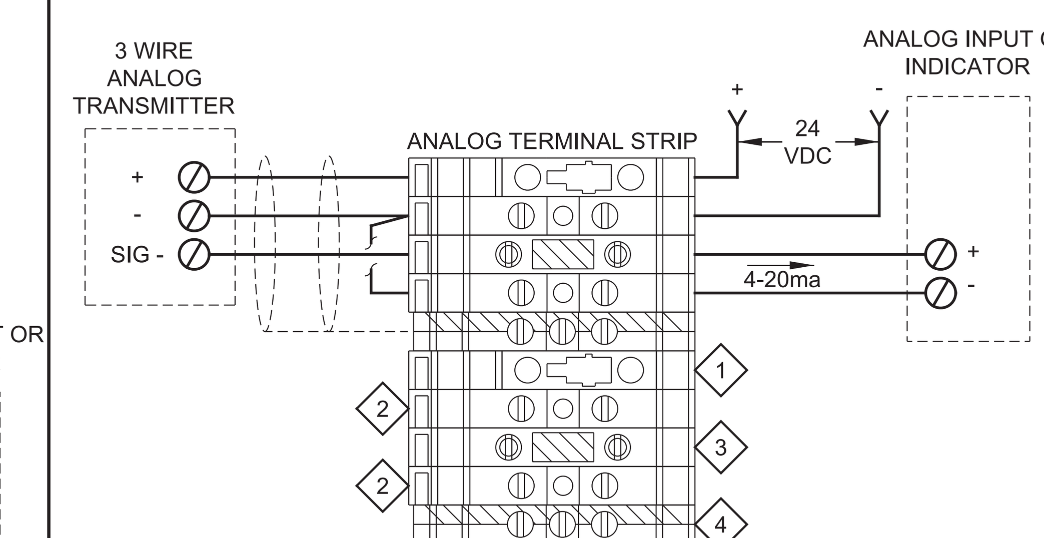
1. GROUND SHIELD AT CLOSEST OPPORTUNITY TO THE LOOP POWER SOURCE.
2. PROVIDE 120VAC CIRCUIT BREAKER FOR EACH INSTRUMENT.

FOUR WIRE (120VAC) TRANSMITTER SCHEMATIC



KEY NOTES:

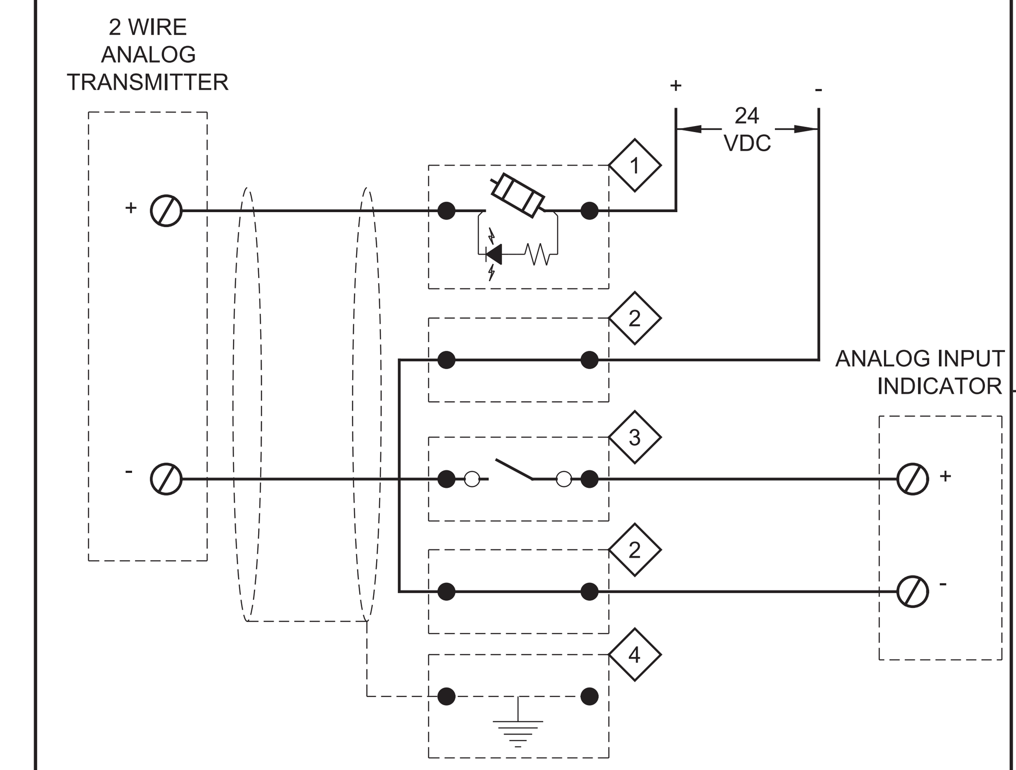
1. FUSED TERMINAL/DISCONNECT BLOCK
2. FEED THROUGH TERMINAL BLOCK
3. TEST BLOCK WITH KNIFE DISCONNECT SWITCH
4. GROUNDING TERMINAL BLOCK



NOTES:

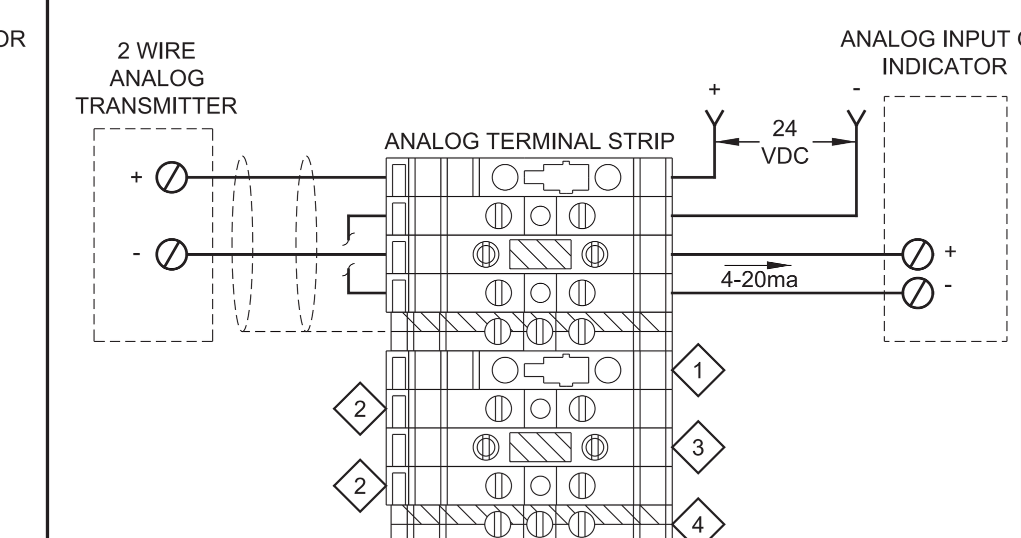
1. GROUND SHIELD AT CLOSEST OPPORTUNITY TO THE LOOP POWER SOURCE.

24VDC THREE WIRE ANALOG TRANSMITTER SCHEMATIC



KEY NOTES:

1. FUSED TERMINAL/DISCONNECT BLOCK
2. FEED THROUGH TERMINAL BLOCK
3. TEST BLOCK WITH KNIFE DISCONNECT SWITCH
4. GROUNDING TERMINAL BLOCK



NOTES:

1. GROUND SHIELD AT CLOSEST OPPORTUNITY TO THE LOOP POWER SOURCE.

24VDC TWO WIRE TRANSMITTER SCHEMATIC

NE304 TYP S — ANALOG TERMINAL DETAILS

REV	DATE	BY	DESCRIPTION

DESIGNED AB
DRAWN MNH
CHECKED BJR
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER ASHRITHA BANAPURAM No. 21815 ELECTRICAL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune Contact Info: Carollo Engineers, Inc. Date: 2018.04.24 13:51:44-07'00'

Digitally signed by Ashritha Banapuram Contact Info: Carollo Engineers, Inc Date: 2018.04.24 14:59:35-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

carollo®

CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM TURLOCK COMPONENT
TYPICALS
TYPICAL DETAILS INSTRUMENTATION II

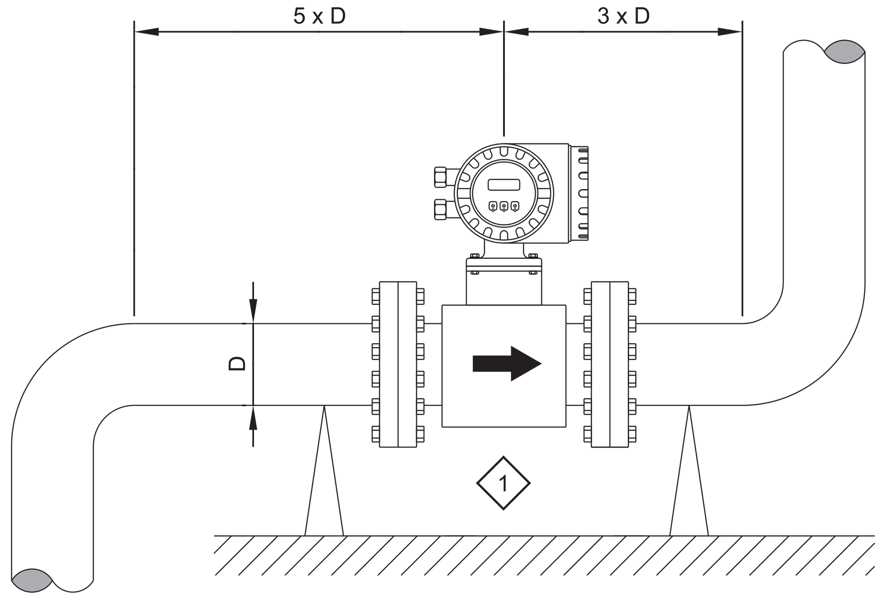
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10595A.10
DRAWING NO. TN02
SHEET NO. 19 OF 122

Plot Date: 19-APR-2018 4:25:25 PM User: svcPW

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 2:1

LAST SAVED BY: MHood



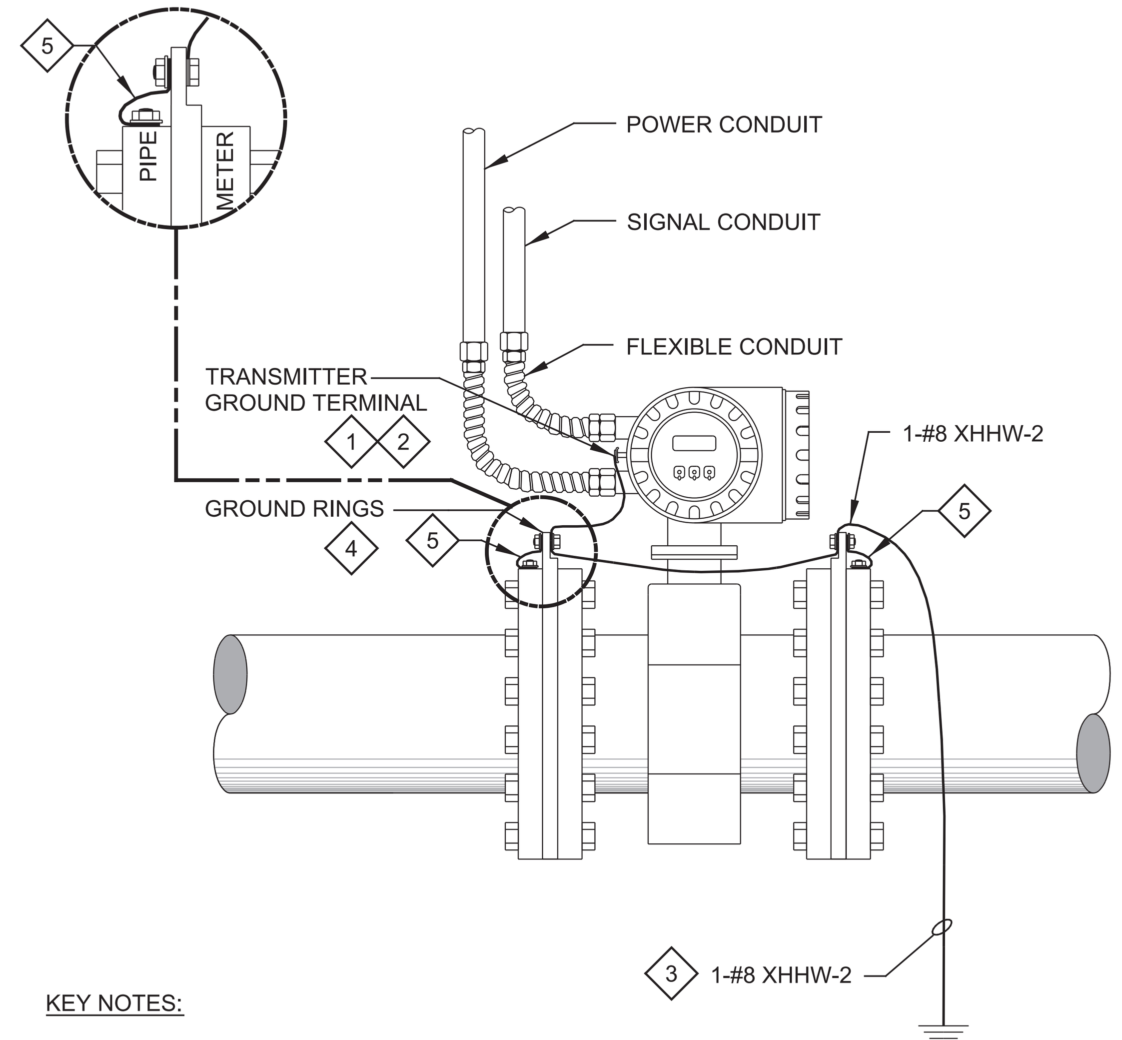
NOTES:

1. FOLLOW MANUFACTURER'S RECOMMENDED MAXIMUM TORQUE SETTINGS. DO NOT OVER-TORQUE FLANGE BOLTS. OVERTIGHTENING THE FASTENERS WILL DEFORM SEALING FACES OR DAMAGE THE LINE.
2. ALWAYS TIGHTEN FLANGE BOLTS UNIFORMLY AND IN DIAGONALLY OPPOSITE SEQUENCE.
3. MOUNT METER SO THAT IT REMAINS FULLY FLOODED.
4. INSTALL METER SUCH THAT THERE ARE NO PIPE BENDS FOR 5 PIPE DIAMETERS UPSTREAM AND 3 PIPE DIAMETERS DOWNSTREAM OF THE METER.

KEY NOTES:

(1) PIPE SUPPORTS BY MECHANICAL CONTRACTOR. NO SUPPORTS SHALL BE INSTALLED AT THE METER HOUSING.

NF130 TYP S — MAGNETIC FLOW MOUNTING DETAIL



KEY NOTES:

(1) CONTRACTOR SHALL VERIFY ZERO POTENTIAL BETWEEN FLOW TUBE, EARTH GROUND AND TRANSMITTER GROUND TERMINAL.

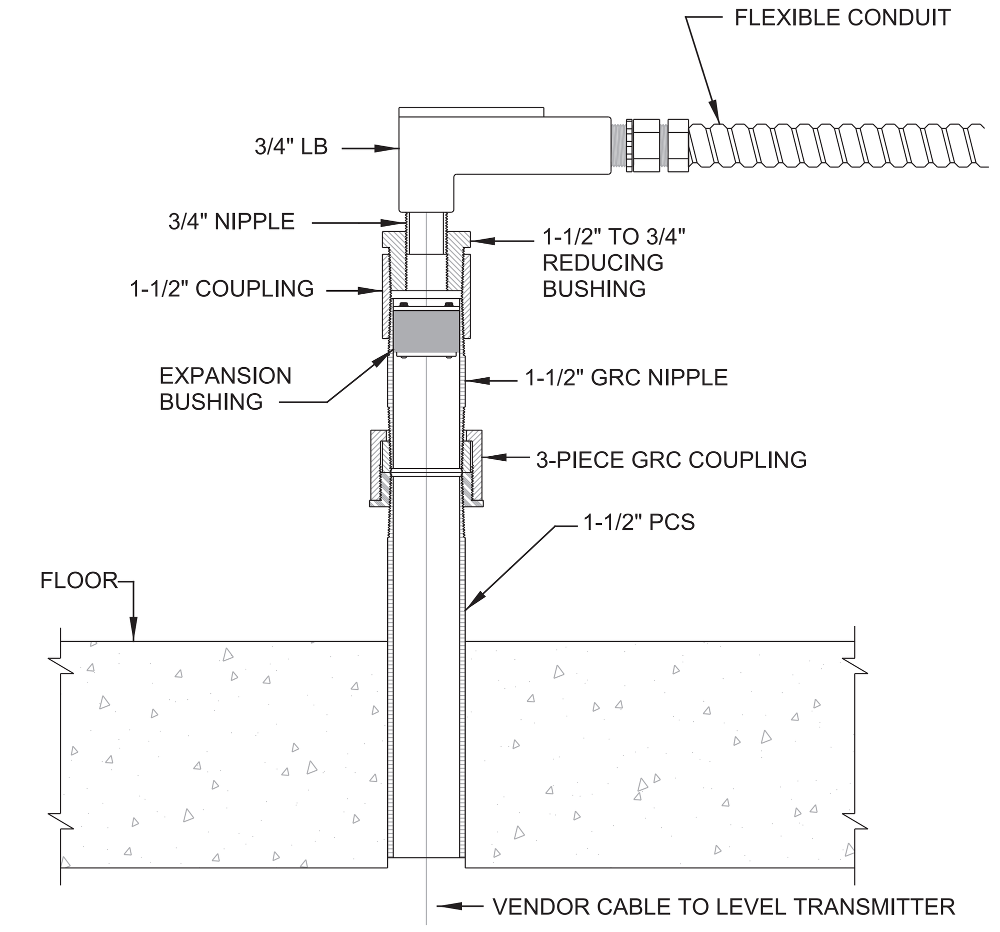
(2) CONNECT TRANSMITTER GROUND TERMINAL TO GROUND RINGS.

(3) CONNECT METER BODY TO EARTH GROUND POTENTIAL.

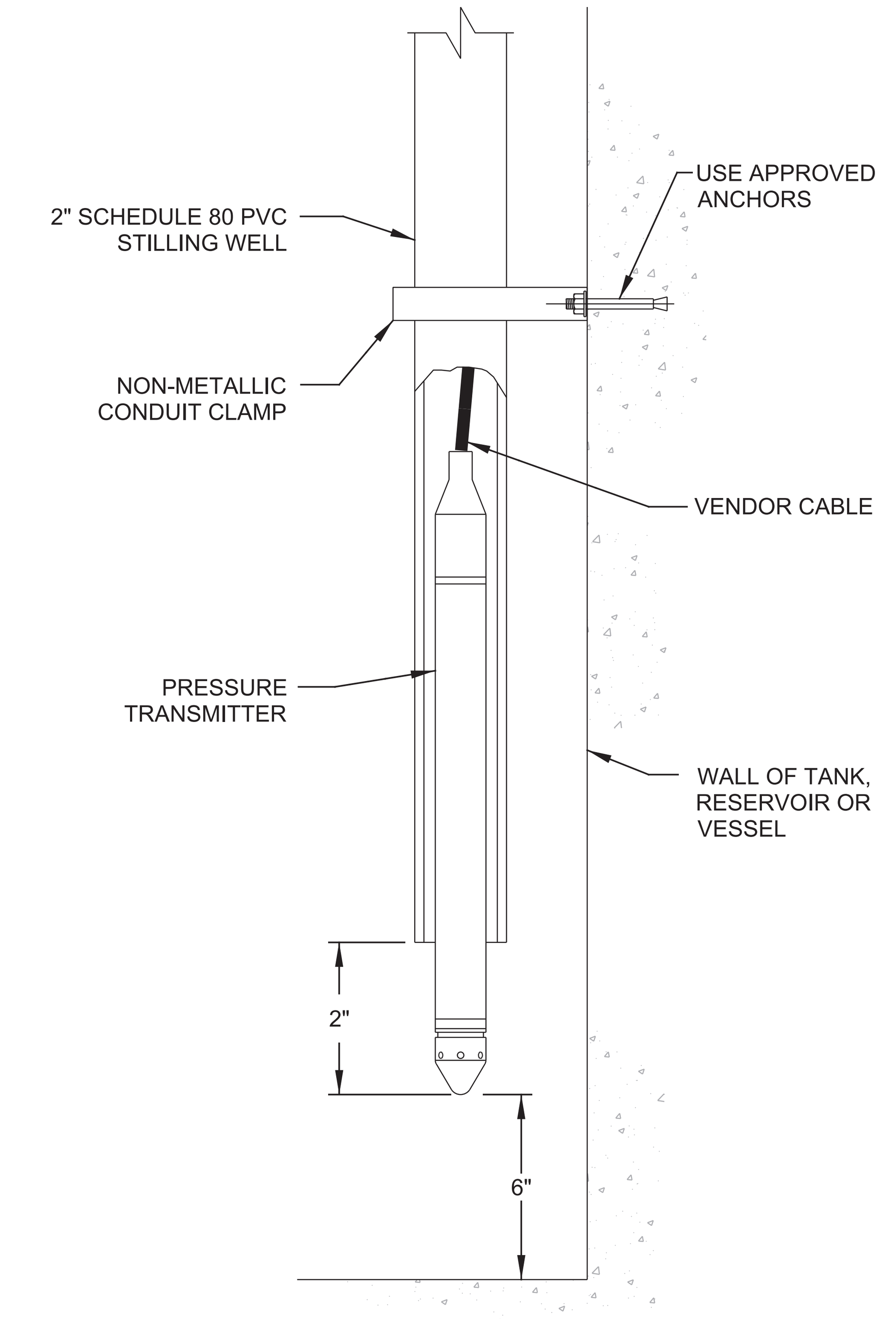
(4) EQUALIZE POTENTIAL VIA GROUND RINGS BETWEEN FLUID AND MAGMETER.

(5) PROVIDE BONDING JUMPER ON CONDUCTIVE PIPES.

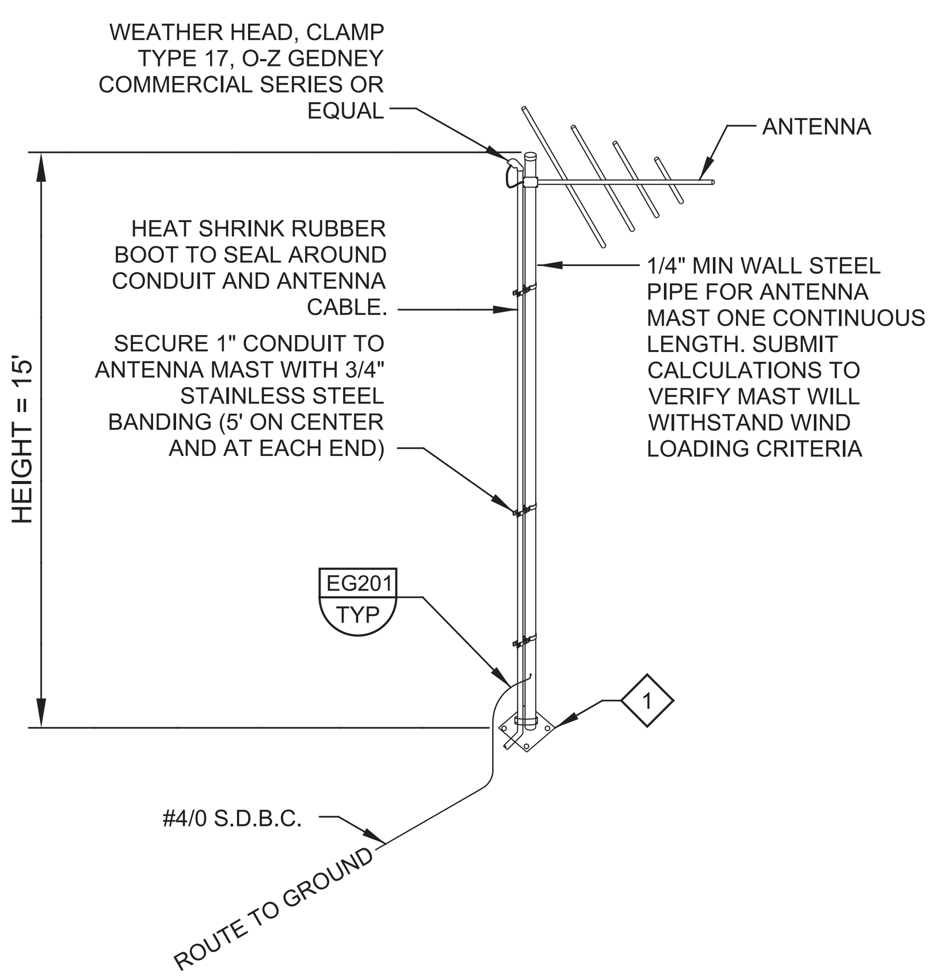
NF136 TYP S — INTEGRAL MAGNETIC FLOWMETER GROUNDING DETAIL



NL130 TYP S — DROP-IN LEVEL TRANSMITTER MOUNTING DETAIL



NL131 TYP S — DROP-IN PRESSURE TRANSMITTER MOUNTING DETAIL



KEY NOTES:

(1) REFER TO STRUCTURAL DRAWINGS FOR ANCHORAGE REQUIREMENTS.

NM106 TYP R — ANTENNA MAST MOUNTING DETAIL

03/28/18

REV	DATE	BY	DESCRIPTION

DESIGNED: AB
DRAWN: MNH
CHECKED: BJR
DATE: APRIL 2018

REGISTERED PROFESSIONAL ENGINEER ASHRITHA BANAPURAM No. 21815 ELECTRICAL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune Contact Info: Carollo Engineers, Inc. Date: 2018.04.24 13:51:55-07'00'

Digitally signed by Ashritha Banapuram Contact Info: Carollo Engineers, Inc Date: 2018.04.24 14:59:47-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908

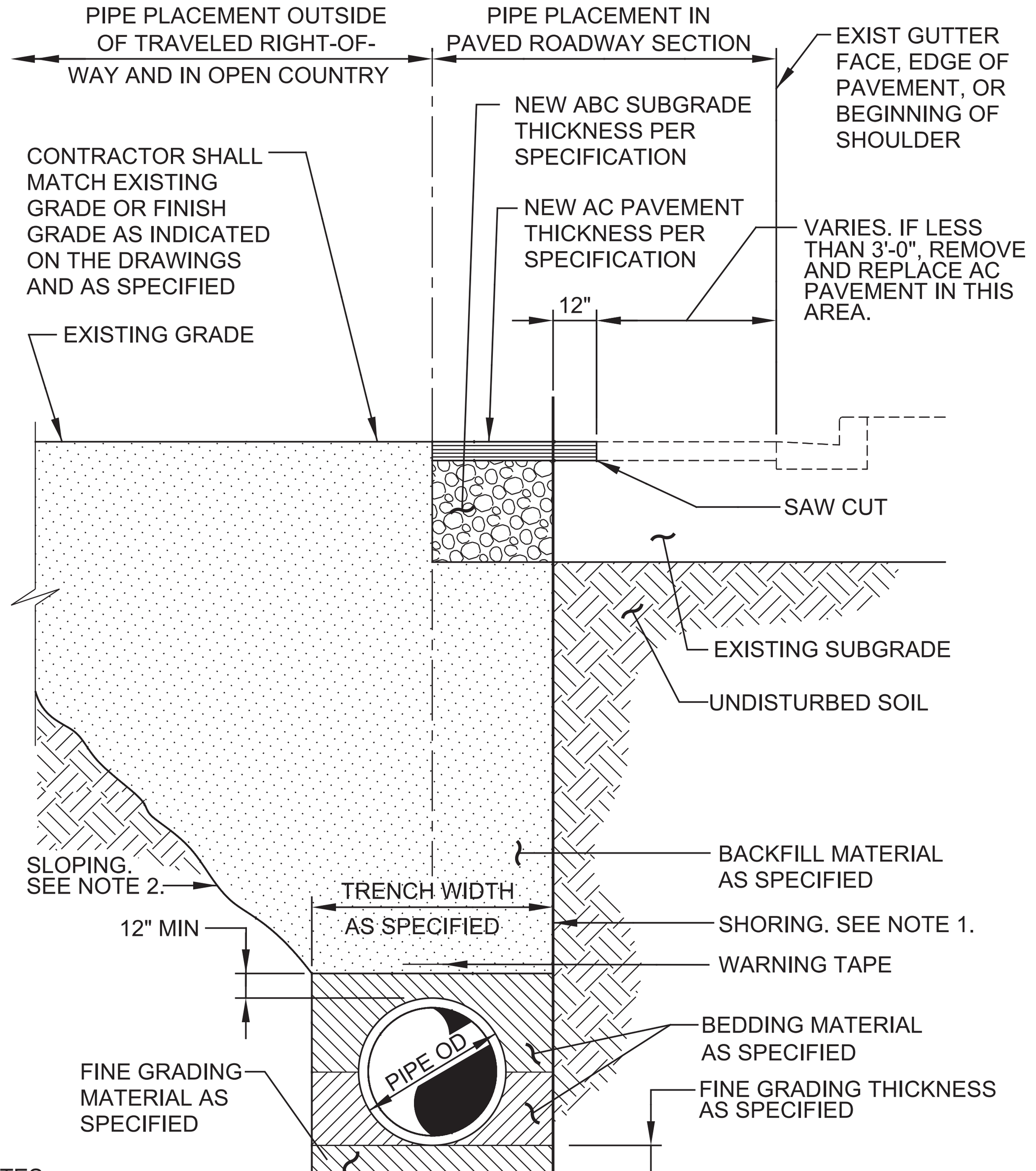
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
TYPICALS
TYPICAL DETAILS
INSTRUMENTATION III

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

JOB NO. 10595A.10
DRAWING NO. TN03
SHEET NO. 20 OF 122

PROJECT NO. FILE NAME: 10595A10TN03.dgn

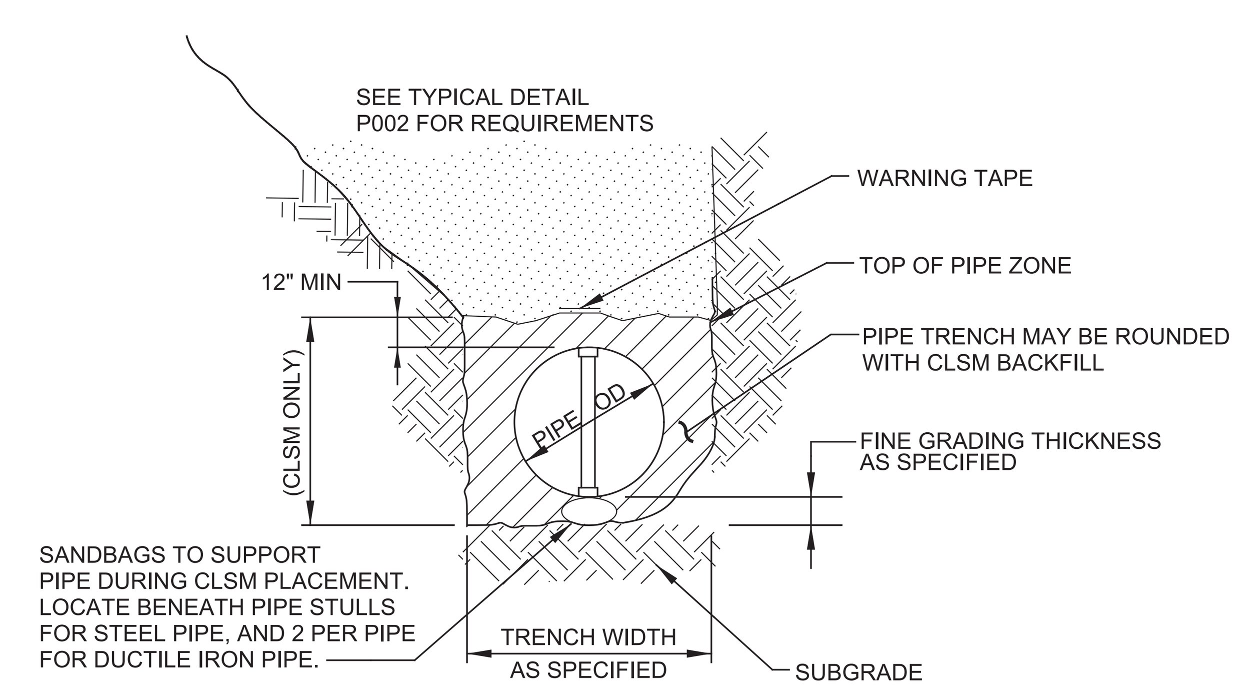


NOTES:

1. SEE SPECIFICATIONS FOR SHORING REQUIREMENTS.
2. SEE SPECIFICATIONS FOR SLOPING REQUIREMENTS.
3. AC AND ABC THICKNESSES SHALL BE PER THE STANDARD OF THE AGENCY WHERE THE WORK IS LOCATED (CITY OF MODESTO OR STANISLAUS COUNTY). SEE ENCROACHMENT PERMIT INFORMATION IN VOLUME 4 FOR MORE INFORMATION.

P002 TYP PIPE INSTALLATION AND PAVEMENT REPLACEMENT

R 04/17/18



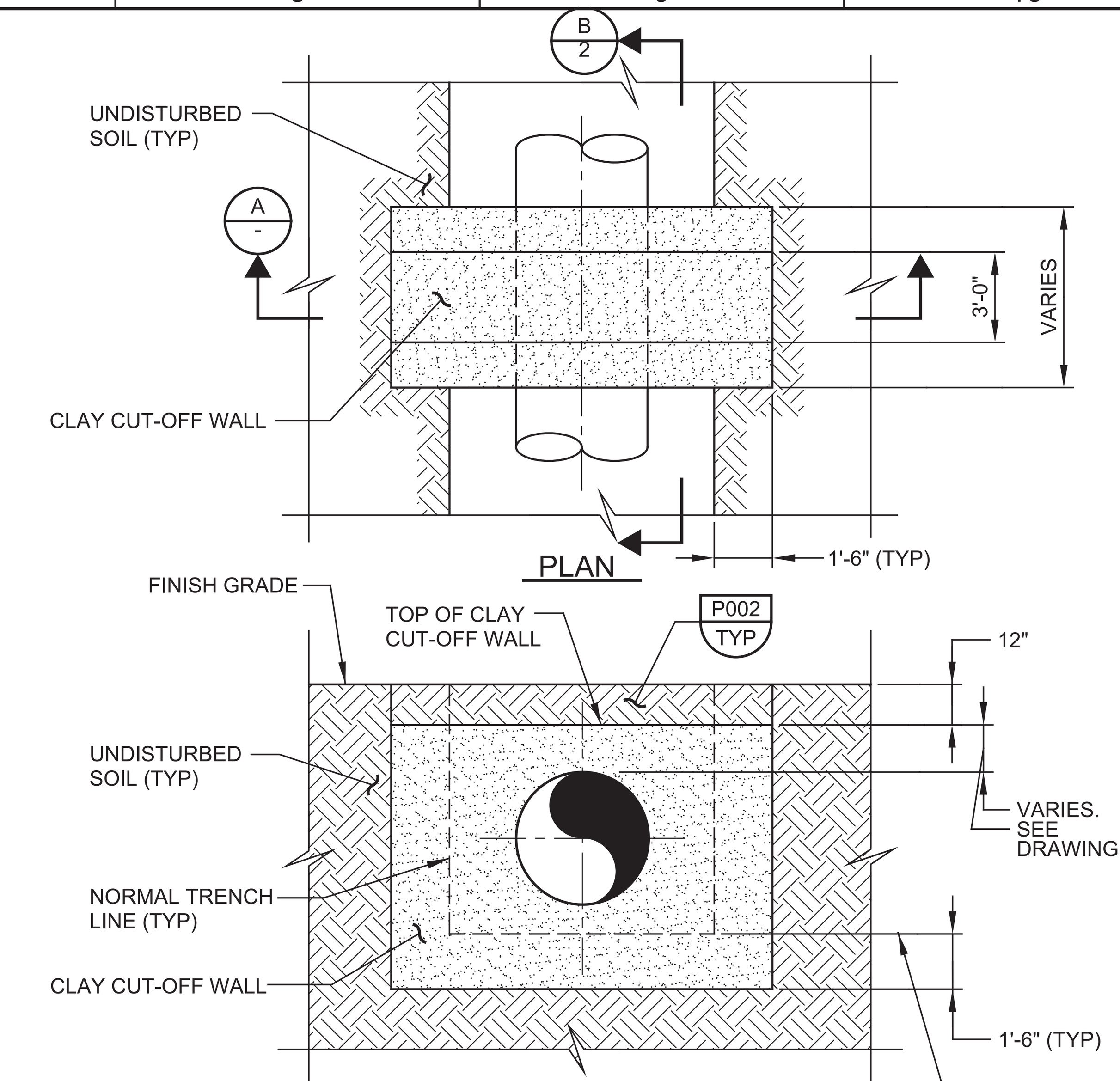
ALTERNATE BEDDING MATERIAL

NOTES:

1. THIS TYPICAL DETAIL SHOWS AN ALTERNATE BEDDING MATERIAL THAN P002 THAT MAY BE USED AT THE CONTRACTORS SOLE OPTION AND MEANS AND METHODS.
2. REFER TO TYPICAL DETAIL P002 FOR ALL OTHER REQUIREMENTS.

P002A TYP PIPE INSTALLATION AND PAVEMENT REPLACEMENT

J 04/17/18

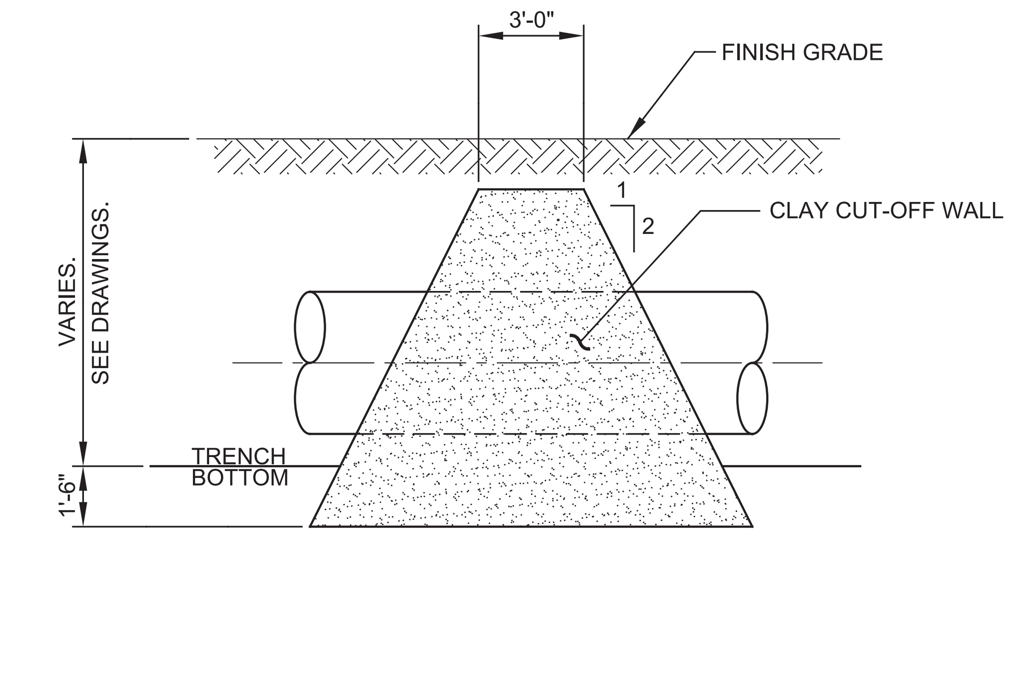


NOTES:

1. MOISTURE CONDITION AND COMPACT CLAY.
2. PIPE TRENCH CLAY CUT-OFF WALLS ARE NOT REQUIRED IF CLSM BACKFILL IS USED.

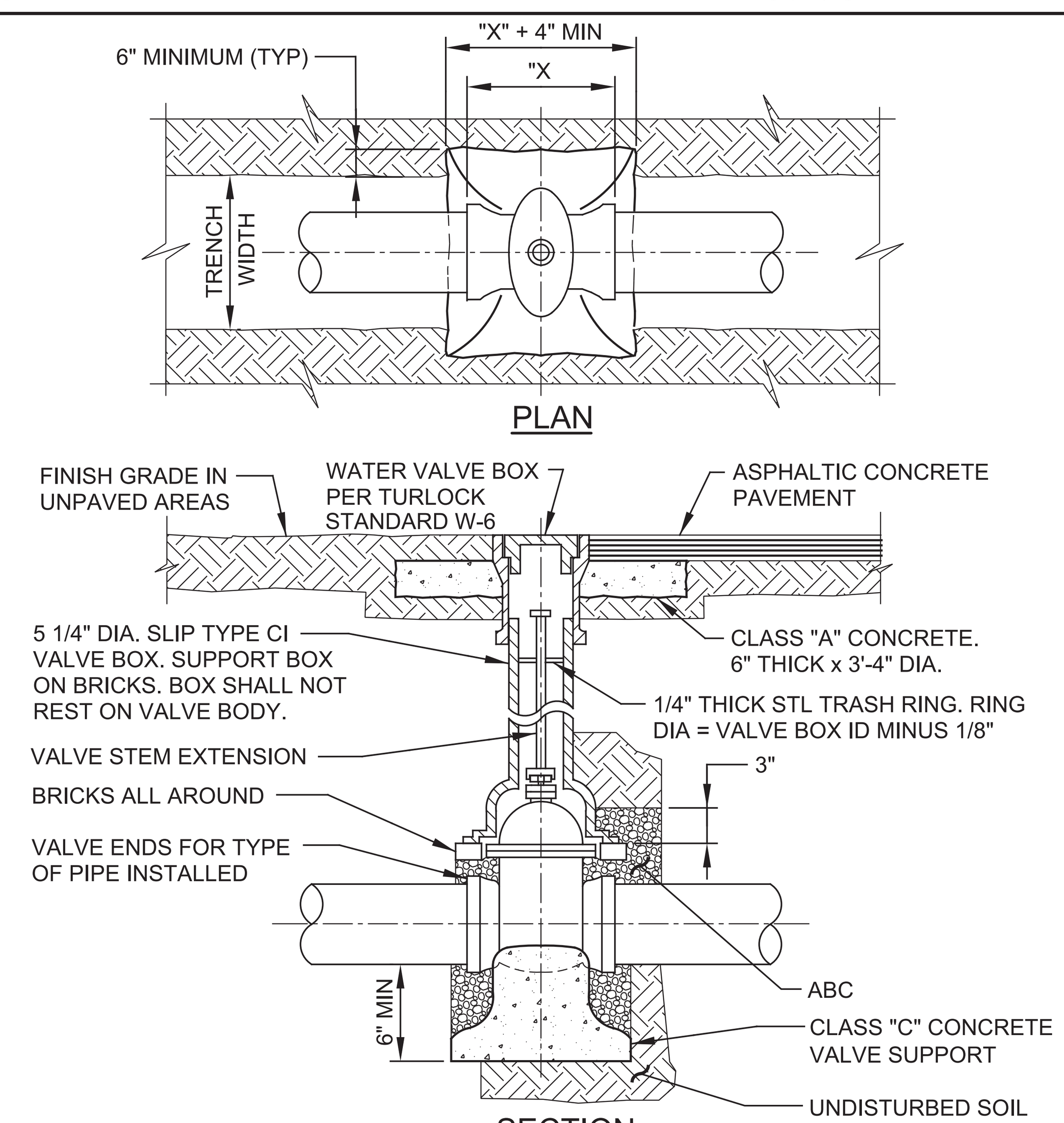
P016 TYP PIPE TRENCH CLAY CUT-OFF WALL

N SHEET 1 OF 2 01/19/10



P016 TYP PIPE TRENCH CLAY CUT-OFF WALL

N SHEET 2 OF 2 01/19/10



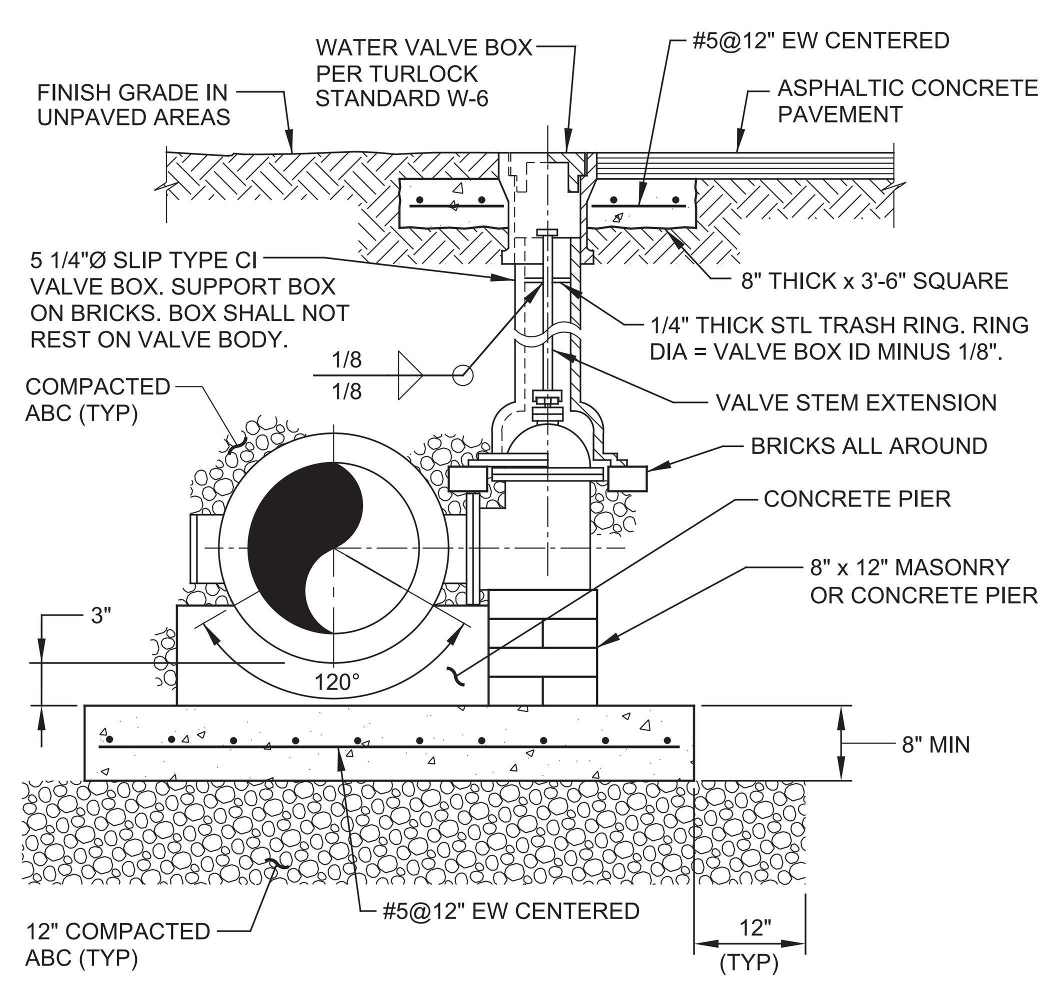
SECTION

NOTES:

1. ALL BURIED VALVES SHALL BE PROVIDED WITH EXTENSION STEM OPERATION WITH 2" SQUARE AWWA NUT WITHIN 36" OF VALVE BOX COVER. NUT IS TO INDICATE DIRECTION OF ROTATION TO OPEN VALVE.
2. COAT BURIED PIPE AND VALVE BOX AS SPECIFIED.
3. CLEAN VALVE BOX OF ALL DEBRIS AND SOIL.
4. VALVE TYPE AS INDICATED ON THE DRAWINGS.
5. ALL AT GRADE UTILITY BOXES SHALL BE HS-20 RATED.

P022 TYP VALVE BOX INSTALLATION

R 03/29/18



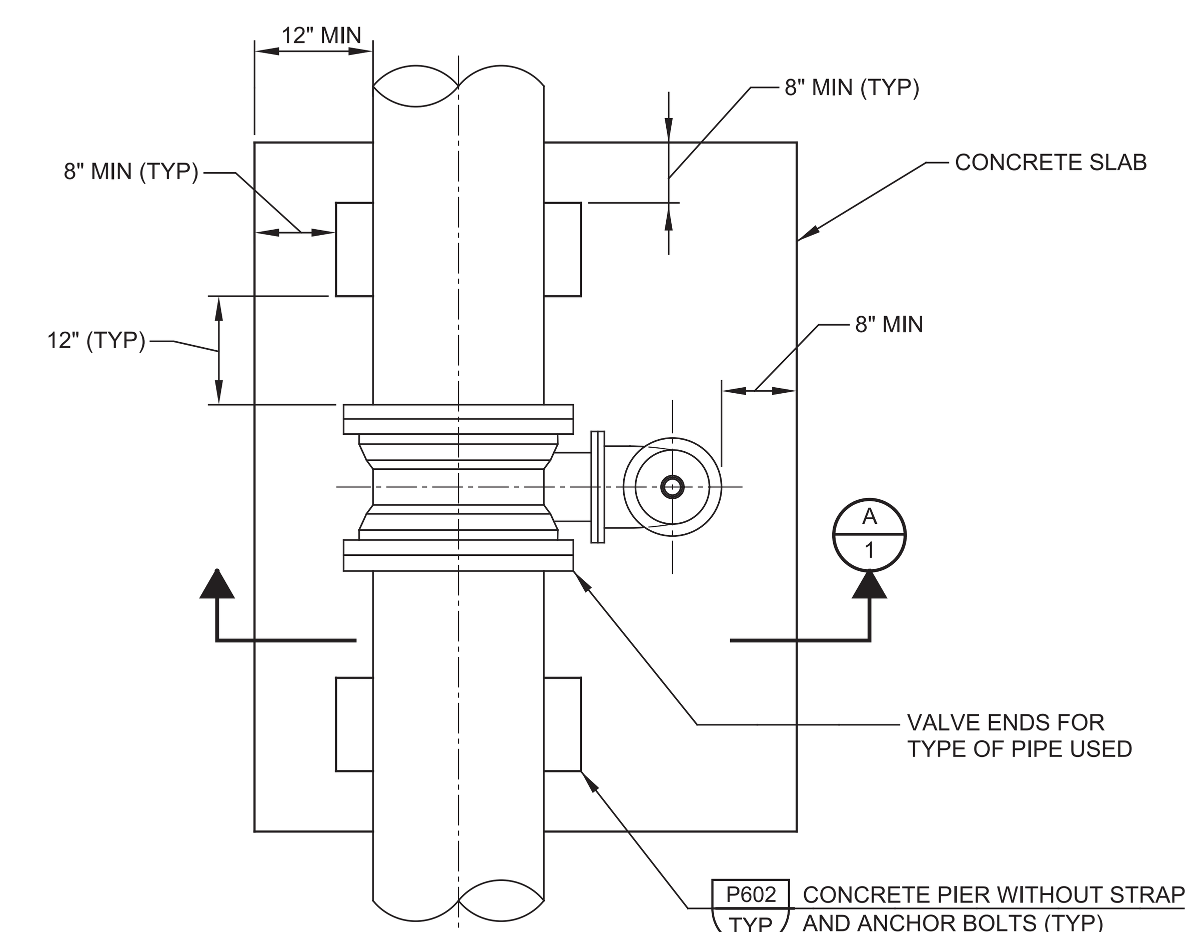
A 2 SECTION

NOTES:

1. ALL BURIED VALVES SHALL BE PROVIDED WITH EXTENSION STEM OPERATOR WITH 2" SQUARE AWWA NUT WITHIN 36" OF VALVE BOX COVER. INDICATE ON NUT DIRECTION OF ROTATION TO OPEN VALVE.
2. COAT BURIED PIPE AND VALVE BOX PER SPECIFICATIONS.
3. CLEAN VALVE BOX OF ALL DEBRIS AND SOIL.
4. ALL AT GRADE UTILITY BOXES SHALL BE HS-20 RATED.

P026 TYP BURIED BUTTERFLY VALVE

R SHEET 1 OF 2 03/29/18



PLAN

P026 TYP BURIED BUTTERFLY VALVE

S SHEET 2 OF 2 11/30/08

REV	DATE	BY	DESCRIPTION

DESIGNED: CE
DRAWN: CE
CHECKED: JPM
DATE: APRIL 2018

REGISTERED PROFESSIONAL ENGINEER — JONATHON P. MARSHALL — No. 73265 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:26:46-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:29:32-07'00'

REGISTERED PROFESSIONAL ENGINEER — DARREN G. BAUNE — No. 68899 — CIVIL — STATE OF CALIFORNIA

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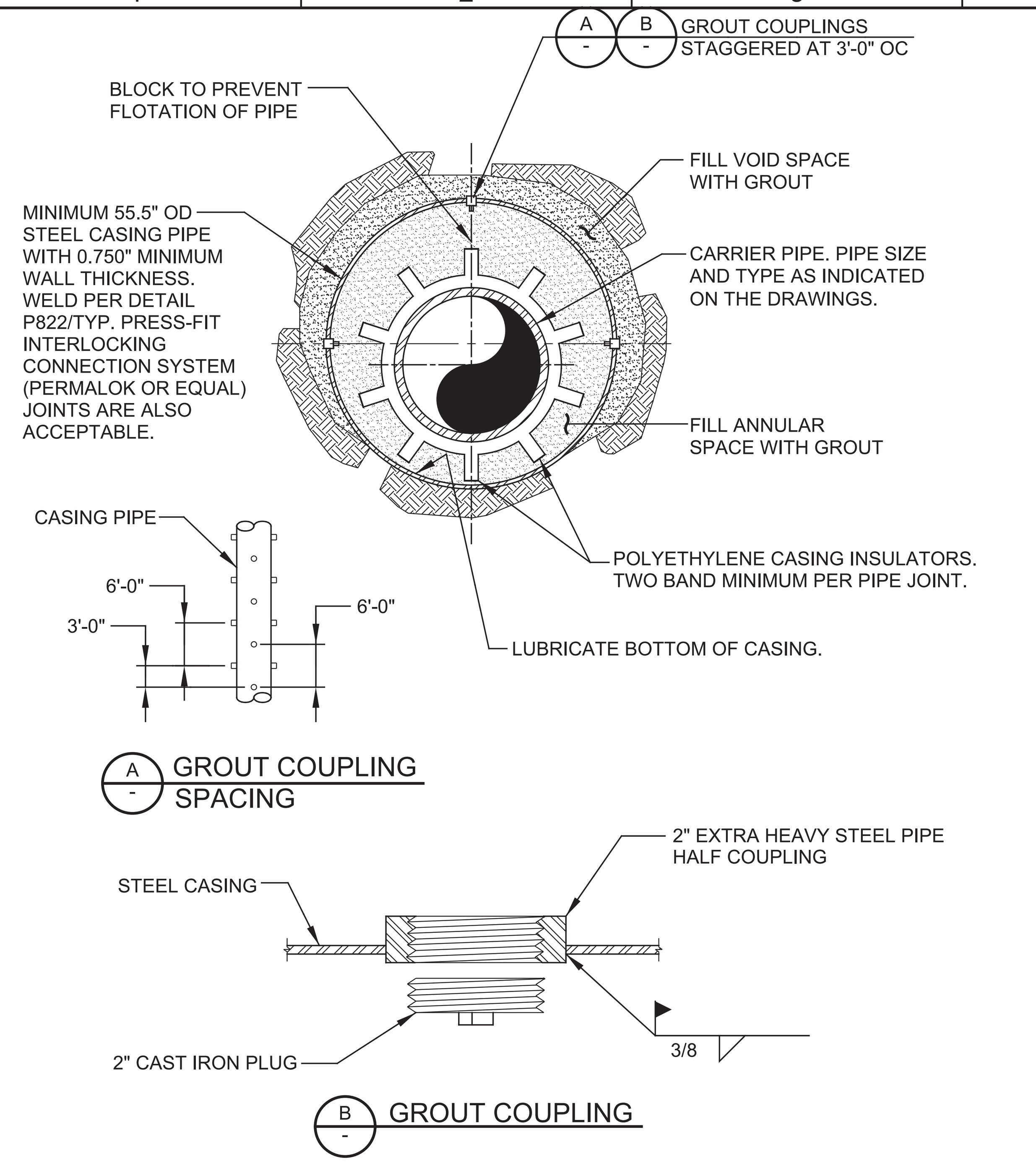
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT

TYPICALS

TYPICAL DETAILS
MECHANICAL/PIPING - I

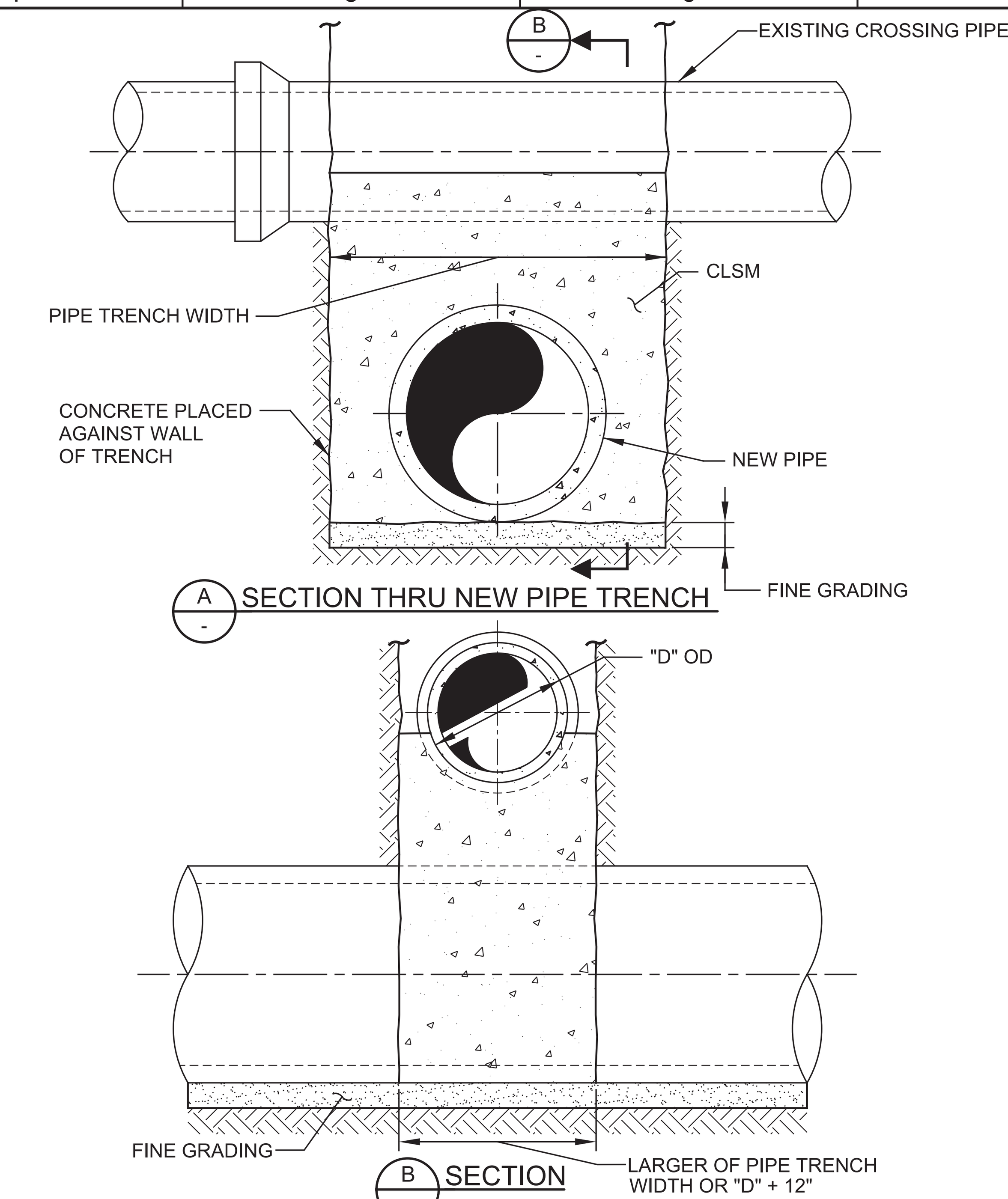
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JOB NO. 10595A.10
DRAWING NO. TP01
SHEET NO. 21 OF 122



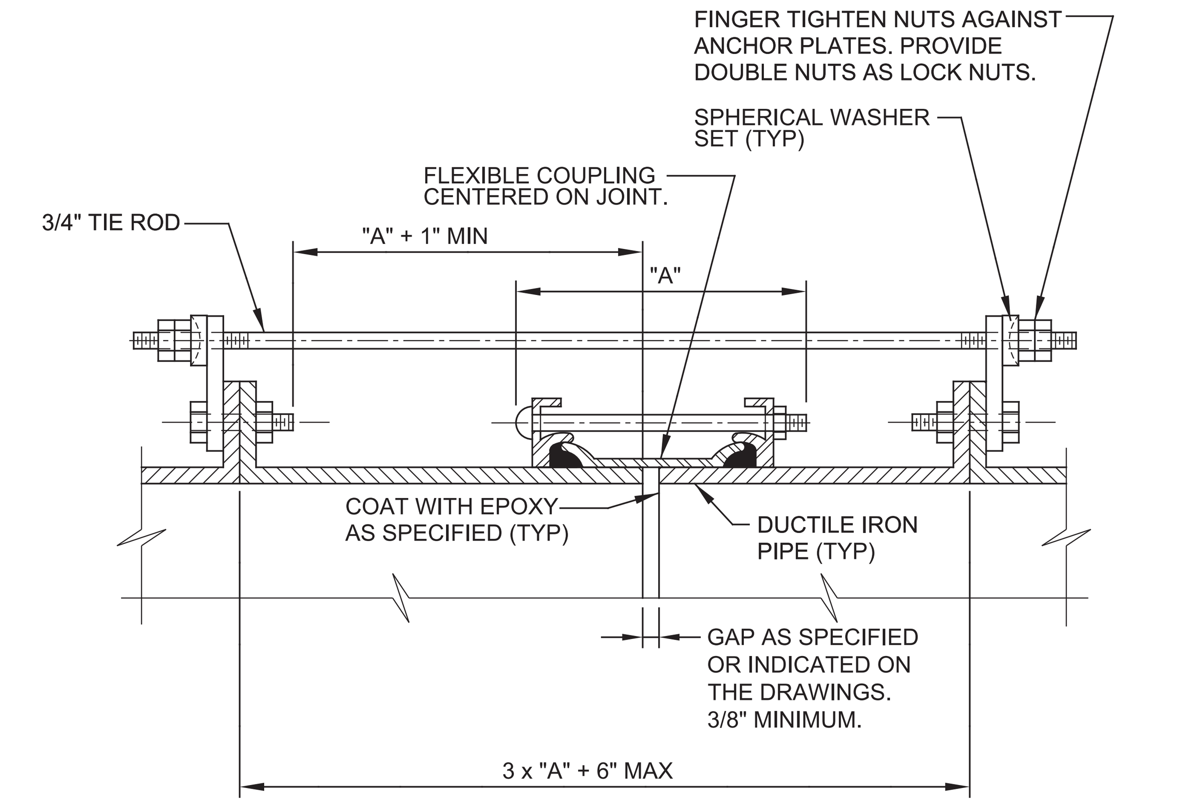
P030 TYP R — PIPE IN STEEL CASING - GROUT FILL CASING INSTALLATION BY MICROTUNNEL ONLY

03/27/18



P048 TYP R — PIPE SUPPORT ACROSS TRENCH

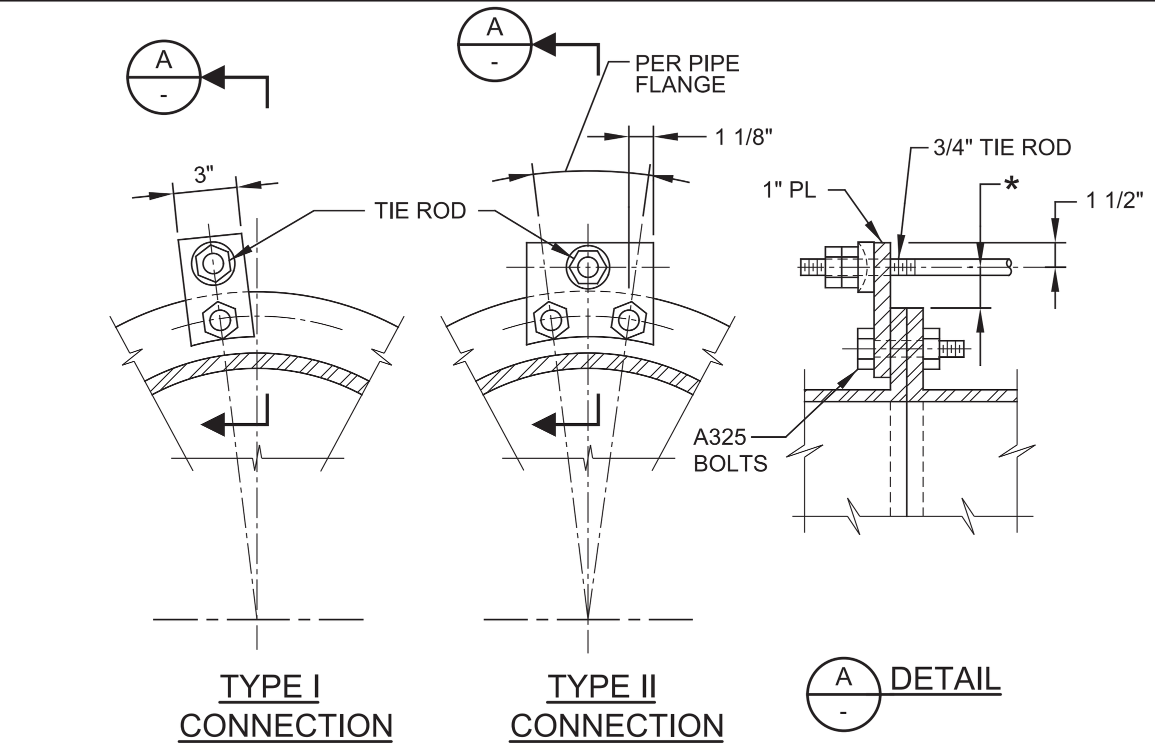
10/30/17



ROD SCHEDULE		
PIPE THRUST. SEE NOTE 2.	TYPE OF CONNECTION	NO. OF RODS
0-6,000#	I	2
6,001 - 12,000#	II	2
12,001 - 18,000#	II	3
18,001 - 24,000#	II	4
24,001 - 30,000#	II	5

P110 TYP N — DIP FLEXIBLE COUPLING TIE DOWN

SHEET 1 OF 2 04/21/15

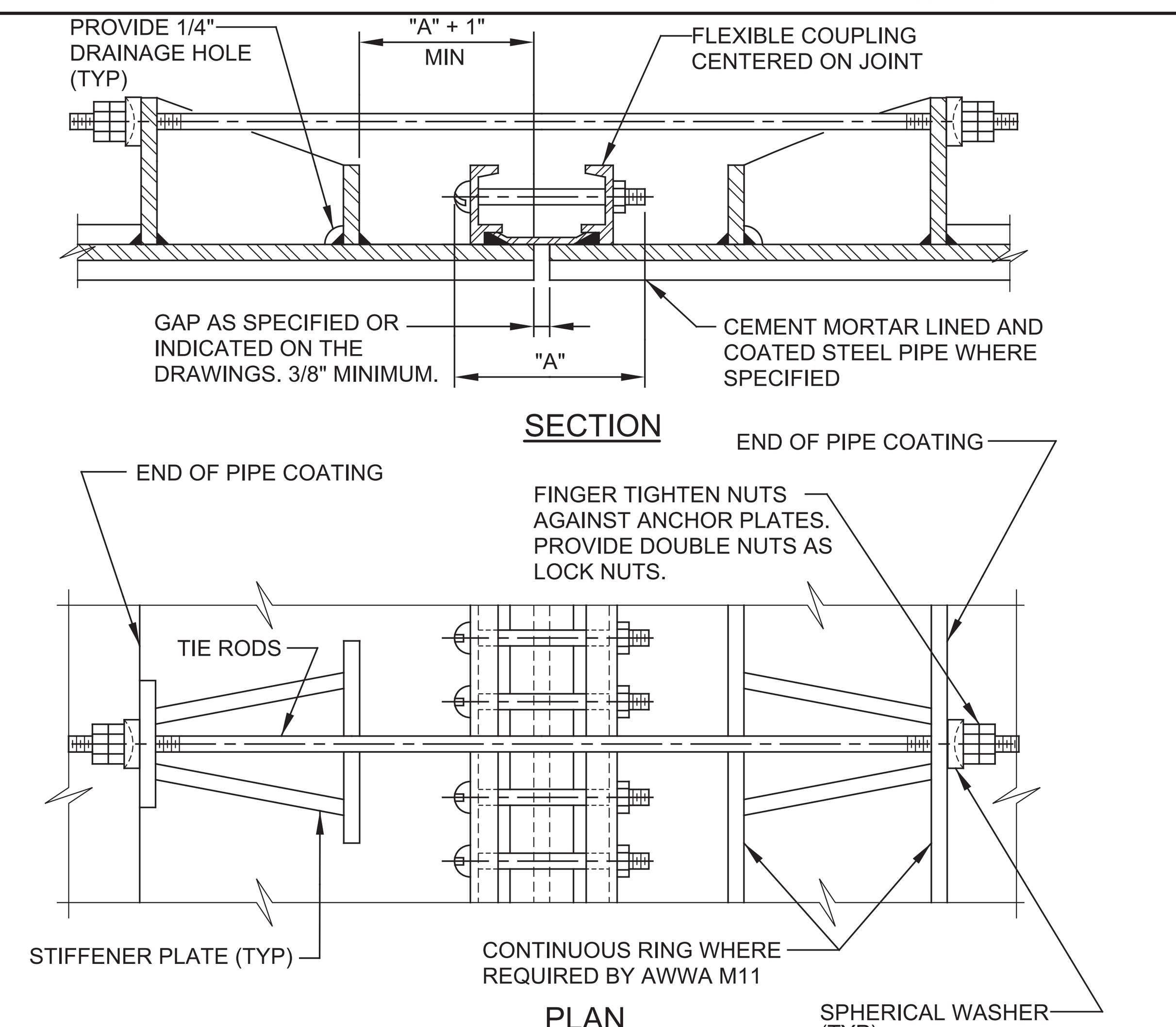


NOTES:

1. ALL EXPOSED FLEXIBLE COUPLINGS SHALL HAVE TIE RODS UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE DRAWINGS.
2. PIPE THRUST SHALL BE BASED ON TEST PRESSURE.
3. PIPE THRUST = 0.7854 x D^2 x TEST PRESSURE, WHERE "D" IS PIPE OD.
4. MINIMUM TIE ROD YIELD = 48,000 PSI.
5. FOR THRUSTS GREATER THAN 30,000 POUNDS, ADD ONE 3/4 INCH DIAMETER TIE ROD FOR EVERY 6,000 POUNDS INCREASE IN THRUST.
6. ALL ROD CONNECTIONS SHALL BE TYPE II FOR THRUSTS GREATER THAN 30,000 POUNDS.
7. GRIND ALL CORNERS SMOOTH.
8. * = AS REQUIRED TO CLEAR FLEXIBLE COUPLING. 3/4" MINIMUM AND 1 1/2" MAXIMUM.

P110 TYP N — DIP FLEXIBLE COUPLING TIE DOWN

SHEET 2 OF 2 04/21/15

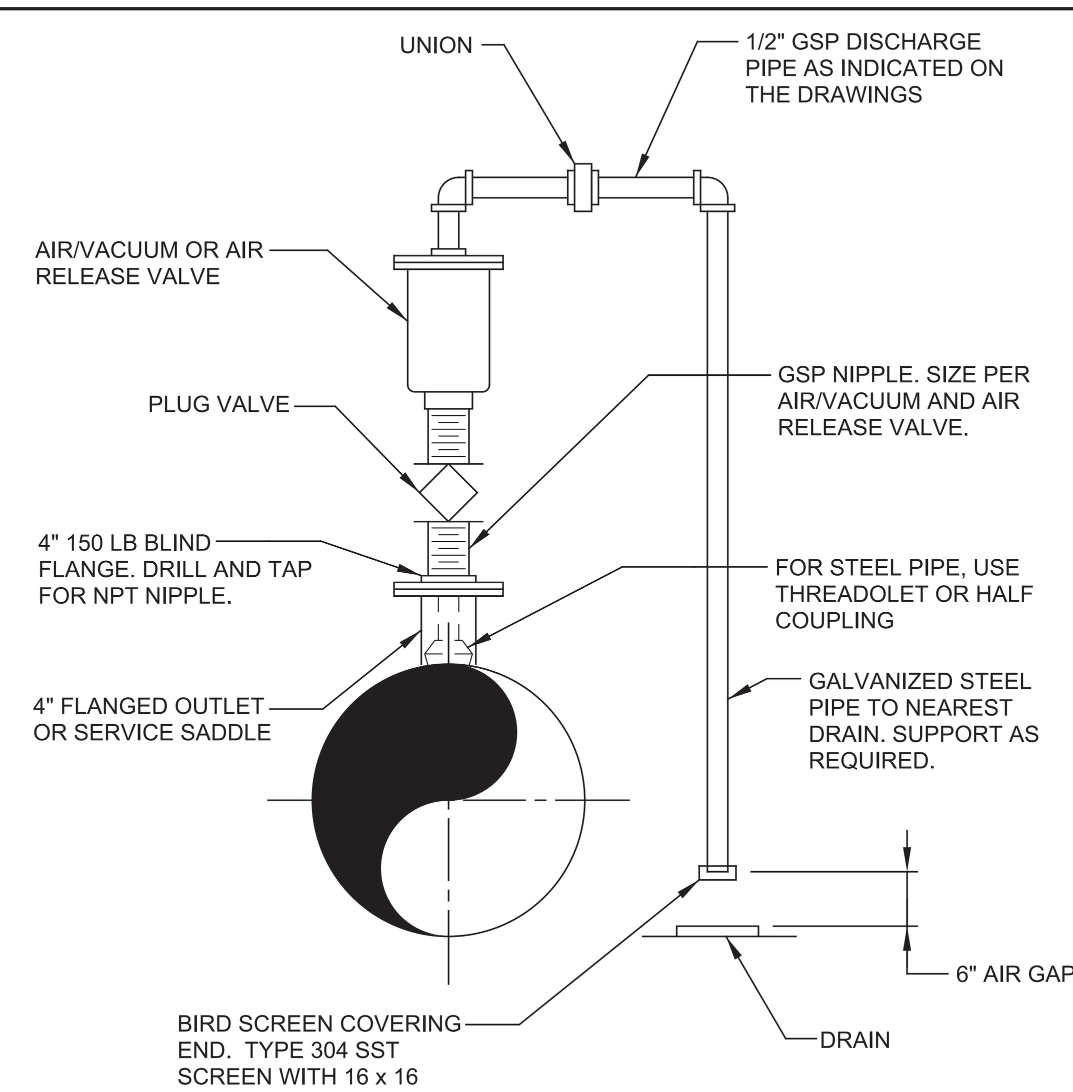


NOTES:

1. ALL EXPOSED FLEXIBLE COUPLINGS SHALL HAVE TIE RODS UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE DRAWINGS.
2. BASE PIPE THRUST ON TEST PRESSURE.
3. PIPE THRUST = 0.7854 x D^2 x TEST PRESSURE, WHERE "D" IS PIPE "OD".
4. ANCHOR LUGS AND TIE RODS SHALL BE DESIGNED BY PIPE MANUFACTURER IN ACCORDANCE WITH AWWA M11 STEEL PIPE MANUAL.
5. GRIND ALL CORNERS SMOOTH.
6. COAT ALL EXPOSED STEEL SURFACES WITH EPOXY IN ACCORDANCE WITH SPECIFICATIONS.

P112 TYP N — STEEL PIPE FLEXIBLE COUPLING TIE DOWN

04/09/15



NOTES:

1. VALVE SIZE SHALL BE AS INDICATED ON THE DRAWINGS.
2. SERVICE TAP AND PLUG VALVE SHALL MATCH VALVE INLET SIZE.

P240 TYP — AIR VACUUM AND AIR RELEASE FOR 3" AND SMALLER VALVE ASSEMBLY

03/01/10

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED JPM
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune Contact Info: Carollo Engineers, Inc. Date: 2018.04.25 09:23:56-07'00'

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REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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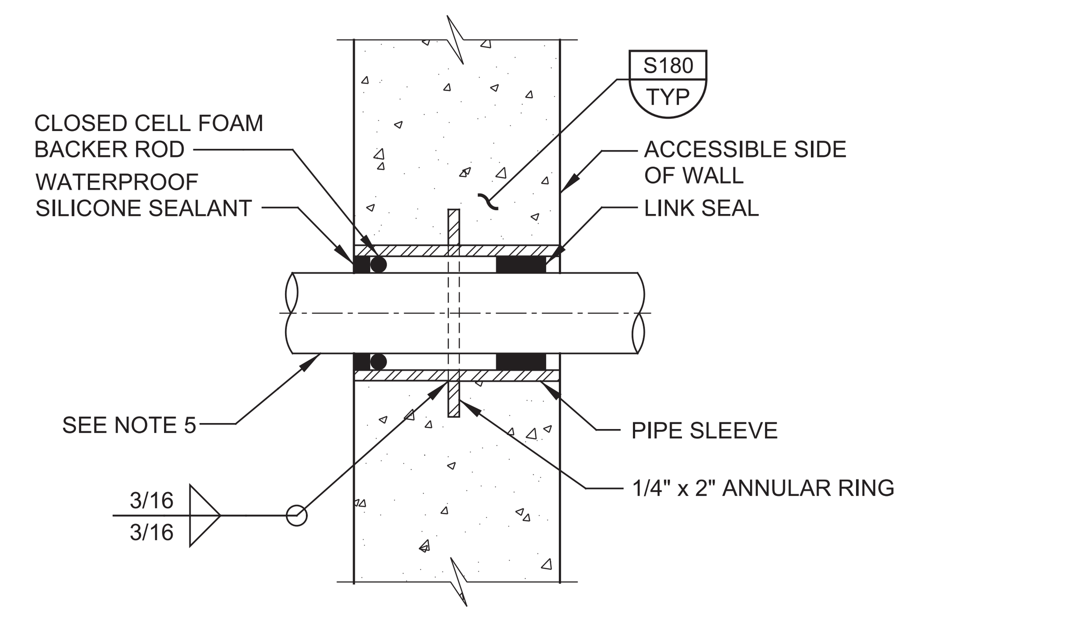
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM TURLOCK COMPONENT
TYPICALS
TYPICAL DETAILS PIPING - II

VERIFY SCALES
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DRAWING NO. TP02
SHEET NO. 22 OF 122

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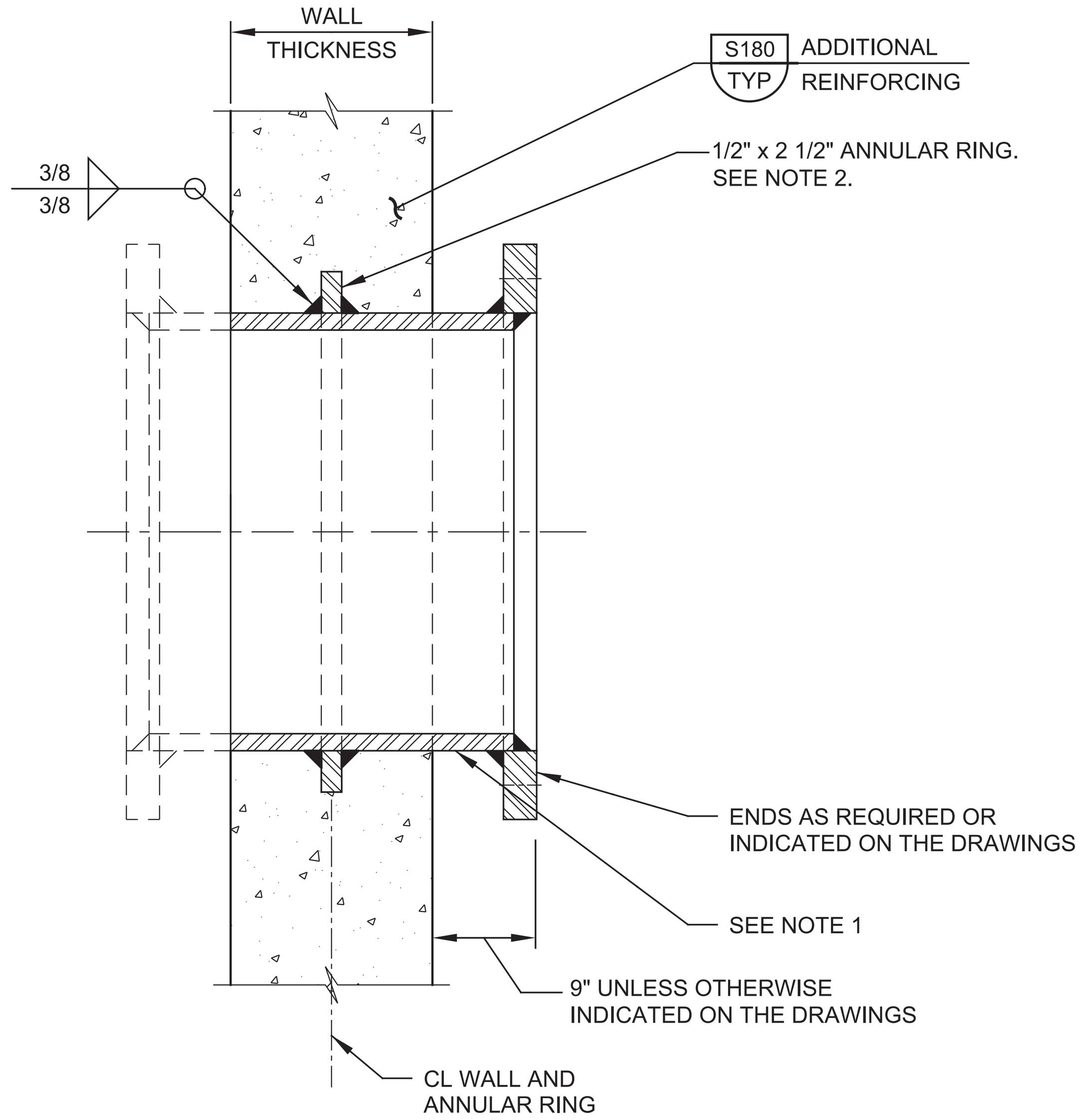


NOTES:

1. 6"Ø SLEEVES AND SMALLER SHALL BE SCH 40 STEEL PIPE.
2. SLEEVES LARGER THAN 6"Ø SHALL BE 1/4" THICK STEEL PIPE.
3. IN WALLS THICKER THAN 12", LINK SEAL SHALL BE INSTALLED INSTEAD OF BACKER ROD. SLEEVE DIAMETER SHALL BE PER LINK SEAL MANUFACTURER'S RECOMMENDATION.
4. SLEEVE SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
5. IF PIPE HAS A CEMENT MORTAR COATING, HOLD BACK CEMENT MORTAR COATING 6" FROM EDGE OF WALL AND TRANSITION TO PAINTED COATING SYSTEM.

P304 TYP SLEEVE INSTALLATION THROUGH WALLS AND FLOOR SLABS

R 04/19/18

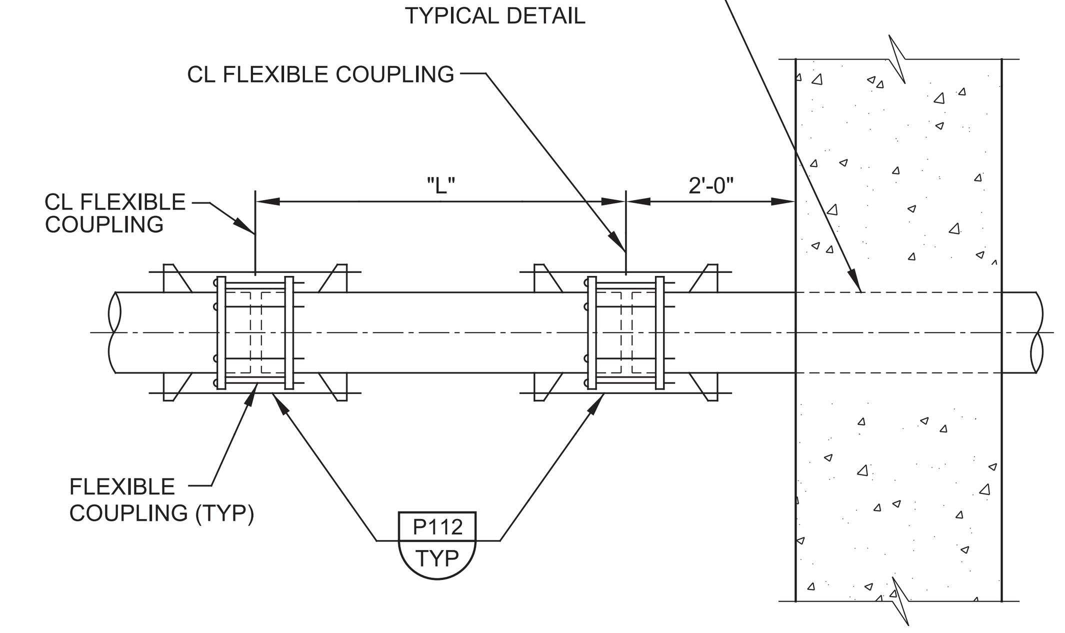


NOTES:

1. 1/2" MINIMUM PIPE WALL THICKNESS FOR WALL THIMBLE.
2. INSTALL ANNULAR RING ON PIPE SO THAT IT IS LOCATED AT THE CENTER OF WALL AND IN PLANE PARALLEL TO FACE OF WALL.

P311 TYP WALL THIMBLE FOR LARGE WELDED STEEL PIPE

N 01/30/2015



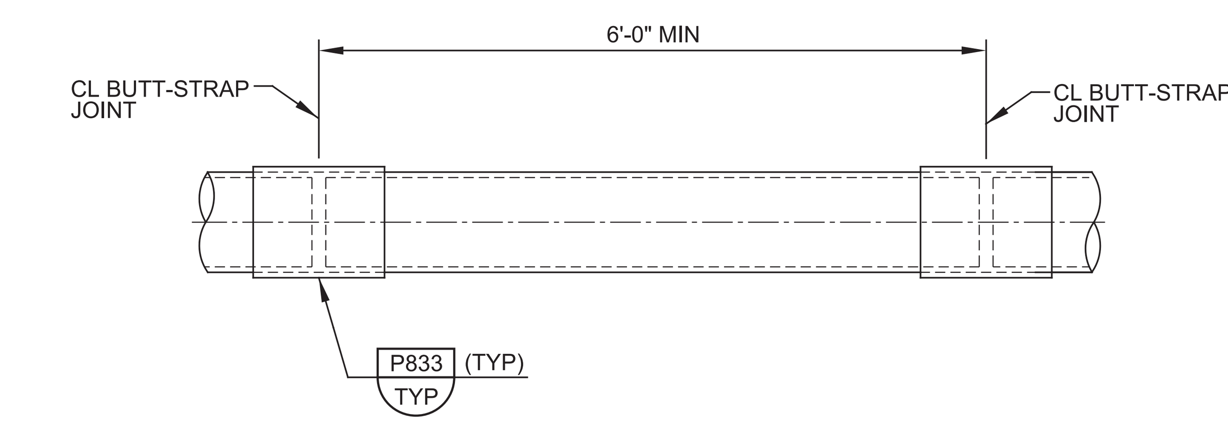
NOMINAL PIPE DIAMETER IN INCHES	"L"
LESS THAN 31"	5'-0"
GREATER THAN 31" - 42"	5'-6"

NOTE:

1. PIPES SHALL BE INSTALLED STRAIGHT WITHOUT HORIZONTAL OR VERTICAL OFFSET. DO NOT USE JOINT ANGULAR DEFLECTION TO MAKE UP FOR MISALIGNED PIPE.

P346 TYP RESTRAINED STEEL PIPE FLEXIBLE CONNECTION AT WALL PENETRATION

N 08/01/05



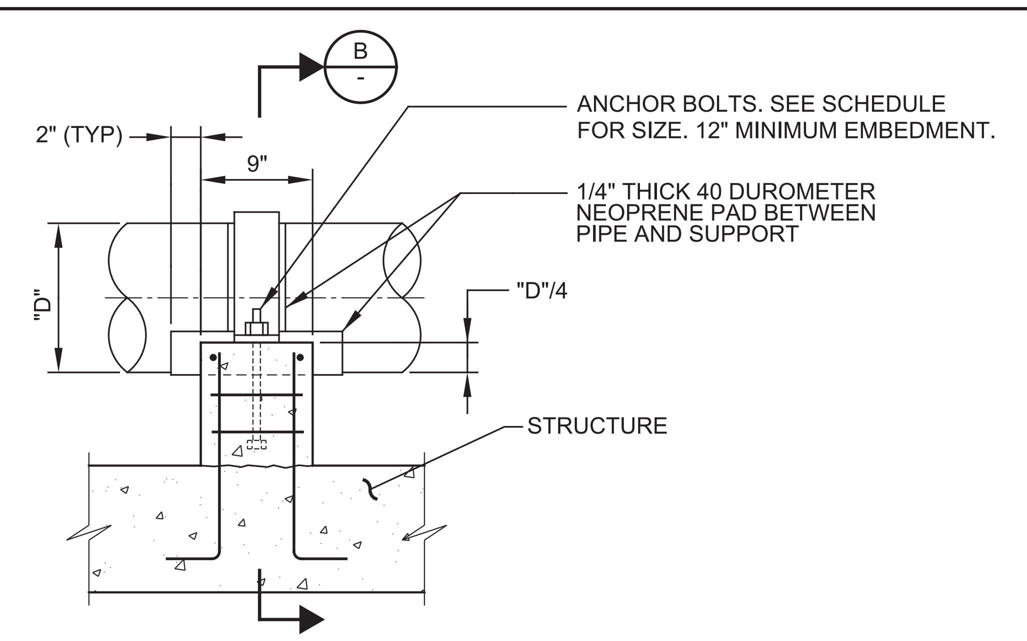
PLAN

NOTES:

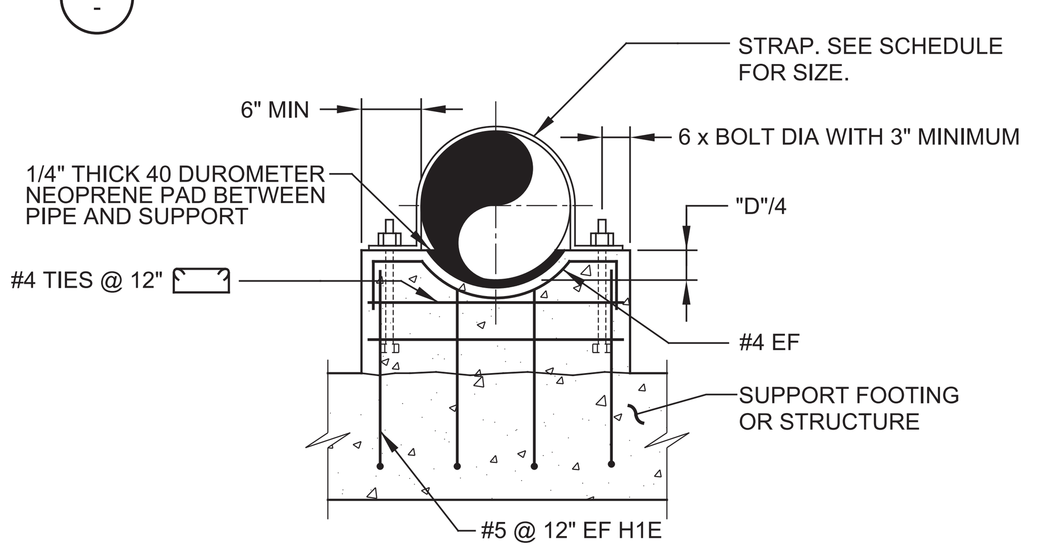
1. INSTALL PIPE SECTIONS STRAIGHT WITHOUT HORIZONTAL OR VERTICAL OFFSET. DO NOT USE ANGULAR DEFLECTION OF JOINTS TO MAKE UP FOR MISALIGNED PIPE.
2. COATING NOT SHOWN FOR CLARITY.

P355 TYP STEEL PIPE - CLOSURE SECTION WITH WELDED BUTT-STRAP JOINTS

N 01/17/14



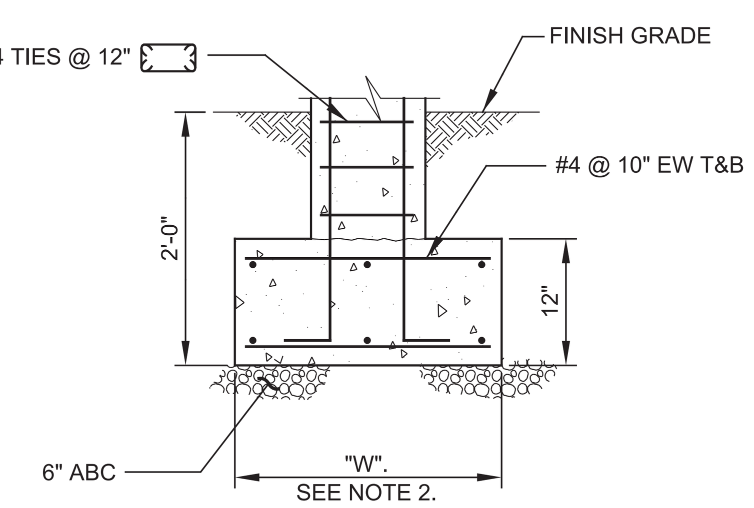
A - SECTION-SUPPORT AT STRUCTURE



B - SECTION

P602 TYP CONCRETE PIPE SUPPORT

NR SHEET 1 OF 2 04/17/18



C - SECTION-ISOLATED SUPPORT WITH FOOTING

SCHEDULE		
PIPE SIZE	STRAP SIZE	ANCHOR BOLT DIA
8" - 12"	FB 1/4" x 4"	1/2"
14" - 24"	FB 5/16" x 4"	5/8"
26" - 36"	FB 3/8" x 4"	3/4"

NOTES:

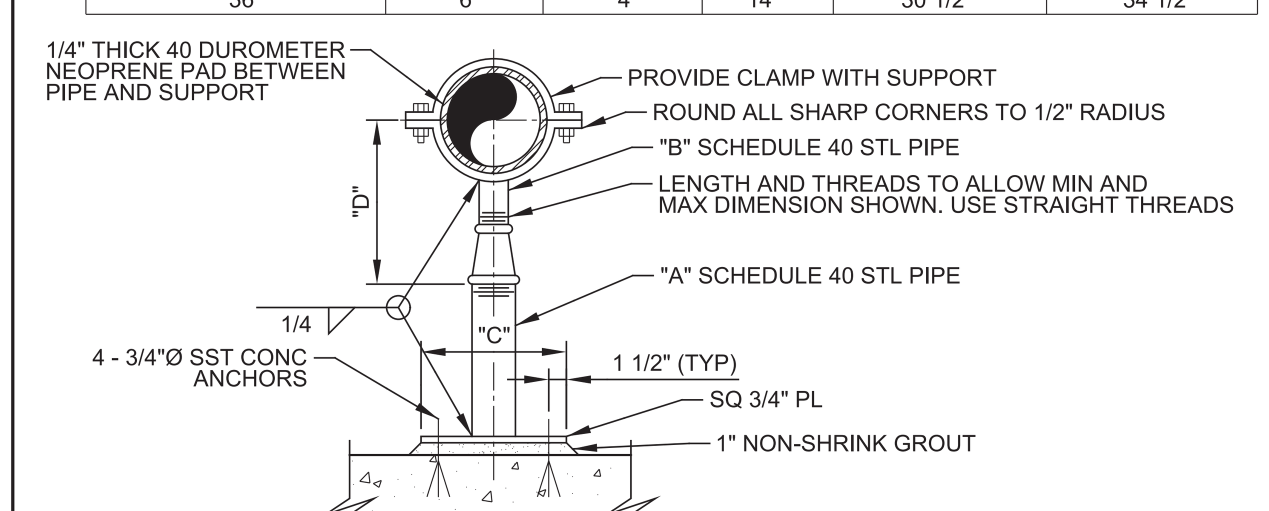
1. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, MATERIAL FOR ANCHOR BOLTS AND STRAP SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, THE MATERIAL FOR ANCHOR BOLTS AND STRAP SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
2. THE WIDTH OF THE FOOTING "W" = 2'-6". THE LENGTH OF THE FOOTING = "D" + 2'-0".

P602 TYP CONCRETE PIPE SUPPORT

N SHEET 2 OF 2 11/30/08

ADJUSTABLE PIPE SADDLE SUPPORT SCHEDULE (INCHES)

SIZE OF SUPPORTED PIPE **	PIPE SIZE "A"	PIPE SIZE "B"	"C"	"D" MINIMUM	"D" MAXIMUM
2 1/2 *	2 1/2	1 1/2	12	8	13
3	2 1/2	1 1/2	12	8 1/2	13 1/2
3 1/2	2 1/2	1 1/2	12	8 1/2	13 1/2
4	3	2 1/2	12	9 1/2	14
6	3	2 1/2	12	10 1/2	15 1/2
8	3	2 1/2	12	11 1/2	16 1/2
10	3	2 1/2	12	13 1/2	18 1/2
12	3	2 1/2	12	15	19 1/2
14	4	3	12	16 1/2	20 1/2
16	4	3	12	17 1/2	22 1/2
18	6	3 1/2	14	19 1/2	24
20	6	3 1/2	14	21	25 1/2
24	6	4	14	23 1/2	28 1/2
30	6	4	14	27	31 1/2
32	6	4	14	28 1/2	32 1/2
36	6	4	14	30 1/2	34 1/2



NOTES:

1. HOT-DIP GALVANIZED SUPPORT AFTER FABRICATION.
2. * = USE 2 1/2" SUPPORTS FOR PIPES LESS THEN 2 1/2"Ø.
3. ** = NOMINAL PIPE SIZE.

P624 TYP ADJUSTABLE PIPE SUPPORT

NSR 04/17/18

REV	DATE	BY	DESCRIPTION

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DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune Contact Info: Carollo Engineers, Inc. Date: 2018.04.25 09:24:18-07'00'

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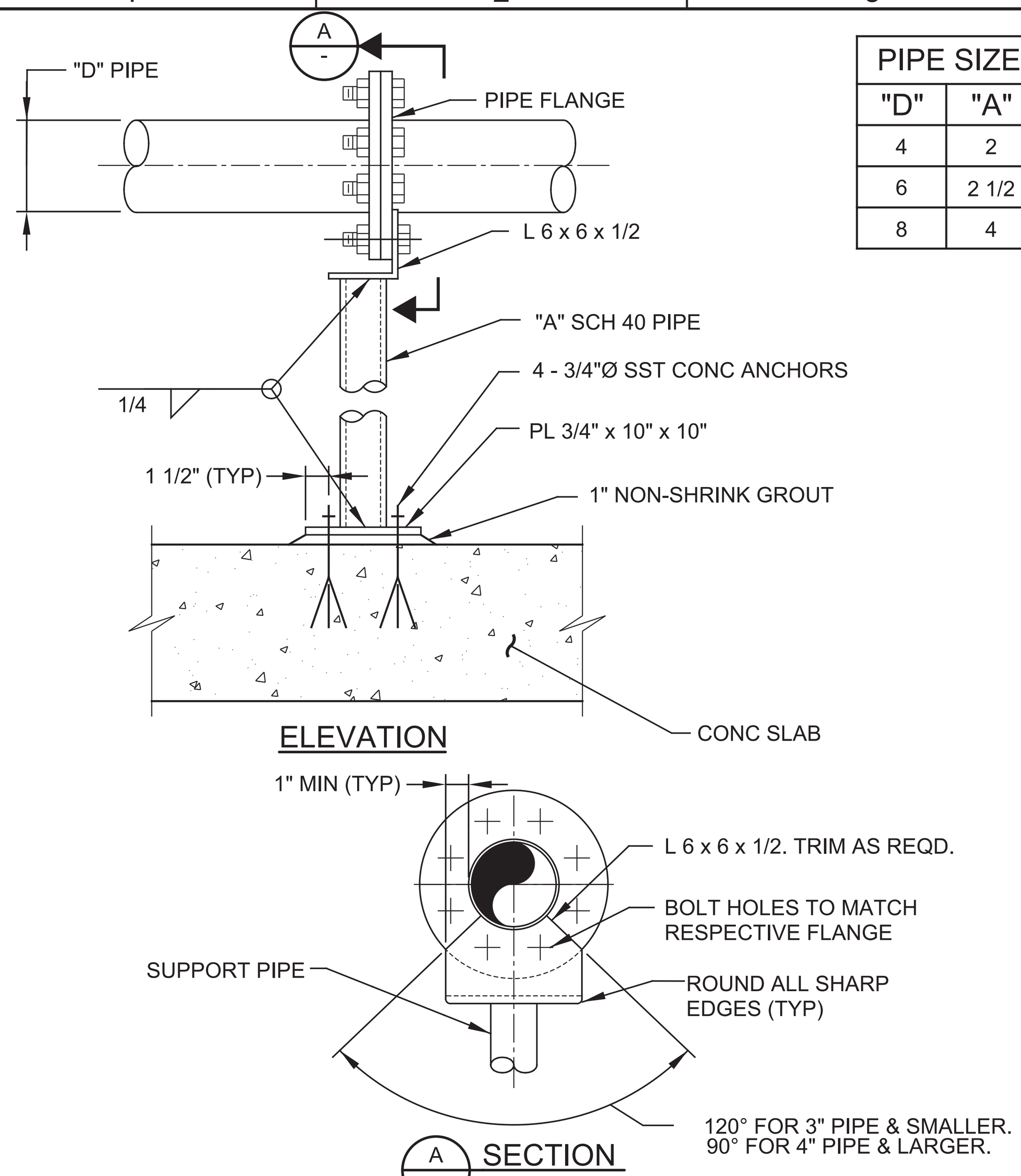
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM TURLOCK COMPONENT
TYPICALS
TYPICAL DETAILS PIPING - III

VERIFY SCALES
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JOB NO. 10595A.10
DRAWING NO. TP03
SHEET NO. 23 OF 122

PROJECT NO. FILE NAME: 10595A10TP03.dgn

PIPE SIZE	
"D"	"A"
4	2
6	2 1/2
8	4

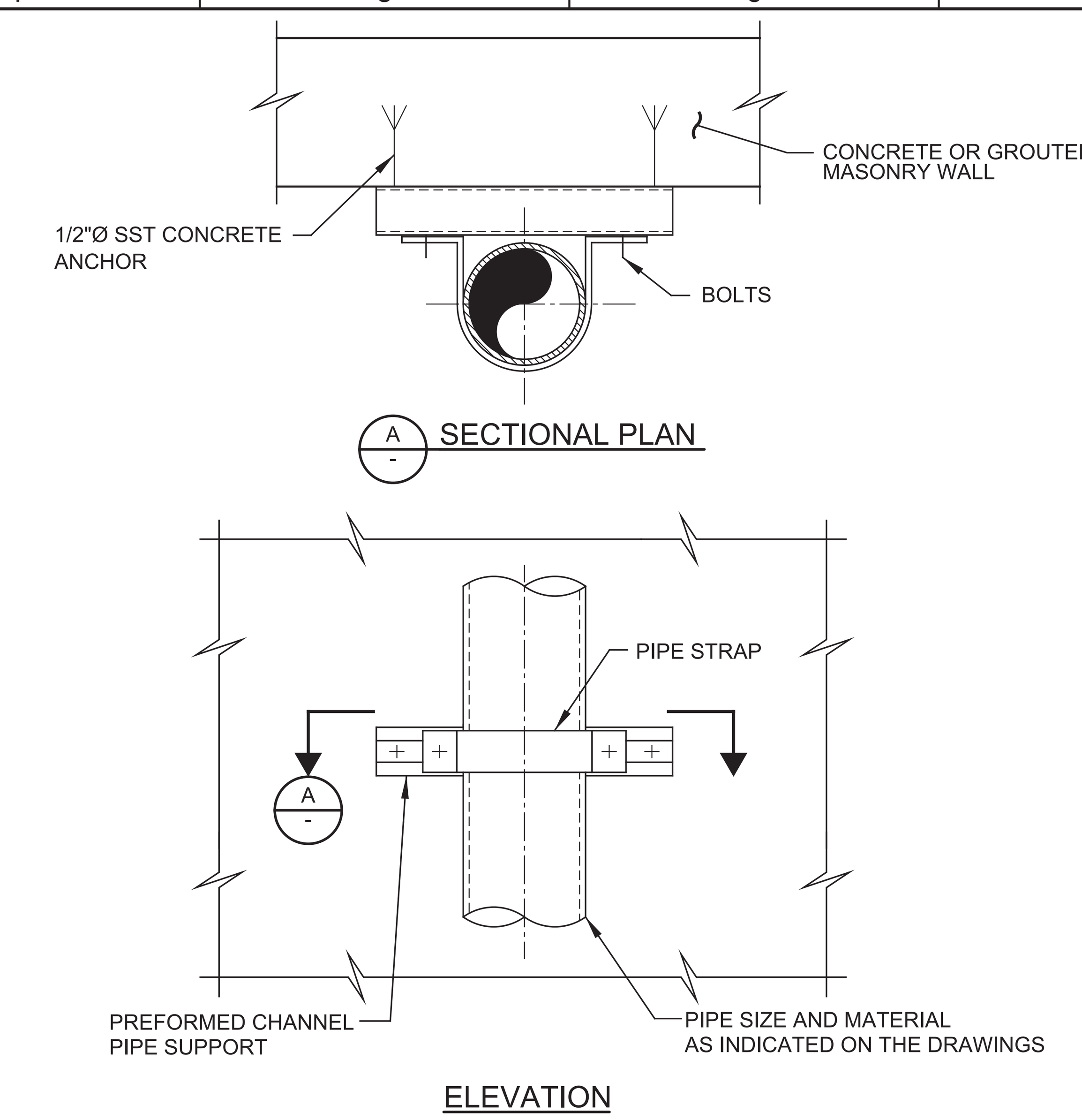


NOTE:

1. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, ALL MATERIAL FOR SUPPORT SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, ALL MATERIAL FOR SUPPORT SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON DRAWINGS. HOT-DIP GALVANIZE AFTER FABRICATION.

P626 TYP — PIPE SUPPORT WITH PIPE FLANGE CONNECTION

NS 07/01/13

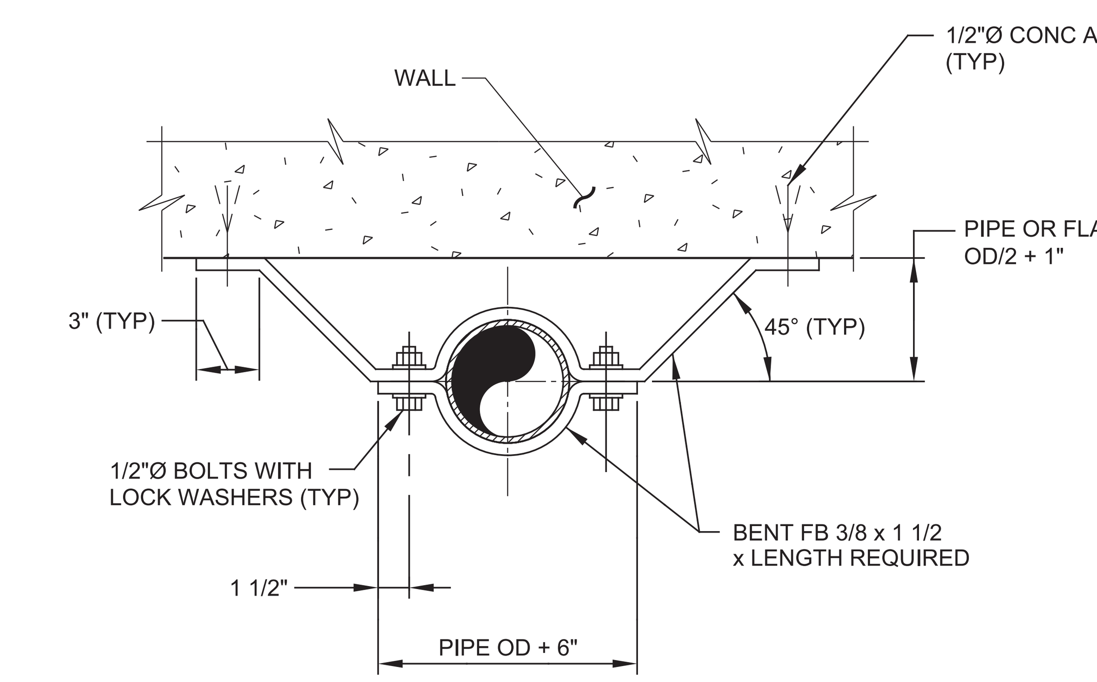


NOTE:

1. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, ALL MATERIAL SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, THE MATERIALS SHALL BE HOT-DIP GALAVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS. HOT-DIP GALVANIZE AFTER FABRICATION.

P662 TYP — PIPE SUPPORT FOR ONE VERTICAL RISER

07/01/13

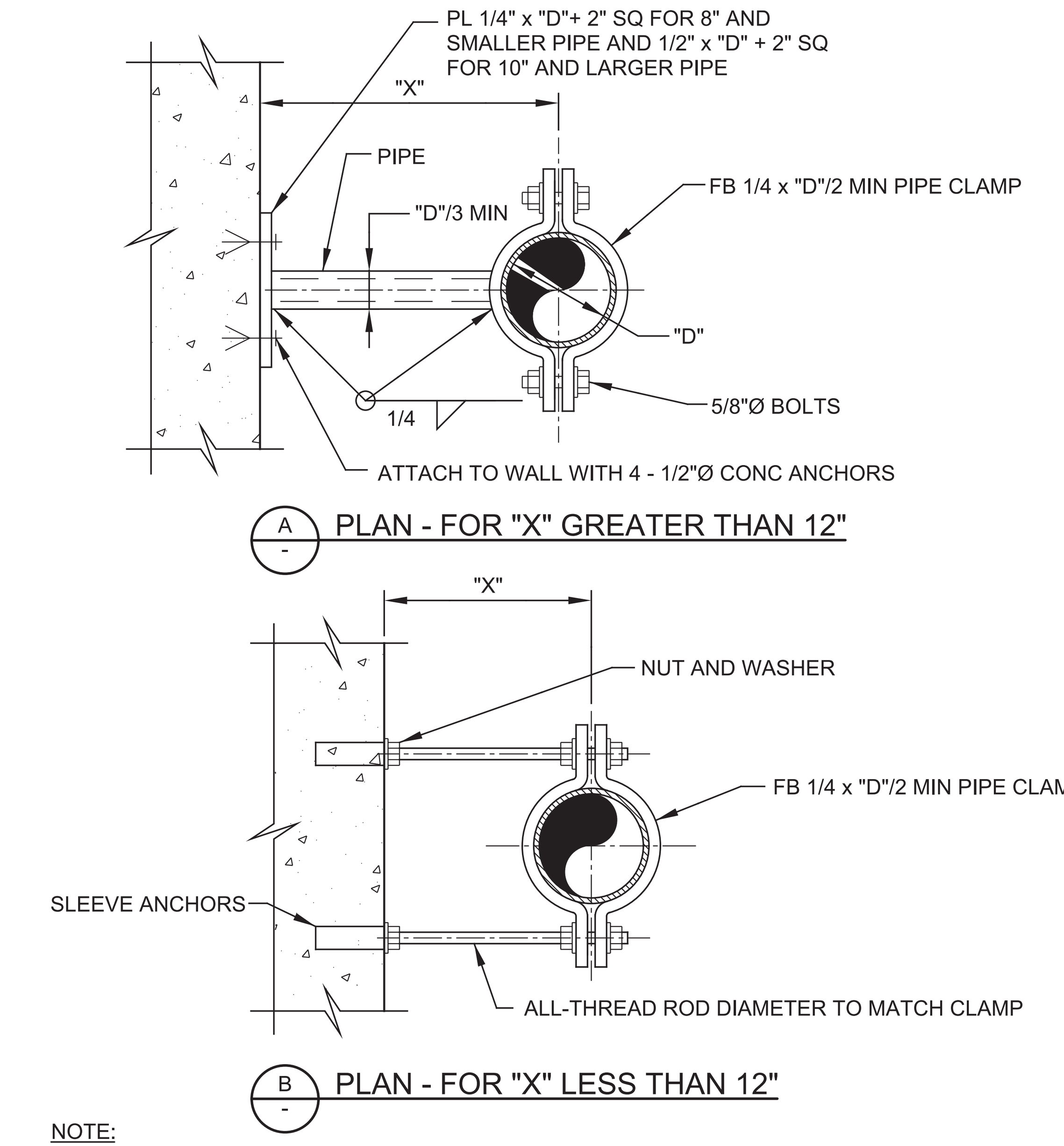


NOTE:

1. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, ALL MATERIAL SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, ALL MATERIAL SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

P666 TYP — VERTICAL PIPE SWAY BRACE

N 07/31/08

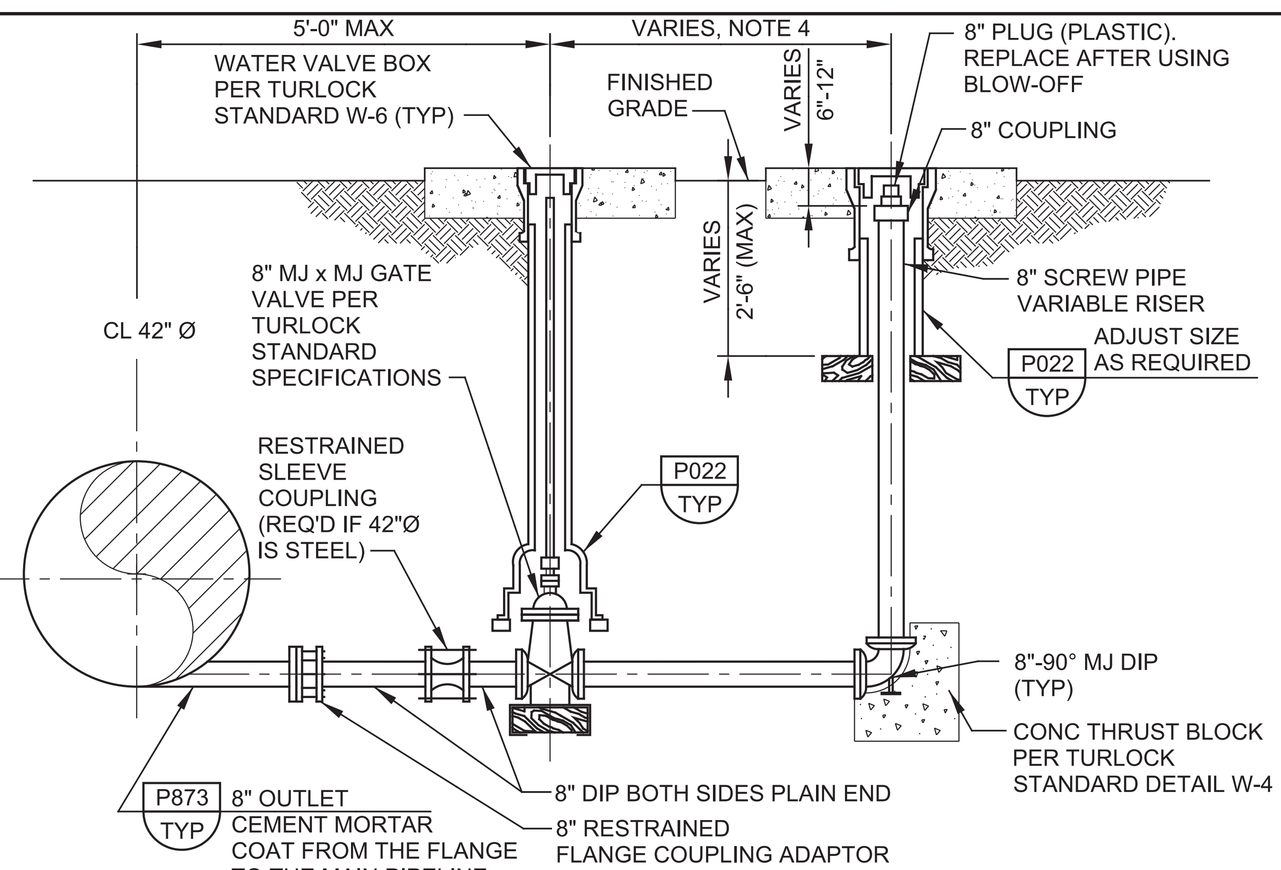


NOTE:

1. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, ALL MATERIAL SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, ALL MATERIAL SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

P668 TYP — VERTICAL PIPE SWAY BRACE

S 07/31/08

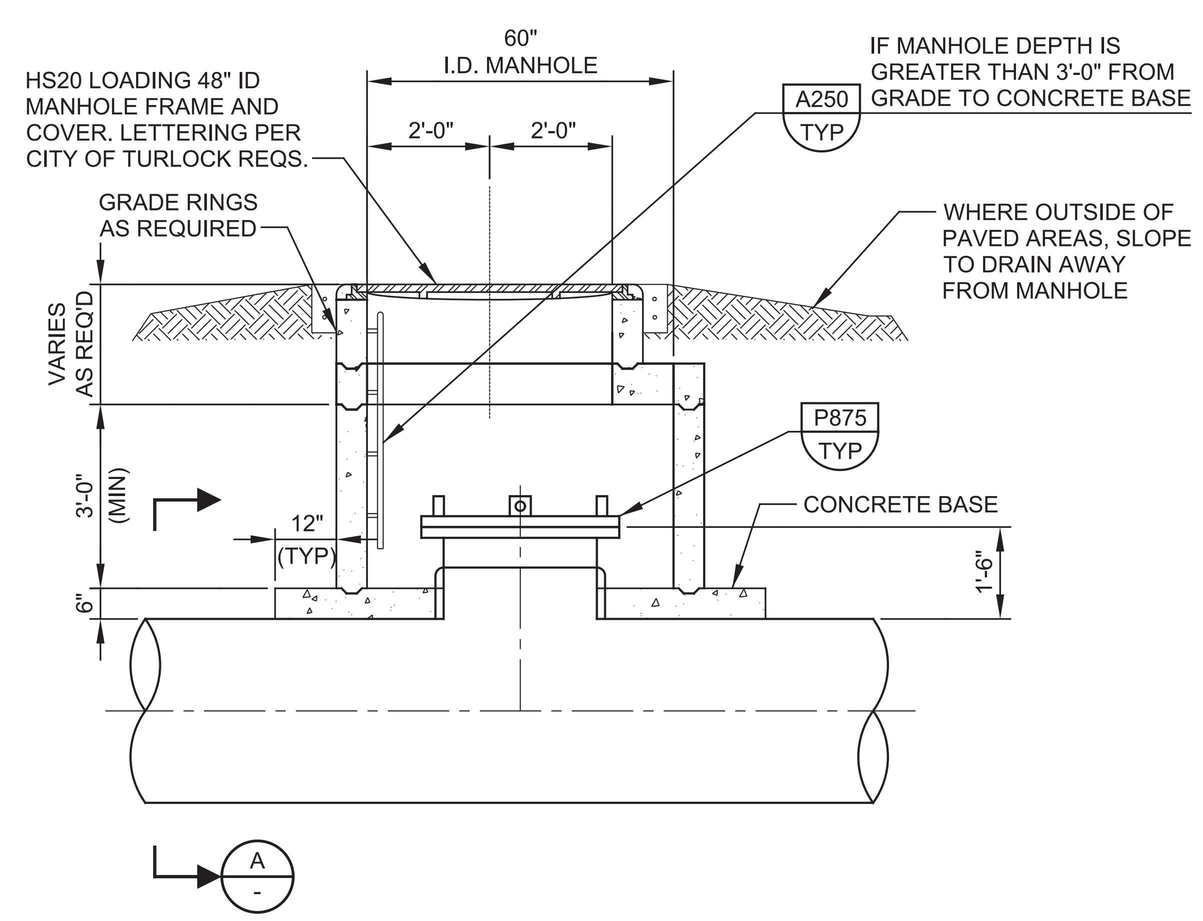


NOTES:

1. THE ENTIRE BLOW OFF ASSEMBLY SHALL BE COMPRISED OF RESTRAINED JOINT DUCTILE IRON PIPE, INCLUDING FLANGED JOINTS AND MECHANICAL RESTRAINT AT ALL MJ FITTINGS AS SHOWN.
2. SEE CATHODIC PROTECTION DRAWINGS FOR CATHODIC PROTECTION REQUIREMENTS.
3. ENCASE ALL DUCTILE IRON PIPE IN POLYETHYLENE PER THE SPECIFICATIONS.
4. CONTRACTOR TO PROPOSE LOCATION OF BLOW-OFF TO ENGINEER AND OBTAIN APPROVAL PRIOR TO INSTALLATION. LOCATION MUST BE EASILY ACCESSIBLE BY CITY STAFF AND WITHIN RIGHT-OF-WAY.
5. ALL AT GRADE UTILITY BOXES SHALL BE HS-20 RATED.
6. IF 42" PIPELINE MATERIAL IS DUCTILE IRON, TANGENTIAL OUTLET SHALL HAVE A MECHANICAL JOINT END CONNECTION.
7. WHERE BLOW OFF ASSEMBLY IS SHOWN ADJACENT TO EDGE OF RIGHT-OF-WAY OR PROPERTY LINE, INSTALL AS CLOSE AS POSSIBLE TO THE RIGHT-OF-WAY OR PROPERTY LINE.

P805 TYP — 8" BLOW-OFF ASSEMBLY

J 04/19/18

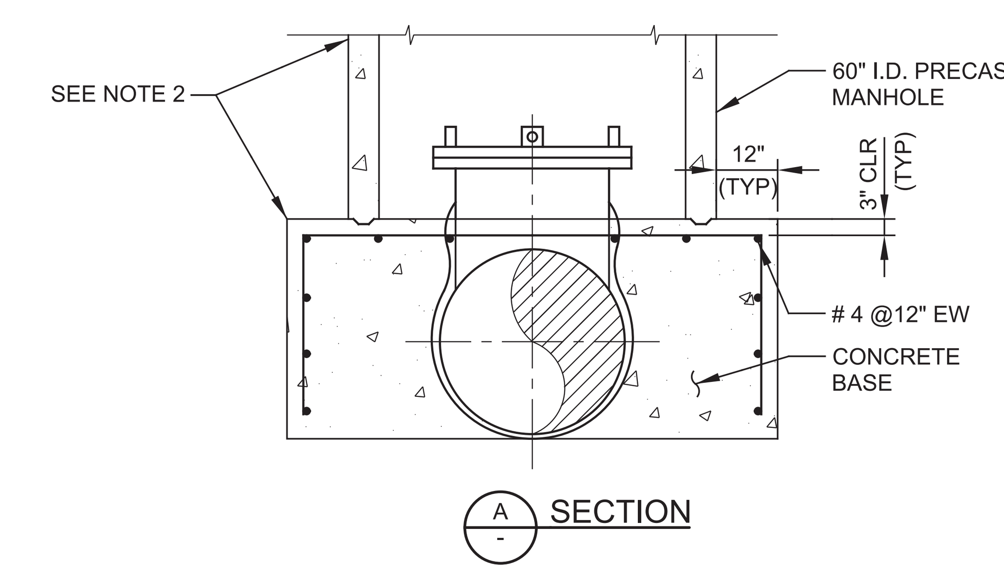


NOTES:

1. IF DUCTILE IRON PIPE IS USED, PROVIDE TEE FITTING FOR ACCESS TEE.
2. PROVIDE RAM-NEK JOINT SEALANT AT INTERFACE OF PRECAST MANHOLE SECTION AND TOP OF CONCRETE AND ALL GRADE RINGS. GROUT ALL JOINTS AFTER INSTALLATION. COAT EXTERIOR OF MANHOLE WITH SURFACE SEALANT SYSTEM PER THE SPECIFICATIONS. COAT FROM OUTER EDGE OF CONCRETE BASE TO SURFACE.

P810 TYP — ACCESS TEE ASSEMBLY

J SHEET 1 OF 2 04/17/18



P810 TYP — ACCESS TEE ASSEMBLY

J SHEET 2 OF 2 08/28/17

REV	DATE	BY	DESCRIPTION

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CHECKED JPM
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

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TYPICALS

TYPICAL DETAILS PIPING - IV

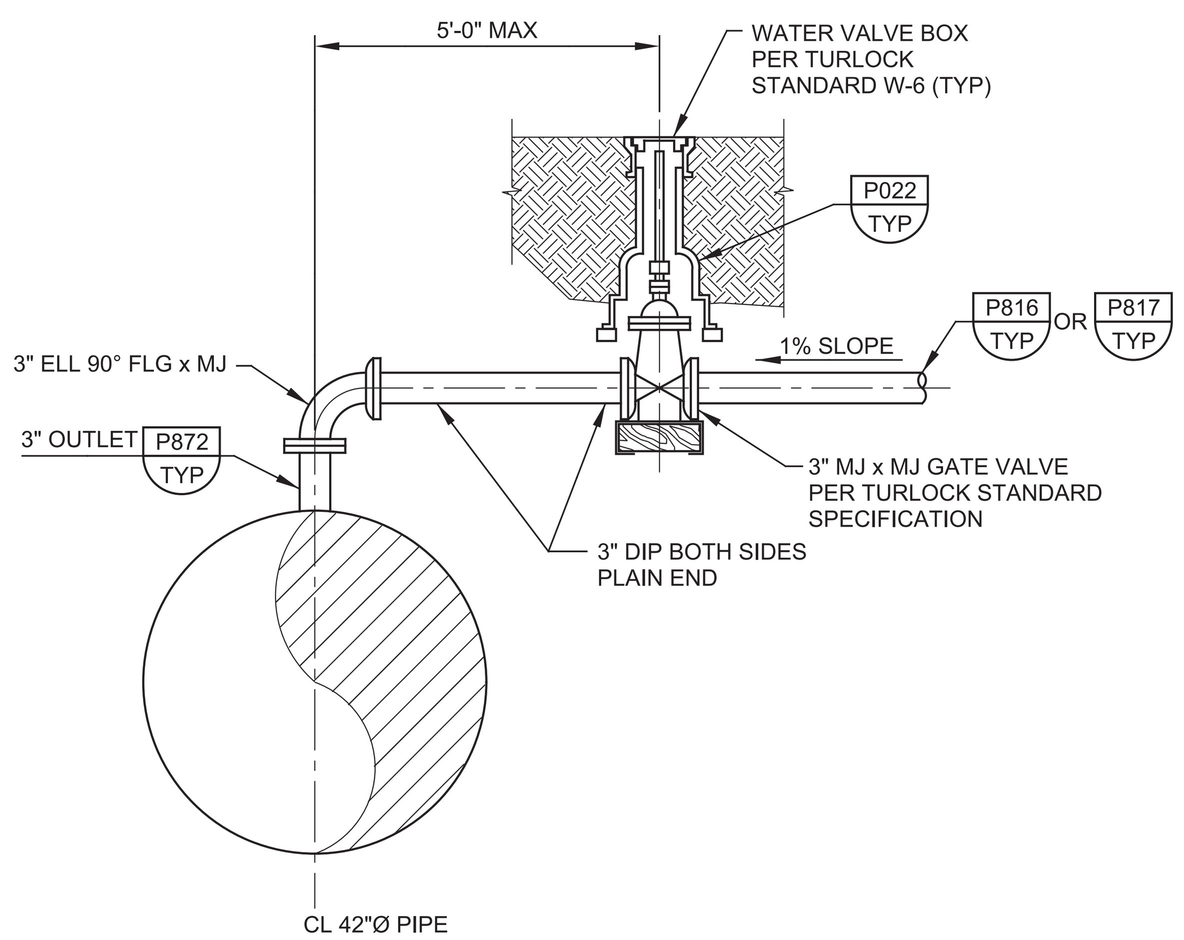
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SHEET NO. 24 OF 122

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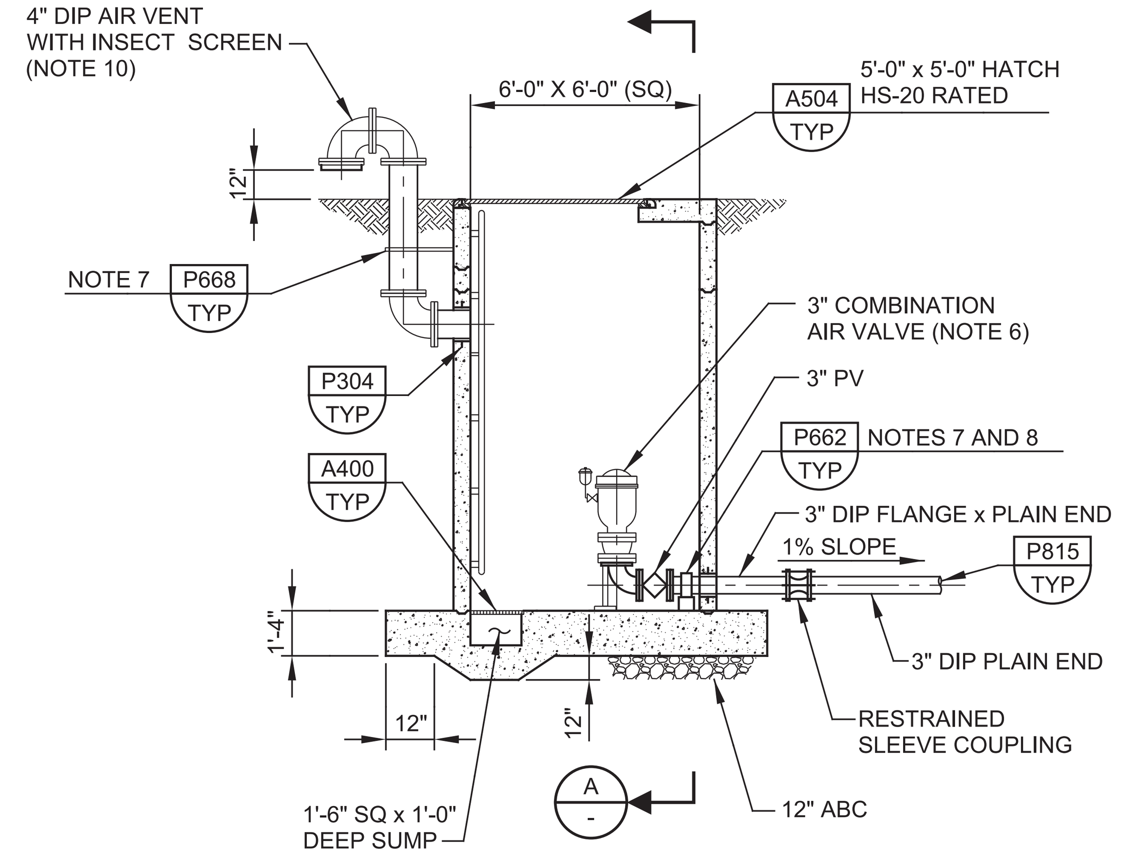


NOTES:

1. SEE CATHODIC PROTECTION DRAWINGS FOR CATHODIC PROTECTION REQUIREMENTS.
2. ENCASE ALL DUCTILE IRON PIPE IN POLYETHYLENE PER THE SPECIFICATIONS.
3. THE ENTIRE AIR VALVE ASSEMBLY SHALL BE COMPRISED OF RESTRAINED JOINT DUCTILE IRON PIPE, INCLUDING FLANGED JOINTS AND MECHANICAL RESTRAINT AT ALL MJ FITTINGS AS SHOWN.
4. ALL AT GRADE UTILITY BOXES SHALL BE HS-20 RATED.

P815 TYP AIR VALVE ASSEMBLY CONNECTION

J 04/19/18

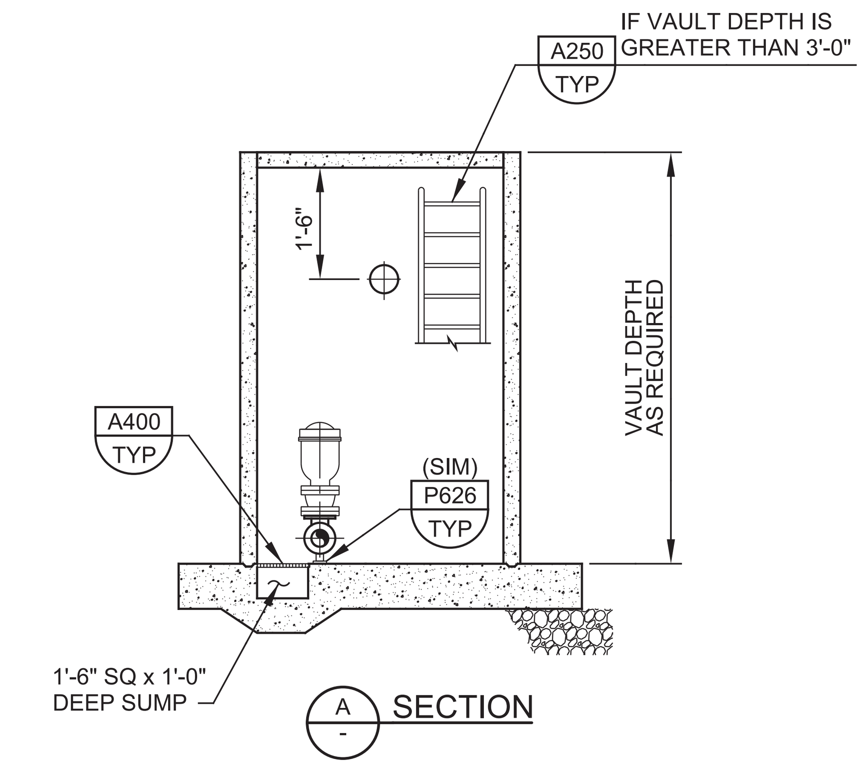


NOTES:

1. SEE CATHODIC PROTECTION DRAWINGS FOR CATHODIC PROTECTION REQUIREMENTS.
2. ENCASE ALL DUCTILE IRON PIPE IN POLYETHYLENE PER THE SPECIFICATIONS.
3. THE ENTIRE AIR VALVE ASSEMBLY SHALL BE COMPRISED OF RESTRAINED JOINT DUCTILE IRON PIPE, INCLUDING FLANGED JOINTS AND MECHANICAL RESTRAINT AT ALL MJ FITTINGS AS SHOWN.
4. CONTRACTOR TO PROPOSE LOCATION OF AIR VALVE TO ENGINEER AND OBTAIN APPROVAL PRIOR TO INSTALLATION. LOCATION MUST BE EASILY ACCESSIBLE BY CITY STAFF AND WITHIN RIGHT-OF-WAY.

P816 TYP BELOW GROUND AIR VALVE ASSEMBLY

J SHEET 1 OF 2 08/28/17

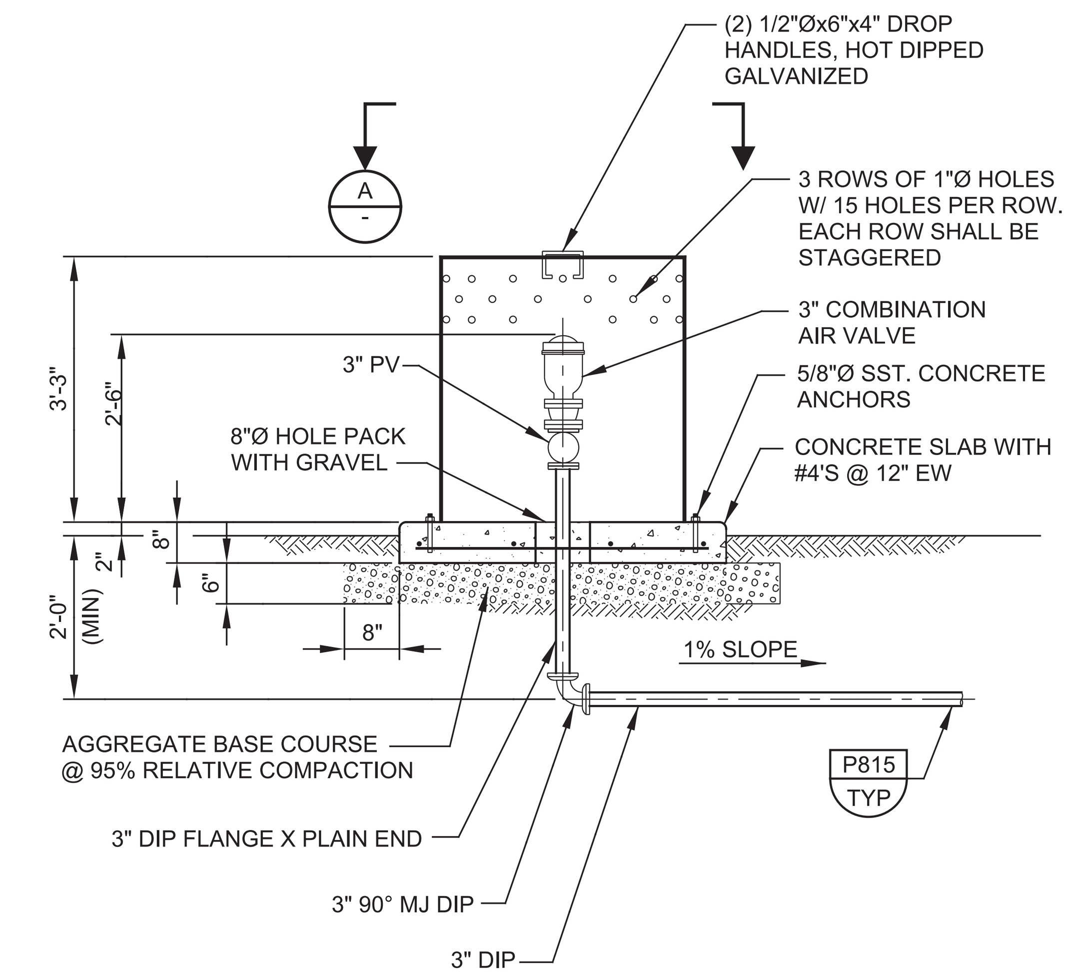


NOTES (CONT):

5. SEE SPECIFICATION 02085 FOR PRE-CAST VAULT REQUIREMENTS. SLOPE FLOOR TOWARDS SUMP AT 1%. SUBMIT FULL VAULT LAYOUT FOR ENGINEER'S REVIEW AND APPROVAL PRIOR TO FABRICATION.
6. ROUTE ARV DRAIN TO SUMP.
7. ALL PIPE SUPPORT COMPONENTS SHALL BE 304 SST.
8. PLACE 4" WIDE x 1/4" THICK NEOPRENE PAD AROUND ENTIRE PIPE BETWEEN THE PIPE AND ANCHOR.
9. COAT EXTERIOR OF VAULT WITH SURFACE SEALANT SYSTEM PER THE SPECIFICATIONS. COAT FROM OUTER EDGE OF CONCRETE BASE TO SURFACE.
10. COORDINATE WITH ENGINEER FOR SIDE OF VAULT TO LOCATE VENT BASED ON FIELD CONDITIONS. DO NOT INSTALL VENT PRIOR TO ENGINEER'S APPROVAL.
11. WHERE AIR VALVE ASSEMBLY IS SHOWN ADJACENT TO EDGE OF RIGHT-OF-WAY OR PROPERTY LINE, INSTALL AS CLOSE AS POSSIBLE TO THE RIGHT-OF-WAY OR PROPERTY LINE.

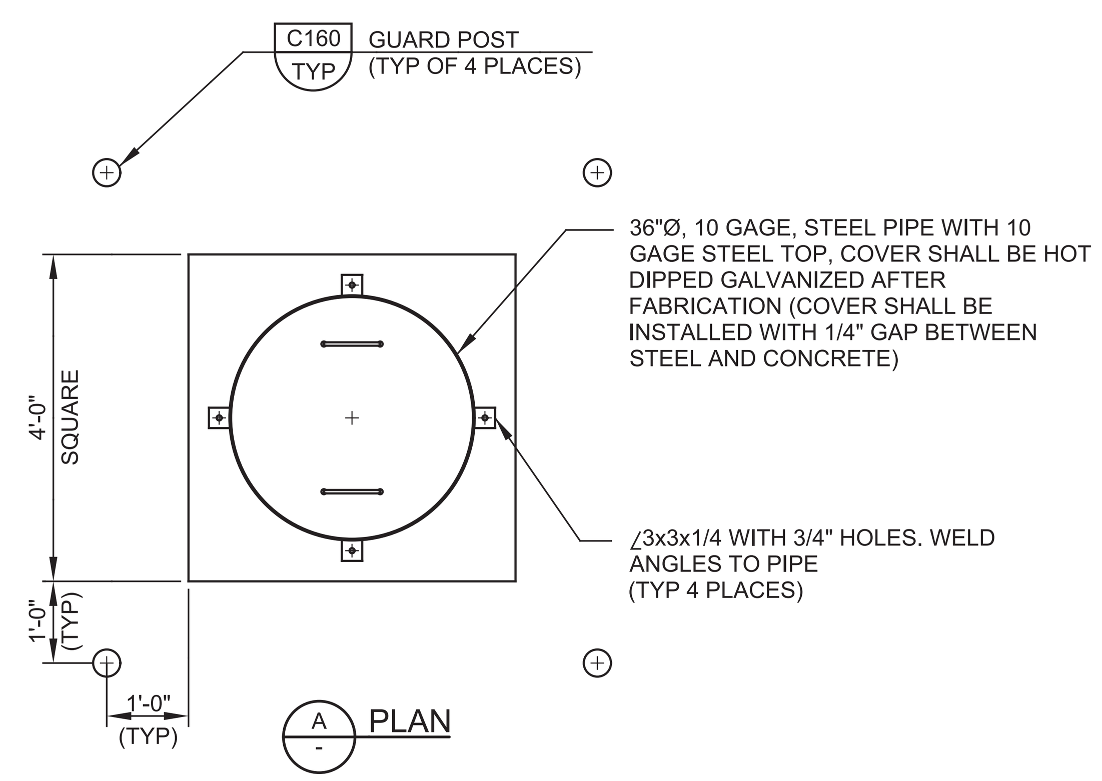
P816 TYP BELOW GROUND AIR VALVE ASSEMBLY

J SHEET 2 OF 2 08/28/17



P817 TYP ABOVE GROUND AIR VALVE ASSEMBLY

J SHEET 1 OF 2 08/28/17

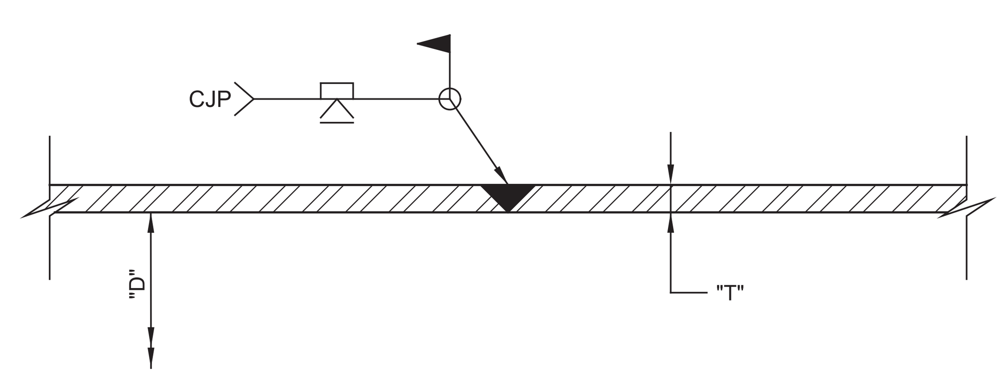


NOTES:

1. SEE CATHODIC PROTECTION DRAWINGS FOR CATHODIC PROTECTION REQUIREMENTS.
2. ENCASE ALL DUCTILE IRON PIPE IN POLYETHYLENE PER THE SPECIFICATIONS.
3. THE ENTIRE AIR VALVE ASSEMBLY SHALL BE COMPRISED OF RESTRAINED JOINT DUCTILE IRON PIPE, INCLUDING FLANGED JOINTS AND MECHANICAL RESTRAINT AT ALL MJ FITTINGS AS SHOWN.
4. CONTRACTOR TO PROPOSE LOCATION OF AIR VALVE TO ENGINEER AND OBTAIN APPROVAL PRIOR TO INSTALLATION. LOCATION MUST BE EASILY ACCESSIBLE BY CITY STAFF AND WITHIN RIGHT-OF-WAY.
5. WHERE AIR VALVE ASSEMBLY IS SHOWN ADJACENT TO EDGE OF RIGHT-OF-WAY OR PROPERTY LINE, INSTALL AS CLOSE AS POSSIBLE TO THE RIGHT-OF-WAY OR PROPERTY LINE.

P817 TYP ABOVE GROUND AIR VALVE ASSEMBLY

J SHEET 2 OF 2 08/28/17



NOTES:

1. "D" = PIPE DIAMETER AS INDICATED ON THE DRAWINGS OR IN THE PIPING SCHEDULE.
2. "T" = PIPE WALL THICKNESS AS INDICATED ON THE DRAWINGS OR IN THE PIPING SCHEDULE.
3. PROVIDE FLUSH CONTOUR WELDED JOINT.
4. REMOVE BACKER RING AFTER WELDING JOINT, BACKGOUGE, AND WELD.
5. CJP = COMPLETE JOINT PENETRATION.

P822 TYP STEEL PIPE - FULL PENETRATION WELDED BUTT JOINT

R 09/25/17

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DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune Contact Info: Carollo Engineers, Inc. Date: 2018.04.25 09:24:37-07'00'

Digitally signed by Jonathon P. Marshall Contact Info: Carollo Engineers, Inc. Date: 2018.04.25 10:28:46-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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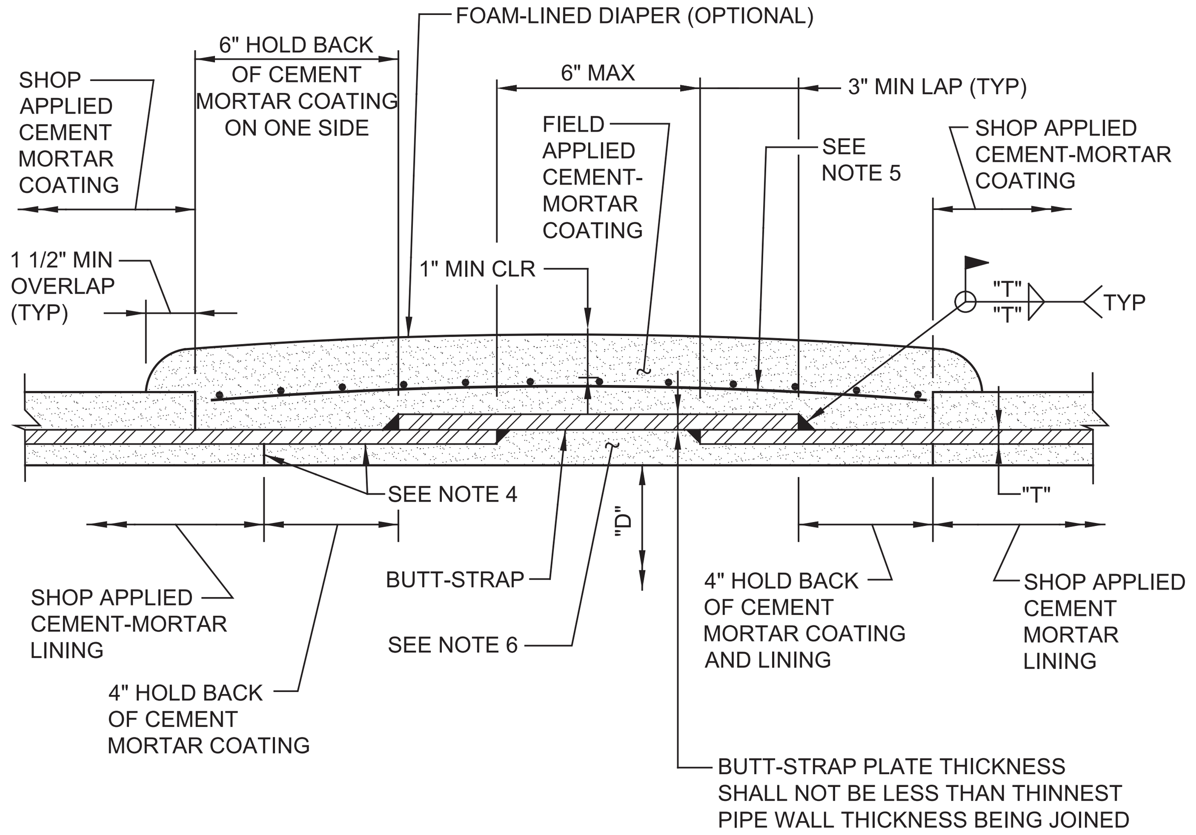
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
TYPICALS
TYPICAL DETAILS
PIPING - V

VERIFY SCALES
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JOB NO. 10595A.10
DRAWING NO. TP05
SHEET NO. 25 OF 122

PROJECT NO. FILE NAME: 10595A10TP05.dgn

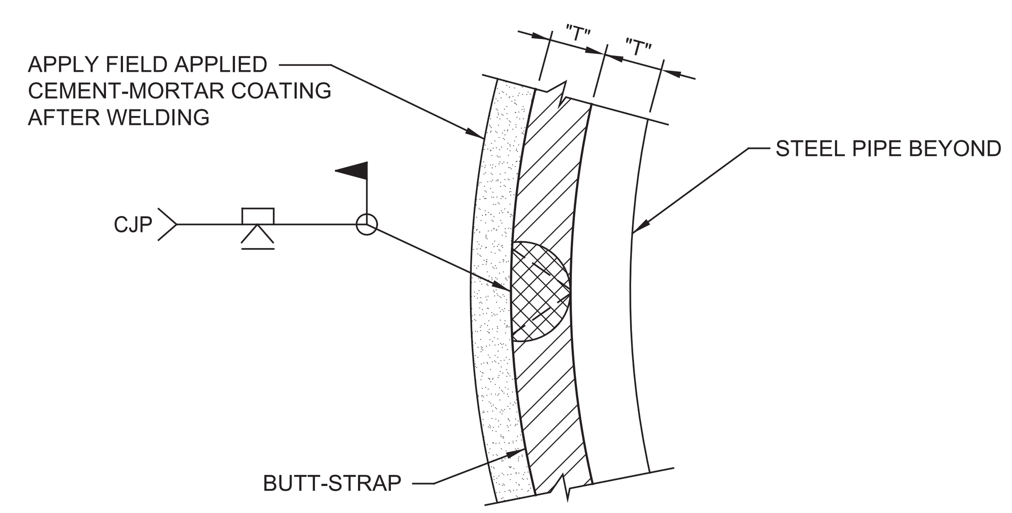


NOTES:

1. "D" = PIPE DIAMETER AS INDICATED ON THE DRAWINGS OR IN THE PIPING SCHEDULE.
2. "T" = PIPE WALL THICKNESS AS INDICATED ON THE DRAWINGS OR IN THE PIPING SCHEDULE.
3. FOR WELDING SYMBOL, "T" = THICKNESS OF THINNEST MEMBER BEING WELDED.
4. COAT STEEL CYLINDER AND ENDS OF SHOP APPLIED CEMENT-MORTAR LINING WITH EPOXY BONDING AGENT BEFORE APPLYING FIELD APPLIED CEMENT-MORTAR LINING.
5. IF FOAM-LINED DIAPER NOT USED, THEN INSTALL A 2x4-W0.5xW0.5 GALVANIZED AND CRIMPED, WELDED WIRE FABRIC. THE WIRES ON THE 2" SPACING SHALL EXTEND CIRCUMFERENTIALLY AROUND THE PIPE. LAP SPLICE MINIMUM OF ONE MESH OR WELD TOGETHER. TACK WELD TO STEEL CYLINDER AT MINIMUM OF 2 POINTS.
6. FIELD APPLIED CEMENT-MORTAR LINING. FINISH FIELD APPLIED CEMENT- MORTAR LINING SMOOTH AND FLUSH WITH SHOP APPLIED CEMENT-MORTAR LINING.

P833 TYP R — STEEL PIPE - MORTAR LINED AND MORTAR COATED WELDED BUTT-STRAP JOINT FOR FIELD CLOSURE

SHEET 1 OF 2 03/27/18



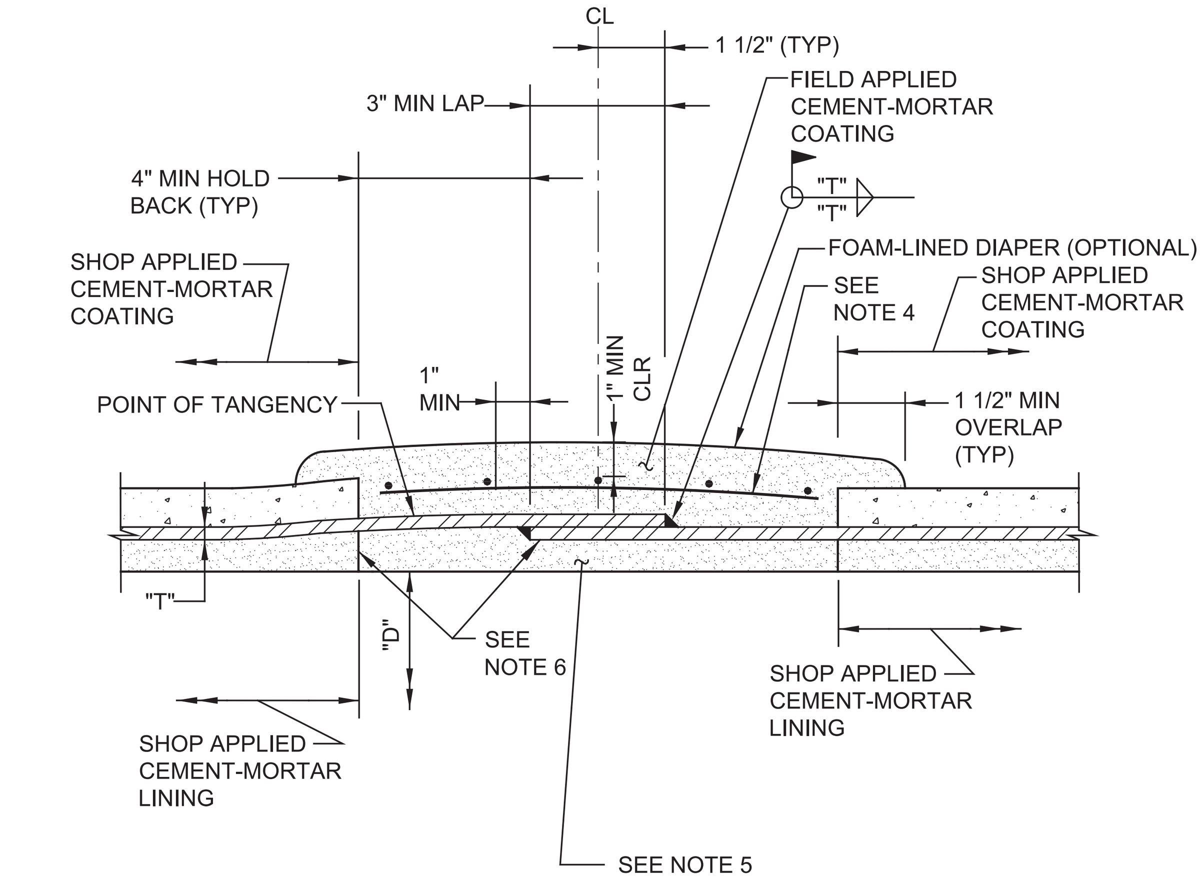
A - DETAIL - LONGITUDINAL SEAM ON BUTT-STRAP

NOTES:

1. LINING IS NOT SHOWN FOR CLARITY.
2. REMOVE BACKER PLATE AFTER WELDING, BACKGOUGE, AND WELD. GRIND INSIDE OF WELD FLUSH SO BUTT-STRAP FITS OVER ENDS OF PIPE.
3. CJP = COMPLETE JOINT PENETRATION.

P833 TYP N — STEEL PIPE - MORTAR LINED AND MORTAR COATED WELDED BUTT-STRAP JOINT FOR FIELD CLOSURE

SHEET 2 OF 2 04/09/15

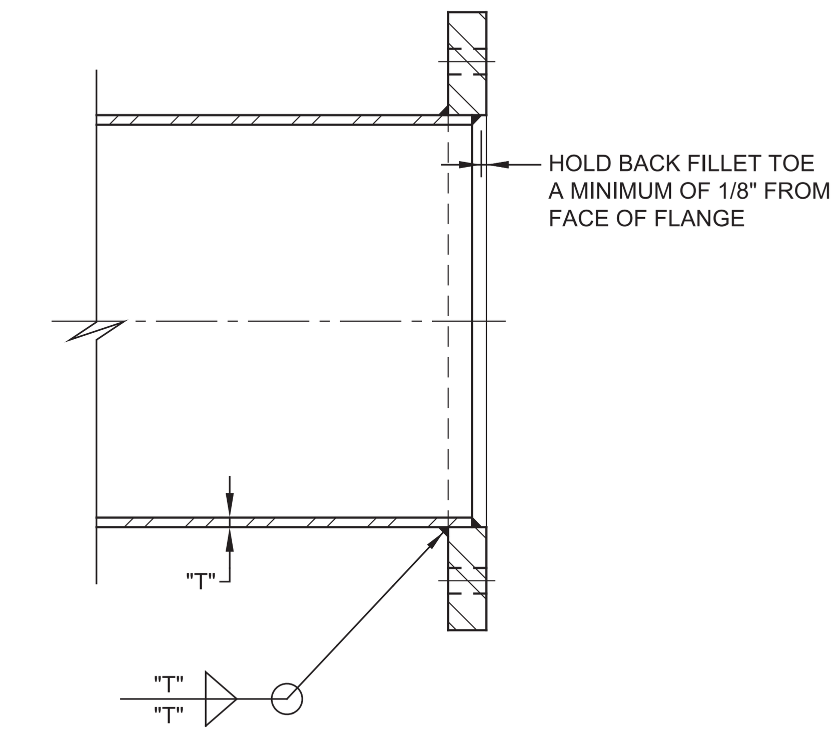


NOTES:

1. "D" = PIPE DIAMETER AS INDICATED ON THE DRAWINGS OR IN THE PIPING SCHEDULE.
2. "T" = PIPE WALL THICKNESS AS INDICATED ON THE DRAWINGS OR IN THE PIPING SCHEDULE.
3. FOR WELDING SYMBOL, "T" = THICKNESS OF THINNEST MEMBER BEING WELDED.
4. IF FOAM-LINED DIAPER NOT USED. THEN INSTALL A 2x4-W0.5xW0.5 GALVANIZED AND CRIMPED, WELDED WIRE FABRIC. THE WIRES ON THE 2" SPACING SHALL EXTEND CIRCUMFERENTIALLY AROUND THE PIPE. LAP SPLICE MINIMUM OF ONE MESH OR WELD TOGETHER. TACK WELD TO STEEL CYLINDER AT MINIMUM OF 2 POINTS.
5. FIELD APPLIED CEMENT-MORTAR LINING. FINISH FIELD APPLIED CEMENT-MORTAR LINING SMOOTH AND FLUSH WITH SHOP APPLIED CEMENT-MORTAR LINING.
6. COAT STEEL CYLINDER AND ENDS OF SHOP APPLIED CEMENT-MORTAR LINING WITH EPOXY BONDING AGENT BEFORE APPLYING FIELD APPLIED CEMENT-MORTAR LINING.

P840 TYP R — STEEL PIPE - MORTAR LINED AND MORTAR COATED WELDED LAP JOINT

04/17/18

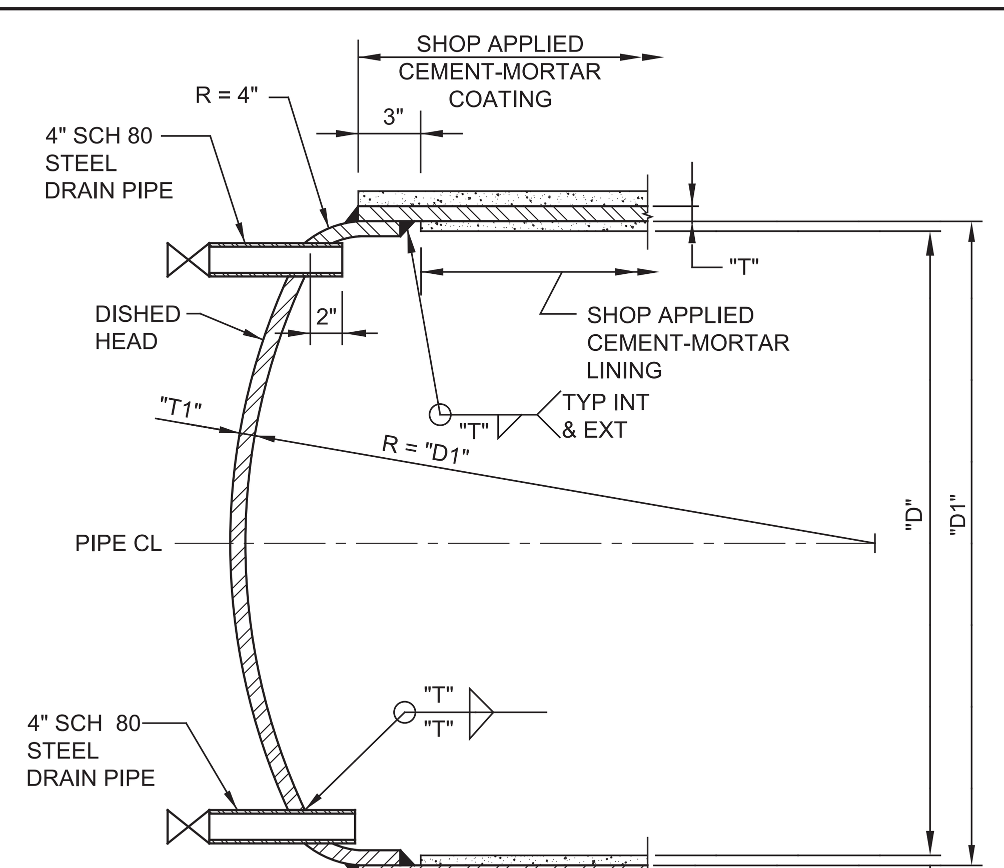


NOTE:

1. LINING AND COATING NOT SHOWN.

P850 TYP N — STEEL PIPE - SLIP-ON WELDED FLANGE

05/14/15

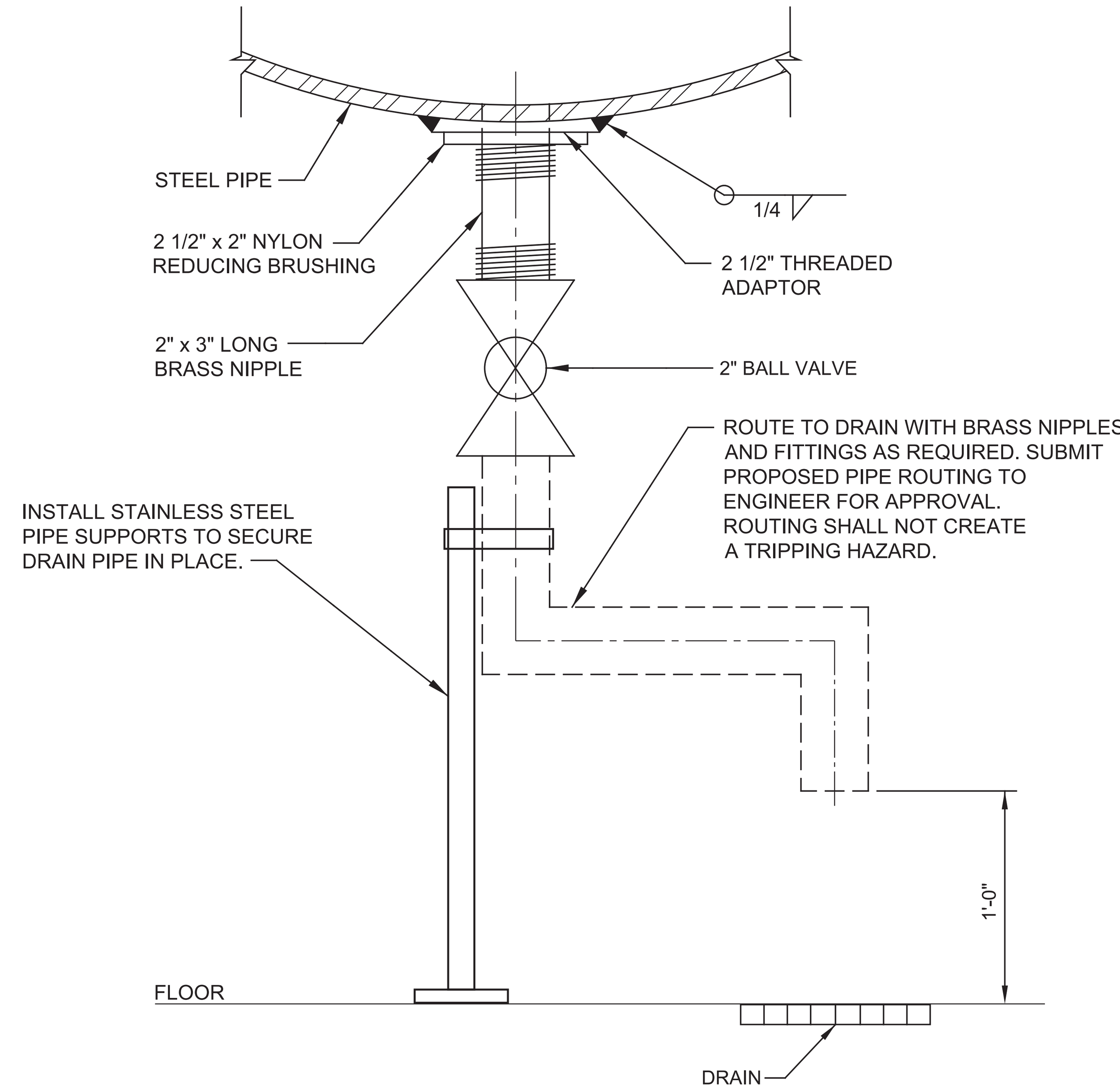


NOTES:

1. "D" = PIPE DIAMETER AS INDICATED ON THE DRAWINGS OR IN THE PIPING SCHEDULE.
2. "D1" = PIPE DIAMETER TO INSIDE OF STEEL PIPE WALL.
3. "T" = PIPE WALL THICKNESS AS INDICATED ON THE DRAWINGS OR IN THE PIPING SCHEDULE.
4. "T1" = DISHED HEAD THICKNESS. "T1" SHALL BE EQUAL TO "T"
5. "T" = THICKNESS OF THINNEST WELDED MEMBER.
6. 4" VENT AND DRAING PIPES SHALL BE AS CLOSE TO OUTER EDGE OF DISHED HEAD AS POSSIBLE.
7. REINFORCED 4" PIPE CONNECTION TO DISHED HEAD IN ACCORDANCE WITH AWWA M-11.
8. AFTER ALL PRESSURE TESTING IS COMPLETED, REMOVE DISHED HEAD AND REPAIR CEMENT-MORTAR LINING.

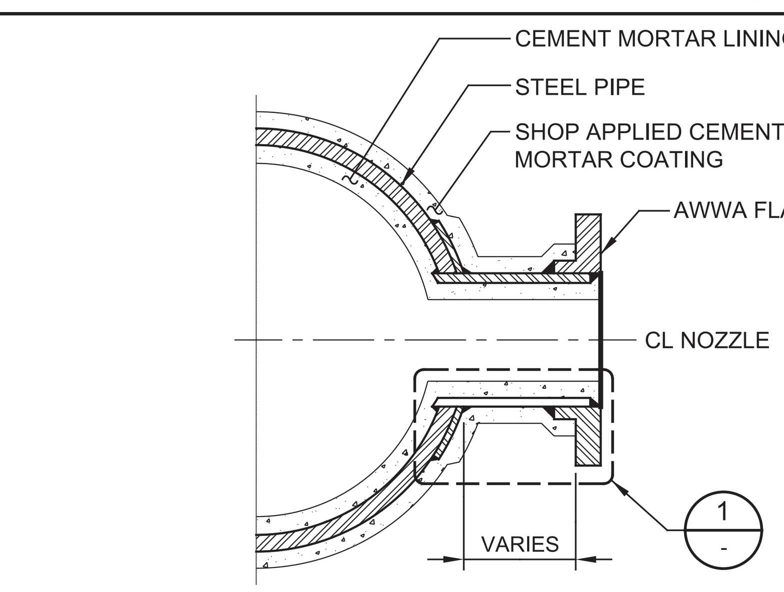
P870 TYP N — TEMPORARY DISHED HEAD FOR TESTING OF STEEL PIPE

09/01/15

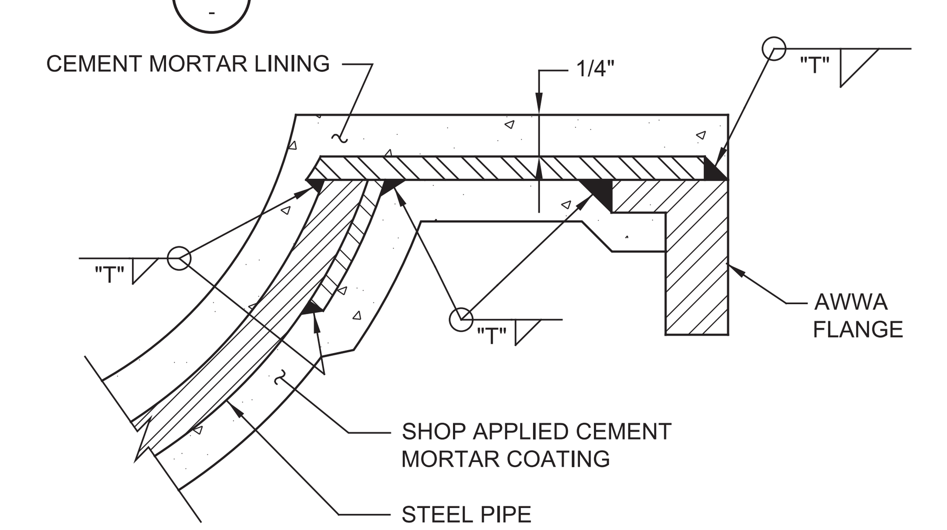


P871 TYP NR — STEEL PIPE - DRAIN CONNECTION

04/17/18



A - SECTION - STEEL PIPE NOZZLE



1 - DETAIL - STEEL PIPE NOZZLE

NOTES:

1. "T" = THICKNESS OF THINNEST MEMBER WELDED AT WELDED JOINT.
2. PIPE MANUFACTURER SHALL PREPARE AND SUBMIT DIMENSIONS PER SPECIFICATIONS.

P872 TYP R — NOZZLES FOR STEEL PIPE

10/30/17

REV	DATE	BY	DESCRIPTION

DESIGNED CE
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REGISTERED PROFESSIONAL ENGINEER — DARREN G. BAUNE — No. 68899 — CIVIL — STATE OF CALIFORNIA

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TYPICALS

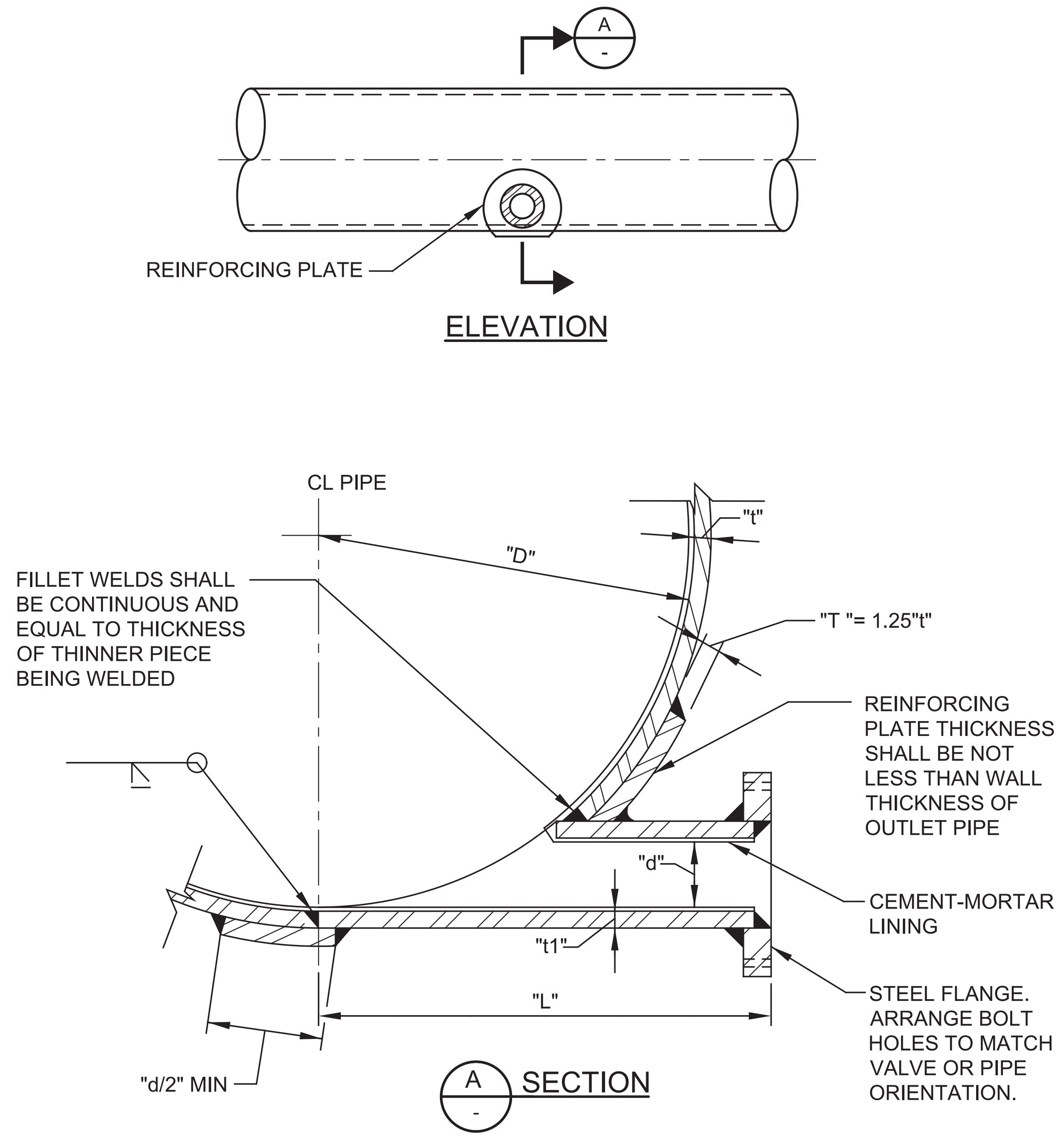
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DRAWING NO. TP06
SHEET NO. 26 OF 122

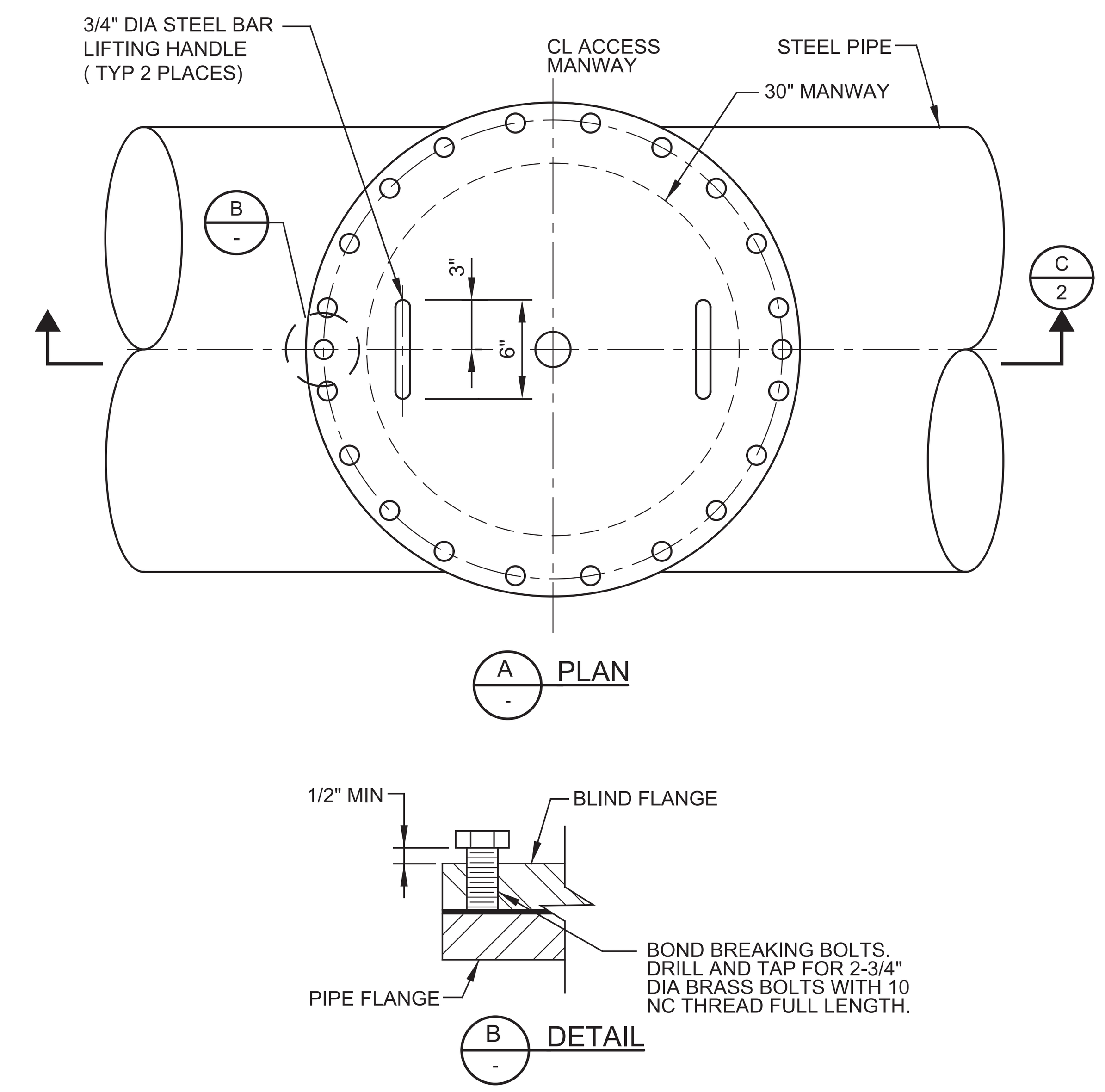
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P873 TYP N STEEL PIPE - TANGENT TYPE OUTLET CONNECTION

08/20/12

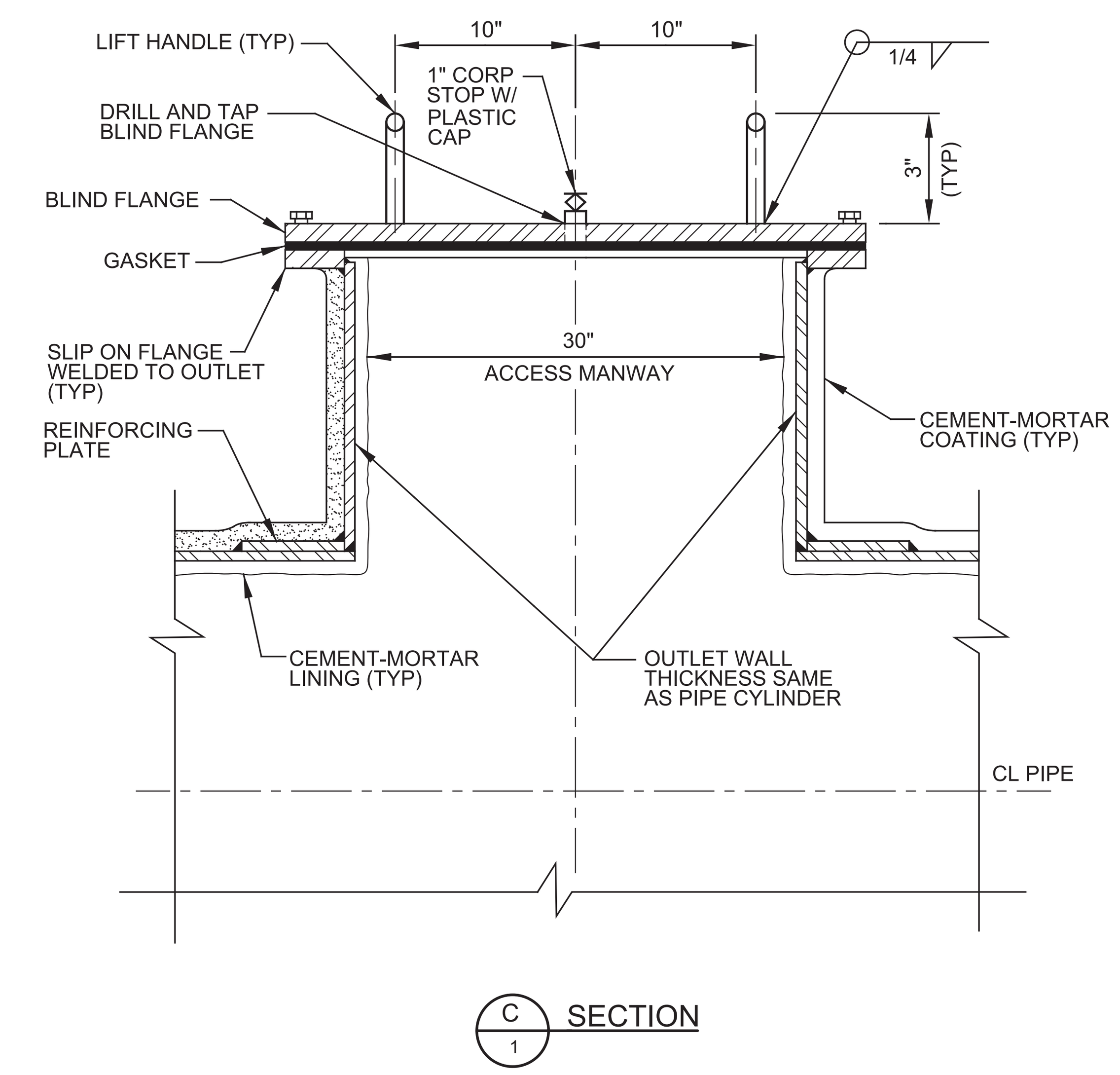


NOTES:

1. EPOXY LINE INTERIOR SURFACE OF BLIND FLANGE PER SPECIFICATION 09960.
2. LUBRICATE BOLT THREADS WITH GRAPHITE.

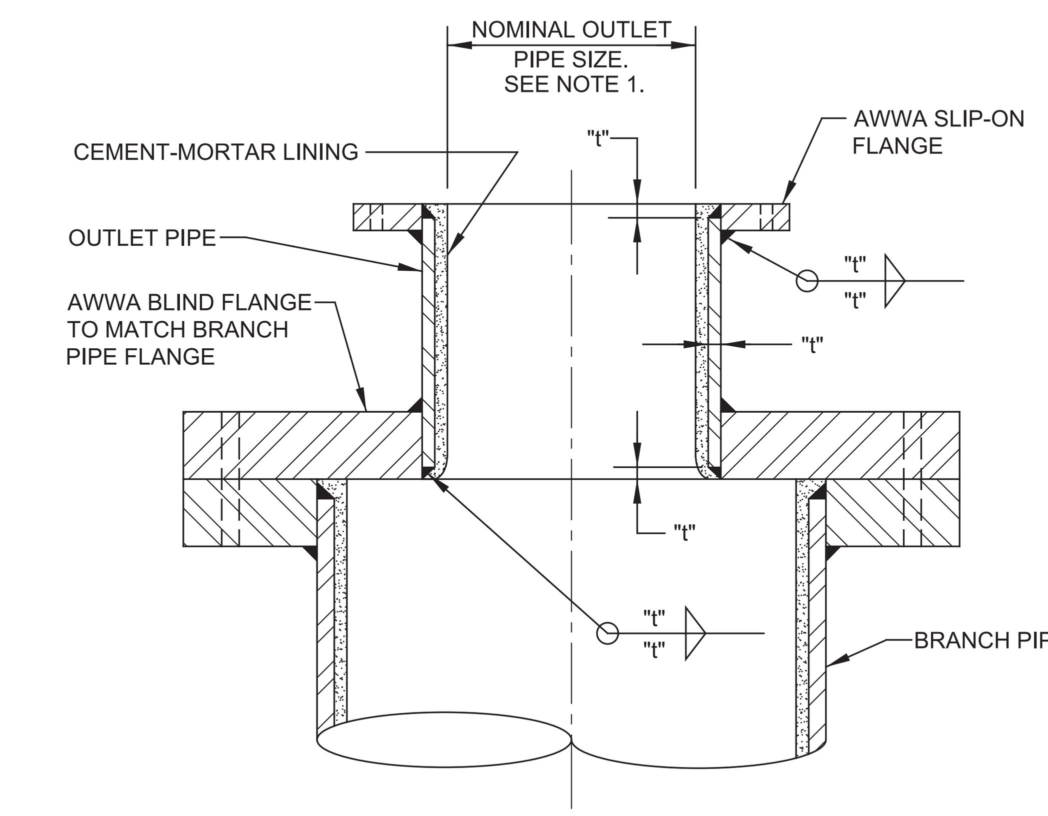
P875 TYP R STEEL PIPE - ACCESS MANWAY

SHEET 1 OF 2 03/28/18



P875 TYP R STEEL PIPE - ACCESS MANWAY

SHEET 2 OF 2 03/29/18

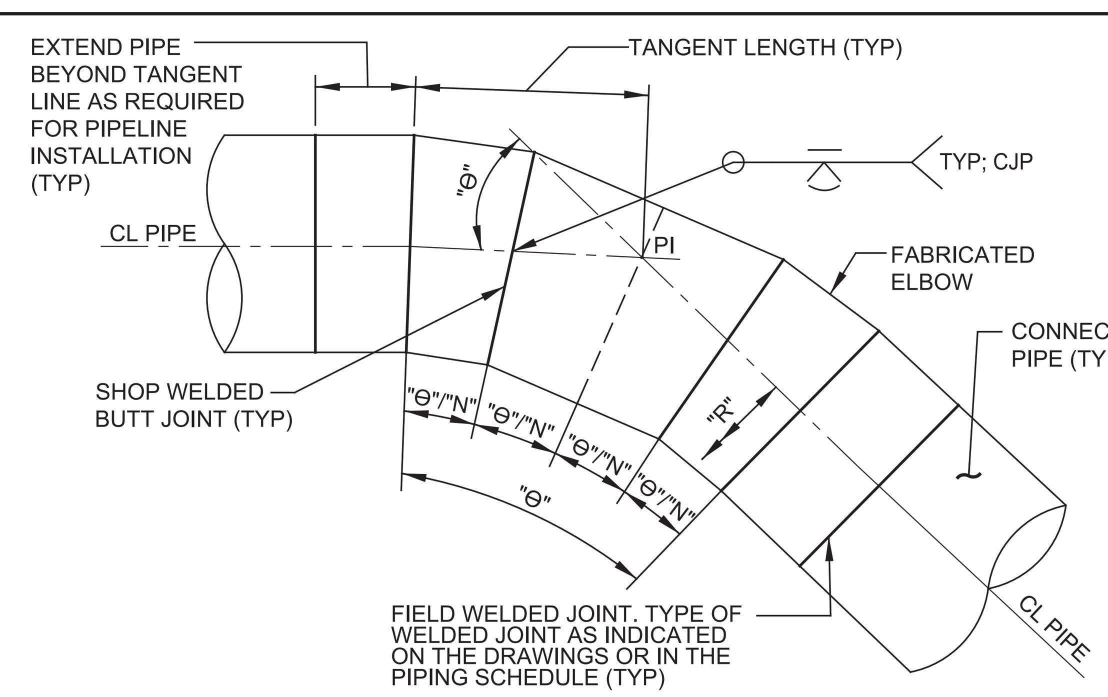


NOTES:

1. NOMINAL OUTLET PIPE SIZE TO MATCH VALVE SIZE,
2. OUTLET PIPE WALL THICKNESS TO MATCH BRANCH PIPE WALL THICKNESS.
3. "t" = OUTLET PIPE WALL THICKNESS

P877 TYP STEEL PIPE - REDUCING FLANGE OUTLET

08/20/12



THREE PIECE ELBOW SHOWN

SCHEDULE		
BEND ANGLE	NUMBER OF PIECES	"N"
0º < "Θ" ≤ 15º	TWO-PIECE	2
15º < "Θ" ≤ 30º	THREE-PIECE	4
30º < "Θ" ≤ 45º	FOUR-PIECE	6
45º < "Θ" ≤ 90º	FIVE-PIECE	8

ELBOW RADIUS	
NOMINAL PIPE DIAMETER	MINIMUM "R"
24"	5'-0"
36"	7'-6"
48"	10'-0"
60"	12'-6"

NOTES:

1. CJP = COMPLETE JOINT PENETRATION.
2. TYPE OF LINING AND COATING AS INDICATED ON THE DRAWINGS OR IN THE PIPING SCHEDULE.
3. "R" = RADIUS OF CENTERLINE OF ELBOW

P881 TYP N STEEL PIPE - FABRICATED ELBOW

01/09/14

REV	DATE	BY	DESCRIPTION

DESIGNED CE
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DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

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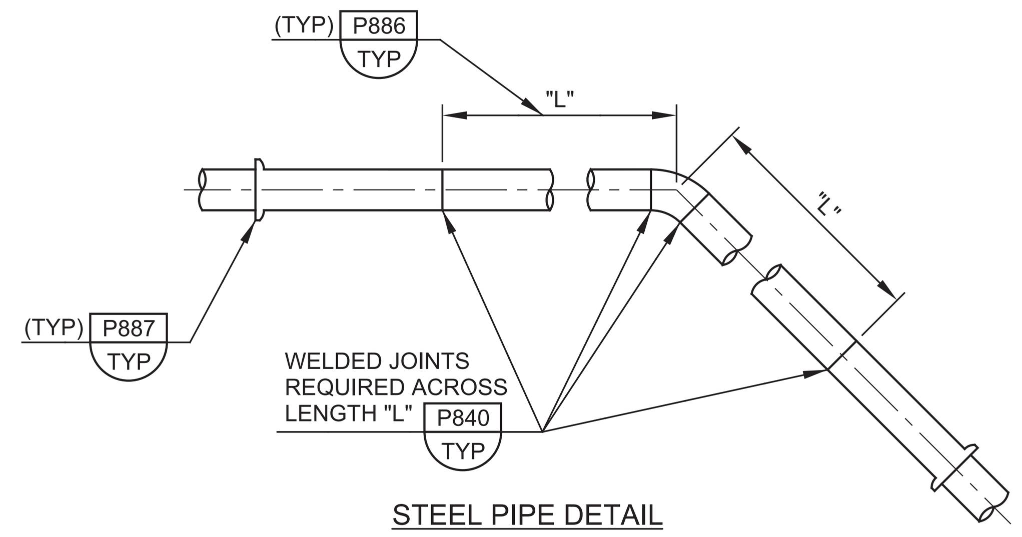
STANISLAUS COUNTY, CALIFORNIA

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NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
TYPICALS
TYPICAL DETAILS
PIPING - VII

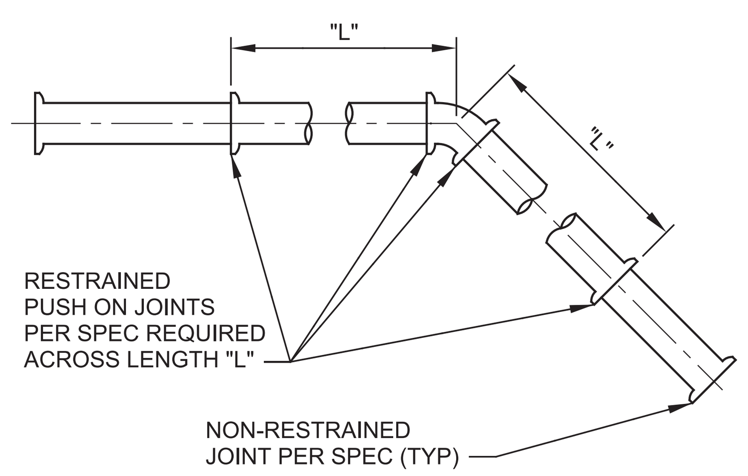
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JOB NO. 10595A.10
DRAWING NO. TP07
SHEET NO. 27 OF 122

DESIGN INFORMATION FOR BID ALTERNATE B - RESTRAIN THE PIPELINE ONLY WHERE REQUIRED FOR THRUST RESTRAINT



STEEL PIPE DETAIL



DIP DETAIL

P885 TYP — PIPE RESTRAINT SCHEMATIC

J SHEET 1 OF 2 04/17/18

NOTES:

1. THE 42" PIPELINE RESTRAINT IS DESIGNED FOR A MAXIMUM PRESSURE OF 150 PSI. THIS INCLUDES THE WORKING PRESSURE + SURGE PRESSURE + 1.25 SAFETY FACTOR.
2. LENGTHS SHALL APPLY EACH DIRECTION FROM HORIZONTAL AND VERTICAL BENDS AND VALVES. THE RESTRAINED LENGTH FOR TEES AND WYES SHALL APPLY IN EVERY DIRECTION (INCLUDING BRANCH PIPELINES). AT A MINIMUM, RESTRAIN ONE STANDARD JOINT LENGTH OF PIPE EACH DIRECTION ALONG THE RUN SIDE OF A TEE AND WYE.
3. EXTEND ALL LENGTHS TO THE NEXT PIPE JOINT PAST REQUIRED LENGTH AND RESTRAIN THAT JOINT.
4. CARRIER PIPES WITHIN A CASING SHALL BE FULLY RESTRAINED.
5. ALL CLOSURE PIECES SHALL BE RESTRAINED.
6. WHERE DEPTH OF COVER IS BETWEEN A DEPTH PROVIDED IN THE PIPELINE RESTRAINT LENGTH TABLES, USE THE VALUES FROM THE TABLE WITH THE SHALLOWER DEPTH OF COVER. WHERE DEPTH OF COVER VARIES ALONG PIPELINE TO BE RESTRAINED, USE THE SHALLOWEST DEPTH FOR DETERMINING THE REQUIRED RESTRAINT LENGTH.
7. REFER TO DETAIL P886/TYP FOR PIPE RESTRAINT LENGTH REQUIREMENTS.

P885 TYP — PIPE RESTRAINT SCHEMATIC

J SHEET 2 OF 2 09/25/17

PIPE RESTRAINT LENGTHS (4 FEET OF COVER)

HORIZ BEND ANGLE	STEEL PIPE FULLY RESTRAINTED LENGTH 'L' (FT)	DUCTILE IRON FULLY RESTRAINED LENGTH 'L' (FT)
LESS THAN 5°	-	-
5° - 25°	53	32
26° - 45°	93	65
46° - 70°	161	111
71° - 90°	244	156
DEAD ENDS, VALVES, TEES & WYES	244	488
VERT BEND ANGLE	STEEL PIPE FULLY RESTRAINTED LENGTH 'L' (FT)	DUCTILE IRON FULLY RESTRAINED LENGTH 'L' (FT)
LESS THAN 5°	-	-
5° - 25°	89	98
26° - 45°	158	203
46° - 70°	272	-
71° - 90°	413	-

P886 TYP — PIPELINE RESTRAINT LENGTH TABLES

J SHEET 1 OF 3 09/25/17

PIPE RESTRAINT LENGTHS (5 FEET OF COVER)

HORIZ BEND ANGLE	STEEL PIPE FULLY RESTRAINTED LENGTH 'L' (FT)	DUCTILE IRON FULLY RESTRAINED LENGTH 'L' (FT)
LESS THAN 5°	-	-
5° - 25°	44	27
26° - 45°	78	55
46° - 70°	133	94
71° - 90°	203	133
DEAD ENDS, VALVES, TEES & WYES	203	409
VERT BEND ANGLE	STEEL PIPE FULLY RESTRAINTED LENGTH 'L' (FT)	DUCTILE IRON FULLY RESTRAINED LENGTH 'L' (FT)
LESS THAN 5°	-	-
5° - 25°	76	82
26° - 45°	135	170
46° - 70°	232	-
71° - 90°	352	-

P886 TYP — PIPELINE RESTRAINT LENGTH TABLES

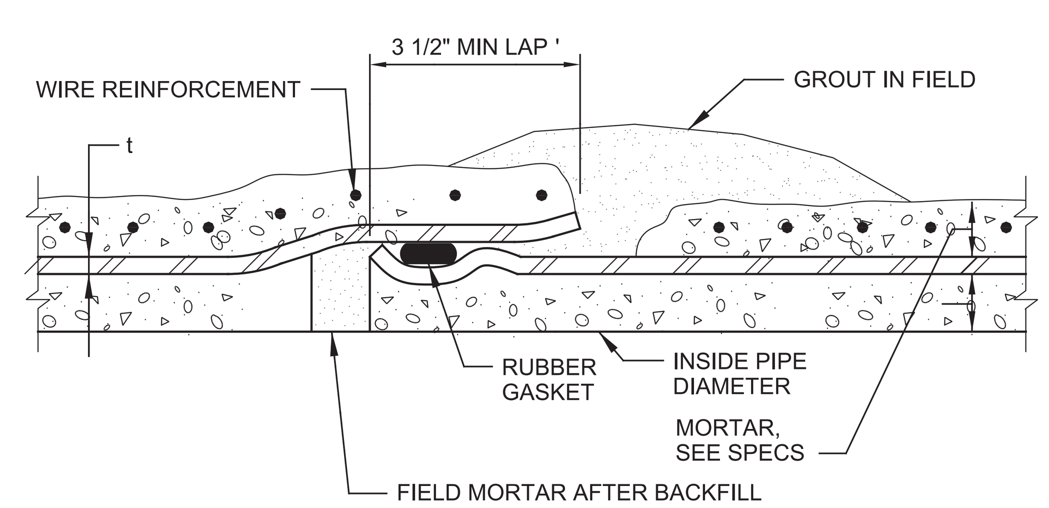
J SHEET 2 OF 3 09/25/17

PIPE RESTRAINT LENGTHS (6 FEET OF COVER AND GREATER)

HORIZ BEND ANGLE	STEEL PIPE FULLY RESTRAINTED LENGTH 'L' (FT)	DUCTILE IRON FULLY RESTRAINED LENGTH 'L' (FT)
LESS THAN 5°	-	-
5° - 25°	37	23
26° - 45°	66	48
46° - 70°	114	81.5
71° - 90°	173	115
DEAD ENDS, VALVES, TEES & WYES	173	352
VERT BEND ANGLE	STEEL PIPE FULLY RESTRAINTED LENGTH 'L' (FT)	DUCTILE IRON FULLY RESTRAINED LENGTH 'L' (FT)
LESS THAN 5°	-	-
5° - 25°	66	70
26° - 45°	117	146
46° - 70°	202	-
71° - 90°	307	-

P886 TYP — PIPELINE RESTRAINT LENGTH TABLES

J SHEET 3 OF 3 09/25/17



NOTE:

1. SEE CATHODIC PROTECTION DRAWINGS FOR JOINT BONDING REQUIREMENTS.

P887 TYP — BELL AND SPIGOT GASKET JOINT

J 09/25/17

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED JPM
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

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Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:25:41-07'00'

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Date: 2018.04.25 10:28:16-07'00'

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TYPICAL DETAILS
PIPING - VIII - BID ALTERNATE B

VERIFY SCALES
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DRAWING NO. TP08
SHEET NO. 28 OF 122

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S101 REINFORCED CONCRETE NOTES (TYP) — SHEET 1 OF 3

1. SEE DIVISION 03 SPECIFICATIONS FOR REQUIREMENTS FOR CONCRETE CONSTRUCTION.
2. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, MINIMUM REINFORCEMENT OF CONCRETE WALLS OR SLABS SHALL BE:
   - 10" THICK OR LESS: ....#5 @ 12" EACH WAY.
   - MORE THAN 10" THICK: ....#5 @ 12" EACH WAY, EACH FACE.
3. WALL REINFORCEMENT AT CORNERS OR JUNCTIONS OF WALLS SHALL BE CONTINUOUS, LAP SPLICED, OR TERMINATED IN AN ACI STANDARD 90 DEGREE HOOK. SEE DETAIL S144/TYP.
4. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, BARS SHALL BE DOWELED. DOWELS SHALL BE THE SAME SIZE AND SPACING AS THE REINFORCEMENT WHICH IS SPLICED TO THE DOWELS.
5. SLAB, BEAM AND COLUMN REINFORCING BARS SHALL HAVE A MINIMUM EXTENSION OR ANCHORAGE INTO SUPPORTS IN ACCORDANCE WITH ACI 318 AND ACI 350.
6. STIRRUP SUPPORT BARS SHALL BE PROVIDED TO SECURE TOP BARS AGAINST DISPLACEMENT AS REQUIRED.
7. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, CONCRETE COVER OVER #11 AND SMALLER REINFORCING BARS SHALL BE AS FOLLOWS:
   - A. SLABS AND JOISTS:
     - FORMED CONCRETE SURFACES AND UNFORMED TOP SURFACES FOR DRY CONDITIONS
       - #7 BARS AND SMALLER..1"
       - #8 BARS AND LARGER..1 1/2"
     - FORMED CONCRETE SURFACES AND UNFORMED TOP SURFACES EXPOSED TO WEATHER, IN CONTACT WITH SOIL OR FLUIDS, OR LOCATED OVER FLUIDS..2"
   - B. BEAMS AND COLUMNS:
     - FORMED CONCRETE SURFACES FOR DRY CONDITIONS:
       - STIRRUPS, SPIRALS, AND TIES..............................1 1/2"
       - PRINCIPAL REINFORCEMENT................................2"
     - FORMED CONCRETE SURFACES EXPOSED TO WEATHER, IN CONTACT WITH SOIL OR FLUIDS, OR IN BEAMS LOCATED OVER FLUIDS:
       - STIRRUPS AND TIES..2"
       - PRINCIPAL REINFORCEMENT................................2 1/2"
   - C. WALLS:
     - FORMED CONCRETE SURFACES FOR DRY CONDITIONS:
       - #7 BARS AND SMALLER..1"
       - #8 BARS AND LARGER..1 1/2"
     - FORMED CONCRETE SURFACES EXPOSED TO WEATHER, OR IN CONTACT WITH SOIL OR FLUIDS.......................2"

S101 TYP S — REINFORCED CONCRETE NOTES — SHEET 1 0F 3 — 07/08/16

S101 REINFORCED CONCRETE NOTES (TYP) — SHEET 2 OF 3

- D. FOOTINGS AND SLABS ON GRADE:
  - FORMED VERTICAL CONCRETE SURFACES.............................2"
  - AT UNFORMED CONCRETE SURFACES CAST AGAINST SOIL, ROCK, OR CONCRETE WORK MATS...3"
  - TOP SURFACE OF FOOTINGS AND SLABS................................SAME AS SLABS

8. WATERSTOPS:
   - A. PROVIDE WATERSTOPS AT JOINTS IN SLABS AND WALLS OF LIQUID-CONTAINING STRUCTURES, AND PORTIONS OF STRUCTURES BELOW THE DESIGN GROUNDWATER LEVEL. MAKE WATERSTOPS CONTINUOUS THROUGH STRUCTURE, SPLICING WATERSTOPS IN SLABS WITH WATERSTOPS IN WALLS.
   - B. END WATERSTOPS 3" BELOW TOP OF WALLS. WHERE TOP OF WALL IS COVERED BY A SLAB WITHOUT WATERSTOPS, CONTINUE WATERSTOP TO WALL/SLAB JOINT. WHERE TOP OF WALL IS COVERED BY A SLAB WITH WATERSTOPS, MAKE WATERSTOPS CONTINUOUS, SPLICING WATERSTOPS IN WALLS WITH WATERSTOPS IN SLAB.
9. CURE CONCRETE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. WHERE WATER CURING IS SPECIFIED, MEMBRANE CURING IS NOT ALLOWED.
   - A. THE CONTRACTOR IS WARNED THAT WATER CURING IS DIFFICULT AT TIMES DUE TO WIND AND DRY CONDITIONS. STUDY SPECIFICATION REQUIREMENTS AND FURNISH ADEQUATE SYSTEMS TO PROVIDE WATER CURING WHERE REQUIRED.
   - B. KEEP WATER CURED SURFACES VISIBLY MOIST AT ALL TIMES. FLOOD TOPS OF WALLS NOT LESS THEN 3 TIMES DAILY.
10. DO NOT PLACE BACKFILL AGAINST WALLS UNTIL:
    - A. WALLS HAVE BEEN CAST TO FULL HEIGHT OF STRUCTURE AND CONCRETE HAS REACHED THE MINIMUM SPECIFIED COMPRESSIVE STRENGTH (f'c).
    - B. CONNECTING SLABS AND BEAMS HAVE BEEN CAST AND CONCRETE IN THOSE ELEMENTS HAS REACHED THE MINIMUM SPECIFIED COMPRESSIVE STRENGTH (f'c).
11. LAP SPLICES:
    - A. SEE TABLE 1 OF THIS DETAIL FOR LAP SPLICE LENGTHS.
    - B. WHEN MULTIPLE BARS ARE SPLICED AT THE SAME SECTION, THE "CLEAR BAR SPACING" IS DEFINED AS THE MINIMUM CLEAR DISTANCE BETWEEN THE BARS OUTSIDE THE SPLICE LENGTH MINUS ONE BAR DIAMETER.
    - C. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, BARS AT A LAP SPLICE SHALL BE IN CONTACT WITH EACH OTHER.
    - D. "TOP BARS" ARE HORIZONTAL REINFORCEMENT AT LOCATIONS WHERE MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.
12. FORM EXPOSED CONCRETE CORNERS AND EDGES WITH 3/4" CHAMFER UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

S101 TYP S — REINFORCED CONCRETE NOTES — SHEET 2 OF 3 — 07/08/16

S101 REINFORCED CONCRETE NOTES (TYP) — SHEET 3 OF 3

TABLE 1: REINFORCING BAR LAP SPLICES: f'c = 4000 PSI, Fy = 60,000 PSI

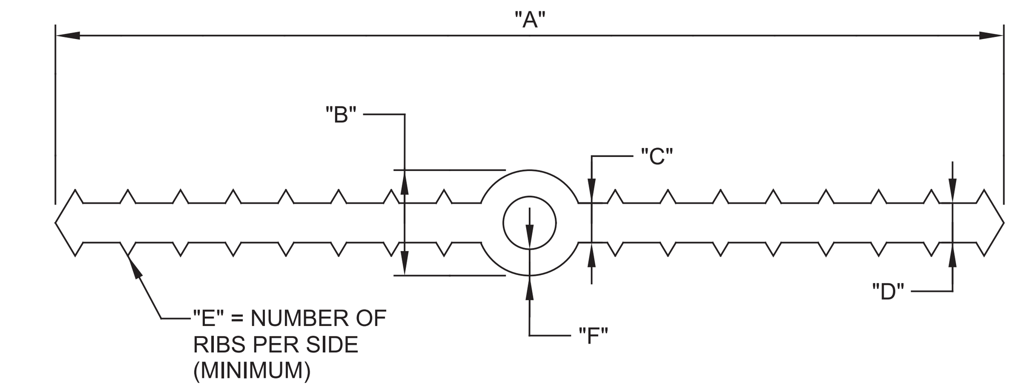
BAR SIZE	MINIMUM COVER (BAR DIA)	MINIMUM CLEAR BAR SPACING (BAR DIA)	LAP SPLICE LENGTH (INCHES) TOP BARS	LAP SPLICE LENGTH (INCHES) OTHER BARS
#4	MORE THAN 1	MORE THAN 2	32 *	25 *
	MORE THAN 2	MORE THAN 4	20	16
#5	MORE THAN 1	MORE THAN 2	40 *	31 *
	MORE THAN 2	MORE THAN 4	26	20
#6	MORE THAN 1	MORE THAN 2	48 *	37 *
	MORE THAN 2	MORE THAN 4	30	24
#7	MORE THAN 1	MORE THAN 2	70 *	54 *
	MORE THAN 2	MORE THAN 4	43	33
#8	MORE THAN 1	MORE THAN 2	81 *	62 *
	MORE THAN 2	MORE THAN 4	50	38
#9	MORE THAN 1	MORE THAN 2	90 *	70 *
	MORE THAN 2	MORE THAN 4	56	42
#10	MORE THAN 1	MORE THAN 2	104 *	81 *
	MORE THAN 2	MORE THAN 4	62	48
#11	MORE THAN 1	MORE THAN 2	114 *	88 *
	MORE THAN 2	MORE THAN 4	69	54

REINFORCING BAR LAP SPLICE TABLE NOTES:

1. TABULATED SPLICE LENGTHS ARE APPLICABLE ONLY WHEN BOTH REQUIREMENTS FOR MINIMUM COVER AND FOR MINIMUM CLEAR BAR SPACING ARE SATISFIED.
2. * = IF THE CLEAR BAR SPACING IS LESS THAN OR EQUAL TO TWO BAR DIAMETERS, OR THE COVER IS LESS THAN OR EQUAL TO ONE BAR DIAMETER, THE LAP SPLICE LENGTH SHALL BE INCREASED BY 50 PERCENT.

S101 TYP S — REINFORCED CONCRETE NOTES — SHEET 3 OF 3 — 07/08/16

S106 PVC WATERSTOP SCHEDULE (TYP)



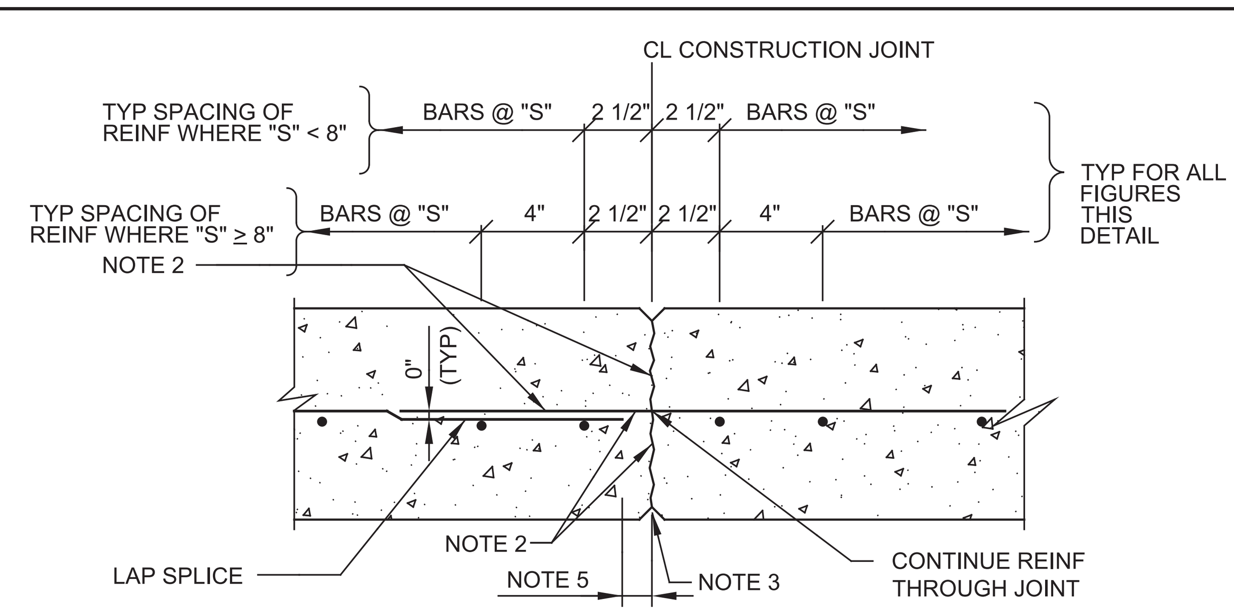
TYPE	"A"	"B"	"C"	"D"	"E"	"F"	APPLICATION
W/O CENTERBULB	6"	-	3/8"	3/8"	7	-	CONSTRUCTION AND CONTROL JOINTS
CENTERBULB	9"	1"	3/8"	3/8"	7	1/4"	EXPANSION JOINTS 1" AND NARROWER
CENTERBULB	9"	2"	3/8"	3/8"	7	1/4"	EXPANSION JOINTS WIDER THAN 1" AND TENSION/COMPRESSION RING BEAM AT DIGESTERS

NOTES:

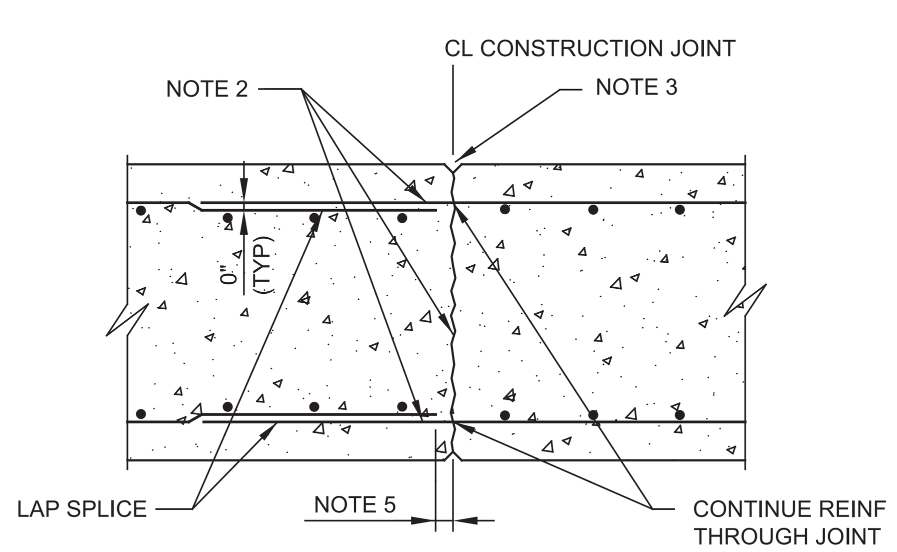
1. SEE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.
2. DIMENSIONS ARE MINIMUM, UNLESS OTHERWISE NOTED.

S106 TYP R — PVC WATERSTOP SCHEDULE — 10/06/17

S110 CONSTRUCTION JOINT (TYP) — SHEET 1 OF 2



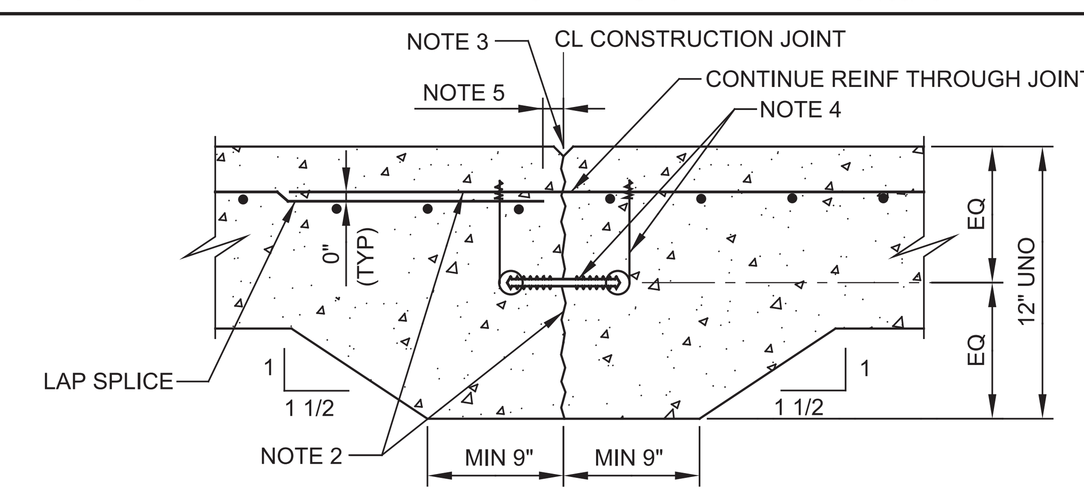
NON-WATER BEARING WALL OR SLAB
SINGLE LAYER REINFORCEMENT



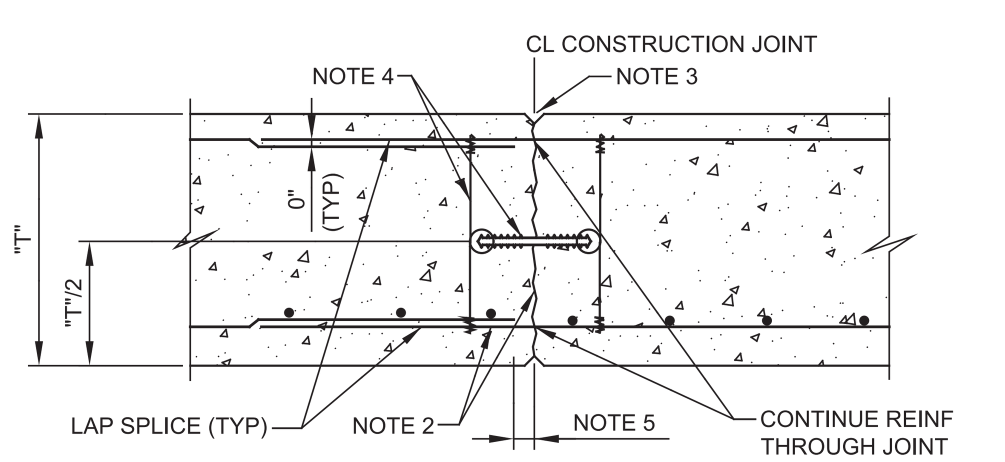
NON-WATER BEARING WALL OR SLAB
DOUBLE LAYER REINFORCEMENT

S110 TYP S — CONSTRUCTION JOINT — SHEET 1 OF 2 — 07/11/16

S110 CONSTRUCTION JOINT (TYP) — SHEET 2 OF 2



WATER BEARING SLAB LESS THAN 12" THICK



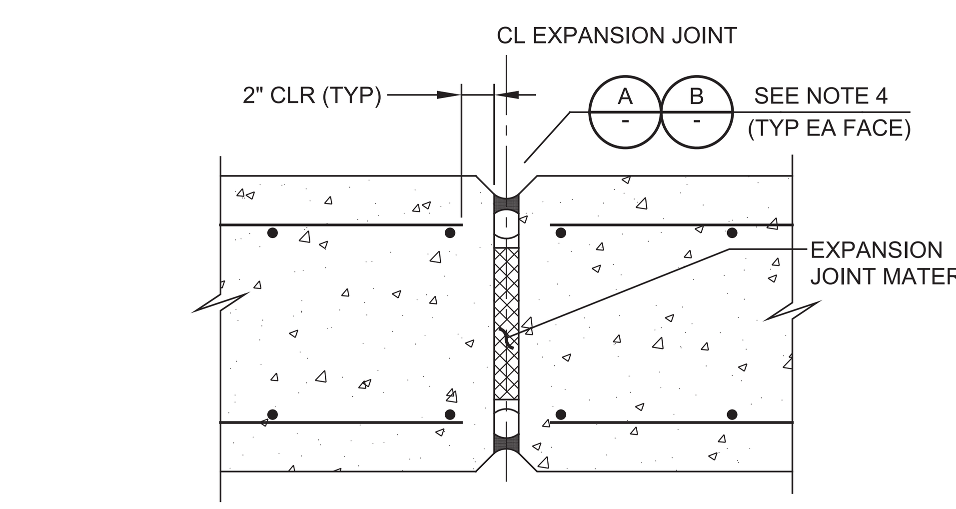
WATER BEARING SLAB OR WALL

NOTES:

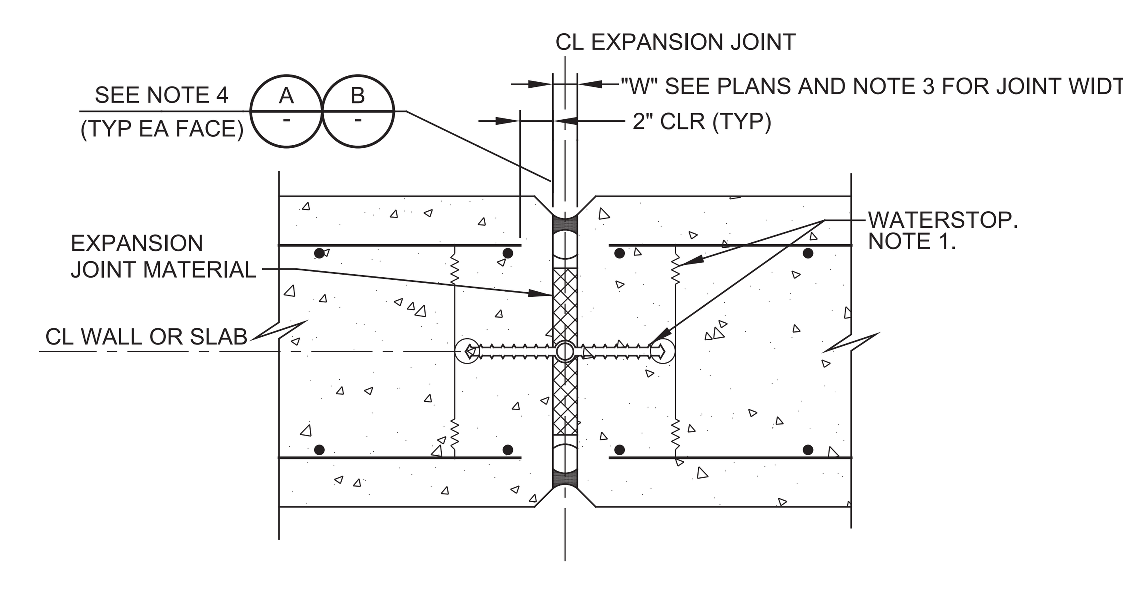
1. "S" EQUALS TYPICAL BAR SPACING INDICATED ON THE DRAWINGS. "T" EQUALS SLAB OR WALL THICKNESS.
2. WATER-BLAST EXPOSED JOINT FACE AND PROJECTING REINFORCEMENT BEFORE PLACING CONCRETE.
3. JOINT EDGES:
   - A. FOR WALLS AND BOTTOM OF EXPOSED SLABS: FORM EDGES WITH 1/2" CHAMFER.
   - B. FOR SLABS: EDGE TOP AND ENDS WITH 1/4" RADIUS.
4. 6" WATERSTOP CENTERED ON JOINT - SEE DETAIL S106/TYP. PROVIDE WIRE TIES MAX 2'-0" OC. HOG RINGS MAY BE USED IN LIEU OF WIRE LOOPS. THOROUGHLY CLEAN WATERSTOP BEFORE PLACING CONCRETE IN SECOND POUR.
5. STOP REINFORCING 2" CLEAR OF JOINT.

S110 TYP S — CONSTRUCTION JOINT — SHEET 2 OF 2 — 07/11/16

S130 EXPANSION JOINT (TYP) — SHEET 1 OF 2



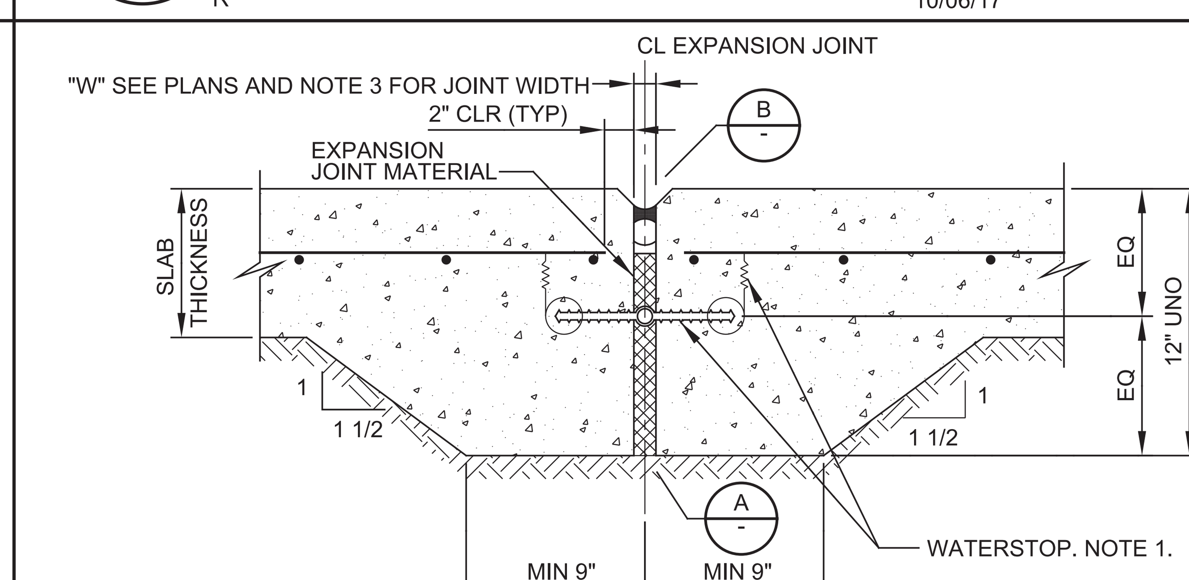
NON-WATER BEARING SLAB OR WALL



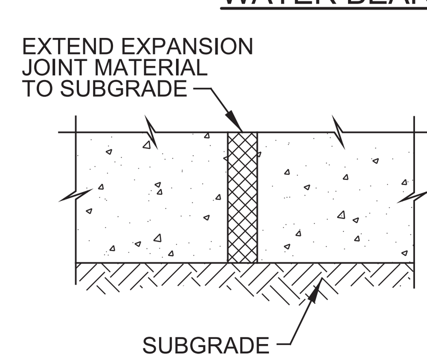
WATER BEARING SLAB OR WALL

S130 TYP S — EXPANSION JOINT — SHEET 1 OF 2 — 07/22/16

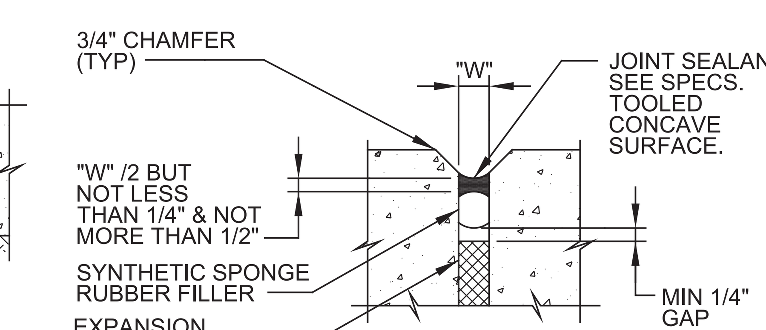
S130 EXPANSION JOINT (TYP) — SHEET 2 OF 2



WATER BEARING SLAB LESS THAN 12" THICK



A DETAIL



B DETAIL

NOTES:

1. 9" WATERSTOP WITH CENTER BULB CENTERED ON JOINT - SEE DETAIL S106/TYP. PROVIDE WIRE TIES MAX 2'-0" OC. HOG RINGS MAY BE USED IN LIEU OF WIRE LOOPS. THOROUGHLY CLEAN WATERSTOP BEFORE PLACING CONCRETE IN SECOND POUR.
2. JOINT EDGES:
   - A. FOR WALLS AND BOTTOM OF EXPOSED SLABS: FORM EDGES WITH 3/4" CHAMFER.
   - B. FOR SLABS: EDGE TOP AND ENDS WITH 1/4" RADIUS.
3. "W"=1" UNLESS OTHERWISE INDICATED ON PLANS. (MIN JOINT WIDTH = 3/8". MAX JOINT WIDTH = 2")
4. USE DETAIL A ONLY AT SOIL SIDE OF SLABS ON GRADE. USE DETAIL B AT ALL OTHER LOCATIONS.

S130 TYP S — EXPANSION JOINT — SHEET 2 OF 2 — 07/22/16

REV	DATE	BY	DESCRIPTION

DESIGNED CE · DRAWN CE · CHECKED IKC · DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER — INDERPREET KAUR CHAGGAR — No. 80512 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Darren G. Baune, Contact Info: Carollo Engineers, Inc., Date: 2018.04.24 13:54:44-07'00'

Digitally signed by Inderpreet Chaggar, Contact Info: Carollo Engineers, Inc., Date: 2018.04.24 15:12:16-07'00'

REGISTERED PROFESSIONAL ENGINEER — DARREN G. BAUNE — No. 68899 — CIVIL — STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908 — STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
TYPICALS
TYPICAL DETAILS
STRUCTURAL - I

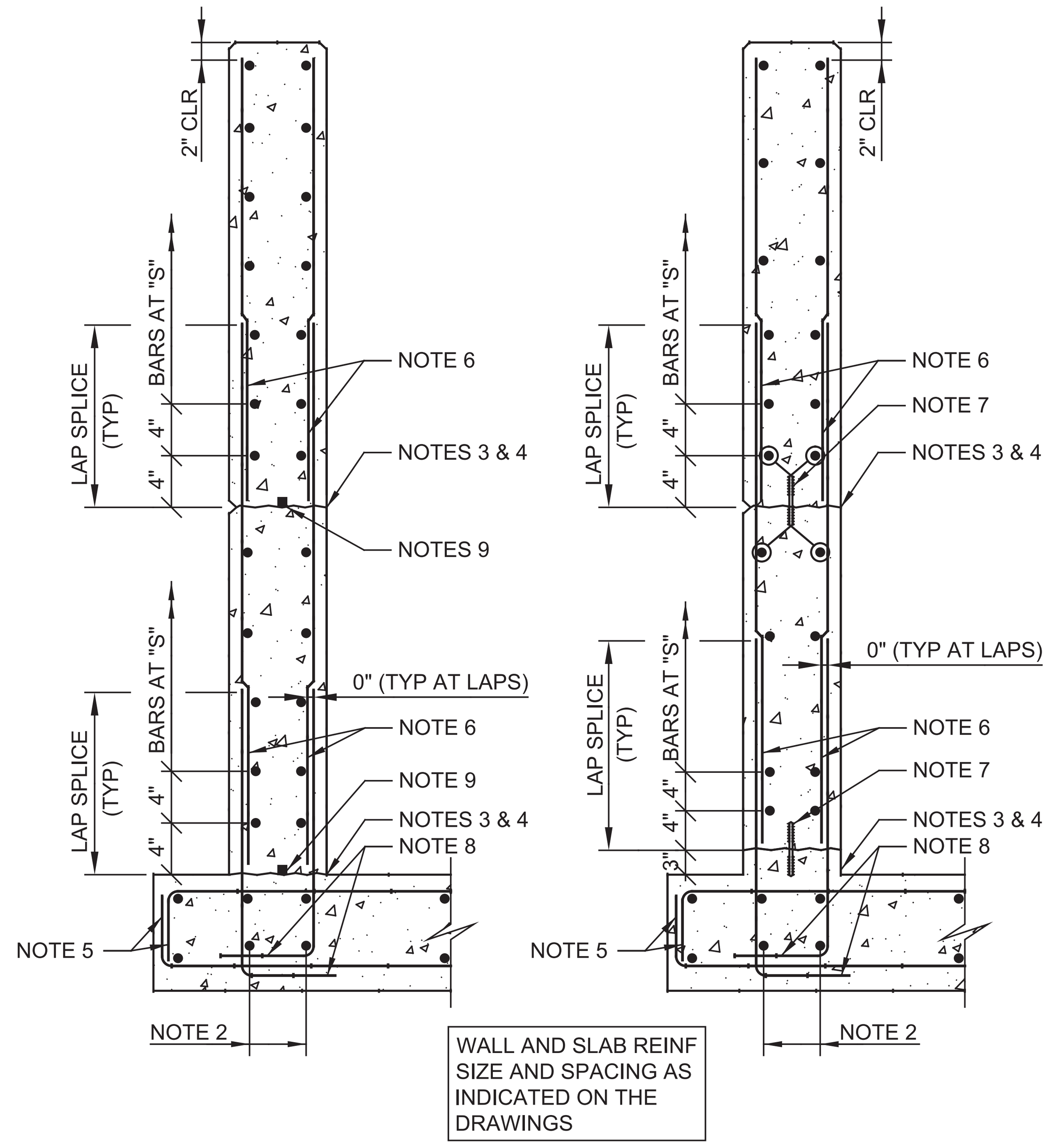
VERIFY SCALES — BAR IS ONE INCH ON ORIGINAL DRAWING — 0 — 1" — IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10595A.10 · DRAWING NO. TS01 · SHEET NO. 29 OF 122

PROJECT NO. · FILE NAME: 10595A10TS01.dgn

Plot Date: 19-APR-2018 4:24:39 PM · User: svcPW · PlotScale: 2:1 · DesignScript: Carollo_Std_Pen_v0905.pen · ColorTable: gshade.ctb · Model: Layout1 · LAST SAVED BY: Alaico

S140 TYP — CONSTRUCTION JOINT - WALLS (SHEET 1 OF 2, 09/25/17)



A - SECTION

B - SECTION - "W/ WSTP"

S140 TYP R — CONSTRUCTION JOINT - WALLS

SHEET 1 OF 2 09/25/17

S140 TYP — CONSTRUCTION JOINT - WALLS (SHEET 2 OF 2)

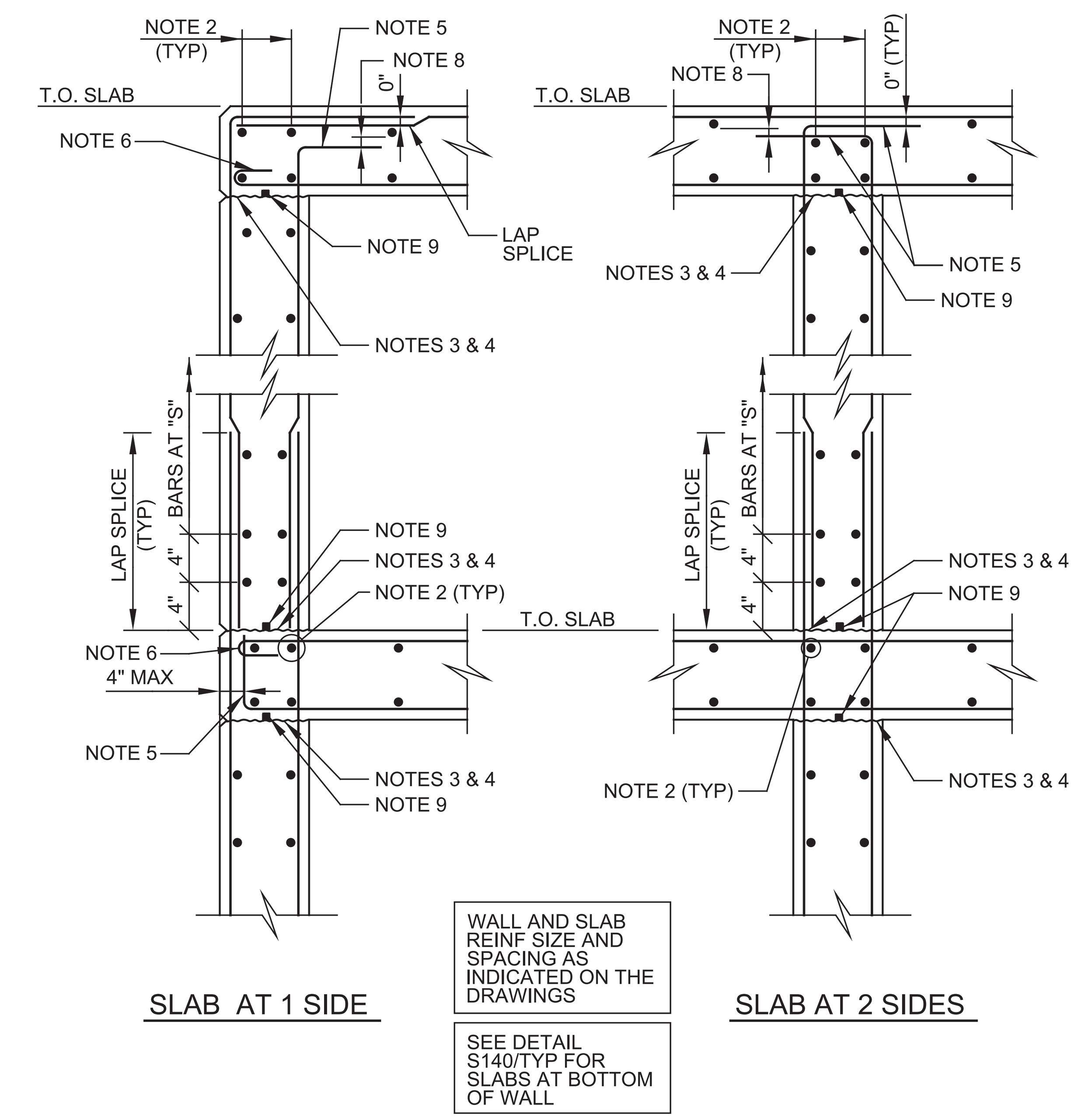
NOTES:

1. "S" EQUALS TYPICAL BAR SPACING INDICATED ON THE DRAWINGS.
2. PLACE AND ALIGN BARS BEFORE PLACING DOWELS. BAR SIZE TO MATCH SLAB BARS.
3. WATER-BLAST JOINT FACE AND PROJECTING REINFORCEMENT BEFORE PLACING CONCRETE.
4. PLACE CEMENT GROUT OVER JOINT FACE IMMEDIATELY BEFORE PLACING CONCRETE. (SEE SPECIFICATIONS.)
5. STANDARD 90° HOOK WHERE INDICATED ON THE DRAWINGS. (ALTERNATE: PROVIDE 180° HOOK WHERE REQUIRED BY SLAB THICKNESS.)
6. DOWELS: SAME SIZE AND SPACING AS VERTICAL WALL BARS, UNLESS OTHERWISE NOTED.
7. 6" PVC WATERSTOP CENTERED VERTICALLY ON JOINT. PROVIDE WIRE TIES MAX 2'-0" OC. HOG RINGS MAY BE USED IN LIEU OF WIRE LOOPS. THOROUGHLY CLEAN WATERSTOP BEFORE PLACING CONCRETE.
8. STANDARD 90° HOOK UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
9. WHERE DRAWINGS INDICATE "W/ STRIP WSTP" PROVIDE LOW EXPANSION HYDROPHILIC WATERSTOP AT TOP SURFACE OF JOINT AND CENTERED BETWEEN VERTICAL BARS.

S140 TYP R — CONSTRUCTION JOINT - WALLS

SHEET 2 OF 2 09/25/17

S142 TYP — CONSTRUCTION JOINT - WALLS AT ELEVATED SLABS (SHEET 1 OF 3)



WALL AND SLAB REINF SIZE AND SPACING AS INDICATED ON THE DRAWINGS

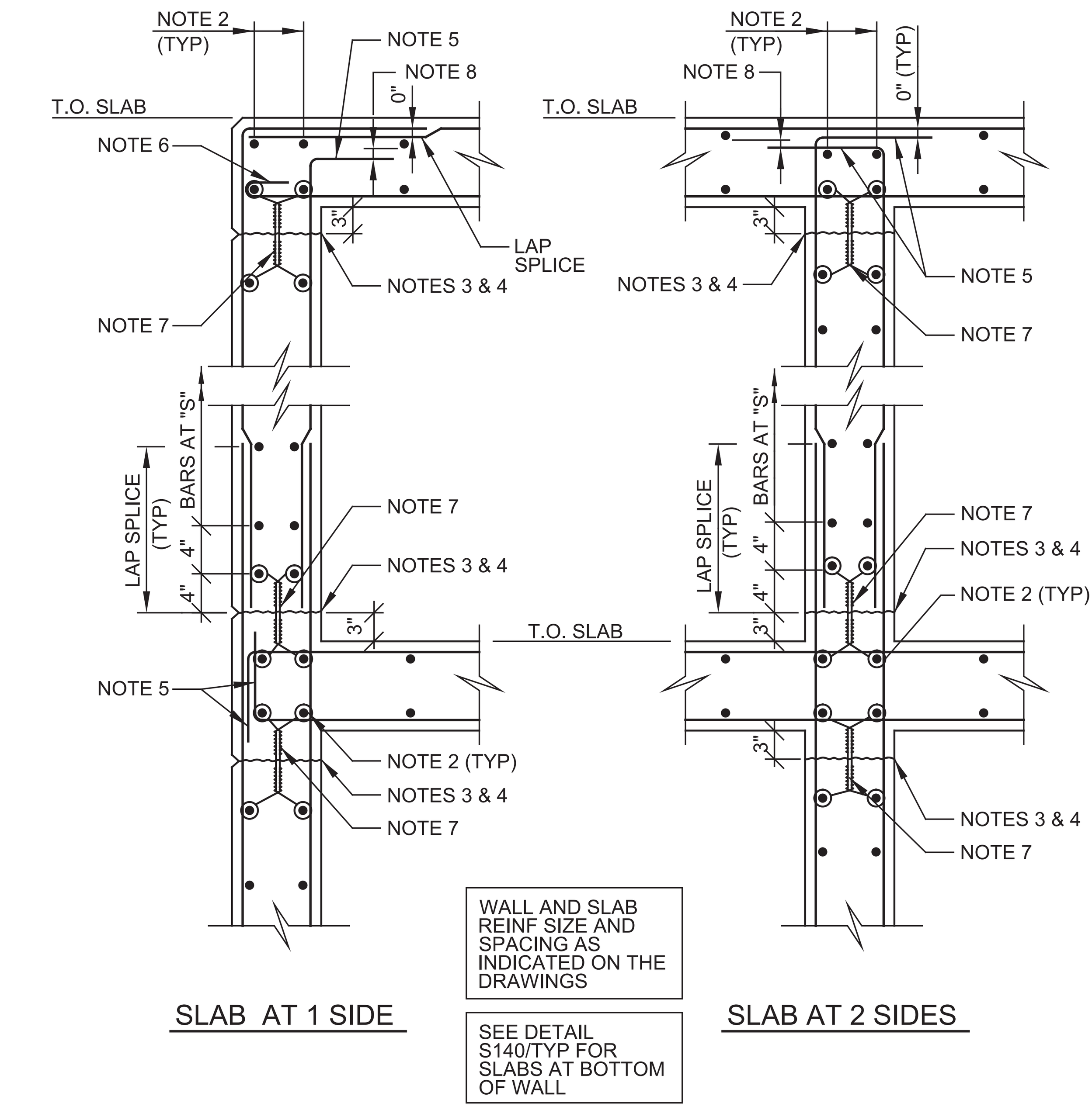
SEE DETAIL S140/TYP FOR SLABS AT BOTTOM OF WALL

A - SECTION

S142 TYP R — CONSTRUCTION JOINT - WALLS AT ELEVATED SLABS

SHEET 1 OF 3 10/23/17

S142 TYP — CONSTRUCTION JOINT - WALLS AT ELEVATED SLABS (SHEET 2 OF 3)



WALL AND SLAB REINF SIZE AND SPACING AS INDICATED ON THE DRAWINGS

SEE DETAIL S140/TYP FOR SLABS AT BOTTOM OF WALL

B - SECTION - "W/ WSTP"

S142 TYP R — CONSTRUCTION JOINT - WALLS AT ELEVATED SLABS

SHEET 2 OF 3 10/23/17

S142 TYP — CONSTRUCTION JOINT - WALLS AT ELEVATED SLABS (SHEET 3 OF 3)

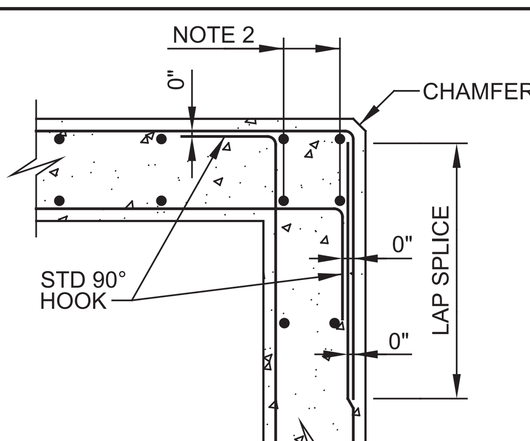
NOTES:

1. "S" EQUALS TYPICAL BAR SPACING INDICATED ON THE DRAWINGS.
2. AT INTERSECTION, MAKE BAR SIZE THE LARGER OF BAR SIZES IN ADJACENT SLAB OR WALL. PLACE BARS AT SAME LAYERS AS IN ADJACENT SLAB OR WALL.
3. WATER-BLAST JOINT FACE AND PROJECTING REINFORCEMENT BEFORE PLACING CONCRETE.
4. PLACE CEMENT GROUT OVER JOINT FACE IMMEDIATELY BEFORE PLACING CONCRETE. (SEE SPECIFICATIONS)
5. STANDARD 90° HOOK UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
6. STANDARD 180° HOOK UNLESS OTHERWISE INDICATED ON THE DRAWINGS. (ALTERNATE: 90° HOOK ROTATED OUT OF VERTICAL PLANE WHERE REQUIRED, IF APPROVED BY ENGINEER).
7. 6" PVC WATERSTOP CENTERED VERTICALLY ON JOINT. PROVIDE WIRE TIES MAX 2'-0" OC. HOG RINGS MAY BE USED IN LIEU OF WIRE LOOPS. THOROUGHLY CLEAN WATERSTOP BEFORE PLACING CONCRETE.
8. 1 BAR DIAMETER CLEAR.
9. WHERE DRAWINGS INDICATE "W/ STRIP WSTP" PROVIDE LOW EXPANSION HYDROPHILIC WATERSTOP AT TOP SURFACE OF JOINT AND CENTERED BETWEEN VERTICAL BARS.

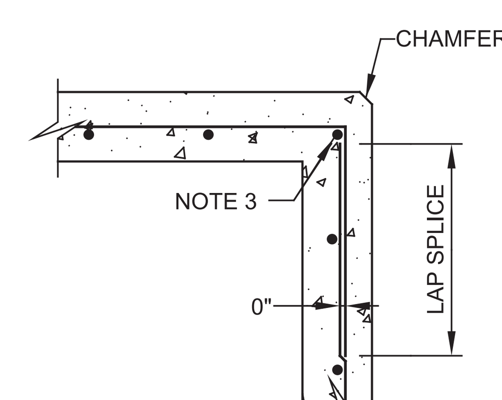
S142 TYP R — CONSTRUCTION JOINT - WALLS AT ELEVATED SLABS

SHEET 3 OF 3 10/23/17

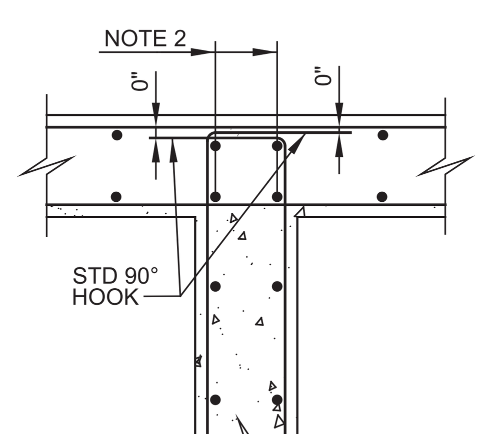
S144 TYP — WALL REINFORCEMENT AT CORNERS & INTERSECTIONS (SHEET 1 OF 2)



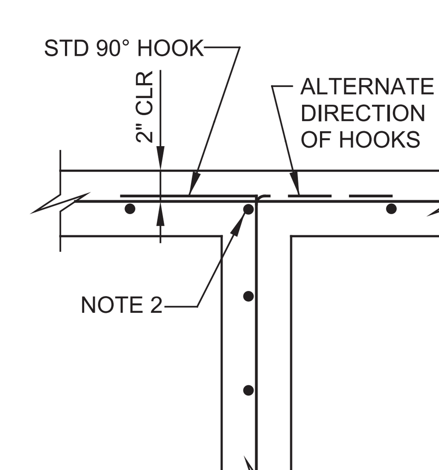
A - DETAIL - CORNER: DOUBLE MAT



B - DETAIL - CORNER: SINGLE MAT



C - DETAIL - INTERSECTION: DOUBLE MAT



D - DETAIL - INTERSECTION: SINGLE MAT

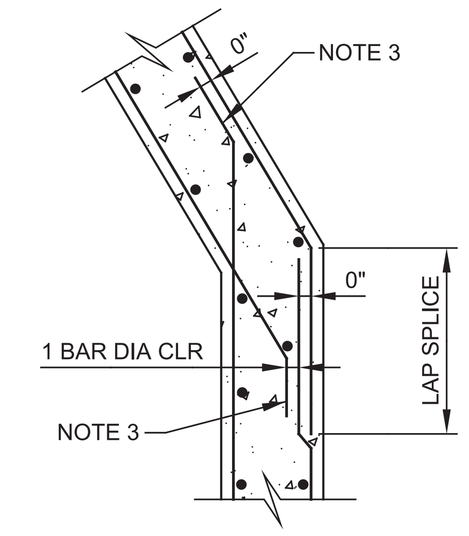
NOTES:

1. BAR SIZE, SPACING, AND ORIENTATION OF BAR LAYERS SHALL BE AS INDICATED ON THE DRAWINGS.
2. AT INTERSECTION, MAKE BAR SIZE THE LARGER OF BAR SIZES IN CONNECTING WALLS. PLACE BARS IN SAME LAYERS AS AT CONNECTING WALLS (TYP).
3. BAR TAILS: 12 BAR DIAMETERS PLUS 12".

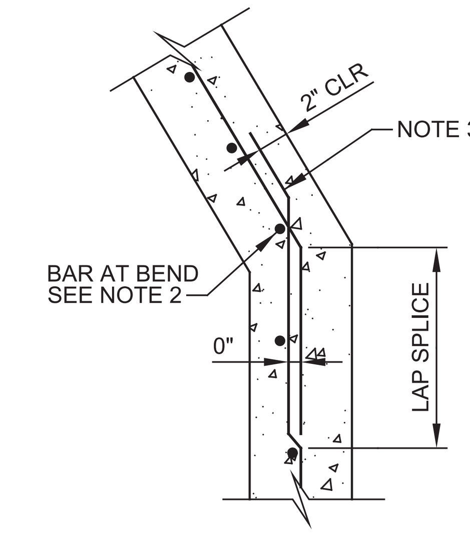
S144 TYP S — WALL REINFORCEMENT AT CORNERS & INTERSECTIONS

SHEET 1 OF 2 05/31/16

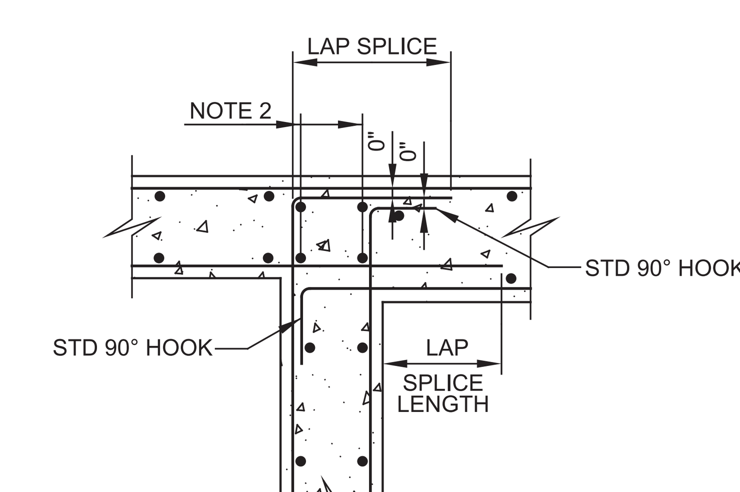
S144 TYP — WALL REINFORCEMENT AT CORNERS & INTERSECTIONS (SHEET 2 OF 2)



E - DETAIL - INTERSECTION: DOUBLE MAT



F - DETAIL - INTERSECTION: SINGLE MAT



G - DETAIL - INTERSECTION: CHANGE IN WALL THICKNESS

S144 TYP S — WALL REINFORCEMENT AT CORNERS & INTERSECTIONS

SHEET 2 OF 2 05/31/16

REV	DATE	BY	DESCRIPTION

DESIGNED CE | DRAWN CE | CHECKED IKC | DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER INDERPREET KAUR CHAGGAR No. 80512 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune Contact Info: Carollo Engineers, Inc. Date: 2018.04.24 13:54:58-07'00'

Digitally signed by Inderpreet Chaggar Contact Info: Carollo Engineers, Inc. Date: 2018.04.24 15:12:35-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK

NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM TURLOCK COMPONENT

TYPICALS

TYPICAL DETAILS STRUCTURAL - II

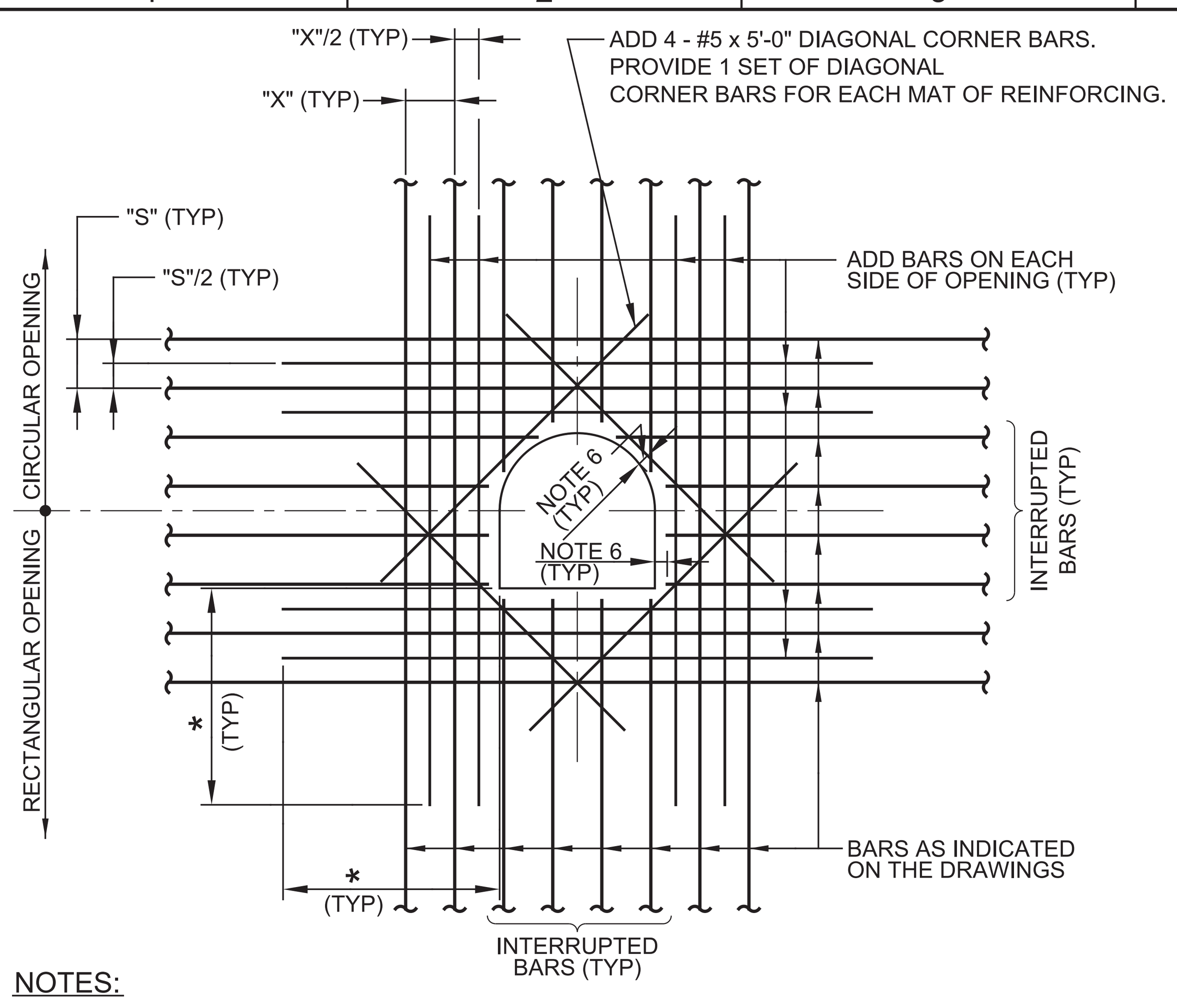
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JOB NO. 10595A.10

DRAWING NO. TS02

SHEET NO. 30 OF 122

Plot Date: 19-APR-2018 4:24:41 PM User: svcPW PlotScale: 2:1 DesignScript: Carollo_Std_Pen_v0905.pen ColorTable: gshade.ctb Model: Layout1 LAST SAVED BY: Alaico

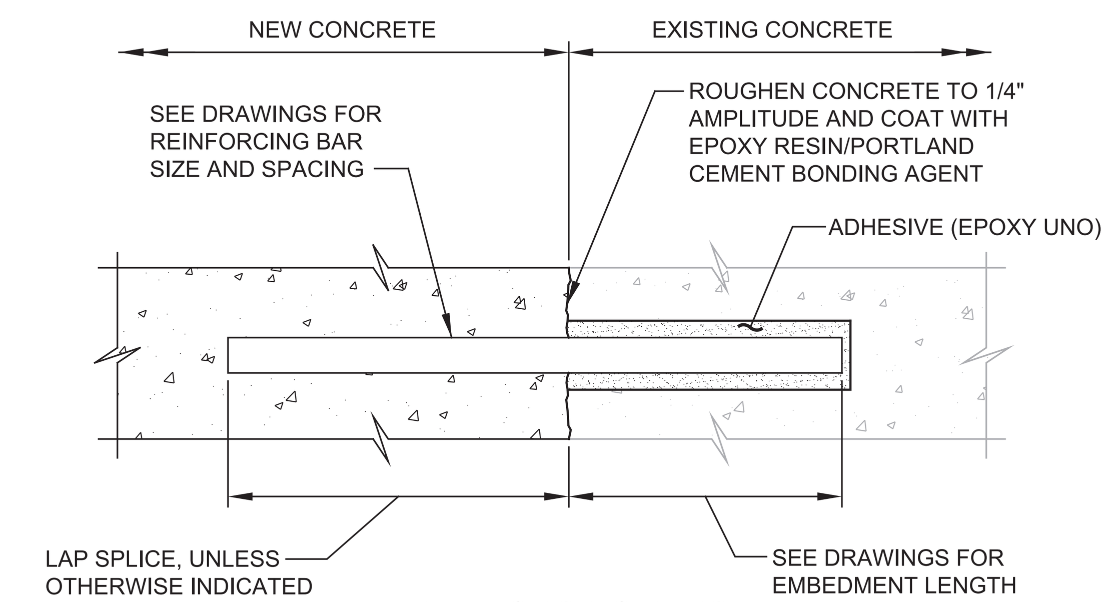


NOTES:

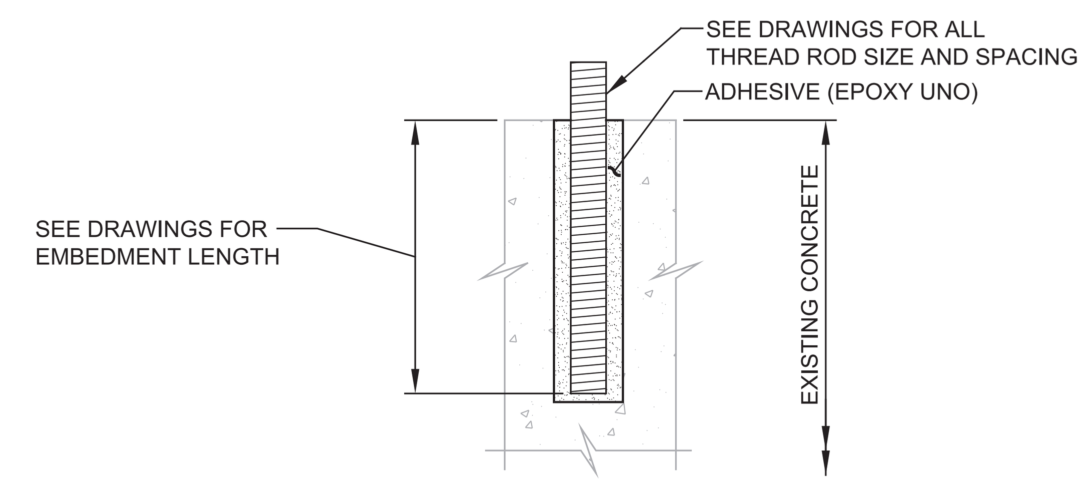
1. AREA OF ADD BARS AT EACH EDGE OF OPENING IN EACH DIRECTION SHALL BE EQUAL TO OR GREATER THAN 1/2 THE CROSS SECTIONAL AREA OF THE INTERRUPTED BARS.
2. PROVIDE STANDARD ACI HOOKS ON BARS IF STRAIGHT EXTENSION PAST THE OPENING, CANNOT BE ACHIEVED.
3. PLACE ADD BARS IN SAME PLANES AS INTERRUPTED REINFORCING.
4. PLACE #5 DIAGONAL BARS ON INSIDE OF INTERRUPTED REINFORCING.
5. * DIMENSION EQUALS OPENING DIMENSION MEASURED PERPENDICULAR TO ADD BARS PLUS LAP SPLICE LENGTH.
6. 2" CLEAR TO CONCRETE OPENINGS OR OUTSIDE FACE OF PIPES AND PIPE SLEEVES. DO NOT OVERCUT REINFORCMENT FOR EASIER PLACEMENT OF WEEP RINGS AND FLANGES.
7. ADD BARS ARE NOT REQUIRED AT SIDES OF OPENINGS PARALLEL TO AND WITHIN 6" OF A WALL OR BEAM.

S180 TYP S — ADDITIONAL REINFORCING AT OPENINGS IN CONCRETE SLABS OR WALLS

06/01/17



REINFORCING BARS



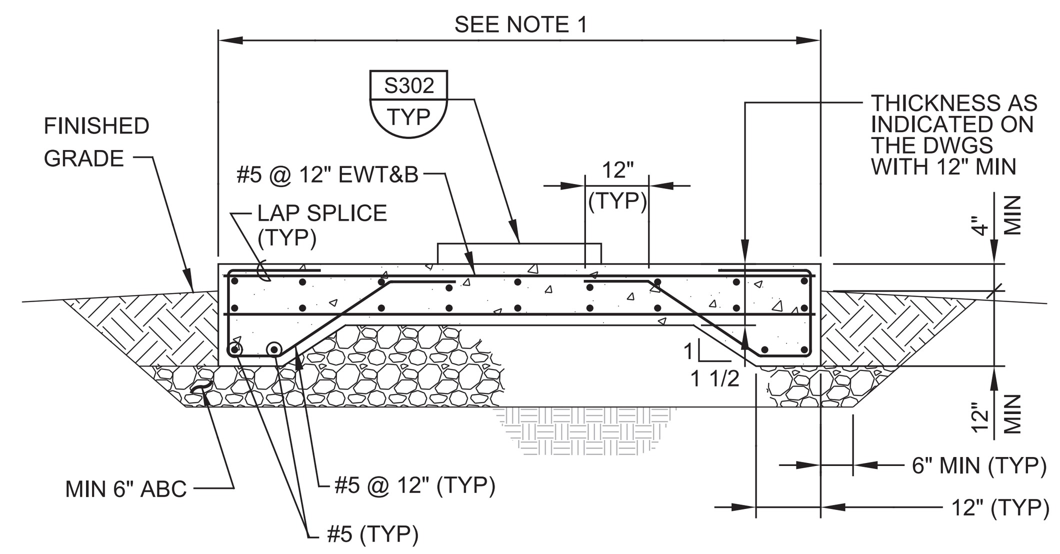
ALL-THREAD RODS

NOTE:

1. INSTALLATION OF REINFORCING BARS AND ALL THREAD RODS AS INDICATED IN THE SPECIFICATIONS.

S194 TYP S — ADHESIVE BONDED REINFORCING BARS OR ALL THREAD RODS

04/18/17

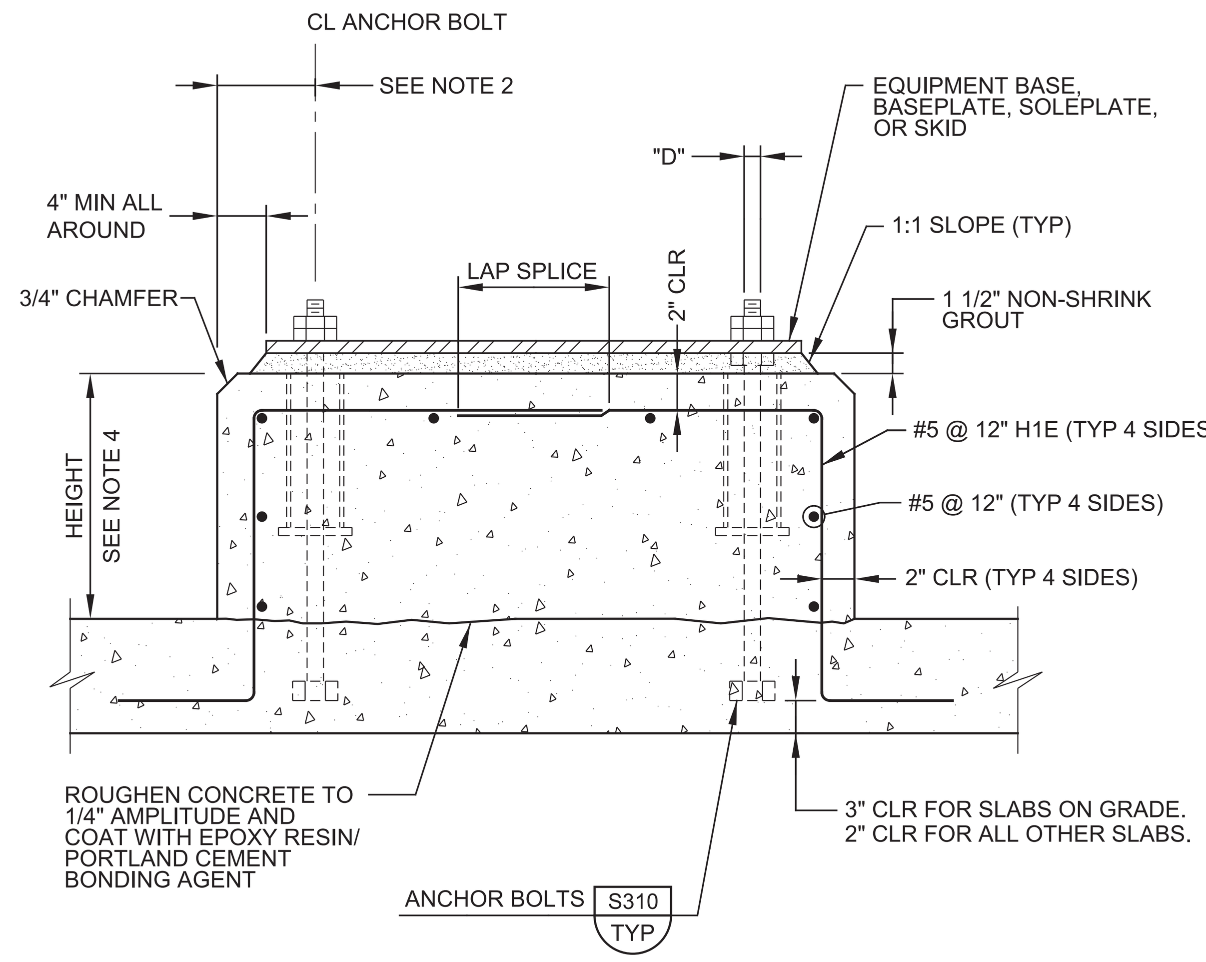


NOTE:

1. DIMENSIONS AS REQUIRED TO SUIT EQUIPMENT OR AS INDICATED ON THE DRAWINGS.

S300 TYP S — EQUIPMENT SLAB

04/18/17

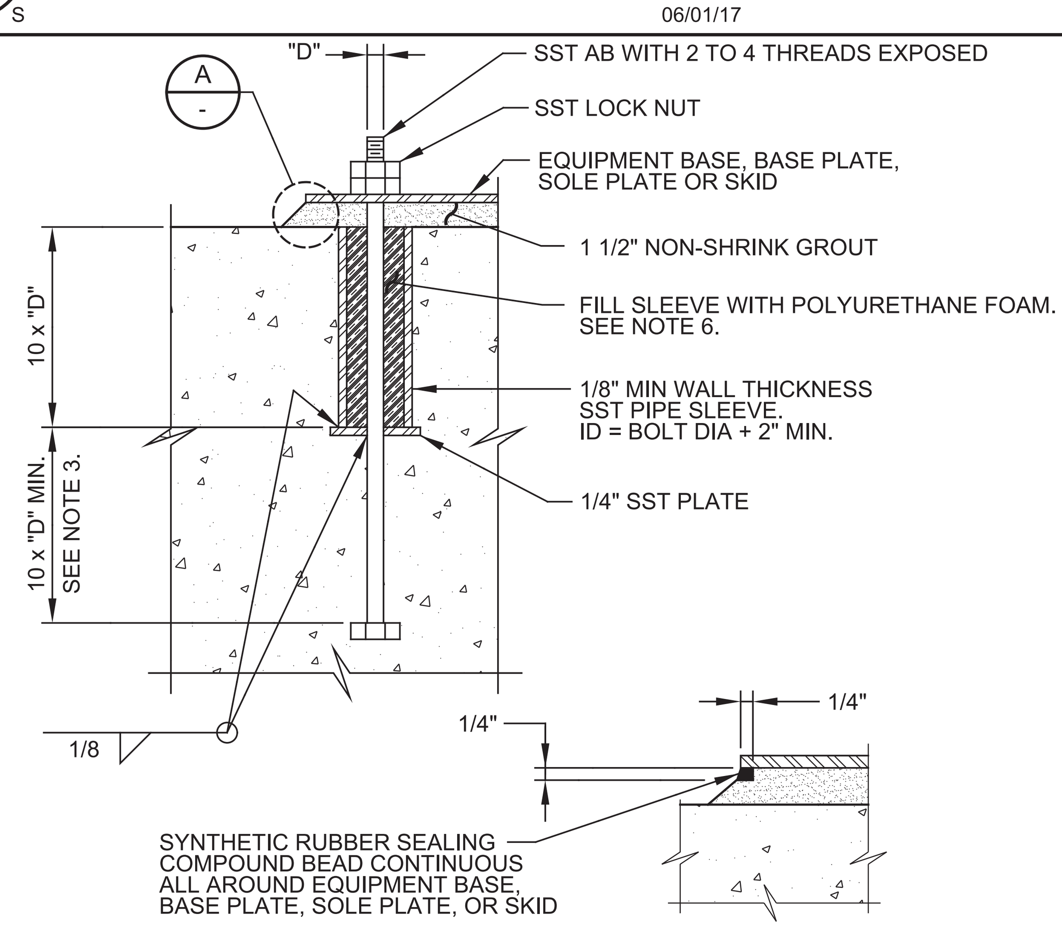


NOTES:

1. "D" = DIAMETER OF ANCHOR BOLT.
2. THE EDGE DISTANCE ON THE ANCHOR BOLTS SHALL NOT BE LESS THAN 6" OR 8 x "D".
3. PAD DIMENSIONS AND ANCHOR BOLT SIZE SHALL CONFORM TO EQUIPMENT MANUFACTURER'S REQUIREMENTS.
4. VARIES TO SUIT EQUIPMENT FURNISHED OR AS INDICATED ON THE DRAWINGS. THE HEIGHT IS ZERO FOR THE GENERATOR BASE IN THIS DESIGN.
5. WHERE CONCRETE SLAB OR BEAM THICKNESS WILL NOT ACCOMMODATE THE ANCHOR BOLT, PROVIDE EXTRA THICKNESS FOR SLAB OR BEAM.

S302 TYP R — EQUIPMENT BASE

12/04/17



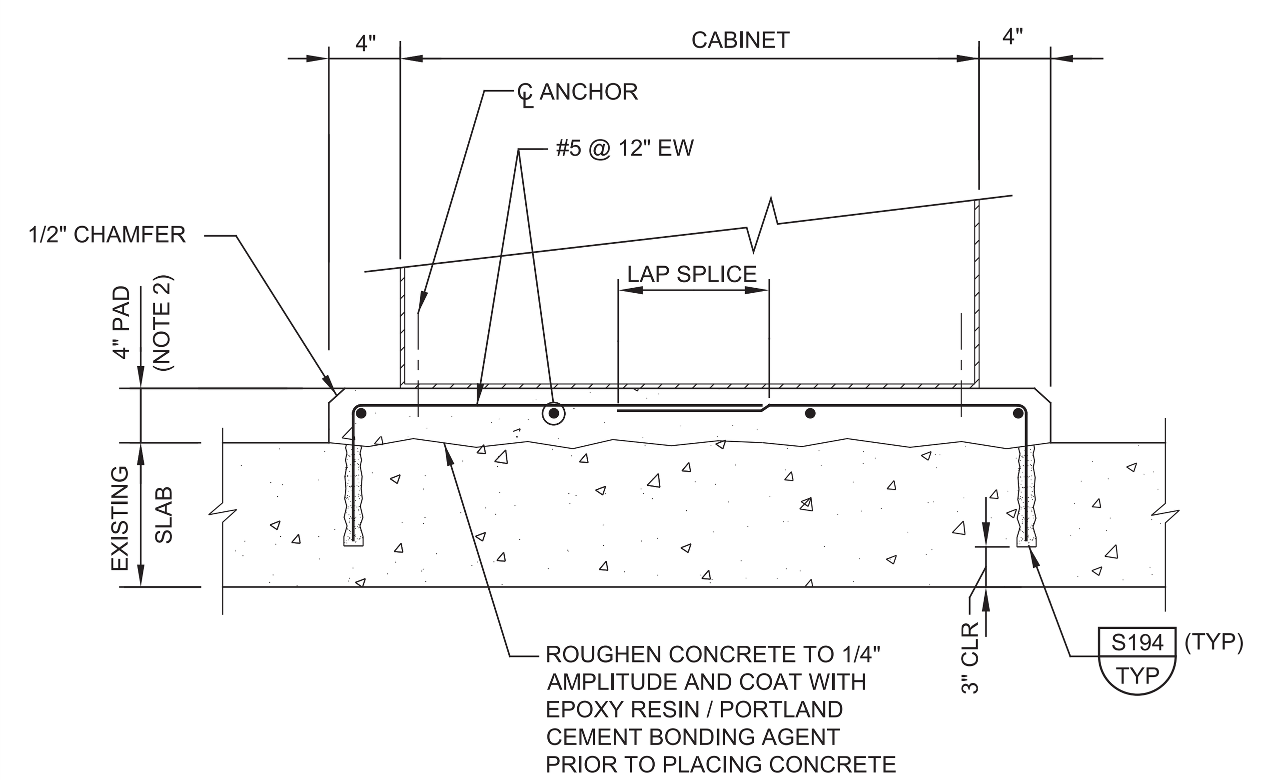
A - DETAIL

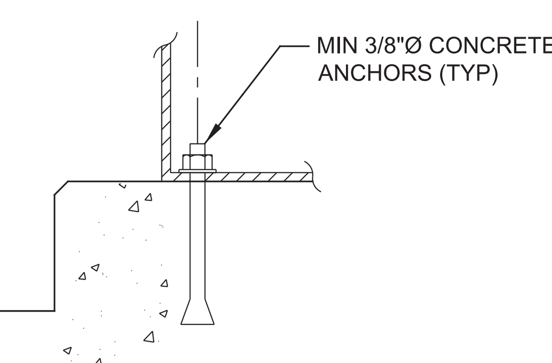
NOTES:

1. "D" = DIAMETER OF ANCHOR BOLT.
2. ANCHOR BOLT DIAMETER AS INDICATED ON THE DRAWINGS. IF NOT INDICATED ON THE DRAWINGS, THE ANCHOR BOLT SIZE SHALL BE AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
3. WHERE CONCRETE SLAB OR BEAM THICKNESS WILL NOT ACCOMMODATE THE ANCHOR BOLT, PROVIDE EXTRA THICKNESS OF SLAB OR BEAM.
4. PREFABRICATED PLASTIC ANCHOR BOLT SLEEVE OPTIONAL.
5. DO NOT USE ALL THREAD RODS AS A SUBSTITUTE FOR BOLTS WITH A BOLT HEAD. SMOOTH RODS THREADED AT THE ENDS MAY BE USED IF ACCEPTABLE TO THE ENGINEER. DO NOT WELD NUTS TO THE THREADED RODS.
6. COMPLETELY REMOVE ANY POLYURETHANE FOAM FROM CONCRETE, EQUIPMENT BASE, BASE PLATE, SOLE PLATE, OR SKID, AND ANCHOR BOLTS ABOVE TOP OF CONCRETE.
7. DO NOT USE LEVELING NUTS TO SUPPORT AND LEVEL EQUIPMENT BASE, BASE PLATE, SOLE PLATE, OR SKID.

S310 TYP N — ANCHOR BOLT - EMBED AND SLEEVE

05/20/15





A - POST-INSTALLED ANCHOR

NOTES:

1. SEE S101/ TYP FOR MIN CONCRETE COVER REQUIREMENTS.
2. FIELD VERIFY TO MATCH EXISTING HOUSEKEEPING PAD.

S350 TYP R — ELECTRICAL EQUIPMENT HOUSEKEEPING PAD

11/01/17

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED IKC
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER — INDERPREET KAUR CHAGGAR — No. 80512 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.24 13:55:12-07'00'

Digitally signed by Inderpreet Chaggar
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.24 15:12:48-07'00'

REGISTERED PROFESSIONAL ENGINEER — DARREN G. BAUNE — No. 68899 — CIVIL — STATE OF CALIFORNIA

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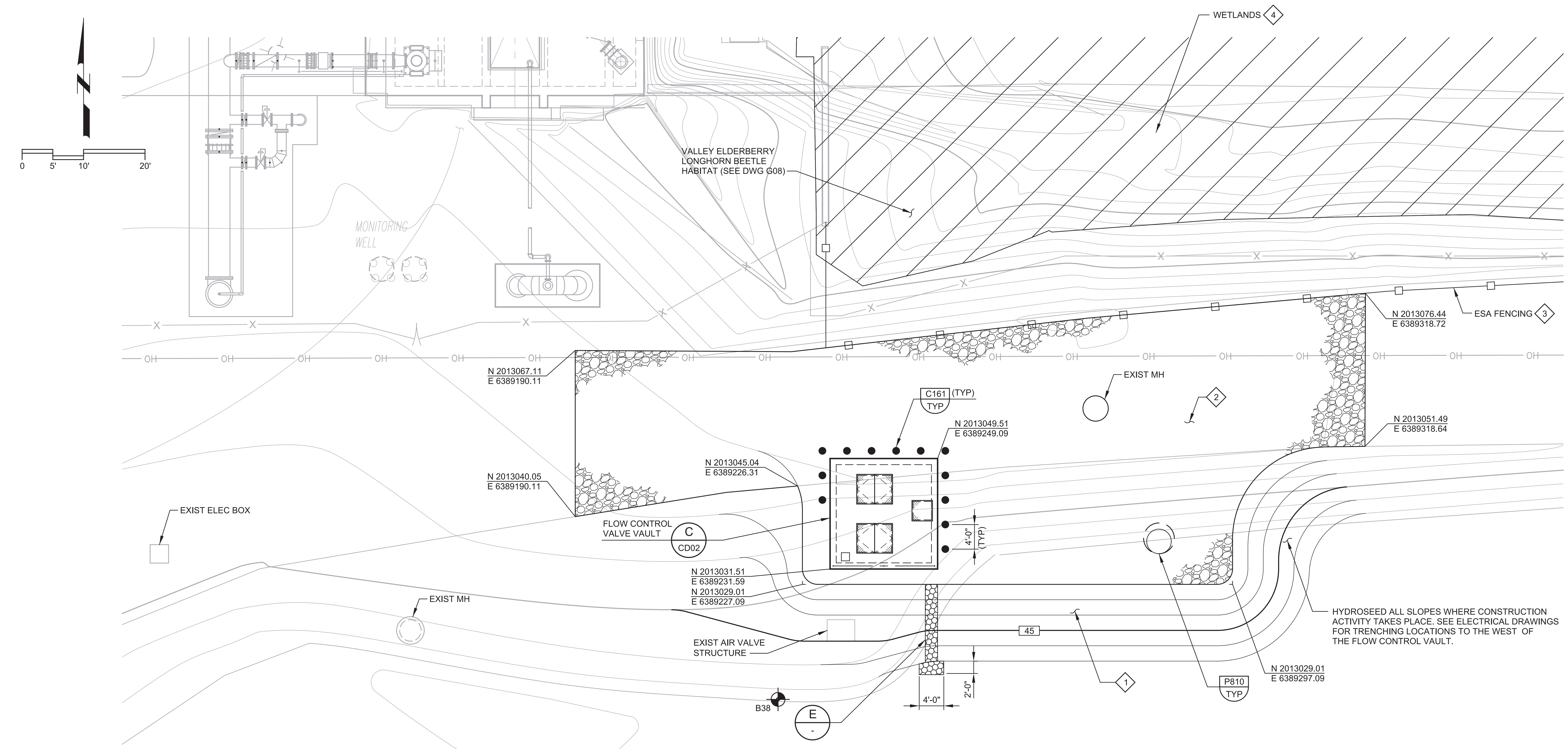
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
TYPICALS
TYPICAL DETAILS STRUCTURAL - III

VERIFY SCALES
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0 — 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10595A.10
DRAWING NO. TS03
SHEET NO. 31 OF 122

Plot Date: 19-APR-2018 4:24:39 PM User: svcPW PlotScale: 2:1 DesignScript: Carollo_Std_Pen_v0905.pen ColorTable: gshade.ctb Model: Layout1 LAST SAVED BY: Alaico



A FLOW CONTROL VALVE VAULT - PLAN

FILE: 10595A10C101

GENERAL NOTES:

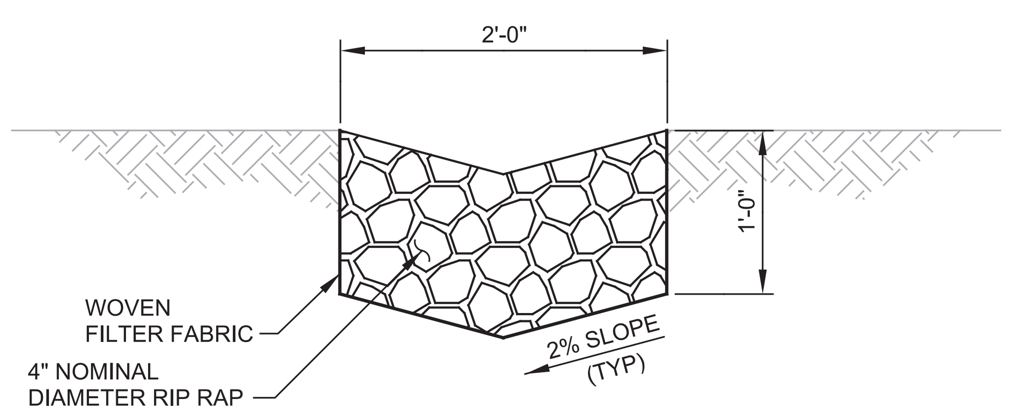
1. EXCAVATED NATIVE MATERIAL FROM THE FLOW CONTROL VAULT MAY BE USED AS BACKFILL PROVIDED IT IS CONDITIONED TO AN APPROPRIATE MOISTURE CONTENT BEFORE COMPACTION. AGGREGATE BASE COURSE MAY ALSO BE USED AS BACKFILL MATERIAL.

KEY NOTES:

1. SLOPE AT 2.5:1 (HORIZONTAL TO VERTICAL), COMPACT SLOPES TO 90% RELATIVE COMPACTION PER ASTM D 1557.
2. AGGREGATE BASE COURSE IS REQUIRED TO BE PLACED ON THE TOP 6 INCHES OF THE FLAT AREAS AT THE TOP OF THE SLOPE. COMPACT FLAT AREAS TO 90% RELATIVE COMPACTION TO WITHIN 2 FEET OF THE SURFACE AND COMPACT THE TOP 2 FEET TO 95% RELATIVE COMPACTION. COMPACTION SHALL BE PER ASTM D 1557.
3. INSTALL ENVIRONMENTALLY SENSITIVE AREA (ESA) FENCING AND SIGNAGE PER THE SPECIFICATIONS.
4. CONTRACTOR IS PROHIBITED FROM ENTERING WETLAND AREAS AND SHALL TAKE ALL MEASURES NECESSARY TO PROTECT WETLANDS IN PLACE DURING CONSTRUCTION.

LEGEND:

AGGREGATE BASE COURSE



E RIP RAP - SECTION

SCALE: NO SCALE
FILE: 10595A10C304

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune Contact Info: Carollo Engineers, Inc. Date: 2018.04.25 09:06:52-07'00'

Digitally signed by Jonathon P. Marshall Contact Info: Carollo Engineers, Inc. Date: 2018.04.25 10:28:01-07'00'

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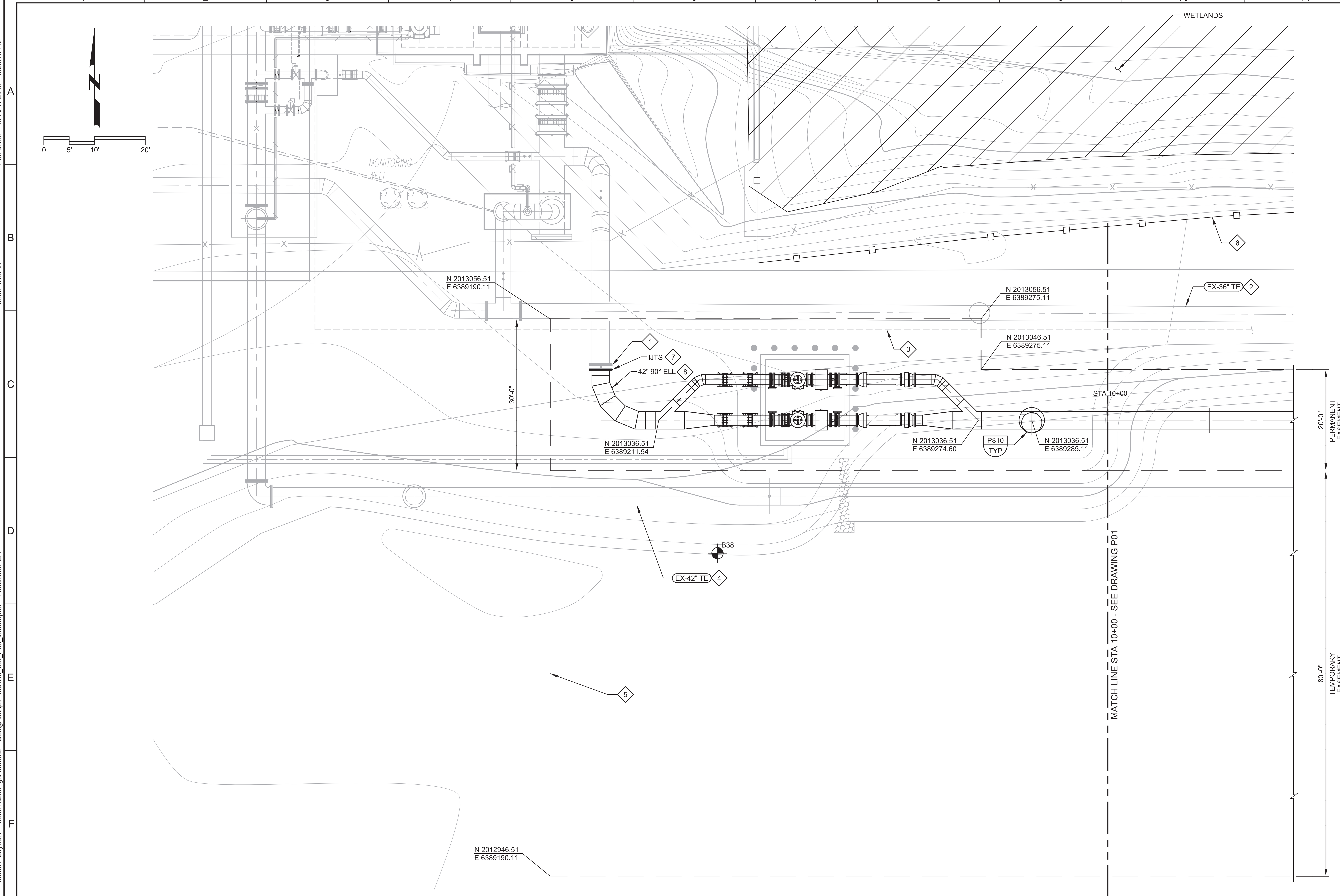
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
MODESTO EFFLUENT PUMP STATION SITE
PAVING AND GRADING

VERIFY SCALES
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JOB NO. 10595A.10
DRAWING NO. C01
SHEET NO. 32 OF 122

Plot Date: 19-APR-2018 5:20:08 PM User: svcPW PlotScale: 2:1 DesignScript: Carollo_Std_Pen_v0905.pen ColorTable: gshade.ctb Model: Layout1 LAST SAVED BY: DFassbinder



GENERAL NOTES:

1. SEE SPECIFICATIONS FOR WORK RESTRICTIONS FOR WORKING WITHIN TEMPORARY AND PERMANENT EASEMENTS.

KEY NOTES:

1. PRIOR TO PREPARING PIPELINE LAY DRAWINGS EXCAVATE TO VISUALLY LOCATE TIE-IN AND SURVEY THE NORTHING AND EASTING AND PIPELINE DEPTH. REMOVE BLIND FLANGE, INSTALL INSULATING FLANGE KIT, NEW GASKET, AND TIE-INTO EXISTING PIPELINE WITH A FLANGED CONNECTION. RETURN EXISTING BLIND FLANGE TO CITY OF MODESTO. DURING TIE-IN, ASSUME 10 GPM OF BLOW-BY WATER THROUGH THE EXISTING 42-INCH BUTTERFLY VALVE. INVERT OF THE BUTTERFLY VALVE AT THE TIE-IN IS APPROXIMATELY 33.75' AND CENTERLINE IS APPROXIMATELY 33.50'.
2. EXISTING 36-INCH DIAMETER TERTIARY EFFLUENT PIPELINE (STEEL). PROTECT IN PLACE.
3. EXISTING FIBER OPTIC COMMUNICATION LINE. THIS IS A CRITICAL FACILITY. USE EXTREME CAUTION WHEN WORKING NEARBY. CONTRACTOR SHALL FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION BY POTHOLING EVERY 50 FEET IN LOCATIONS WHERE GROUND DISTURBING ACTIVITIES ARE WITHIN 50 FEET (HORIZONTAL) OF THE FIBER OPTIC LINE. CONTRACTOR SHALL PROTECT FIBER OPTIC IN PLACE.
4. EXISTING 42-INCH DIAMETER MODESTO NVRRWP PIPELINE (STEEL). PROTECT IN PLACE.
5. INSTALL TEMPORARY SNOW FENCE AT THE TEMPORARY CONSTRUCTION EASEMENT (TCE) LIMIT OR BOUNDARY OF WORK AREA IF WITHIN TCE. MAINTAIN FENCE UNTIL WORK AT THE SITE IS COMPLETE, THEN REMOVE FENCE.
6. INSTALL ENVIRONMENTALLY SENSITIVE AREA (ESA) FENCING AND SIGNAGE PER THE SPECIFICATIONS.
7. SEE CATHODIC PROTECTION DRAWINGS.
8. PROVIDE A VERTICAL OFFSET IN THE 90 DEGREE ELBOW BASED ON FIELD MEASUREMENTS (ANTICIPATED TO BE APPROXIMATELY 0.94 FEET) TO CONNECT CENTERLINE OF TIE-IN TO CENTERLINE OF FLOW CONTROL VALVE PIPING.

B FLOW CONTROL VALVE VAULT - PLAN

FILE: 10595A10C101

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

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Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:07:16-07'00'

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Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:27:53-07'00'

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TURLOCK COMPONENT
CIVIL
MODESTO EFFLUENT PUMP STATION SITE
YARD PIPING

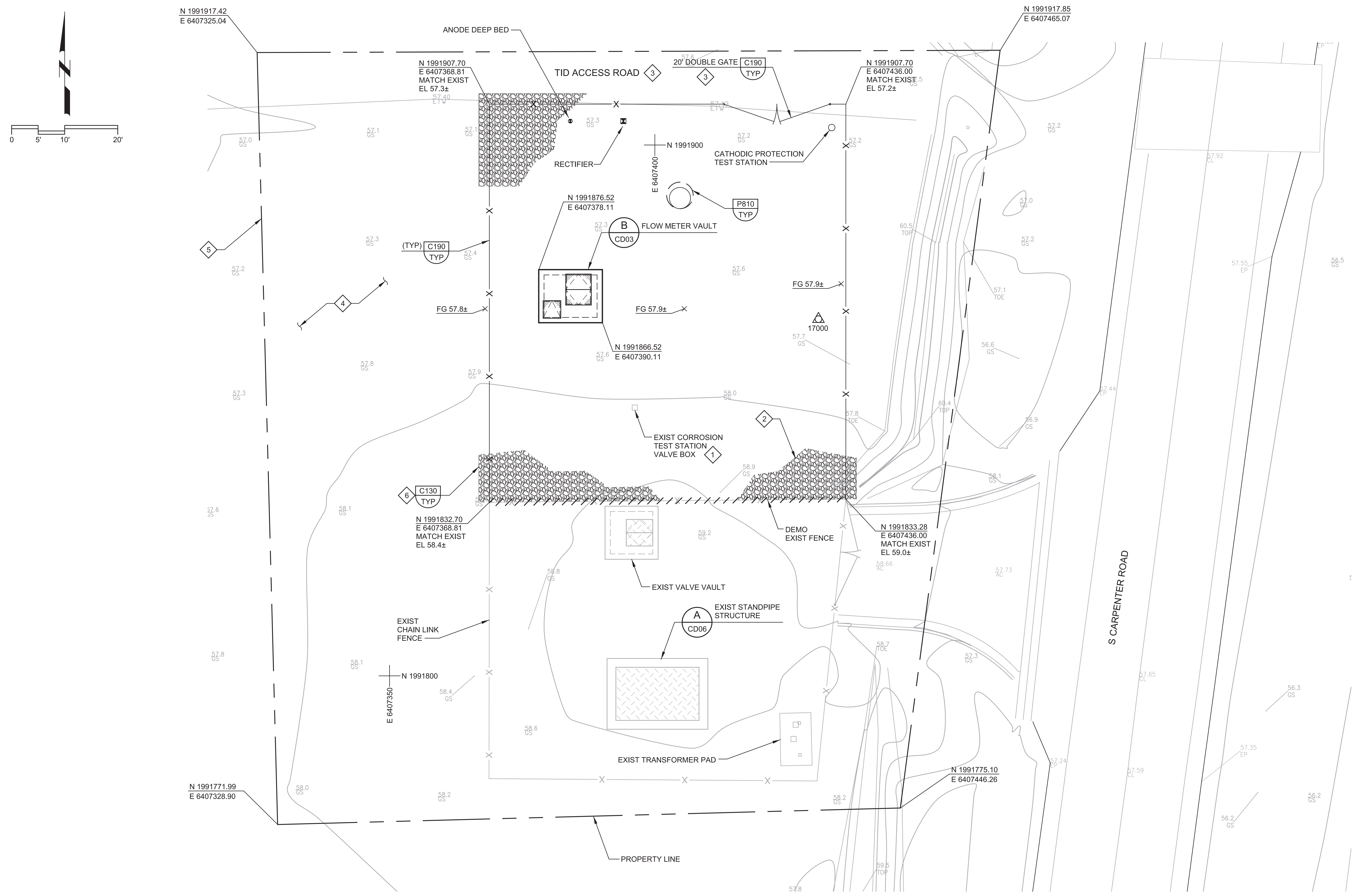
VERIFY SCALES
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JOB NO. 10595A.10
DRAWING NO. C02
SHEET NO. 33 OF 122

PROJECT NO.
FILE NAME: 10595A10C02.dgn

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User: svcPW
Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 2:1
LAST SAVED BY: DFassbinder



C PLAN
FILE: 10595A10C103

KEY NOTES:

1. REMOVE EXIST CORROSION TEST STATION VALVE BOX AND REPLACE WITH SIMILAR BOX RATED FOR HS-20 LOADING.
2. ENTIRE AREA WITHIN THE NEW FENCE AND 2' BEYOND THE FENCE SHALL CONSIST OF 6" DECOMPOSED GRANITE OVER 6" ABC COMPACTED TO 95% RELATIVE COMPACTION PER ASTM D 1557. GRADE A UNIFORM SLOPE, PREVENT PONDING WATER, AND DRAIN TO THE NORTH.
3. PROVIDE TID UNOBSTRUCTED ACCESS AT ALL TIMES TO GATE AND HARDING ROAD.
4. CONTRACTOR MAY USE THE UNDEVELOPED PROPERTY, (WITH THE EXCEPTION OF HARDING ROAD), FOR STAGING DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR SECURITY OF MATERIALS AND EQUIPMENT AND ALL FACILITIES UNDER CONSTRUCTION FOR THE DURATION OF CONSTRUCTION. AFTER COMPLETION OF CONSTRUCTION, HYDROSEED ALL UNDEVELOPED AREAS ON THE PROPERTY THAT ARE USED FOR STAGING AND/OR HAVE BEEN OCCUPIED DURING CONSTRUCTION. FILL IN LOW SPOTS WITH CLEAN TOP SOIL OR ENGINEER APPROVED FILL PRIOR TO HYDROSEEDING.
5. INSTALL TEMPORARY SNOW FENCE AT THE PROPERTY LINE OR BOUNDARY OF WORK/STAGING AREA IF WITHIN THE PROPERTY LINE. MAINTAIN FENCE UNTIL WORK AT THE SITE IS COMPLETE, THEN REMOVE FENCE.
6. LOCATE WOOD HEADER 2 FEET OUTSIDE FENCE AT ALL TRANSITIONS BETWEEN DECOMPOSED GRANITE AND ADJACENT GROUND.

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

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Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:07:47-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:27:42-07'00'

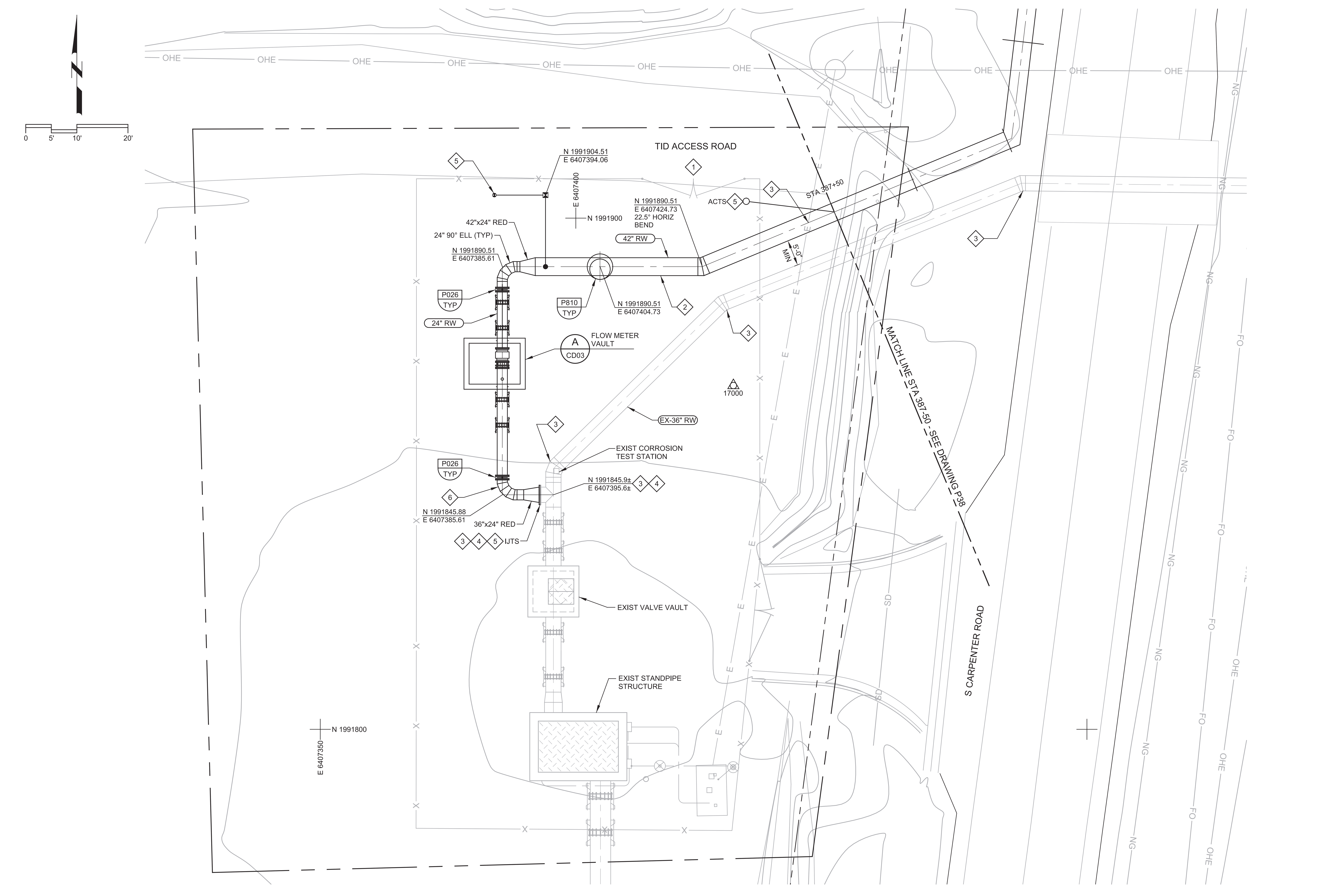
REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
TURLOCK OUTFALL SITE
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VERIFY SCALES
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JOB NO. 10595A.10
DRAWING NO. C03
SHEET NO. 34 OF 122



D PLAN

FILE: 10595A10C101

KEY NOTES:

1. PROVIDE TID UNOBSTRUCTED ACCESS AT ALL TIMES TO GATE AND HARDING ROAD.
2. FROM STA 387+50 TO THE CONNECTION TO THE EXISTING 36" RECYCLED WATER, THE 42" RW PIPELINE SHALL BE RESTRAINED PER DETAIL P840/TYP.
3. PRIOR TO PREPARING PIPELINE LAY DRAWINGS, POTHOLE TO LOCATE TIE-IN AND ANGLE POINTS OF EXISTING PIPELINE AND EXISTING ELECTRICAL DUCTBANK. SURVEY THE NORTHING AND EASTING LOCATIONS AND PIPELINE DEPTH. NOTIFY ENGINEER OF ANY DISCREPANCIES BETWEEN CONTRACT DRAWINGS AND FIELD CONDITIONS.
4. REMOVE EXISTING BLIND FLANGE, INSTALL INSULATING FLANGE KIT, NEW GASKET, AND TIE-INTO EXISTING PIPELINE WITH A FLANGED CONNECTION. RETURN EXISTING BLIND FLANGE TO CITY OF TURLOCK. SEE SPECIFICATIONS FOR EXISTING PIPELINE SHUTDOWN REQUIREMENTS.
5. SEE CATHODIC PROTECTION DRAWINGS.
6. PROVIDE A VERTICAL OFFSET IN THE 90° ELBOW, IF NEEDED, BASED ON FIELD MEASUREMENTS, TO CONNECT THE CENTERLINE OF THE TIE-IN TO THE CENTERLINE OF THE FLOW METER VALVE PIPING.

Plot Date: 19-APR-2018 5:19:51 PM
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Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 2:1
LAST SAVED BY: DFassbinder

REV	DATE	BY	DESCRIPTION

DESIGNED: JPM
DRAWN: AL
CHECKED: AP/DGB
DATE: APRIL 2018

REGISTERED PROFESSIONAL ENGINEER — JONATHON P. MARSHALL — No. 73265 — CIVIL — STATE OF CALIFORNIA

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Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:07:59-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:27:33-07'00'

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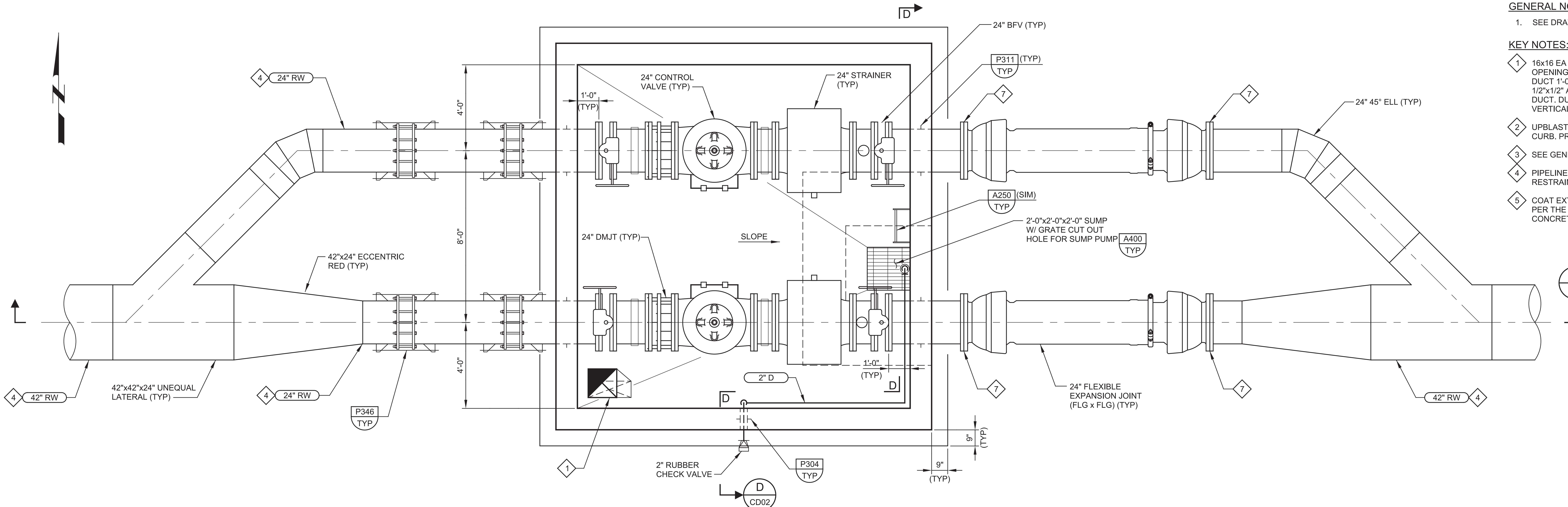
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
TURLOCK OUTFALL SITE
YARD PIPING

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JOB NO. 10595A.10
DRAWING NO. C04
SHEET NO. 35 OF 122

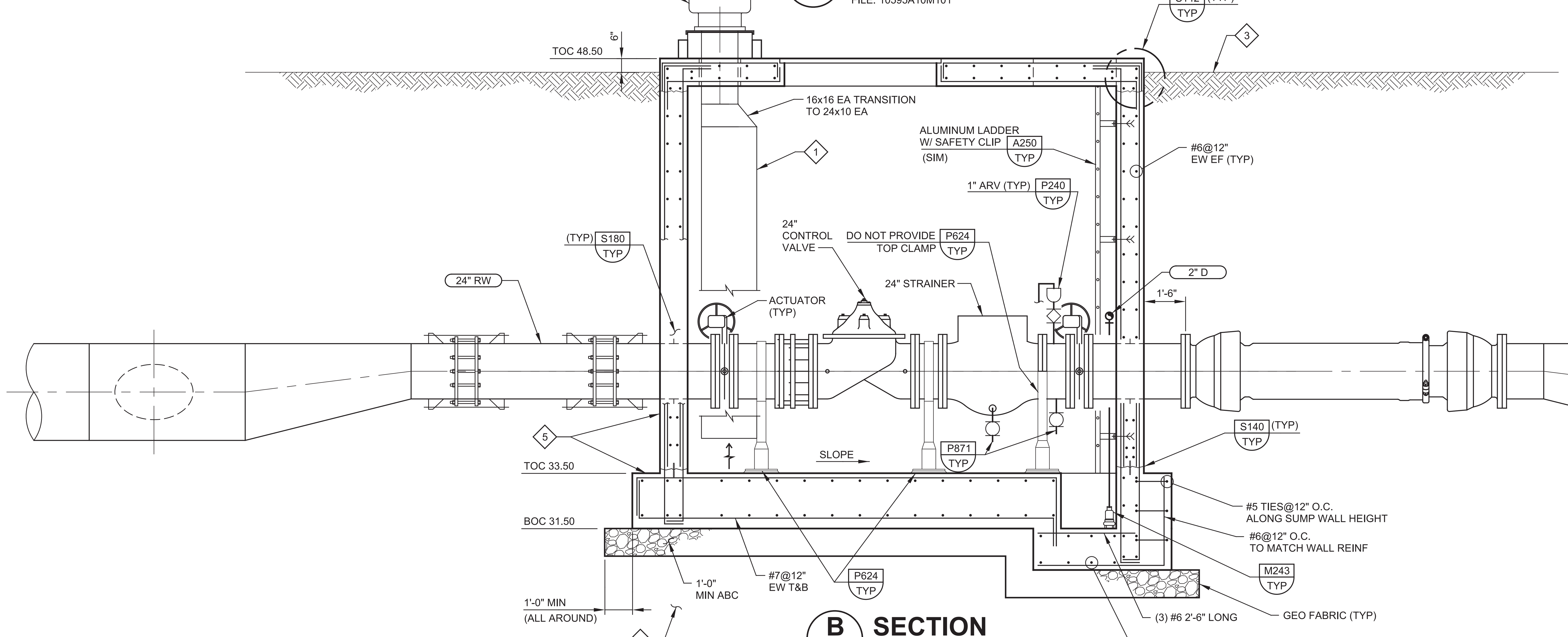
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A BOTTOM PLAN

SCALE: 3/8" = 1'-0"
FILE: 10595A10M101



B SECTION

SCALE: 3/8" = 1'-0"
FILE: 10595A10M301

GENERAL NOTES:

1. SEE DRAWING G10 FOR GENERAL STRUCTURAL NOTES.

KEY NOTES:

1. 16x16 EA DUCT FROM EF-1 TO PENETRATE THROUGH ROOF OPENING AND TRANSITION TO A 24x10 EA DUCT. TERMINATE DUCT 1'-0" ABOVE FLOOR PER DETAIL H207/TYP. PROVIDE 1/2"x1/2" ALUMINUM SCREEN WITH REMOVABLE FRAME AT END OF DUCT. DUCT SUPPORTS NOT SHOWN FOR CLARITY. PROVIDE VERTICAL DUCT SUPPORTS PER H106/TYP.
2. UPBLAST EXHAUST FAN MOUNTED ON 1'-0" CONCRETE ROOF CURB. PROVIDE FLEXIBLE DUCT CONNECTION TO FAN (FL-2).
3. SEE GENERAL NOTE 1 AND KEY NOTES 1 AND 2 ON DRAWING C01.
4. PIPELINE SHALL BE RESTRAINED. STEEL PIPE SHALL BE RESTRAINED PER DETAIL P840/TYP.
5. COAT EXTERIOR OF VAULT WITH SURFACE SEALANT SYSTEM PER THE SPECIFICATIONS. COAT FROM THE OUTER EDGE OF CONCRETE BASE TO SURFACE.
6. FOUNDATION PILES NOT SHOWN FOR CLARITY. SEE SECTION D/CD02 FOR PILE DETAIL.
7. INSTALL INSULATING FLANGE KIT IF PIPE AND FLEXIBLE EXPANSION JOINT ARE DISSIMILAR METALS PER DETAIL 1/CP10, AND INSTALL BONDING CABLES ACROSS FLEXIBLE EXPANSION JOINTS.

REV	DATE	BY	DESCRIPTION

DESIGNED JPM/IKC
DRAWN AL
CHECKED AP/MED
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

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Digitally signed by Jonathon P. Marshall Contact Info: Carollo Engineers, Inc. Date: 2018.04.25 10:27:25-07'00'

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CIVIL DETAILS

FLOW CONTROL VALVE VAULT PLAN AND SECTION

VERIFY SCALES
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0 1"
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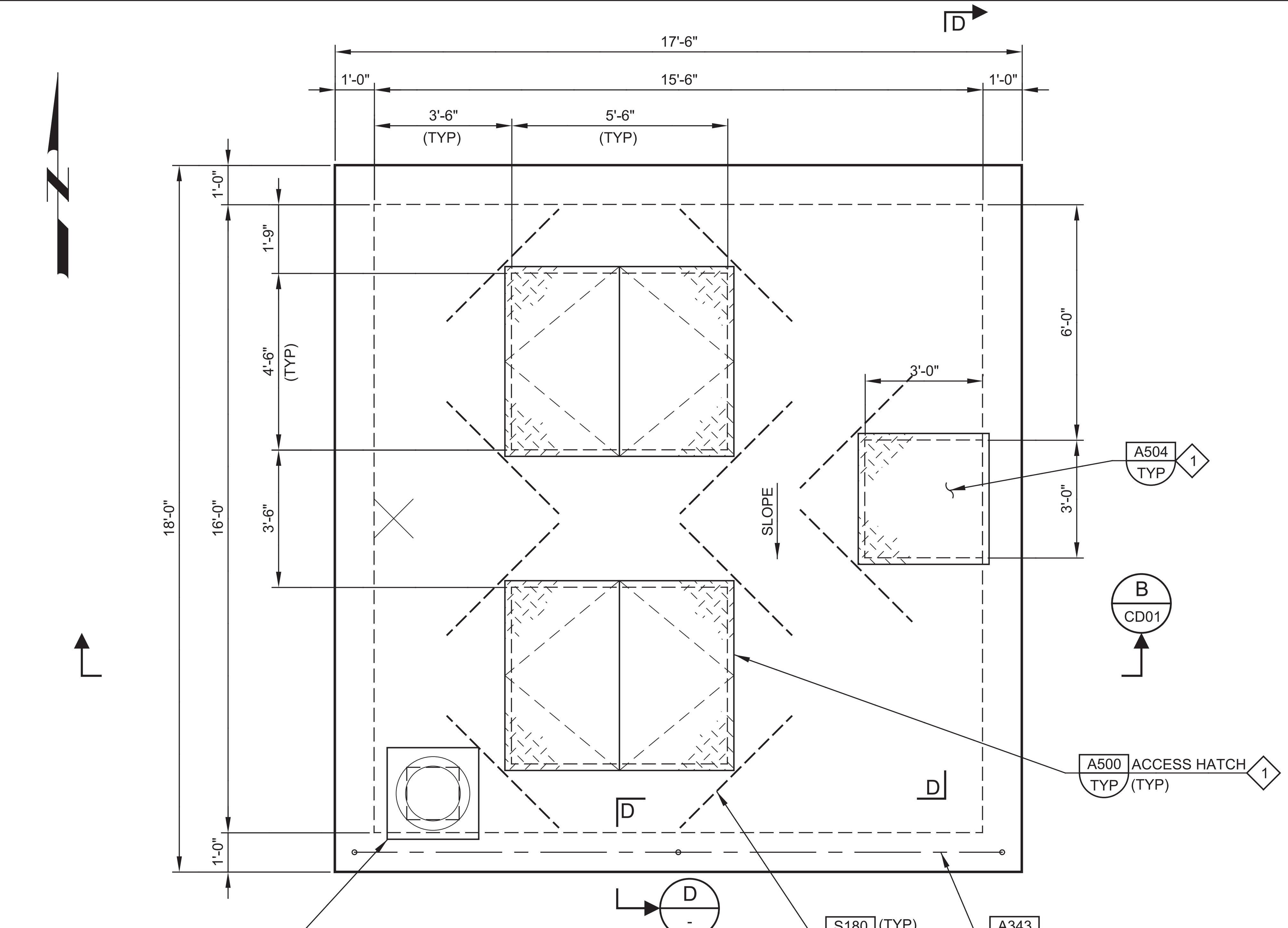
JOB NO. 10595A.10
DRAWING NO. CD01
SHEET NO. 36 OF 122

GENERAL NOTES:

1. SEE DRAWING G10 FOR GENERAL STRUCTURAL NOTES.

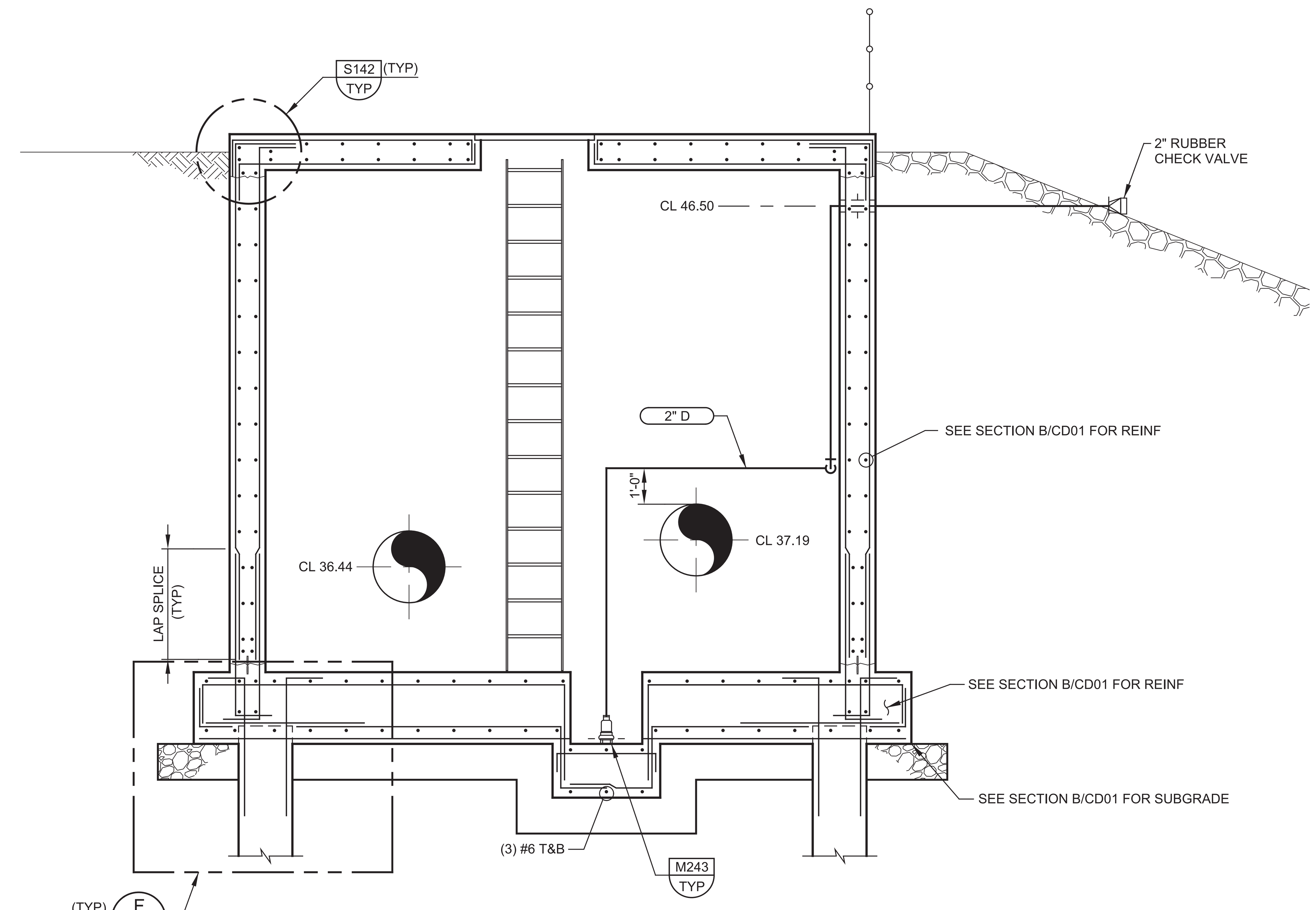
KEY NOTES:

1. HEAVY DUTY ACCESS HATCH DOORS SHALL BE ALUMINUM AND HS-20 RATED. SEE SPECIFICATION 08320 FOR REQUIREMENTS.
2. UPBLAST EXHAUST FAN MOUNTED ON 1'-0" CONCRETE ROOF CURB. PROVIDE FLEXIBLE DUCT CONNECTION TO FAN (FL-2).



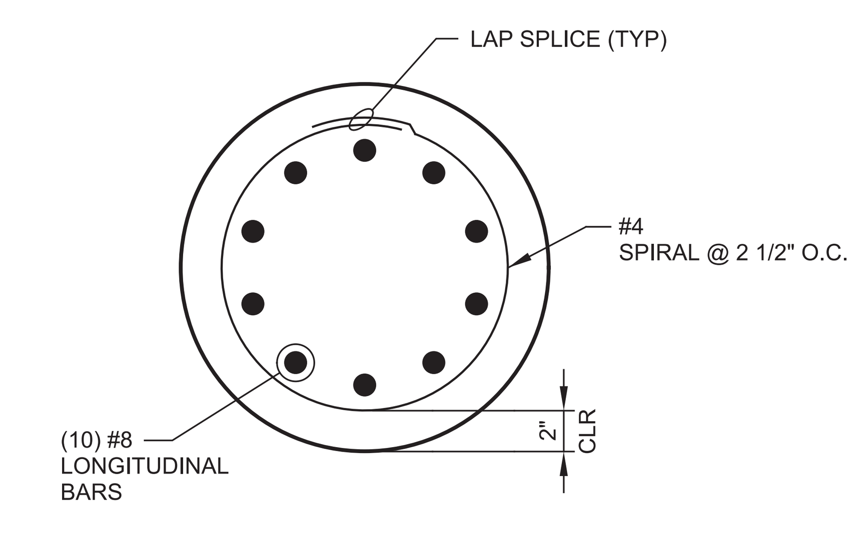
C TOP PLAN

SCALE: 3/8" = 1'-0"
FILE: 10595A10S102



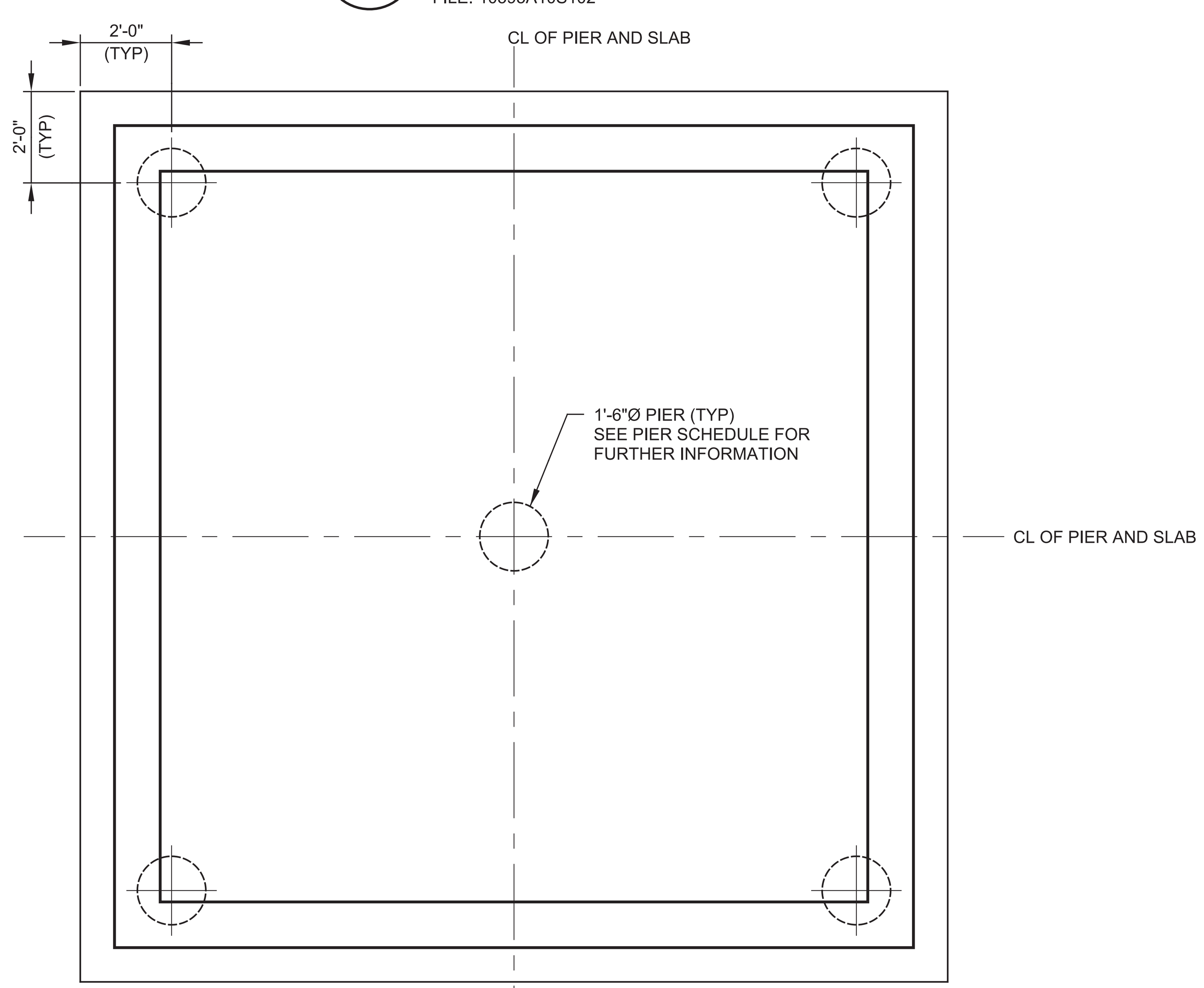
D SECTION

CD01
SCALE: 3/8" = 1'-0"
FILE: 10595A10M301



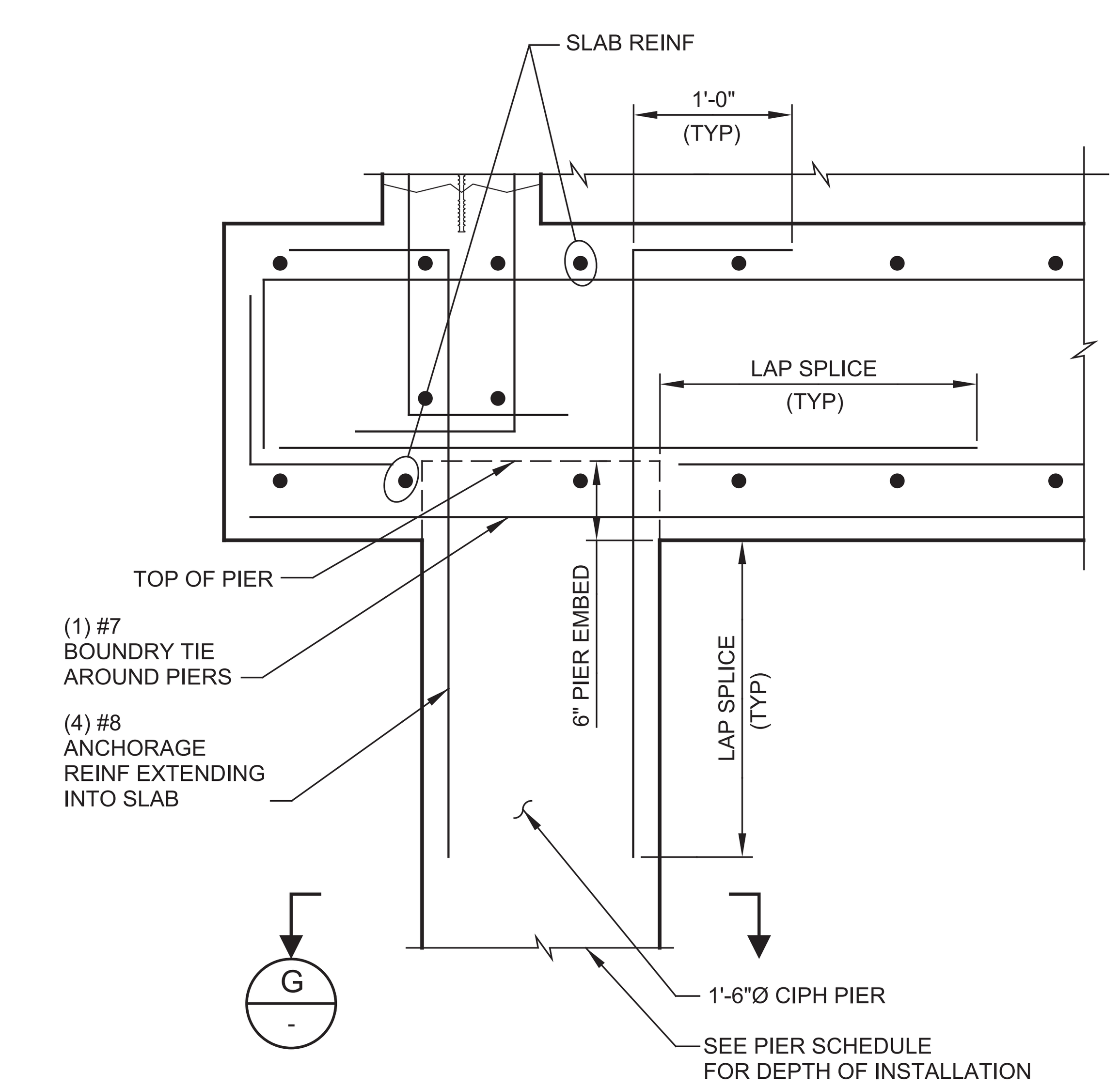
G SECTION

SCALE: 1 1/2" = 1'-0"
FILE: 10595A10M303



E PILE LAYOUT

SCALE: 3/8" = 1'-0"
FILE: 10595A10S105



F DETAIL

SCALE: 1" = 1'-0"
FILE: 10595A10M301

PIER SCHEDULE				
PIER LOCATION	EFFECTIVE DEPTH OF SKIN FRICTION FROM FG	PIER AXIAL CAPACITY (KIP)	PIER LATERAL CAPACITY (KIP)	TIP ELEVATION (BOTTOM OF PIER) (FT)
ALL PIERS	48'-0"	100	18.9	-3.0
1. REFER TO SECTION 02467A FOR REQUIREMENTS.				

REV	DATE	BY	DESCRIPTION

DESIGNED IKC
DRAWN AL
CHECKED MED/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER INDERPREET KAUR CHAGGAR No. 80512 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:08:21-07'00'

Digitally signed by Inderpreet Chaggar
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:35:49-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL DETAILS
FLOW CONTROL VALVE VAULT
PLANS, SECTIONS AND DETAIL

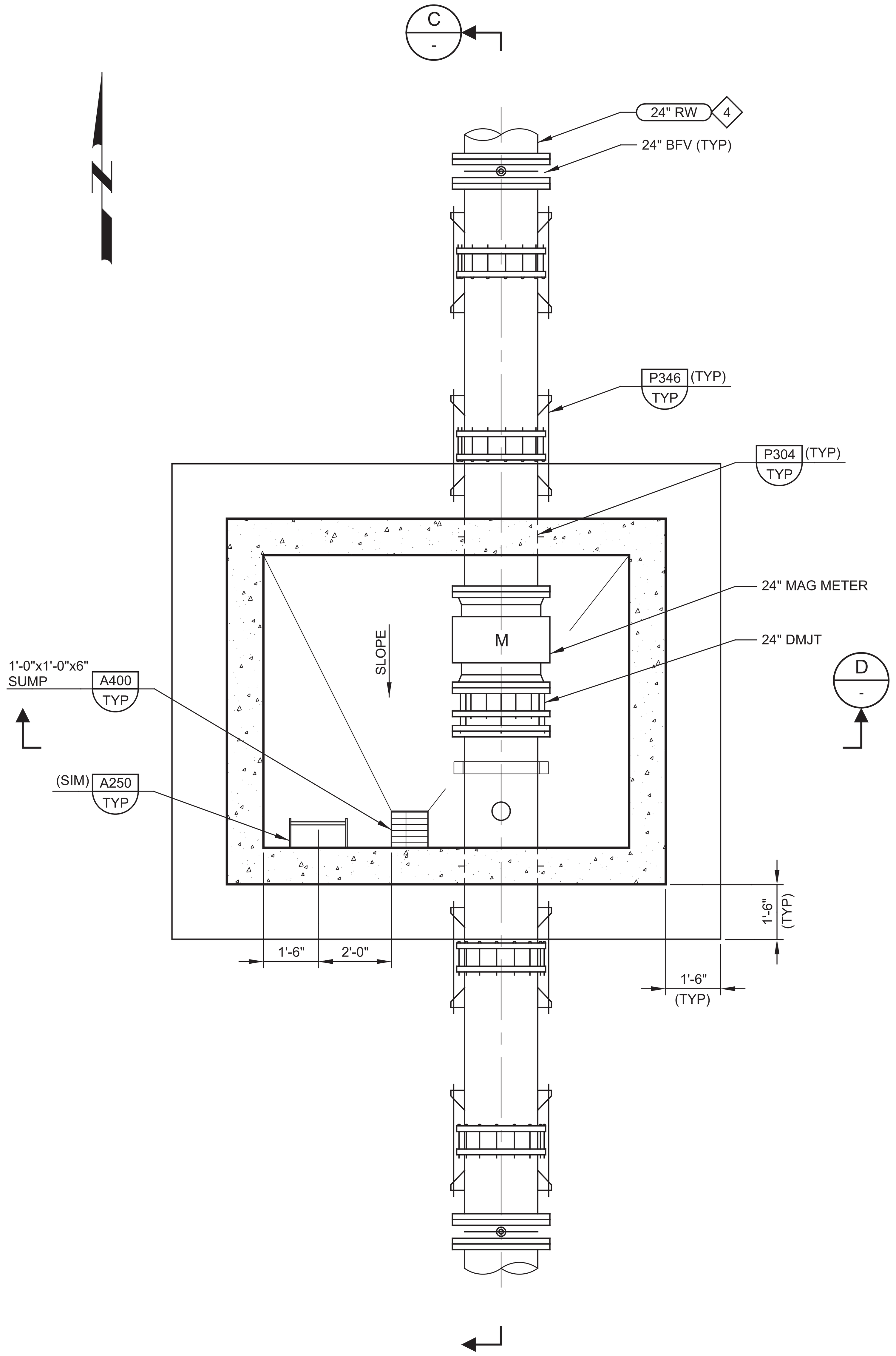
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JOB NO. 10595A.10
DRAWING NO. CD02
SHEET NO. 37 OF 122

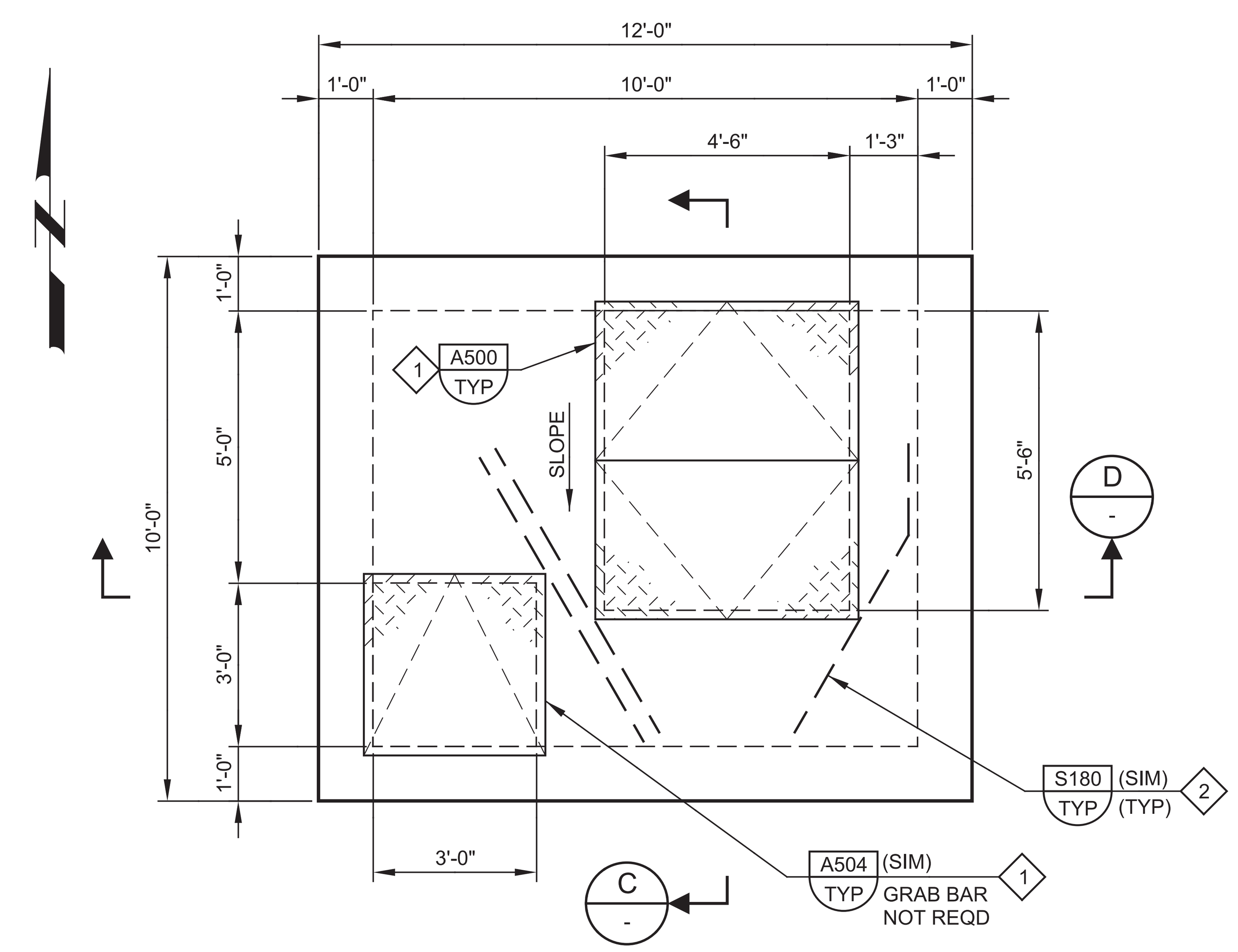
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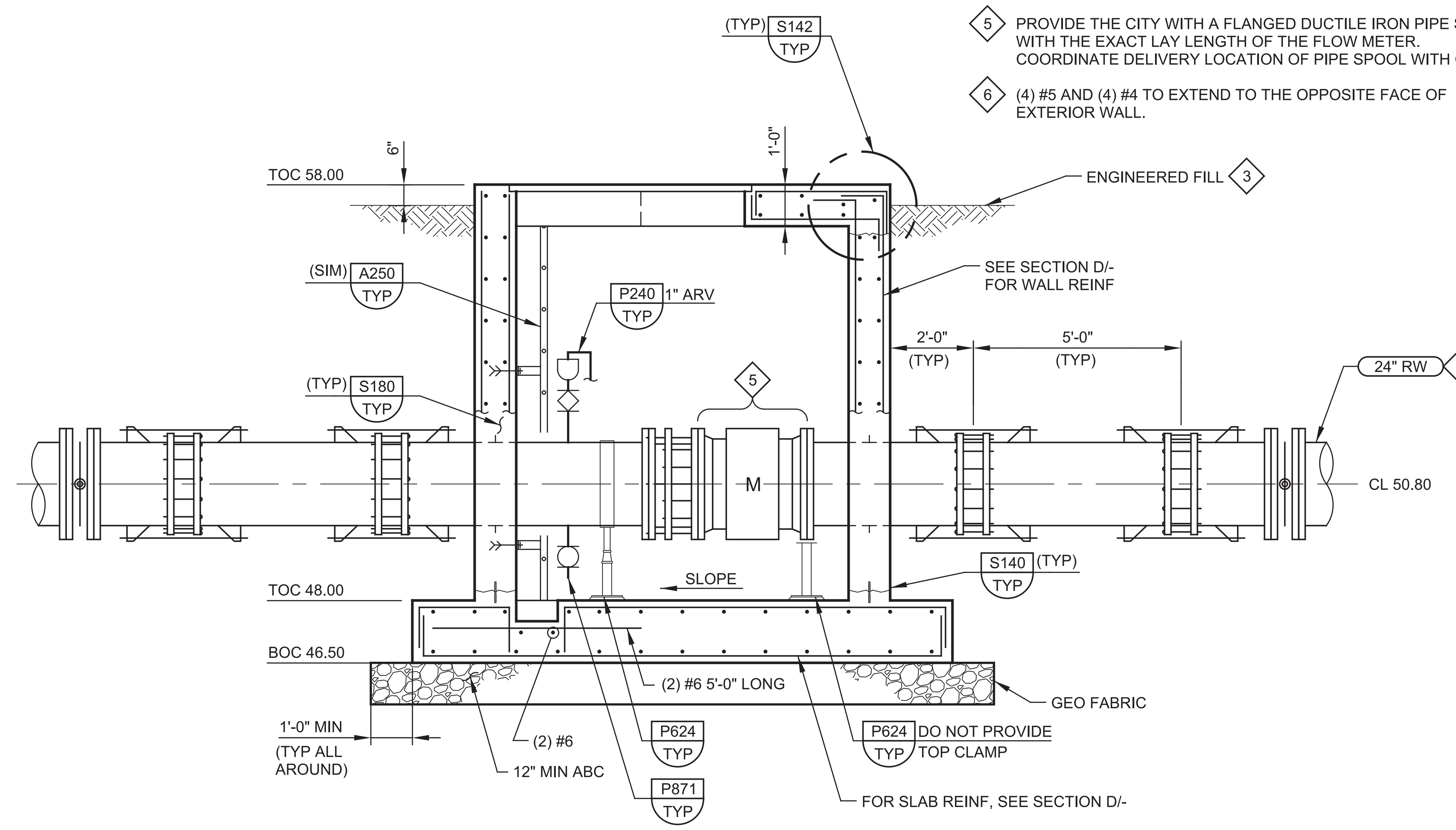
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LAST SAVED BY: JGarretty



A BOTTOM PLAN
SCALE: 3/8" = 1'-0"
FILE: 10595A10M102



B TOP PLAN
SCALE: 3/8" = 1'-0"
FILE: 10595A10S104



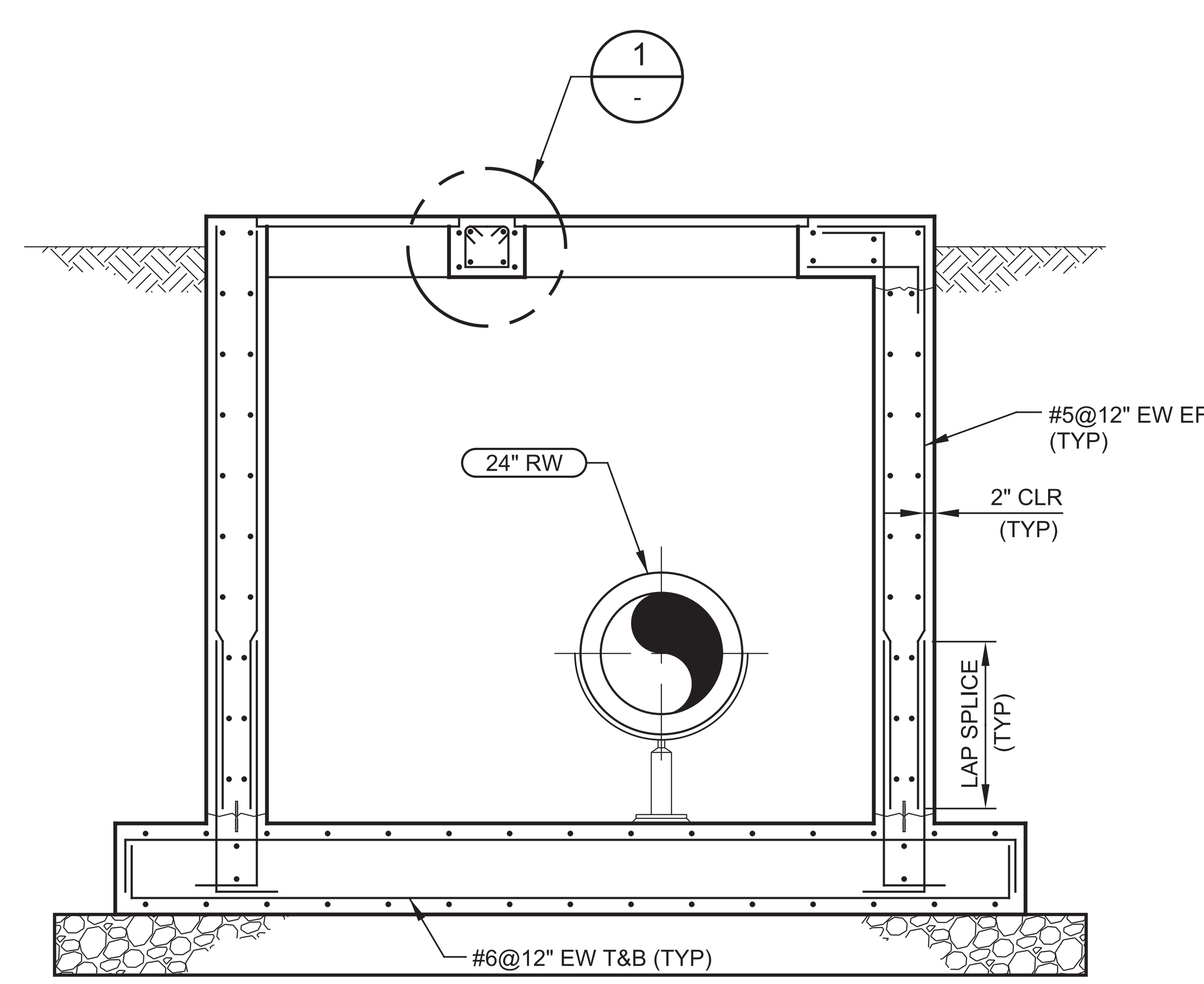
C SECTION
SCALE: 3/8" = 1'-0"
FILE: 10595A10M302

GENERAL NOTES:

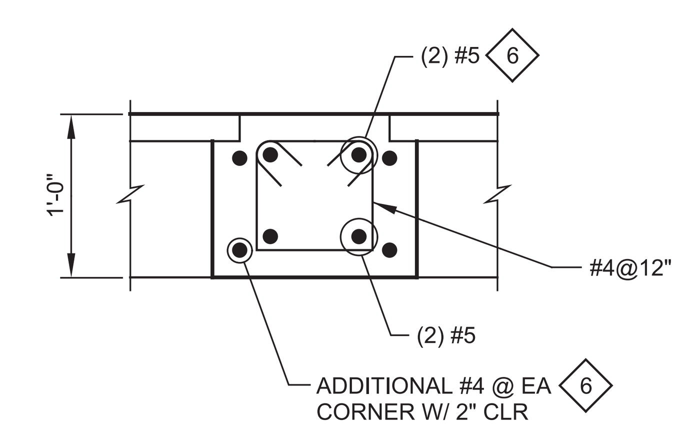
1. SEE DRAWING G09 FOR GENERAL STRUCTURAL NOTES.

KEY NOTES:

1. HEAVY DUTY ACCESS HATCH DOORS SHALL BE ALUMINUM. SEE SPECIFICATION 08320 FOR DETAILS.
2. PROVIDE TRIM BARS. OMIT TYPICAL DIAGONAL CORNER BARS AS REQUIRED.
3. NATIVE MATERIALS, MINUS ORGANICS, DEBRIS, AND OTHER DELETERIOUS MATERIALS ARE SUITABLE FOR ENGINEERED FILL. SEE SPECIFICATION SECTION 02050 FOR MATERIAL REQUIREMENTS.
4. THE PIPELINE SHALL BE RESTRAINED. STEEL PIPE SHALL BE RESTRAINED PER DETAIL P840/TYP.
5. PROVIDE THE CITY WITH A FLANGED DUCTILE IRON PIPE SPOOL WITH THE EXACT LAY LENGTH OF THE FLOW METER. COORDINATE DELIVERY LOCATION OF PIPE SPOOL WITH CITY.
6. (4) #5 AND (4) #4 TO EXTEND TO THE OPPOSITE FACE OF EXTERIOR WALL.



D SECTION
SCALE: 3/8" = 1'-0"
FILE: 10595A10S302



1 DETAIL
SCALE: 1" = 1'-0"
FILE: 10595A10S302

REV	DATE	BY	DESCRIPTION

DESIGNED: JPM/IKC
DRAWN: AL
CHECKED: AP/MED
DATE: APRIL 2018

REGISTERED PROFESSIONAL ENGINEER — JONATHON P. MARSHALL — No. 73265 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:08:33-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:27:15-07'00'

REGISTERED PROFESSIONAL ENGINEER — DARREN G. BAUNE — No. 68899 — CIVIL — STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
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TURLOCK COMPONENT
CIVIL DETAILS
FLOW METER VAULT
PLANS, SECTIONS, AND DETAIL

VERIFY SCALES
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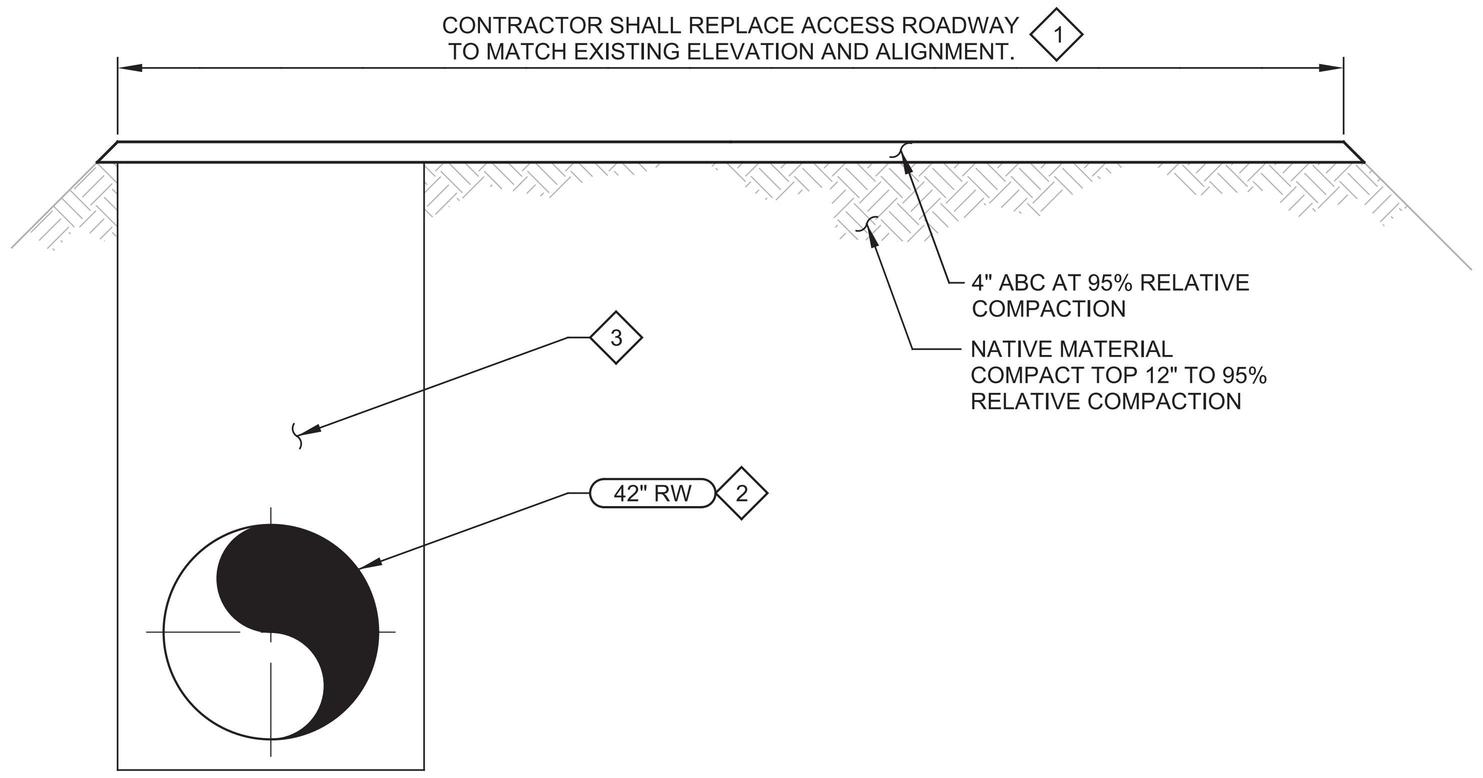
JOB NO. 10595A.10
DRAWING NO. CD03
SHEET NO. 38 OF 122

PROJECT NO.
FILE NAME: 10595A10CD03.dgn

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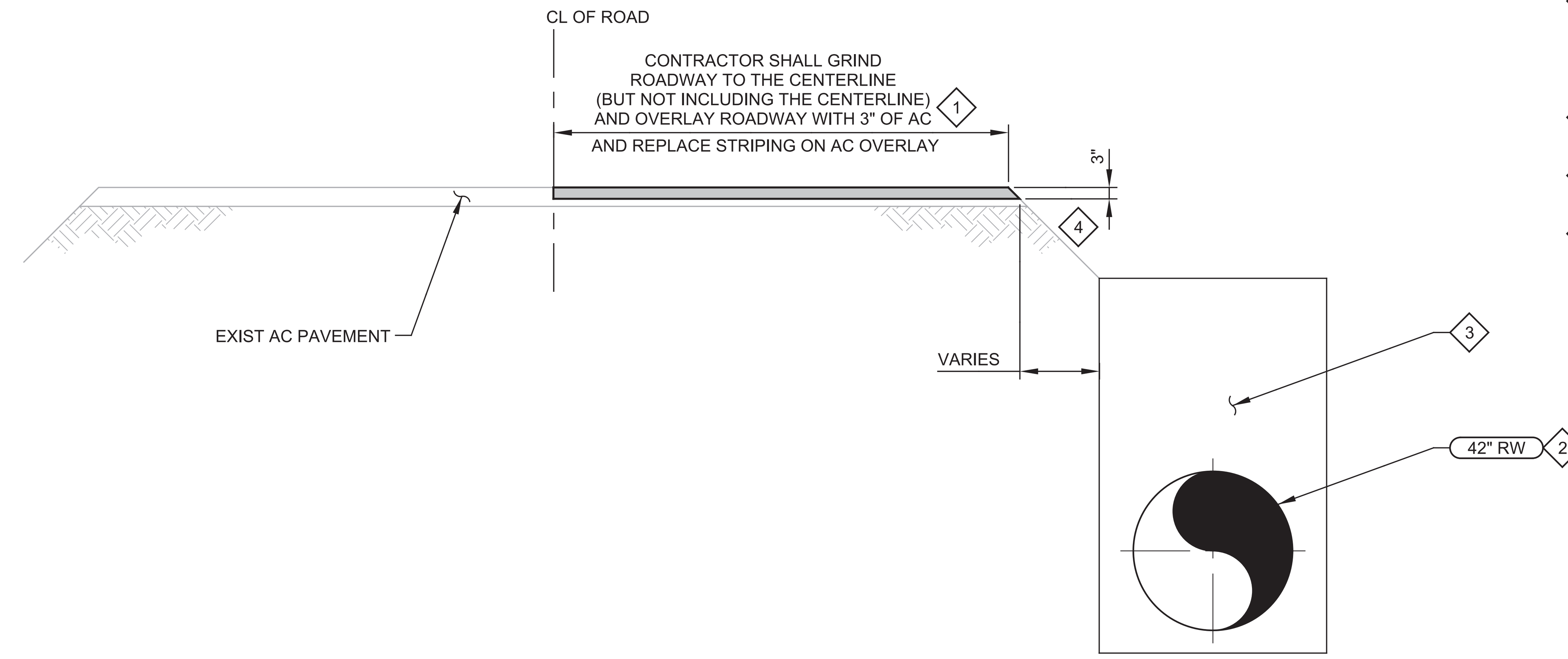
KEY NOTES:

1. PRIOR TO CONSTRUCTION, PHOTOGRAPH AND VIDEO RECORD EXISTING ROAD CONDITION, AND SUBMIT FOR RECORD PER THE SPECIFICATIONS. SURVEY ROAD AFTER CONSTRUCTION TO CONFIRM POST CONSTRUCTION TOPOGRAPHY AND ALIGNMENT MATCH PRE-CONSTRUCTION.
2. HORIZONTAL AND VERTICAL LOCATION OF THE 42" RW PIPELINE VARIES. SEE DRAWINGS P01 THROUGH P38 FOR EXACT LOCATION.
3. SEE DETAIL P002/TYP FOR TRENCHING AND BACKFILL REQUIREMENTS.
4. THE ROAD SHOULDER IS APPROXIMATELY 3 FEET WIDE ADJACENT TO THE EDGE OF PAVEMENT. WHERE CONSTRUCTION DAMAGES OR EXCAVATES THE ROAD SHOULDER, REPLACE THE DAMAGED OR EXCAVATED AREA WITH AGGREGATE BASE COURSE COMPACTED TO 95% RELATIVE COMPACTION WITH DEPTH MATCHING THE COMBINED TOTAL DEPTH OF THE ROAD ASPHALT AND AGGREGATE BASE COURSE DEPTHS.



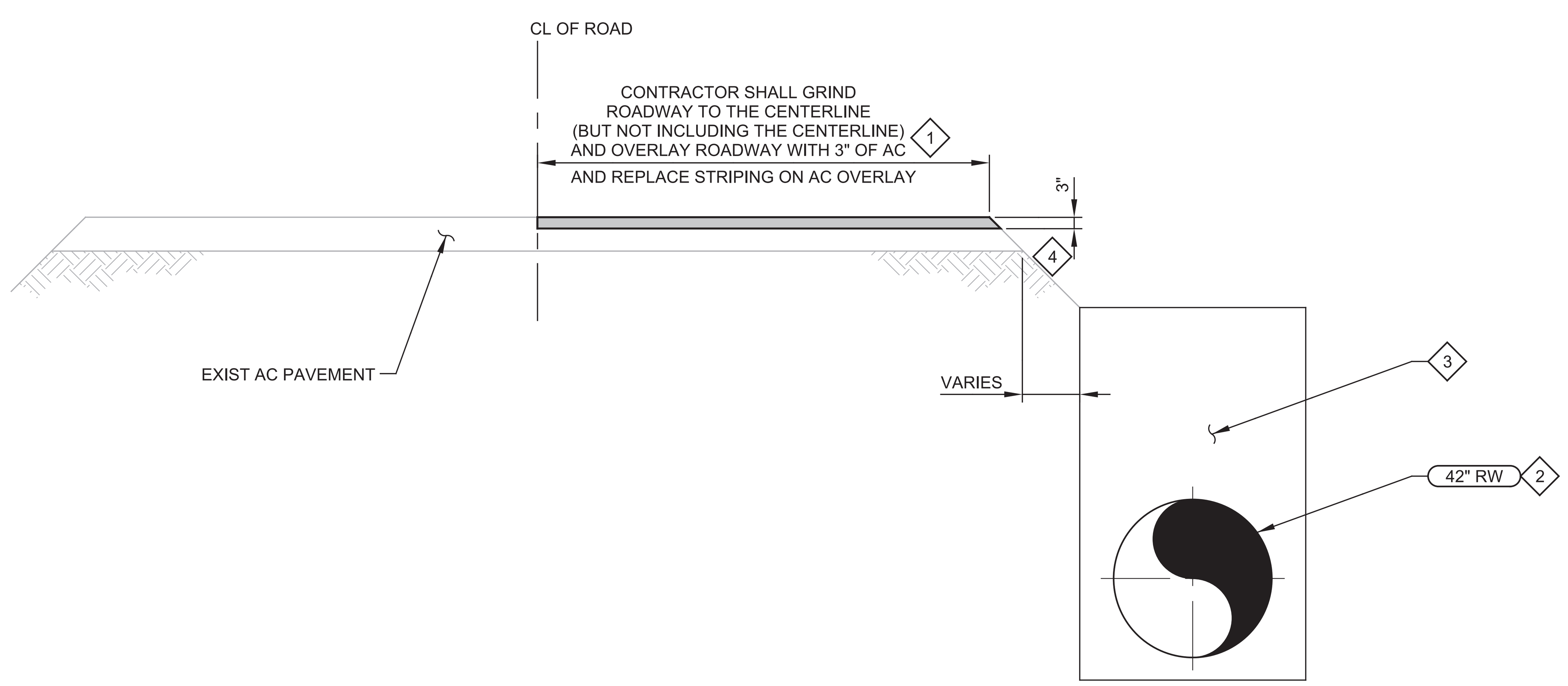
A - ACCESS ROAD ROAD REPAIR REQUIREMENTS

SCALE: NO SCALE
FILE: 10595A10C302



B - JENNINGS ROAD ROAD REPAIR REQUIREMENTS

SCALE: NO SCALE
FILE: 10595A10C302



C - W MAIN AVE AND S CARPENTER RD ROAD REPAIR REQUIREMENTS

SCALE: NO SCALE
FILE: 10595A10C302

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:08:45-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:27:06-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL DETAILS
TYPICAL ROADWAY SECTIONS

VERIFY SCALES
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JOB NO. 10595A.10
DRAWING NO. CD04
SHEET NO. 39 OF 122

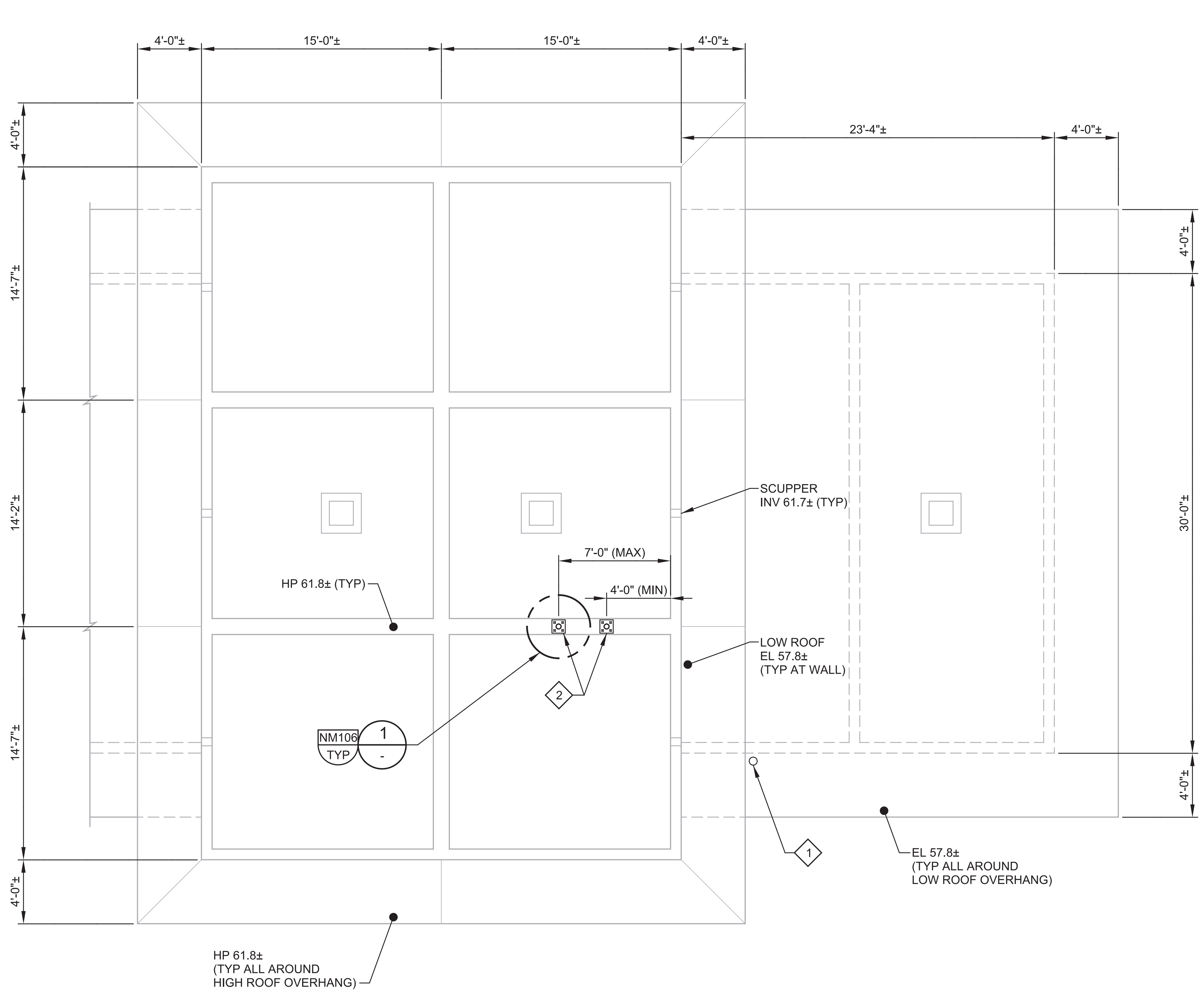
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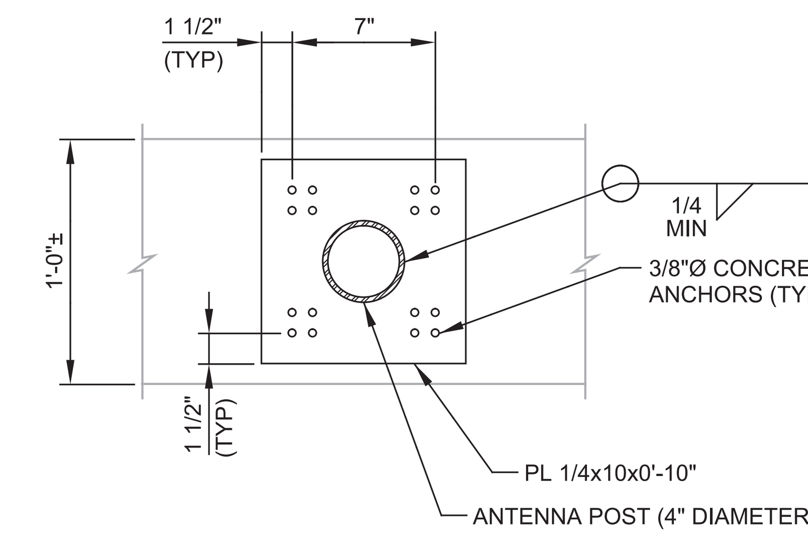
1. SEE DRAWING G09 FOR GENERAL STRUCTURAL NOTES.
2. EXISTING ROOFING CONSISTS OF ASPHALT PRIMER 8 PSF, 4 LAYERS OF 15# ASPHALT SATURATED FELT, HOT ASPHALT MAPPINGS BETWEEN LAYERS, TWO ASPHALT FLOOD COATS, AND 500 PSF OF GRAVEL. EXISTING WATERPROOFING SHALL NOT BE DAMAGED.

KEY NOTES:

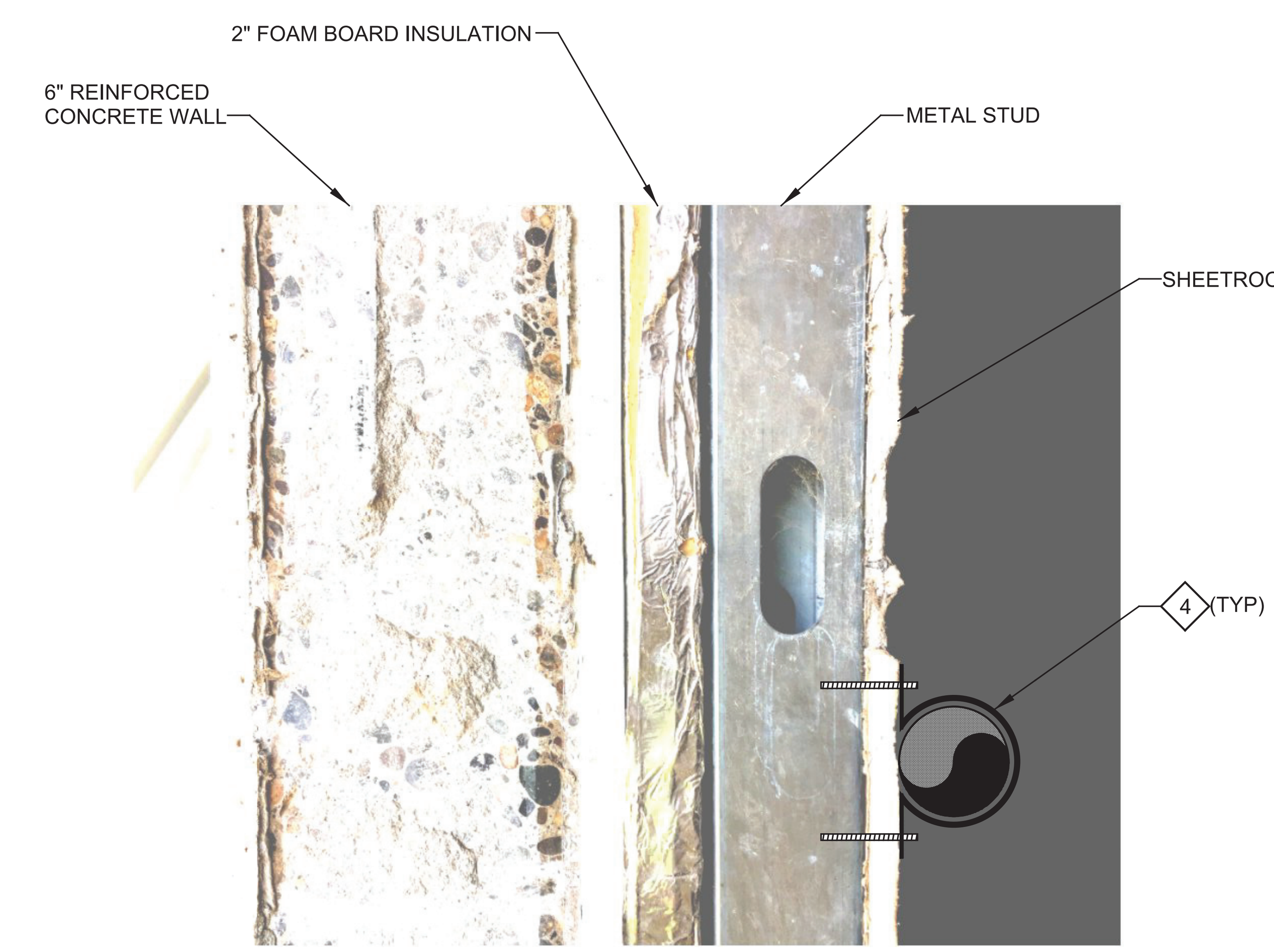
1. RUN CONDUIT UNDERNEATH THE LOWER ROOF OVERHANG, UP ALONG THE WALL TO THE HIGHER ROOF OVERHANG, TO THE ROOF BEAMS. ROOF WATERPROOFING SHALL NOT BE DAMAGED.
2. ANCHOR ANTENNA MAST TO ROOF BEAM PER DETAIL 1/-. BASE PLATE SHALL BE WITHIN 4'-0" TO 7'-0" FROM THE EAST ROOF BEAMS AS SHOWN. USE NON-DESTRUCTIVE METHODS TO SCAN BEAM REINFORCEMENT. BEAM REINFORCEMENT SHALL NOT BE DAMAGED.
3. FOUR POSSIBLE ANCHOR HOLES ARE SHOWN. SELECT HOLE TO MISS EXISTING REINFORCING. BOLTS ARE SHOWN IN PREFERRED LOCATION. HOLES ARE SPACED AT 1" O.C. (TYP). FILL HOLES NOT USED WITH CAULK, FLUSH WITH THE TOP OF THE BASE PLATE.
4. USE SIMPSON STRONG-TIE SELF-DRILLING FIBER-CEMENT SCREWS OR EQUAL TO FASTEN CONDUIT CLAMPS TO METAL STUDS. SCREWS TO BE #8. COAT SCREWS IN CONTACT WITH DISSIMILAR METALS OR CONCRETE / CEMENT.



A - ROOF PLAN
SCALE: 3/16" = 1'-0"
FILE: 10595A10S9101



1 - DETAIL
SCALE: 1 1/2" = 1'-0"
FILE: 10595A10S9101



B - TYPICAL WALL SECTION
SCALE: NO SCALE
FILE: 10595A10CD08-1

Plot Date: 25-APR-2018 11:35:22 AM
User: svcPW
PlotScale: 2:1
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Model: Layout1
LAST SAVED BY: JDiDonato

REV	DATE	BY	DESCRIPTION

DESIGNED: IKC
DRAWN: AL
CHECKED: MED/DGB
DATE: APRIL 2018

REGISTERED PROFESSIONAL ENGINEER - INDERPREET KAUR CHAGGAR - No. 80512 - CIVIL - STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 12:30:07-07'00'

Digitally signed by Inderpreet Chaggar
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 12:40:44-07'00'

REGISTERED PROFESSIONAL ENGINEER - DARREN G. BAUNE - No. 68899 - CIVIL - STATE OF CALIFORNIA

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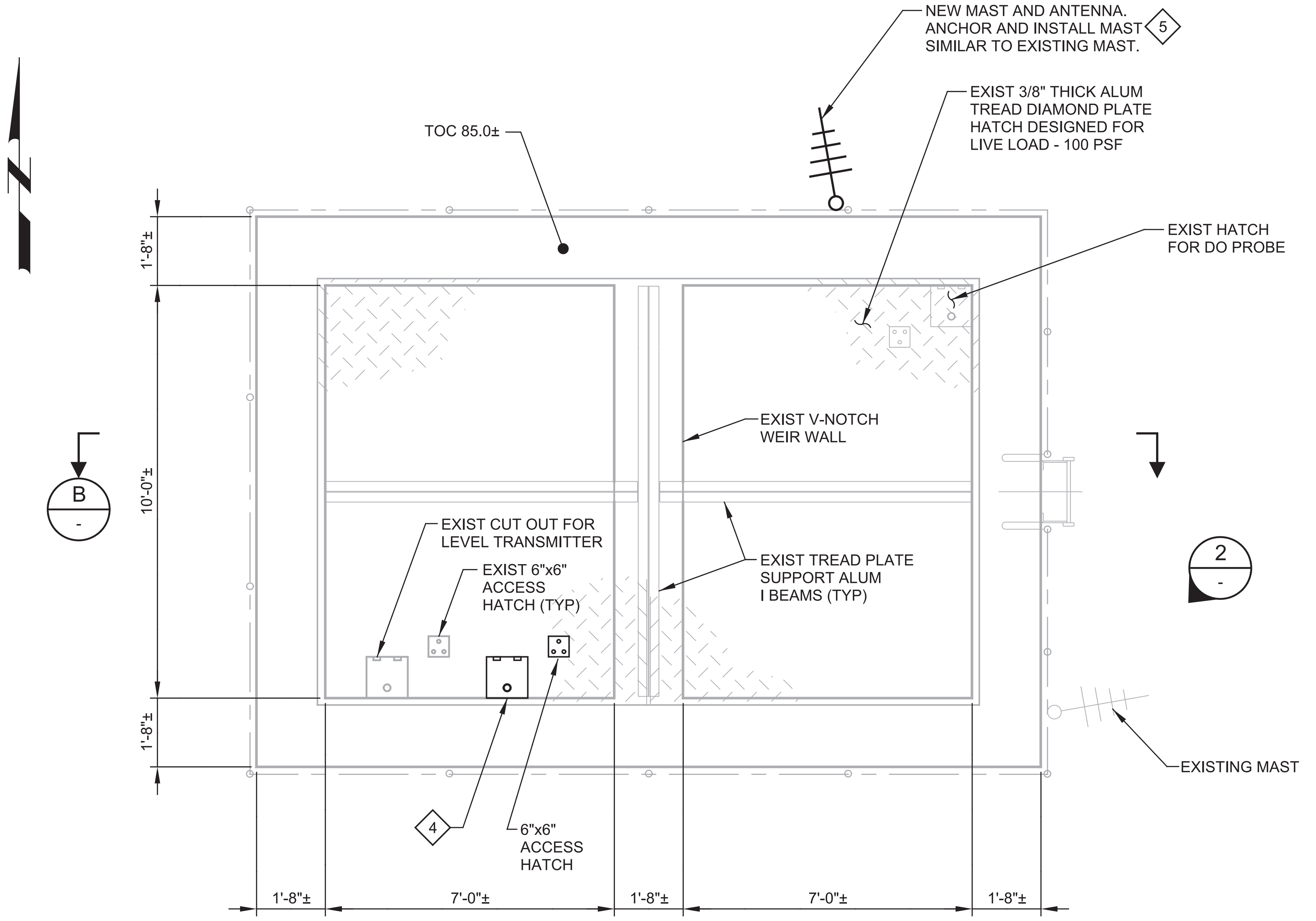
CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL DETAILS
MODESTO EPS ELEC BLDG MISC ANCHORAGE
ROOF PLAN, SECTION AND DETAIL

VERIFY SCALES
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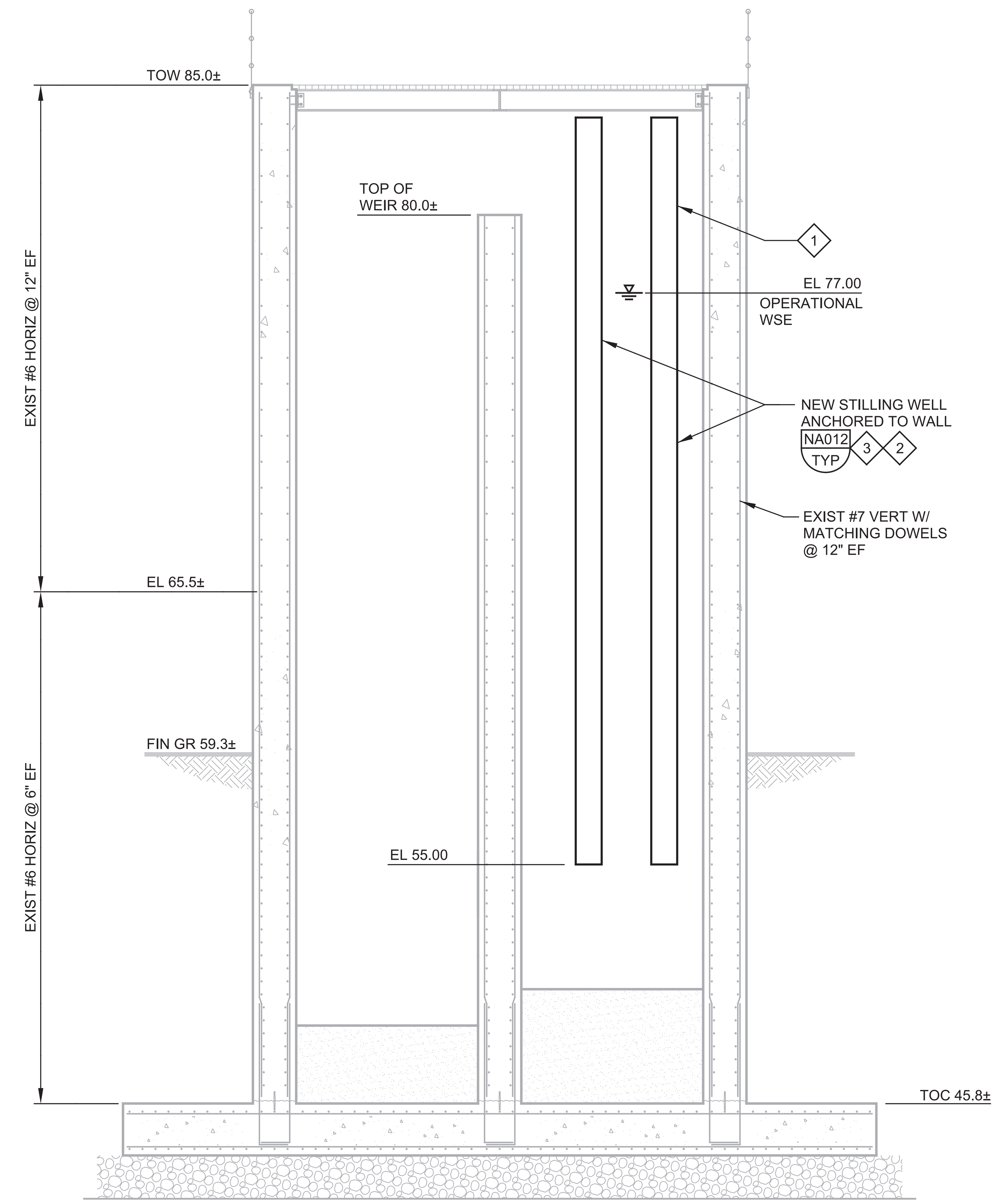
JOB NO. 10595A.10
DRAWING NO. CD05

PROJECT NO.
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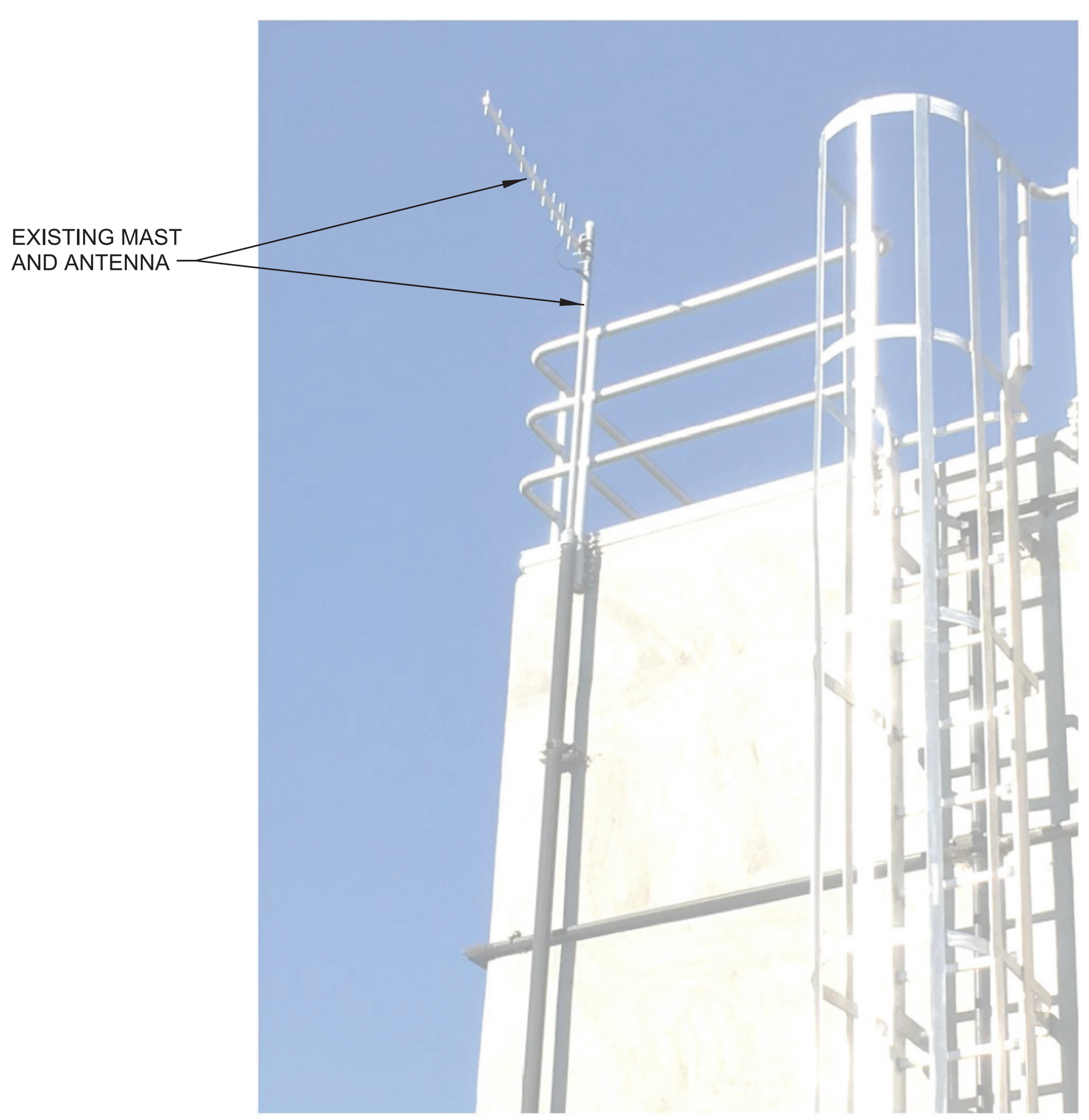
A - TOP PLAN

SCALE: 3/8" = 1'-0"
FILE: 10595A10S9102



B - SECTION

SCALE: 3/8" = 1'-0"
FILE: 10595A10S9102



2 - PHOTO - EXISTING MAST AND ANTENNA

SCALE: NO SCALE
FILE: 10595A10CD06A

GENERAL NOTES:

1. SEE DRAWING G09 FOR GENERAL STRUCTURAL NOTES.
2. CONTRACTOR TO FIELD VERIFY DIMENSIONS AND EXISTING CONDITIONS PRIOR TO STARTING WORK.
3. EXISTING STANDPIPE STRUCTURE IS PART OF THE HARDING DRAIN BYPASS PIPELINE SYSTEM. SHUTDOWN OF THE SYSTEM IS NEEDED FOR INSTALLATION OF THE NEW STILLING WELLS. SEE SPECIFICATION FOR SHUTDOWN REQUIREMENTS.

KEY NOTES:

1. REMOVE AND REPLACE EXISTING STILLING WELL AND LEVEL PROBE. PROVIDE NEW 6" AWWA C900 DR-25 PVC STILLING WELL AND LEVEL PROBE AT EXISTING LOCATION EXTENDING DOWN TO ELEVATION 60.00.
2. CONTRACTOR TO MOUNT NEW 6" AWWA C900 DR-25 PVC STILLING WELL TO STANDPIPE PER DETAIL NA012/TYP. CONTRACTOR SHALL PROVIDE 6"x6" HINGED OPENING DIAMOND PLATE WITH LOCKABLE COVER OPENING TO BE CENTERED ABOVE STAINLESS STEEL SUPPORT PIPE.
3. ANCHOR STILLING WELL SIMILAR TO DETAIL NA012/TYP USING 1/2"Ø CONCRETE ANCHORS. WALL REINFORCEMENT AND TREAD PLATE SUPPORT BEAMS SHALL NOT BE DAMAGED.
4. INSTALL NEW CUTOUT AND ALIGN DIRECTLY ABOVE NEW LEVEL TRANSMITTER IN NEW STILLING WELL. CUTOUT SHALL BE SIMILAR TO EXISTING CUTOUT, INCLUDING PULLING HOLE, HINGES AND BACKING PLATES. SUBMIT DETAILS TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
5. SUBMIT CALCULATIONS TO VERIFY MAST ANCHORAGE IS SUITABLE FOR WIND LOADING DESIGN CRITERIA PROVIDED IN THE SPECIFICATIONS.

REV	DATE	BY	DESCRIPTION

DESIGNED: IKC
DRAWN: AL
CHECKED: MED/DGB
DATE: APRIL 2018

REGISTERED PROFESSIONAL ENGINEER - INDERPREET KAUR CHAGGAR - No. 80512 - CIVIL - STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:09:08-07'00'

Digitally signed by Inderpreet Chaggar
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:27:44-07'00'

REGISTERED PROFESSIONAL ENGINEER - DARREN G. BAUNE - No. 68899 - CIVIL - STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL DETAILS
STANDPIPE STRUCTURE
PLAN, SECTION AND PHOTO

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JOB NO. 10595A.10
DRAWING NO. CD06

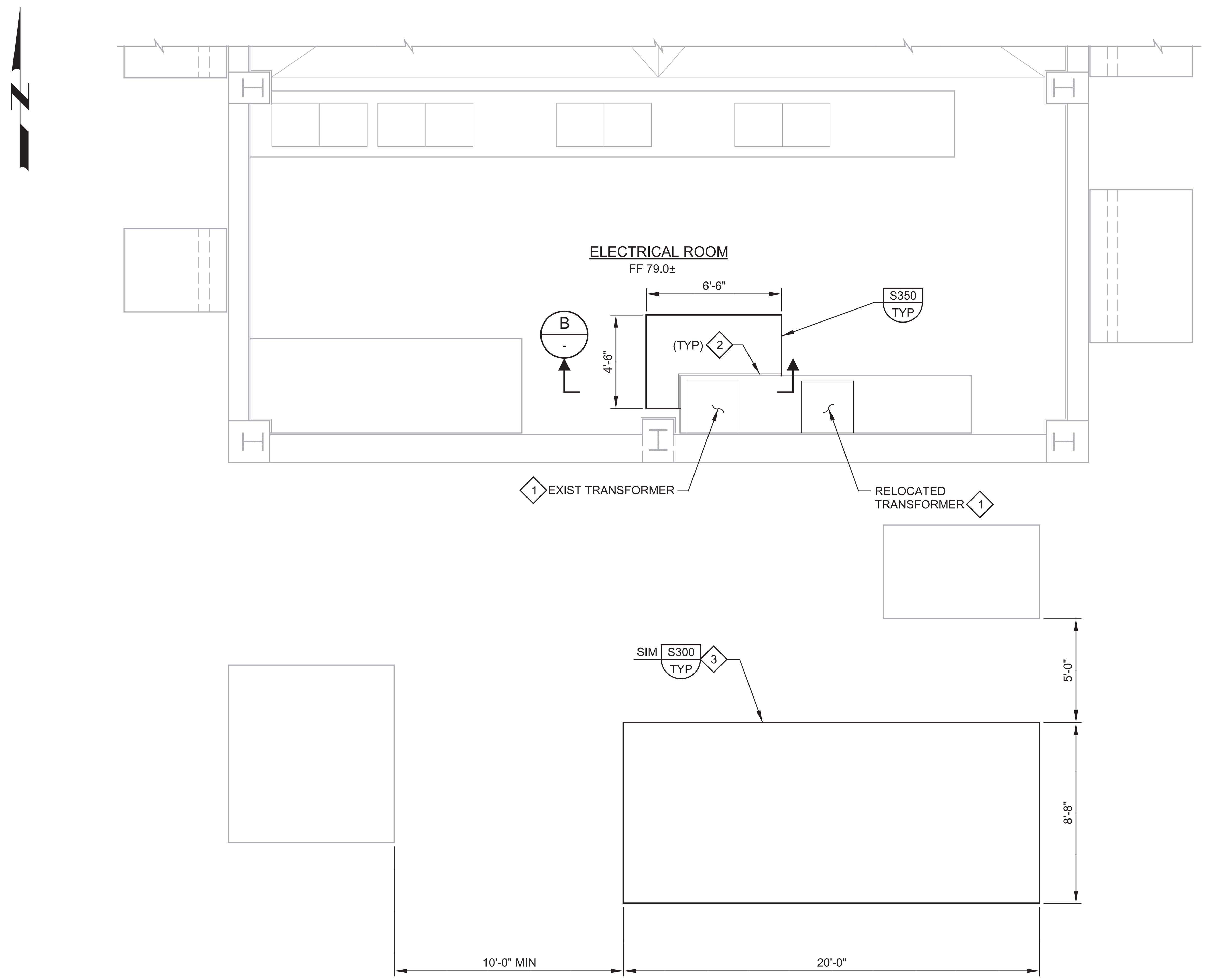
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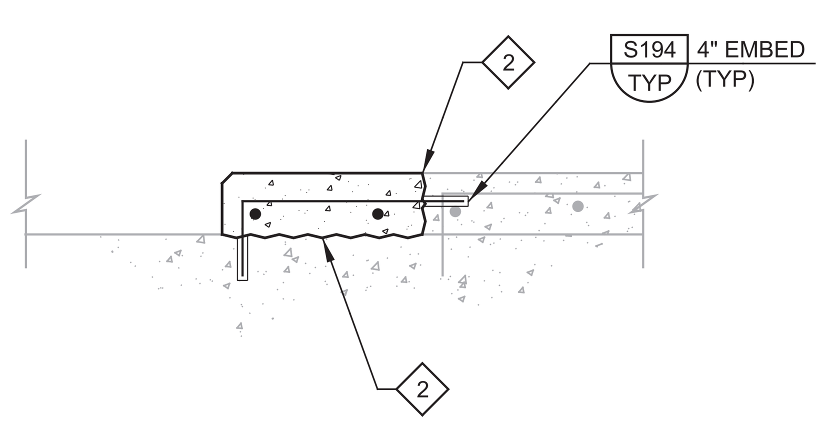
1. SEE DRAWING G09 FOR GENERAL STRUCTURAL NOTES.

KEY NOTES:

1. REMOVE AND RELOCATE EXISTING TRANSFORMER AS SHOWN ON ELECTRICAL DRAWING. EXISTING HOUSEKEEPING PAD AND REINFORCEMENT SHALL NOT BE DAMAGED.
2. ROUGHEN CONCRETE TO 1/4" AMPLITUDE AND COAT WITH EPOXY RESIN/PORTLAND CEMENT BONDING AGENT PRIOR TO PLACING NEW CONCRETE.
3. EQUIPMENT SLAB FOR GENERATOR PAD AND ENCLOSURE. GENERATOR TO BE MOUNTED DIRECTLY ON EQUIPMENT SLAB PER REQUIREMENT SHOWN ON DETAIL S302/TYP SIMILAR.



A - **PLAN**
SCALE: 1/4" = 1'-0"
FILE: 10595A10S9103



B - **SECTION**
SCALE: 3/4" = 1'-0"
FILE: 10595A10S9401

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DRAWN AL
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DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER INDERPREET KAUR CHAGGAR No. 80512 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:09:18-07'00'

Digitally signed by Inderpreet Chaggar
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:27:59-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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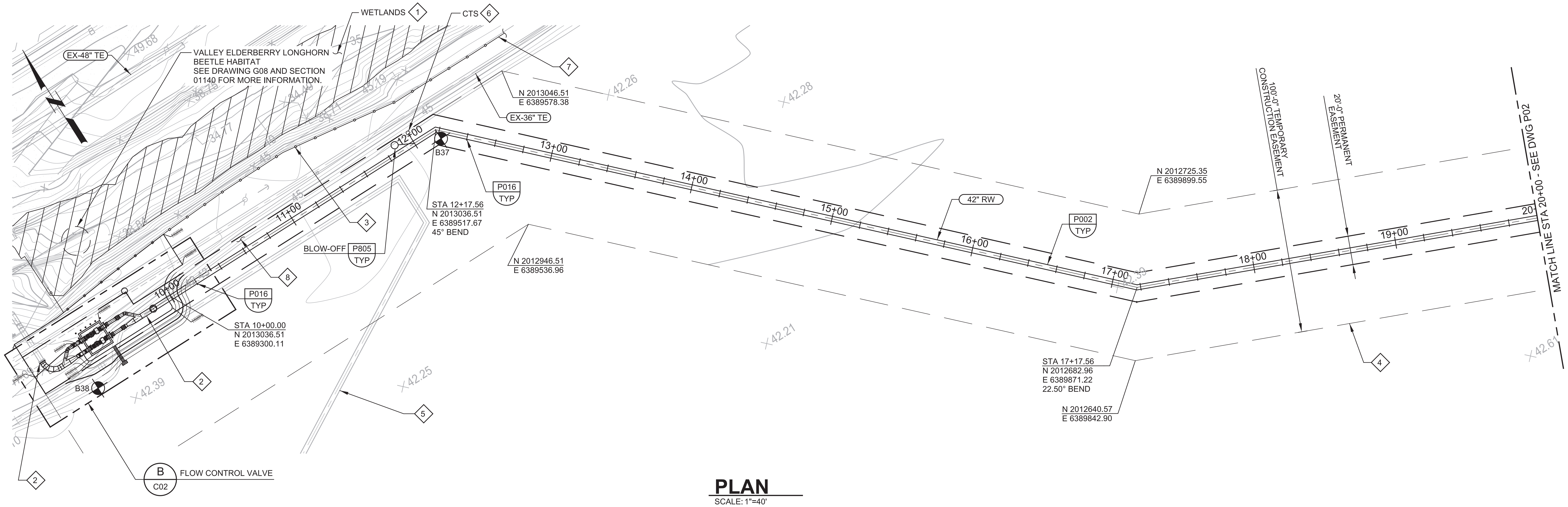
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL DETAILS
OUTFALL PUMP STATION
ELECTRICAL ROOM AND GENERATOR - PLAN

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JOB NO. 10595A.10
DRAWING NO. CD07
SHEET NO. 42 OF 122

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LAST SAVED BY: JGarretty



PLAN
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FILE: 10595A10C101

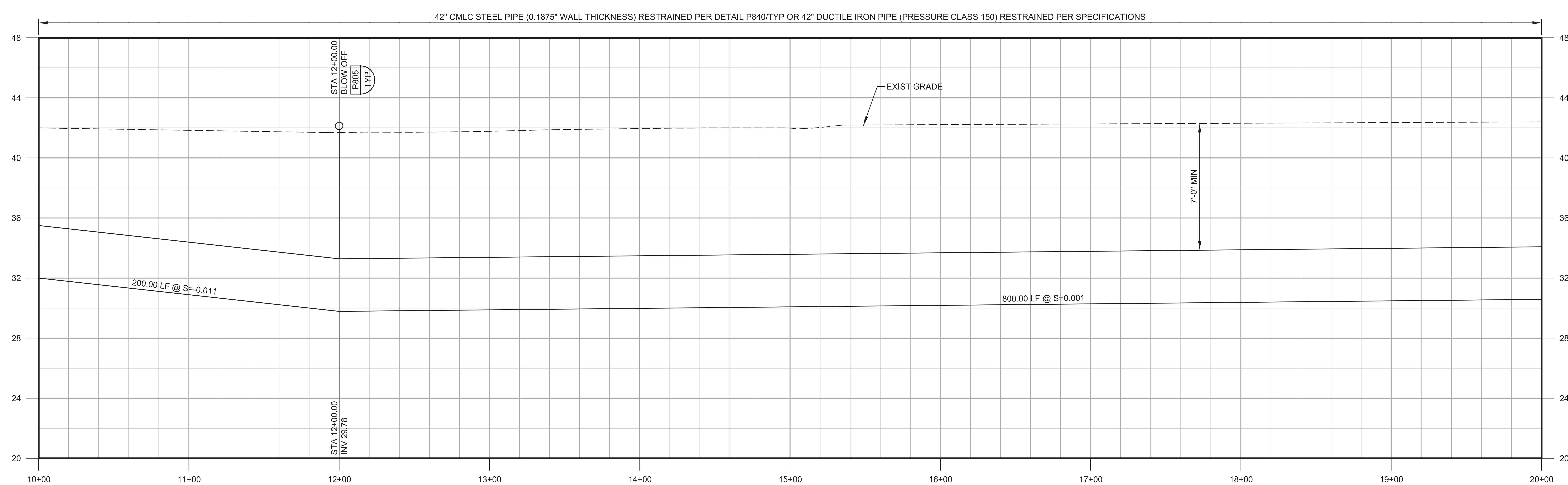
NOTES

GENERAL NOTES:

1. CONTRACTOR SHALL TAKE CAUTION WHEN WORKING NEAR TURLOCK IRRIGATION DISTRICT'S 12KV POWER LINE. CONTRACTOR SHALL CONTACT TID PRIOR TO BEGINNING WORK TO DETERMINE ALL REQUIREMENTS FOR WORKING NEAR THE UTILITY. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR ALL PERSONNEL OPERATING EQUIPMENT OR WORKING NEAR THE UTILITY.
2. SEE SPECIFICATIONS FOR WORK RESTRICTIONS FOR WORKING WITHIN TEMPORARY AND PERMANENT EASEMENTS.
3. AT ALL WORK AREAS USED FOR AGRICULTURAL GROWING, REMOVE TOP 18" OF TOPSOIL AND STORE AND PROTECT ONSITE. REPLACE TOPSOIL AT 85% COMPACTION TO MATCH PRE-CONSTRUCTION ELEVATION. DO NOT HYDROSEED AGRICULTURAL AREAS.

KEY NOTES:

1. CONTRACTOR IS PROHIBITED FROM ENTERING WETLAND AREAS AND SHALL TAKE ALL MEASURES NECESSARY TO PROTECT WETLANDS IN PLACE DURING CONSTRUCTION.
2. FROM THE CONNECTION TO THE EXISTING 42" RECYCLED WATER PIPELINE TO STA 10+00, THE 42" RW PIPELINE SHALL BE RESTRAINED.
3. INSTALL ENVIRONMENTALLY SENSITIVE AREA (ESA) FENCING AND SIGNAGE PER THE SPECIFICATIONS.
4. INSTALL TEMPORARY SNOW FENCE AT BOTH SIDES OF THE TEMPORARY CONSTRUCTION EASEMENT (TCE) LIMIT OR BOUNDARY OF WORK AREA IF WITHIN THE TCE. MAINTAIN FENCE UNTIL WORK AT THE SITE IS COMPLETE, THEN REMOVE FENCE.
5. EXISTING 42-INCH DIAMETER MODESTO NVRRWP PIPELINE (STEEL). PROTECT IN PLACE.
6. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.
7. CONTINUE EAST APPROXIMATELY 2,300 FEET TO EXTENT OF TEMPORARY HAUL ROUTE AS SHOWN ON DRAWING G07.
8. HYDROSEED ALL SLOPES WHERE IMPACTED BY CONSTRUCTION AFTER THE PROJECT IS COMPLETE. DO NOT HYDROSEED AGRICULTURAL AREAS.

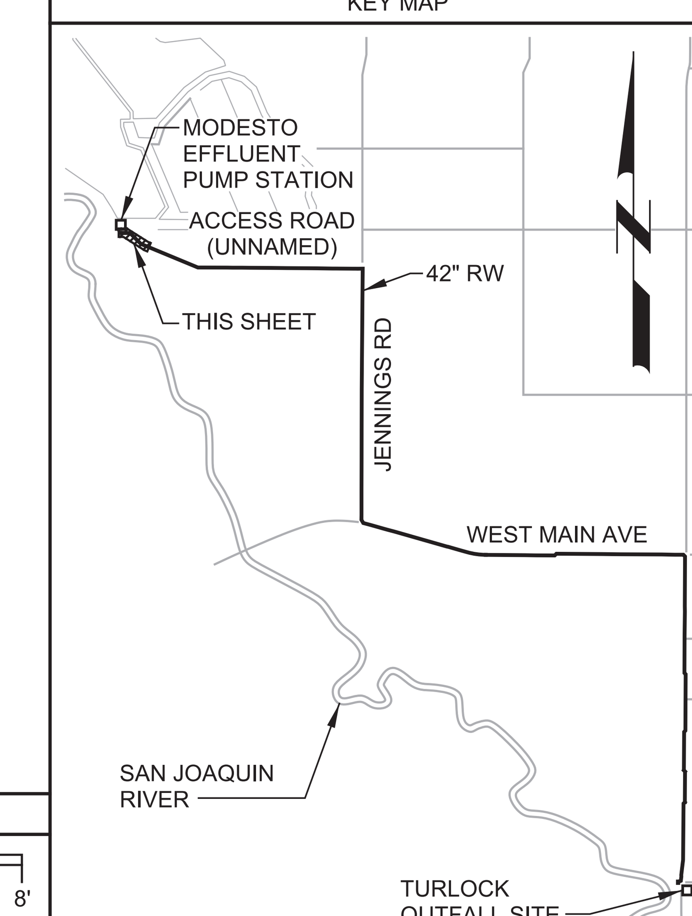


PROFILE
HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

SCALE
0 20' 40' 80' HORIZONTAL
0 2' 4' 8' VERTICAL

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



REV	DATE	BY	DESCRIPTION

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DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:10:50-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:26:46-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

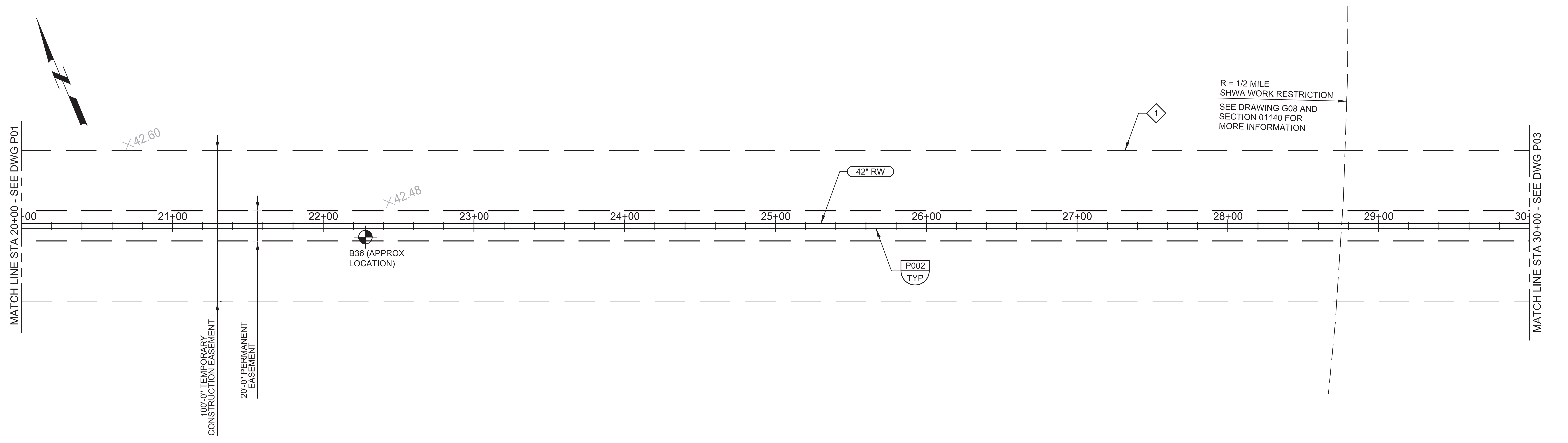
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 10+00 TO 20+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
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JOB NO. 10595A.10
DRAWING NO. P01
SHEET NO. 43 OF 122

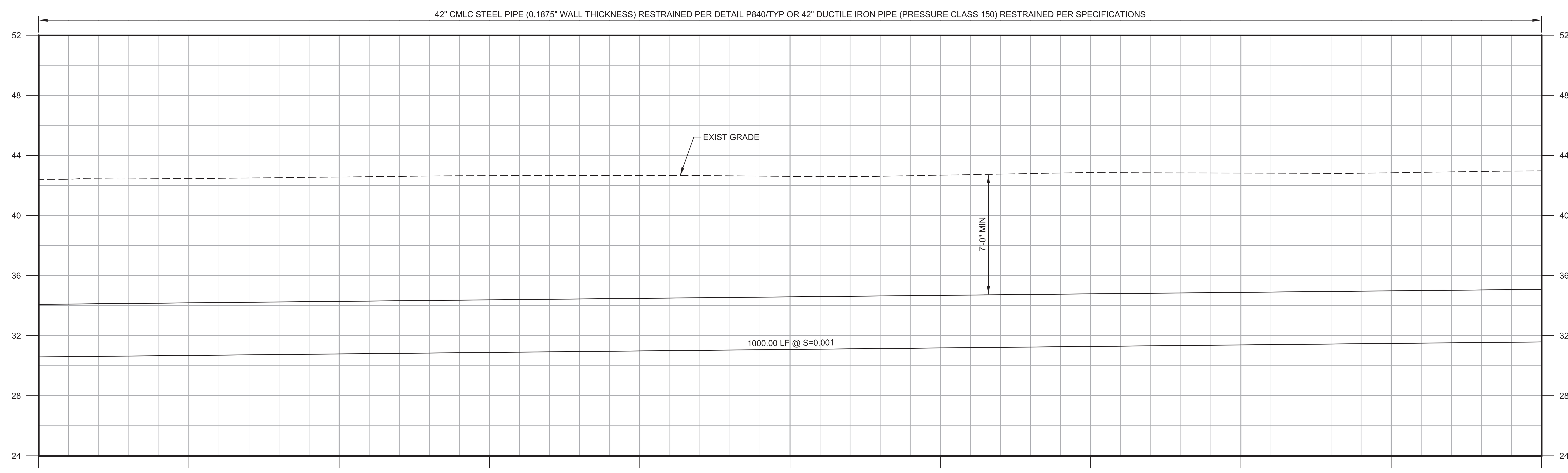
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LAST SAVED BY: DFassbinder

Plot Date: 24-APR-2018 2:53:37 PM
User: svcPW
Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 2:1
LAST SAVED BY: DFassbinder



PLAN

SCALE: 1"=40'
FILE: 10595A10C101



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

NOTES

GENERAL NOTES:

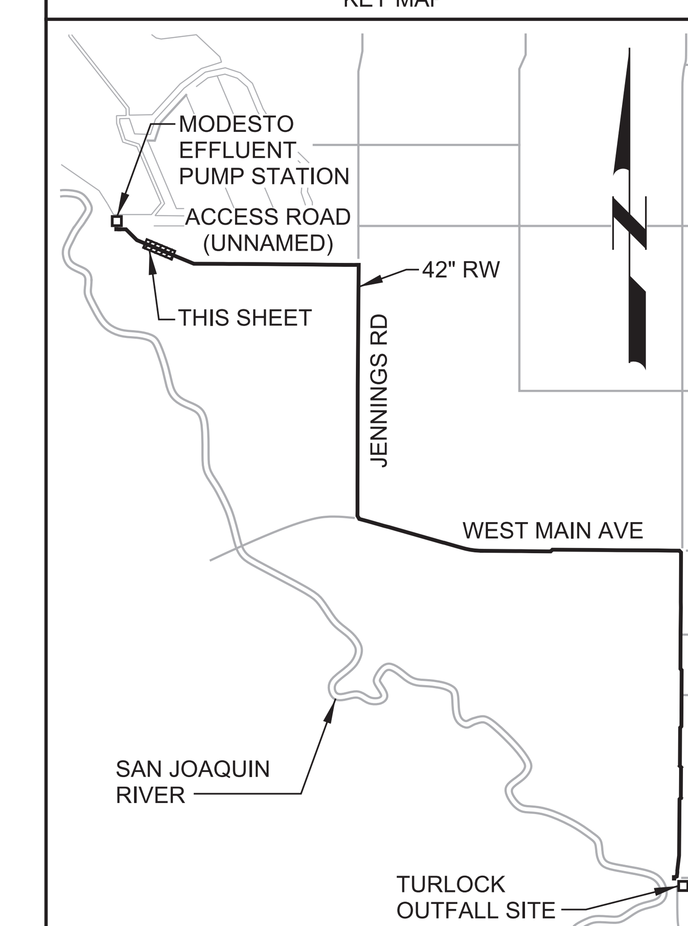
1. SEE SPECIFICATIONS FOR WORK RESTRICTIONS FOR WORKING WITHIN TEMPORARY AND PERMANENT EASEMENTS.
2. AT ALL WORK AREAS USED FOR AGRICULTURAL GROWING, REMOVE TOP 18" OF TOPSOIL AND STORE AND PROTECT ONSITE. REPLACE TOPSOIL AT 85% COMPACTION TO MATCH PRE-CONSTRUCTION ELEVATION. DO NOT HYDROSEED AGRICULTURAL AREAS.

KEY NOTES:

1. INSTALL TEMPORARY SNOW FENCE AT BOTH SIDES OF THE TEMPORARY CONSTRUCTION EASEMENT (TCE) LIMIT OR BOUNDARY OF WORK AREA IF WITHIN THE TCE. MAINTAIN FENCE UNTIL WORK AT THE SITE IS COMPLETE, THEN REMOVE FENCE.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED: JPM
DRAWN: AL
CHECKED: AP/DGB
DATE: APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:11:10-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:26:37-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

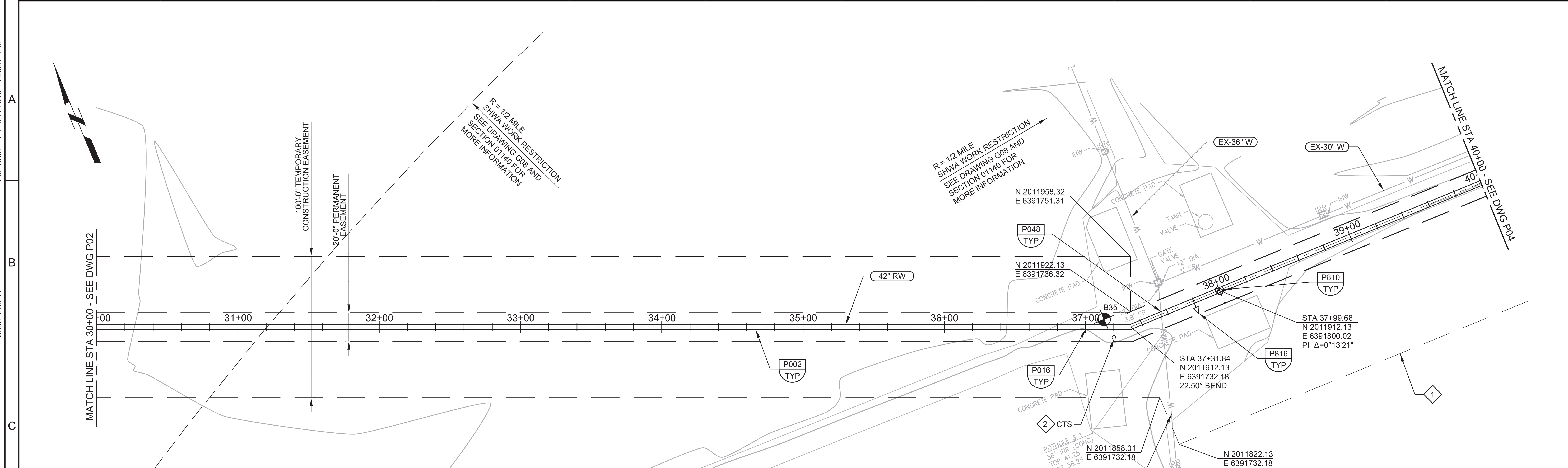
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STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 20+00 TO 30+00

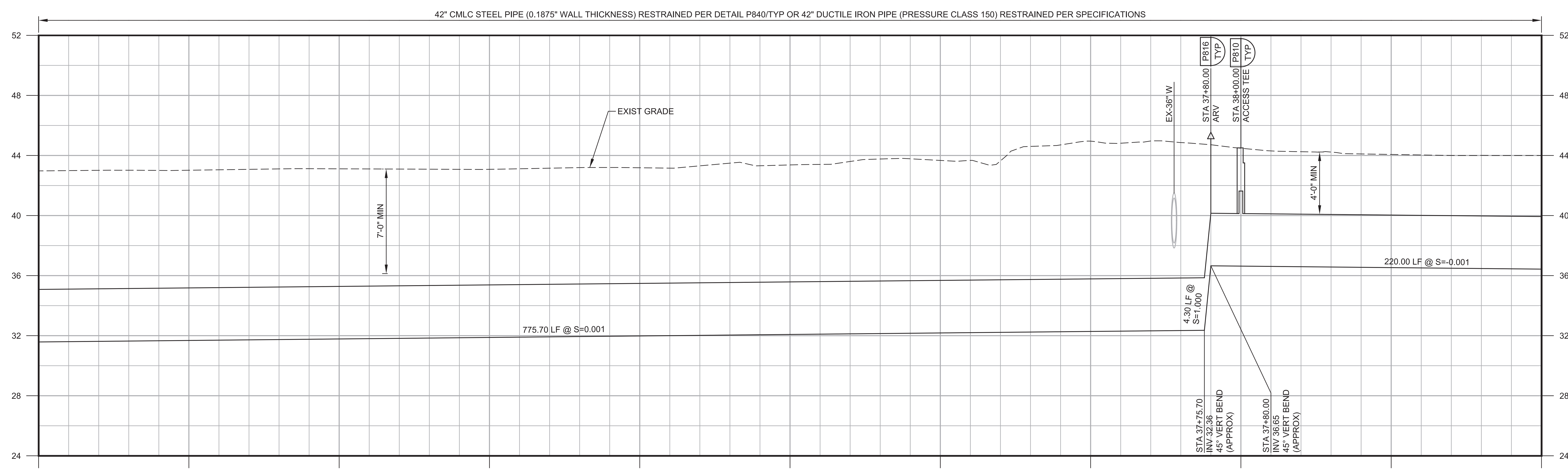
VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10595A.10
DRAWING NO. P02
SHEET NO. 44 OF 122



PLAN

SCALE: 1"=40'
FILE: 10595A10C101



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

NOTES

GENERAL NOTES:

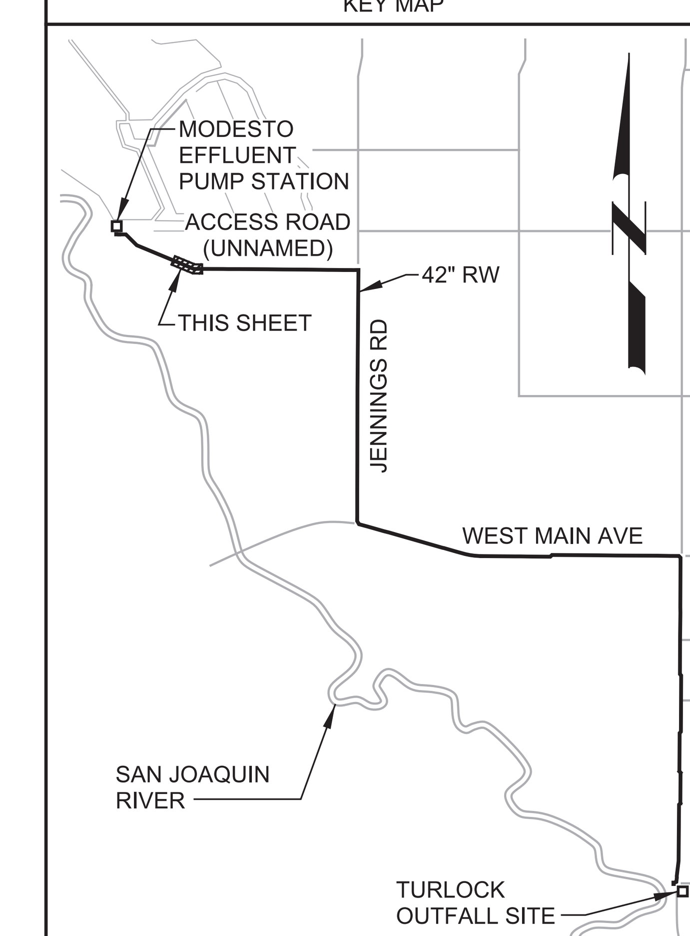
1. SEE SPECIFICATIONS FOR WORK RESTRICTIONS FOR WORKING WITHIN TEMPORARY AND PERMANENT EASEMENTS.
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KEY NOTES:

1. INSTALL TEMPORARY SNOW FENCE AT BOTH SIDES OF THE TEMPORARY CONSTRUCTION EASEMENT (TCE) LIMIT OR BOUNDARY OF WORK AREA IF WITHIN THE TCE. MAINTAIN FENCE UNTIL WORK AT THE SITE IS COMPLETE, THEN REMOVE FENCE.
2. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED: JPM
DRAWN: AL
CHECKED: AP/DGB
DATE: APRIL 2018

REGISTERED PROFESSIONAL ENGINEER — JONATHON P. MARSHALL — No. 73265 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:11:23-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:26:30-07'00'

REGISTERED PROFESSIONAL ENGINEER — DARREN G. BAUNE — No. 68899 — CIVIL — STATE OF CALIFORNIA

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STANISLAUS COUNTY, CALIFORNIA

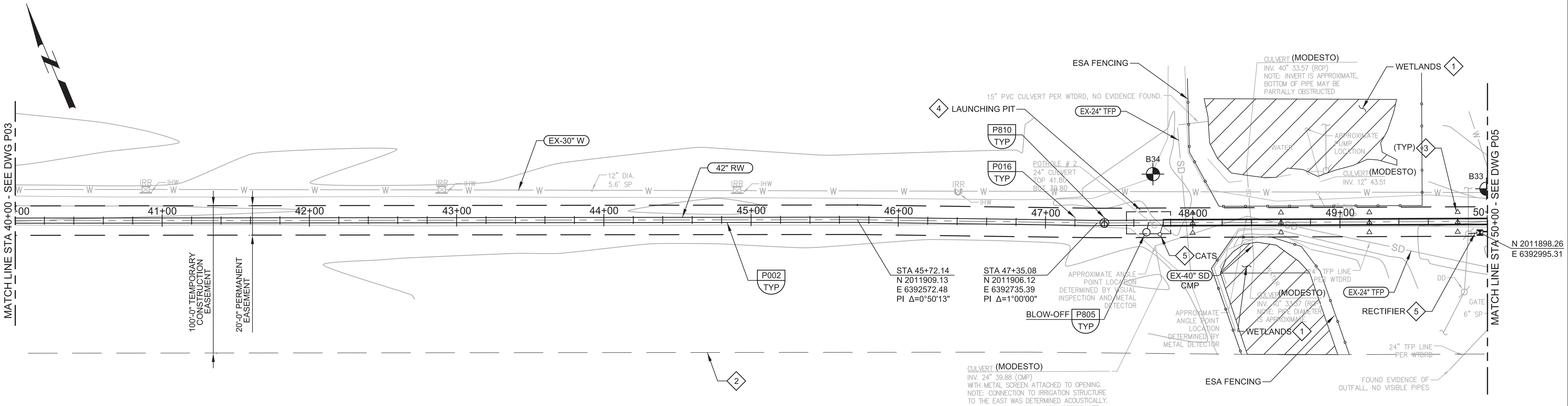
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 30+00 TO 40+00

VERIFY SCALES
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0 1"
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JOB NO. 10595A.10
DRAWING NO. P03
SHEET NO. 45 OF 122

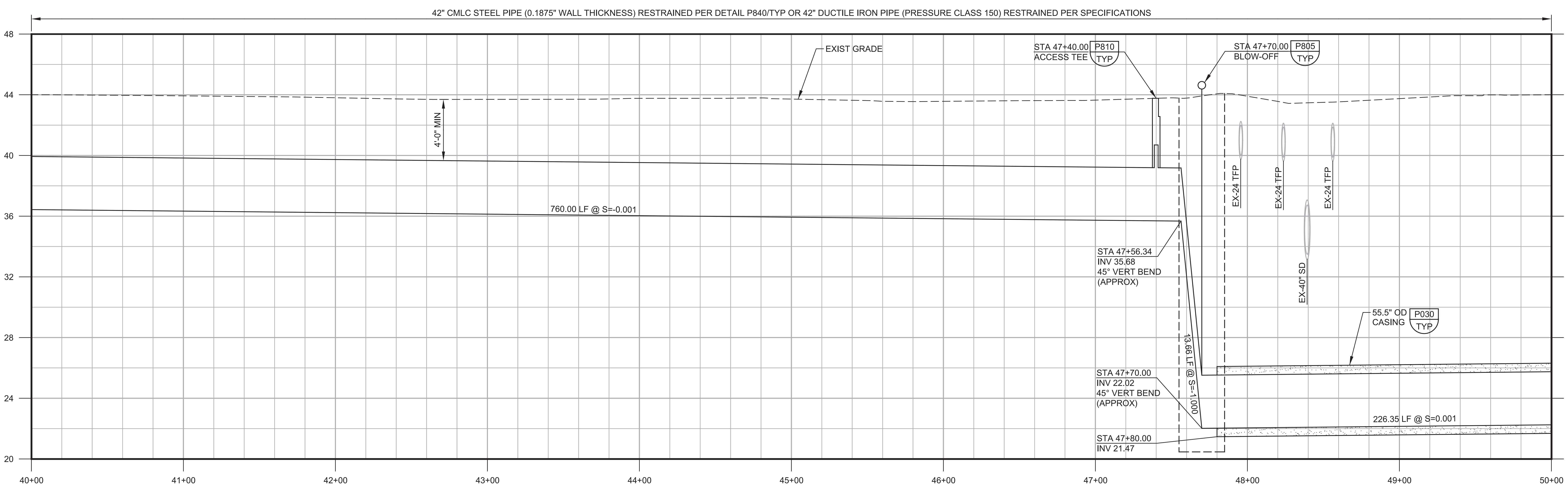
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PROJECT NO.
FILE NAME: 10595A10P03.dgn



PLAN

SCALE: 1"=40'
FILE: 10595A10C101



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

NOTES

GENERAL NOTES:

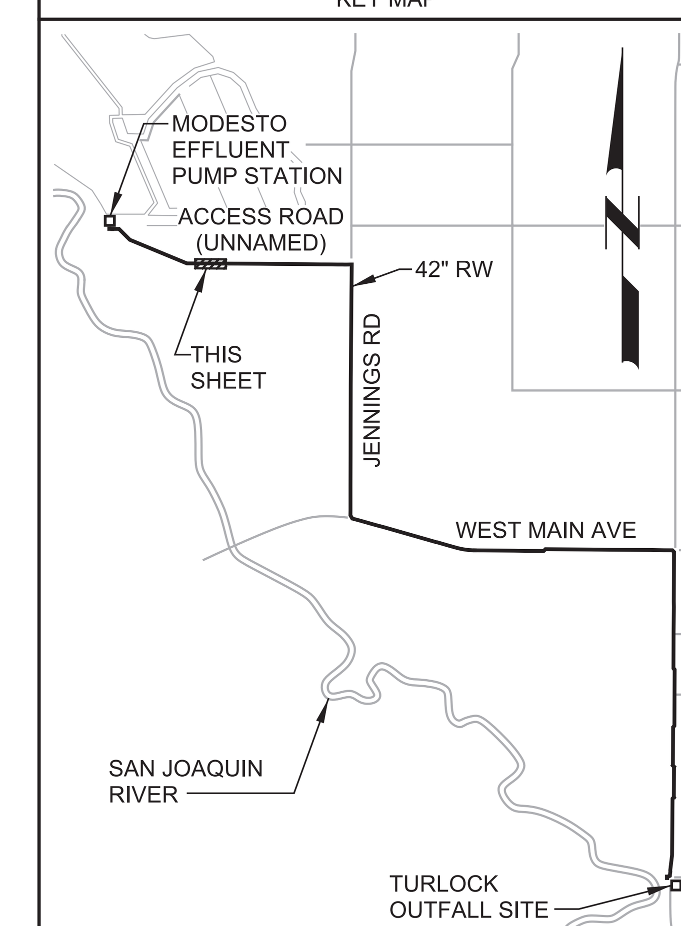
1. SEE SPECIFICATIONS FOR WORK RESTRICTIONS FOR WORKING WITHIN TEMPORARY AND PERMANENT EASEMENTS.
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KEY NOTES:

1. CONTRACTOR IS PROHIBITED FROM ENTERING WETLAND AREAS AND SHALL TAKE ALL MEASURES NECESSARY TO PROTECT WETLANDS IN PLACE DURING CONSTRUCTION.
2. INSTALL TEMPORARY SNOW FENCE AT BOTH SIDES OF THE TEMPORARY CONSTRUCTION EASEMENT (TCE) LIMIT OR BOUNDARY OF WORK AREA IF WITHIN THE TCE. MAINTAIN FENCE UNTIL WORK AT THE SITE IS COMPLETE, THEN REMOVE FENCE.
3. SETTLEMENT MONITORING LOCATION. SEE SPECIFICATIONS FOR MONITORING REQUIREMENTS.
4. WHEN ACTIVE CONSTRUCTION IS NOT OCCURRING AT THE PIT, INSTALL TYPE K TEMPORARY TRAFFIC GUARDRAIL AROUND ENTIRE PIT. PROVIDE SUFFICIENT REFLECTIVE MARKINGS ON GUARDRAIL TO WARN MOTORISTS AND ALLOW THE GUARDRAIL TO BE SEEN DURING NIGHT TIME HOURS.
5. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED: JPM
DRAWN: AL
CHECKED: AP/DGB
DATE: APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:11:34-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:26:23-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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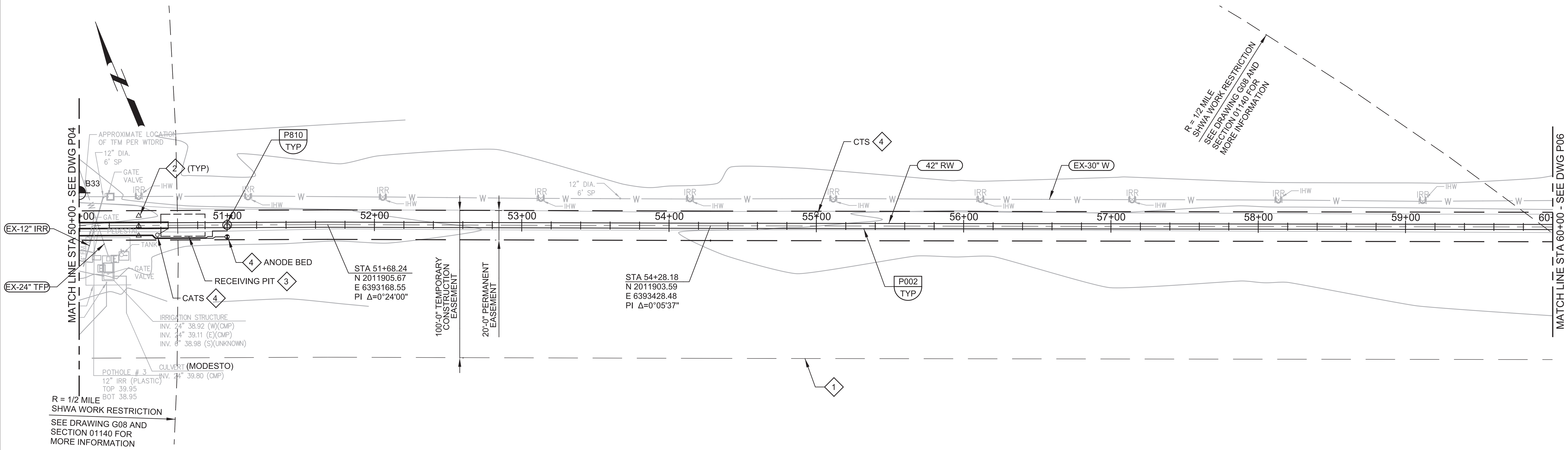
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 40+00 TO 50+00

VERIFY SCALES
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0 1"
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JOB NO. 10595A.10
DRAWING NO. P04
SHEET NO. 46 OF 122

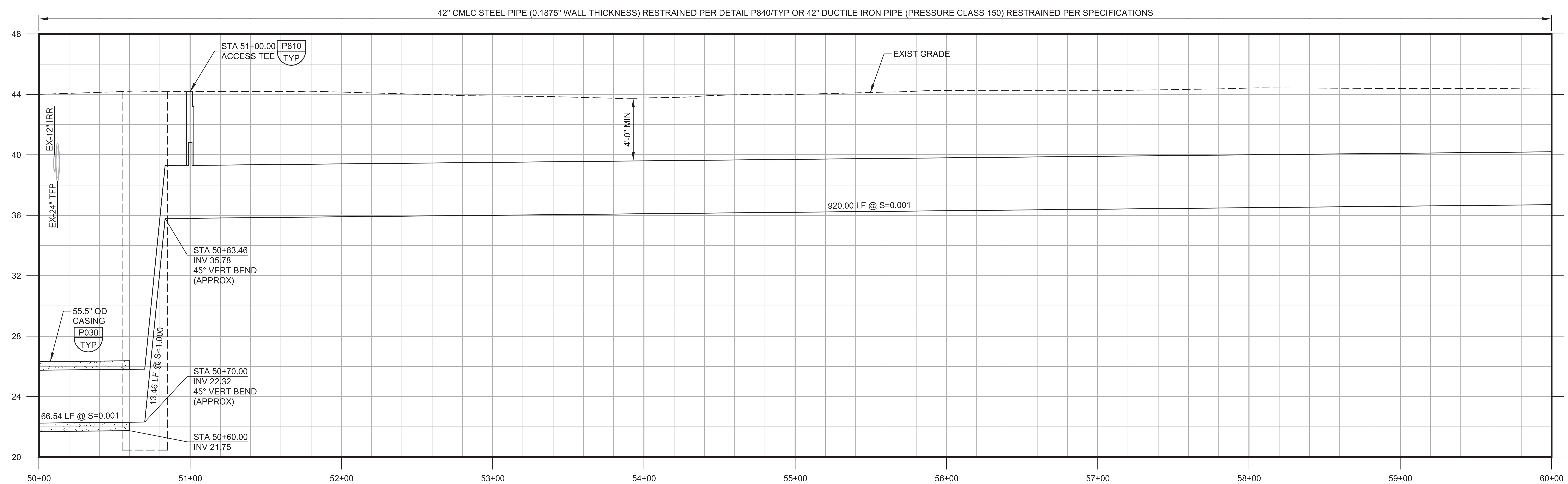
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LAST SAVED BY: JGarretty



PLAN

SCALE: 1"=40'
FILE: 10595A10C101



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

NOTES

GENERAL NOTES:

1. SEE SPECIFICATIONS FOR WORK RESTRICTIONS FOR WORKING WITHIN TEMPORARY AND PERMANENT EASEMENTS.

2. AT ALL WORK AREAS USED FOR AGRICULTURAL GROWING, REMOVE TOP 18" OF TOPSOIL AND STORE AND PROTECT ONSITE. REPLACE TOPSOIL AT 85% COMPACTION TO MATCH PRE-CONSTRUCTION ELEVATION. DO NOT HYDROSEED AGRICULTURAL AREAS.

KEY NOTES:

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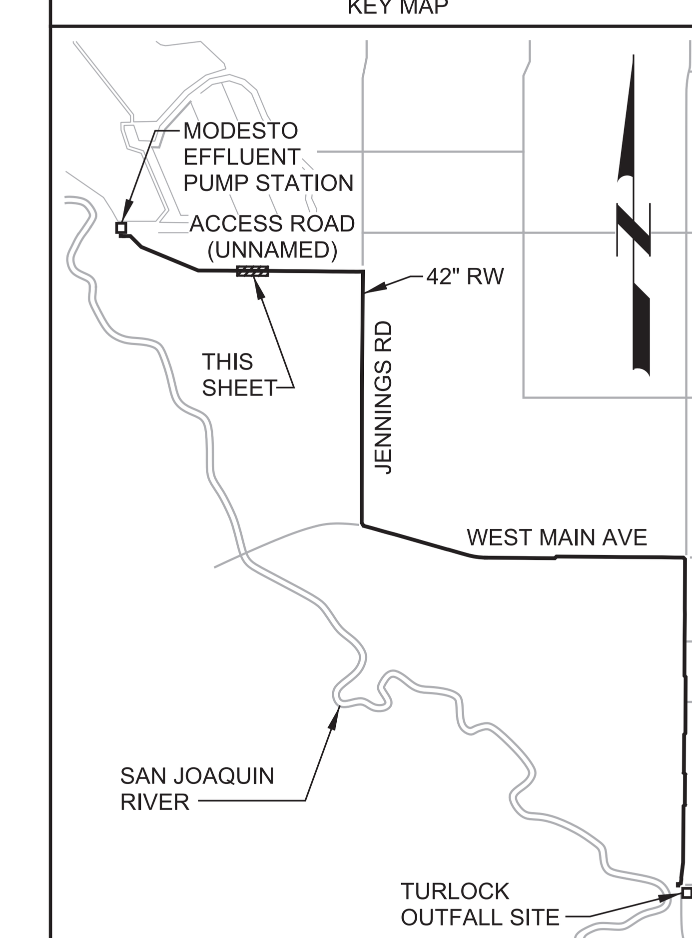
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4. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune Contact Info: Carollo Engineers, Inc. Date: 2018.04.25 09:11:44-07'00'

Digitally signed by Jonathon P. Marshall Contact Info: Carollo Engineers, Inc. Date: 2018.04.25 10:26:15-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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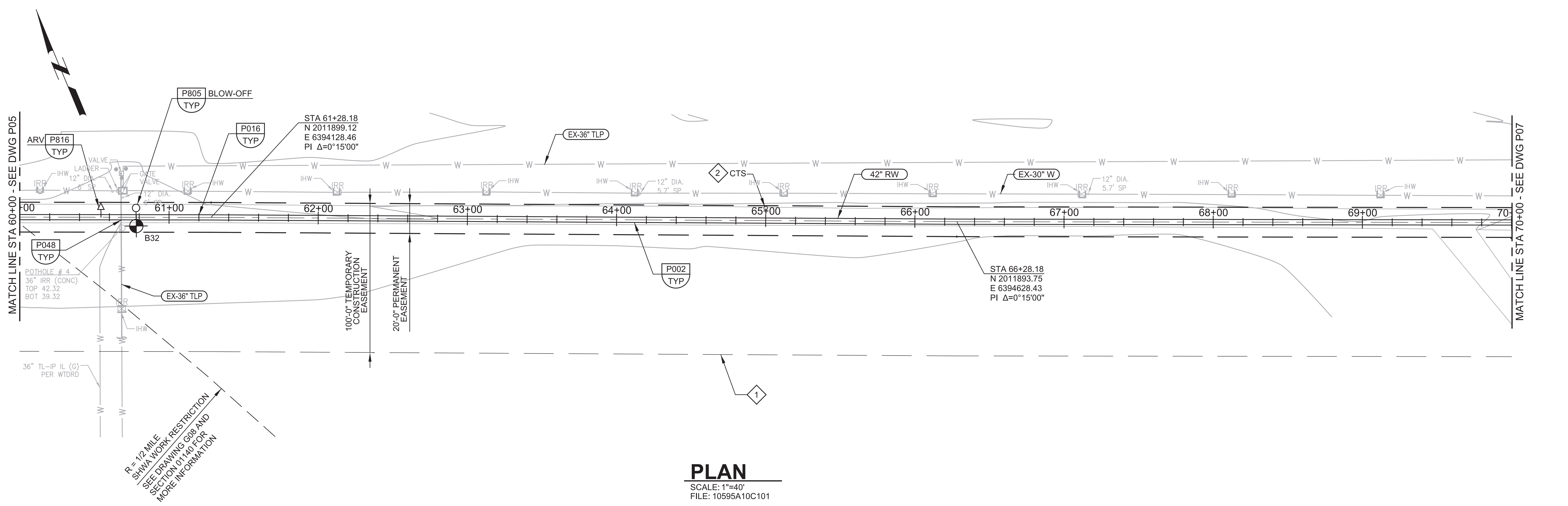
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 50+00 TO 60+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
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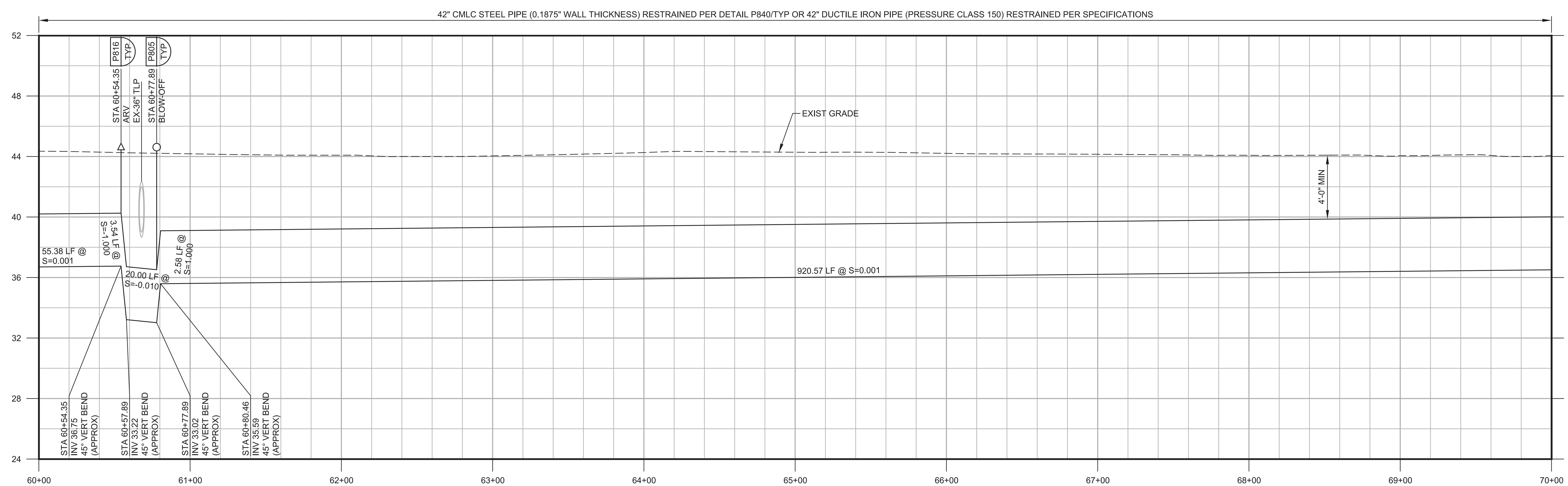
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DRAWING NO. P05
SHEET NO. 47 OF 122

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PLAN

SCALE: 1"=40'
FILE: 10595A10C101



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

NOTES

GENERAL NOTES:

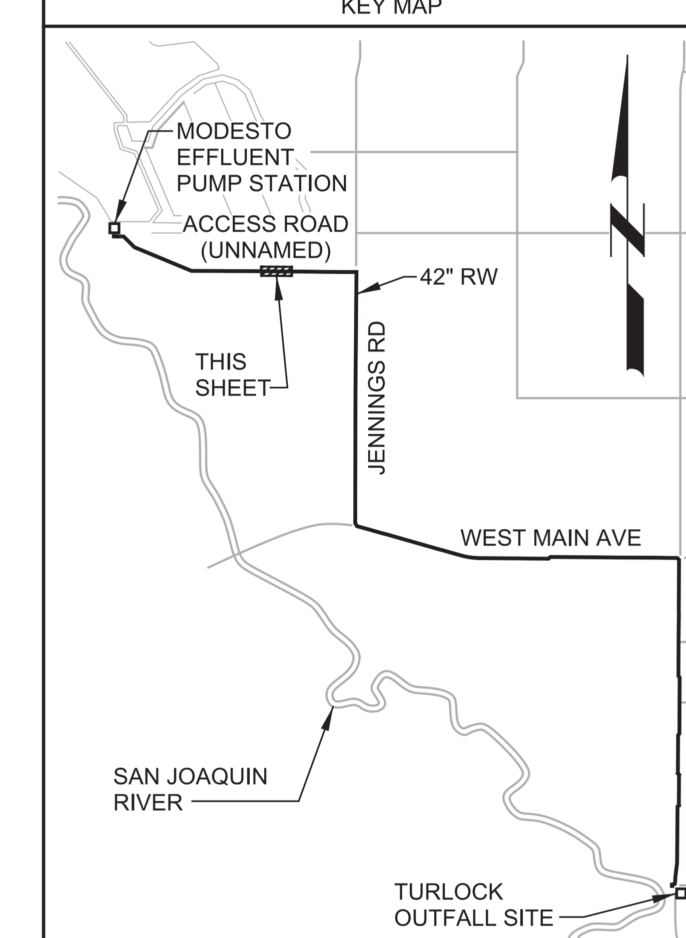
1. SEE SPECIFICATIONS FOR WORK RESTRICTIONS FOR WORKING WITHIN TEMPORARY AND PERMANENT EASEMENTS.
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KEY NOTES:

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2. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune Contact Info: Carollo Engineers, Inc. Date: 2018.04.25 09:11:54-07'00'

Digitally signed by Jonathon P. Marshall Contact Info: Carollo Engineers, Inc. Date: 2018.04.25 10:26:07-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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STANISLAUS COUNTY, CALIFORNIA

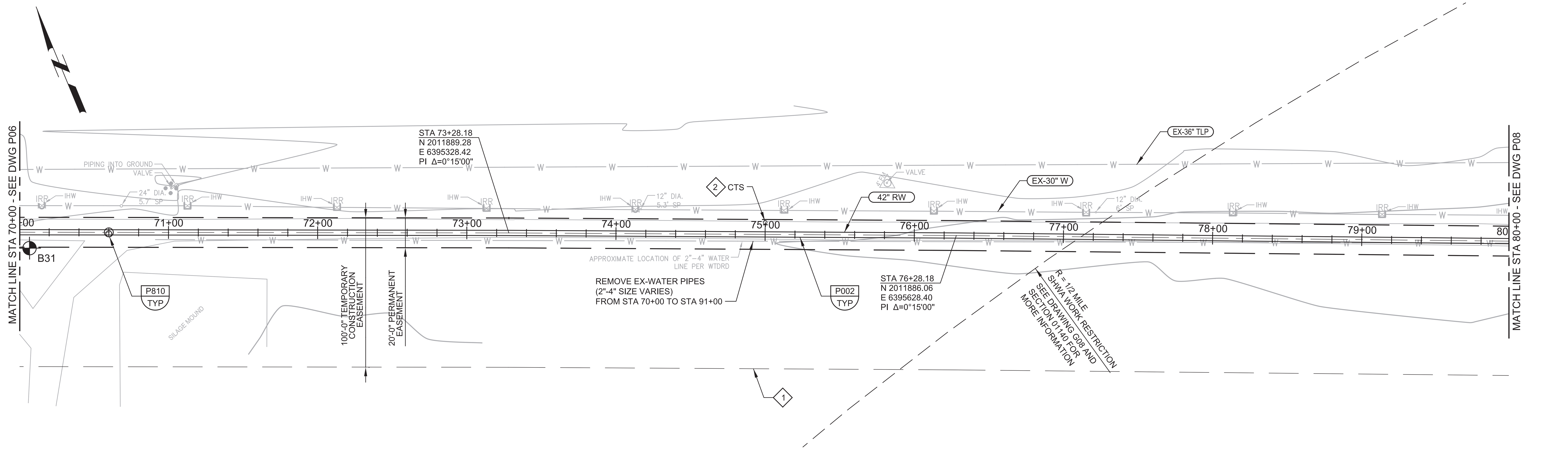
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 60+00 TO 70+00

VERIFY SCALES
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0 1"
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JOB NO. 10595A.10
DRAWING NO. P06
SHEET NO. 48 OF 122

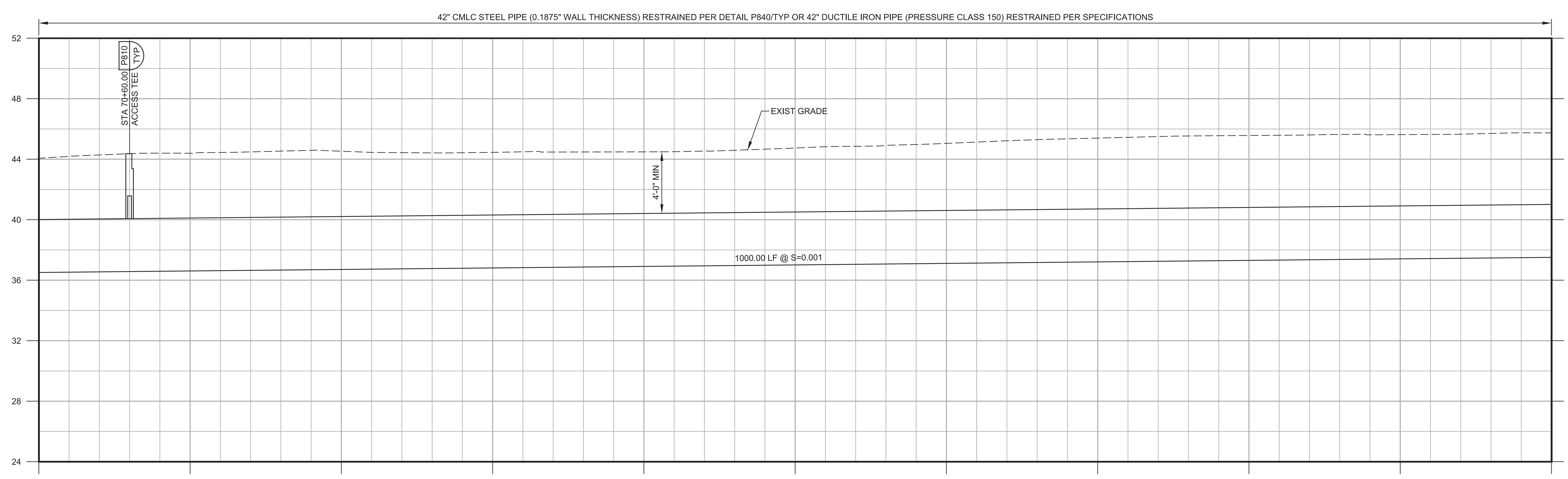
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PLAN

SCALE: 1"=40'
FILE: 10595A10C101



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

NOTES

GENERAL NOTES:

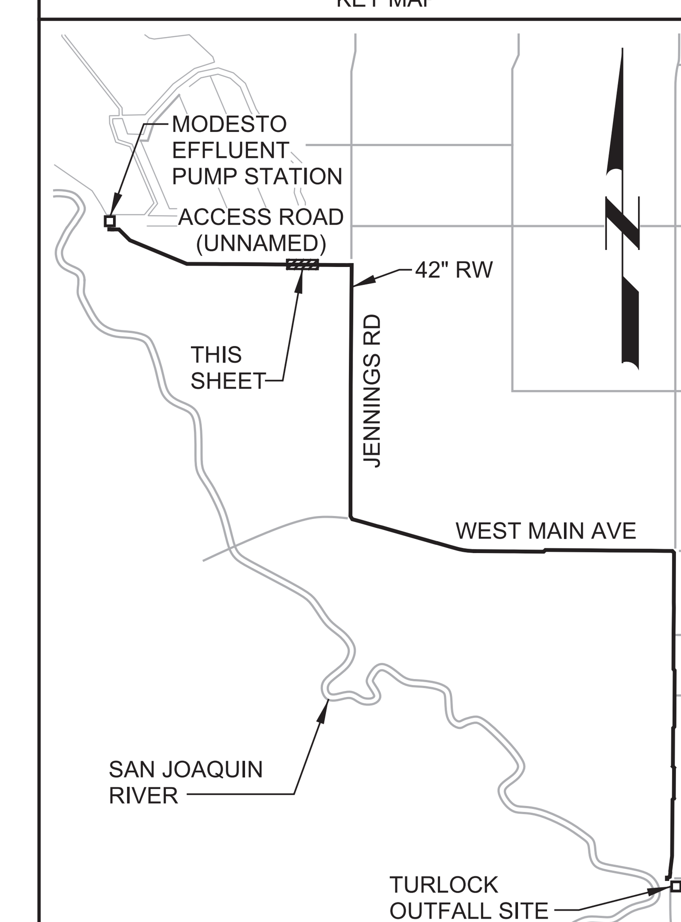
1. SEE SPECIFICATIONS FOR WORK RESTRICTIONS FOR WORKING WITHIN TEMPORARY AND PERMANENT EASEMENTS.
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KEY NOTES:

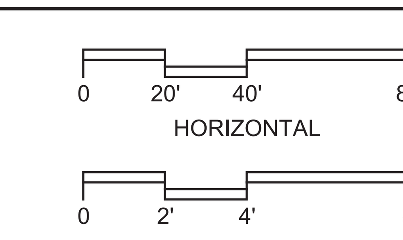
1. INSTALL TEMPORARY SNOW FENCE AT BOTH SIDES OF THE TEMPORARY CONSTRUCTION EASEMENT (TCE) LIMIT OR BOUNDARY OF WORK AREA IF WITHIN THE TCE. MAINTAIN FENCE UNTIL WORK AT THE SITE IS COMPLETE, THEN REMOVE FENCE.
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Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE



REV	DATE	BY	DESCRIPTION

DESIGNED: JPM
DRAWN: AL
CHECKED: AP/DGB
DATE: APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:12:06-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:25:58-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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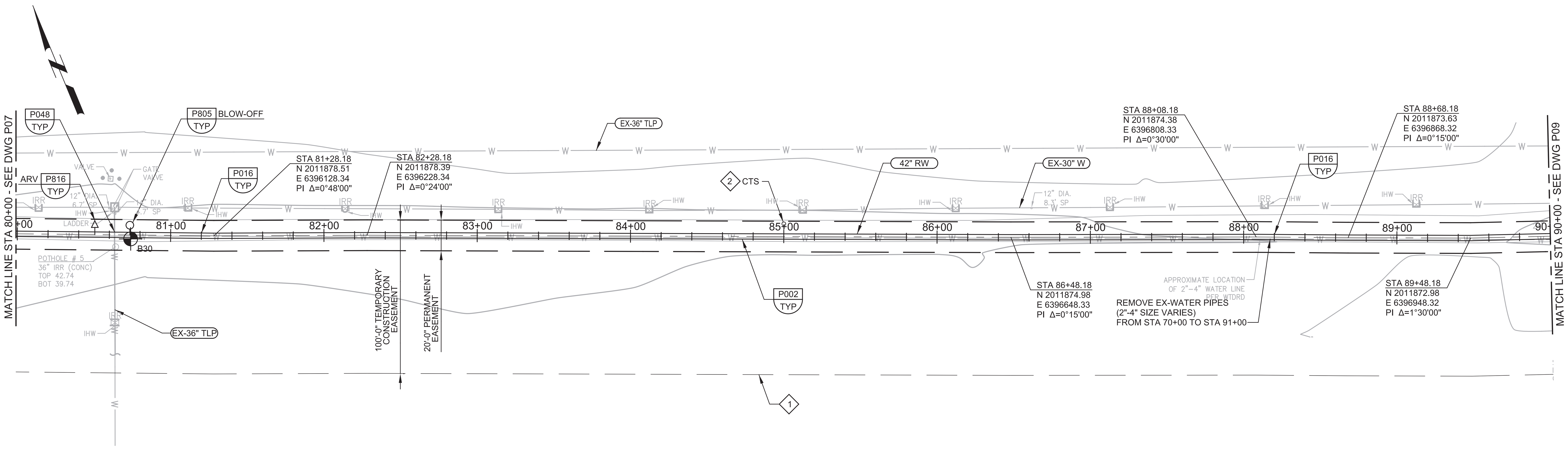
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 70+00 TO 80+00

VERIFY SCALES
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0 1"
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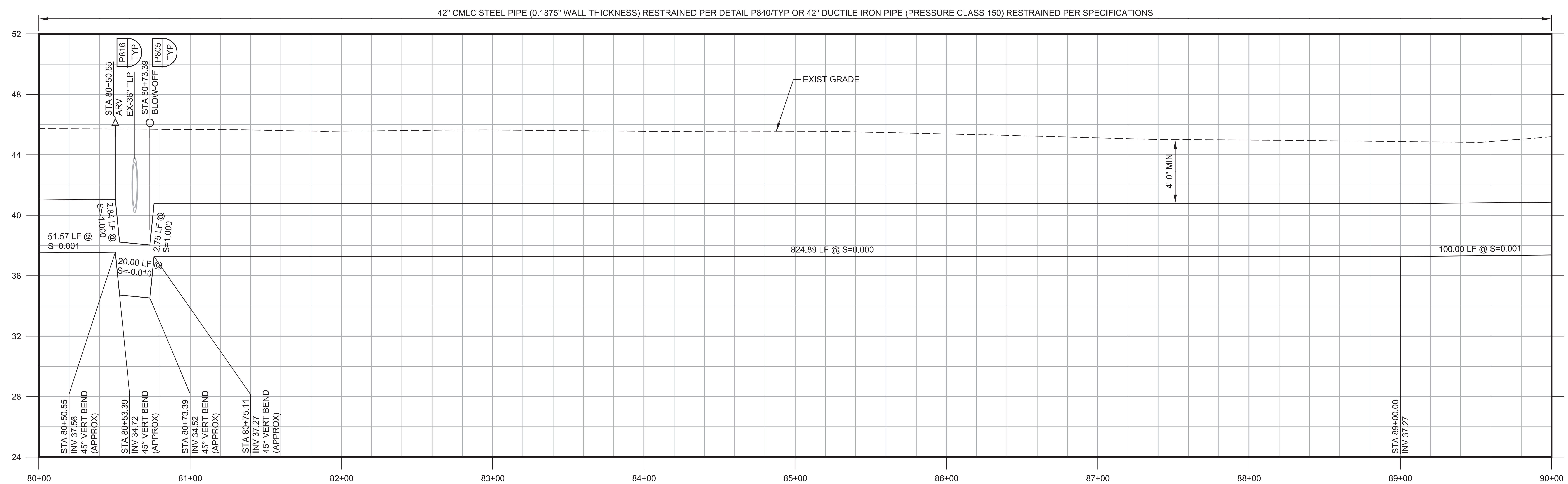
JOB NO. 10595A.10
DRAWING NO. P07
SHEET NO. 49 OF 122

PROJECT NO.
FILE NAME: 10595A10P07.dgn



PLAN

SCALE: 1"=40'
FILE: 10595A10C101



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

NOTES

GENERAL NOTES:

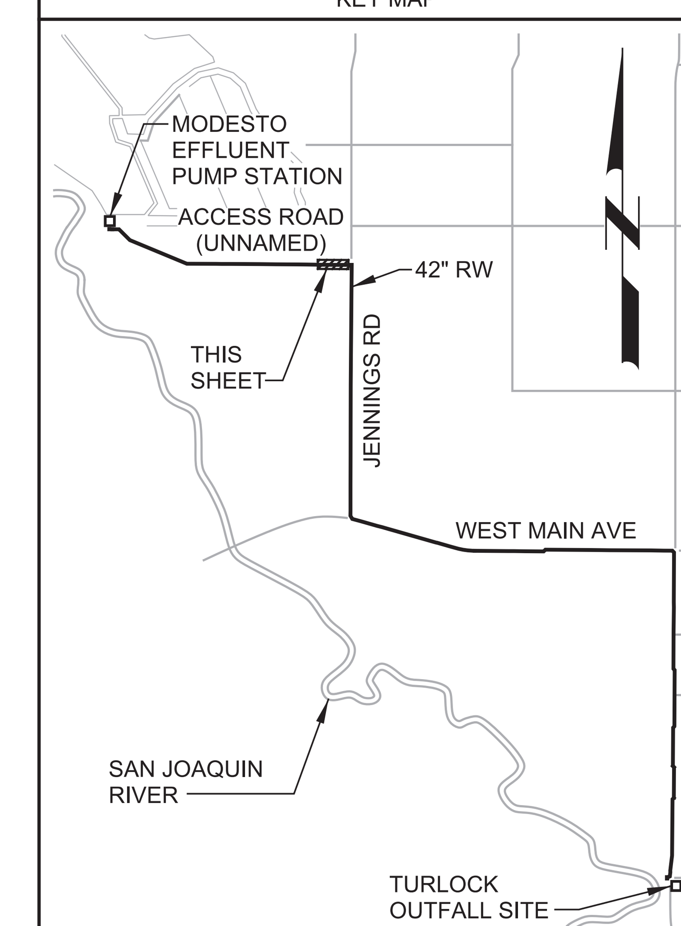
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2. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:12:17-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:25:51-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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STANISLAUS COUNTY, CALIFORNIA

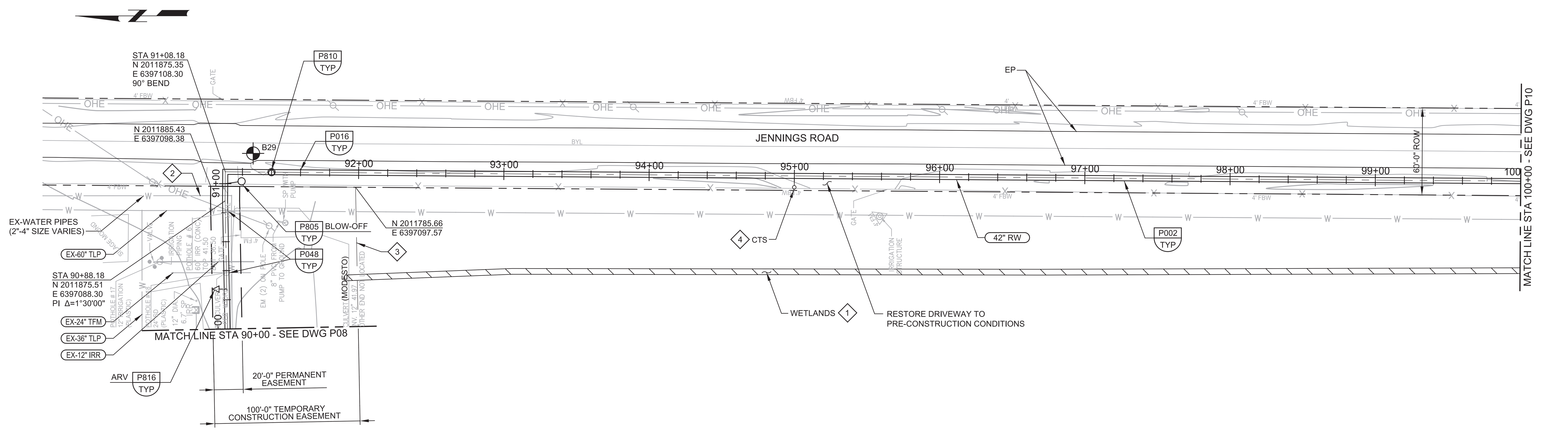
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 80+00 TO 90+00

VERIFY SCALES
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0 1"
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JOB NO. 10595A.10
DRAWING NO. P08
SHEET NO. 50 OF 122

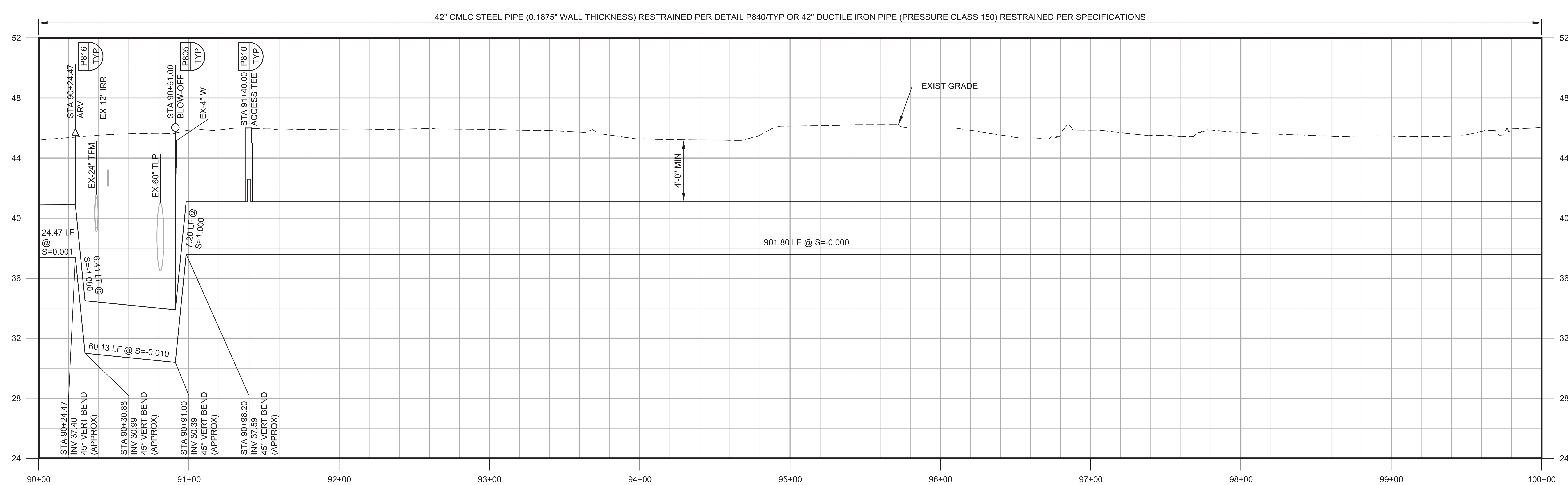
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LAST SAVED BY: Alaico



PLAN

SCALE: 1"=40'
FILE: 10595A10C101



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

NOTES

GENERAL NOTES:

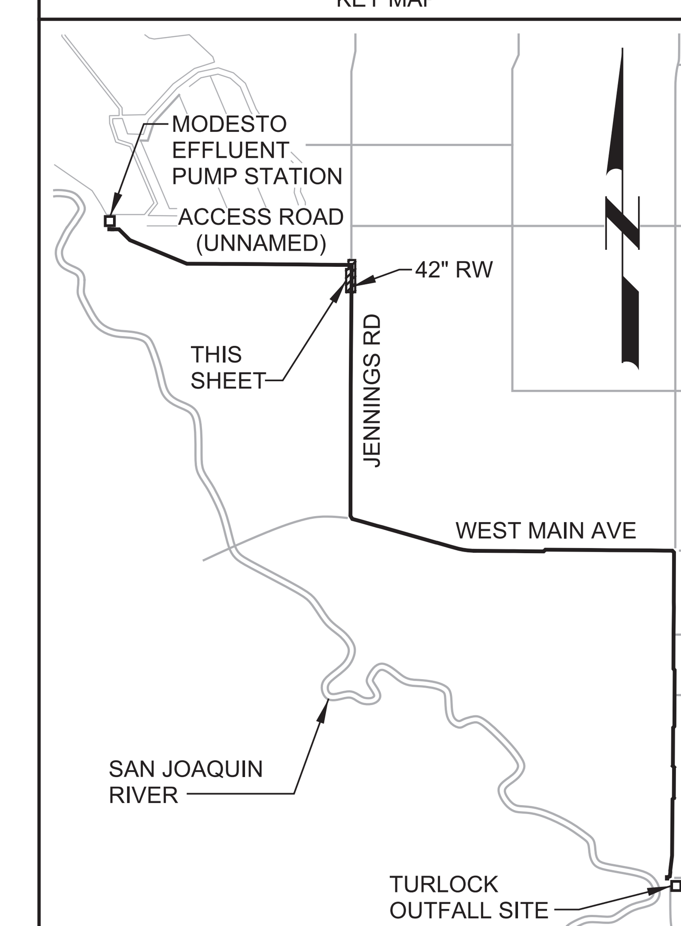
1. SEE SPECIFICATIONS FOR WORK RESTRICTIONS FOR WORKING WITHIN TEMPORARY AND PERMANENT EASEMENTS.
2. AT ALL WORK AREAS USED FOR AGRICULTURAL GROWING, REMOVE TOP 18" OF TOPSOIL AND STORE AND PROTECT ONSITE. REPLACE TOPSOIL AT 85% COMPACTION TO MATCH PRE-CONSTRUCTION ELEVATION. DO NOT HYDROSEED AGRICULTURAL AREAS.

KEY NOTES:

1. CONTRACTOR IS PROHIBITED FROM ENTERING WETLAND AREAS AND SHALL TAKE ALL MEASURES NECESSARY TO PROTECT WETLANDS IN PLACE DURING CONSTRUCTION.
2. CUT AND CAP EXISTING 2" - 4" PIPE AND INSTALL THRUST BLOCK. FIELD VERIFY EXISTING PIPE AND SUBMIT PROPOSED CAP FOR APPROVAL. REMOVE 2" - 4" PIPE FROM STA 70+00 TO STA 91+00.
3. INSTALL TEMPORARY SNOW FENCE AT BOTH SIDES OF THE TEMPORARY CONSTRUCTION EASEMENT (TCE) LIMIT OR BOUNDARY OF WORK AREA IF WITHIN THE TCE. MAINTAIN FENCE UNTIL WORK AT THE SITE IS COMPLETE, THEN REMOVE FENCE.
4. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:12:26-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:25:41-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

carollo®

CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 90+00 TO 100+00

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

JOB NO. 10595A.10
DRAWING NO. P09
SHEET NO. 51 OF 122

PROJECT NO. FILE NAME: 10595A10P09.dgn

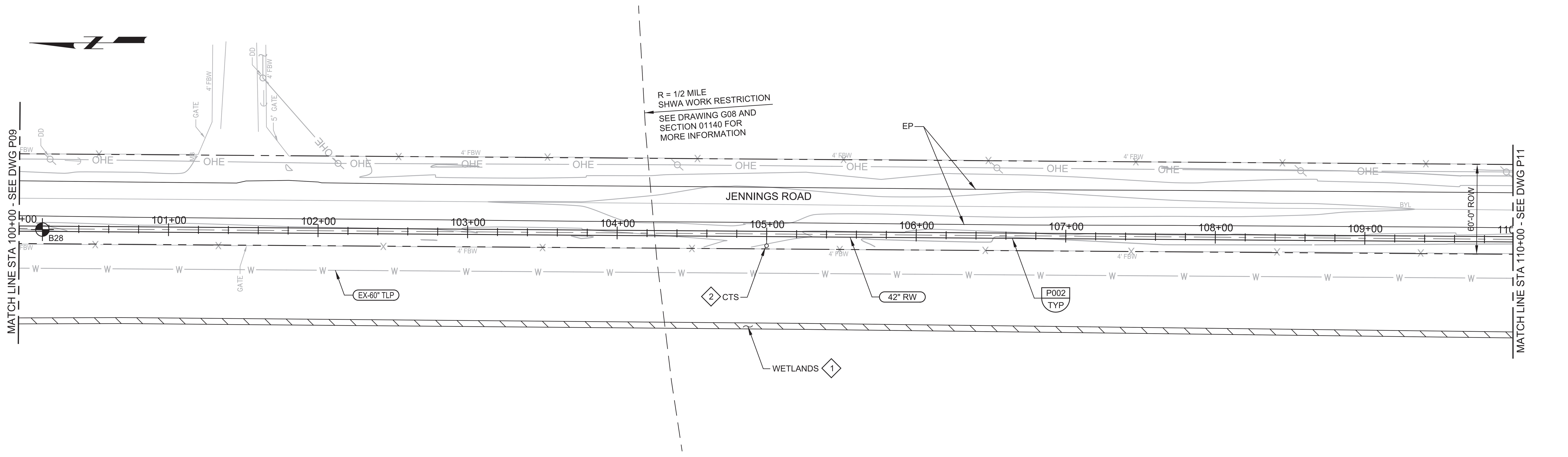
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LAST SAVED BY: DFassbinder

NOTES

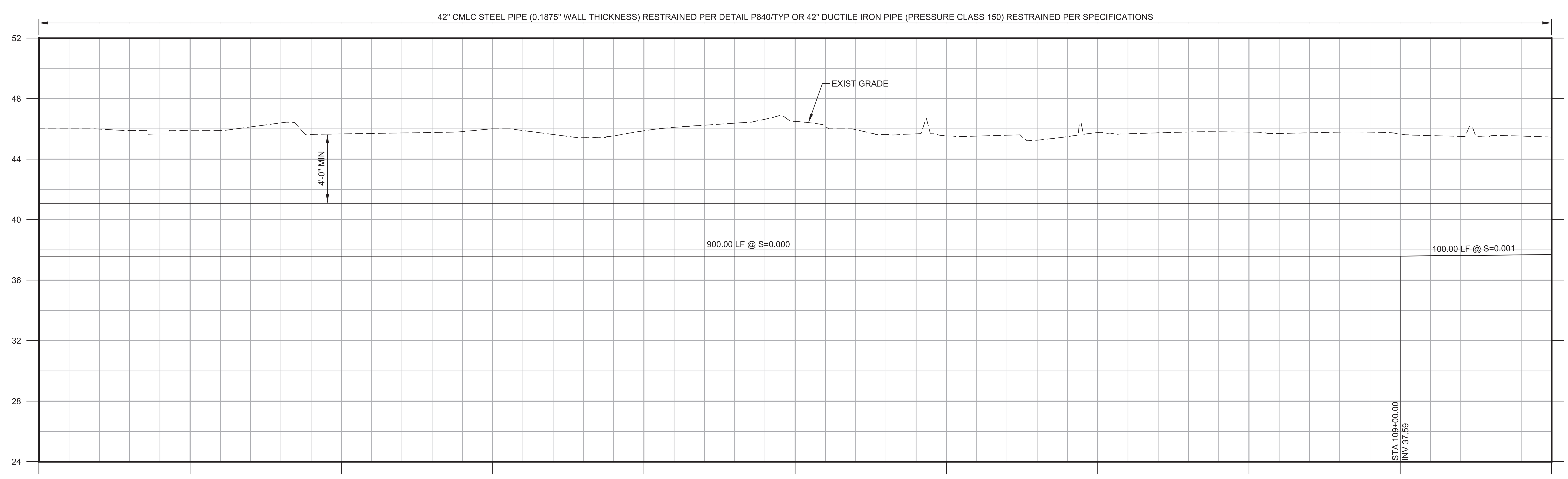
KEY NOTES:

1. CONTRACTOR IS PROHIBITED FROM ENTERING WETLAND AREAS AND SHALL TAKE ALL MEASURES NECESSARY TO PROTECT WETLANDS IN PLACE DURING CONSTRUCTION.
2. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.



PLAN

SCALE: 1"=40'
FILE: 10595A10C101

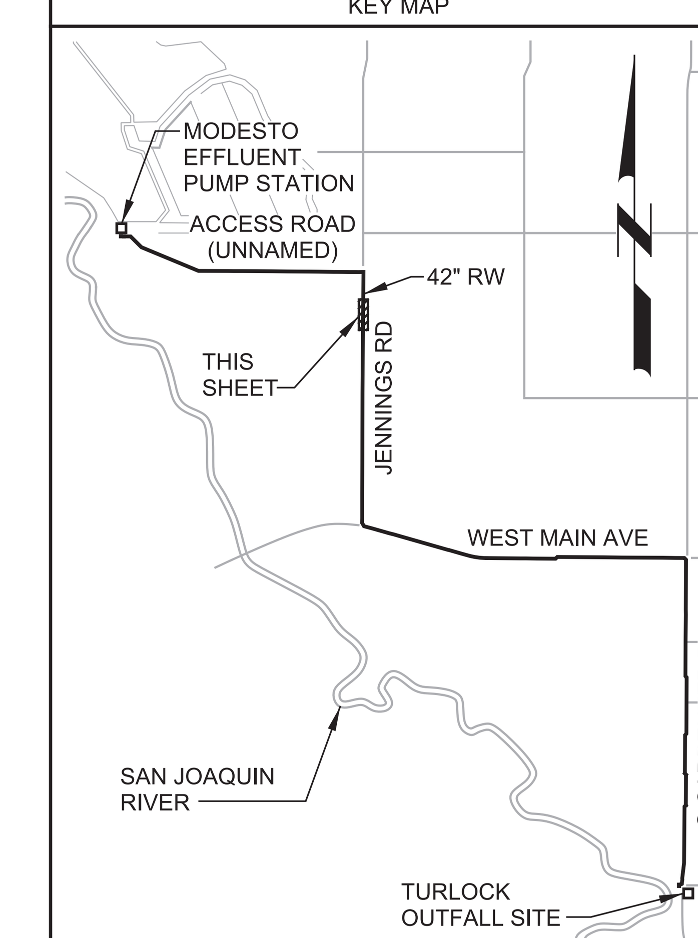


PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED: JPM
DRAWN: AL
CHECKED: AP/DGB
DATE: APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:12:35-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:25:33-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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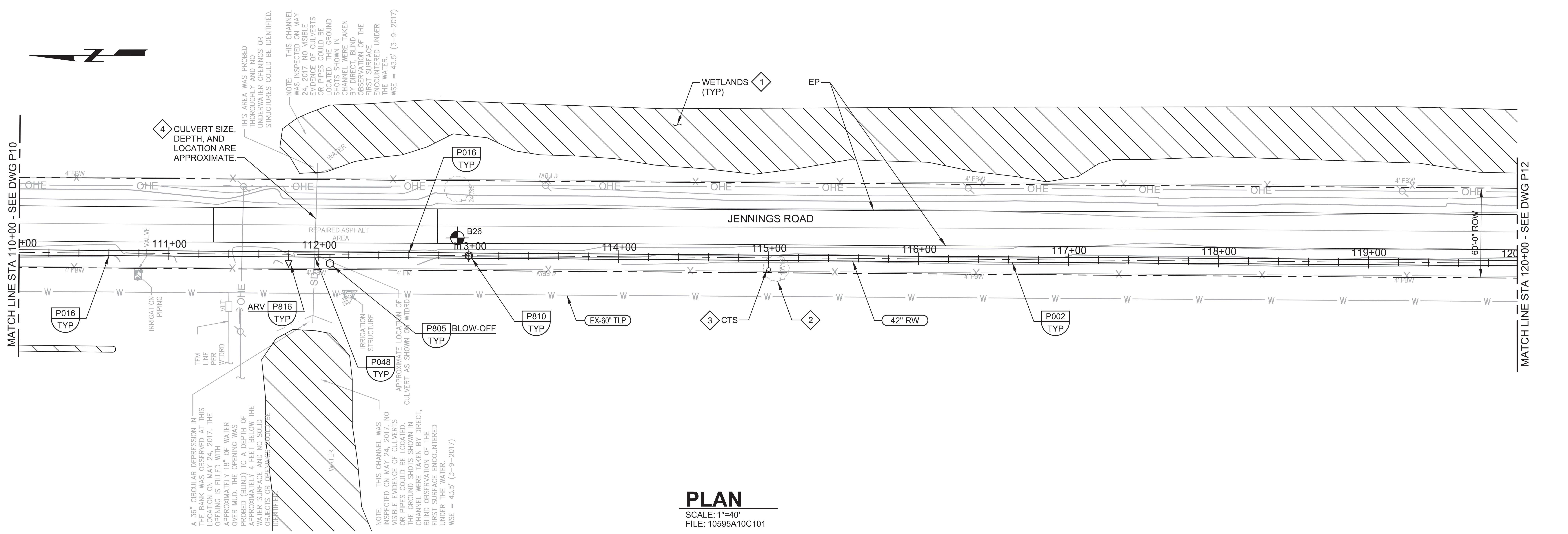
CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 100+00 TO 110+00

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

JOB NO. 10595A.10
DRAWING NO. P10
SHEET NO. 52 OF 122

PROJECT NO.   FILE NAME: 10595A10P10.dgn



PLAN

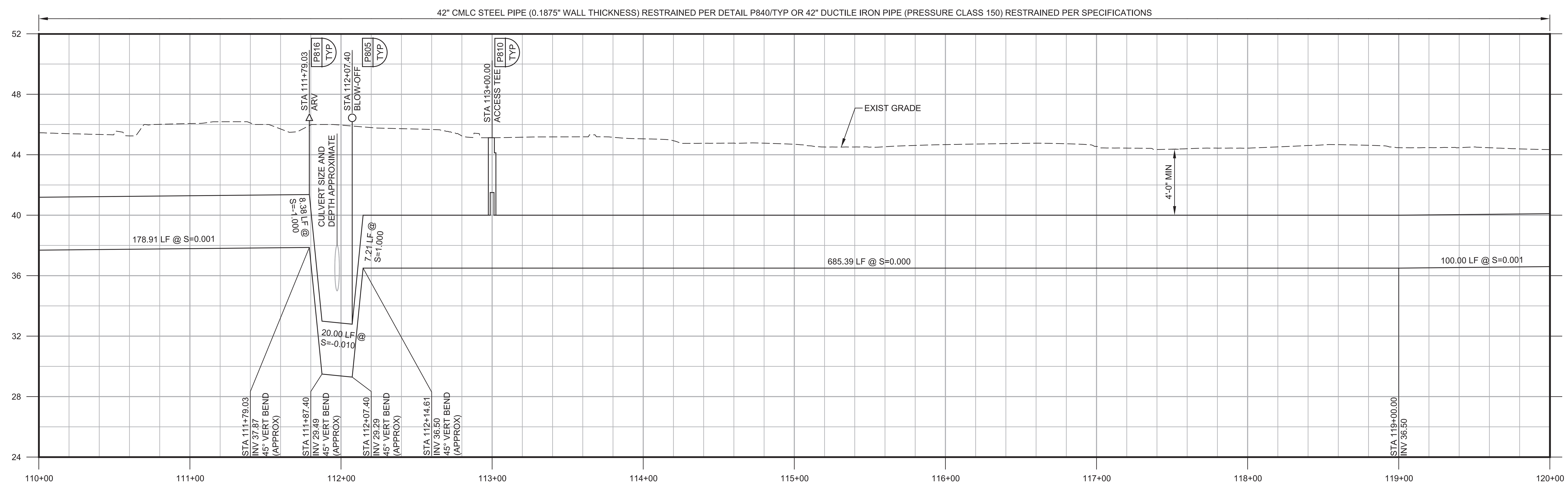
SCALE: 1"=40'
FILE: 10595A10C101

NOTES

KEY NOTES:

1. CONTRACTOR IS PROHIBITED FROM ENTERING WETLAND AREAS (EXCEPT FOR CCTV ROVER) AND SHALL TAKE ALL MEASURES NECESSARY TO PROTECT WETLANDS IN PLACE DURING CONSTRUCTION.
2. TRIM TREE BRANCHES AS REQUIRED FOR CONSTRUCTION. PROTECT TREE PER SECTION 01562.
3. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.
4. CCTV AND ASSESS PER SECTION 01140.

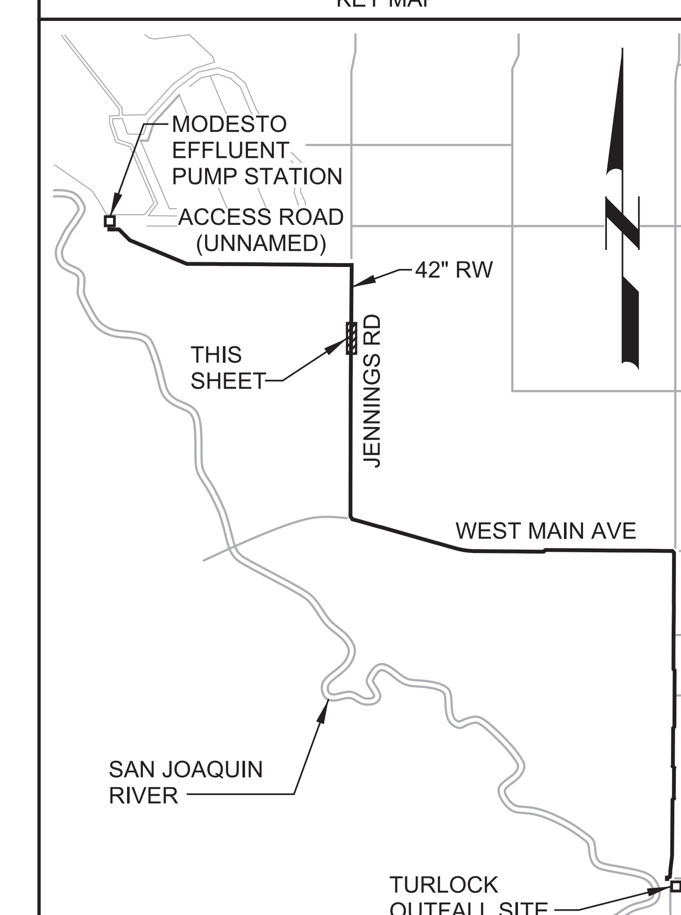
Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:12:45-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:25:24-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

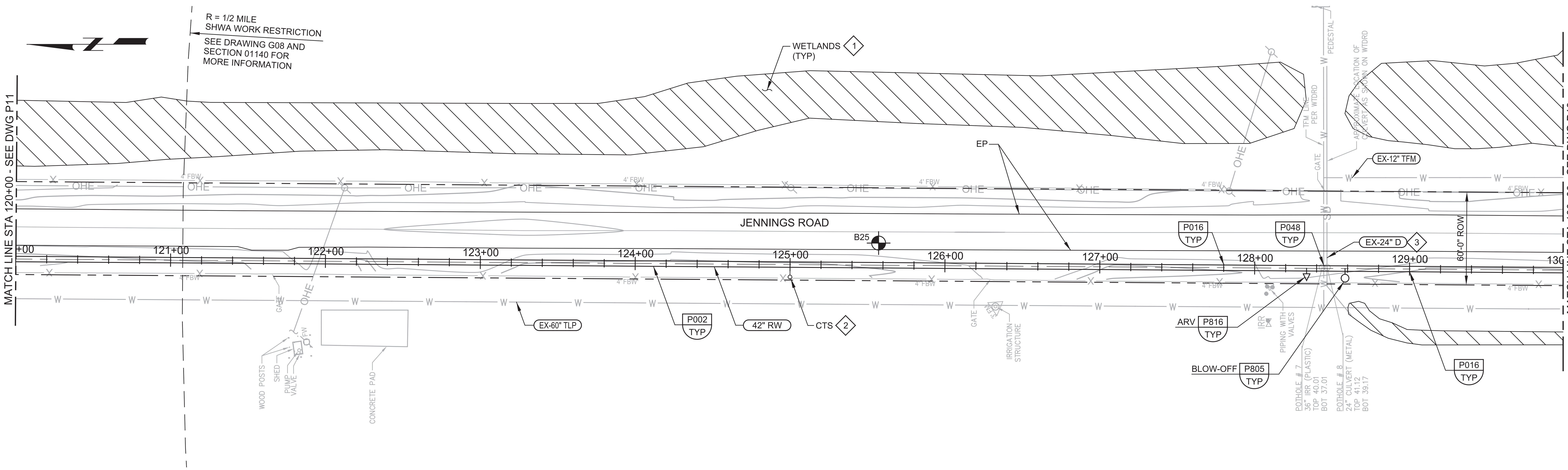
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 110+00 TO 120+00

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

JOB NO. 10595A.10
DRAWING NO. P11
SHEET NO. 53 OF 122

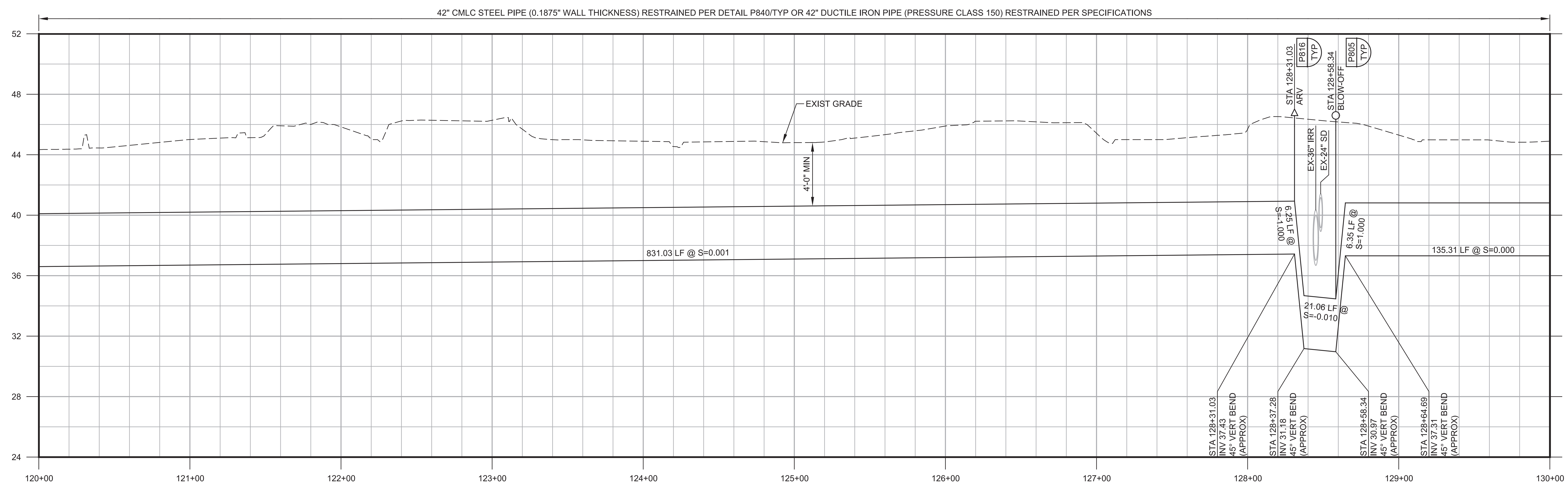
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LAST SAVED BY: DFassbinder



PLAN

SCALE: 1"=40'
FILE: 10595A10C101



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

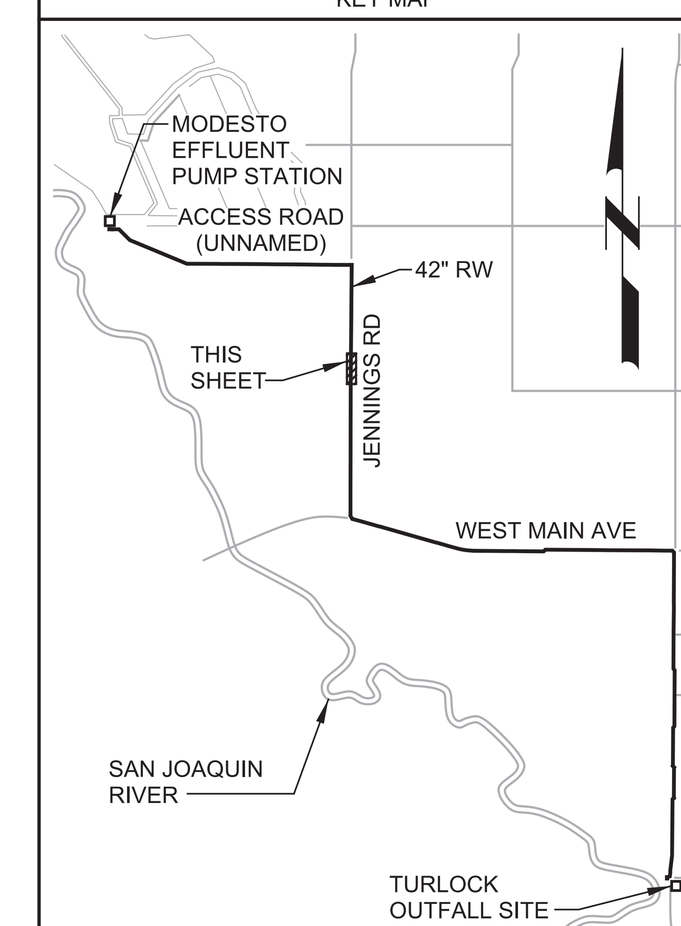
NOTES

KEY NOTES:

1. CONTRACTOR IS PROHIBITED FROM ENTERING WETLAND AREAS (EXCEPT FOR CCTV ROVER) AND SHALL TAKE ALL MEASURES NECESSARY TO PROTECT WETLANDS IN PLACE DURING CONSTRUCTION.
2. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.
3. CCTV AND ASSESS PER SECTION 01140.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED: JPM
DRAWN: AL
CHECKED: AP/DGB
DATE: APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:14:26-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:25:14-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

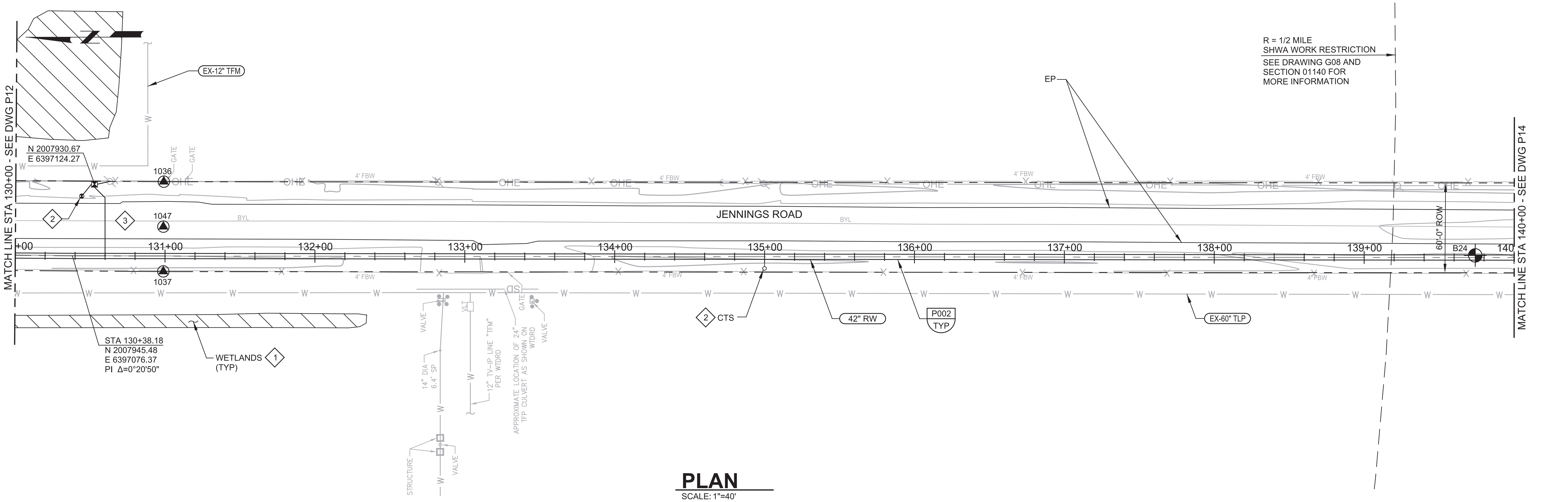
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STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE STA 120+00 TO 130+00

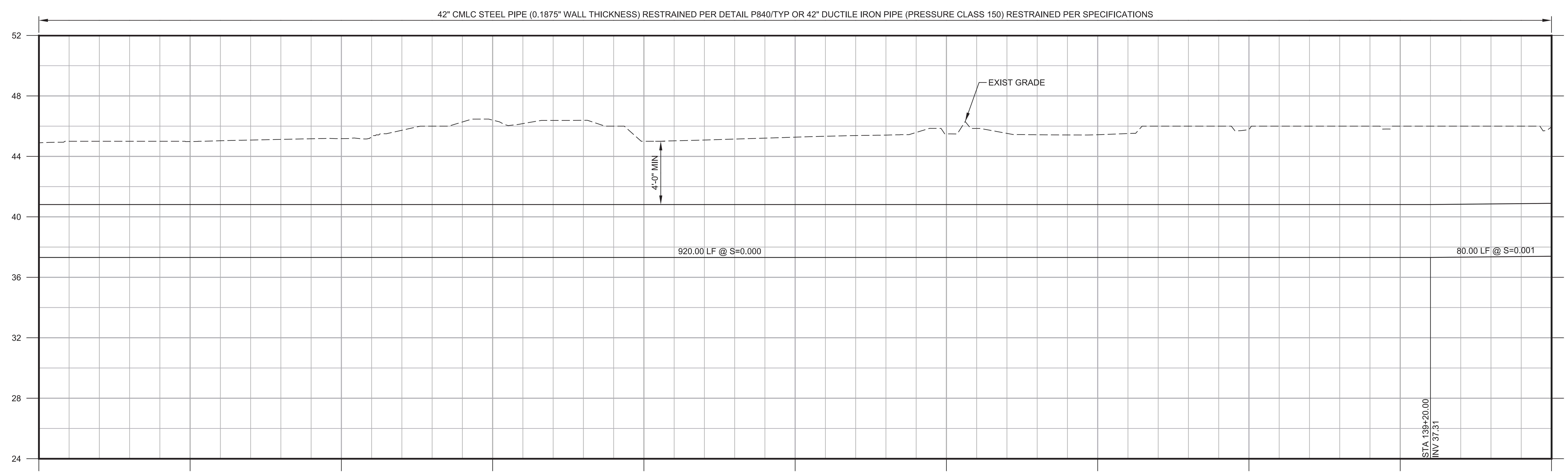
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10595A.10
DRAWING NO. P12
SHEET NO. 54 OF 122



PLAN

SCALE: 1"=40'
FILE: 10595A10C101



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

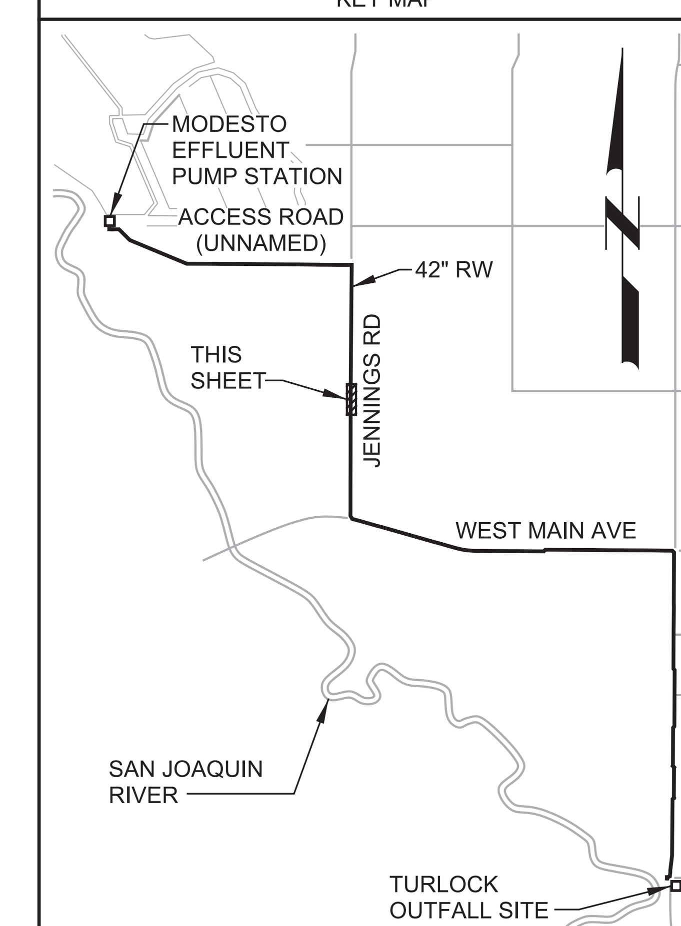
NOTES

KEY NOTES:

1. CONTRACTOR IS PROHIBITED FROM ENTERING WETLAND AREAS AND SHALL TAKE ALL MEASURES NECESSARY TO PROTECT WETLANDS IN PLACE DURING CONSTRUCTION.
2. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.
3. SEE SPECIFICATIONS FOR WORK RESTRICTONS WHEN CONSTRUCTING ACROSS THE ROAD.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:14:43-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:25:05-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908

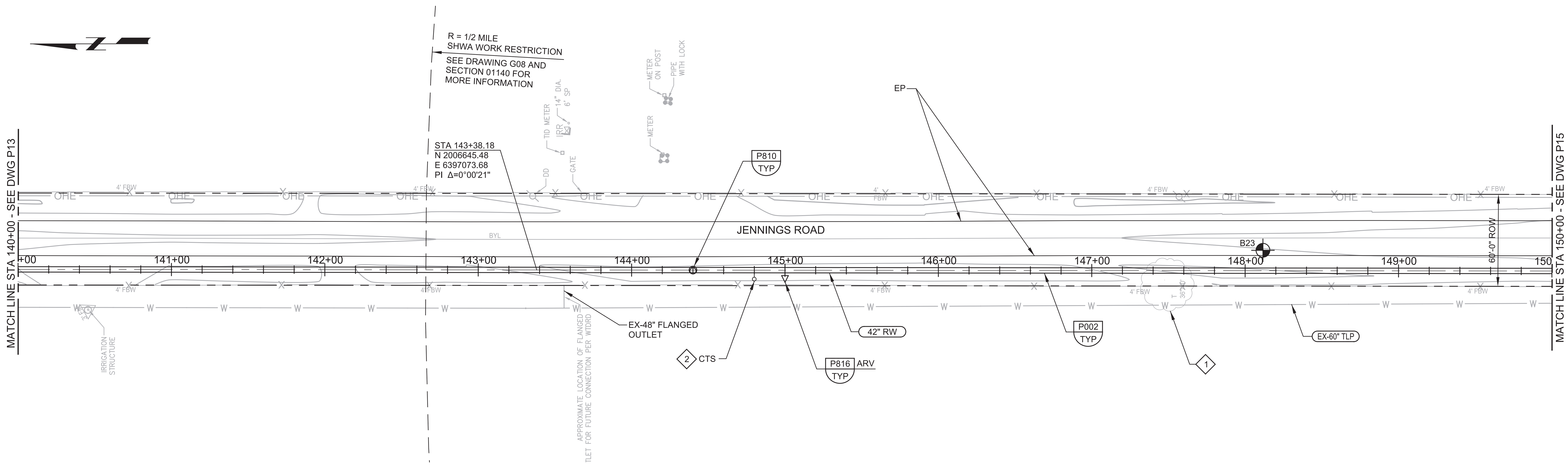
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE STA 130+00 TO 140+00

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

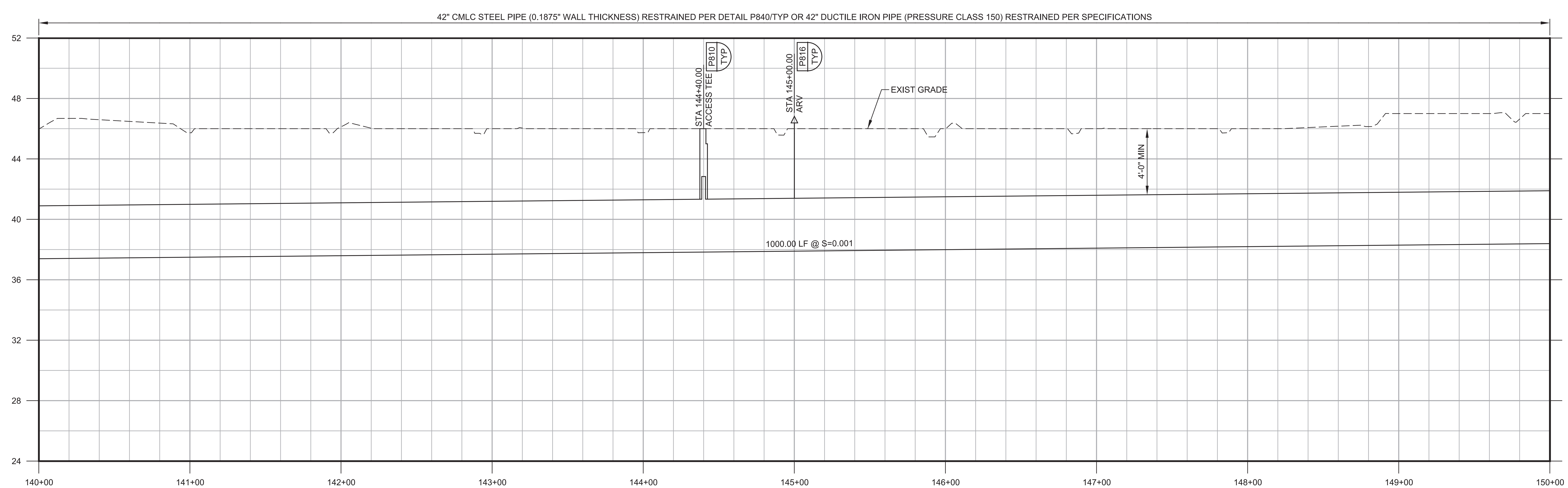
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DRAWING NO. P13
SHEET NO. 55 OF 122

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PLAN

SCALE: 1"=40'
FILE: 10595A10C101



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

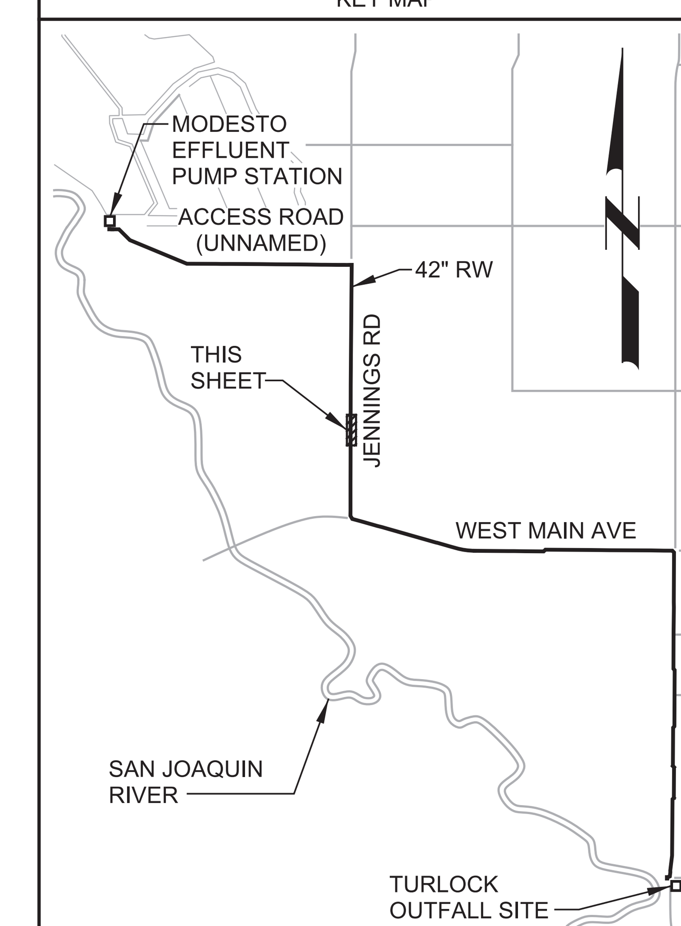
NOTES

KEY NOTES:

1. TRIM TREE BRANCHES AS REQUIRED FOR CONSTRUCTION. PROTECT TREE PER SECTION 01562.
2. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:15:01-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:24:45-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE STA 140+00 TO 150+00

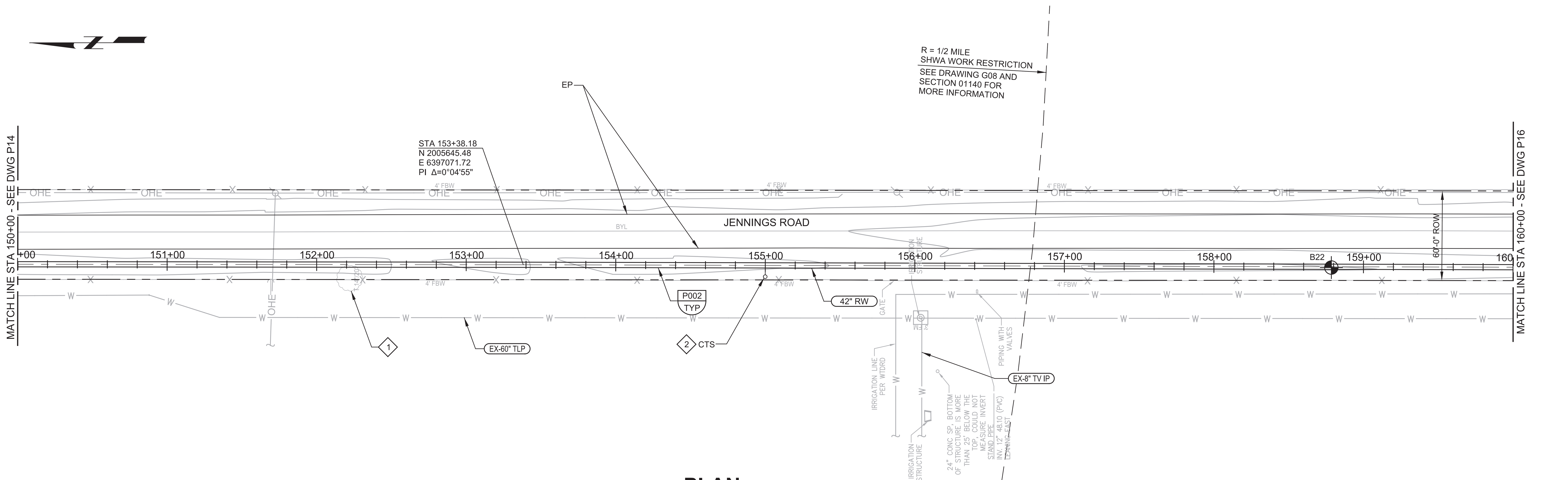
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10595A.10
DRAWING NO. P14
SHEET NO. 56 OF 122

PROJECT NO. FILE NAME: 10595A10P14.dgn

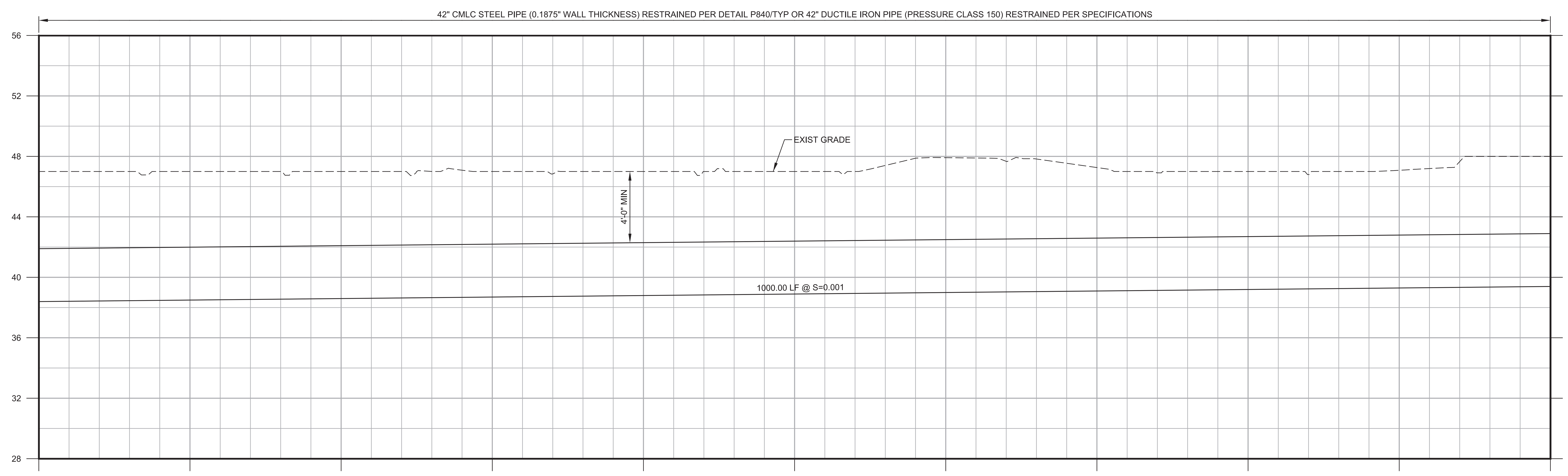
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LAST SAVED BY: DFassbinder



PLAN

SCALE: 1"=40'
FILE: 10595A10C101



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

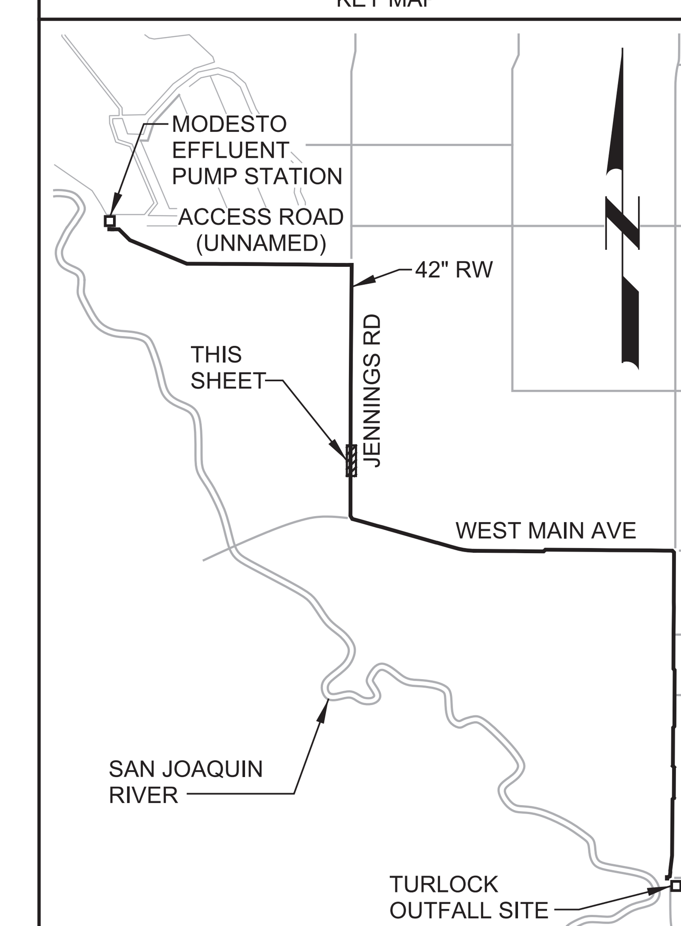
NOTES

KEY NOTES:

1. TRIM TREE BRANCHES AS REQUIRED FOR CONSTRUCTION. PROTECT TREE PER SECTION 01562.
2. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:15:10-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:24:37-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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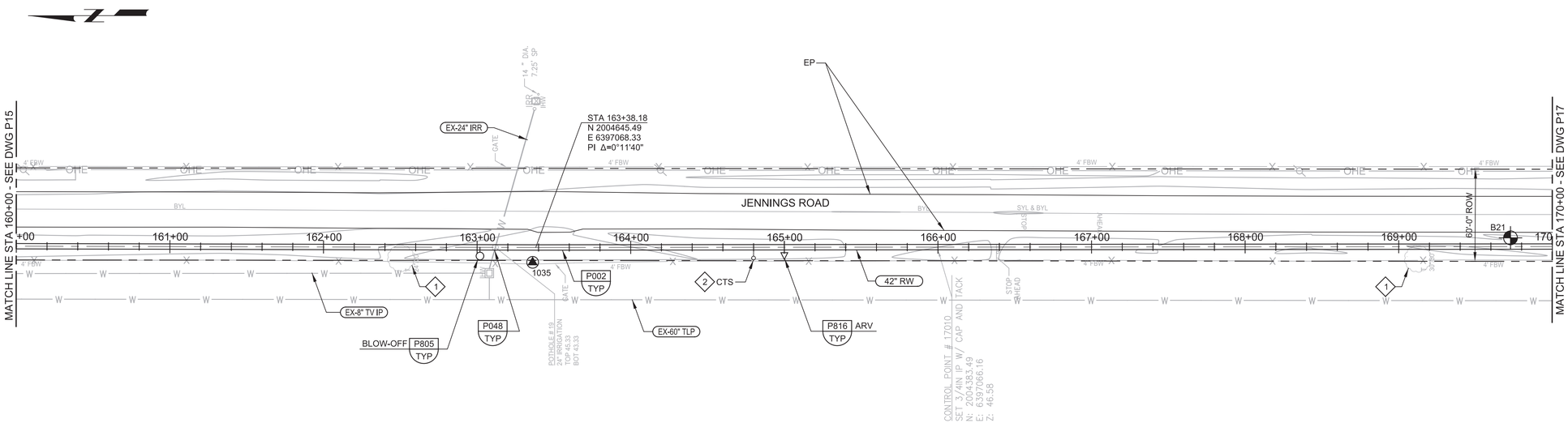
CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 150+00 TO 160+00

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

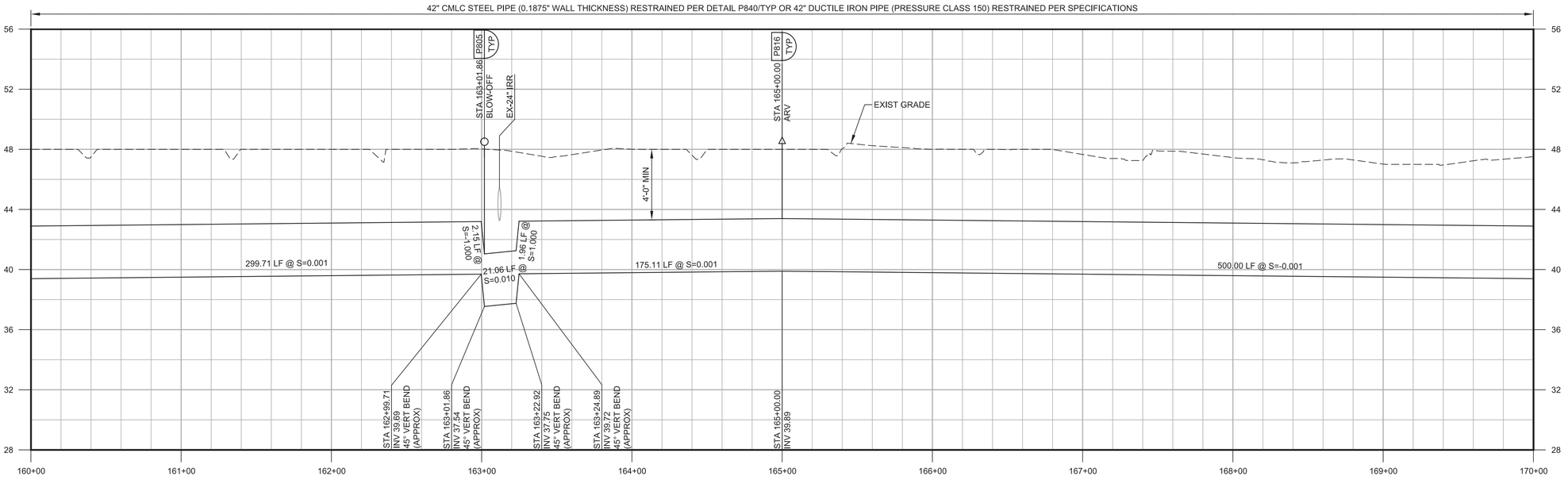
JOB NO. 10595A.10
DRAWING NO. P15
SHEET NO. 57 OF 122

PROJECT NO. FILE NAME: 10595A10P15.dgn



PLAN

SCALE: 1"=40'
FILE: 10595A10C101



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

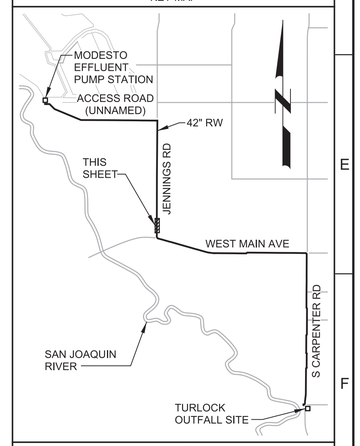
NOTES

KEY NOTES:

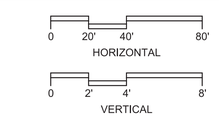
1. TRIM TREE BRANCHES AS REQUIRED FOR CONSTRUCTION. PROTECT TREE PER SECTION 01562.
2. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE



REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc
Date: 2018.04.25 09:19:16-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc
Date: 2018.04.25 10:54:24-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

carollo

CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 160+00 TO 170+00

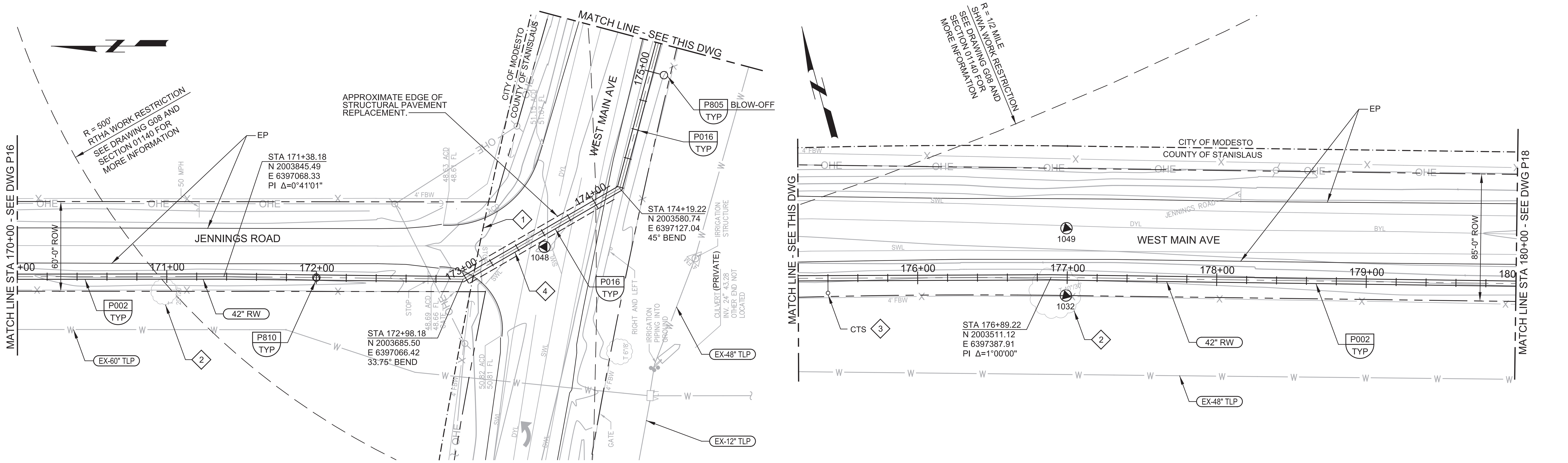
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10595A.10
DRAWING NO. P16
SHEET NO. 58 OF 122

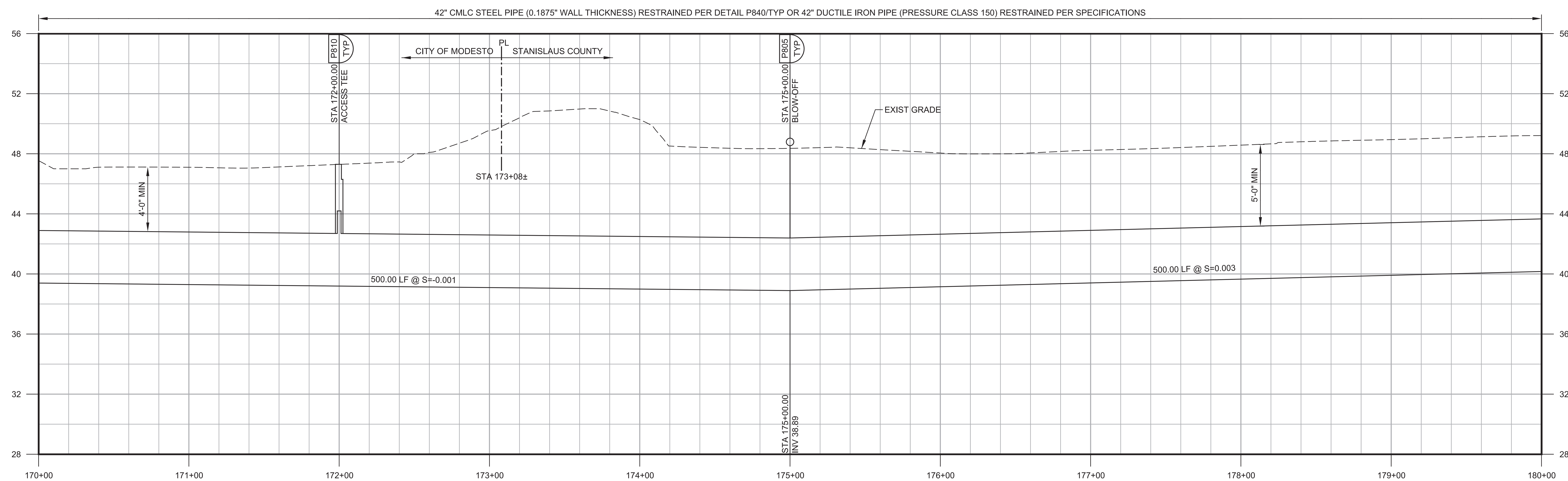
PROJECT NO.
FILE NAME: 10595A10P16.dgn

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Plot Date: 24-APR-2018 3:21:55 PM
User: svcPW
PlotScale: 2:1
DesignScript: Carollo_Std_Pen_v0905.pen
ColorTable: gshade.ctb
Model: Layout1
LAST SAVED BY: Alaico



PLAN
SCALE: 1"=40'
FILE: 10595A10C101



PROFILE
HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

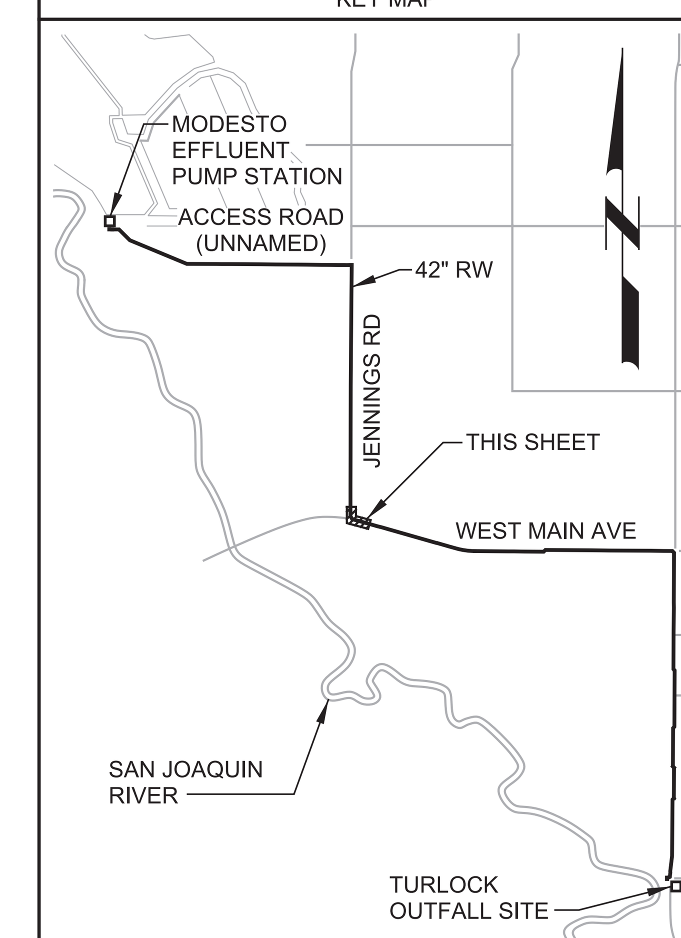
NOTES

KEY NOTES:

1. JURISDICTIONAL BOUNDARY BETWEEN THE CITY OF MODESTO (NORTH) AND STANISLAUS COUNTY (SOUTH).
2. TRIM TREE BRANCHES AS REQUIRED FOR CONSTRUCTION. PROTECT TREE PER SECTION 01562.
3. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.
4. SEE SPECIFICATIONS FOR WORK RESTRICTIONS WHEN CONSTRUCTING ACROSS ROAD.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED: JPM
DRAWN: AL
CHECKED: AP/DGB
DATE: APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:15:26-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:24:15-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

carollo®

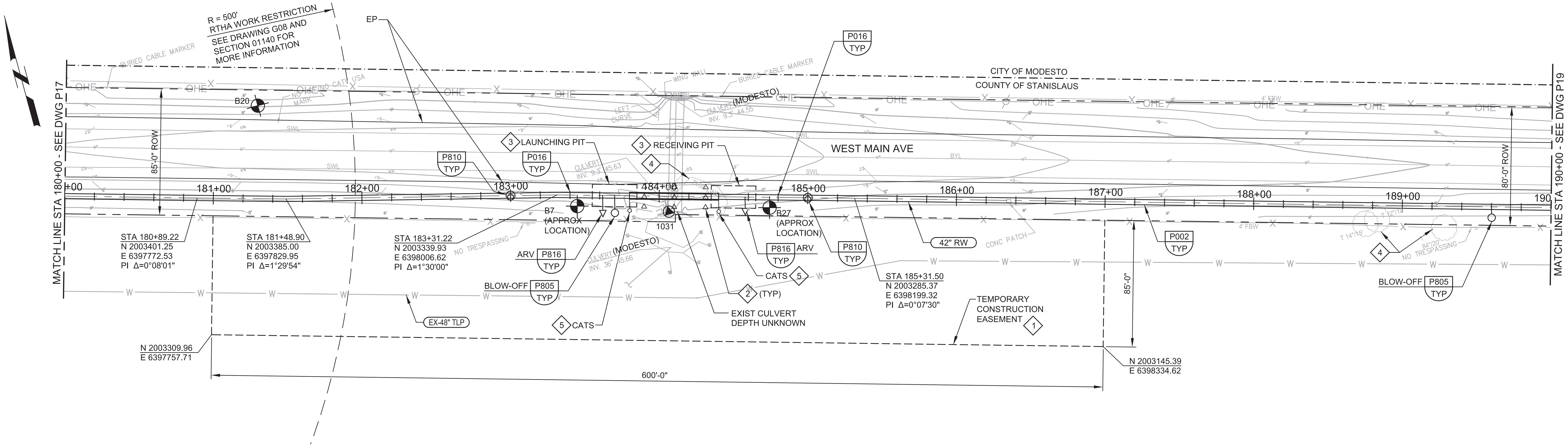
CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 170+00 TO 180+00

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

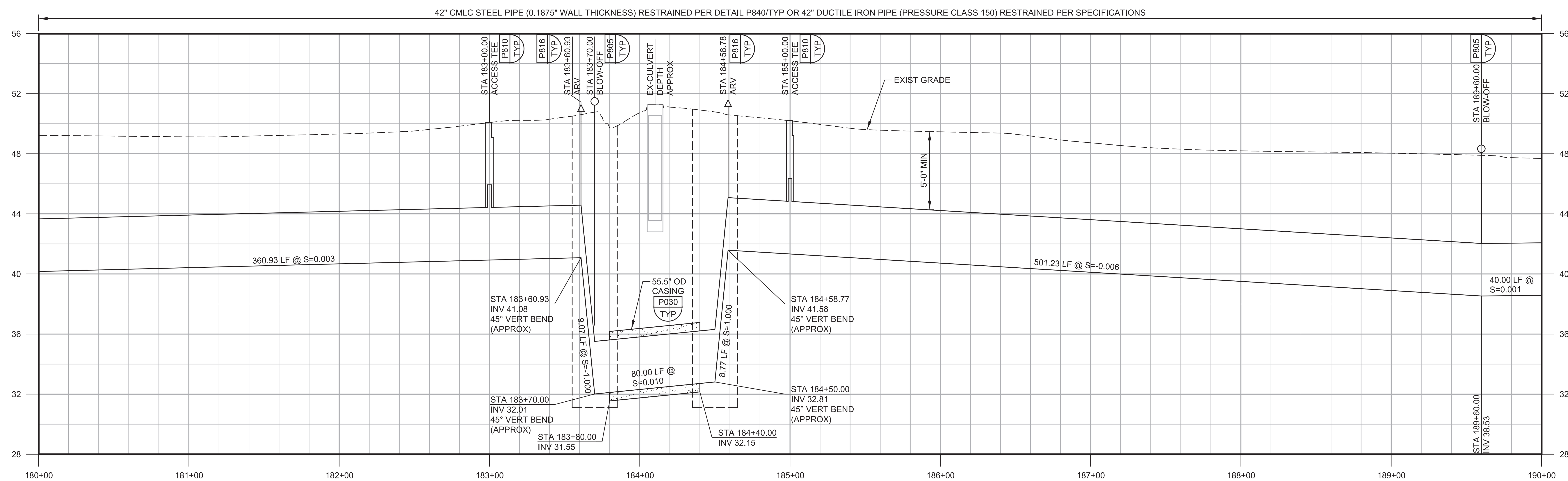
JOB NO. 10595A.10
DRAWING NO. P17
SHEET NO. 59 OF 122

PROJECT NO.
FILE NAME: 10595A10P17.dgn



PLAN

SCALE: 1"=40'
FILE: 10595A10C101



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

NOTES

GENERAL NOTES:

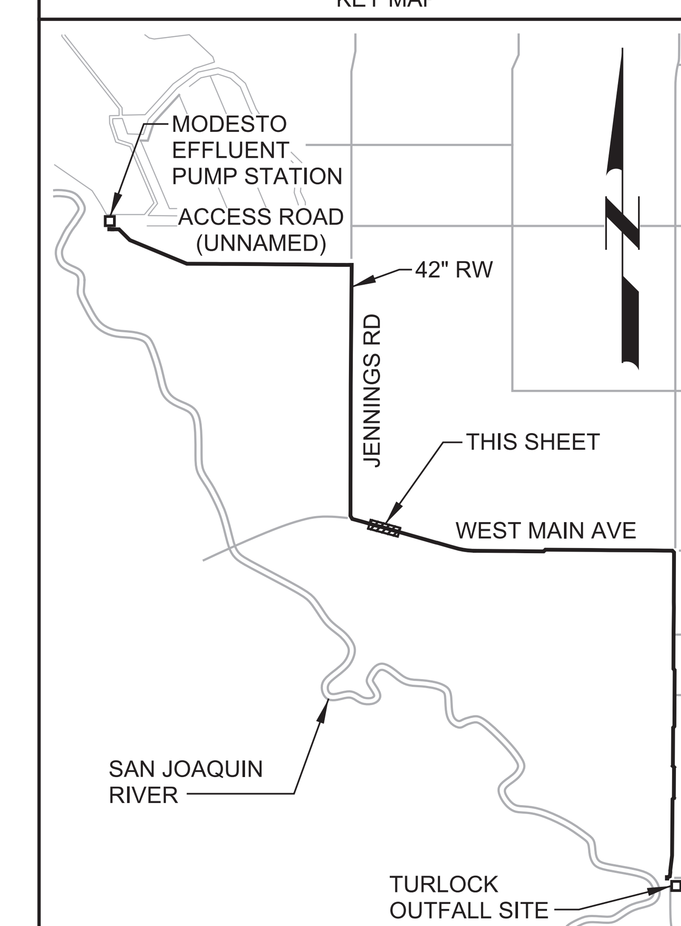
1. AT ALL WORK AREAS USED FOR AGRICULTURAL GROWING, REMOVE TOP 18" OF TOPSOIL AND STORE AND PROTECT ONSITE. REPLACE TOPSOIL AT 85% COMPACTION TO MATCH PRE-CONSTRUCTION ELEVATION. DO NOT HYDROSEED AGRICULTURAL AREAS.

KEY NOTES:

1. INSTALL TEMPORARY SNOW FENCE AT THE BOUNDARY OF WORK/STAGING AREA. MAINTAIN FENCE UNTIL WORK AT THE SITE IS COMPLETE.
2. SETTLEMENT MONITORING LOCATION. SEE SPECIFICATIONS FOR MONITORING REQUIREMENTS.
3. INSTALL TEMPORARY TYPE K TRAFFIC GUARDRAIL PER SECTION 01550.
4. TRIM TREE BRANCHES AS REQUIRED FOR CONSTRUCTION. DO NOT REMOVE TREE.
5. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:15:35-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:23:52-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

carollo®

CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

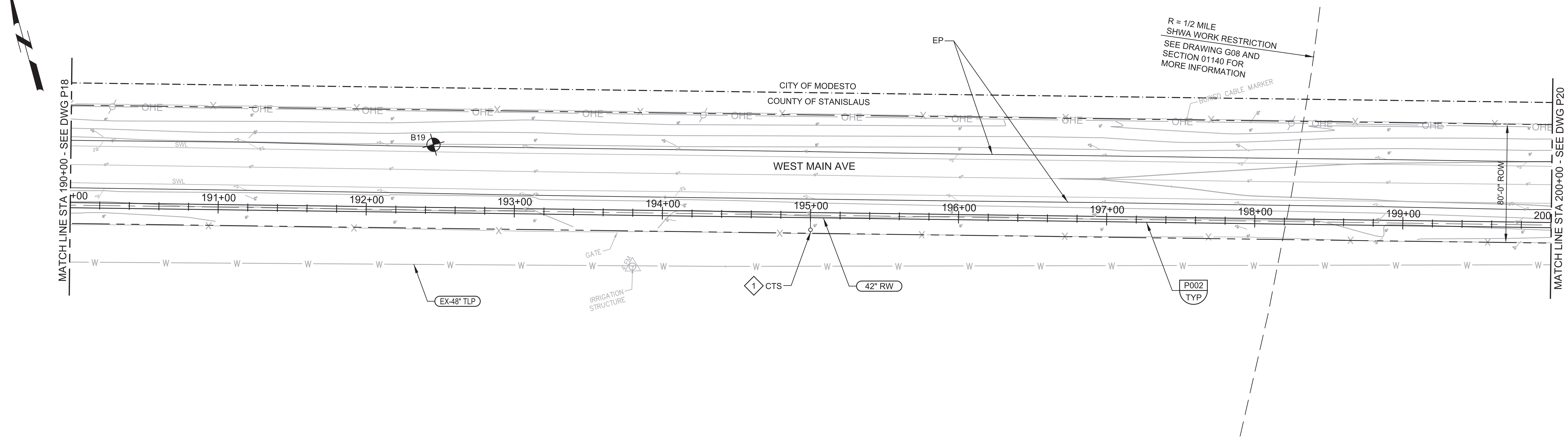
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 180+00 TO 190+00

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

JOB NO. 10595A.10
DRAWING NO. P18
SHEET NO. 60 OF 122

Plot Date: 24-APR-2018 3:42:46 PM User: svcPW PlotScale: 2:1 DesignScript: Carollo_Std_Pen_v0905.pen ColorTable: gshade.ctb Model: Layout1 LAST SAVED BY: DFassbinder

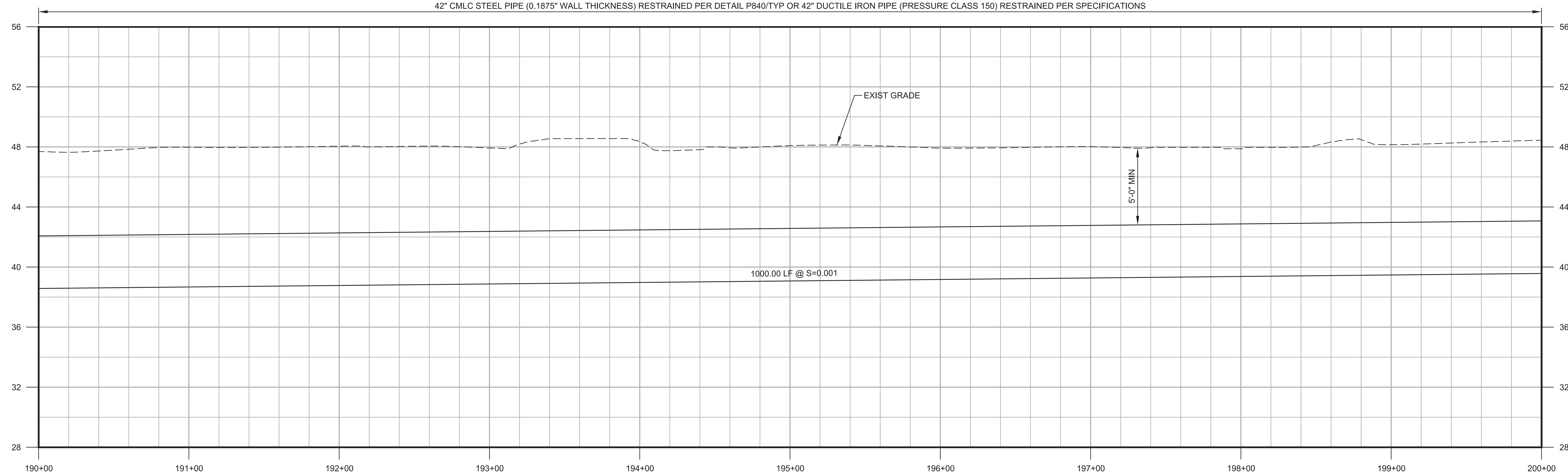
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LAST SAVED BY: DFassbinder



PLAN

SCALE: 1"=40'
FILE: 10595A10C101

42" CMLC STEEL PIPE (0.1875" WALL THICKNESS) RESTRAINED PER DETAIL P840/TYP OR 42" DUCTILE IRON PIPE (PRESSURE CLASS 150) RESTRAINED PER SPECIFICATIONS



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

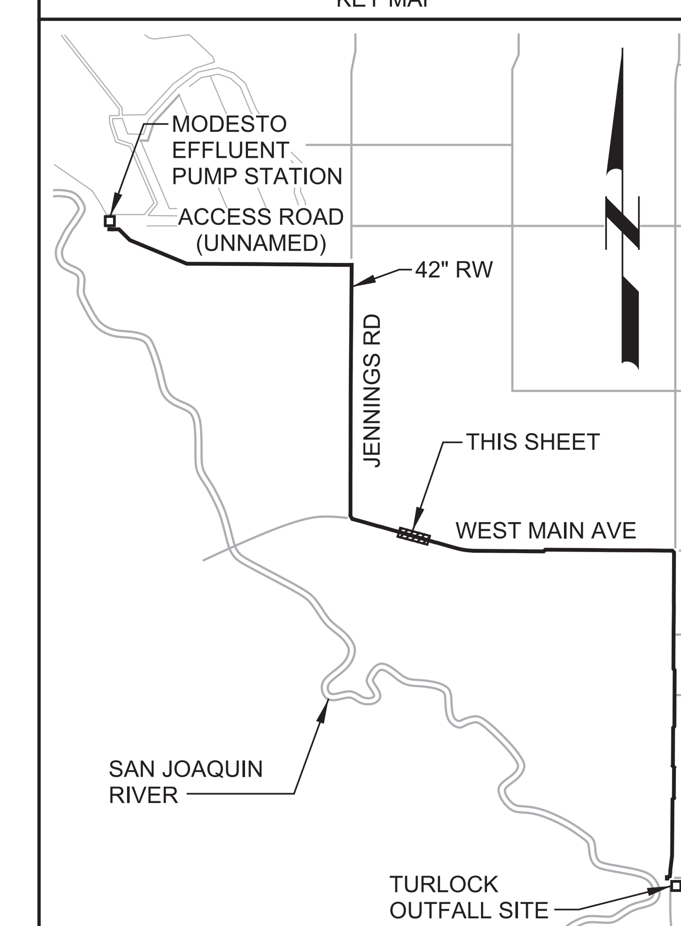
NOTES

KEY NOTES:

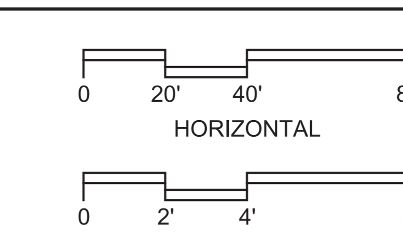
1. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE



REV	DATE	BY	DESCRIPTION

DESIGNED: JPM
DRAWN: AL
CHECKED: AP/DGB
DATE: APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:15:44-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:23:44-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

carollo®

CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

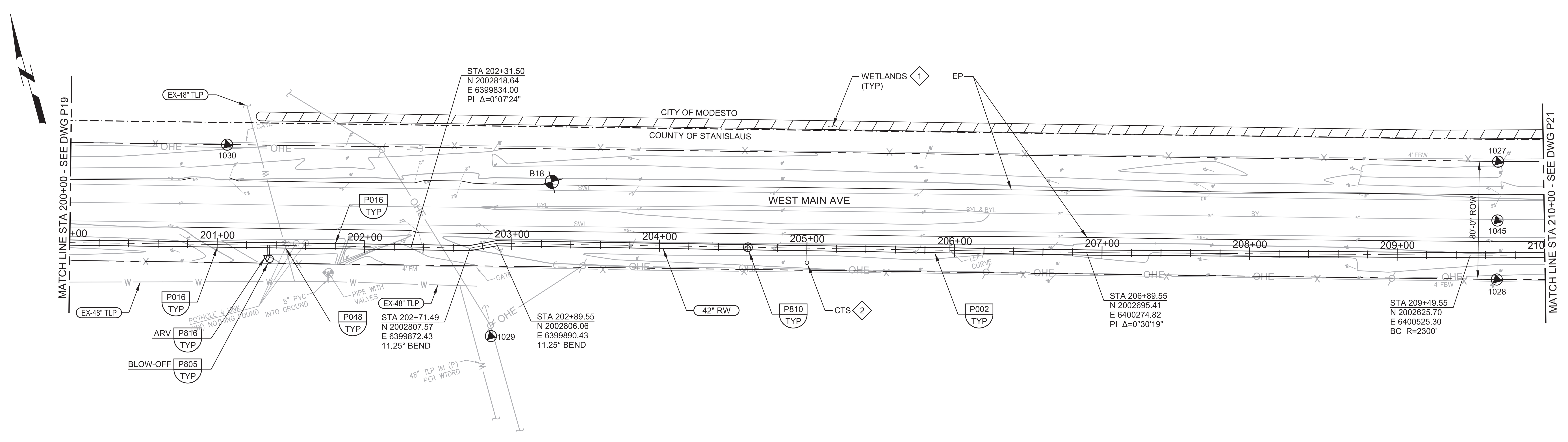
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 190+00 TO 200+00

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

JOB NO. 10595A.10
DRAWING NO. P19
SHEET NO. 61 OF 122

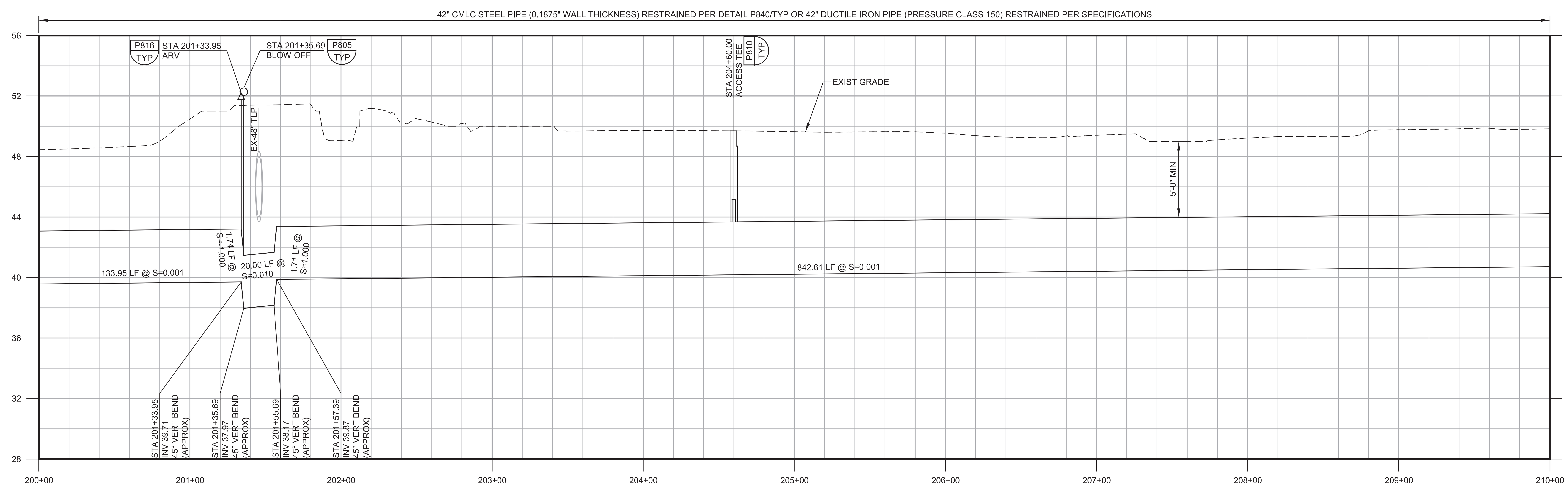
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User: svcPW
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LAST SAVED BY: DFassbinder



PLAN

SCALE: 1"=40'
FILE: 10595A10C101



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

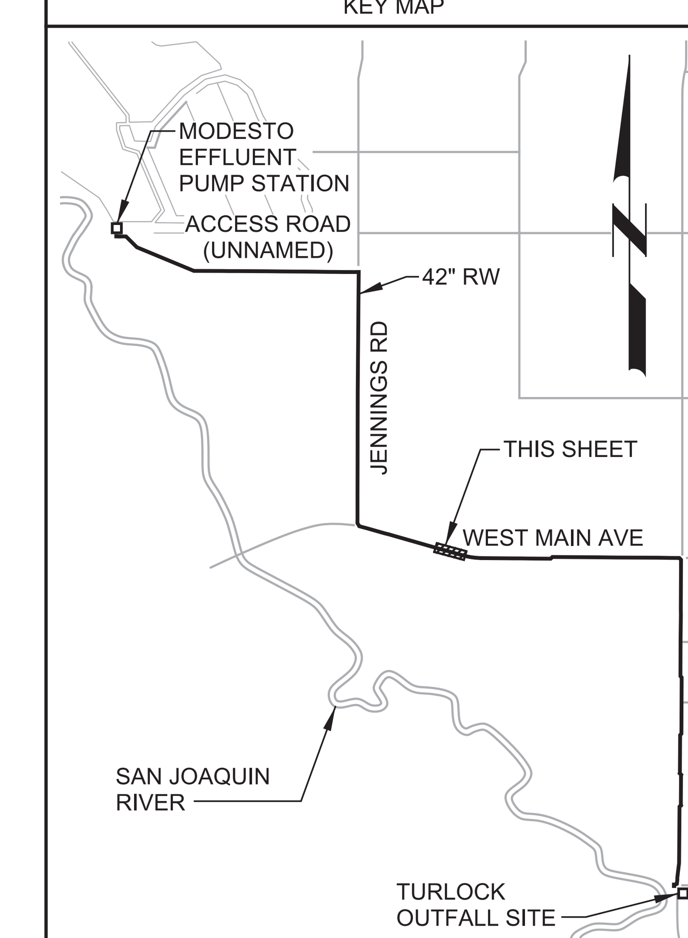
NOTES

KEY NOTES:

1. CONTRACTOR IS PROHIBITED FROM ENTERING WETLAND AREAS AND SHALL TAKE ALL MEASURES NECESSARY TO PROTECT WETLANDS IN PLACE DURING CONSTRUCTION.
2. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:15:53-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:23:35-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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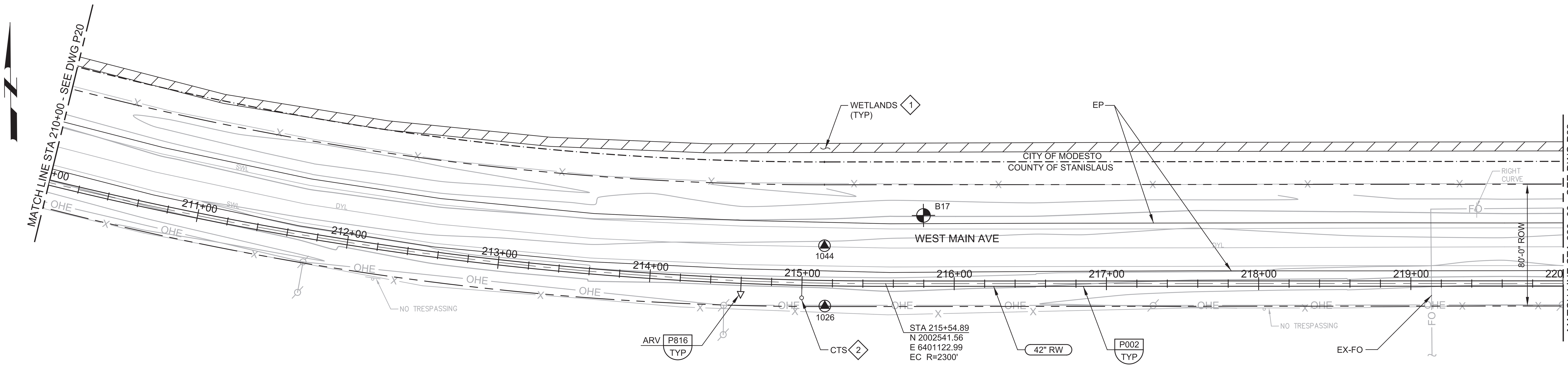
CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 200+00 TO 210+00

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

JOB NO. 10595A.10
DRAWING NO. P20
SHEET NO. 62 OF 122

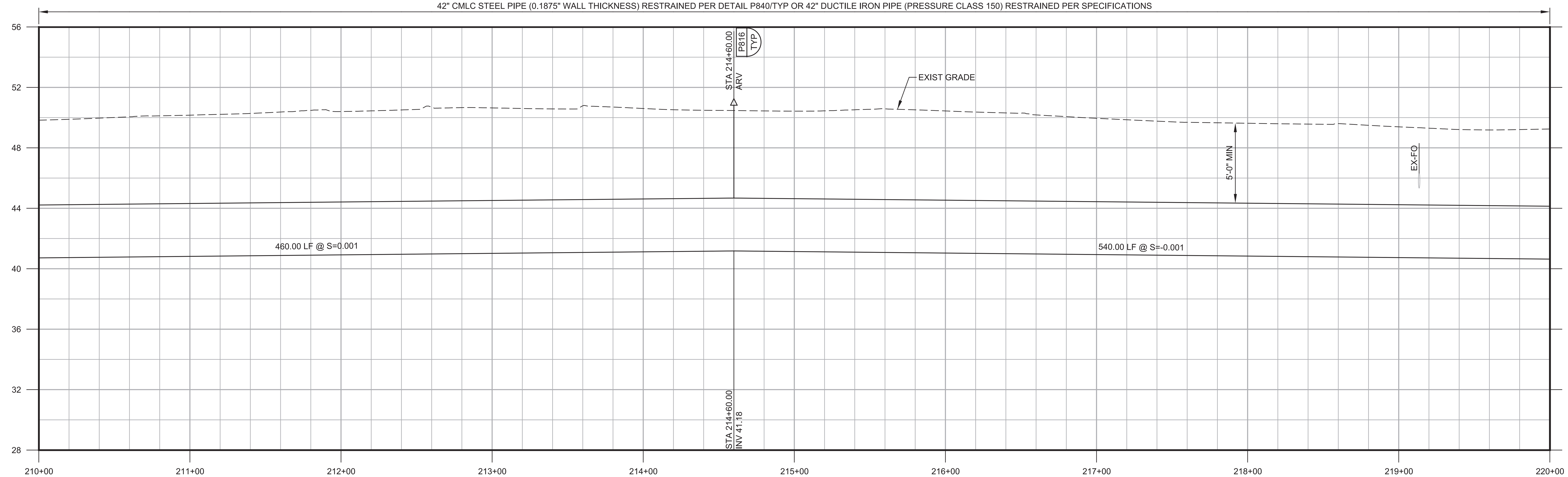
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LAST SAVED BY: DFassbinder



PLAN

SCALE: 1"=40'
FILE: 10595A10C101

42" CMLC STEEL PIPE (0.1875" WALL THICKNESS) RESTRAINED PER DETAIL P840/TYP OR 42" DUCTILE IRON PIPE (PRESSURE CLASS 150) RESTRAINED PER SPECIFICATIONS



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

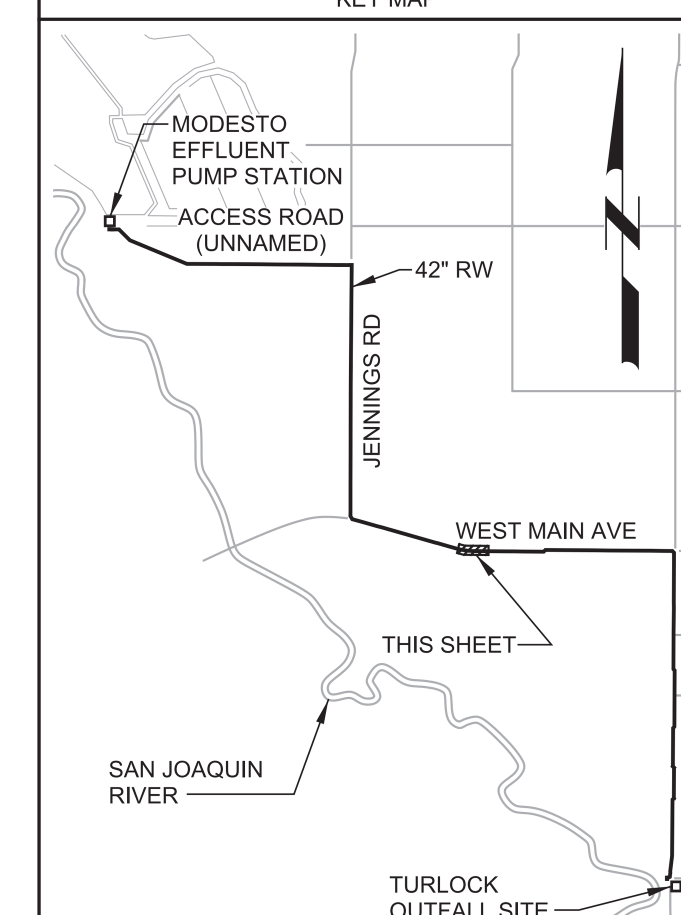
NOTES

KEY NOTES:

1. CONTRACTOR IS PROHIBITED FROM ENTERING WETLAND AREAS AND SHALL TAKE ALL MEASURES NECESSARY TO PROTECT WETLANDS IN PLACE DURING CONSTRUCTION.
2. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune Contact Info: Carollo Engineers, Inc. Date: 2018.04.25 09:16:01-07'00'

Digitally signed by Jonathon P. Marshall Contact Info: Carollo Engineers, Inc. Date: 2018.04.25 10:23:25-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

carollo®

CITY OF TURLOCK INC. 1908

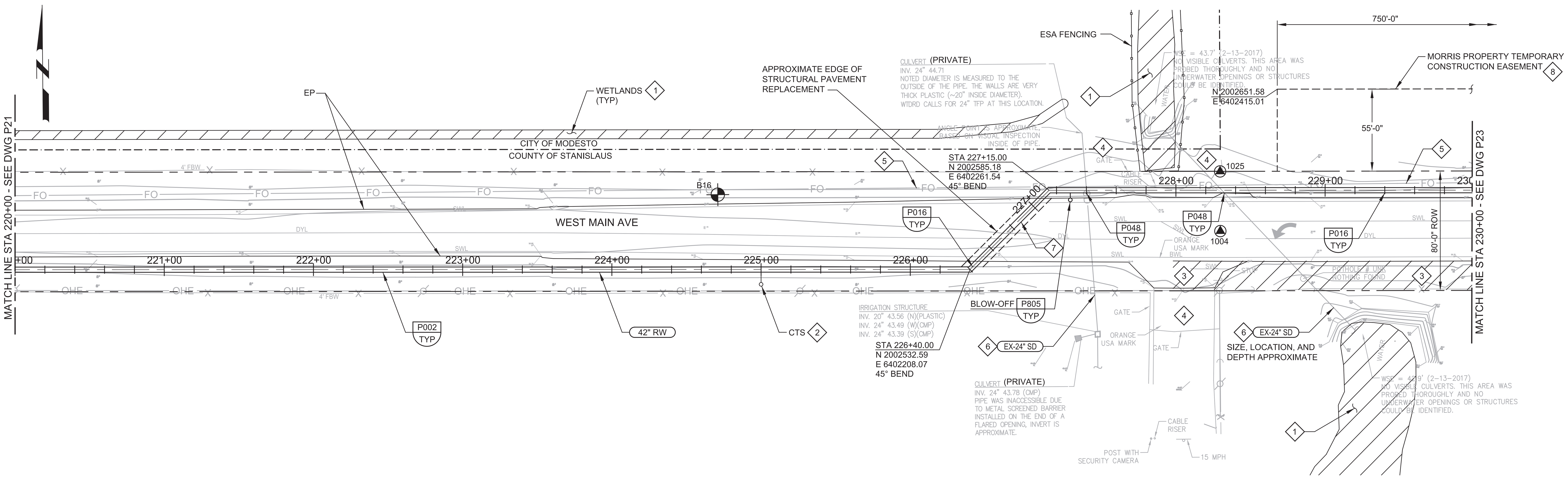
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 210+00 TO 220+00

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

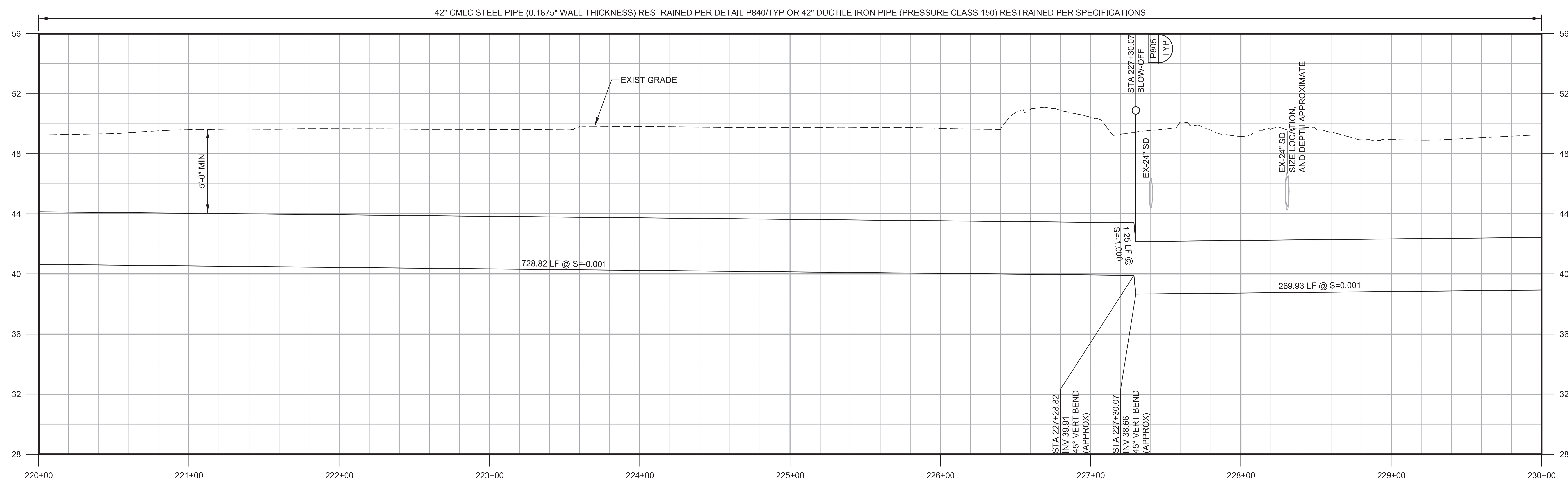
JOB NO. 10595A.10
DRAWING NO. P21
SHEET NO. 63 OF 122

PROJECT NO. FILE NAME: 10595A10P21.dgn



PLAN

SCALE: 1"=40'
FILE: 10595A10C101



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

NOTES

GENERAL NOTES:

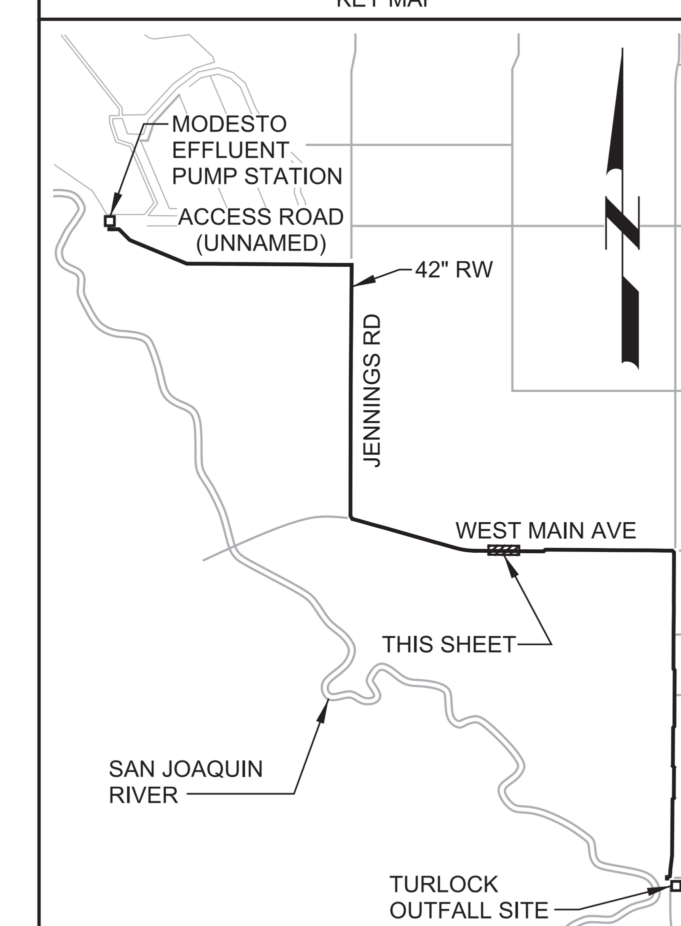
1. AT ALL WORK AREAS USED FOR AGRICULTURAL GROWING, REMOVE TOP 18" OF TOPSOIL AND STORE AND PROTECT ONSITE. REPLACE TOPSOIL AT 85% COMPACTION TO MATCH PRE-CONSTRUCTION ELEVATION. DO NOT HYDROSEED AGRICULTURAL AREAS.

KEY NOTES:

1. CONTRACTOR IS PROHIBITED FROM ENTERING WETLAND AREAS (EXCEPT FOR CCTV ROVER) AND SHALL TAKE ALL MEASURES NECESSARY TO PROTECT WETLANDS IN PLACE DURING CONSTRUCTION.
2. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.
3. THE SOUTH ROAD SHOULDER BETWEEN STA 228+00 AND STA 238+00 IS AN ENVIRONMENTALLY SENSITIVE AREA. CONTRACTOR IS PROHIBITED FROM ENTERING THIS AREA.
4. MAINTAIN PROPERTY OWNER ACCESS.
5. RELOCATE THE EXISTING AT&T LINE. SEE AT&T RELOCATION DRAWINGS AND SPECIFICATIONS FOR RELOCATION INFORMATION.
6. CCTV AND ASSESS PER SECTION 01140.
7. SEE SPECIFICATIONS FOR WORK RESTRICTIONS WHEN CROSSING ROAD.
8. INSTALL TEMPORARY SNOW FENCE AT THE BOUNDARY OF WORK/STAGING AREA. MAINTAIN FENCE UNTIL WORK AT THE SITE IS COMPLETE. SEE SECTION 01140 FOR ADDITIONAL RESTRICTIONS.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:16:11-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:19:20-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908

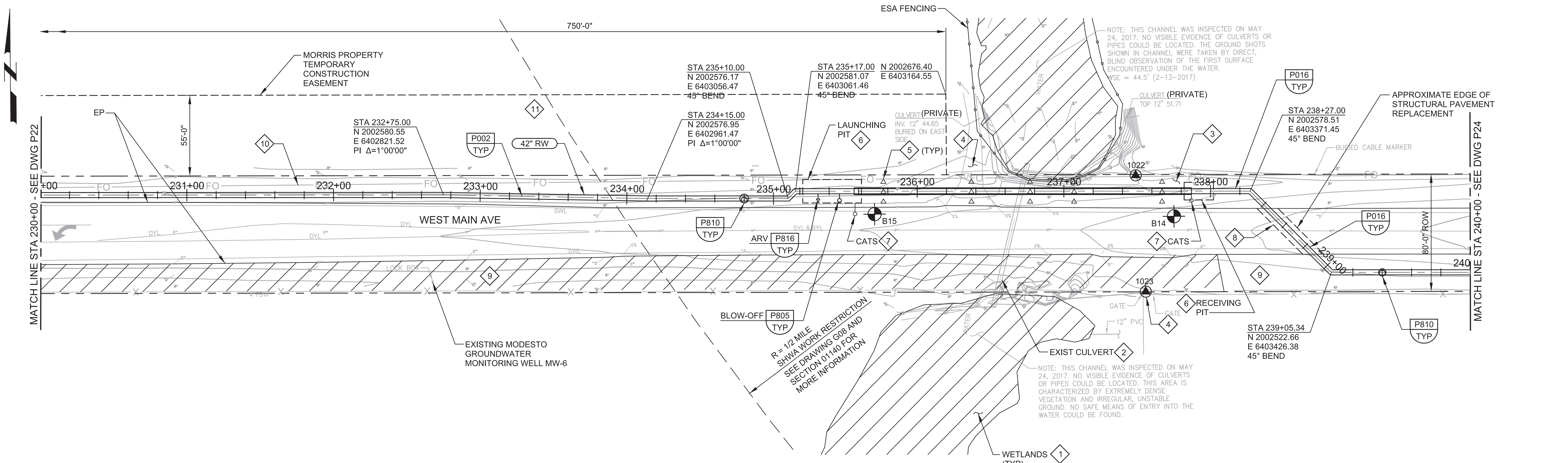
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 220+00 TO 230+00

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

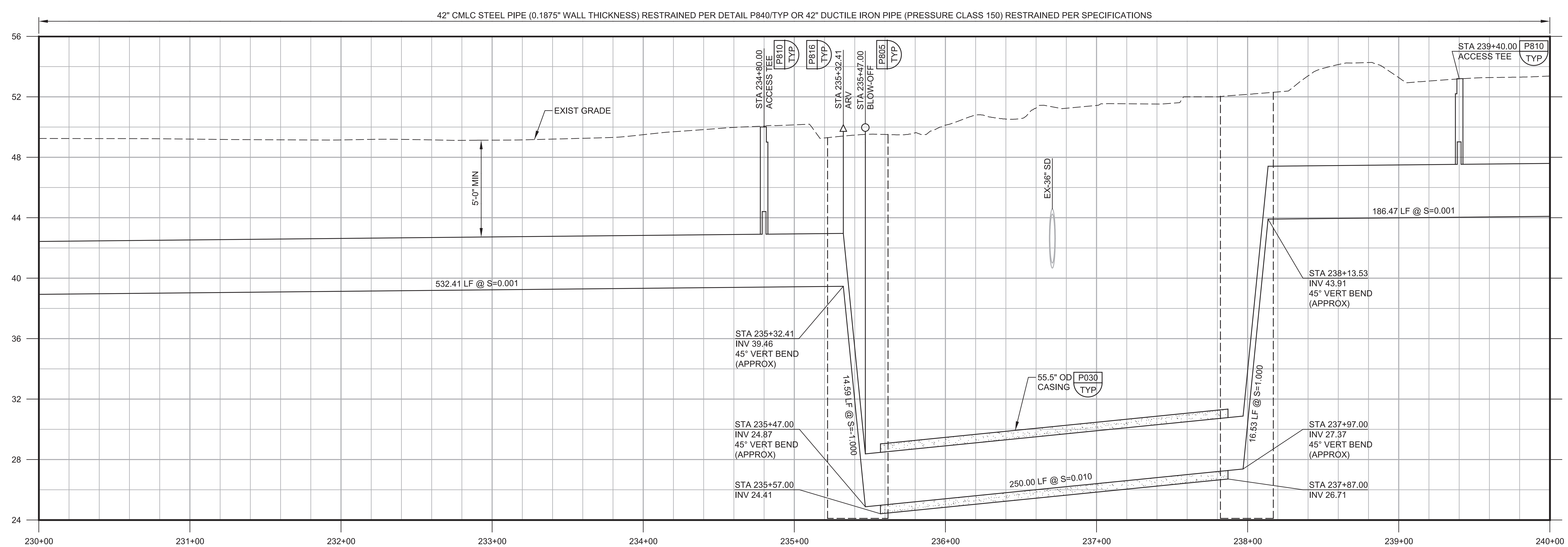
JOB NO. 10595A.10
DRAWING NO. P22
SHEET NO. 64 OF 122

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PLAN

SCALE: 1"=40'
FILE: 10595A10C101



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

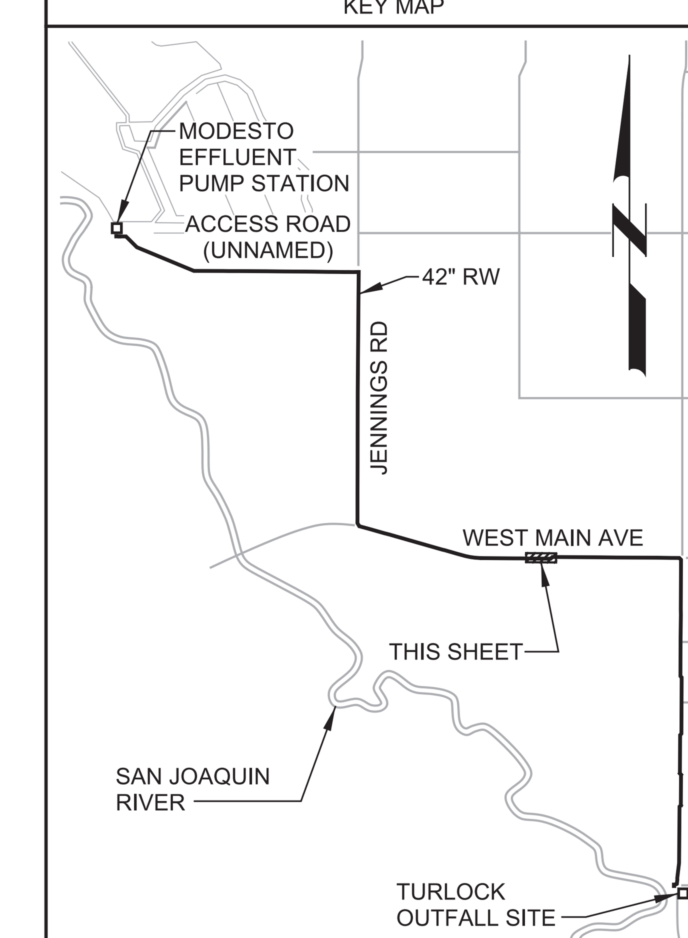
NOTES

KEY NOTES:

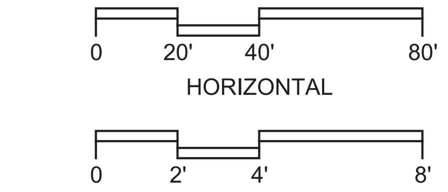
1. CONTRACTOR IS PROHIBITED FROM ENTERING WETLAND AREAS AND SHALL TAKE ALL MEASURES NECESSARY TO PROTECT WETLANDS IN PLACE DURING CONSTRUCTION.
2. CULVERT SIZE AND DEPTH UNKNOWN. LOCATION IS APPROXIMATE. UNABLE TO SURVEY. PRIOR TO COMMENCING CONSTRUCTION, CONTRACTOR SHALL LOCATE AND PROVIDE ELEVATIONS TO ENGINEER TO DETERMINE IF AN ADJUSTMENT TO THE DESIGN IS NEEDED.
3. RUNOFF FROM AGRICULTURAL IRRIGATION OPERATIONS NEAR THE RECEIVING PIT IS PRESENT DURING IRRIGATION SEASON. PROVIDE TEMPORARY MEASURES TO PREVENT IRRIGATION RUNOFF FROM ENTERING THE RECEIVING PIT.
4. MAINTAIN PROPERTY OWNER ACCESS TO GATE.
5. SETTLEMENT MONITORING LOCATION. SEE SPECIFICATIONS FOR MONITORING REQUIREMENTS.
6. INSTALL TEMPORARY TYPE K TRAFFIC GUARDRAIL PER SECTION 01550.
7. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.
8. SEE SPECIFICATIONS FOR WORK RESTRICTIONS WHEN CONSTRUCTING ACROSS ROAD.
9. THE SOUTH ROAD SHOULDER BETWEEN STA 228+00 AND STA 238+00 IS AN ENVIRONMENTALLY SENSITIVE AREA. CONTRACTOR IS PROHIBITED FROM ENTERING THIS AREA.
10. RELOCATE THE EXISTING AT&T LINE. SEE AT&T RELOCATION DRAWINGS AND SPECIFICATIONS FOR RELOCATION INFORMATION.
11. INSTALL TEMPORARY SNOW FENCE AT THE BOUNDARY OF WORK/STAGING AREA. MAINTAIN FENCE UNTIL WORK AT THE SITE IS COMPLETE. SEE SECTION 01140 FOR ADDITIONAL RESTRICTIONS.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE



REV	DATE	BY	DESCRIPTION

DESIGNED: JPM
DRAWN: AL
CHECKED: AP/DGB
DATE: APRIL 2018

REGISTERED PROFESSIONAL ENGINEER — JONATHON P. MARSHALL — No. 73265 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:17:30-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:17:46-07'00'

REGISTERED PROFESSIONAL ENGINEER — DARREN G. BAUNE — No. 68899 — CIVIL — STATE OF CALIFORNIA

carollo®

CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 230+00 TO 240+00

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

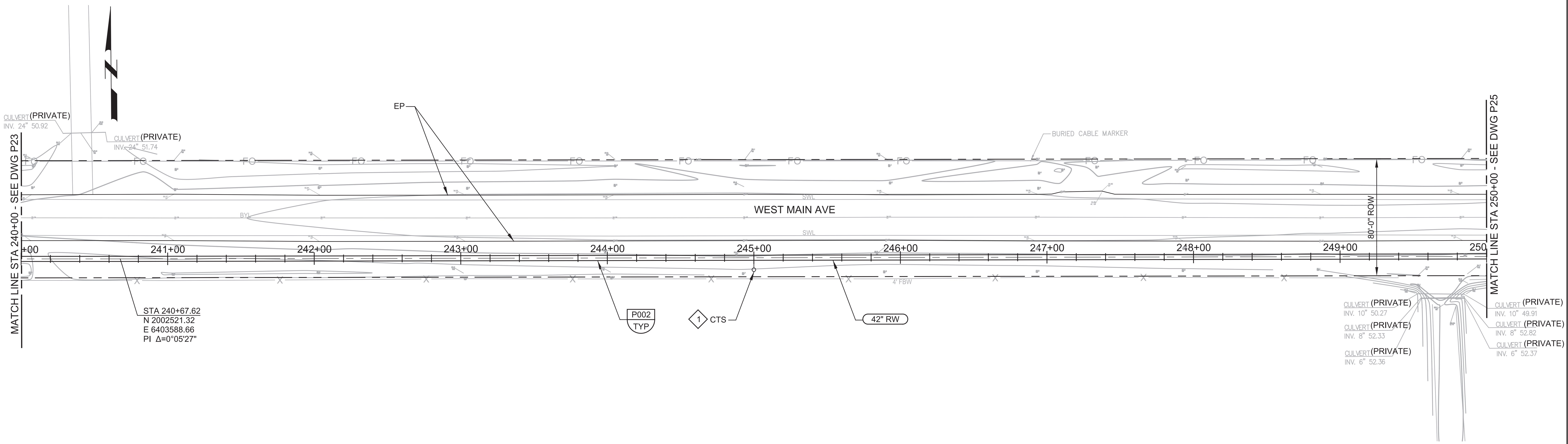
JOB NO. 10595A.10
DRAWING NO. P23
SHEET NO. 65 OF 122

Plot Date: 24-APR-2018 3:22:32 PM
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LAST SAVED BY: Alaico

Plot Date: 20-APR-2018 2:45:27 PM User: svcPW

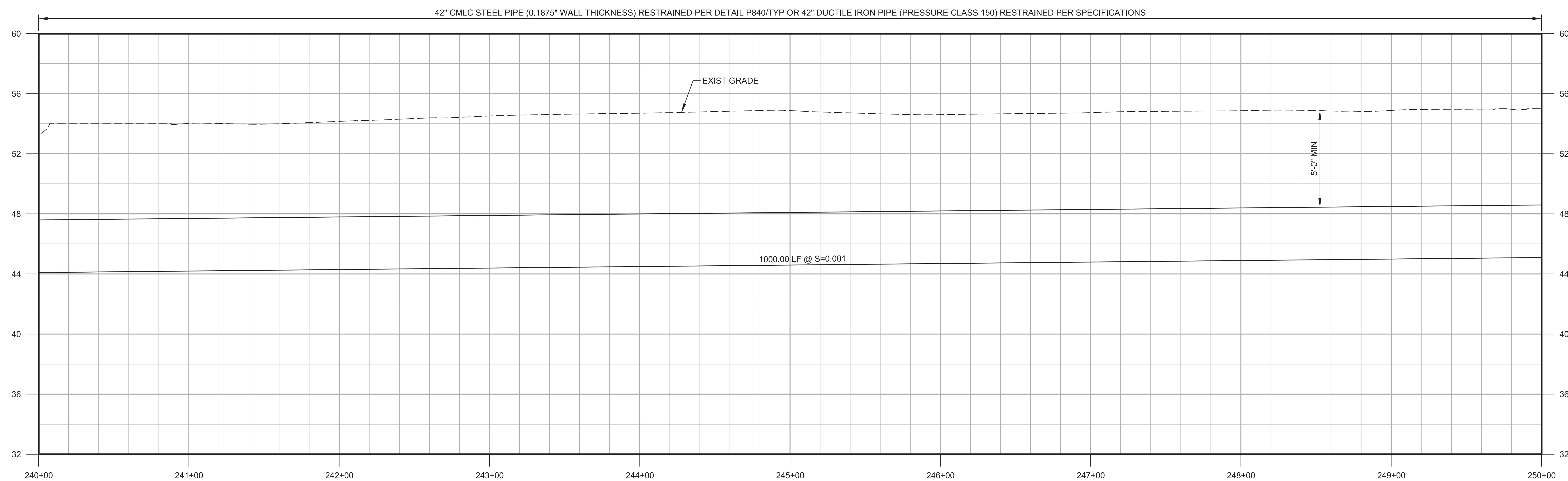
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LAST SAVED BY: DFassbinder



PLAN

SCALE: 1"=40'
FILE: 10595A10C101



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

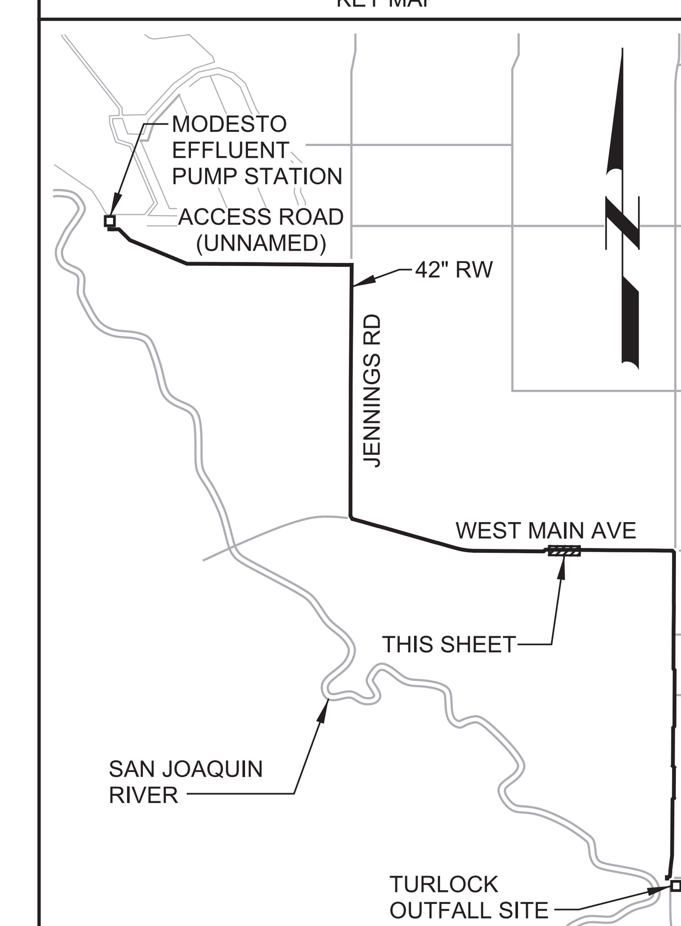
NOTES

KEY NOTES:

◇1 SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:17:47-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:17:36-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

carollo®

CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

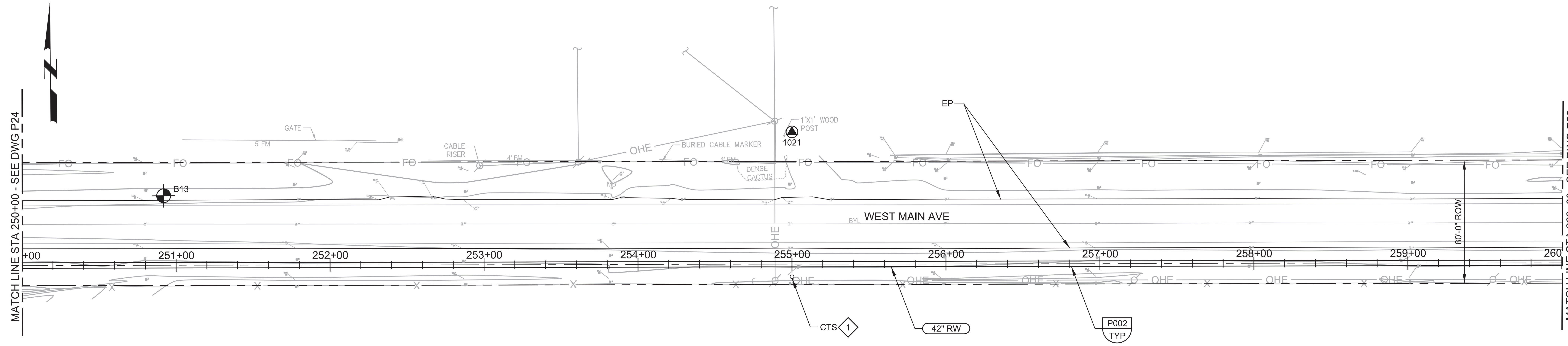
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 240+00 TO 250+00

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

JOB NO. 10595A.10
DRAWING NO. P24
SHEET NO. 66 OF 122

PROJECT NO. FILE NAME: 10595A10P24.dgn

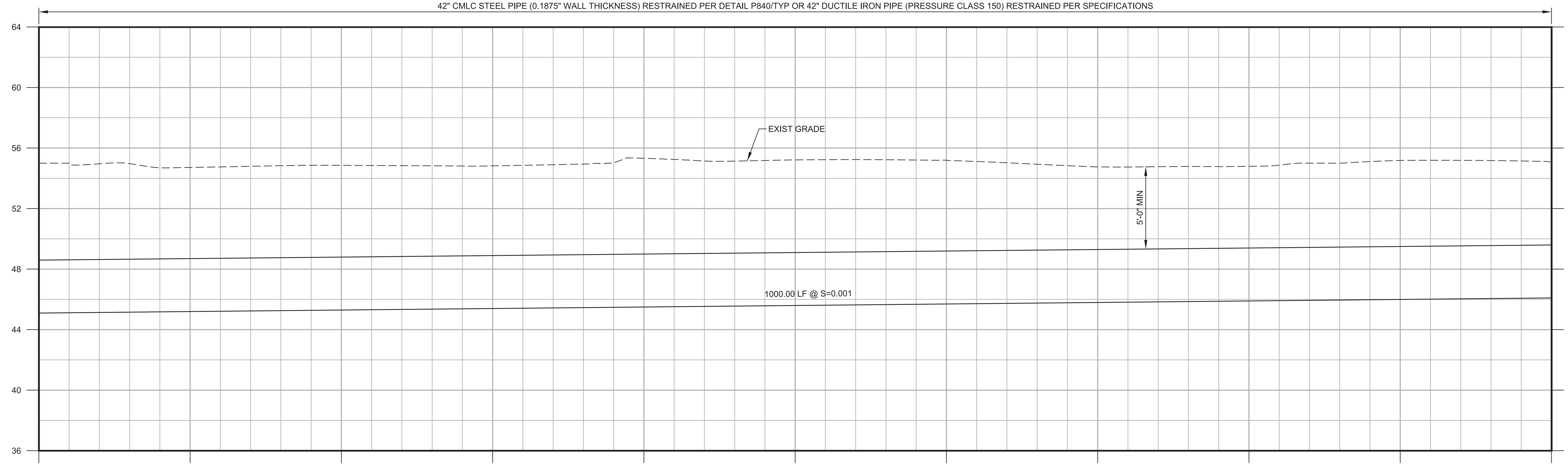
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LAST SAVED BY: DFassbinder



PLAN

SCALE: 1"=40'
FILE: 10595A10C101

42" CMLC STEEL PIPE (0.1875" WALL THICKNESS) RESTRAINED PER DETAIL P840/TYP OR 42" DUCTILE IRON PIPE (PRESSURE CLASS 150) RESTRAINED PER SPECIFICATIONS



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

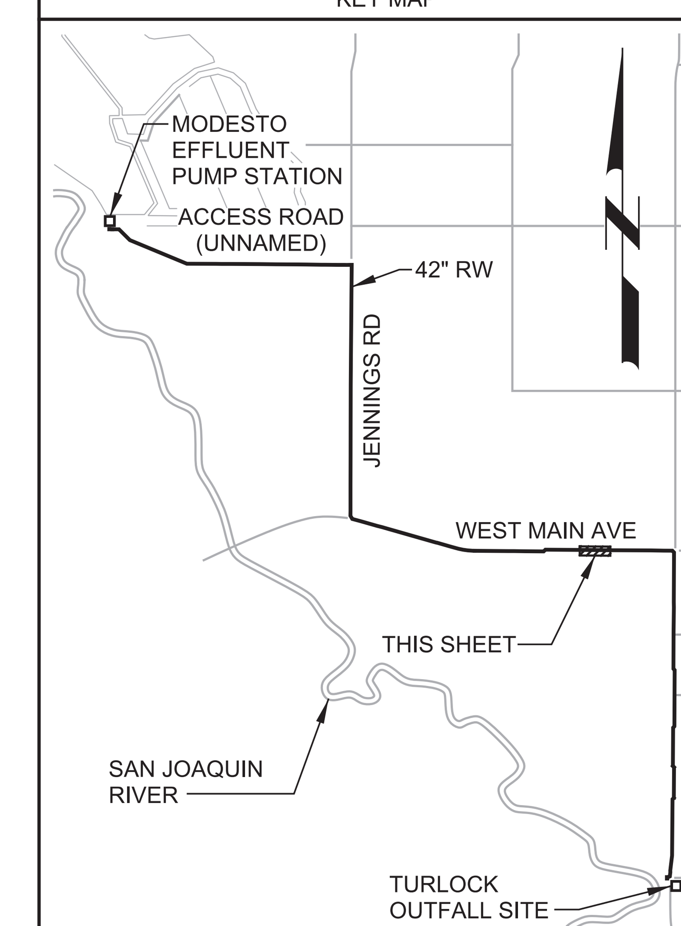
NOTES

KEY NOTES:

1. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:18:01-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:16:58-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

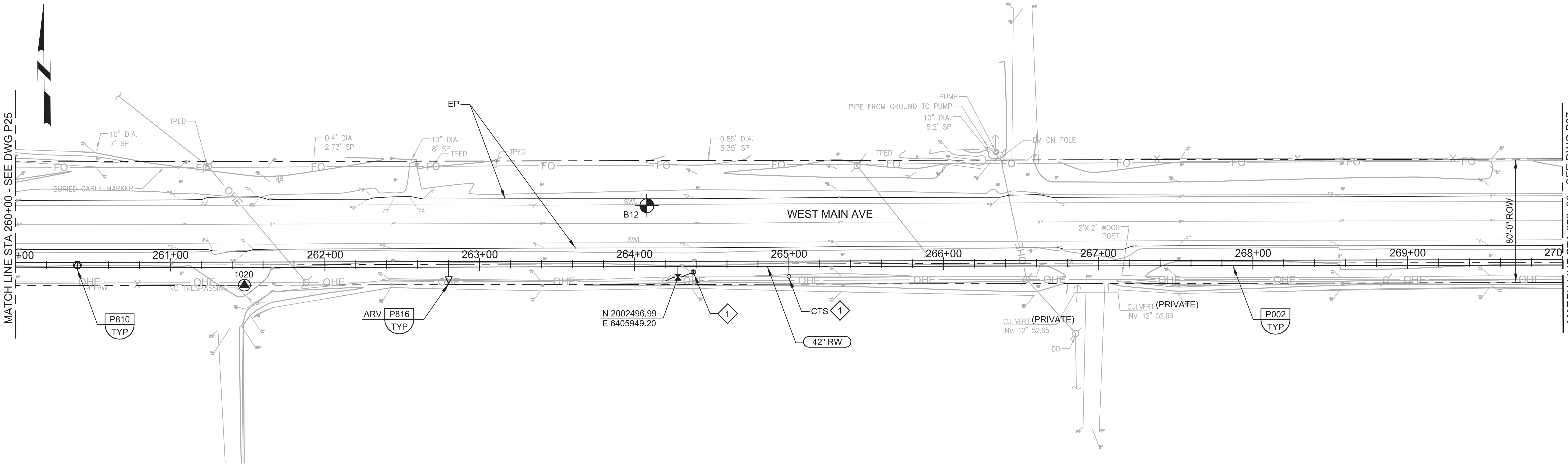
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 250+00 TO 260+00

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

JOB NO. 10595A.10
DRAWING NO. P25
SHEET NO. 67 OF 122

PROJECT NO. FILE NAME: 10595A10P25.dgn

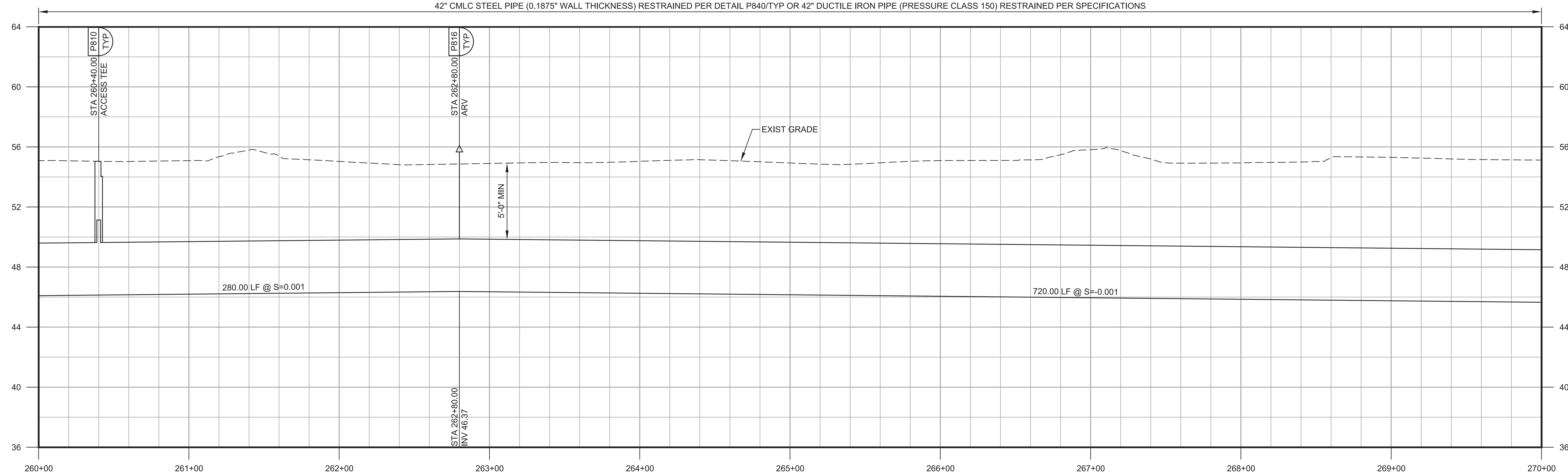
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LAST SAVED BY: DFassbinder



PLAN

SCALE: 1"=40'
FILE: 10595A10C101

42" CMLC STEEL PIPE (0.1875" WALL THICKNESS) RESTRAINED PER DETAIL P840/TYP OR 42" DUCTILE IRON PIPE (PRESSURE CLASS 150) RESTRAINED PER SPECIFICATIONS



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

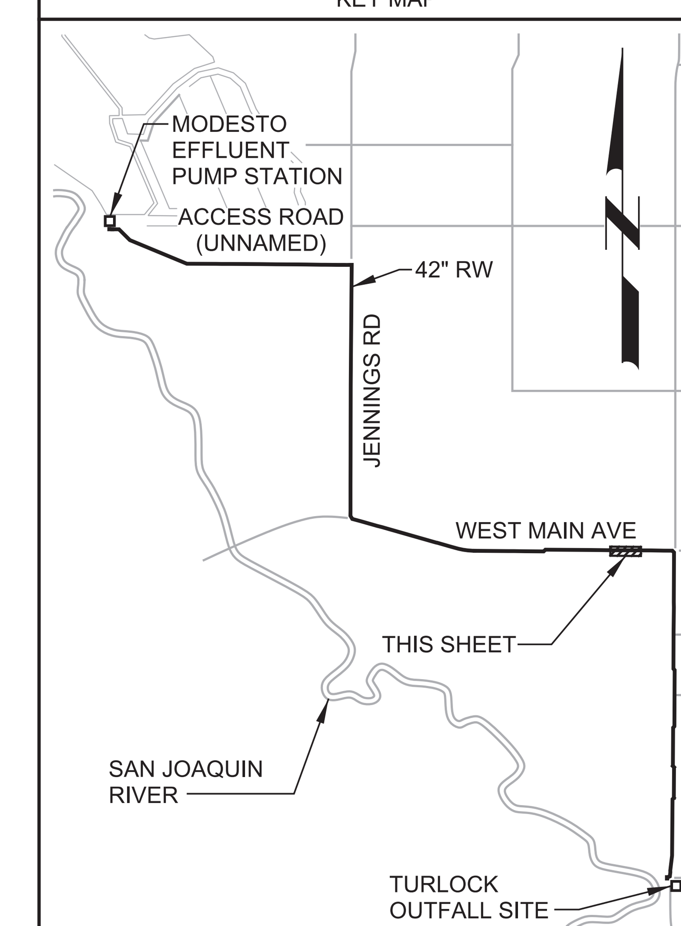
NOTES

KEY NOTES:

1. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED: JPM
DRAWN: AL
CHECKED: AP/DGB
DATE: APRIL 2018

REGISTERED PROFESSIONAL ENGINEER — JONATHON P. MARSHALL — No. 73265 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:18:10-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:16:46-07'00'

REGISTERED PROFESSIONAL ENGINEER — DARREN G. BAUNE — No. 68899 — CIVIL — STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK

NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM TURLOCK COMPONENT

CIVIL

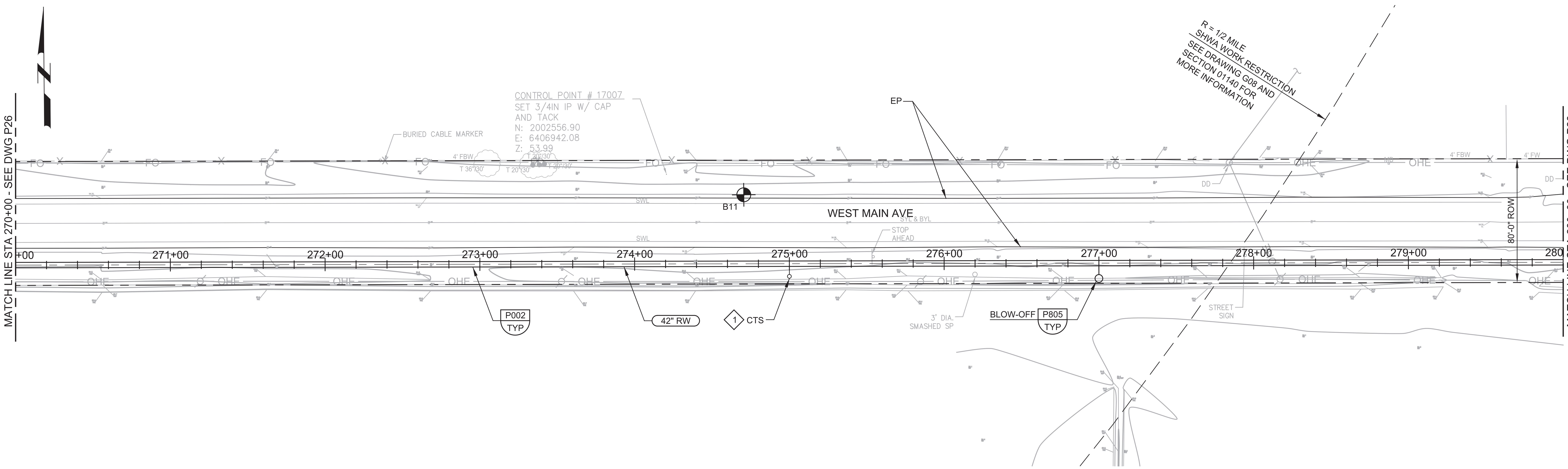
PLAN AND PROFILE STA 260+00 TO 270+00

VERIFY SCALES
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0 1"
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JOB NO. 10595A.10
DRAWING NO. P26
SHEET NO. 68 OF 122

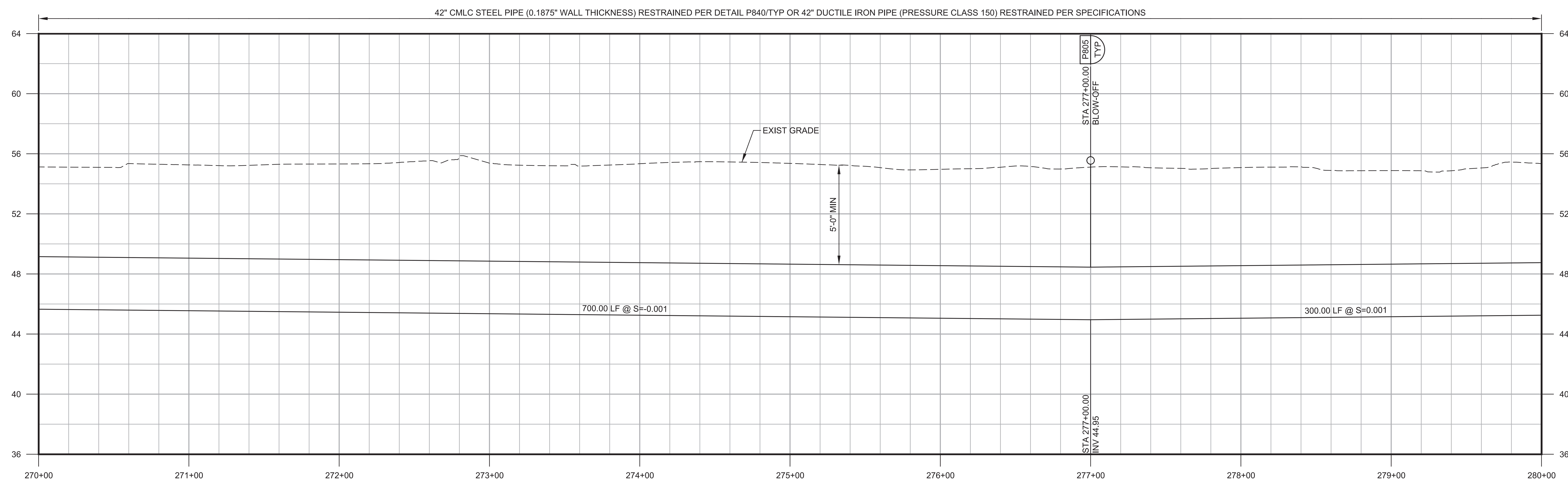
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PLAN

SCALE: 1"=40'
FILE: 10595A10C101



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

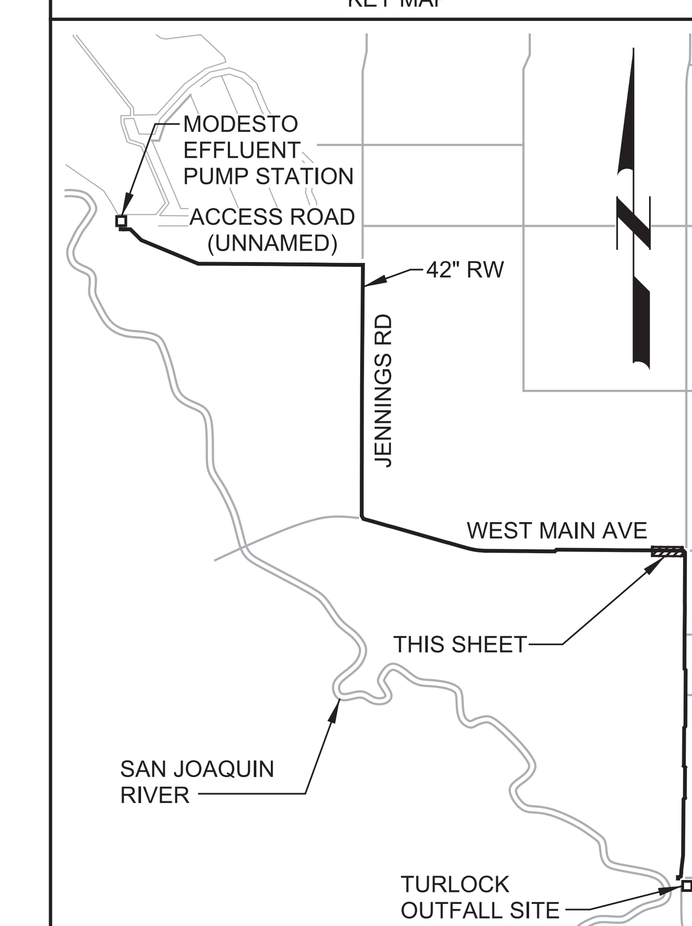
NOTES

KEY NOTES:

1. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED: JPM
DRAWN: AL
CHECKED: AP/DGB
DATE: APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:18:23-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:09:47-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

carollo®

CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

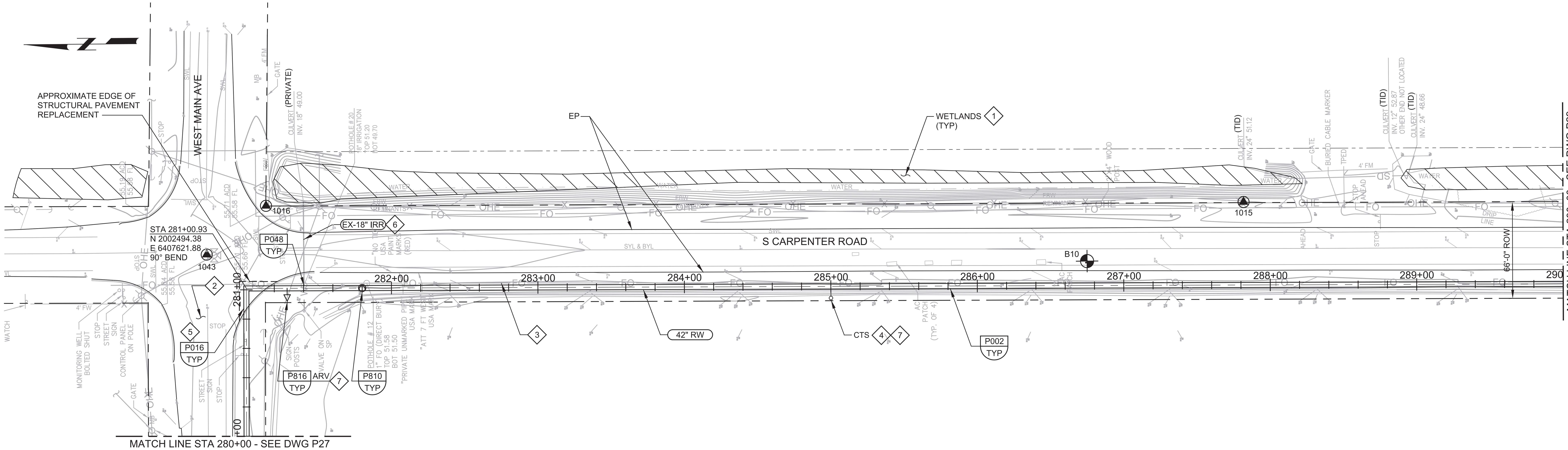
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 270+00 TO 280+00

VERIFY SCALES
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JOB NO. 10595A.10
DRAWING NO. P27
SHEET NO. 69 OF 122

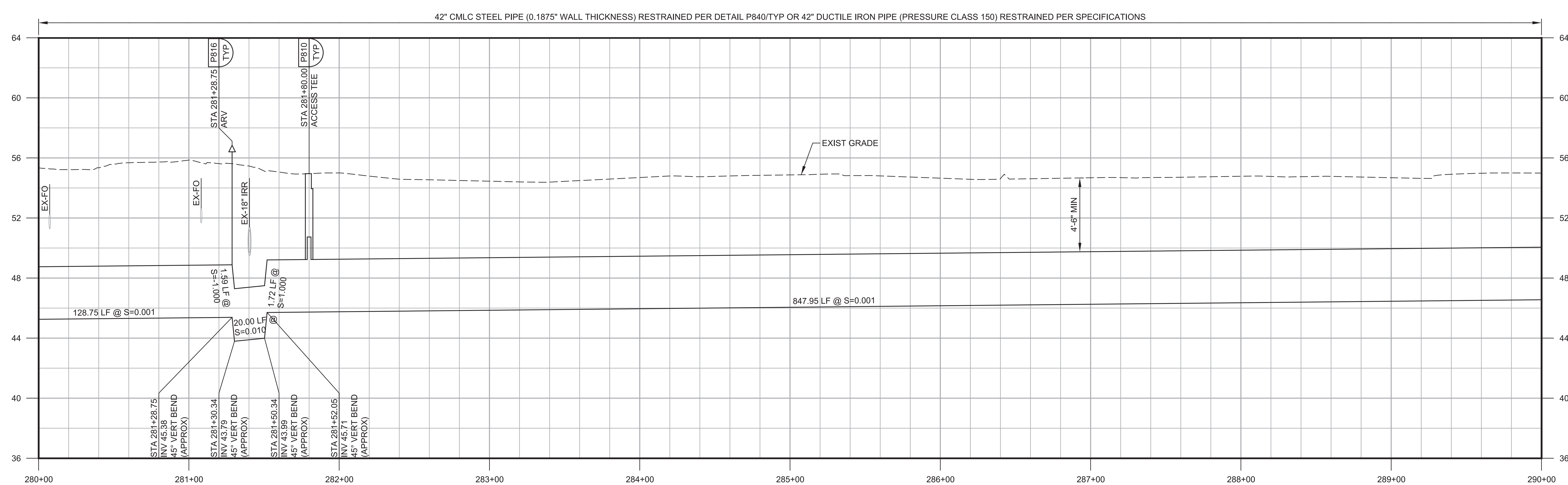
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LAST SAVED BY: DFassbinder



PLAN

SCALE: 1"=40'
FILE: 10595A10C101



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

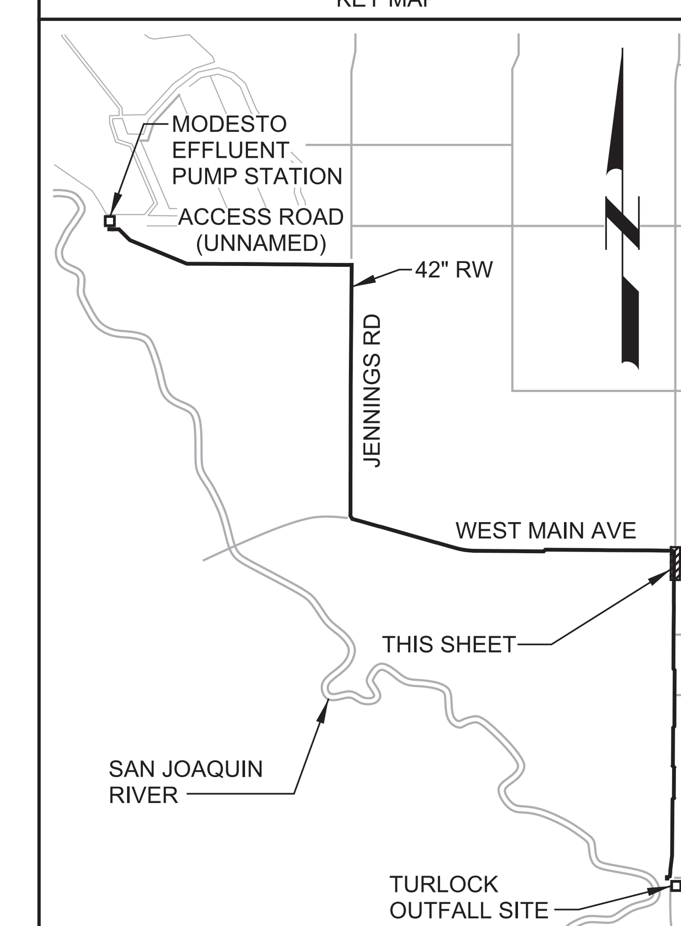
NOTES

KEY NOTES:

1. CONTRACTOR IS PROHIBITED FROM ENTERING WETLAND AREAS (EXCEPT FOR CCTV ROVER) AND SHALL TAKE ALL MEASURES NECESSARY TO PROTECT WETLANDS IN PLACE DURING CONSTRUCTION.
2. MAINTAIN ACCESS. SEE SPECIFICATIONS FOR REQUIREMENTS.
3. RELOCATE THE EXISTING AT&T LINE BETWEEN. SEE AT&T RELOCATION DRAWINGS AND SPECIFICATION FOR RELOCATION INFORMATION.
4. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.
5. SEE SPECIFICATIONS FOR WORK RESTRICTIONS WHEN CONSTRUCTING ACROSS ROAD.
6. CCTV AND ASSESS PER SECTION 01440.
7. COORDINATE LOCATION WITH AT&T RELOCATION TO AVOID CONFLICT.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:18:33-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:01:37-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

carollo®

CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

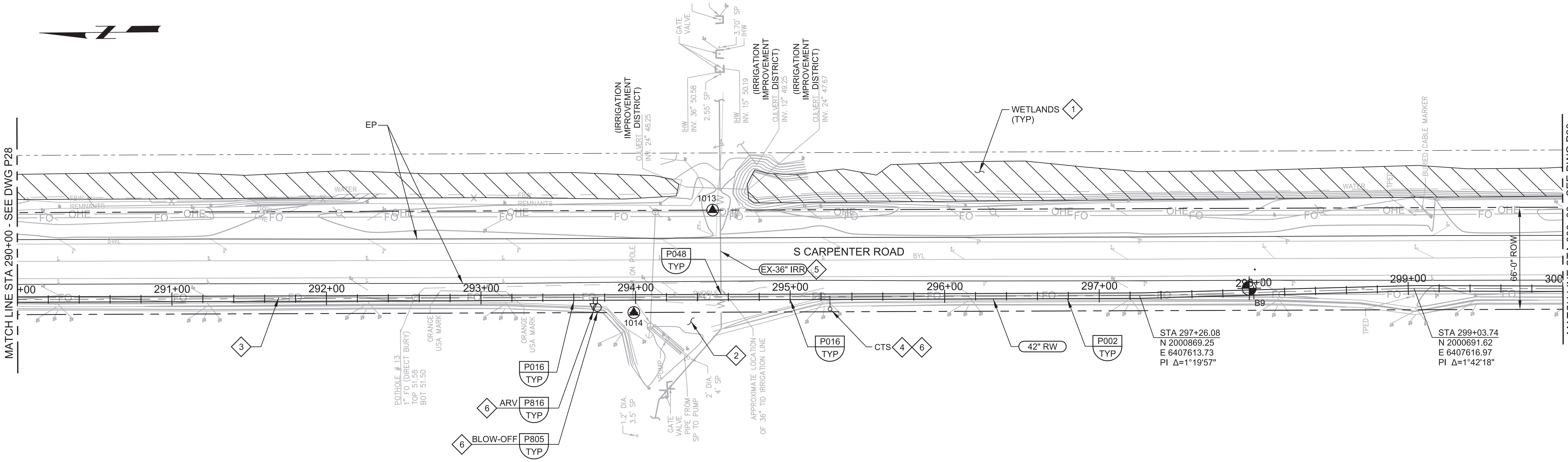
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 280+00 TO 290+00

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10595A.10
DRAWING NO. P28
SHEET NO. 70 OF 122

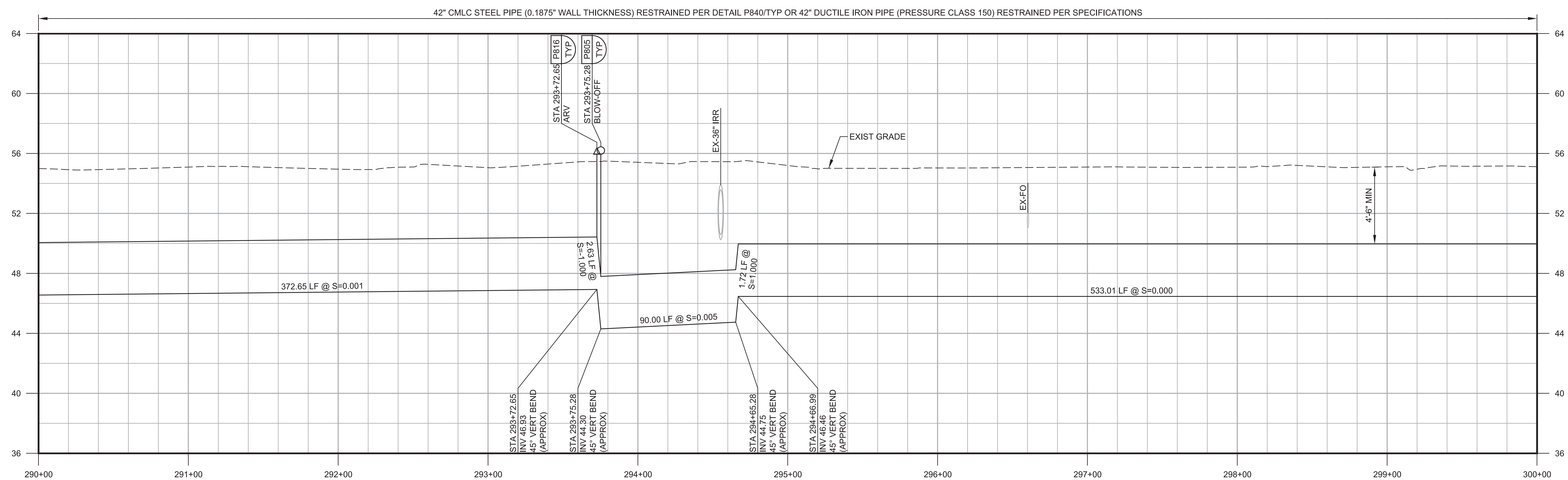
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LAST SAVED BY: DFassbinder



PLAN

SCALE: 1"=40'
FILE: 10595A10C101



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

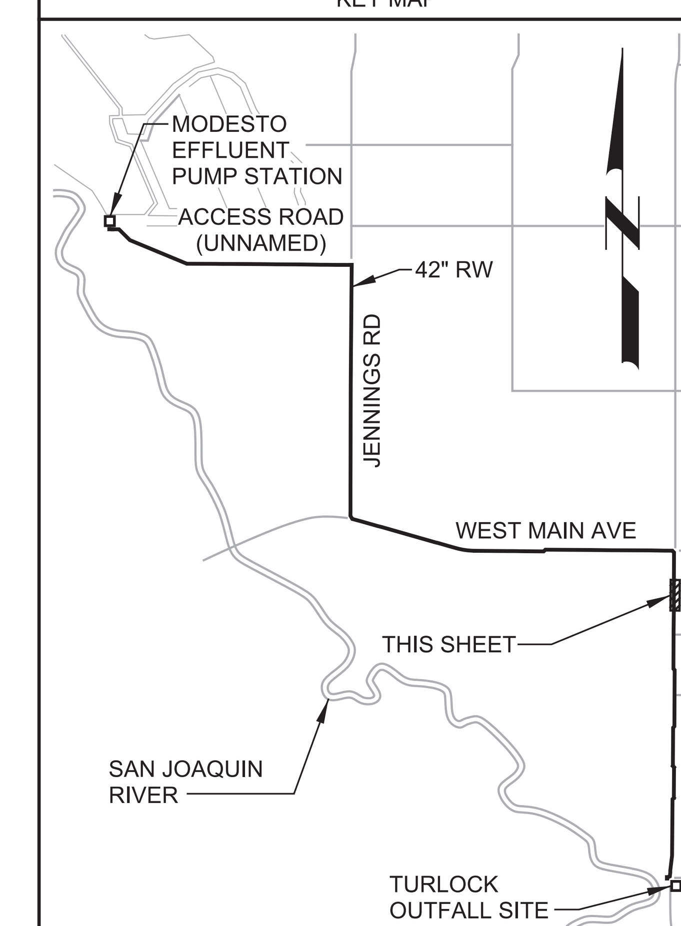
NOTES

KEY NOTES:

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2. MAINTAIN ACCESS. SEE SPECIFICATIONS FOR REQUIREMENTS.
3. RELOCATE THE EXISTING AT&T LINE BETWEEN. SEE AT&T RELOCATION DRAWINGS AND SPECIFICATION FOR RELOCATION INFORMATION.
4. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.
5. PIPELINE INSPECTED AND FOUND TO BE RCP IN GOOD CONDITION. PROTECT IN PLACE. CCTV INSPECTION REQUIRED AFTER CONSTRUCTION PER SECTION 01140.
6. COORDINATE LOCATION WITH AT&T RELOCATION TO AVOID CONFLICT.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED: JPM
DRAWN: AL
CHECKED: AP/DGB
DATE: APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:18:43-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:01:24-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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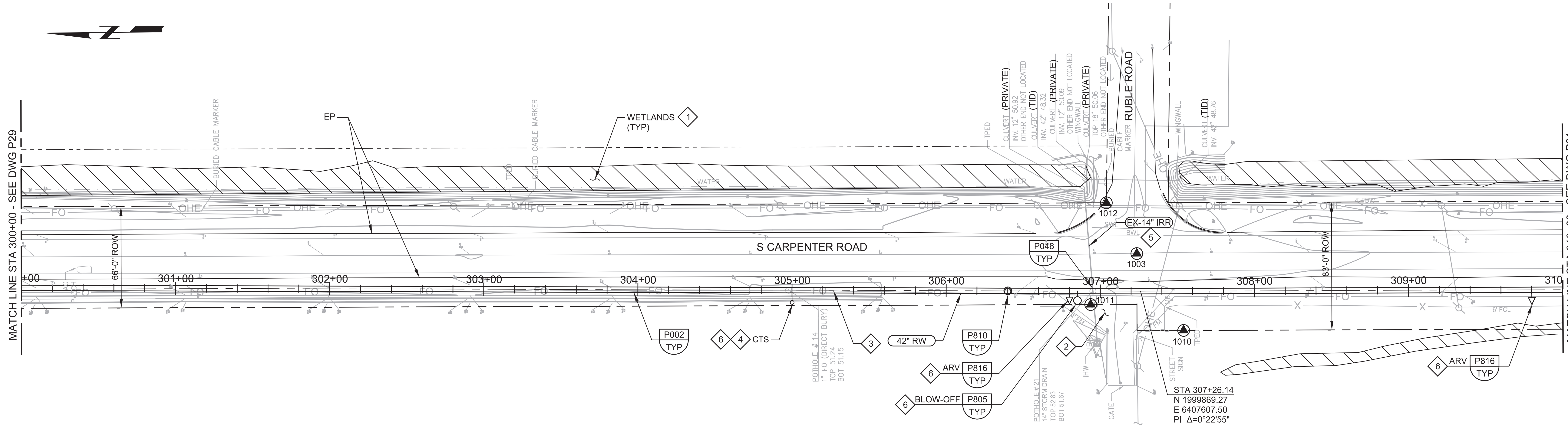
CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE STA 290+00 TO 300+00

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

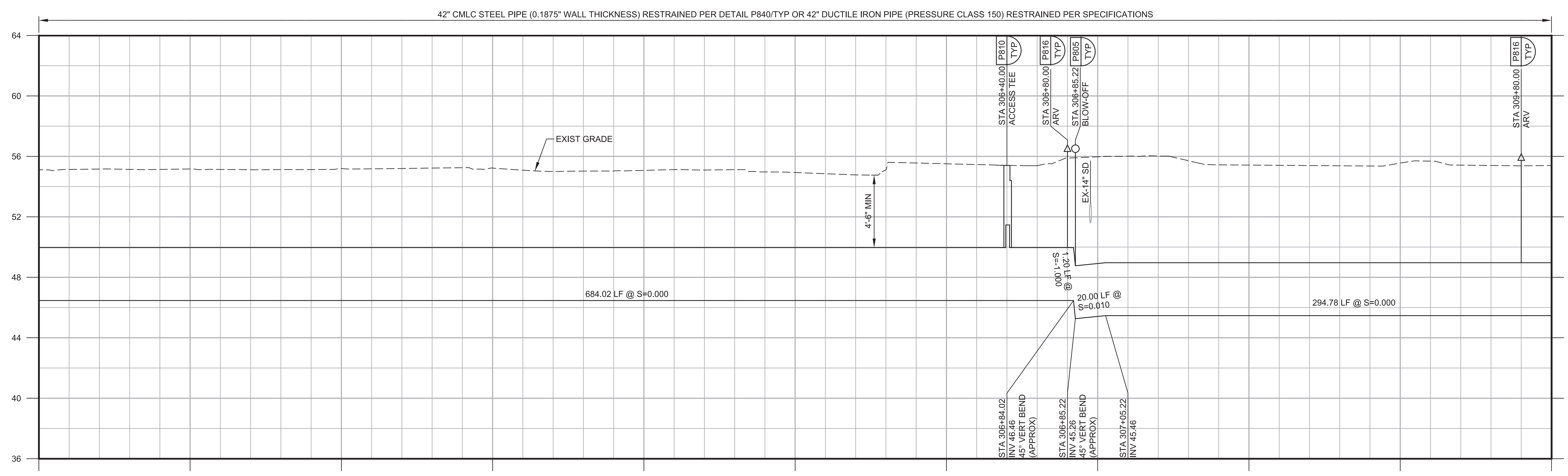
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SHEET NO. 71 OF 122

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LAST SAVED BY: DFassbinder



PLAN

SCALE: 1"=40'
FILE: 10595A10C101



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

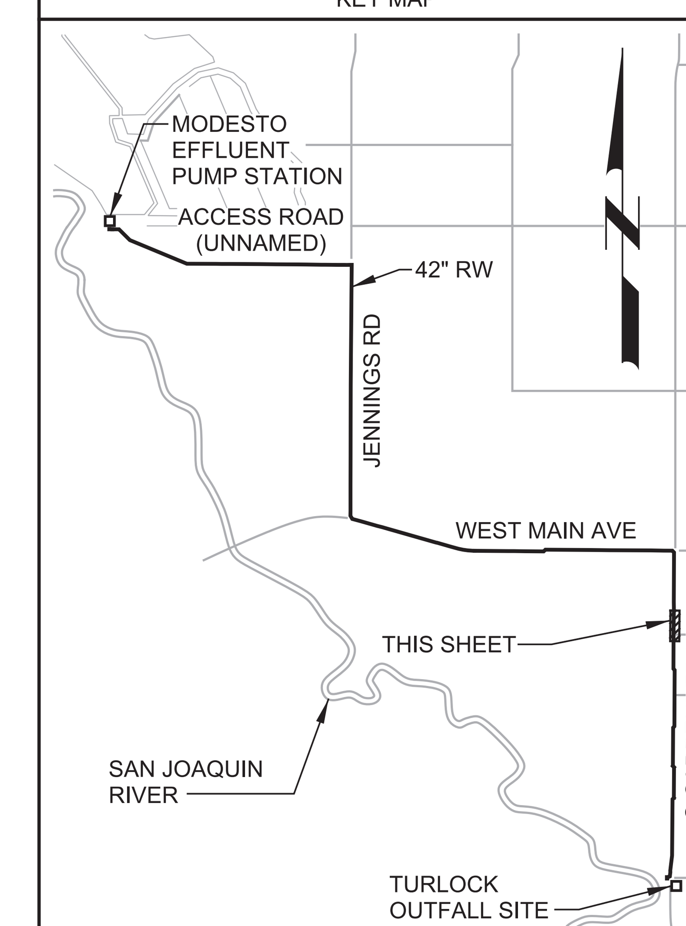
NOTES

KEY NOTES:

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4. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.
5. CCTV AND ASSESS PER SECTION 01140.
6. COORDINATE LOCATION WITH AT&T RELOCATION TO AVOID CONFLICT.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
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Date: 2018.04.25 09:18:51-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:00:34-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

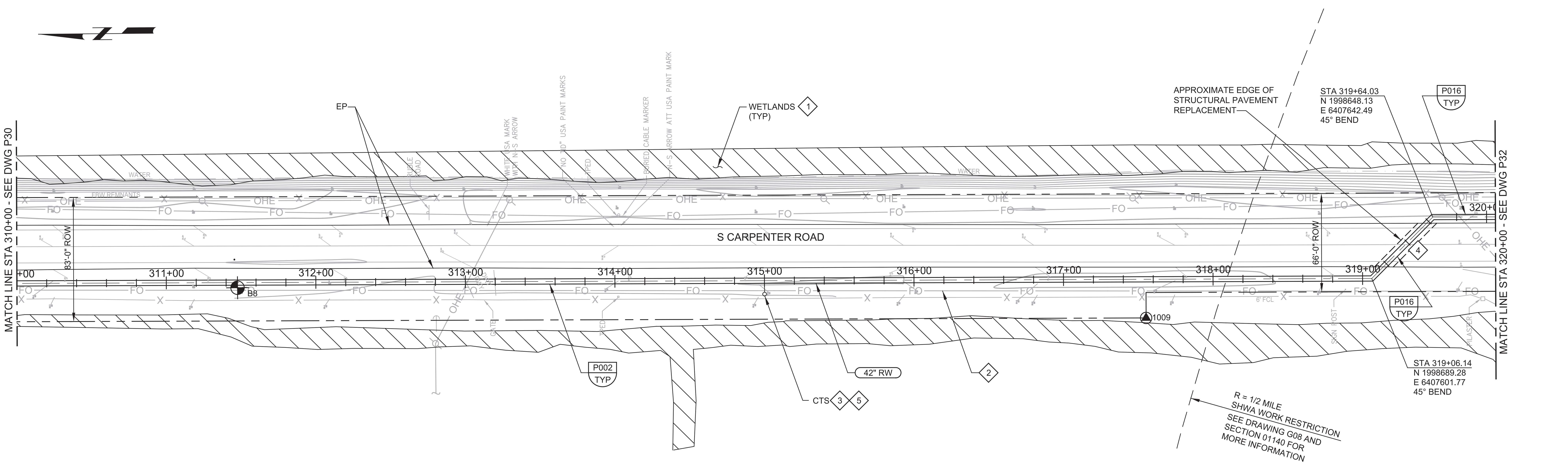
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CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 300+00 TO 310+00

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

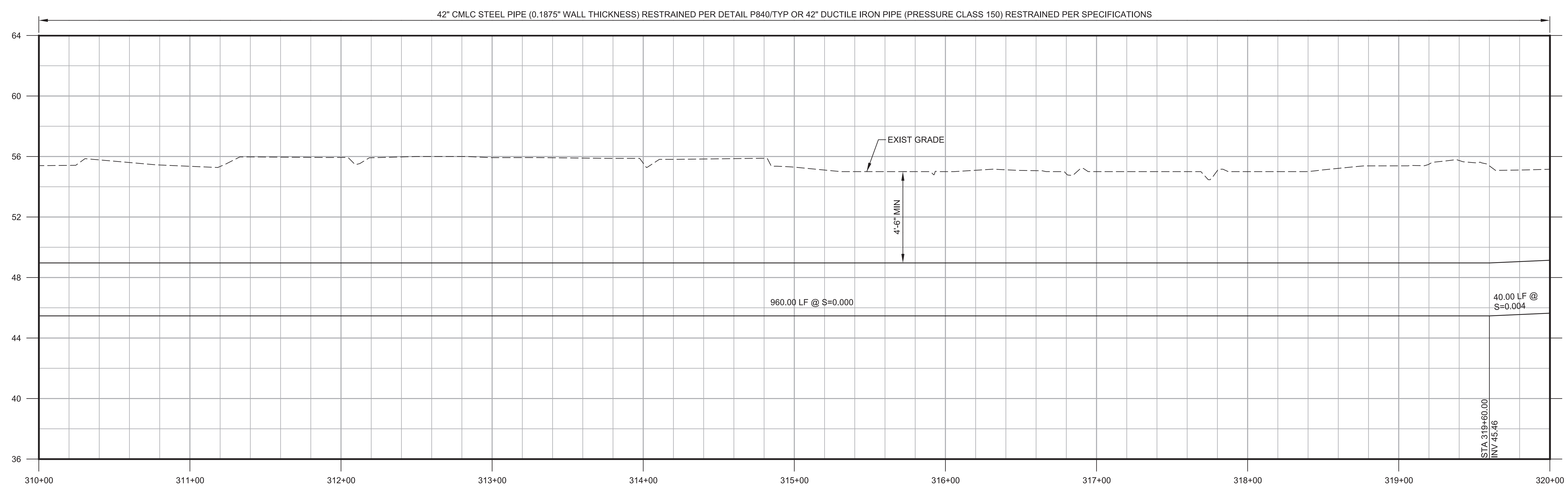
JOB NO. 10595A.10
DRAWING NO. P30
SHEET NO. 72 OF 122



PLAN

SCALE: 1"=40'
FILE: 10595A10C101

42" CMLC STEEL PIPE (0.1875" WALL THICKNESS) RESTRAINED PER DETAIL P840/TYP OR 42" DUCTILE IRON PIPE (PRESSURE CLASS 150) RESTRAINED PER SPECIFICATIONS



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

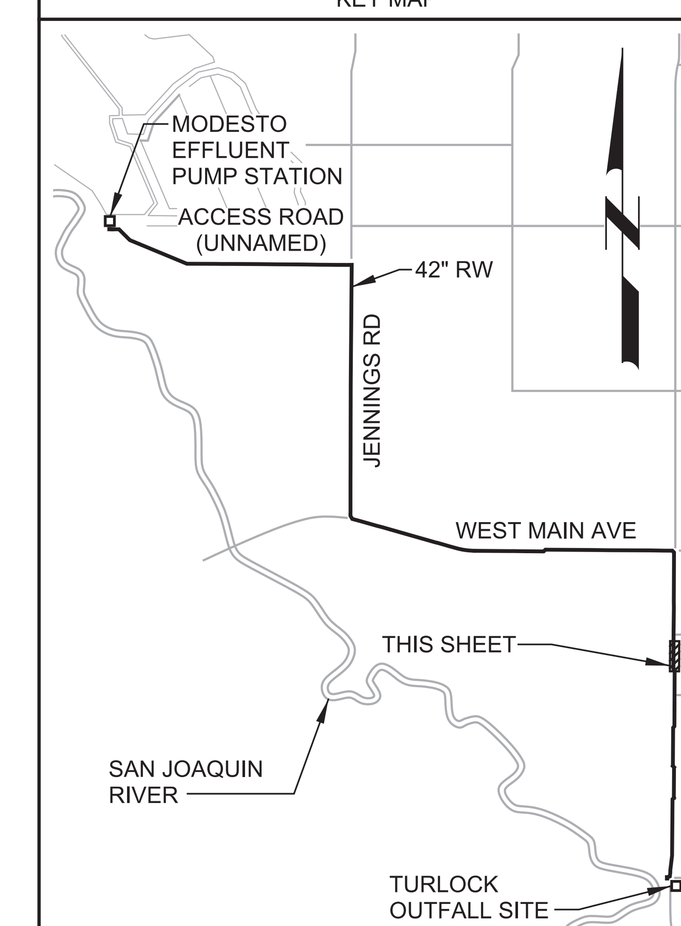
NOTES

KEY NOTES:

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2. RELOCATE THE EXISTING AT&T LINE BETWEEN. SEE AT&T RELOCATION DRAWINGS AND SPECIFICATION FOR RELOCATION INFORMATION.
3. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.
4. SEE SPECIFICATIONS FOR WORK RESTRICTIONS WHEN CONSTRUCTING ACROSS THE ROAD.
5. COORDINATE LOCATION WITH AT&T RELOCATION TO AVOID CONFLICT.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:19:01-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:00:22-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 310+00 TO 320+00

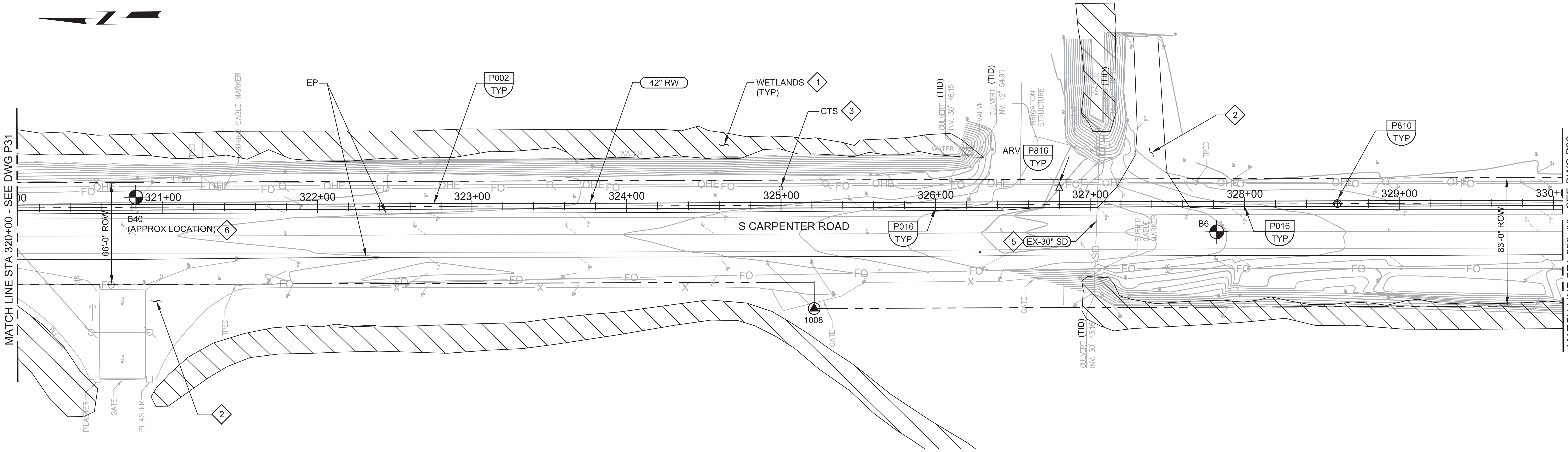
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10595A.10
DRAWING NO. P31
SHEET NO. 73 OF 122

PROJECT NO.
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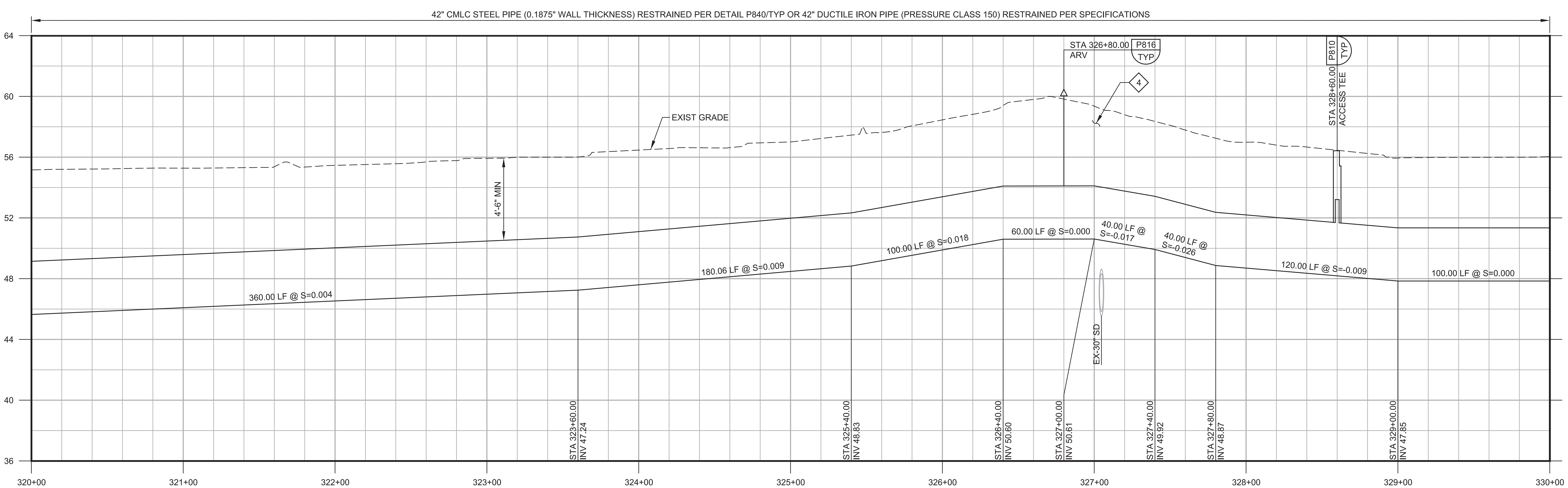
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LAST SAVED BY: DFassbinder



PLAN

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FILE: 10595A10C101



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

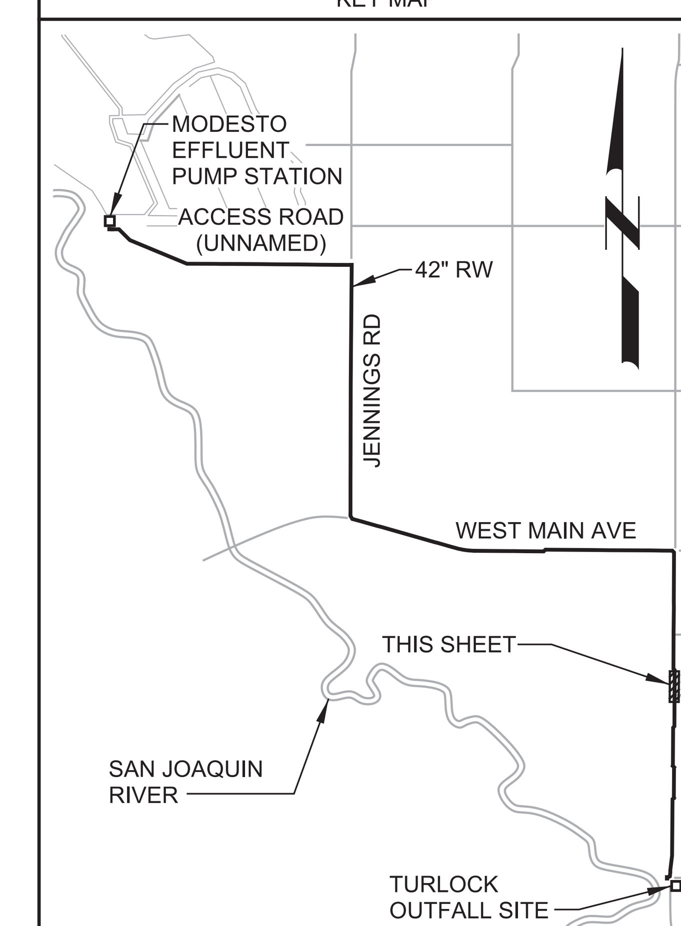
NOTES

KEY NOTES:

1. CONTRACTOR IS PROHIBITED FROM ENTERING WETLAND AREAS (EXCEPT FOR CCTV ROVER) AND SHALL TAKE ALL MEASURES NECESSARY TO PROTECT WETLANDS IN PLACE DURING CONSTRUCTION.
2. MAINTAIN ACCESS. SEE SPECIFICATIONS FOR REQUIREMENTS.
3. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.
4. BEDDING AND BACKFILL MATERIAL FROM STA 326+90 TO STA 327+10 SHALL BE CLSM.
5. CCTV AND ASSESS PER SECTION 01140.
6. VIBRATING WIRE PIEZOMETER IS ACTIVE AND LOCATED IN BORE HOLE B40. CONTRACTOR SHALL ABANDON BORE HOLE PER COUNTY REQUIREMENTS (INCLUDING OBTAINING ANY REQUIRED PERMITS AND PAYING PERMIT FEES) AND RETURN VIBRATING WIRE PIEZOMETER EQUIPMENT TO ENGINEER.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED: JPM
DRAWN: AL
CHECKED: AP/DGB
DATE: APRIL 2018

REGISTERED PROFESSIONAL ENGINEER — JONATHON P. MARSHALL — No. 73265 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:19:10-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 10:00:11-07'00'

REGISTERED PROFESSIONAL ENGINEER — DARREN G. BAUNE — No. 68899 — CIVIL — STATE OF CALIFORNIA

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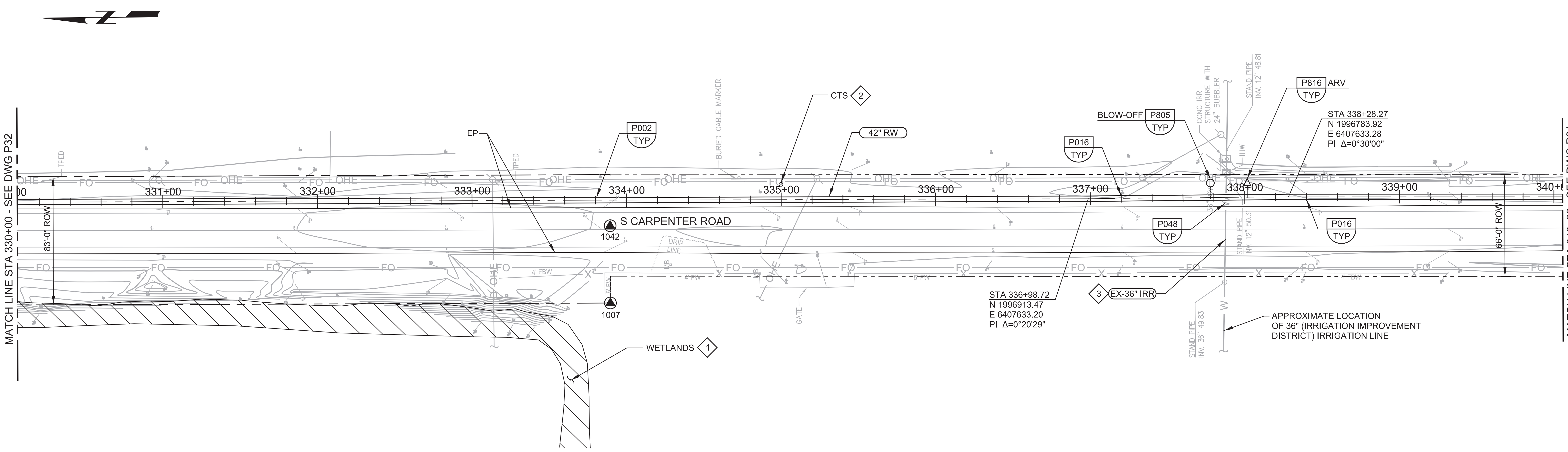
CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 320+00 TO 330+00

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

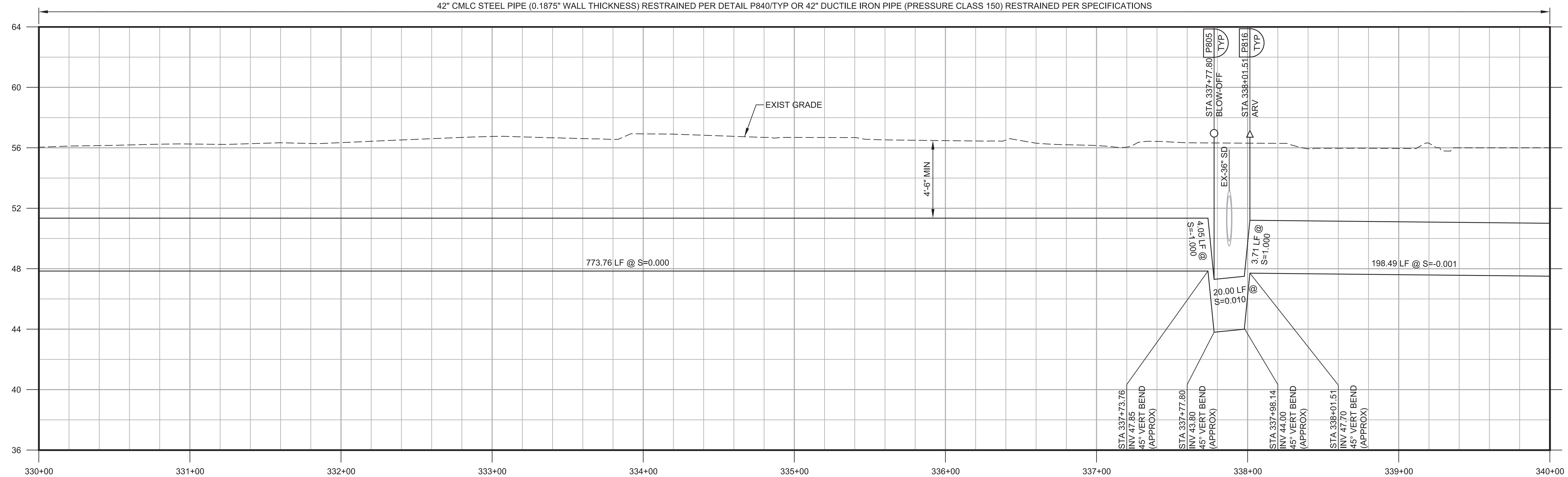
JOB NO. 10595A.10
DRAWING NO. P32
SHEET NO. 74 OF 122



PLAN

SCALE: 1"=40'
FILE: 10595A10C101

42" CMLC STEEL PIPE (0.1875" WALL THICKNESS) RESTRAINED PER DETAIL P840/TYP OR 42" DUCTILE IRON PIPE (PRESSURE CLASS 150) RESTRAINED PER SPECIFICATIONS



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

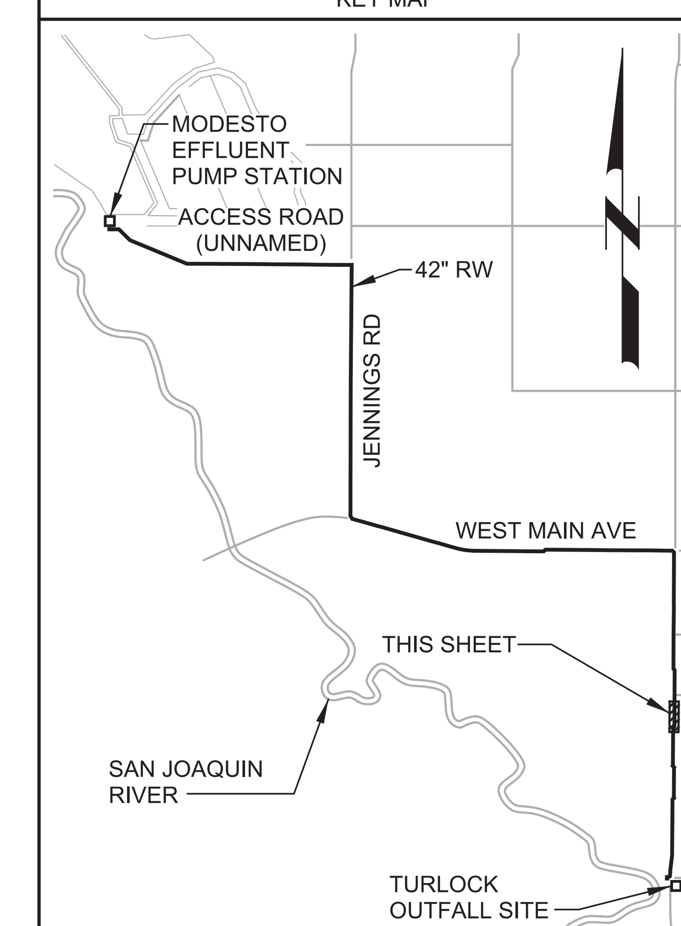
NOTES

KEY NOTES:

1. CONTRACTOR IS PROHIBITED FROM ENTERING WETLAND AREAS AND SHALL TAKE ALL MEASURES NECESSARY TO PROTECT WETLANDS IN PLACE DURING CONSTRUCTION.
2. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.
3. PIPELINE INSPECTED AND FOUND TO BE RCP IN GOOD CONDITION. PROTECT IN PLACE. CCTV INSPECTION REQUIRED AFTER CONSTRUCTION PER SECTION 01140.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:19:23-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:59:44-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

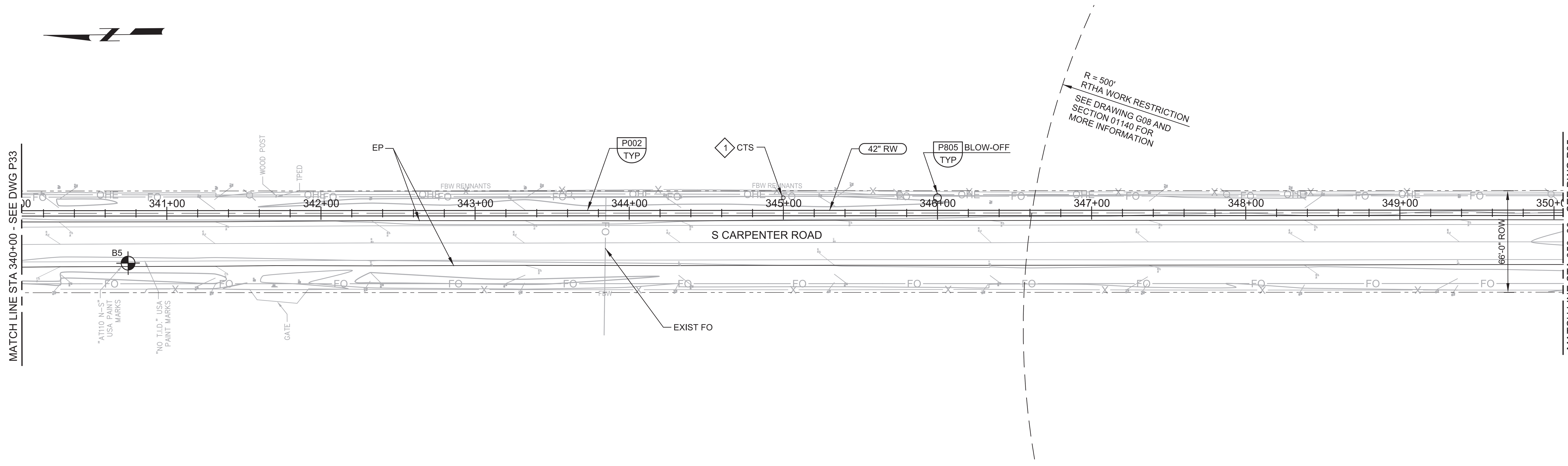
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 330+00 TO 340+00

VERIFY SCALES
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0 1"
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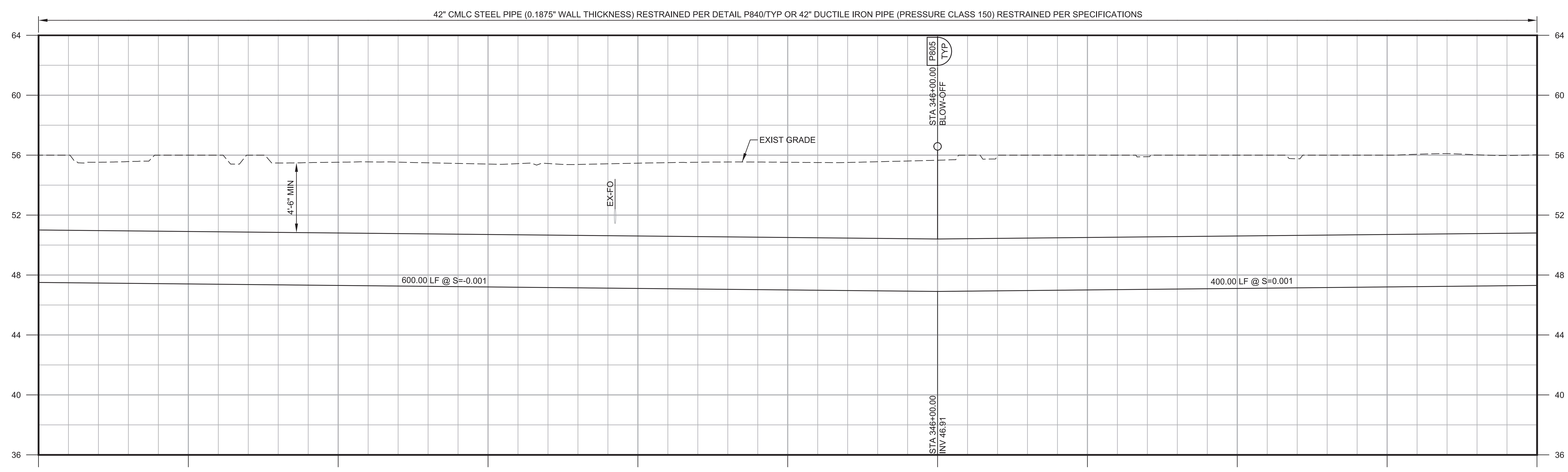
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DRAWING NO. P33
SHEET NO. 75 OF 122

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PLAN
SCALE: 1"=40'
FILE: 10595A10C101



PROFILE
HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

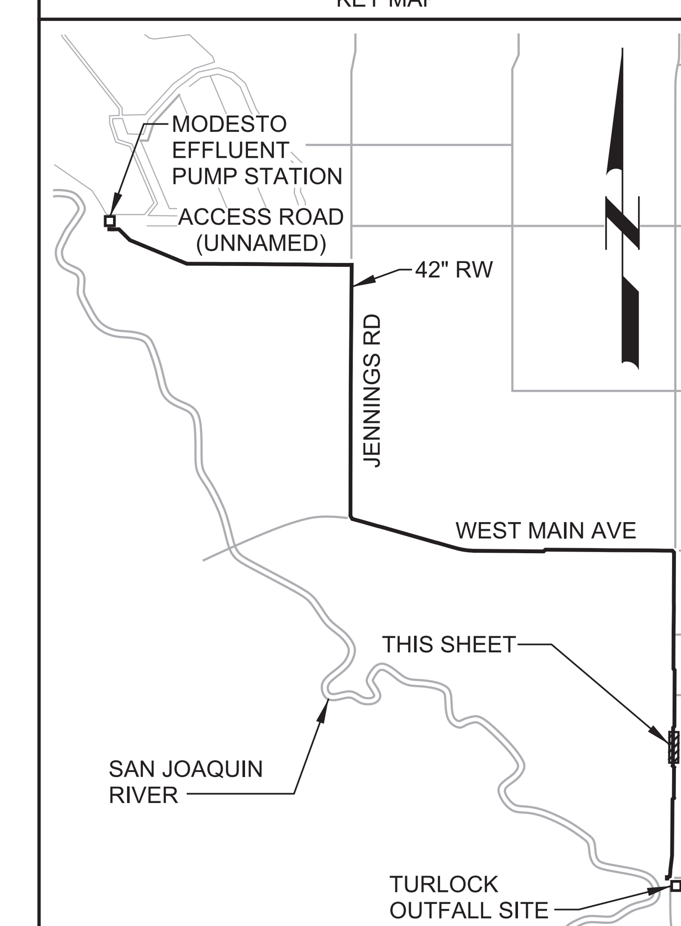
NOTES

KEY NOTES:

1. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:20:28-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:59:31-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

carollo

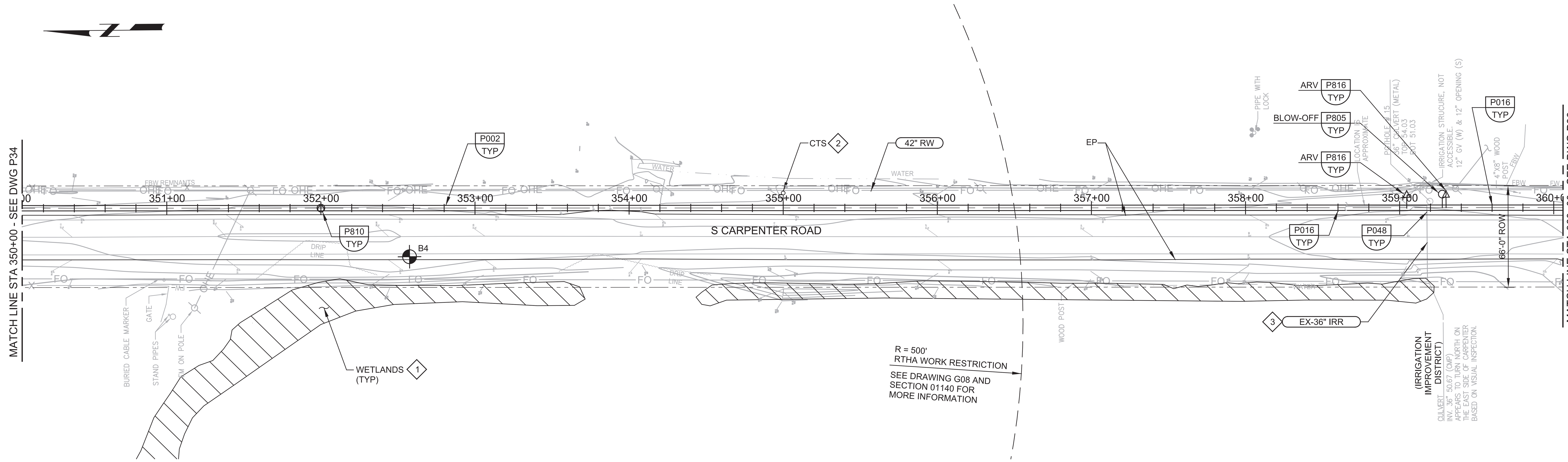
CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 340+00 TO 350+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
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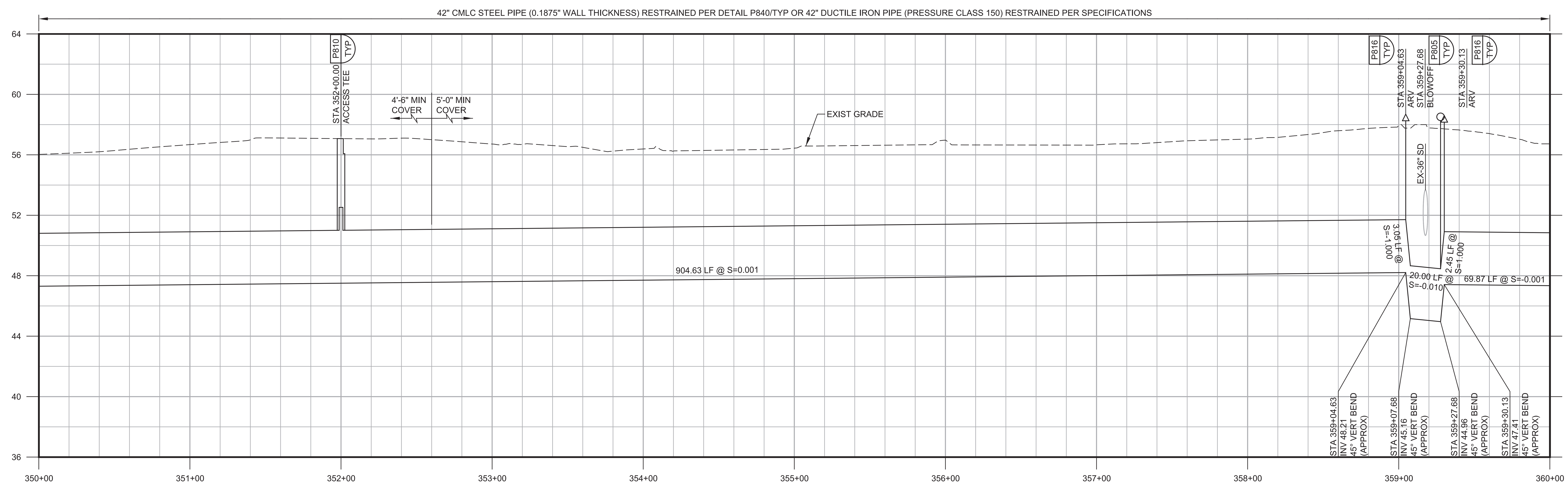
JOB NO. 10595A.10
DRAWING NO. P34
SHEET NO. 76 OF 122

PROJECT NO. FILE NAME: 10595A10P34.dgn



PLAN

SCALE: 1"=40'
FILE: 10595A10C101



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

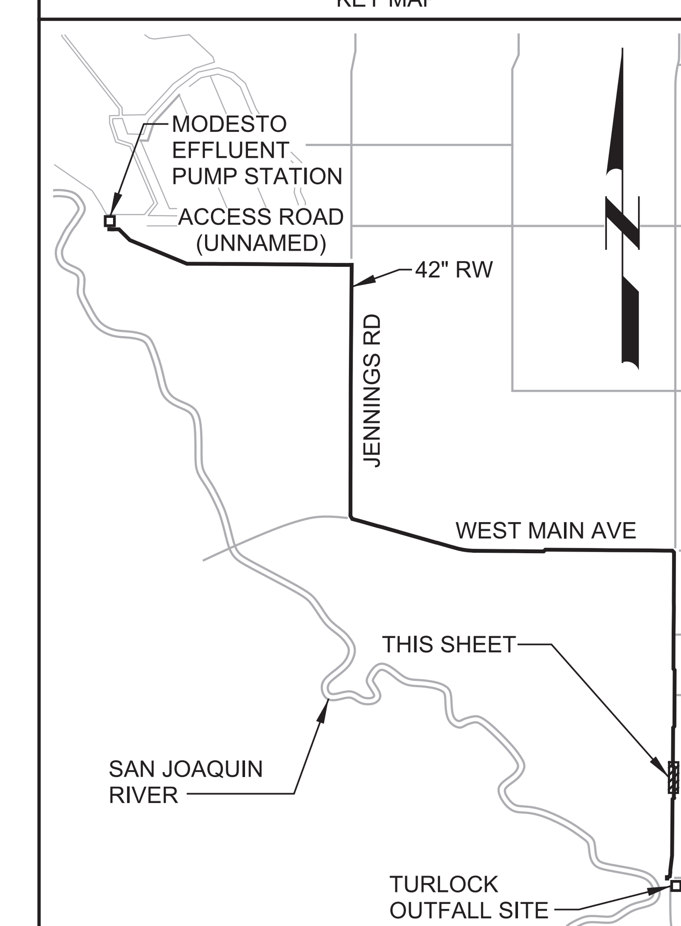
NOTES

KEY NOTES:

1. CONTRACTOR IS PROHIBITED FROM ENTERING WETLAND AREAS (EXCEPT FOR CCTV ROVER) AND SHALL TAKE ALL MEASURES NECESSARY TO PROTECT WETLANDS IN PLACE DURING CONSTRUCTION.
2. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.
3. CCTV AND ASSESS PER SECTION 01140. PIPELINE MATERIAL TYPE AND CONDITION UNKNOWN.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:20:43-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:58:35-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK

NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM TURLOCK COMPONENT

CIVIL

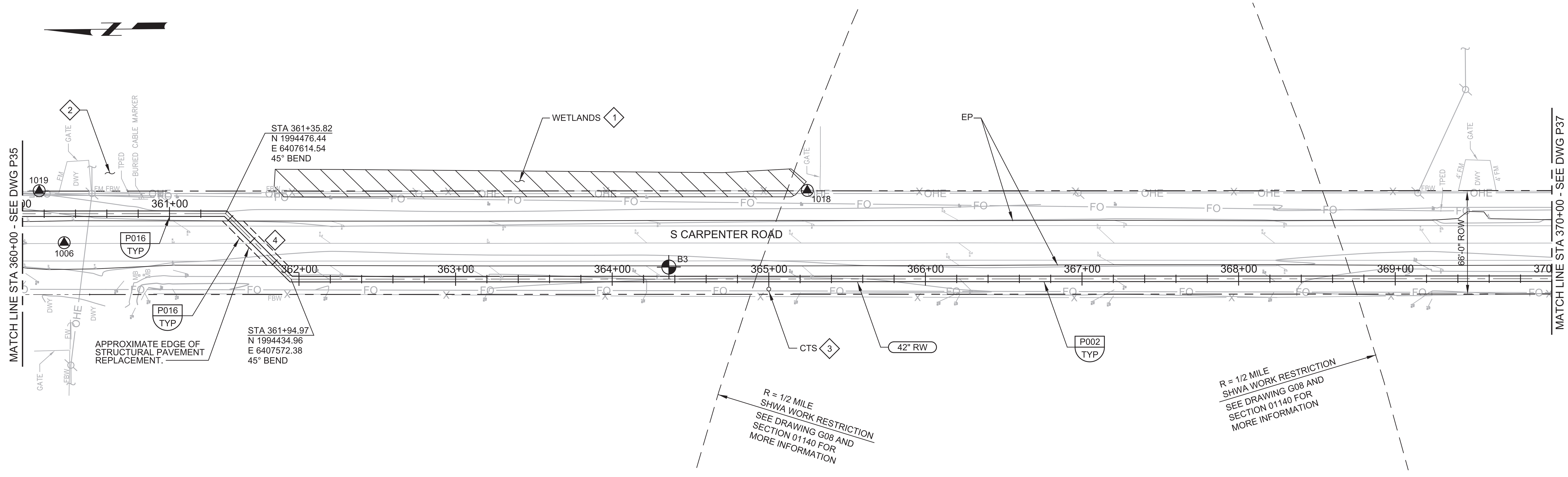
PLAN AND PROFILE STA 350+00 TO 360+00

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

JOB NO. 10595A.10
DRAWING NO. P35
SHEET NO. 77 OF 122

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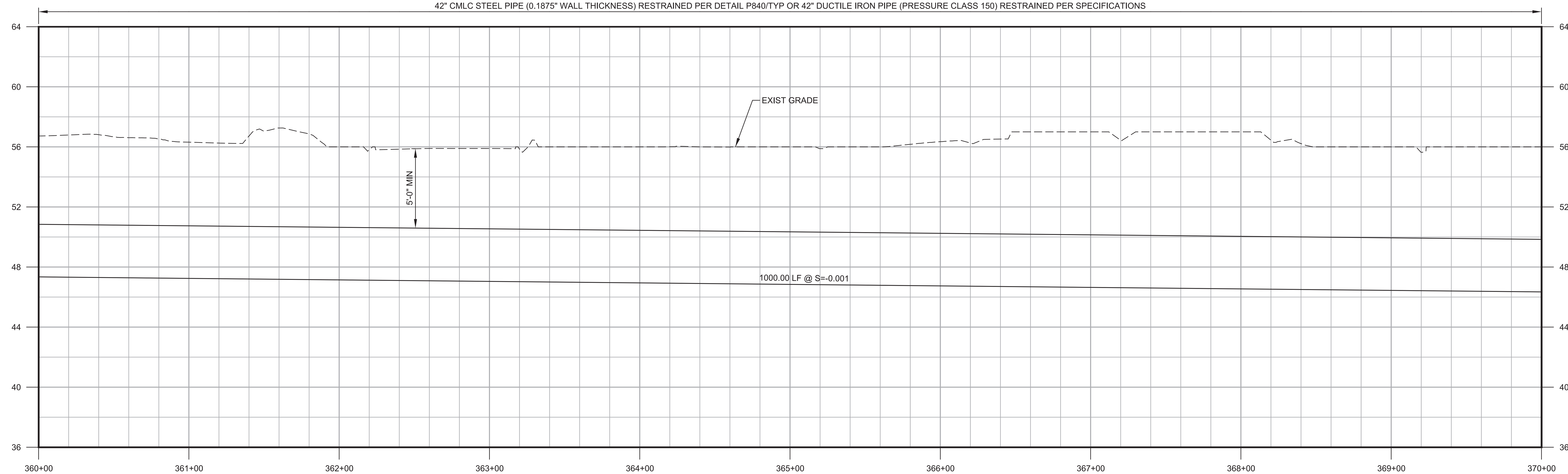
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PLAN

SCALE: 1"=40'
FILE: 10595A10C101

42" CMLC STEEL PIPE (0.1875" WALL THICKNESS) RESTRAINED PER DETAIL P840/TYP OR 42" DUCTILE IRON PIPE (PRESSURE CLASS 150) RESTRAINED PER SPECIFICATIONS



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

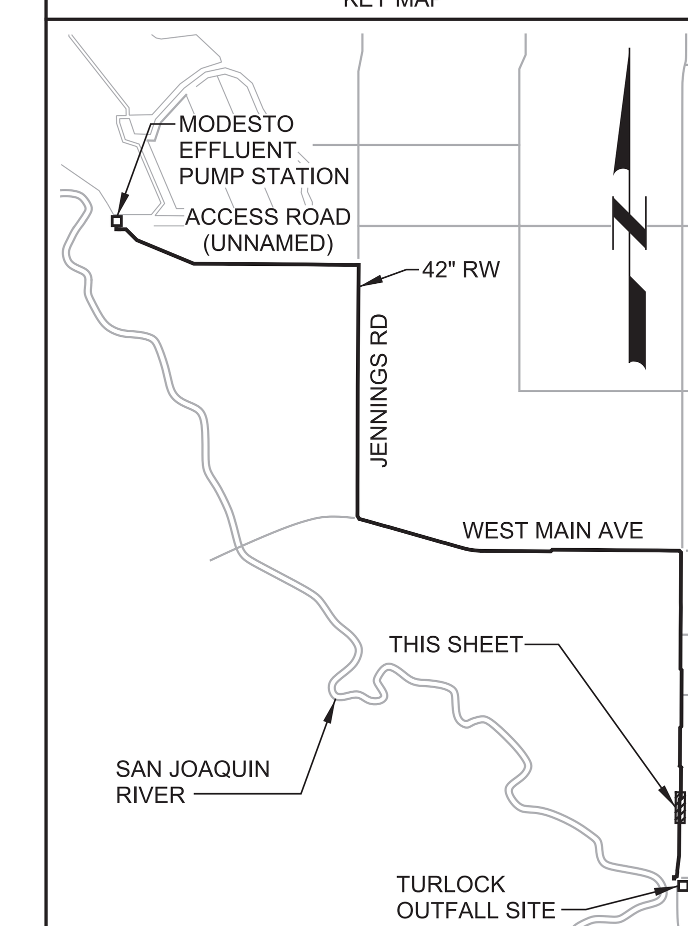
NOTES

KEY NOTES:

1. CONTRACTOR IS PROHIBITED FROM ENTERING WETLAND AREAS AND SHALL TAKE ALL MEASURES NECESSARY TO PROTECT WETLANDS IN PLACE DURING CONSTRUCTION..
2. MAINTAIN ACCESS. SEE SPECIFICATIONS FOR REQUIREMENTS.
3. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.
4. SEE SPECIFICATIONS FOR WORK RESTRICTIONS WHEN CONSTRUCTING ACROSS THE ROAD.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:20:53-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:58:24-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 360+00 TO 370+00

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

JOB NO. 10595A.10
DRAWING NO. P36
SHEET NO. 78 OF 122

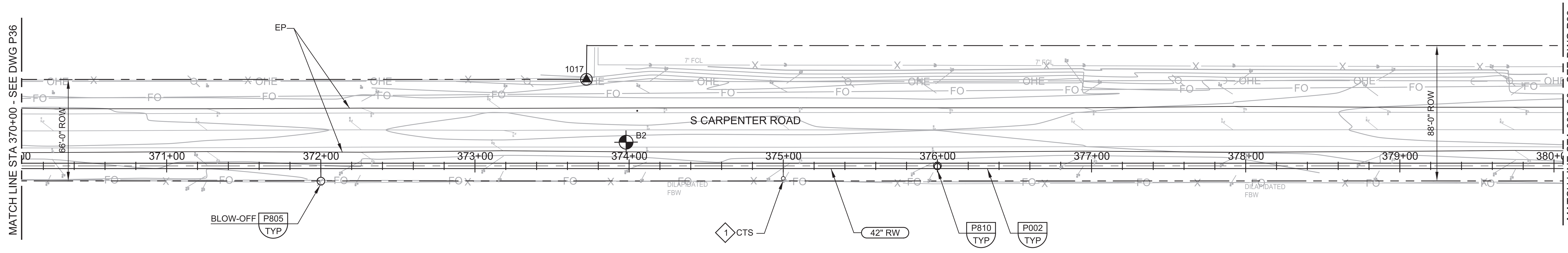
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LAST SAVED BY: Alaico

NOTES

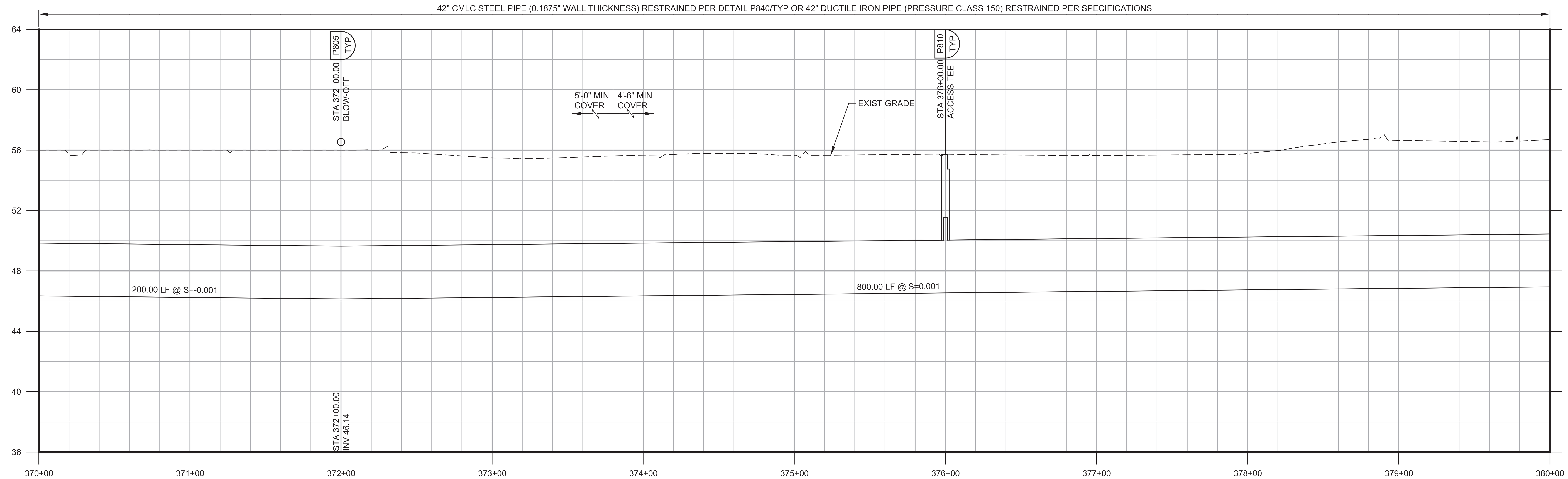
KEY NOTES:

1. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.



PLAN

SCALE: 1"=40'
FILE: 10595A10C101

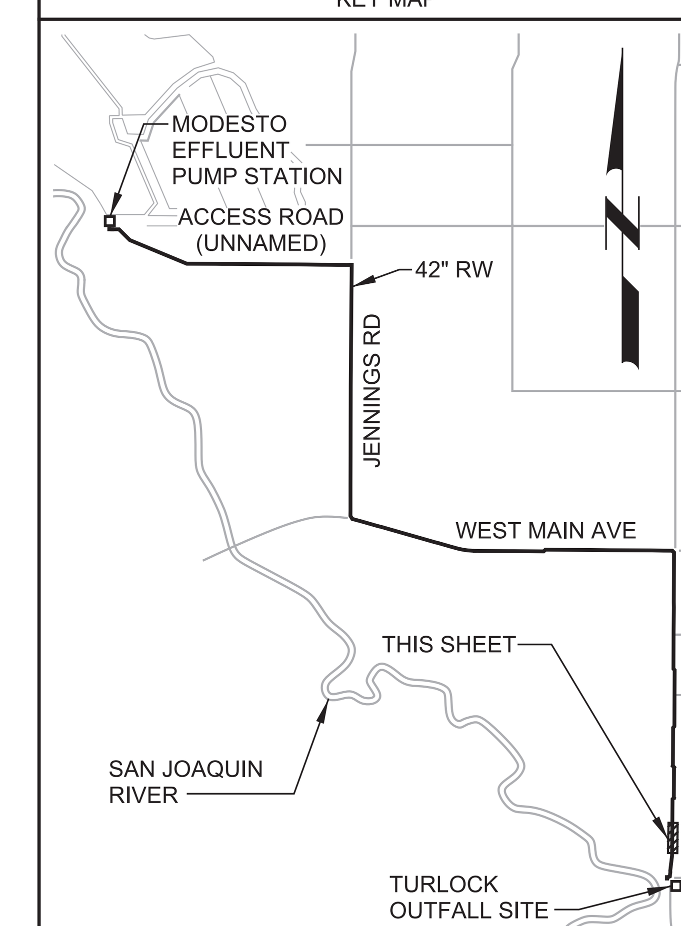


PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP/DGB
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:21:01-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:56:49-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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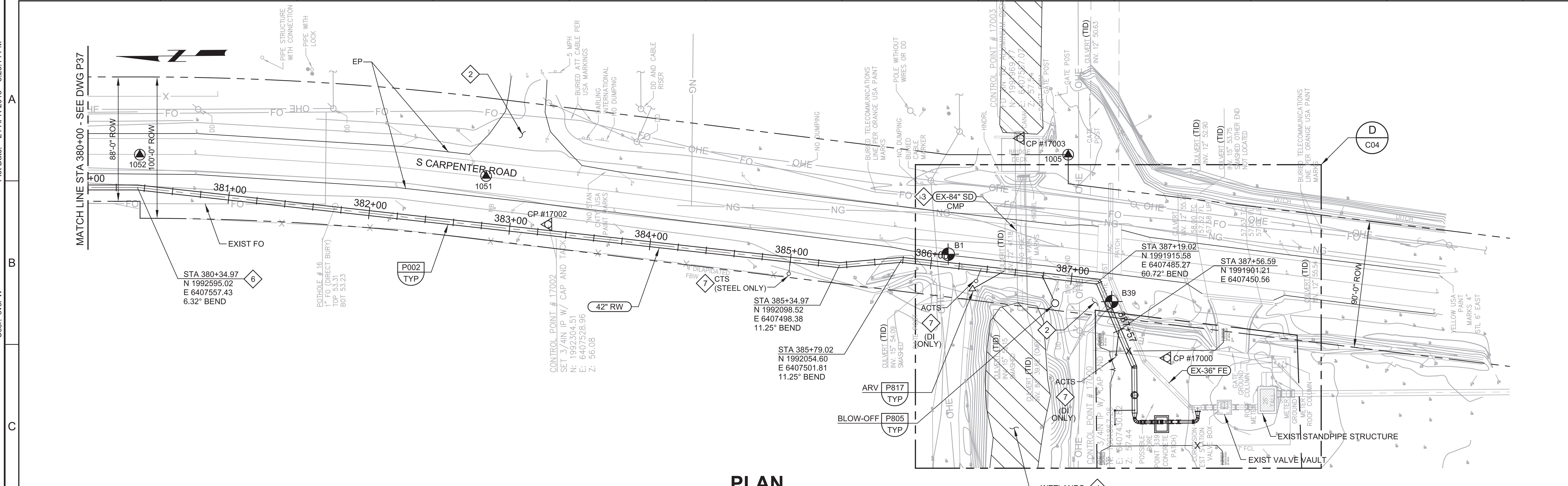
CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 370+00 TO 380+00

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

JOB NO. 10595A.10
DRAWING NO. P37
SHEET NO. 79 OF 122

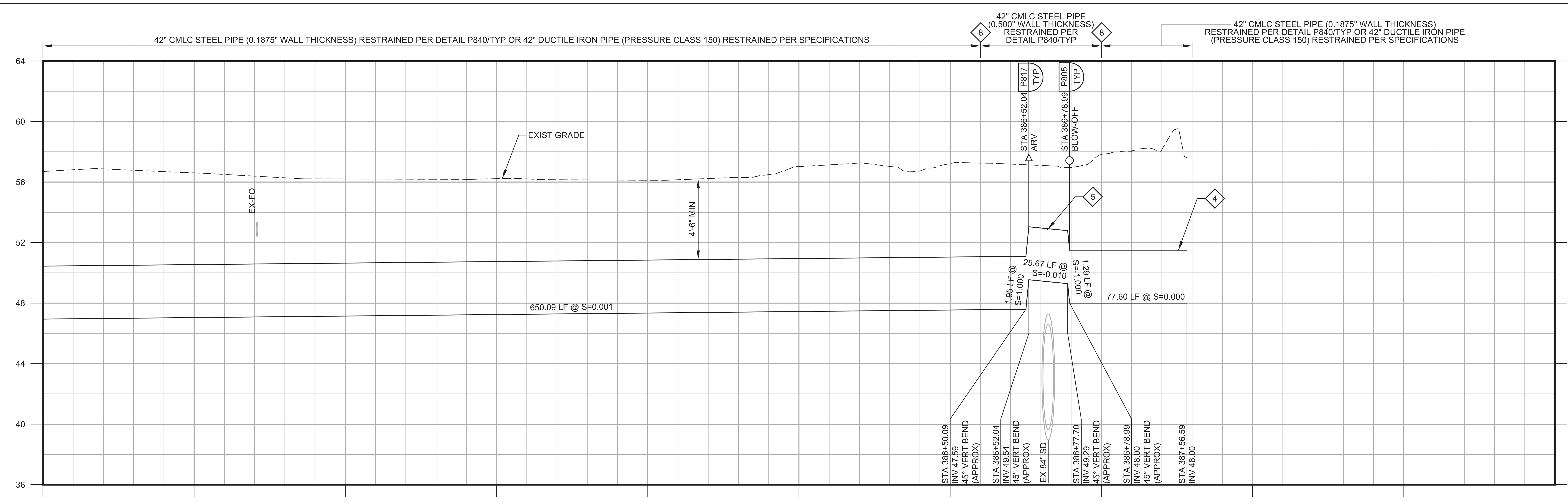
PROJECT NO. FILE NAME: 10595A10P37.dgn



PLAN

SCALE: 1"=40'
FILE: 10595A10C101

(DI ONLY)



PROFILE

HORIZ SCALE: 1"=40'
VERT SCALE: 1"=4'
FILE: 10595A10C101

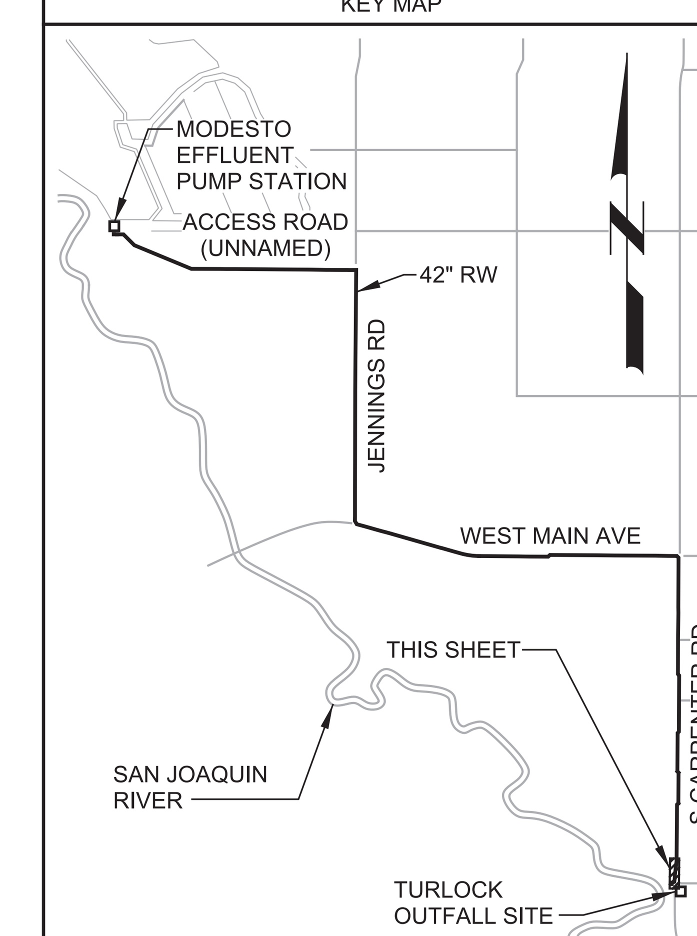
NOTES

KEY NOTES:

1. CONTRACTOR IS PROHIBITED FROM ENTERING WETLAND AREAS AND SHALL TAKE ALL MEASURES NECESSARY TO PROTECT WETLANDS IN PLACE DURING CONSTRUCTION.
2. MAINTAIN ACCESS. SEE SPECIFICATIONS FOR REQUIREMENTS.
3. APPROXIMATE LOCATION. UNABLE TO SURVEY.
4. DOWNSTREAM OF STA 387+51, THE 42" RW PIPELINE SHALL BE RESTRAINED. STEEL PIPE SHALL BE 42" CMLC STEEL PIPE (0.1875" WALL THICKNESS) RESTRAINED PER DETAIL P840/TYP OR 42" DUCTILE IRON PIPE (PRESSURE CLASS 150) RESTRAINED PER SPECIFICATIONS.
5. CONSTRUCTION EQUIPMENT SHALL NOT DRIVE OVER THE EXISTING 84" SD (DEFINED AS STA 386+50 TO STA 386+70) ON THE SHOULDER. USE THE PAVED ROAD. THE PIPELINE BETWEEN STA 386+40 AND STA 386+80 SHALL BE A SINGLE, FACTORY SPECIAL STEEL PIECE. NO JOINTS ARE PERMITTED. THE BEDDING AND BACKFILL MATERIAL SHALL BE CLSM.
6. IF DUCTILE IRON PIPE IS USED, A MINOR ADJUSTMENT IN THE ALIGNMENT WILL BE NEEDED TO DEFLECT THE ANGLE OVER APPROXIMATELY 6 PIPELINE JOINTS.
7. SEE CATHODIC PROTECTION DRAWINGS. FLUSH MOUNTED TYPE.
8. IF STEEL PIPE IS THE SELECTED 42" PIPELINE MATERIAL, TRANSITION FROM 0.500" WALL THICKNESS STEEL TO 0.1875" WALL THICKNESS STEEL SHALL BE SIMILAR TO DETAIL 840/TYP. SUBMIT A MANUFACTURER RECOMMENDED DETAIL FOR APPROVAL.
IF DUCTILE IRON IS THE SELECTED 42" PIPELINE MATERIAL, PROVIDE A FLANGED END ON THE 0.500" WALL THICKNESS STEEL COMPATIBLE WITH A RESTRAINED FLANGE ADAPTOR (EBAA MEGAFLANGE SERIES 2100 OR EQUAL) TO A PLAIN END DUCTILE IRON PIPE.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED: JPM
DRAWN: AL
CHECKED: AP/DGB
DATE: APRIL 2018

REGISTERED PROFESSIONAL ENGINEER — JONATHON P. MARSHALL — No. 73265 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:21:11-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:56:35-07'00'

REGISTERED PROFESSIONAL ENGINEER — DARREN G. BAUNE — No. 68899 — CIVIL — STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
PLAN AND PROFILE
STA 380+00 TO 387+50

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

JOB NO. 10595A.10
DRAWING NO. P38
SHEET NO. 80 OF 122

Plot Date: 24-APR-2018 3:23:14 PM User: svcPW PlotScale: 2:1 DesignScript: Carollo_Std_Pen_v0905.pen ColorTable: gshade.ctb Model: Layout1 LAST SAVED BY: Alaico

CMLC STEEL PIPE OPTION

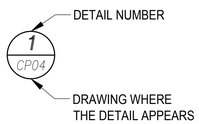
ABBREVIATIONS

A	AMPERE	EP	EDGE OF PAVEMENT	REV	REVISION
AC	ALTERNATING CURRENT	FT	FEET	RW	RECYCLED WATER
A.C.	ASPHALT CONCRETE	GRS	GALVANIZED RIGID STEEL	SCH	SCHEDULE
ACTS	AC MITIGATION TEST STATION	HMWPE	HIGH MOLECULAR WEIGHT	THHN	THERMOPLASTIC HIGH
AJB	ANODE JUNCTION BOX		POLYETHYLENE		HEAT-RESISTANT NYLON COATED
AMP	AMPERE	HSCI	HIGH SILICON CAST IRON	THWN	THERMOPLASTIC HIGH
AN	ANODE	IJTS	INSULATING JOINT TEST STATION		WATER-RESISTANT NYLON-COATED
APPROX.	APPROXIMATELY	IJTSA	IJTS W/ANODES	TYP	TYPICAL
ARV	AIR RELEASE VALVE	LB	POUNDS	V	VOLTS
ATS	ANODE TEST STATION	MAX	MAXIMUM	W/	WITH
AWG	AMERICAN WIRE GAUGE	MH	MANHOLE	XHHW	CROSS-LINKED POLYETHYLENE,
CMLC	CEMENT MORTAR LINED & COATED	MIN	MINIMUM		HIGH HEAT-RESISTANT, WATER
CATS	CASING TEST STATION	N	NEW		RESISTANT
CP	CATHODIC PROTECTION	NO.	NUMBER	&	AND
CTS	CORROSION TEST STATION	O.A.	OUTER DIAMETER	Ø	DIAMETER
DFT	DRY FILM THICKNESS	PL	PIPELINE	'	FEET
DR	DRAIN CABLE	PVC	POLYVINYL CHLORIDE	"	INCH
E	EXISTING	REQ'D	REQUIRED		

GENERAL CATHODIC PROTECTION NOTES:

1. THE CATHODIC PROTECTION SYSTEM FOR THE TURLOCK RECYCLED WATER PIPELINE CONSISTS OF IMPRESSED CURRENT CATHODIC PROTECTION SYSTEMS. EACH IMPRESSED CURRENT CATHODIC PROTECTION SYSTEM CONSISTS OF A RECTIFIER AND A DEEP ANODE GROUND BED WITH CAST IRON ANODES. SEE TABLE 1 ON SHEET CP01 FOR CMLC PIPE OPTION & TABLE 3 ON SHEET CP02 FOR DUCTILE IRON PIPE OPTION FOR THE SIZE OF THE RECTIFIERS AND THE QUANTITY OF THE ANODES.
2. THE ELECTRIC SERVICE FOR THE RECTIFIERS SHALL BE PROVIDED FROM THE NEAREST POWER POLE TO THE RECTIFIER SITE, EXCEPT FOR THE TURLOCK OUTFALL SITE WHERE THE CONTRACTOR SHALL COORDINATE WITH THE CITY OF TURLOCK FOR OBTAINING POWER FROM EXISTING POWER PANEL. ANY REQUIREMENTS SET BY TID FOR PROVIDING POWER TO THE RECTIFIERS SHALL BE FULFILLED BY THE CONTRACTOR.
3. CALL UNDERGROUND SERVICE ALERT BEFORE DIGGING, TRENCHING OR DRILLING AT ANY LOCATION.
4. ALL UNDERGROUND UTILITY LOCATIONS SHOWN ON THE SITE PLANS ON SHEETS CP03 AND CP04 ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY LOCATIONS WITH ENGINEER PRIOR TO DIGGING AND TRENCHING. THE CONTRACTOR SHALL UNCOVER ANY UTILITIES WITHIN 2 FEET OF THE EXCAVATION.
5. CASINGS SHALL BE COATED WITH 3M SCOTCHKOTE ABRASION RESISTANT COATING 328 WITH A MINIMUM OF 40MIL DFT.
6. INSTALL CATHODIC PROTECTION ON ALL BLOW-OFF ASSEMBLIES PER DETAIL 1/CP09. INSTALL CATHODIC PROTECTION ON ALL ARV ASSEMBLIES PER DETAIL 2/CP09.
7. ALL AT GRADE UTILITY BOXES SHALL BE HS-20 RATED.
8. AFTER COMPLETION, THE CATHODIC PROTECTION SYSTEM SHALL BE ENERGIZED AND COMMISSIONED UNDER THE SUPERVISION OF THE PROJECT'S REGISTERED CORROSION ENGINEER.

DETAIL DESIGNATIONS



SYMBOLS

ANODE BED

RECTIFIER UNIT

TABLE 1 - CMLC STEEL OPTION
RECTIFIERS & ANODE BEDS

NO.	STATIONING	RECTIFIER SIZE	STRUCTURE(S)	HSCI ANODES	ANODE BED	SITE PLAN
1	51+00	30V, 20A	42" TURLOCK RW PIPELINE	1	12	1/CP03
2	130+60	30V, 20A	42" TURLOCK RW PIPELINE	1	12	2/CP03
3	264+28	30V, 20A	42" TURLOCK RW PIPELINE	1	12	1/CP04
4	TURLOCK OUTFALL SITE	30V, 20A	42" TURLOCK RW PIPELINE	1	12	2/CP04

TABLE 2 - CMLC STEEL OPTION
TEST STATIONS

NO.	STATIONING	CIVIL SHEET	CTS TYPE	STRUCTURE(S)	DETAIL
1	TIE IN	C02	IJTS	EXISTING 42" PL & 42" RW	3/CP07
2	12+00	P01	CTS	42" RW	4/CP07
3	37+20	P03	CTS	42" RW	4/CP07
4	47+80	P04	CATS	42" RW & 54" CASING	5/CP07
5	50+60	P05	CATS	42" RW & 54" CASING	5/CP07
6	55+00	P05	CTS	42" RW	4/CP07
7	65+00	P06	CTS	42" RW	4/CP07
8	75+00	P07	CTS	42" RW	4/CP07
9	85+00	P08	CTS	42" RW	4/CP07
10	95+00	P09	CTS	42" RW	4/CP07
11	105+00	P10	CTS	42" RW	4/CP07
12	115+00	P11	CTS	42" RW	4/CP07
13	125+00	P12	CTS	42" RW	4/CP07
14	135+00	P13	CTS	42" RW	4/CP07
15	144+80	P14	CTS	42" RW	4/CP07
16	155+00	P15	CTS	42" RW	4/CP07
17	164+80	P16	CTS	42" RW	4/CP07
18	175+40	P17	CTS	42" RW	4/CP07
19	183+80	P18	CATS	42" RW & 54" CASING	5/CP07
20	184+40	P18	CATS	42" RW & 54" CASING	5/CP07
21	195+00	P19	CTS	42" RW	4/CP07

TABLE 2 (CONTINUED)
TEST STATIONS

NO.	STATIONING	CIVIL SHEET	CTS TYPE	STRUCTURE(S)	DETAIL
22	205+00	P20	CTS	42" RW	4/CP07
23	215+00	P21	CTS	42" RW	4/CP07
24	225+00	P22	CTS	42" RW	4/CP07
25	235+55	P23	CATS	42" RW & 54" CASING	5/CP07
26	237+85	P23	CATS	42" RW & 54" CASING	5/CP07
27	245+00	P24	CTS	42" RW	4/CP07
28	255+00	P25	CTS	42" RW	4/CP07
29	265+00	P26	CTS	42" RW	4/CP07
30	275+00	P27	CTS	42" RW	4/CP07
31	285+00	P28	CTS	42" RW	4/CP07
32	295+20	P29	CTS	42" RW	4/CP07
33	305+00	P30	CTS	42" RW	4/CP07
34	315+00	P31	CTS	42" RW	4/CP07
35	325+00	P32	CTS	42" RW	4/CP07
36	335+00	P33	CTS	42" RW	4/CP07
37	345+00	P34	CTS	42" RW	4/CP07
38	355+00	P35	CTS	42" RW	4/CP07
39	365+00	P36	CTS	42" RW	4/CP07
40	375+00	P37	CTS	42" RW	4/CP07
41	385+00	P38	CTS	42" RW	4/CP07
42	TIE IN	C04	IJTS	EXISTING 42" PL & 42"/24" RW	3/CP07

REV	DATE	BY	DESCRIPTION

DESIGNED JAW
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DATE APRIL 2018

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CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CATHODIC PROTECTION SYSTEM
ABBREVIATIONS, TABLES 1 & 2, 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. 10595A.10
DRAWING NO. CP01
SHEET NO. 81 OF 122

DUCTILE IRON PIPE OPTION

TABLE 3 - DUCTILE IRON OPTION
RECTIFIERS & ANODE BEDS

NO.	STATIONING	RECTIFIER SIZE	STRUCTURE(S)	HSCI ANODES	ANODE BED	SITE PLAN
1	130+60	30V, 25A	42" TURLOCK RW PIPELINE	1	12	2/CP03
2	TURLOCK OUTFALL SITE	30V, 25A	42" TURLOCK RW PIPELINE	1	12	2/CP04

TABLE 4 - DUCTILE IRON OPTION
TEST STATIONS

NO.	STATIONING	CIVIL SHEET	CTS TYPE	STRUCTURE(S)	DETAIL
1	TIE IN	C02	IJTS	EXISTING 42" PL & 42" RW	3/CP07
2	12+00	P01	CTS	42" RW	4/CP07
3	37+20	P03	CTS	42" RW	4/CP07
4	47+80	P04	CATS	42" RW & 54" CASING	5/CP07
5	50+60	P05	CATS	42" RW & 54" CASING	5/CP07
6	55+00	P05	CTS	42" RW	4/CP07
7	65+00	P06	CTS	42" RW	4/CP07
8	75+00	P07	CTS	42" RW	4/CP07
9	85+00	P08	CTS	42" RW	4/CP07
10	95+00	P09	CTS	42" RW	4/CP07
11	105+00	P10	CTS	42" RW	4/CP07
12	115+00	P11	CTS	42" RW	4/CP07
13	125+00	P12	CTS	42" RW	4/CP07
14	135+00	P13	CTS	42" RW	4/CP07
15	144+80	P14	CTS	42" RW	4/CP07
16	155+00	P15	CTS	42" RW	4/CP07
17	164+80	P16	CTS	42" RW	4/CP07
18	175+40	P17	CTS	42" RW	4/CP07
19	183+80	P18	CATS	42" RW & 54" CASING	5/CP07
20	184+40	P18	CATS	42" RW & 54" CASING	5/CP07
21	195+00	P19	CTS	42" RW	4/CP07
22	205+00	P20	CTS	42" RW	4/CP07

TABLE 4 - DUCTILE IRON OPTION (CONTINUED)
TEST STATIONS

NO.	STATIONING	CIVIL SHEET	CTS TYPE	STRUCTURE(S)	DETAIL
23	215+00	P21	CTS	42" RW	4/CP07
24	225+00	P22	CTS	42" RW	4/CP07
25	235+55	P23	CATS	42" RW & 54" CASING	5/CP07
26	237+85	P23	CATS	42" RW & 54" CASING	5/CP07
27	245+00	P24	CTS	42" RW	4/CP07
28	255+00	P25	CTS	42" RW	4/CP07
29	265+00	P26	CTS	42" RW	4/CP07
30	275+00	P27	CTS	42" RW	4/CP07
31	285+00	P28	CTS	42" RW	4/CP07
32	295+20	P29	CTS	42" RW	4/CP07
33	305+00	P30	CTS	42" RW	4/CP07
34	315+00	P31	CTS	42" RW	4/CP07
35	325+00	P32	CTS	42" RW	4/CP07
36	335+00	P33	CTS	42" RW	4/CP07
37	345+00	P34	CTS	42" RW	4/CP07
38	355+00	P35	CTS	42" RW	4/CP07
39	365+00	P36	CTS	42" RW	4/CP07
40	375+00	P37	CTS	42" RW	4/CP07
41	386+30	P38	ACTS	42" RW	1/CP11
42	387+50	P38	ACTS	42" RW	1/CP11
43	**END**	C04	IJTS	EXISTING 42" PL & 42"/24" RW	3/CP07

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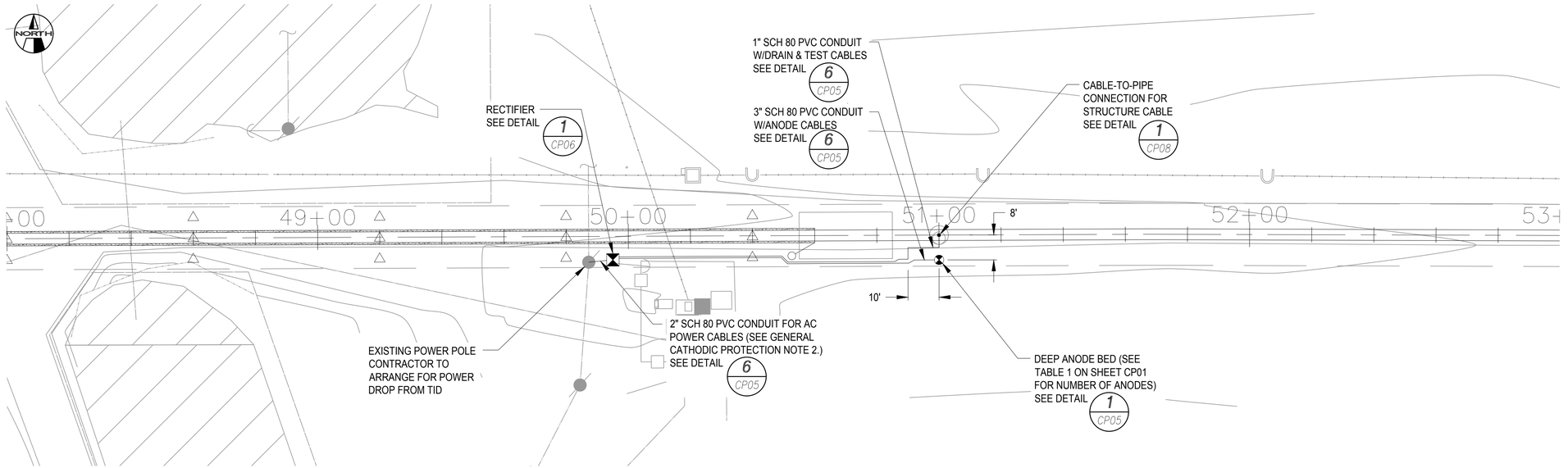
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TURLOCK COMPONENT
CATHODIC PROTECTION SYSTEM
TABLES 3 & 4

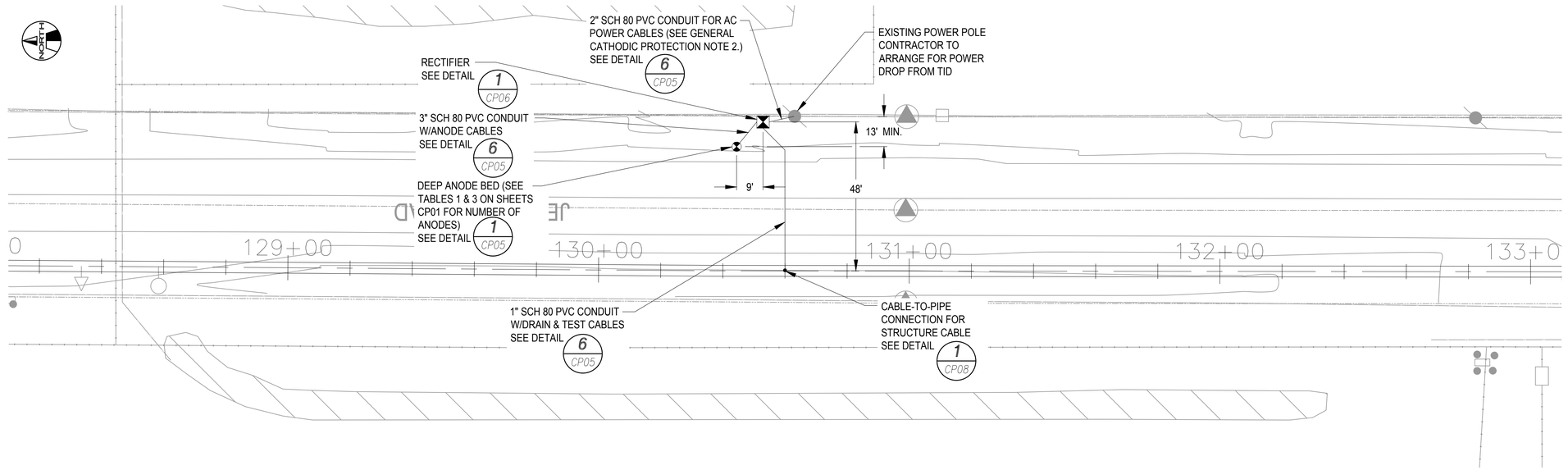
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JOB NO. 10595A.10
DRAWING NO. CP02
SHEET NO. 82 OF 122



1 CP03 **CATHODIC PROTECTION SITE PLAN - 51+00**

NOT TO SCALE



2 CP03 **CATHODIC PROTECTION SITE PLAN - 130+60**

NOT TO SCALE

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DRAWN JAW
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DATE APRIL 2018

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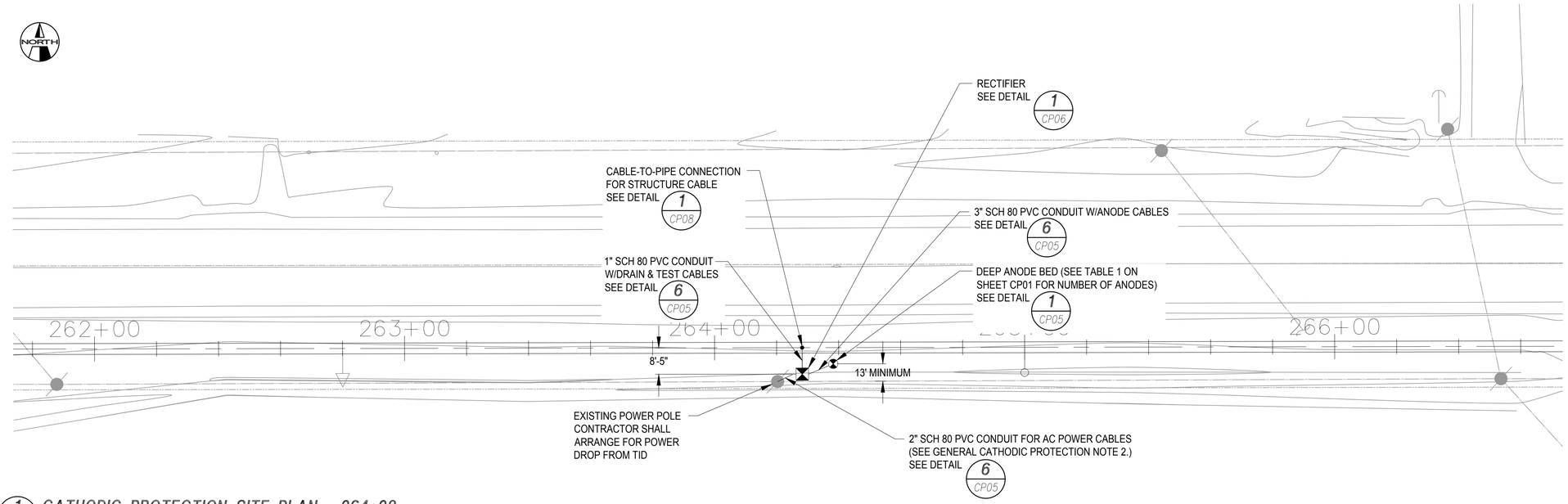
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TURLOCK COMPONENT
CATHODIC PROTECTION SYSTEM
SITE PLANS 51+00 & 130+60

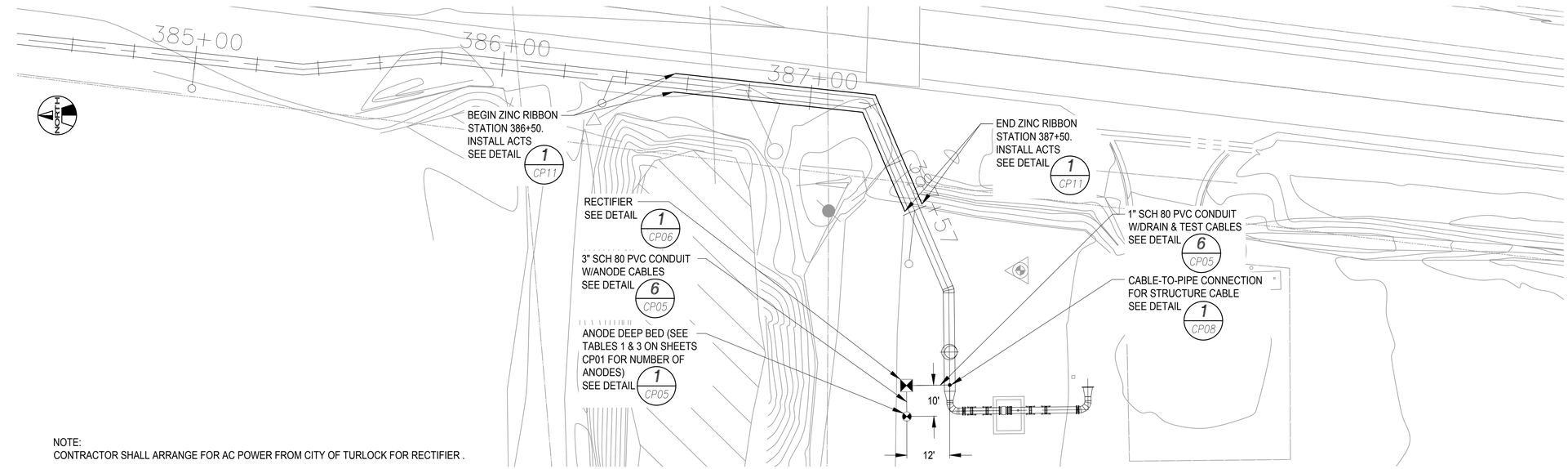
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DRAWING NO. CP03
SHEET NO. 83 OF 122



1 CP04 **CATHODIC PROTECTION SITE PLAN - 264+28**

NOT TO SCALE



NOTE:
CONTRACTOR SHALL ARRANGE FOR AC POWER FROM CITY OF TURLOCK FOR RECTIFIER .

2 CP04 **CATHODIC PROTECTION SITE PLAN - TURLOCK OUTFALL SITE**

NOT TO SCALE

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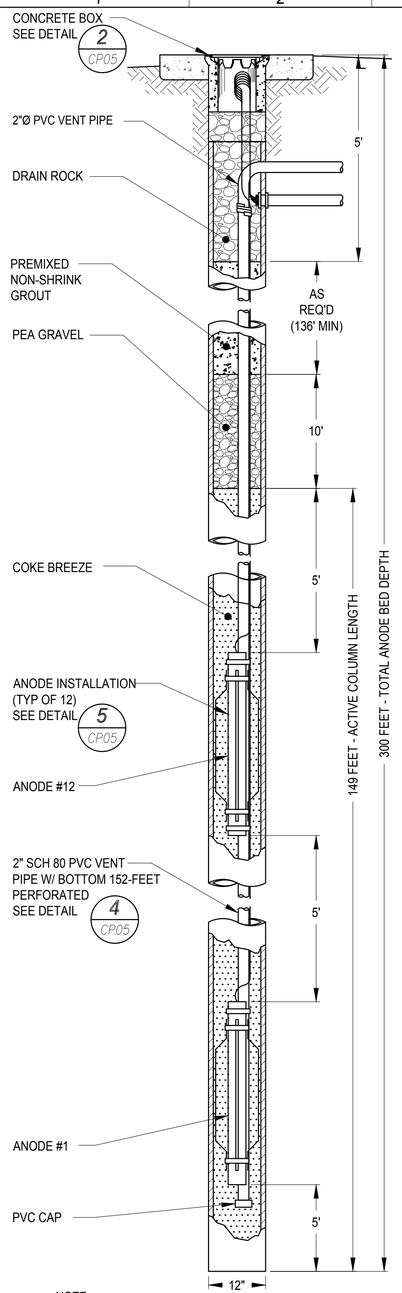
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TURLOCK COMPONENT
CATHODIC PROTECTION SYSTEM
SITE PLANS 264+28 & TURLOCK OUTFALL SITE

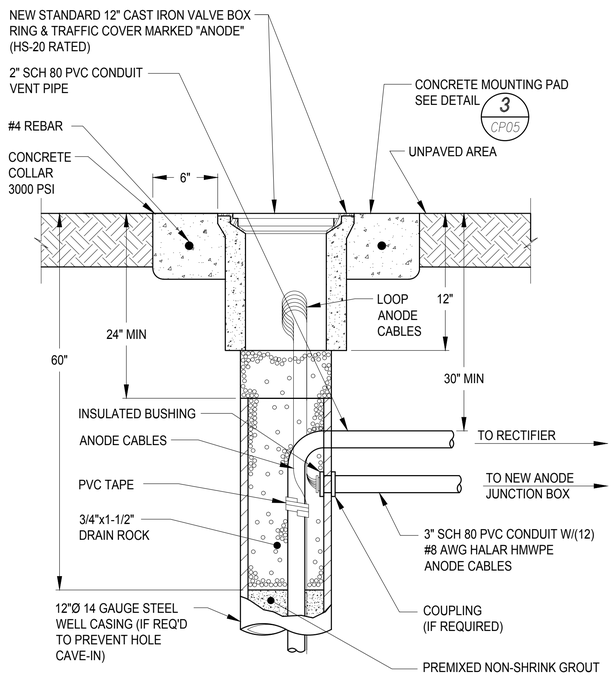
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DRAWING NO. CP04
SHEET NO. 84 OF 122

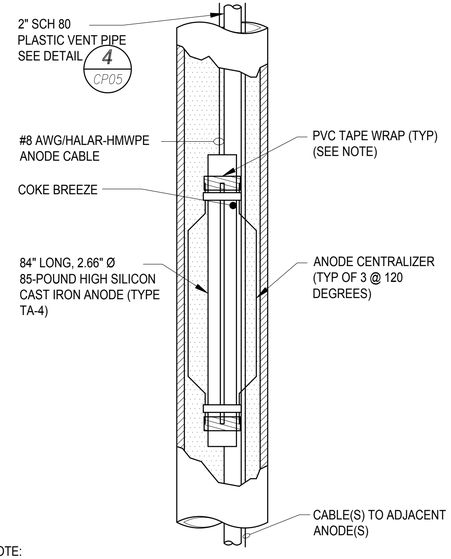


NOTE:
ROCKS, BOULDER, GRAVEL, DEBRIS, ETC MAY BE ENCOUNTERED DURING THE DRILLING OPERATION. THE CONTRACTOR SHALL BE PREPARED FOR ALL ADVERSE CONDITIONS. NO ADDITIONAL COMPENSATION WILL BE PROVIDED TO THE CONTRACTOR

1 DEEP ANODE BED
CP05 NOT TO SCALE

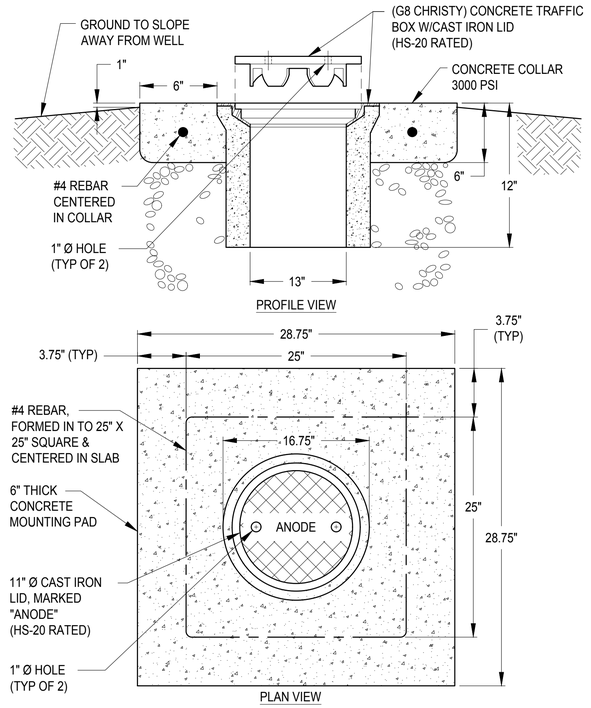


2 CONCRETE BOX
CP05 NOT TO SCALE

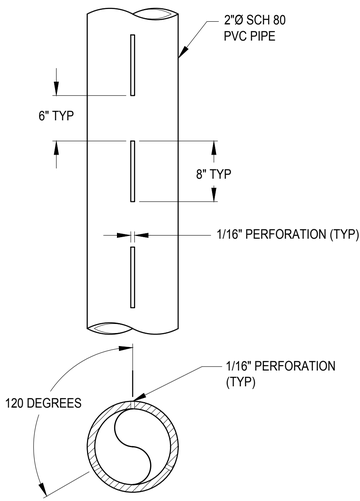


NOTE:
APPLY PVC TAPE TO ENDS OF ANODE CENTRALIZERS TO PREVENT ANY DAMAGE TO CABLES DURING INSTALLATION.

5 ANODE INSTALLATION
CP05 NOT TO SCALE

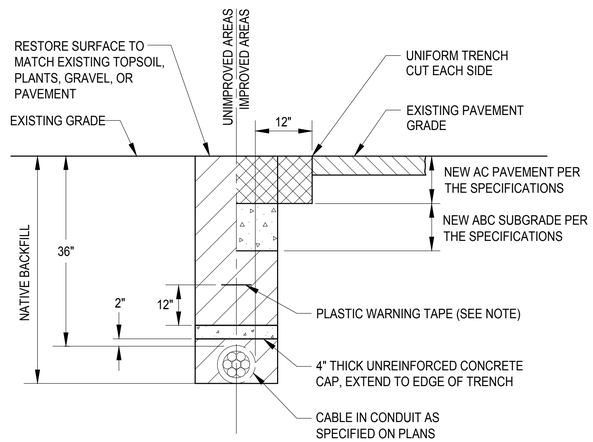


3 CONCRETE MOUNTING PAD
CP05 NOT TO SCALE



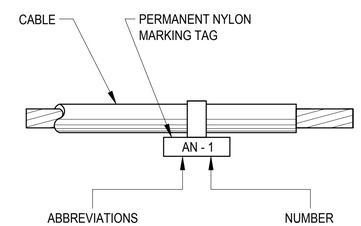
NOTES:
1. PERFORATE ALL LENGTHS OF PIPE THAT WILL BE INSTALLED IN COKE BREEZE.
2. GLUE PVC JOINTS AND SECURE W/(3) $\frac{3}{4}$"-10 SELF-TAPPING SHEET METAL SCREWS.
3. PERFORATION SHALL BE COMPLETED IN THE SHOP. NO FIELD PERFORATION SHALL BE ALLOWED.

4 VENT PIPE
CP05 NOT TO SCALE



NOTE:
THE WARNING TAPE USED FOR ALL CABLES SHALL BE RED BURIAL TAPE.

6 TYPICAL CABLE TRENCH SECTION
CP05 NOT TO SCALE



7 CABLE IDENTIFICATION
CP05 NOT TO SCALE

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REGISTERED PROFESSIONAL ENGINEER DARBY HOWARD SR No. CR 1055 Exp. JUNE 30, 2019 CORROSION STATE OF CALIFORNIA

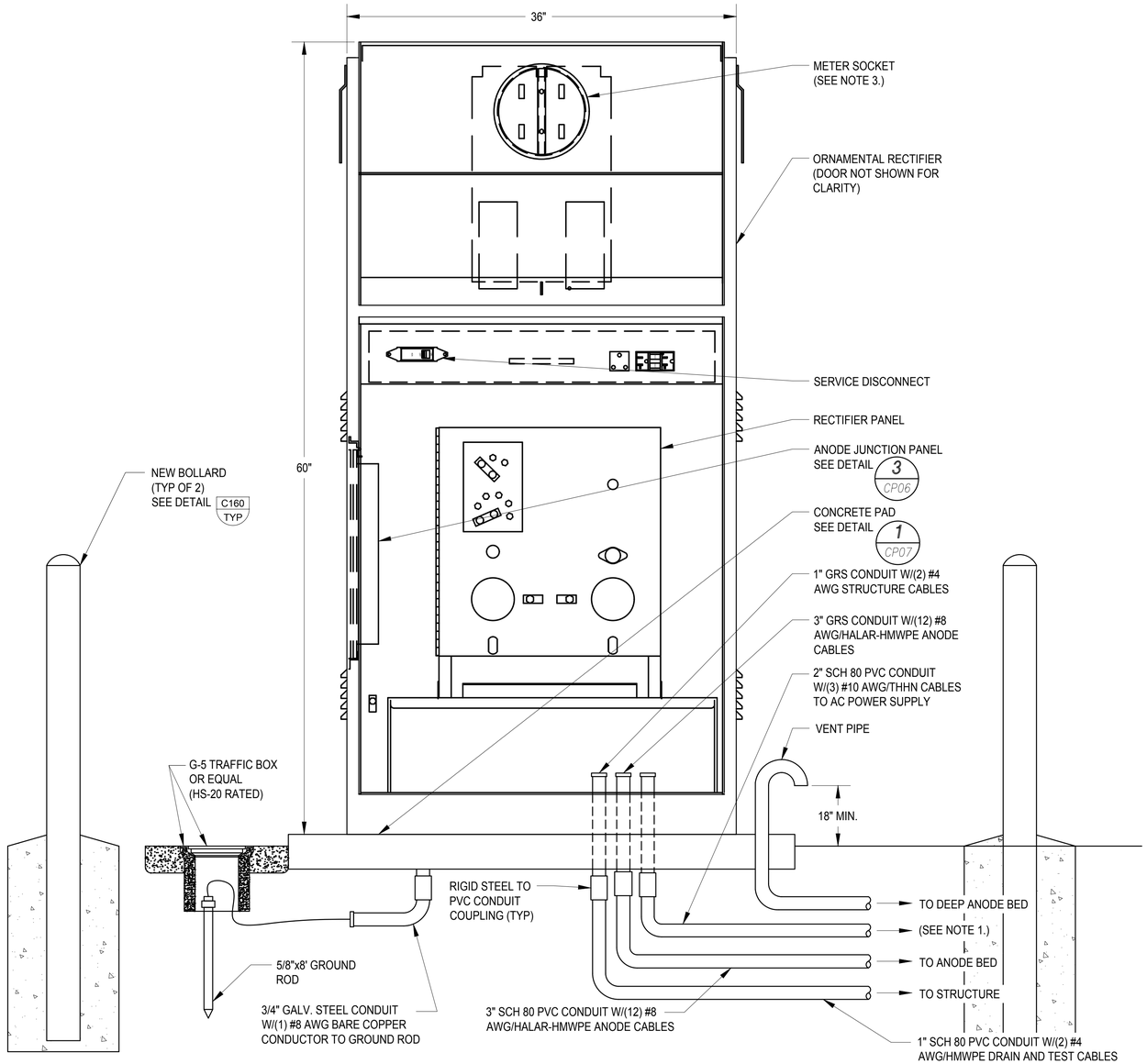
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CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CATHODIC PROTECTION SYSTEM
DETAILS 1

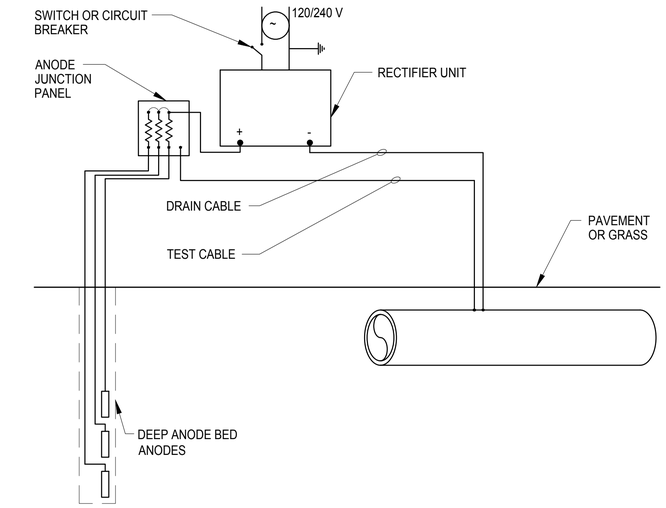
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DRAWING NO. CP05
SHEET NO. 85 OF 122

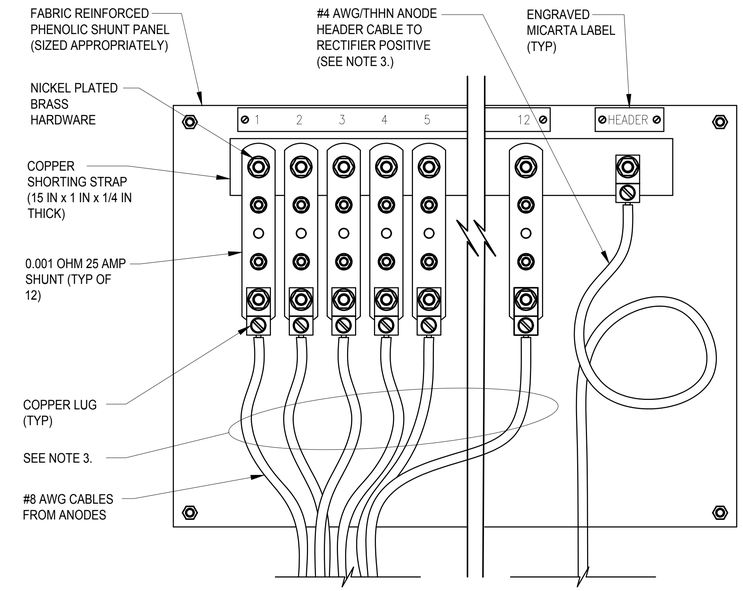


NOTES:
1. USE PVC SCHEDULE 80 CONDUIT UNDERGROUND, AND GALVANIZED RIGID STEEL CONDUIT ABOVE GRADE. THE PORTION OF THE GALVANIZED STEEL CONDUIT, WHICH IS UNDERGROUND BEFORE IT TRANSITIONS TO PVC, SHALL BE PRIMED & TAPE WRAPPED ALONG ENTIRE LENGTH WITH HALF-LAP 10-MIL POLYETHYLENE TAPE.
2. REMOTE MONITORING SYSTEM SHALL BE INSTALLED INSIDE THE RECTIFIER ENCLOSURE.
3. INSTALL AC METER IN AC METER SOCKET FOR RECTIFIERS AT STATIONS 51+00, 130+60, & 264+28. RECTIFIER AT TURLOCK OUTFALL SITE SHALL BE CONNECTED TO AC BREAKER PROVIDED BY CITY OF TURLOCK AND NO METER SOCKET WILL BE REQUIRED.
4. INSTALL RECTIFIER ID PLATE ON EXTERIOR OF RECTIFIER CABINET DOOR, NOT ON METER CABINET DOOR, AS SHOWN IN DETAIL 2/CP07.

1 CP06 RECTIFIER ENCLOSURE W/METER SOCKET
NOT TO SCALE



2 CP06 IMPRESSED CURRENT CATHODIC PROTECTION SCHEMATIC
NOT TO SCALE



NOTES:
1. NUMBER OF SHUNTS SHALL MATCH NUMBER OF ANODES IN DEEP ANODE BED. ONE SHUNT PER ANODE.
2. IDENTIFY CABLES. SEE DETAIL 7/CP05.
3. LEAVE ADEQUATE SLACK IN ALL ANODE CABLE WIRES TO ALLOW SPACE FOR CURRENT TESTING WITH CLAMP ON AMMETER.
4. STRUCTURE TEST CABLE NOT SHOWN.

3 CP05 CP06 ANODE JUNCTION PANEL

REV	DATE	BY	DESCRIPTION

DESIGNED JAW
DRAWN JAW
CHECKED TH
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER DARBY HOWARD JR. No. CR 1055 Exp. JUNE 30, 2019 CORROSION STATE OF CALIFORNIA

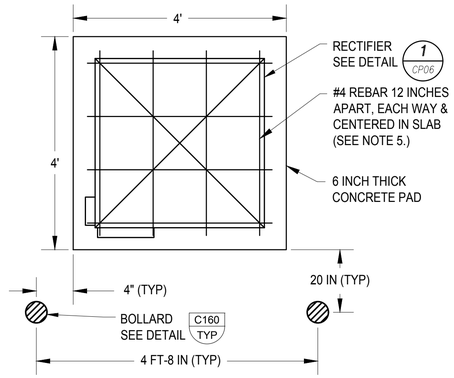
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CITY OF TURLOCK
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TURLOCK COMPONENT
CATHODIC PROTECTION SYSTEM
DETAILS 2

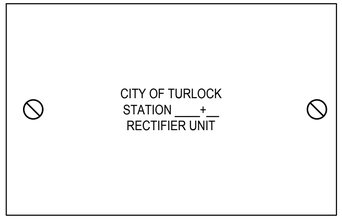
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DRAWING NO. CP06
SHEET NO. 86 OF 122



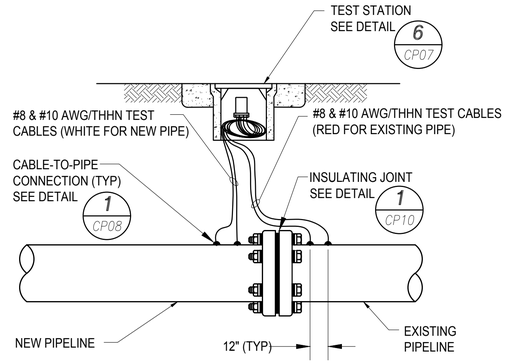
NOTE:
1. BOLLARDS ARE SHOWN IN THE CP STATION SITE PLANS, ARE INDICATED AS NEEDED AT EACH SITE.
2. BOLLARDS SHALL BE INSTALLED WITH SUFFICIENT SPACE FROM THE CABINETS TO ALLOW FULL OPERATION OF THE CABINET DOORS.
3. CONCRETE MIX SHALL BE TYPE II CONCRETE WITH A WATER-TO-CEMENT RATIO BY WEIGHT NOT TO EXCEED .55 AND SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3,000 psi.
4. CONCRETE REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, DEFORMED.

1 CP07 CONCRETE PAD FOR RECTIFIER
NOT TO SCALE



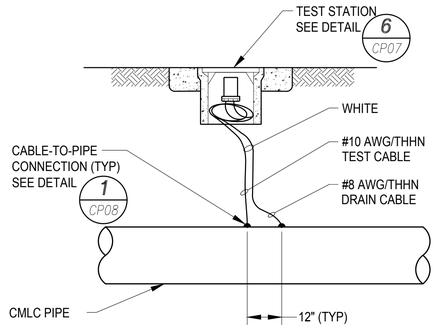
NOTES:
1. THE ENGRAVED MICARTA PLATES SHALL BE 3/16 INCH THICK AND LETTERING SHALL BE 3/8 INCH HIGH, WHITE ON BLACK.
2. THE PLATES SHALL BE BOLTED TO THE RECTIFIER CABINET WITH 1/4 INCH DIAMETER BRASS BOLTS.

2 CP07 RECTIFIER I.D. PLATE
NOT TO SCALE



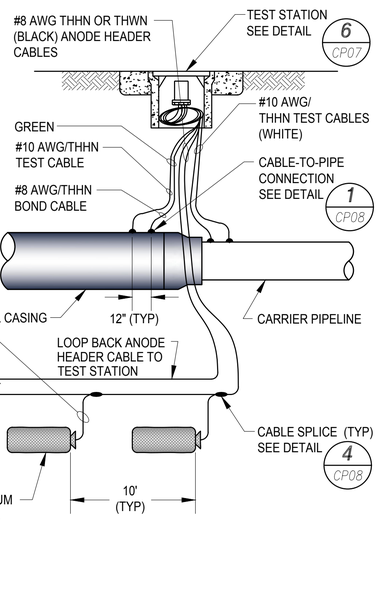
NOTE:
BELOW GRADE INSULATING JOINT COATING NOT SHOWN FOR CLARITY.

3 CP07 IJTS - INSULATING JOINT TEST STATION
NOT TO SCALE



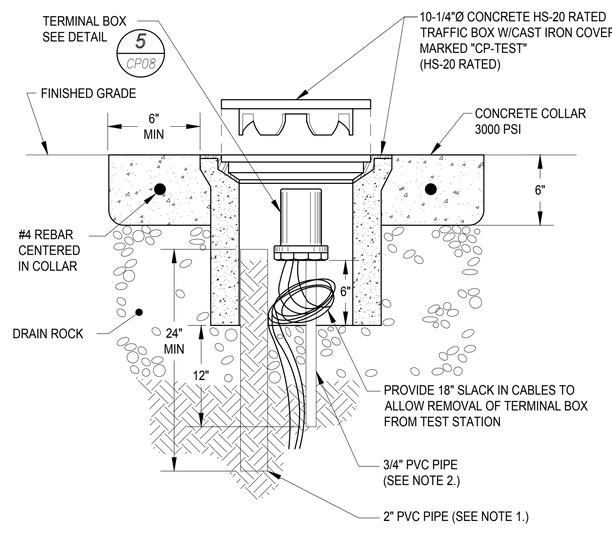
NOTES:
1. INSTALL BOND CABLES ON ALL BURIED, NON-WELDED JOINTS (EXCEPT INSULATING JOINTS) PER DETAIL 2/CP10.
2. COAT ALL BURIED BOLTS & NUTS WITH BITUMASTIC, AND ENCASE ALL DUCTILE IRON PIPE AND FITTINGS IN POLYETHYLENE PER CATHODIC PROTECTION GENERAL NOTE 1. ON SHEET CP01.

4 CP07 CTS - TEST STATION
NOT TO SCALE



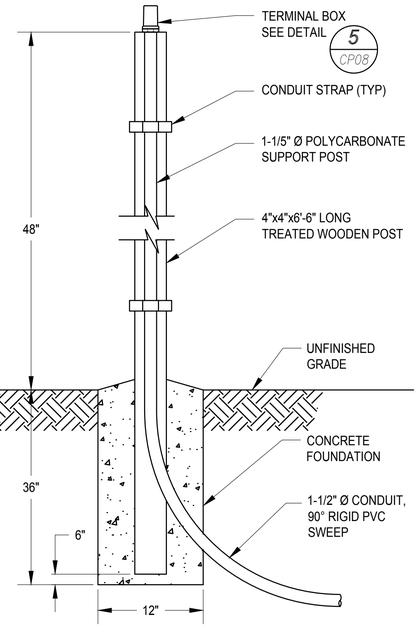
NOTE:
1. ANODE QUANTITY AND SIZE AS FOLLOWS:
   - USE TEN (10) 32LB ANODES FOR STATIONS: 47+80, 50+40, 235+00, AND 237+50
   - USE THREE (3) 32LB ANODES FOR STATION: 183+80 & 184+40
2. IDENTIFY CABLES PER DETAIL 7/CP05.

5 CP07 CATS - CASING TEST STATION W/ANODES
NOT TO SCALE



NOTES:
1. INSTALL 2" PVC PIPE IN CLEAN NATIVE SOIL. FILL PIPE WITH CLEAN SOIL, FREE FROM ROCKS & DEBRIS.
2. INSTALL 18" LENGTH OF 3/4" PVC PIPE TO ENSURE THAT THE TERMINAL BOX WILL REMAIN IN THE UPRIGHT POSITION. POSITION THE PIPE SO THAT THE TERMINAL BOX WILL BE AS HIGH AS POSSIBLE WITH THE CAST IRON LID STILL CLOSING PROPERLY.
3. IDENTIFY CABLES PER DETAIL 7/CP05

FINISHED GRADE - FLUSH MOUNTED TEST STATION



NOTES:
1. POST MOUNTED TEST STATIONS SHALL BE USED FOR TEST STATIONS IN UNFINISHED GRADE.
2. IDENTIFY CABLES PER DETAIL 7/CP05.

UNFINISHED GRADE - POST MOUNTED TEST STATION

6 CP07 TEST STATION INSTALLATION
NOT TO SCALE

REV	DATE	BY	DESCRIPTION

DESIGNED JAW
DRAWN JAW
CHECKED TH
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER — DARBY HOWARD, No. CH 1055, Exp. JUNE 30, 2019, CHEMICAL — CORROSION — STATE OF CALIFORNIA

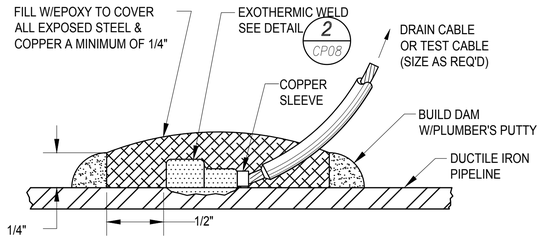
jdh corrosion consultants, inc.
1100 Willow Pass Court Concord, CA 94520
(925)927-6630 FAX (925)927-6634
WWW.JDHCORROSION.COM

CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

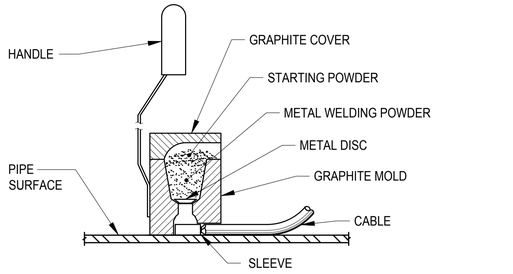
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CATHODIC PROTECTION SYSTEM
DETAILS 3

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

JOB NO. 10595A.10
DRAWING NO. CP07
SHEET NO. 87 OF 122



1 CABLE-TO-PIPE CONNECTION
CP08 NOT TO SCALE



STEP 1. FILE STRUCTURE CONNECTION AREA TO BARE SHINY METAL AND CLEAN.

STEP 2. STRIP INSULATION FROM WIRE. ATTACH SLEEVE REQUIRED ON #6 AWG WIRE OR SMALLER

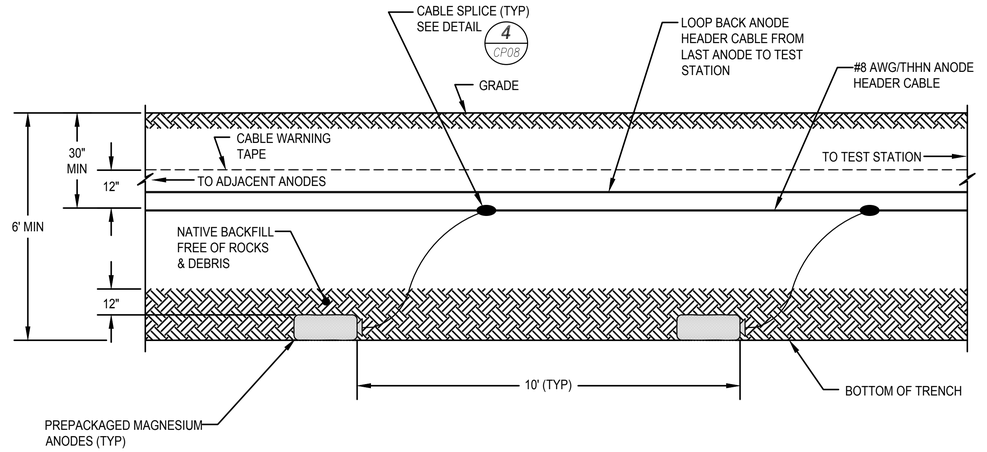
STEP 3. HOLD MOLD FIRMLY WITH OPENING AWAY FROM OPERATOR AND IGNITE WITH FLINT GUN.

STEP 4. REMOVE SLAG FROM CONNECTION AND PEEN WELD FOR SOUNDNESS.

STEP 5. COVER CONNECTION AND EXPOSED STRUCTURE SURFACE WITH EPOXY COATING COMPOUND PER DETAIL 1/CP08.

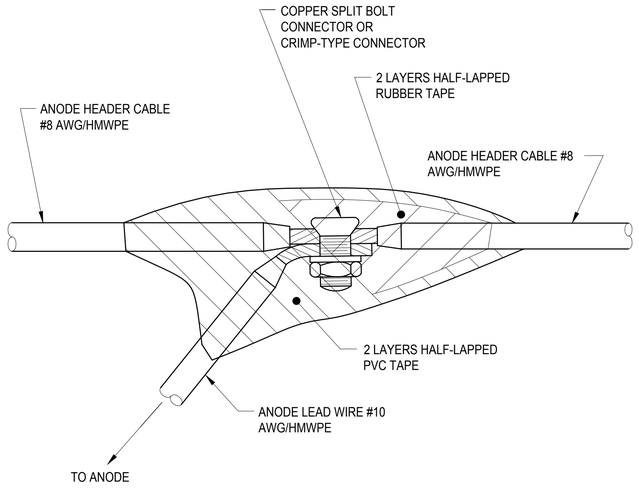
NOTE:
PROCEDURE SHOWN ABOVE IS TO BE USED AS A GENERAL GUIDE ONLY. CONSULT MANUFACTURER'S LITERATURE FOR SPECIFIC INSTALLATION INSTRUCTIONS.

2 CABLE-TO-PIPE CONNECTION
CP08 NOT TO SCALE

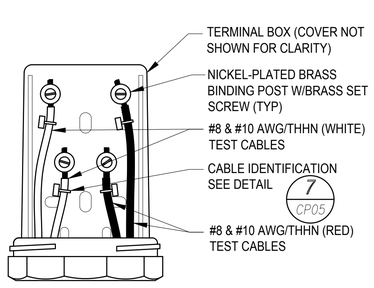


NOTE:
INSTALL ANODES PARALLEL TO THE PIPELINE AND 5 FT. OFF THE PIPE.

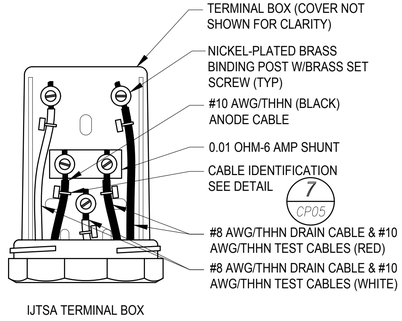
3 PROFILE - MULTIPLE HORIZONTAL ANODE INSTALLATION
CP08 NOT TO SCALE



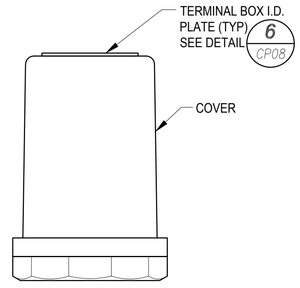
4 SPLICE CONNECTION
CP08 NOT TO SCALE



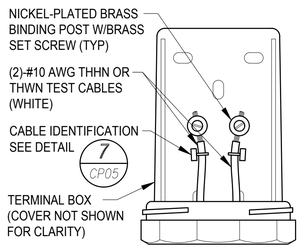
IJTS TERMINAL BOX



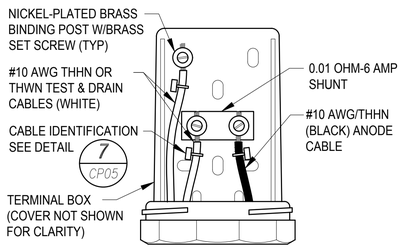
IJTSA TERMINAL BOX



TERMINAL BOX & COVER



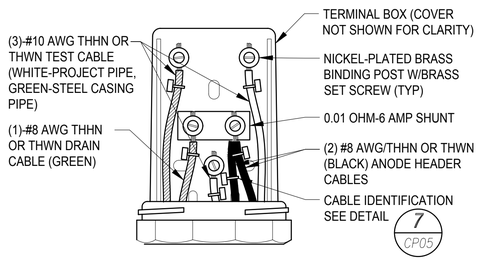
CTS TERMINAL BOX



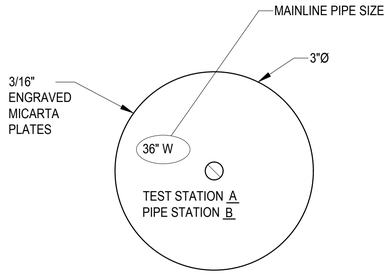
ATS TERMINAL BOX

NOTE:
IDENTIFY ALL CABLES PER DETAIL 7/CP05.

5 TERMINAL BOX
CP08 NOT TO SCALE



CATS TERMINAL BOX



TERMINAL BOX TEST STATION I.D. PLATE

LEGEND

A -	INDICATES TEST STATION TYPE: ACTS, CATS, CTS & IJTS
B -	INDICATES PIPE STATIONING XXX + XX

NOTES:
1. THE ENGRAVED LETTERING SHALL BE 3/8" HIGH, WHITE ON BLACK.
2. THE PLATES SHALL BE BOLTED TO THE TEST STATION TERMINAL BOX LID WITH 1/8" BRASS BOLTS.

6 IDENTIFICATION PLATE
CP08 NOT TO SCALE

REV	DATE	BY	DESCRIPTION

DESIGNED JAW
DRAWN JAW
CHECKED TH
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER DARBY HOWARD No. CR 1055 Exp. Jan. 30, 2019 CORROSION STATE OF CALIFORNIA

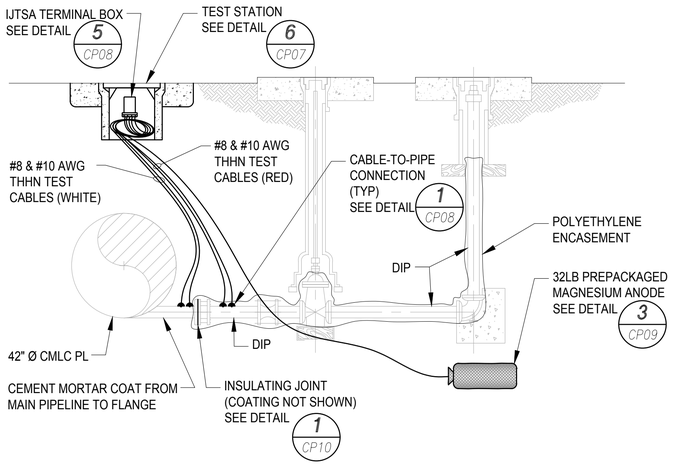
jdh corrosion consultants, inc.
1100 Willow Pass Court Concord, CA 94520
(925)927-6630 FAX (925)927-6634
WWW.JDHCORROSION.COM

CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CATHODIC PROTECTION SYSTEM
DETAILS 4

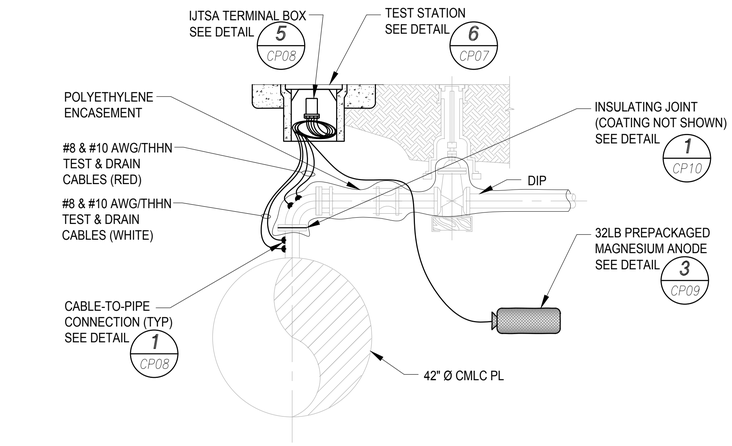
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10595A.10
DRAWING NO. CP08
SHEET NO. 88 OF 122



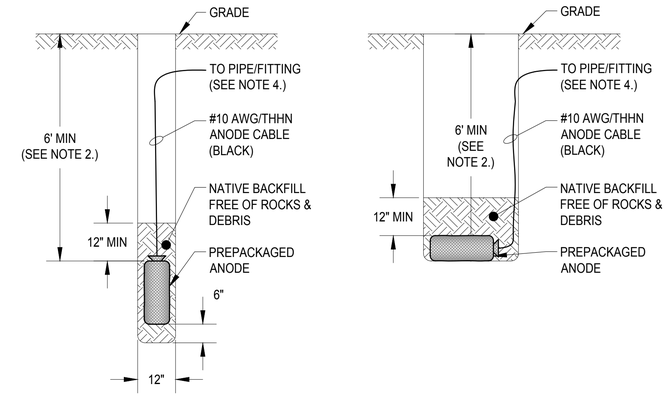
NOTES:
1. IF DUCTILE IRON OPTION IS CHOSEN FOR THE 42" Ø PIPE, OMIT INSULATING FLANGE, TEST STATION, MAGNESIUM ANODE AND #10 CABLES.
2. INSTALL ONE (1) #8 BOND CABLE AT EACH NON-WELDED, NON-INSULATING JOINT PER DETAIL 2/CP10.

1 CP09 BLOW-OFF ASSEMBLY
NOT TO SCALE



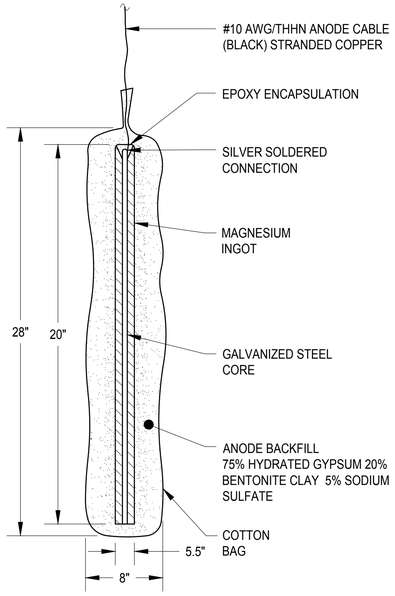
NOTES:
1. IF DUCTILE IRON OPTION IS CHOSEN FOR THE 42" Ø PIPE, OMIT INSULATING FLANGE, TEST STATION, MAGNESIUM ANODE AND #10 CABLES.
2. INSTALL ONE (1) #8 BOND CABLE AT EACH NON-WELDED, NON-INSULATING JOINT PER DETAIL 2/CP10.

2 CP09 AIR VALVE ASSEMBLY
NOT TO SCALE



NOTES:
1. INSTALL ANODES 3 FEET OFF THE PIPE/FITTING IN NATIVE SOIL.
2. THE ANODES MAY BE INSTALLED HORIZONTALLY OR VERTICALLY UPON DISCRETION OF THE CONTRACTOR.
3. MAINTAIN A MIN. DISTANCE OF 10 FEET BETWEEN ANODES IF MULTIPLE ANODES ARE INSTALLED.
4. CONNECT ANODE CABLE TO TEST STATION OR DIRECTLY TO PIPE OR FITTING AS SHOWN IN THE DRAWINGS.

3 CP09 PROFILE - ANODE INSTALLATION
NOT TO SCALE



4 CP09 32-LB GALVANIC PREPACKAGED MAGNESIUM ANODE
NOT TO SCALE

REV	DATE	BY	DESCRIPTION

DESIGNED JAW
DRAWN JAW
CHECKED TH
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER — DARBY HOWARD — No. CH 1055 — EXP. MAY 30, 2019 — CORROSION — STATE OF CALIFORNIA

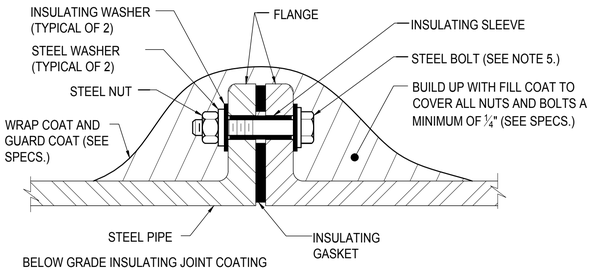
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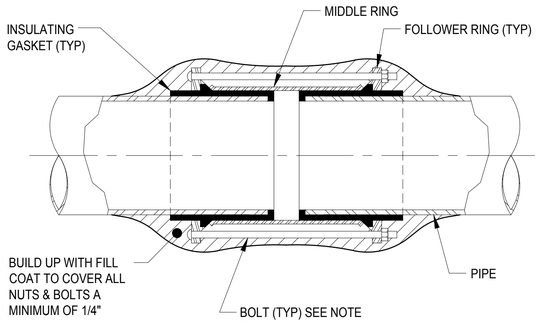
CITY OF TURLOCK — INC. 1908
STANISLAUS COUNTY, CALIFORNIA

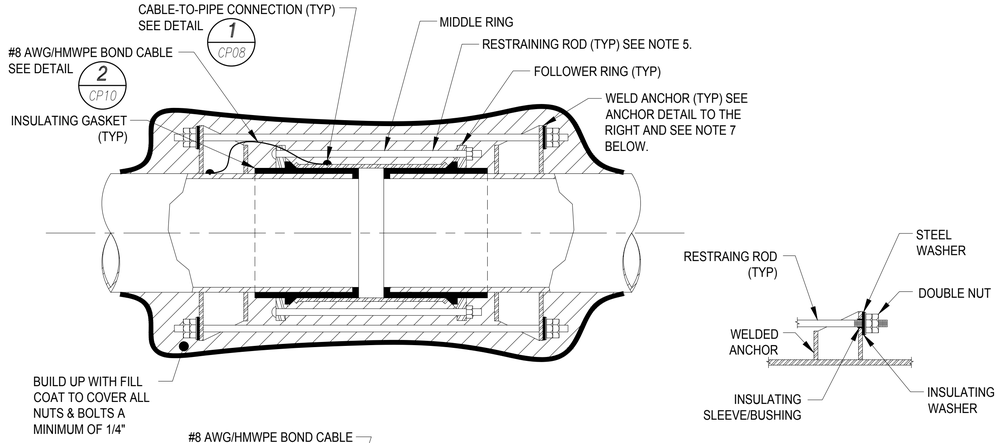
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CATHODIC PROTECTION SYSTEM
DETAILS 5

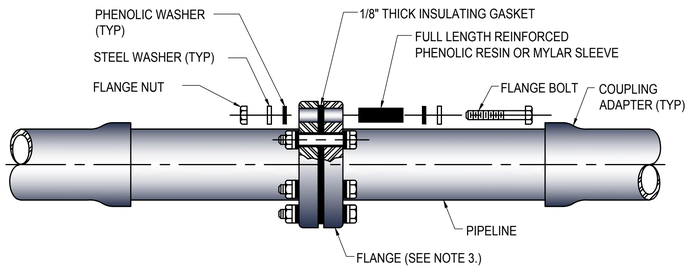
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10595A.10
DRAWING NO. CP09
SHEET NO. 89 OF 122

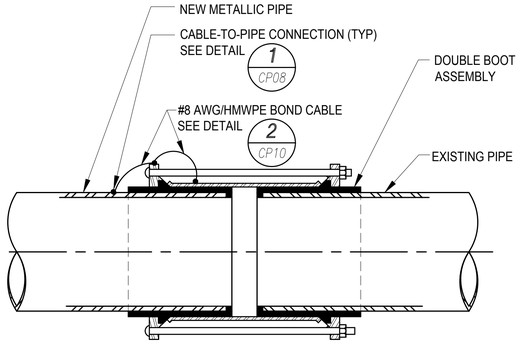




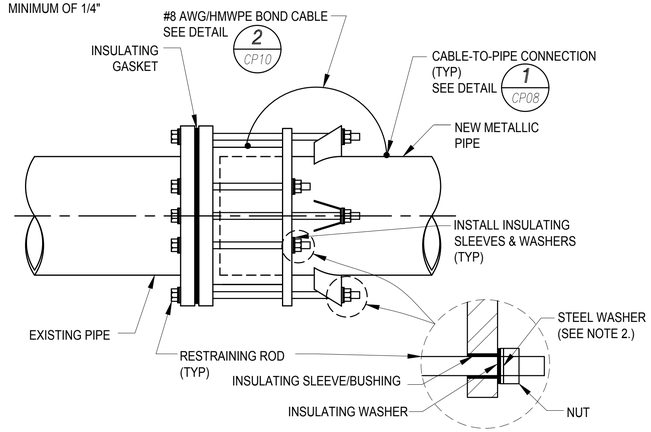




INSULATING FLANGE



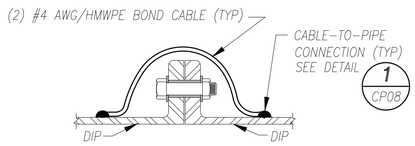
INSULATING FLEXIBLE COUPLING



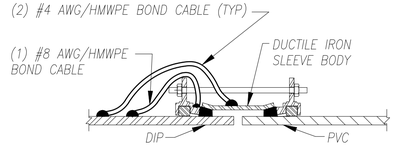
INSULATING FLANGED COUPLING ADAPTER

NOTES:
1. OMIT COATING IF INSULATING JOINT IS LOCATED ABOVE GRADE OR IN VAULTS.
2. THE INSULATING FLANGE KIT SHALL BE FOR WATER SERVICE, SUITABLE FOR WET & DRY LOCATIONS, AND BE OF SAME PRESSURE RATING AS THE FLANGE.
3. THIS DETAIL IS TYPICAL FOR STEEL AND DUCTILE IRON PIPE FLANGES, AND ALSO FOR STEEL PIPE INSULATING FLEXIBLE COUPLINGS AND INSULATED RESTRAINED FLEXIBLE COUPLINGS.
4. THE ALLOY OF THE STEEL WASHERS SHALL BE THE SAME AS IS SPECIFIED FOR THE FLANGE BOLTS.
5. UNLESS OTHERWISE SPECIFIED, ONLY STAINLESS STEEL RODS, BOLTS, NUTS, AND WASHERS SHALL INSTALLED.
6. ENSURE APPLICATION OF FILL COAT TO COVER ALL RESTRAINING ROD ASSEMBLIES.
7. ALL INSULATING JOINTS SHALL BE TESTED AND APPROVED PRIOR TO BACKFILL.

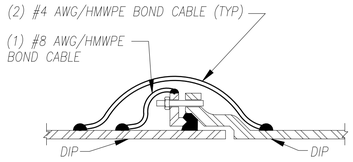
1 INSULATING JOINT
CP10 NOT TO SCALE



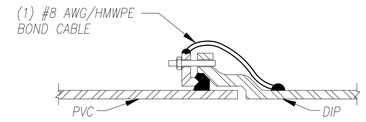
FLANGED JOINT



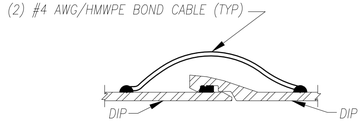
RESTRAINED COUPLING - DIP-TO-PVC



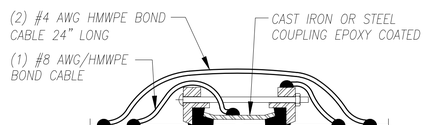
MECHANICAL JOINT



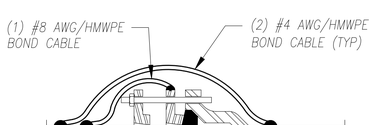
MECHANICAL JOINT - DIP-TO-PVC



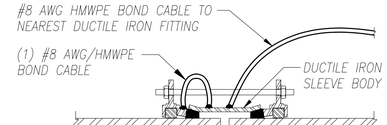
PUSH-ON JOINT



FLEXIBLE COUPLING

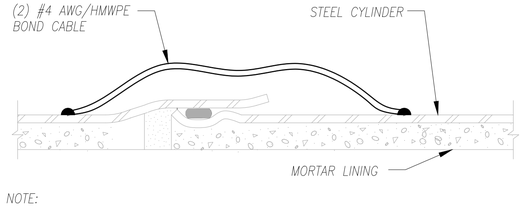


TANDEM MEGALUG MECHANICAL JOINT RESTRAINT



RESTRAINED COUPLING - PVC-TO-PVC

2 BOND CABLE INSTALLATION
CP10 NOT TO SCALE



NOTE:
MORTAR COATING NOT SHOWN.

CMLC STEEL PIPE - BELL & SPIGOT JOINT

REV	DATE	BY	DESCRIPTION

DESIGNED JAW
DRAWN JAW
CHECKED TH
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER — DARBY HOWARD, JR. — No. CR 1055 — Exp. 12/31/2019 — CORROSION — STATE OF CALIFORNIA

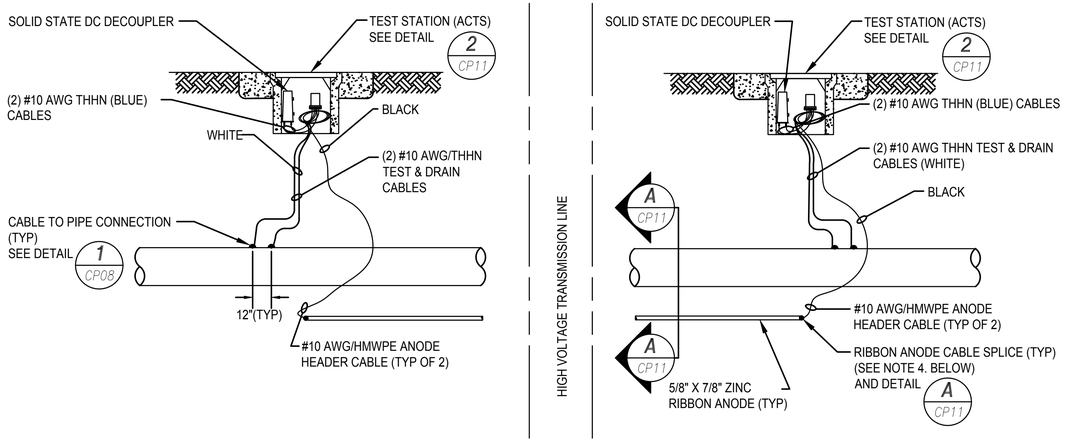
jdh corrosion consultants, inc.
1100 Willow Pass Court Concord, CA 94520
(925)927-6630 FAX (925)927-6634
WWW.JDHCORROSION.COM

STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CATHODIC PROTECTION SYSTEM
DETAILS 6

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

JOB NO. 10595A.10
DRAWING NO. CP10
SHEET NO. 90 OF 122

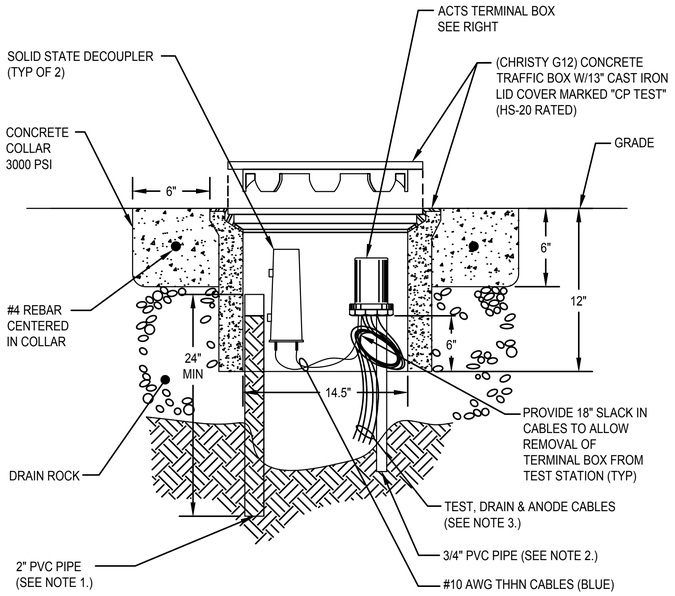


SCHEDULE OF ACTS PAIR FOR ZINC RIBBON INSTALLATION

ACTS STATION	ACTS STATION	COMMENTS
386+50	387+50	INSTALL 2 ZINC RIBBONS FROM 386+50 TO 387+50

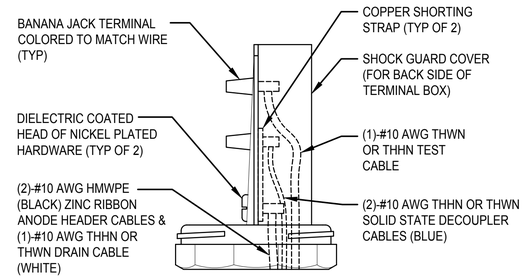
NOTES:
1. INSTALL ZINC RIBBON IN AREAS WITH HIGH VOLTAGE AC TRANSMISSION LINE CROSSING.
2. TWO ZINC RIBBON ANODES SHALL BE INSTALLED AT PIPE DEPTH AND A MINIMUM OF 3 FEET OFF THE CENTERLINE OF THE WATER PIPELINE IN NATIVE SOIL. SEE PROFILE DETAIL A/CP11.
3. THE ZINC RIBBONS SHALL BE INSTALLED BETWEEN TWO ACTS TEST STATIONS AS SHOWN.
4. THE 0.13" DIA. STEEL CORE IN THE ZINC RIBBON SHALL BE BARED TO SPLICE THE ANODE TO THE CABLE OR TO ANOTHER RIBBON ANODE.
5. INSTALL SOLID STATE DC DECOUPLER AT EACH INSULATING FLANGE AS SHOWN ABOVE.
6. USE DEAD FRONT TERMINALS FOR ALL WIRE TERMINATIONS IN TERMINAL BOX.
7. DO NOT ENCASE ZINC RIBBON ANODES WITH CONCRETE SLURRY BACKFILL.

1 ACTS - AC MITIGATION TEST STATION (DUCTILE IRON OPTION ONLY)
CP11 NOT TO SCALE

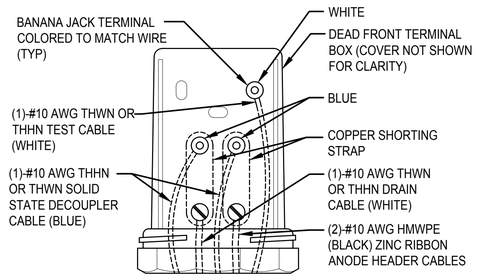


NOTES:
1. INSTALL 2" PVC PIPE IN CLEAN NATIVE SOIL. FILL PIPE WITH CLEAN SOIL, FREE FROM ROCKS & DEBRIS.
2. INSTALL 18" LENGTH OF 3/4" PVC PIPE TO ENSURE THAT THE TERMINAL BOX WILL REMAIN IN THE UPRIGHT POSITION. POSITION THE PIPE SO THAT THE TERMINAL BOX WILL BE AS HIGH AS POSSIBLE WITH THE CAST IRON LID STILL CLOSING PROPERLY.
3. ROUTE CABLE FROM EACH ZINC RIBBON ANODE TO TERMINAL BOX AS STRAIGHT AS POSSIBLE WITHOUT ANY BENDS.

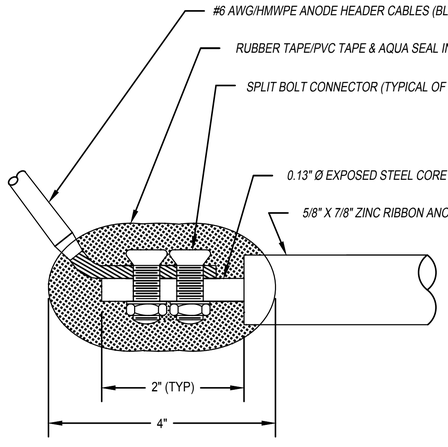
2 FLUSH MOUNTED TEST STATION CONCRETE BOX FOR ACTS (DUCTILE IRON OPTION ONLY)
CP11 NOT TO SCALE



ACTS TERMINAL BOX - SIDE VIEW

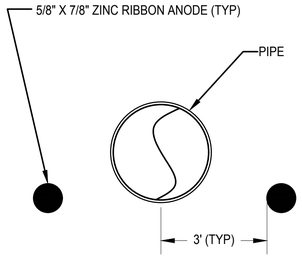


ACTS TERMINAL BOX - FRONT VIEW



NOTES:
1. EXPOSE THE 0.13" DIA STEEL CORE IN THE ZINC RIBBON AND SPLICE THE ANODE TO THE ANODE HEADER CABLE OR TO ANOTHER RIBBON ANODE.
2. CLEAN ALL METAL PARTS OF THE SPLICE USING SANCHEM'S NO-OX-ID OR EQUAL
3. COAT COMPLETED SPLICE CONNECTION WITH TWO HALF-LAPPED LAYERS OF SCOTCH 130C OR EQUAL RUBBER TAPE, FOLLOWED BY TWO HALF LAPPED LAYERS OF SCOTCH 33+ OR EQUAL PVC TAPE.
4. ENCAPSULATE THE COMPLETED COATED SPLICE CONNECTION WITH COOPER POWER SYSTEMS 1" WIDE AQUA SEAL TAPE OR EQUAL.

3 RIBBON ANODE CABLE SPLICE CONNECTION (DUCTILE IRON OPTION ONLY)
CP11 NOT TO SCALE



NOTE:
DO NOT ENCASE ZINC RIBBON ANODES WITH CONCRETE SLURRY BACKFILL.

A PROFILE - ZINC RIBBON INSTALLATION (DUCTILE IRON OPTION ONLY)
CP11 NOT TO SCALE

REV	DATE	BY	DESCRIPTION

DESIGNED JAW
DRAWN JAW
CHECKED TH
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER — DARBY HOWARD — No. CR 1055 — My Renewal 10-30-2019 — CORROSION — STATE OF CALIFORNIA

jdh corrosion consultants, inc.
1100 Willow Pass Court Concord, CA 94520
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STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CATHODIC PROTECTION SYSTEM
DETAILS 7

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

JOB NO. 10595A.10
DRAWING NO. CP11
SHEET NO. 91 OF 122

ELECTRICAL PLAN SYMBOLS

IDENTIFICATION SYMBOLS

EQUIP # — EQUIPMENT AND INSTRUMENT IDENTIFICATION

EQUIPMENT/INSTRUMENT LOCATOR

LUMINAIRE IDENTIFICATION
- a = CIRCUIT DESIGNATION
- b = DEVICE SWITCHED FROM
- c = MOUNTING HEIGHT IN FEET TO BOTTOM OF FIXTURE

XXXX — CONDUIT IDENTIFICATION
- XXXX = CONDUIT NUMBER, REFER TO CONDUIT SCHEDULE

UNLESS OTHERWISE NOTED, GROUPED CONDUITS ARE LABELED LEFT TO RIGHT OR TOP TO BOTTOM.

INDICATES KEYNOTE X
(PERTAINS ONLY TO SHEET WHERE NOTE IS FOUND)

DISCONNECT SWITCH
- A = TYPE, REFER TO DISCONNECT SCHEDULE

LUMINAIRES

LINEAR FIXTURE

2' X 2' LAY-IN TROFFER

2' X 4' LAY-IN TROFFER

LUMINAIRE POLE MOUNTED

GO/NO-GO PANEL - STROBE AND HORN
- R = RED LIGHT
- G = GREEN LIGHT
- H = HORN

GO/NO-GO PANEL - SOLID

GO/NO-GO PANEL - STROBE

LUMINAIRE, EMERGENCY BATTERY-POWERED

LUMINAIRE, EMERGENCY/EXIT BATTERY-POWERED

LUMINAIRE, EMERGENCY BATTERY-POWERED REMOTE

LUMINAIRE, SURFACE OR PENDANT MOUNTED

LUMINAIRE, WALL MOUNTED

LUMINAIRE, FLOOD/SPOT

LUMINAIRE, EXIT ONE OR TWO FACES AS INDICATED.
ARROW POINTS IN DIRECTION OF EGRESS.

LUMINAIRE, WALL WASHER

SWITCHES/RECEPTACLES

SINGLE POLE SWITCH
- a = CIRCUIT DESIGNATION
- b = DEVICE SWITCHED DESIGNATION
- c = TYPE
  - 2 = DOUBLE POLE SWITCH
  - 3 = THREE-WAY SWITCH
  - 3P = THREE POSITION SWITCH
  - 4 = FOUR-WAY SWITCH
  - K = KEY OPERATED SWITCH
  - F = SWITCH AND FUSESTAT HOLDER
  - P = SWITCH AND PILOT LIGHT
  - T = THERMOSTAT
  - D = DIMMER SWITCH
  - L = LOW VOLTAGE LIGHT SWITCH
  - M = MANUAL MOTOR STARTER
  - N = NETWORKED SINGLE OR MULTIPLE SWITCH LOCATIONS

REFER TO ABBREVIATIONS LEGEND FOR ALL OTHER DESIGNATIONS.

OCCUPANCY SENSOR
- X = REFERENCE LIGHTING CONTROL COMPONENT SCHEDULE
- a = CIRCUIT DESIGNATION
- b = DEVICE SWITCHED DESIGNATION
- c = MOUNTING HEIGHT IN FEET TO BOTTOM OF SENSOR

PE — PHOTOCELL

SWITCH AND SINGLE RECEPTACLE
- a = CIRCUIT DESIGNATION
- b = DEVICE TYPE DESIGNATION

DUPLEX RECEPTACLE

QUADRUPLEX RECEPTACLE

IN FLOOR DUPLEX RECEPTACLE

IN FLOOR QUADRUPLEX RECEPTACLE

DUPLEX RECEPTACLE w/SPLIT WIRE

APPLIANCE RECEPTACLE

SPECIAL PURPOSE RECEPTACLE

WELDING RECEPTACLE
- a = CIRCUIT DESIGNATION
- b = DISCONNECT TYPE

TWIST LOCK RECEPTACLE
- a = AMP RATING

TELEPHONE OUTLET
- a = CIRCUIT DESIGNATION
- b = MOUNTING HEIGHT

DATA COMMUNICATIONS OUTLET
- a = CIRCUIT DESIGNATION
- b = MOUNTING HEIGHT

FIRE ALARM

SMOKE DETECTOR
- a = TYPE
- I = IONIZATION
- P = PHOTOELECTRIC
- d = DUCT DETECTOR

FACP — FIRE ALARM CONTROL PANEL

FIRE ALARM PULL STATION

FIRE ALARM HORN/STROBE COMBINATION

FIRE ALARM STROBE

FIRE SPRINKLER
- F = FLOW SWITCH
- T = TAMPER SWITCH

RACEWAY

EXPOSED CONDUIT

BREAK AND CONTINUATION IN CONDUIT RUN

EXPOSED CONDUIT HIDDEN BEHIND WALLS, FLOORS OR OTHER STRUCTURES

UNDERGROUND CONDUIT, DIRECT BURIED OR IN DUCT BANK

CONDUIT IN SLAB

CONDUIT VERTICAL CHANGE IN DIRECTION

CONDUIT CAP

JUNCTION BOX

CONDUIT SEAL

CONDUIT TEE

DUCT BANK
APPROXIMATE DIMENSIONS
SHOWN ON DUCT BANK SECTIONS

CONDUIT SIZE AND CONDUCTORS

INDIVIDUAL CONDUCTORS

W"C-(3-X (Ø), 1-Y (N) & 1-Z (G))

W"C (WHERE INDICATED): W = CONDUIT TRADE SIZE

3-X (Ø):
- 3 = QUANTITY
- X = SIZE OF CONDUCTORS
- (Ø) = DESIGNATES PHASE CONDUCTORS

1-Y (N)(WHERE INDICATED):
- 1 = QUANTITY
- Y = SIZE OF CONDUCTORS
- (N) = DESIGNATES NEUTRAL CONDUCTORS

1-Z (G)(WHERE INDICATED):
- 1 = QUANTITY
- Z = SIZE OF CONDUCTORS
- (G) = DESIGNATES GROUND CONDUCTORS

U{3-X (Ø) & 1-X (G)}

U = NUMBER OF PARALLEL RUNS

MULTI CONDUCTOR CABLES

K/2/C#16S
- K (WHERE INDICATED) = NUMBER OF PAIRS
- 2/C#16S = TWO CONDUCTOR, 16 GAUGE, TWISTED SHIELDED PAIR

K/3/C#16S
- K (WHERE INDICATED) = NUMBER OF TRIPLETS
- 3/C#16S = THREE CONDUCTOR, 16 GAUGE, TWISTED SHIELDED TRIPLETS

N/CX
- N = NUMBER OF CONDUCTORS IN THE CABLE
- X = SIZE OF CONDUCTORS

FIBER OPTIC CABLES

FO/N
- N = NUMBER OF INDIVIDUAL FIBERS

GROUNDING

UNDERGROUND GROUND CABLE
#4/0 SDBC UNLESS OTHERWISE NOTED

GROUND ROD

GROUND ROD AND GROUND WELL

ELECTRICAL ONE-LINE SYMBOLS

MEDIUM VOLTAGE

CIRCUIT BREAKER, MEDIUM VOLTAGE
- a = CIRCUIT BREAKER NUMBER
- b = FRAME SIZE

ANSI RELAY DEVICE
- a = ANSI DEVICE FUNCTION
- b = QUANTITY

MEDIUM VOLTAGE DISCONNECT SWITCH NON-FUSED CUT OUT

MEDIUM VOLTAGE DISCONNECTING FUSE SINGLE FUSE CUT OUT

MEDIUM VOLTAGE DISCONNECTING FUSE DOUBLE FUSE CUT OUT

MEDIUM VOLTAGE SINGLE FUSE

MEDIUM VOLTAGE DOUBLE FUSE

MEDIUM VOLTAGE LIVE FRONT TERMINATOR

MEDIUM VOLTAGE ELBOW

MEDIUM VOLTAGE TEE

MEDIUM VOLTAGE CONTACTOR

MEDIUM VOLTAGE STARTER

MOV-ELBOW ARRESTER

LOW VOLTAGE

LOW VOLTAGE CIRCUIT BREAKER
- a = TYPE
  - MCP = MOTOR CIRCUIT PROTECTOR
  - TM = THERMAL MAGNETIC
  - SS = SOLID STATE
- b = FRAME SIZE (MANUFACTURER TO DETERMINE FRAME SIZE UNLESS INDICATED)
- c = NUMBER OF POLES
- d = TRIP SETTING (AT = AMP TRIP) (AC = MCP CONTINUOUS RATING)
- e = DESIGNATION
- f = INTERRUPTING RATING

LOW VOLTAGE CIRCUIT BREAKER AUXILIARY OPERATOR
- * = S = SHUNT TRIP
- = G = GROUND FAULT INTERRUPTER
- = V = SOLENOID KEY RELEASE

DISCONNECT SWITCH
- A = TYPE, REFER TO DISCONNECT SCHEDULE

FUSED DISCONNECT SWITCH
- B = TYPE, REFER TO DISCONNECT SCHEDULE
- b = FUSE RATING

FUSE

COMBINATION STARTER WITH CONTROL POWER TRANSFORMER
- a = CIRCUIT BREAKER DISCONNECT, TYPE AS NOTED
- b = STARTER TYPE
- c = NEMA STARTER SIZE
- d = OVERLOAD

MOTOR STARTER/DRIVES:
- a = DEVICE TYPE
  - VFD-6 = 6-PULSE VFD
  - VFD-18 = 18-PULSE VFD
  - RVSS = REDUCED VOLTAGE SOLID STATE STARTER
  - RVAT = REDUCED VOLTAGE AUTO TRANSFORMER
  - a/B = DEVICE WITH BYPASS STARTER. REFER TO THE SPECIFICATIONS
- b = INPUT OPTIONS
  - LL = LINE REACTOR
  - PHF = PASSIVE HARMONIC FILTER
- c = OUTPUT OPTIONS
  - LR = LOAD REACTOR
  - DV/DT = Dv/dt FILTER
  - SWF = SINE WAVE FILTER

EQUIPMENT ENCLOSURE

MISCELLANEOUS

MOTOR
- HP = HORSEPOWER RATING
- FULL LOAD AMPS AS NOTED

PACKAGED EQUIPMENT
LOAD RATING AS INDICATED
- a = RATED LOAD
- b = UNIT(HP, KW, KVA) AS INDICATED

TRANSFORMER
- a = DEVICE I.D.
- b = KVA RATING
- c = NUMBER OF PHASES
- d = PRIMARY VOLTAGE
- e = SECONDARY VOLTAGE
- f,g = CONNECTION TYPE SYMBOL
- h = IMPEDANCE

GROUNDED WYE CONNECTION

DELTA CONNECTION

ENGINE-GENERATOR RATINGS AS INDICATED ON THE DRAWINGS
- a = KVA/KW
- b = VOLTAGE/CONNECTION
- c = PHASE
- d = WIRE
- e = PF

CURRENT TRANSFORMER WITH SHORTING TERMINAL BLOCK
- a = QUANTITY
- b = RATIO

POTENTIAL TRANSFORMER
- a = QUANTITY
- b = RATIO
- c,d = CONNECTION TYPE SYMBOL

SSM — SOLID STATE MULTIFUNCTION METER

ATP — AMPERE TEST POINT

VTP — VOLTAGE TEST POINT

UTILITY METER

LIGHTNING ARRESTER

SPD — SURGE PROTECTIVE DEVICE

DRAWOUT CONNECTION

GROUND

CAPACITOR

BATTERY

KIRK KEY INTERLOCK

LOAD BANK

REV	DATE	BY	DESCRIPTION

DESIGNED CAC
DRAWN JRS
CHECKED BJR
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER — ASHRITHA BANAPURAM — No. 21815 — ELECTRICAL — STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.24 13:42:13-07'00'

Digitally signed by Ashritha Banapuram
Contact Info: Carollo Engineers, Inc
Date: 2018.04.24 15:00:19-07'00'

REGISTERED PROFESSIONAL ENGINEER — DARREN G. BAUNE — No. 68899 — CIVIL — STATE OF CALIFORNIA

carollo®

CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
ELECTRICAL
ELECTRICAL LEGEND

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

JOB NO. 10595A.10
DRAWING NO. E01
SHEET NO. 92 OF 122

Plot Date: 21-APR-2018 9:28:56 AM User: svcPW PlotScale: 2:1 DesignScript: Carollo_Std_Pen_v0905.pen ColorTable: gshade.ctb Model: Layout1 LAST SAVED BY: MHood

ABBREVIATIONS

A	AMP
ABS	ABSOLUTE
AC	ALTERNATING CURRENT
ACK	ACKNOWLEDGE
ACTR	ACTUATOR
AF	AMP FRAME
AFC	AUTOMATIC FREQUENCY CONTROL
AIC	AMP INTERRUPTING CAPACITY
AM	AMMETER
ANN	ANNUNCIATOR
ANT	ANTENNA
APU	AUXILIARY POWER UNIT
ARM	ARMORED CABLE
AS	AMMETER SWITCH
ASYM	ASYMMETRICAL
AT	AMP TRIP
ATO	AUTOMATIC THROW OVER
ATP	AMMETER TEST POINT
ATS	AUTOMATIC TRANSFER SWITCH
AUTO XFMR	AUTOMATIC TRANSFORMER
AUX	AUXILIARY
AWG	AMERICAN WIRE GAGE
B	BELL
BAT	BATTERY
BFG	BELOW FINISHED GRADE
BHP	BRAKE HORSEPOWER
BKR	BREAKER
BRF	BELOW RAISED FLOOR
C	CONDUIT / CONTINUOUS LOAD
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CCW	COUNTER CLOCKWISE
CKT	CIRCUIT
COAX	COAXIAL CABLE
COM	COMMON
COMM	COMMUNICATION
CPT	CONTROL POWER TRANSFORMER
CS	CONTROL SWITCH
CT	CURRENT TRANSFORMER
CV	CONTROL VALVE
CW	CLOCKWISE / COOL WHITE
DC	DIRECT CURRENT
DCS	DISTRIBUTED CONTROL SYSTEM
DCU - X	DISTRIBUTED CONTROL UNIT NO. X
DEMO	DEMOLITION
DISC	DISCONNECT SWITCH
DM	DEMAND METER
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
DS	DOOR SWITCH
E/G	EMERGENCY GENERATOR
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
ENG	ENGINE
ENT	ELECTRICAL NON-METALLIC TUBING
EP	EXPLOSION PROOF
ETM	ELAPSED TIME METER
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FDR	FEEDER
FLA	FULL LOAD AMPS
FLX	FLEXIBLE CONDUIT
FO	FIBER OPTIC
FRC	FIBERGLASS RIGID CONDUIT
FREQ	FREQUENCY
FU	FUSE
FU	SW FUSED SWITCH
FVNR	FULL VOLTAGE NON-REVERSING
FVR	FULL VOLTAGE REVERSING
FWD	FORWARD
G	GROUND / EQUIPMENT GROUND / GROUND FAULT
GEN	GENERATOR
GRC	GALVANIZED STEEL RIGID CONDUIT
GFCI	GROUND FAULT CIRCUIT INTERRUPTER (RECEPTACLE)
GFI	GROUND FAULT INTERRUPTER (BREAKER)
GFR	GROUND FAULT RELAY
H	HOT-LEG
HF	HIGH FREQUENCY
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HR	HOUR
HSTAT	HUMIDISTAT
HV	HIGH VOLTAGE
HVAC	HEATING/VENTILATION/AIR CONDITIONING
HZ	HERTZ
I	INSTANTANEOUS LOAD
IC	INTERRUPTING CAPACITY
IJB	INSTRUMENT JUNCTION BOX
IMC	INTERMEDIATE METAL CONDUIT
INST	INSTANTANEOUS
INT	INTERLOCK
INTERCOM	INTERCOMMUNICATION

J	JUNCTION BOX
K	KEY INTERLOCK
KA	KILOAMP
KV	KILOVOLT
KVA	KILOVOLT AMPERE
KVAR	KILOVAR (REACTANCE)
KW	KILOWATT
KWD	KILOWATT DEMAND
KWH	KILOWATT HOUR
L	LONG-TIME
L-B	LINE-BUS
L-G	LINE-GROUND
LA	LIGHTNING ARRESTOR
LBL	LABEL
LC	LIGHTING CONTACTOR
LCP- X	LOCAL CONTROL PANEL NO. X
LP	LIGHT POLE
LR	LEAD-LAG LOAD REACTOR
LTG	LIGHTING
LV	LOW VOLTAGE
LVL	LEVEL
M-X	MOTOR CONTROLLER NO. X
MA	MILLIAMPERE
MCA	MOTOR CIRCUIT AMPS
MCC - X	MOTOR CONTROL CENTER NO. X
MCP	MOTOR CIRCUIT PROTECTOR
MH	MANHOLE / MOUNTING HEIGHT
MLO	MAIN LUGS ONLY
MOD	MOTOR OPERATED DAMPER
MOV	METAL OXIDE VARISTOR
MRP	MOTOR PROTECTION RELAY
MS-X	MOTOR STARTER NO. X
MSP	MOTOR STARTING PANEL
MTO	MANUAL THROW OVER
MTR-X	MOTOR NO. X
MTS	MANUAL TRANSFER SWITCH
MV	MEGAVOLT
MVA	MEGAVOLT-AMPERES
MVS	MEDIUM VOLTAGE SWITCH
MW	MEGAWATT
N	NEUTRAL
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NFC	NONMETALLIC FLEXIBLE CONDUIT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NP	NAMEPLATE
O	OPEN OR OPENED
OH	OVERHEAD
OL	OVERLOAD RELAY
P	POLE
PA	PUBLIC ADDRESS
PANEL-LX	LIGHTING PANEL NO.X
PANEL-PX	POWER DISTRIBUTION PANEL NO. X
PB	PUSHBUTTON / PULL BOX
PC-X	MINI POWER CENTER NO. X
PCS	PVC COATED GALVANIZED STEEL CONDUIT
PCM	PROCESS CONTROL MODULE
PE	PHOTOCELL
PF	POWER FACTOR
PFCC	POWER FACTOR CORRECTION CAPACITOR
PFR	PHASE FAILURE RELAY
PH	PHASE
PNL	PANEL
PPX	POWER PANEL NO. X
PRI	PRIMARY
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE RIGID PLASTIC CONDUIT
PWR	POWER
RAC	RIGID ALUMINUM CONDUIT
RECPT	RECEPTACLE
REV	REVERSE
RF	RADIO FREQUENCY
RMS	ROOT MEAN SQUARED
RVAT	REDUCED VOLTAGE AUTO TRANSFORMER
RVNR	REDUCED VOLTAGE NON-REVERSING
RVSS	REDUCED VOLTAGE SOLID STATE
S	SHIELD / SHORT-TIME
SA	SURGE ARRESTER
SC	SHORT CIRCUIT
SDBC	SOFT DRAWN BARE COPPER
SFL	SUB FEED LUGS
SLT	SEALTIGHT LIQUIDTIGHT FLEXIBLE CONDUIT
SM	SURFACE MOUNTED
SP	SINGLE POLE
SPD	SURGE PROTECTIVE DEVICE
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
SPKR	SPEAKER
SS	SOLID STATE
STB	SHORTING TERMINAL BLOCK
SW	SWITCH
SWBD	SWITCHBOARD

SWGR	SWITCHGEAR
SYM	SYMMECTRICAL
TACH	TACHOMETER
TB - X	TERMINAL BLOCK - UNIT X
TC	THERMOCOUPLE / TIME CLOCK / TRAY CABLE
TD	TEMPERATURE DETECTOR RELAY
TE	TOTALLY ENCLOSED
TEFC	TOTALLY ENCLOSED FAN COOLED
TENV	TOTALLY ENCLOSED NON-VENTILATED
TERM	TERMINAL
TJB	TERMINAL JUNCTION BOX
TM	THERMAL MAGNETIC
TP	TWISTED PAIR
TS	TEMPERATURE SWITCH
TS1W	TWO SPEED CONSEQUENT POLE, ONE WINDING
TS2W	TWO SPEED SEPARATE WINDING
TSTAT	THERMOSTAT
UHF	ULTRA HIGH FREQUENCY
UNG	UNGROUNDED
UPS	UNINTERRUPTABLE POWER SUPPLY
UVR	UNDER VOLTAGE RELAY
V	VOLT
VA	VOLT AMPERE
VAR	VARMETER
VCP	VENDOR CONTROL PANEL
VFD	VARIABLE FREQUENCY DRIVE
VHF	VERY HIGH FREQUENCY
VM	VOLTMETER
VP	VAPORPROOF
VR	VOLTAGE REGULATOR
VS	VOLTAGE SWITCH
VT	VOLTAGE TRANSFORMER
VTP	VOLTAGE TEST POINT
W	WATT / WEST
WT	WATER TIGHT
WP	WEATHER PROOF
XFMR	TRANSFORMER

NOTES:

1. REFER TO SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL ABBREVIATIONS.

POWER DEVICE FUNCTION NUMBERS

1	MASTER ELEMENT
2	TIME-DELAY STARTING OR CLOSING RELAY
3	CHECKING OR INTERLOCKING RELAY
4	MASTER CONTACTOR
5	STOPPING DEVICE
6	STARTING CIRCUIT BREAKER
7	ANODE CIRCUIT BREAKER
8	CONTROL POWER DISCONNECTING DEVICE
9	REVERSING DEVICE
10	UNIT SEQUENCE SWITCH
11	MULTIFUNCTION DEVICE
12	OVER-SPEED DEVICE
13	SYNCHRONOUS-SPEED DEVICE
14	UNDER-SPEED DEVICE
15	SPEED OR FREQUENCY MATCHING DEVICE
16	DATA COMMUNICATIONS DEVICE
17	SHUNTING OR DISCHARGE SWITCH
18	ACCELERATING OR DECELERATING DEVICE
19	STARTING-TO-RUNNING TRANSITION CONTACTOR
20	ELECTRICALLY OPERATED VALVE
21	DISTANCE RELAY
22	EQUALIZER CIRCUIT BREAKER
23	TEMPERATURE CONTROL DEVICE
24	VOLTS PER HERTZ RELAY
25	SYNCHRONIZING OR SYNCHRONISM-CHECK DEVICE
26	APPARATUS THERMAL DEVICE
27	UNDERVOLTAGE RELAY
27N	GROUND FAULT UNDERVOLTAGE RELAY
28	FLAME DETECTOR
29	ISOLATING CONTACTOR
30	ANNUNCIATOR RELAY
31	SEPARATE EXCITATION DEVICE
32	DIRECTIONAL POWER RELAY
33	POSITION SWITCH
34	MASTER SEQUENCE DEVICE
35	BRUSH-OPERATING OR SLIP-RING SHORT-CIRCUITING DEVICE
36	POLARITY DEVICE
37	UNDERCURRENT OR UNDERPOWER RELAY
38	BEARING PROTECTIVE DEVICE
39	MECHANICAL CONDITION MONITOR
40	FIELD RELAY
41	FIELD CIRCUIT BREAKER
42	RUNNING CIRCUIT BREAKER
43	MANUAL TRANSFER OR SELECTOR DEVICE
44	UNIT SEQUENCE STARTING RELAY
45	ABNORMAL ATMOSPHERIC CONDITION MONITOR
46	REVERSE-PHASE OR BALANCE CURRENT RELAY
47	PHASE-BALANCE OR PHASE-SEQUENCE VOLTAGE RELAY
48	INCOMPLETE SEQUENCE RELAY
49	MACHINE OR TRANSFORMER THERMAL RELAY
50	INSTANTANEOUS OVERCURRENT RELAY
51	AC TIME OVERCURRENT RELAY
52	AC CIRCUIT BREAKER
53	FIELD EXCITATION RELAY
54	TURNING GEAR ENGAGING DEVICE
55	POWER FACTOR RELAY
56	FIELD APPLICATION RELAY
57	SHORT-CIRCUITING OR GROUNDING DEVICE
58	RECTIFICATION FAILURE RELAY
59	OVERVOLTAGE RELAY
60	VOLTAGE OR CURRENT BALANCE RELAY
61	DENSITY SWITCH OR SENSOR
62	TIME-DELAY STOPPING OR OPENING RELAY
63	PRESSURE SWITCH
64	GROUND DETECTOR RELAY
65	GOVERNOR
66	NOTCHING OR JOGGING DEVICE
67	AC DIRECTIONAL OVERCURRENT RELAY
68	BLOCKING OR OUT OF STEP RELAY
69	PERMISSIVE CONTROL DEVICE
70	RHEOSTAT
71	LIQUID LEVEL SWITCH
72	DC CIRCUIT BREAKER
73	LOAD-RESISTOR CONTACTOR
74	ALARM RELAY
75	POSITION CHANGING MECHANISM
76	DC OVERCURRENT RELAY
77	TELEMETERING DEVICE
78	PHASE-ANGLE MEASURING RELAY
79	AC RECLOSING RELAY
80	FLOW SWITCH
81	FREQUENCY RELAY
82	DC LOAD MEASURING RECLOSING RELAY
83	AUTOMATIC SELECTIVE CONTROL OR TRANSFER RELAY
84	OPERATING MECHANISM
85	PILOT COMMUNICATIONS, CARRIER OR PILOT-WIRE RELAY
86	LOCKOUT RELAY
87	DIFFERENTIAL PROTECTIVE RELAY
88	AUXILIARY MOTOR OR MOTOR GENERATOR
89	LINE SWITCH
90	REGULATING DEVICE
91	VOLTAGE DIRECTIONAL RELAY
92	VOLTAGE AND POWER DIRECTIONAL RELAY
93	FIELD-CHANGING CONTACTOR
94	TRIPPING OR TRIP-FREE RELAY

COMMONLY USED SUFFIX LETTERS APPLIED TO POWER DEVICE FUNCTION NUMBERS

A	ALARM ONLY
B	BUS PROTECTION
G	GROUND FAULT PROTECTION (RELAY CT IN A SYSTEM NEUTRAL CIRCUIT OR GENERATOR PROTECTION)
GS	GROUND FAULT PROTECTION (RELAY CT IN TOROIDAL OR GROUND SENSOR TYPE)
L	LINE PROTECTION
M	MOTOR PROTECTION
N	GROUND FAULT PROTECTION (RELAY COIL CONNECTED IN RESIDUAL CT CIRCUIT)
T	TRANSFORMER PROTECTION
V	VOLTAGE
P	PHASE PROTECTION

ABBREVIATIONS

AFD - ARC FLASH DETECTOR
CLK - CLOCK OR TIMING SOURCE
DDR - DYNAMIC DISTURBANCE RECORDER
DFR - DIGITAL FAULT RECORDER
ENV - ENVIRONMENTAL DATA
HIZ - HIGH IMPEDANCE FAULT DETECTOR
HMI - HUMAN MACHINE INTERFACE
HST - HISTORIAN
LGC - SCHEME LOGIC
MET - SUBSTATION METERING
PDC - PHASOR DATA CONCENTRATOR
PMU - PHASOR MEASUREMENT UNIT
PQM - POWER QUALITY MONITOR
RIO - REMOTE I/O DEVICE
RTU - REMOTE TELEMETRY UNIT/REMOTE TERMINAL UNIT
SER - SEQUENCE OF EVENTS RECORDER
TCM - TRIP CIRCUIT MONITOR

REV	DATE	BY	DESCRIPTION

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DRAWN JRS
CHECKED BJR
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER ASHRITHA BANAPURAM No. 21815 ELECTRICAL STATE OF CALIFORNIA

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Contact Info: Carollo Engineers, Inc.
Date: 2018.04.24 13:41:51-07'00'

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Contact Info: Carollo Engineers, Inc
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CITY OF TURLOCK

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ELECTRICAL

ELECTRICAL ABBREVIATIONS

VERIFY SCALES
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JOB NO. 10595A.10
DRAWING NO. E02
SHEET NO. 93 OF 122

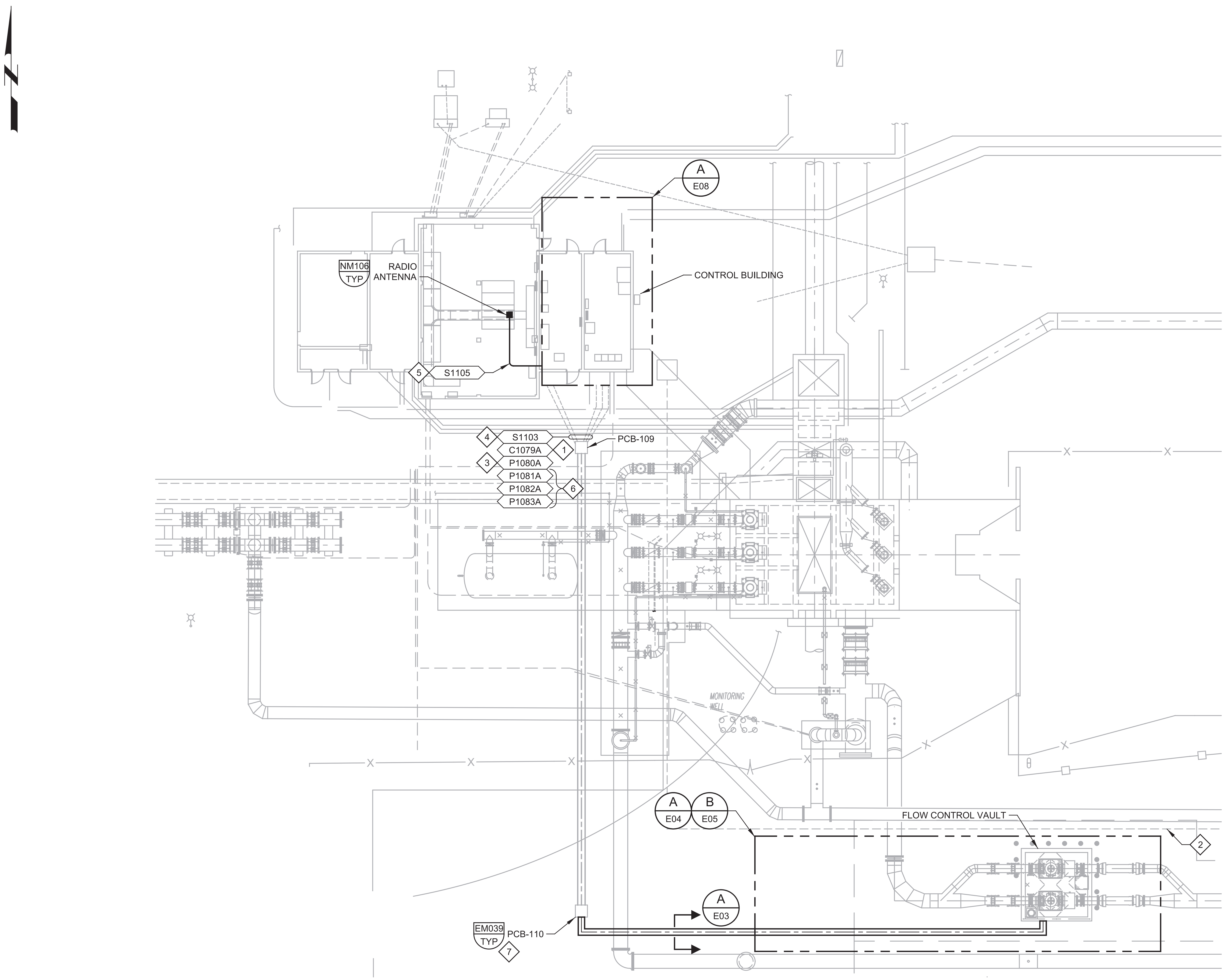
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Plot Date: 21-APR-2018 9:29:22 AM User: svcPW PlotScale: 2:1 DesignScript: Carollo_Std_Pen_v0905.pen ColorTable: gshade.ctb Model: Layout1
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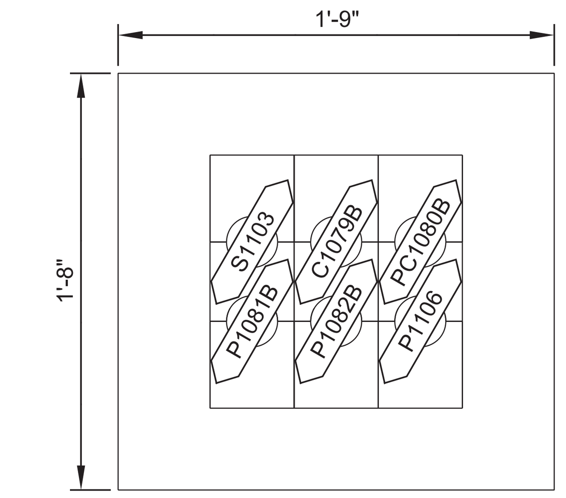
KEY NOTES:

1. PROVIDE NEW CONDUIT TAGS TO THE EXISTING CONDUIT AS SHOWN. UPDATE CONDUIT TAG OF THE EXISTING CONDUIT C1079 IN THE DUCTBANK BETWEEN PCB-109 AND PCB-110 TO PC1079.
2. EXISTING FIBER OPTIC LINE. PROTECT DURING NEW DUCTBANK INSTALLATION. REFER TO KEYNOTE 3 ON DRAWING C02.
3. PROVIDE NEW CONDUIT TAGS TO THE EXISTING CONDUIT AS SHOWN. UPDATE CONDUIT TAG OF THE EXISTING CONDUIT C1080A IN THE DUCTBANK BETWEEN PCB-109 AND PCB-110 TO P1080.
4. PROVIDE NEW CONDUIT TAGS TO THE EXISTING CONDUIT AS SHOWN. UPDATE CONDUIT TAG OF THE EXISTING CONDUIT C1078A IN THE DUCTBANK BETWEEN PCB-109 AND PCB-110 TO S1103.
5. RUN THE CONDUIT ALONG THE ROOF. PROVIDE CONDUIT SUPPORTS AS REQUIRED. DO NOT DAMAGE ROOF DURING CONDUIT INSTALLATION.
6. EXISTING CONDUIT SHOWN. CONDUIT TAGS SHOWN FOR CONTRACTOR REFERENCE ONLY.
7. LOCATION OF EXISTING DUCT BANK AND PULL BOX IS APPROXIMATE. FIELD VERIFY EXISTING LOCATION AND ADJUST DUCT BANK ALIGNMENT AS NEEDED.



SITE PLAN

SCALE: 1/16"=1'-0"
FILE: 10595A1001E101



A DUCT BANK SECTION

EM001 TYP
E03, E04

REV	DATE	BY	DESCRIPTION

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ELECTRICAL
MODESTO EPS FLOW CONTROL VAULT
OVERALL SITE PLAN

VERIFY SCALES
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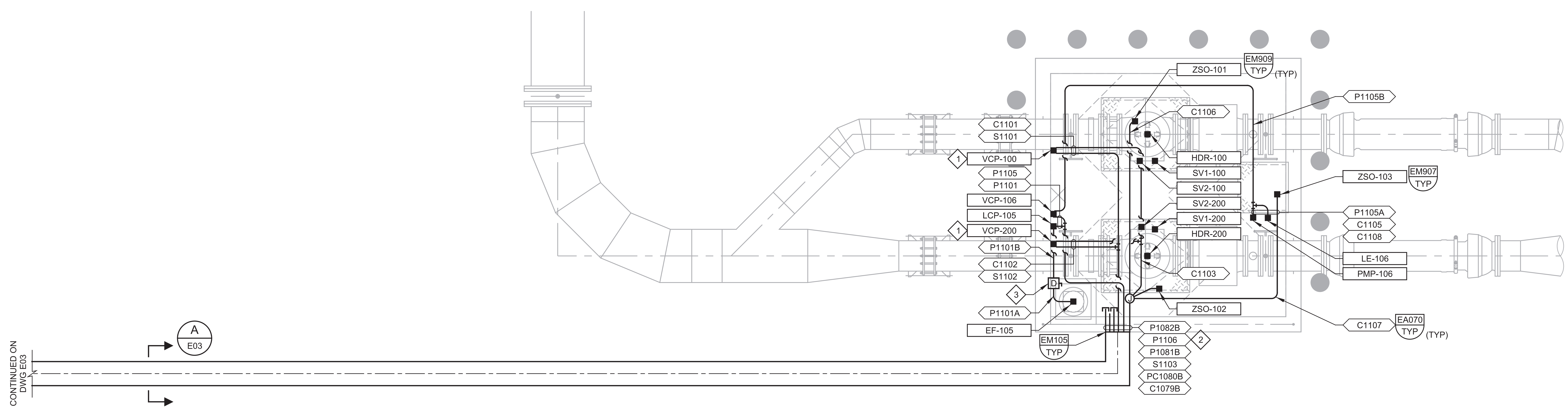
JOB NO. 10595A.10
DRAWING NO. E03
SHEET NO. 94 OF 122

PROJECT NO.
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User: svcPW
Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 2:1
LAST SAVED BY: SBoyd

KEY NOTES:

1. PROVIDE CONDUIT AND CABLES FROM THE CONTROLLER TO THE SOLENOIDS AND THE VALVE. RUN CONDUITS ALONG THE PIPE SUPPORTS. PROVIDE EXTRA SUPPORTS AS REQUIRED.
2. CONDUIT ASSIGNED FOR LIGHTING AND RECEPTACLE.
3. PROVIDE A 2 POLE, 30 AMPERE, 600 V DISCONNECT IN NEMA 4X ENCLOSURE FOR THE EXHAUST FAN.



A PLAN
E03
SCALE: 1/4" = 1'-0"
FILE: 1059510E107.dgn

REV	DATE	BY	DESCRIPTION

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DATE APRIL 2018

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Date: 2018.04.24 15:01:22-07'00'

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ELECTRICAL
MODESTO EPS FLOW CONTROL VALVE VAULT
POWER AND CONTROL PLAN

VERIFY SCALES
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JOB NO. 10595A.10
DRAWING NO. E04
SHEET NO. 95 OF 122

PROJECT NO.
FILE NAME: 10595A1000E004.dgn

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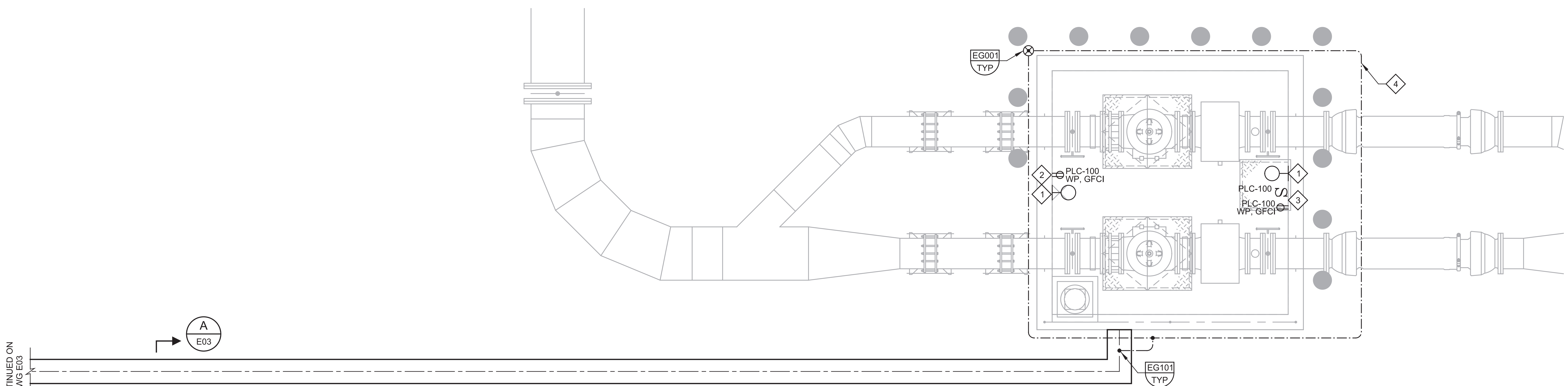
LAST SAVED BY: SBoyd

GENERAL NOTES:

1. CONDUIT RUN TO THE LIGHT FIXTURE AND RECEPTACLE ARE NOT SHOWN IN THE DRAWING. EXTEND CONDUIT TO THE LIGHT AND RECEPTACLE LOCATIONS AS NECESSARY.

KEY NOTES:

1. PROVIDE A HOLOPHANE LED FIXTURE WITH CATALOG NUMBER; W4GLED 20C 1000 50K T3M OR EQUAL. THE LIGHT AND THE RECEPTACLE ARE FED FROM THE EXISTING PLC IN THE CONTROL ROOM. ROUTE CABLES FOR LIGHT THROUGH THE LIGHT SWITCH.
2. MOUNT THE RECEPTABLE 48 INCHES FROM THE FINISHED FLOOR.
3. MOUNT THE RECEPTACLE AND THE SWITCH 18 INCHES FROM THE TOP OF THE VAULT.
4. COORDINATE LOCATION OF GROUND RING, GROUND WELL AND BOLLARDS AS NEEDED TO AVOID CONFLICT.



B E03 **PLAN**
SCALE: 1/4" = 1'-0"
FILE: 1059510E107.dgn

REV	DATE	BY	DESCRIPTION

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DATE APRIL 2018

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Contact Info: Carollo Engineers, Inc.
Date: 2018.04.24 13:42:58-07'00'

Digitally signed by Ashritha Banapuram
Contact Info: Carollo Engineers, Inc
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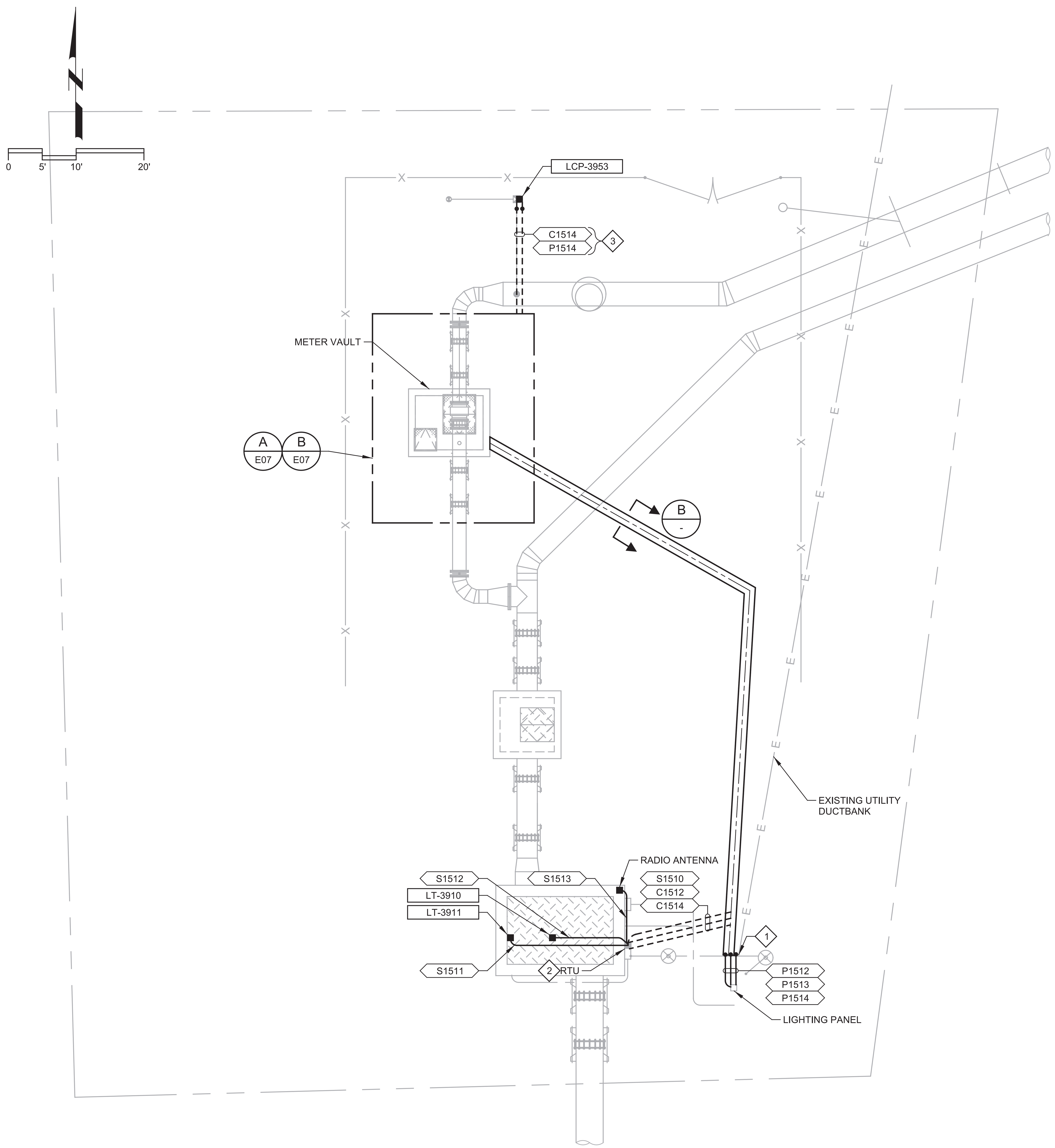
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NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
ELECTRICAL
MODESTO EPS FLOW CONTROL VALVE VAULT
LIGHTING AND GROUNDING PLAN

VERIFY SCALES
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JOB NO. 10595A.10
DRAWING NO. E05
SHEET NO. 96 OF 122

PROJECT NO.
FILE NAME: 10595A1000E005.dgn

Plot Date: 21-APR-2018 9:29:00 AM User: svcPW PlotScale: 2:1 DesignScript: Carollo_Std_Pen_v0905.pen ColorTable: gshade.ctb Model: Layout1
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PLAN

FILE: 10595A1001E104

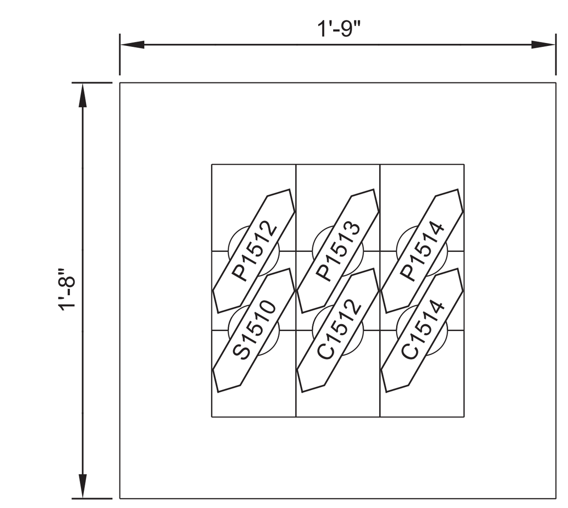
GENERAL NOTES:

1. THE MAIN UTILITY FEED TO THE OUTFALL STRUCTURES RUNS UNDERGROUND ALONG THE FENCE LINE. CONTRACTOR SHALL FIELD LOCATE THE UTILITY FEED AND STAY CLEAR TO AVOID INTERFERENCES OF THE NEW DUCTBANK CONSTRUCTION WITH THE EXISTING UTILITIES.

2. CONTRACTOR SHALL LOCATE EXISTING UNDERGROUND ELECTRICAL AND COMMUNICATION LINES AS NEEDED AND ADJUST ALIGNMENT OF NEW ELECTRICAL AND COMMUNICATION LINES TO AVOID CONFLICTS.

KEY NOTES:

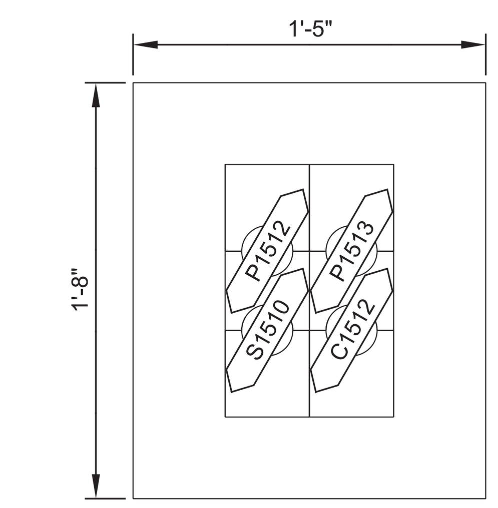
1. APPROXIMATE LOCATION OF THE UNDERGROUND UTILITY.
2. INSTALL THE NEW RADIO UNIT IN THE EXISTING RTU PANEL.
3. INSTALL THE CONDUITS IN DUCT BANK.



B DUCT BANK SECTION

EM001 TYP

E06, E07



C DUCT BANK SECTION

EM001 TYP

E07

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Digitally signed by Ashritha Banapuram Contact Info: Carollo Engineers, Inc Date: 2018.04.24 15:02:15-07'00'

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NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
ELECTRICAL
TURLOCK OUTFALL
SITE PLAN

VERIFY SCALES
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JOB NO. 10595A.10
DRAWING NO. E06
SHEET NO. 97 OF 122

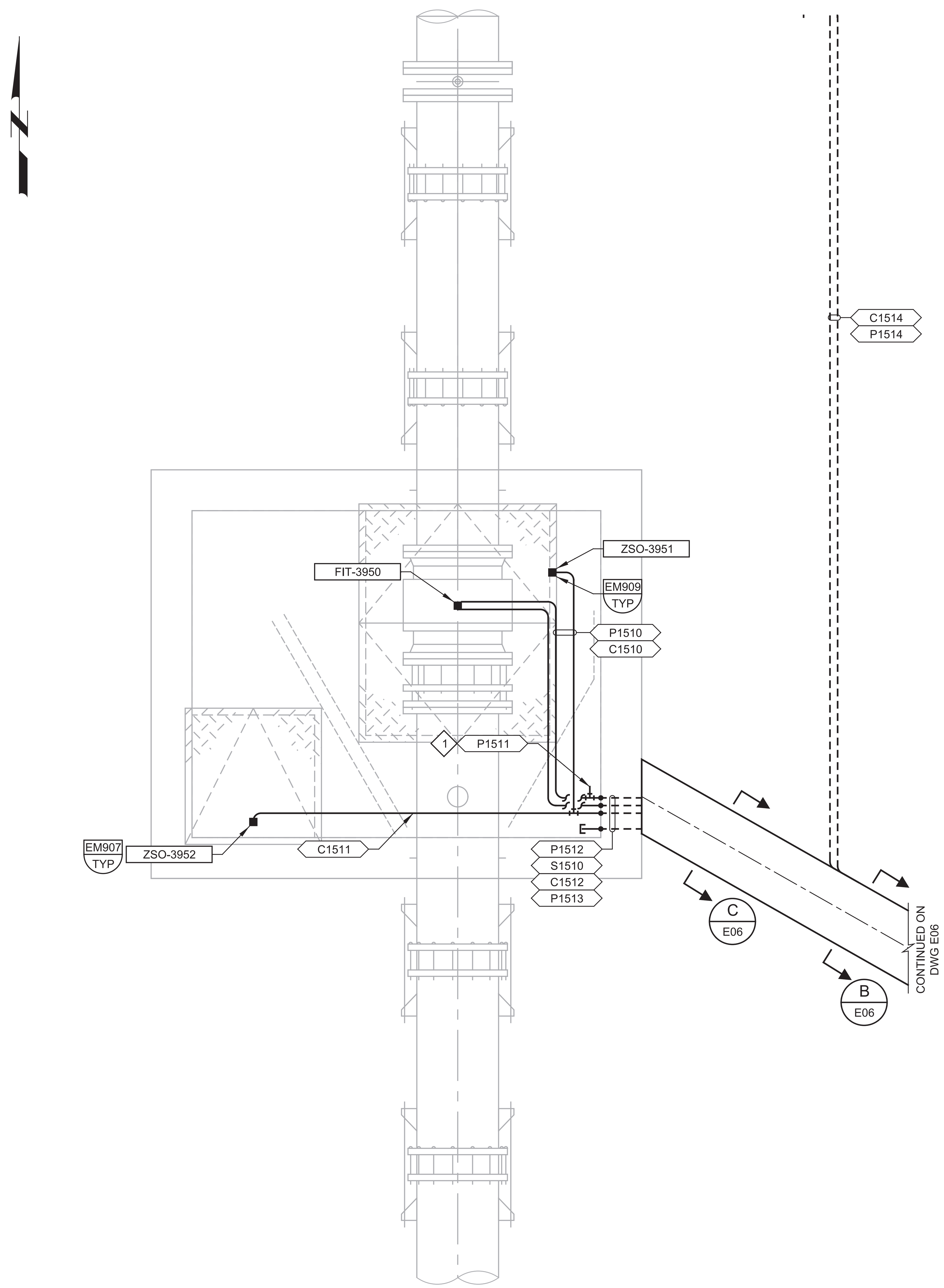
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LAST SAVED BY: MHood

GENERAL NOTES:

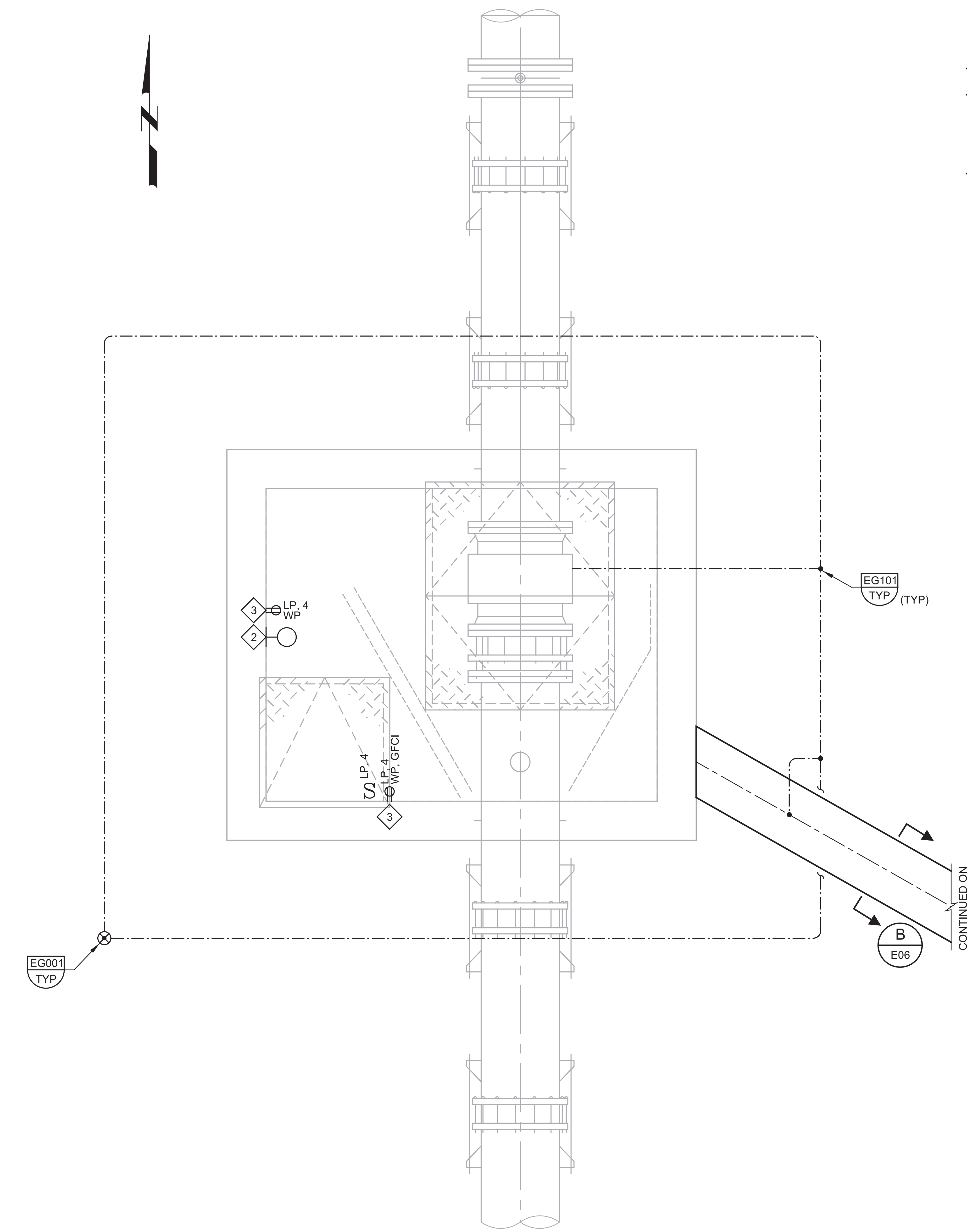
1. CONDUIT RUN TO THE LIGHT FIXTURE AND RECEPTACLE ARE NOT SHOWN IN THE DRAWING. EXTEND CONDUIT TO THE LIGHT AND RECEPTACLE LOCATIONS AS NECESSARY.

KEY NOTES:

1. CONDUIT ASSIGNED FOR LIGHTING AND RECEPTACLE.
2. PROVIDE A HOLOPHANE LED FIXTURE WITH CATALOG NUMBER; W4GLED 10C 1000 50K T3M OR EQUAL. THE LIGHT AND THE RECEPTACLE ARE FED FROM THE EXISTING LIGHTING PANEL CIRCUIT 4 LOCATED NEAR THE STANDPIPE STRUCTURE. ROUTE THE CABLES FOR LIGHT THROUGH THE LIGHT SWITCH.
3. MOUNT THE RECEPTACLE AND THE SWITCH 18 INCHES FROM THE TOP OF THE VAULT.



A / E06 **POWER PLAN**
SCALE: 1/2" = 1'-0"
FILE: 10595A1001E104.dgn



B / E06 **LIGHTING PLAN**
SCALE: 1/2" = 1'-0"
FILE: 10595A1001E104.dgn

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DATE APRIL 2018

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ELECTRICAL
TURLOCK OUTFALL METER VAULT
POWER AND LIGHTING PLANS

VERIFY SCALES
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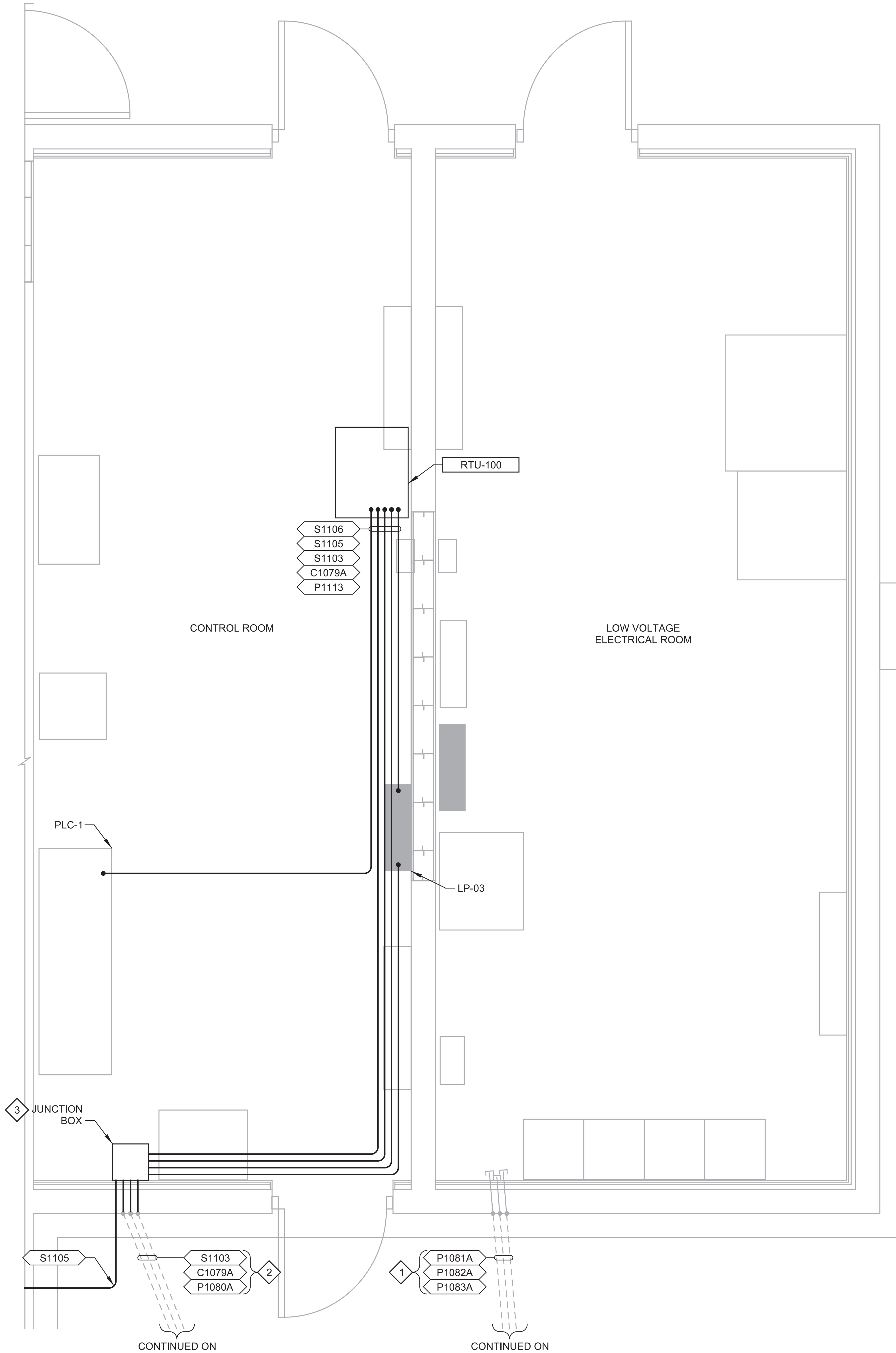
JOB NO. 10595A.10
DRAWING NO. E07
SHEET NO. 98 OF 122

Plot Date: 21-APR-2018 9:30:25 AM User: svcPW Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 2:1

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KEY NOTES:

1. EXISTING CONDUIT SHOWN. CONDUIT TAGS SHOWN FOR CONTRACTOR REFERENCE ONLY.
2. PROVIDE NEW CONDUIT TAGS AS SHOWN.
3. PROVIDE A 30"X12"X12" 316 STAINLESS STEEL BOX WITH PARTITION FOR SIGNAL CABLES, AND POWER AND CONTROL CABLES. SIGNAL, AND POWER AND CONTROL CABLES SHOULD BE COMBINED.



A PLAN
E03
SCALE: 1/2"=1'-0"
FILE: 10595A1010E101

REV	DATE	BY	DESCRIPTION

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Date: 2018.04.24 13:43:33-07'00'

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Contact Info: Carollo Engineers, Inc
Date: 2018.04.24 15:02:48-07'00'

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TURLOCK COMPONENT
ELECTRICAL
CONTROL BUILDING
POWER AND CONTROL PLAN

VERIFY SCALES
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JOB NO. 10595A.10
DRAWING NO. E08
SHEET NO. 99 OF 122

PROJECT NO. FILE NAME: 10595A1000E008.dgn

EXISTING PANEL LP-03

4/20/2018

LOCATION:	CONTROL ROOM	NEMA:	1	PH A WEIGHTED VA	1500
VOLTS:	208 / 120	FEED:	BOTTOM	PH B WEIGHTED VA	1250
PHASE & WIRE:	3PH 4W	MTG.	SURFACE	PH C WEIGHTED VA	4000
INTERRUPT:	18 KAIC	BUS RATING:	100		
OPTIONS:	SPD	MAIN:	CB	EQUIP SIZING VA	12000
		MAIN RATING	100 AF 100 AT	PANEL AMPS	33.3

I/C/F	DESCRIPTION	LOAD (VA)	BKR	CIR	Ø	CIR	BKR	LOAD (VA)	DESCRIPTION	I/C/F
	CONTROL ROOM LIGHTING		20A-1P	1	A	2	20A-1P		CONTROL ROOM RECEPTACLES	
	PLC-1 LIGHTING AND RECEPTACLE		20A-1P	3	B	4	20A-1P		UPS POWER	
	BUILDING OUTDOOR LIGHTING		20A-1P	5	C	6	40A-1P	3000	RTU-100 (UPS-100) POWER	2
	ATC-02		20A-1P	7	A	8	20A-1P	1200	PMP-106 VALUT SUMP PUMP	1
	SPARE		20A-2P	9	B	10	20A-1P	1000	EF-105 VAULT EXHAUST FAN	1
				11	C	12	20A-1P	200	RTU-100 LIGHTING AND RECEPTACLE	1
	SPARE		20A-1P	13	A	14	20A-1P		SPARE	
	SPARE		20A-1P	15	B	16	20A-1P		SPARE	
	SPARE		20A-1P	17	C	18	20A-1P		SPARE	
	SPARE		20A-1P	19	A	20	20A-1P		SPARE	
	SPARE		20A-1P	21	B	22	20A-1P		SPARE	
	SPARE		20A-1P	23	C	24	20A-1P		SPARE	

EXISTING LIGHTING PANEL AT STANDPIPE

4/20/2018

LOCATION:	TURLOCK STANDPIPE	NEMA:	3R	PH A WEIGHTED VA	125
VOLTS:	240 / 120	FEED:	BOTTOM	PH B WEIGHTED VA	938
PHASE & WIRE:	1PH 3W	MTG.	SURFACE		
INTERRUPT:	18 KAIC	BUS RATING:	100		
OPTIONS:	SPD	MAIN:	CB	EQUIP SIZING VA	1876
		MAIN RATING	100 AF 100 AT	PANEL AMPS	7.8

I/C/F	DESCRIPTION	LOAD (VA)	BKR	CIR	Ø	CIR	BKR	LOAD (VA)	DESCRIPTION	I/C/F
	RECEPTACLE		20A-1P	1	A	2	20A-1P		LIGHTS	
	AIT-3930		20A-1P	3	B	4	20A-1P	250	METER VAULT LIGHT & RECEPTACLE	1
	RECEPTACLE @ RTU		20A-1P	5	A	6	20A-1P	100	FIT-3950	1
	SPARE		20A-1P	7	B	8	20A-1P	500	LCP-3953 (CATHODIC PROTECTION)	1
	SPARE		20A-1P	9	A	10	20A-1P		SPARE	
	SPARE		20A-1P	11	B	12	20A-1P		SPARE	

KEY NOTES:

1. CONNECT NEW LOADS TO THE EXISTING SPARE BREAKERS.
2. REPLACE THE EXISTING 20 AMPERE BREAKER WITH A 40 AMPERE BREAKER.

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TURLOCK COMPONENT
ELECTRICAL
PANELBOARD SCHEDULES

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JOB NO. 10595A.10
DRAWING NO. E09
SHEET NO. 100 OF 122

PROJECT NO.
FILE NAME: 10595A1000E009.dgn

CONDUIT SCHEDULE AREA

4/20/18

NVRRWP PIPELINE PROJECT

MODESTO / TURLOCK

CONDUIT			CONDUCTORS			GROUND				
NUMBER	DWG	SIZE	#	SIZE	TYPE	#	SIZE	TYPE	DESCRIPTION	CONNECTING SEGMENTS
C1079B	E04	2"	26	#14	XHHW-2	1	#14	XHHW-2	FR: JUNCTION BOX TO: PCB-110 10 #14 >> HDR-100 CONTROL 10 #14 >> HDR-200 CONTROL 2 #14 >> ZSO-101 CONTROL 2 #14 >> ZSO-102 CONTROL 2 #14 >> ZSO-103 CONTROL	C1079 C1103 C1103 C1106 C1107 C1108
C1079	E03	2"	2 56	#12 #14	XHHW-2 XHHW-2	1	#12	XHHW-2	FR: PCB-110 TO: PCB-109 10 #14 >> HDR-100 CONTROL 10 #14 >> HDR-200 CONTROL 2 #14 >> ZSO-101 CONTROL 2 #14 >> ZSO-102 CONTROL 2 #14 >> ZSO-103 CONTROL 10 #14 >> EF-105 CONTROL 20 #14 >> PMP-106 CONTROL 2 #12 >> VAULT LIGHTING POWER	C1079A C1079B C1079B C1079B C1079B C1079B PC1080B PC1080B P1106
C1079A	E03 E08	2"	2 56	#12 #14	XHHW-2 XHHW-2	1	#12	XHHW-2	FR: PCB-109 TO: RTU-100 10 #14 >> HDR-100 CONTROL 10 #14 >> HDR-200 CONTROL 2 #14 >> ZSO-101 CONTROL 2 #14 >> ZSO-102 CONTROL 2 #14 >> ZSO-103 CONTROL 10 #14 >> EF-105 CONTROL 20 #14 >> PMP-106 CONTROL 2 #12 >> VAULT LIGHTING POWER	 C1079 C1079 C1079 C1079 C1079 C1079 C1079 C1079
C1101	E04	0.75"	10	#14	XHHW-2	1	#14	XHHW-2	FR: VCP-100 TO: CONDUIT TEE 10 #14 >> HDR-100 CONTROL	C1103
C1102	E04	0.75"	10	#14	XHHW-2	1	#14	XHHW-2	FR: VCP-200 TO: CONDUIT TEE 10 #14 >> HDR-200 CONTROL	C1103
C1103	E04	1.5"	20	#14	XHHW-2	1	#14	XHHW-2	FR: CONDUIT TEE TO: JUNCTION BOX 10 #14 >> HDR-100 CONTROL 10 #14 >> HDR-200 CONTROL	C1079B C1101 C1102
C1105	E04	0.75"	6	#14	XHHW-2	1	#14	XHHW-2	FR: LEVEL SENSORS TO: CONDUIT TEE 6 #14 >> VAULT LEVEL CONTROL	P1105B
C1106	E04	0.75"	2	#14	XHHW-2	1	#14	XHHW-2	FR: ZSO-101 TO: JUNCTION BOX 2 #14 >> ZSO-101 CONTROL	C1079B
C1107	E04	0.75"	2	#14	XHHW-2	1	#14	XHHW-2	FR: ZSO-102 TO: JUNCTION BOX 2 #14 >> ZSO-102 CONTROL	C1079B
C1108	E04	0.75"	2	#14	XHHW-2	1	#14	XHHW-2	FR: ZSO-103 TO: JUNCTION BOX 2 #14 >> ZSO-103 CONTROL	C1079B
C1510	E07	0.75"	2	#14	XHHW-2	1	#14	XHHW-2	FR: ZSO-3951 TO: CONDUIT TEE 2 #14 >> ZSO-3951 CONTROL	C1512
C1511	E07	0.75"	2	#14	XHHW-2	1	#14	XHHW-2	FR: ZSO-3952 TO: CONDUIT TEE 2 #14 >> ZSO-3952 CONTROL	C1512
C1512	E07 E06	2"	4	#14	XHHW-2	1	#14	XHHW-2	FR: CONDUIT TEE TO: RTU 2 #14 >> ZSO-3952 CONTROL 2 #14 >> ZSO-3951 CONTROL	 C1511 C1510
C1514	E07 E06	2"	2	#14	XHHW-2	1	#14	XHHW-2	FR: LCP-3953 TO: RTU 2 #14 >> LCP-3953 CONTROL	
P1080	E03	2"	2 2	#4 #6	XHHW-2 XHHW-2	1	#4	XHHW-2	FR: PCB-110 TO: PCB-109 2 #6 >> EF-105 POWER 2 #4 >> PMP-106 POWER	

CONDUIT SCHEDULE AREA

4/20/18

NVRRWP PIPELINE PROJECT

MODESTO / TURLOCK

CONDUIT			CONDUCTORS			GROUND				
NUMBER	DWG	SIZE	#	SIZE	TYPE	#	SIZE	TYPE	DESCRIPTION	CONNECTING SEGMENTS
P1080A	E08	2"	2 2	#4 #6	XHHW-2 XHHW-2	1	#4	XHHW-2	FR: PCB-109 TO: LP-100 2 #6 >> EF-105 POWER 2 #4 >> PMP-106 POWER	 P1078 P1078
PC1080B	E03	2"	2 2 30	#4 #6 #14	XHHW-2 XHHW-2 XHHW-2	1	#4	XHHW-2	FR: CONDUIT TEE TO: PCB-110 2 #6 >> EF-105 POWER 10 #14 >> EF-105 CONTROL 2 #4 >> PMP-106 POWER 20 #14 >> PMP-106 CONTROL	C1079 P1101 P1101 P1105 P1105
P1081B	E04	2"	1	PULL	ROPE				FR: PCB-110 TO: VALVE VAULT 1 PULL >> SPARE	
P1082B	E04	2"	1	PULL	ROPE				FR: PCB-110 TO: VALVE VAULT 1 PULL >> SPARE	
P1101	E04	1.5"	2 10	#6 #14	XHHW-2 XHHW-2	1	#6	XHHW-2	FR: LCP-105 TO: CONDUIT TEE 2 #6 >> EF-105 POWER 10 #14 >> EF-105 CONTROL	PC1080B
P1101A	E04	0.75"	2	#6	XHHW-2	1	#6	XHHW-2	FR: EF-105 TO: DISCONNECT 2 #6 >> EF-105 POWER	
P1101C	E04	0.75"	2	#6	XHHW-2	1	#6	XHHW-2	FR: DISCONNECT TO: LCP-105 2 #6 >> EF-105 POWER	
P1105	E04	1.5"	2 20	#4 #14	XHHW-2 XHHW-2	1	#4	XHHW-2	FR: VCP-106 TO: CONDUIT TEE 2 #4 >> PMP-106 POWER 20 #14 >> PMP-106 CONTROL	PC1080B
P1105A	E04	1"	2	#4	XHHW-2	1	#4	XHHW-2	FR: PMP-106 TO: CONDUIT TEE 2 #4 >> PMP-106 POWER	P1105B
P1105B	E04	1.5"	2 6	#4 #14	XHHW-2 XHHW-2	1	#4	XHHW-2	FR: CONDUIT TEE TO: VCP-106 6 #14 >> VAULT LEVEL CONTROL 2 #4 >> PMP-106 POWER	 C1105 P1105A
P1106	E04	2"	2	#12	XHHW-2	1	#12	XHHW-2	FR: VAULT LIGHTING TO: PCB-110 2 #12 >> VAULT LIGHTING POWER	C1079
P1113	E08	0.75"	2 2	#8 #12	XHHW-2 XHHW-2	1	#8	XHHW-2	FR: RTU-100 TO: LP-03 2 #12 >> RTU-100 POWER 2 #8 >> UPS POWER	
P1510	E07	0.75"	2	#12	XHHW-2	1	#12	XHHW-2	FR: FIT-3950 TO: LIGHTING PANEL AT STANDPIPE 2 #12 >> FIT-3950 POWER	P1512
P1511	E07	0.75"	2	#12	XHHW-2	1	#12	XHHW-2	FR: METER VAULT LIGHTING TO: CONDUIT TEE 2 #12 >> METER VAULT LIGHTING POWER	P1512
P1512	E07 E06	2"	4	#12	XHHW-2	1	#12	XHHW-2	FR: CONDUIT TEE TO: LIGHTING PANEL AT STANDPIPE 2 #12 >> FIT-3950 POWER 2 #12 >> METER VAULT LIGHTING POWER	 P1510 P1511
P1513	E07 E06	2"	1	PULL	ROPE				FR: METER VAULT TO: LIGHTING PANEL AT STANDPIPE 1 PULL >> SPARE	
P1514	E07 E06	2"	2	#12	XHHW-2	1	#12	XHHW-2	FR: LCP-3953 TO: LIGHTING PANEL AT STANDPIPE 2 #12 >> LCP-3953 POWER	
S1101	E04	1"	2 2	#12 2/CS-#16	XHHW-2	1	#12	XHHW-2	FR: VCP-100 TO: CONDUIT TEE 2 2/CS-#16 >> HDR-100 CONTROL 2 #12 >> VCP-100 POWER	S1103

CONDUIT SCHEDULE AREA

4/20/18

NVRRWP PIPELINE PROJECT

MODESTO / TURLOCK

CONDUIT			CONDUCTORS			GROUND				
NUMBER	DWG	SIZE	#	SIZE	TYPE	#	SIZE	TYPE	DESCRIPTION	CONNECTING SEGMENTS
S1102	E04	1"	2 2	#12 2/CS-#16	XHHW-2	1	#12	XHHW-2	FR: VCP-200 TO: CONDUIT TEE 2 2/CS-#16 >> HDR-200 CONTROL 2 #12 >> VCP-200 POWER	S1103
S1103	E04	1.5"	4 4	#12 2/CS-#16	XHHW-2	1	#12	XHHW-2	FR: CONDUIT TEE TO: RTU-100 2 2/CS-#16 >> HDR-100 CONTROL 2 #12 >> VCP-100 POWER 2 2/CS-#16 >> HDR-200 CONTROL 2 #12 >> VCP-200 POWER	 S1101 S1101 S1102 S1102
S1105	E03	0.75"	1	MFR	CABLE	1	#14	XHHW-2	FR: RADIO ANTENNA TO: RTU-100 1 MFR >> RADIO SIGNAL	
S1106	E08	0.75"	1		CAT6	1	#14	XHHW-2	FR: PLC-1 TO: RTU-100 1 CAT6 >> PLC COMMUNICATION	
S1510	E07 E06	2"	1	2/CS-#16		1	#14	XHHW-2	FR: FIT-3950 TO: RTU 1 2/CS-#16 >> FIT-3950 SIGNAL	
S1511	E06	0.75"	1	2/CS-#16		1	#14	XHHW-2	FR: LIT-3911 TO: RTU 1 2/CS-#16 >> LE-3911 SIGNAL	
S1512	E06	0.75"	1	2/CS-#16		1	#14	XHHW-2	FR: LIT-3910 TO: RTU 1 2/CS-#16 >> LIT-3911 SIGNAL	
S1513	E06	0.75"	1	MFR	CABLE	1	#14	XHHW-2	FR: RADIO ANTENNA TO: RTU 1 MFR >> RADIO SIGNAL	

END OF CONDUIT SCHEDULE

Plot Date: 21-APR-2018 9:29:26 AM User: svcPW Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 2:1
LAST SAVED BY: SBoyd

REV	DATE	BY	DESCRIPTION

DESIGNED AB
DRAWN SMB
CHECKED BJR
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER ASHRITHA BANAPURAM No. 21815 ELECTRICAL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.24 13:44:09-07'00'

Digitally signed by Ashritha Banapuram
Contact Info: Carollo Engineers, Inc
Date: 2018.04.24 15:04:02-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

carollo®

CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
ELECTRICAL
CONDUIT SCHEDULE - II

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

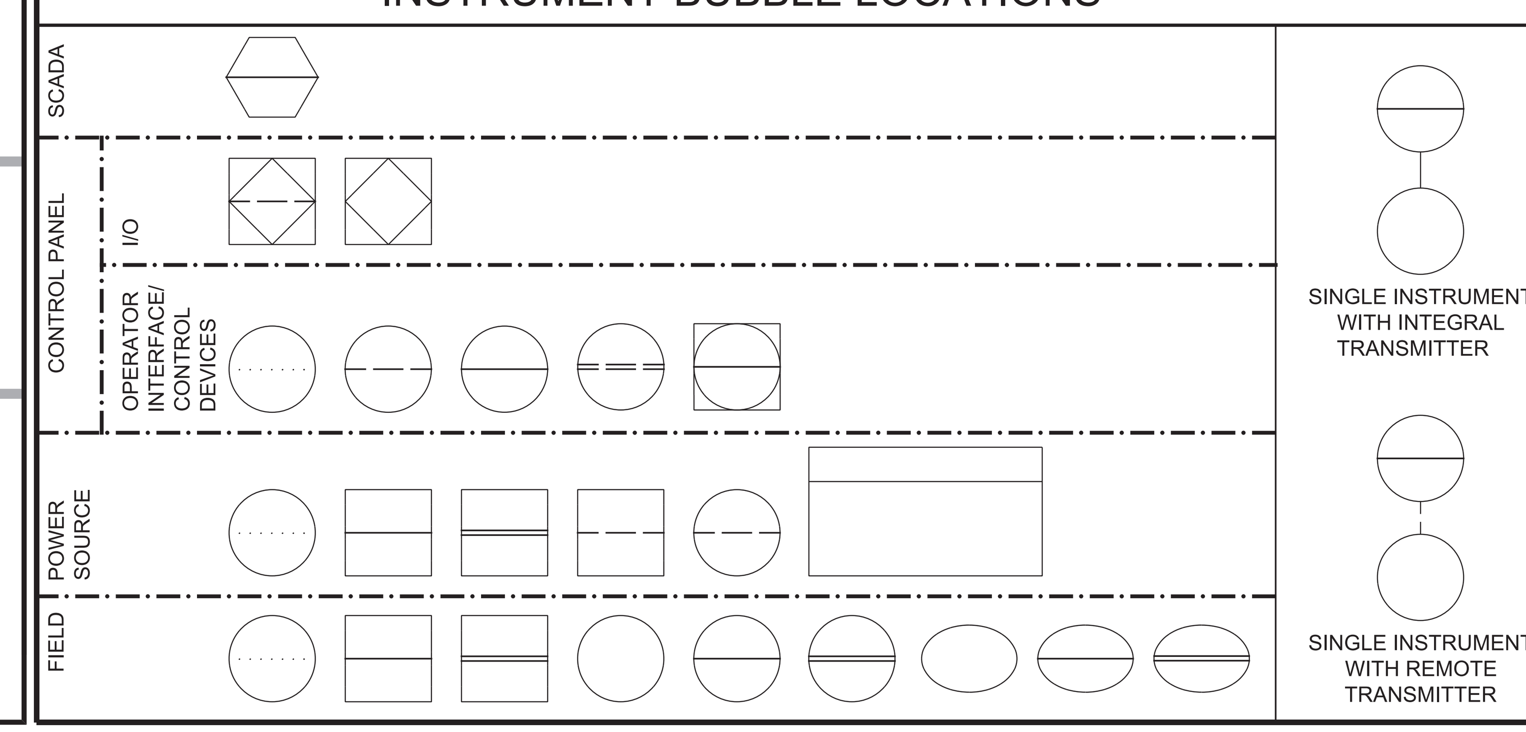
JOB NO. 10595A.10
DRAWING NO. E11

PROJECT NO.
FILE NAME: 10595A1000E011.dgn

SYMBOL	DRAWING VISIBLE FIELDS	FIELD - 1	FIELD - 2	FIELD - 3	FIELD - 4	FIELD - 5	FIELD - 6
SCADA SYSTEM OPERATOR INTERFACE TERMINAL	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - DESCRIPTION 6 - EXISTING/FUTURE	REFER 1 2	REFER 3	ACTION ALARM NUM - NUMERIC SP - SET POINT STATUS TREND	DESCRIPTION 2 5	DESCRIPTION	E - EXISTING F - FUTURE
HARDWIRED I/O POINT	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1 2 4	REFER 3	AI - ANALOG INPUT AO - ANALOG OUTPUT DI - DISCRETE INPUT DO - DISCRETE OUTPUT HSC - HIGH SPEED COUNTER INPUT RTD - RTD INPUT	DESCRIPTION	PAC - PROGRAMMABLE AUTOMATION CONTROLLER NO. PLC - PROGRAMMABLE LOGIC CONTROLLER NO. RIO - REMOTE I/O VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE
DIGITAL BUS I/O REGISTER (FIELDBUS I/O)	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1 2	REFER 3	BUS ID CNET - CONTROLNET DNET - DEVICENET ENET - ETHERNET/IP FF - FOUNDATION FIELDBUS MB - MODBUS RTU MB+ - MODBUS PLUS MBTCP - MODBUS TCP DP - PROFIBUS DP PA - PROFIBUS PA PNET - PROFINET SERIAL - PROPRIETARY PROTOCOL	DESCRIPTION	PAC - PROGRAMMABLE AUTOMATION CONTROLLER NO. PLC - PROGRAMMABLE LOGIC CONTROLLER NO. RIO - REMOTE I/O VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE
HUMAN MACHINE INTERFACE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1 2	REFER 3	ACTION ALARM NUM - NUMERIC SP - SET POINT STATUS	DESCRIPTION 2 5	HMI - HUMAN MACHINE INTERFACE NO. LCP - LOCAL CONTROL PANEL NO. PCM - PROCESS CONTROL MODULE NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE
PILOT DEVICE OPERATOR INTERFACE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1 2	REFER 3	AM - AUTO/MANUAL BYPASS - BYPASS CL - CLOSE E-STOP - EMERGENCY STOP FRLR - FIXED RATE/LEVEL RATE HOA - HAND /OFF/AUTO JOHC - JOG OPEN/HOLD/CLOSE JOJC - JOG OPEN/JOG CLOSE LH - LOW/HIGH LOR - LOCAL/OFF/REMOTE LOS - LOCK OUT STOP LS - LEAD/STANDBY LSR - LOCAL/STOP/REMOTE NOOT - NO OFFLINE/OFFLINE TRANSITION OC - OPEN/CLOSE OLOL - ON LINE/OFF LINE OO - OFF/ON OP - OPEN OSC - OPEN/STOP/CLOSE RST - RESET SAAM - SEMI AUTO/AUTO/MANUAL SEL - SELECT SP - STOP SPD - SPEED SS - START/STOP ST - START	DESCRIPTION	LCP - LOCAL CONTROL PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. RVSS - REDUCED VOLTAGE SOLID STARTER NO. VCP - VENDOR CONTROL PANEL NO. VFD - VARIABLE FREQUENCY DRIVE NO.	E - EXISTING F - FUTURE
POWER DEVICE PRIMARY FUNCTION OPERATOR ACCESSIBLE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - VOLTAGE/PHASE 5 - LOCATION 6 - EXISTING/FUTURE	CB - CIRCUIT BREAKER DISC - DISCONNECT FU - FUSE	REFER 3	TM - THERMAL MAGNETIC CIRCUIT BREAKER	24VDC - 1P 120VAC - 1P 208VAC - 2P 208VAC - 3P 240VAC - 3P 240VAC - 2P 480VAC - 3P 2400VAC - 3P 4160VAC - 3P	DP - DISTRIBUTION PANEL NO. LCP - LOCAL CONTROL PANEL NO. LP - LIGHTING PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. PP - POWER PANEL NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE
POWER DEVICE AUXILIARY FUNCTION FOR OPERATOR ACCESSIBLE DEVICES	1 - TAG 2 - LOOP NUMBER 3 - DESCRIPTION 4 - DESCRIPTION 5 - DESCRIPTION 6 - EXISTING/FUTURE	DISC - DISCONNECT	REFER 3	DESCRIPTION	DESCRIPTION	DESCRIPTION	E - EXISTING F - FUTURE
POWER DEVICE PRIMARY FUNCTION OPERATOR INACCESSIBLE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - VOLTAGE/PHASE 5 - LOCATION 6 - EXISTING/FUTURE	CB - CIRCUIT BREAKER FU - FUSE	REFER 3	MCP - MOTOR CIRCUIT PROTECTOR SS - SOLID STATE CIRCUIT BREAKER TM - THERMAL MAGNETIC CIRCUIT BREAKER	24VDC - 1P 120VAC - 1P 208VAC - 2P 208VAC - 3P 240VAC - 2P 240VAC - 3P 480VAC - 3P 2400VAC - 3P 4160VAC - 3P	DP - DISTRIBUTION PANEL NO. LCP - LOCAL CONTROL PANEL NO. LP - LIGHTING PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. PP - POWER PANEL NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE

SYMBOL	DRAWING VISIBLE FIELDS	FIELD - 1	FIELD - 2	FIELD - 3	FIELD - 4	FIELD - 5	FIELD - 6
INSTRUMENT PRIMARY ELEMENT	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1	REFER 3	DESCRIPTION 5	DESCRIPTION 6	AREA NO. BUILDING NO. ROOM NO.	E - EXISTING F - FUTURE
INSTRUMENT/CONTROL ELEMENT PRIMARY FUNCTION OPERATOR ACCESSIBLE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - DESCRIPTION 6 - EXISTING/FUTURE	REFER 1	REFER 3	DESCRIPTION 5	DESCRIPTION 6	DESCRIPTION	E - EXISTING F - FUTURE
INSTRUMENT/CONTROL ELEMENT AUXILIARY FUNCTION OPERATOR ACCESSIBLE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - DESCRIPTION 6 - EXISTING/FUTURE	REFER 1	REFER 3	DESCRIPTION	DESCRIPTION 6	DESCRIPTION	E - EXISTING F - FUTURE
INSTRUMENT/CONTROL ELEMENT PRIMARY FUNCTION OPERATOR INACCESSIBLE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1 3 XR - PROTECTION RELAY CR - CONTROL RELAY IR - INTERPOSING RELAY	REFER 3	DESCRIPTION	DESCRIPTION 6	LCP - LOCAL CONTROL PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE
INSTRUMENT/CONTROL ELEMENT AUXILIARY FUNCTION OPERATOR INACCESSIBLE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1 3 XR - PROTECTION RELAY CR - CONTROL RELAY IR - INTERPOSING RELAY	REFER 3	DESCRIPTION	DESCRIPTION 6	LCP - LOCAL CONTROL PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE
FIELD EQUIPMENT NON-POWERED	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION/SIZE 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER 3	REFER 3	DESCRIPTION	DESCRIPTION 6	AREA NO. BUILDING NO. ROOM NO.	E - EXISTING F - FUTURE
FIELD EQUIPMENT PRIMARY FUNCTION POWERED	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER 3	REFER 3	DESCRIPTION	DESCRIPTION 6	AREA NO. BUILDING NO. ROOM NO.	E - EXISTING F - FUTURE
FIELD EQUIPMENT AUXILIARY FUNCTION POWERED	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - DESCRIPTION 6 - EXISTING/FUTURE	MWH - MOTOR WINDING HEATER TSH - TEMPERATURE SWITCH XSH - TORQUE SWITCH	REFER 3	DESCRIPTION	DESCRIPTION 6	DESCRIPTION	E - EXISTING F - FUTURE
FIELD EQUIPMENT STARTER/DRIVE CUBICLE/CABINET	1 - TAG 2 - LOOP NUMBER 3 - TYPE 4 - VOLTAGE/PHASE 5 - LOCATION 6 - EXISTING/FUTURE	MS - MOTOR STARTER RVAT - REDUCED VOLTAGE AUTO TRANSFORMER STARTER RVSS - REDUCED VOLTAGE SOLID STATE STARTER VFD - VARIABLE FREQUENCY DRIVE	REFER 3	FVNR - FULL VOLTAGE NON-REVERSING STARTER FVR - FULL VOLTAGE REVERSING STARTER PWS - PART-WINDING STARTER RVAT - REDUCED VOLTAGE AUTO TRANSFORMER STARTER RVSS - REDUCED VOLTAGE SOLID STATE STARTER TS1W - TWO SPEED SINGLE WINDING TS2W - TWO SPEED TWO WINDINGS VFD - VARIABLE FREQUENCY DRIVE	120VAC - 1P 208VAC - 2P 208VAC - 3P 240VAC - 2P 240VAC - 3P 480VAC - 3P 2400VAC - 3P 4160VAC - 3P	LCP - LOCAL CONTROL PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE

INSTRUMENT BUBBLE LOCATIONS



NOTES

1. INSTRUMENT TAG IDENTIFICATION LETTERS TABLE
2. OPERATOR PILOT DEVICE LEGEND
3. EQUIPMENT TAGGING TABLE
4. I/O TYPE DESIGNATIONS TABLE
5. INSTRUMENT TYPE DESIGNATIONS TABLE
6. FURNISHED BY: FBO FURNISHED BY OWNER
   FBV FURNISHED BY VENDOR

REV	DATE	BY	DESCRIPTION

DESIGNED AB
DRAWN SMB
CHECKED BJR
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER ASHRITHA BANAPURAM No. 21815 ELECTRICAL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune Contact Info: Carollo Engineers, Inc. Date: 2018.04.24 13:29:12-07'00'

Digitally signed by Ashritha Banapuram Contact Info: Carollo Engineers, Inc Date: 2018.04.24 15:04:14-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

carollo®

CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
INSTRUMENTATION

SYMBOLS & ABBREVIATIONS - I

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

JOB NO. 10595A.10
DRAWING NO. N01
SHEET NO. 103 OF 122

PROJECT NO. FILE NAME: 10595A1000N001.dgn
LAST SAVED BY: EWittner Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 2:1 User: svcPW Plot Date: 21-APR-2018 9:23:19 AM

INSTRUMENT TAG IDENTIFICATION LETTERS

	MEASURED VARIABLE \ INSTRUMENT FUNCTION	ELEMENT	TRANSMITTER	INDICATING TRANSMITTER	CONVERTER TRANSDUCER, RELAY SPECIAL DEVICES	INDICATOR	RECORDER	CONTROLLER	INDICATING CONTROLLER	RECORDING CONTROLLER	SWITCH	SWITCH LOW LOW	SWITCH LOW	SWITCH HIGH	SWITCH HIGH HIGH	SWITCH COMBINATION HIGH LOW	ACTION	ALARM LOW LOW	ALARM LOW	ALARM HIGH	ALARM HIGH HIGH	TOTALIZE INDICATOR TRANSMITTER	VALVE	GAUGE	LIGHT	SPEED SETTING
A	ANALYSIS	AE	AT	AIT	AY	AI	AR	AC	AIC	ARC	AS	ASLL	ASL	ASH	ASHH	ASHL		AALL	AAL	AAH	AAHH				AL	
B	BURNER FLAME	BE	BT	BIT	BY	BI	BR	BC	BIC	BRC	BS	BSLL	BSL	BSH	BSHH			BALL	BAL	BAH	BAHH				BL	
C	CONDUCTIVITY	CE	CT	CIT	CY	CI	CR	CC	CIC	CRC	CS	CSLL	CSL	CSH	CSHH	CSHL		CALL	CAL	CAH	CAHH				CL	
D	DENSITY	DE	DT	DIT	DY	DI	DR	DC	DIC	DRC	DS	DSLL	DSL	DSH	DSHH	DSHL		DALL	DAL	DAH	DAHH				DL	
E																										
F	FLOW	FE	FT	FIT	FY	FI	FR	FC	FIC	FRC	FS	FSLL	FSL	FSH	FSHH	FSHL		FALL	FAL	FAH	FAHH	FQI	FCV	FG	FL	
FF	FLOW RATIO				FFY	FFI		FFC	FFIC		FFS														FFL	
G	GAUGING (DIMENSION)																									
H	HAND (MANUAL)*							HC			HS*						HA*						HV		HL	HSS
I	CURRENT		IT	IIT	IY	II	IR	IC	IIC	IRC	IS	ISLL	ISL	ISH	ISHH			IALL	IAL	IAH	IAHH				IL	
J	POWER																									
K	TIME				KY	KI	KR	KC	KIC	KRC	KS	KSLL	KSL	KSH	KSHH			KALL	KAL	KAH	KAHH		KV		KL	
L	LEVEL	LE	LT	LIT	LY	LI	LR	LC	LIC	LRC	LS	LSLL	LSL	LSH	LSHH	LSHL		LALL	LAL	LAH	LAHH		LCV	LG	LL	
M	MOISTURE OR HUMIDITY	ME	MT	MIT	MY	MI	MR	MC	MIC	MRC	MS	MSLL	MSL	MSH	MSHH			MALL	MAL	MAH	MAHH				ML	
N	EMERGENCY SHUTDOWN																									
O																										
P	PRESSURE OR VACUUM	PE	PT	PIT	PY	PI***	PR	PC	PIC	PRC	PS****	PSLL	PSL	PSH	PSHH	PSHL		PALL	PAL	PAH	PAHH		PCV		PL	
PD	DIFFERENTIAL PRESSURE		PDT	PDIT	PDY	PDI	PDR	PDC	PDIC	PDRC	PDS	PDSLL	PDSL	PDSH	PDSHH			PDALL	PDAL	PDAH	PDAHH		PDCV		PDL	
Q	QUANTITY	QE	QT	QIT	QY	QI	QR				QS	QSLL	QSL	QSH	QSHH			QALL	QAL	QAH	QAHH					
R	RADIOACTIVITY																									
S	SPEED	SE	ST	SIT	SY	SI	SR	SC	SIC	SRC	SS	SSLL	SSL	SSH	SSHH			SALL	SAL	SAH	SAHH					
T	TEMPERATURE	TE	TT	TIT	TY	TI	TR	TC	TIC	TRC	TS	TSLL	TSL	TSH	TSHH	TSHL		TALL	TAL	TAH	TAHH		TCV		TL	
TD	DIFFERENTIAL TEMPERATURE		TDT	TDIT	TDY	TDI	TDR	TDC	TDIC	TDRC	TDS	TDSLL	TDSL	TDSH	TDSHH			TDALL	TDAL	TDAH	TDAHH		TDCV		TDL	
U	MULTIVARIABLE					UI	UR	UC	UIC	URC	US														UL	
V	VISCOSITY	VE	VT	VIT	VY	VI	VR	VC	VIC	VRC	VS	VSLL	VSL	VSH	VSHH			VALL	VAL	VAH	VAHH				VL	
W	WEIGHT	WE	WT	WIT	WY	WI	WR				WS	WSLL	WSL	WSH	WSHH			WALL	WAL	WAH	WAHH					
X	UNCLASSIFIED	XE	XT	XIT	XY	XI	XR	XC	XIC	XRC	XS	XSLL	XSL	XSH	XSHH			XALL	XAL	XAH	XAHH		XCV	XG	XL	
XV	VIBRATION	XVE	XVT		XVY	XVI	XVR				XVS			XVSH	XVSHH					XVAH	XVAHH				XVL	
Y	STATUS***					YI***																			YL	
Z	POSITION	ZE	ZT	ZIT	ZY	ZI					ZS**												ZV		ZL**	

* REFER TO OPERATOR PILOT DEVICE LEGEND
** LETTER INDICATES POSITION (O=OPEN, C=CLOSED, R=RAISE, L=LOWER, ETC)
*** PI# # = 1,2,3 ETC. AND REPRESENTS A UNIQUE IDENTIFIER AND IS APPLICABLE TO ALL ITEMS IN THE TABLE ABOVE
**** COULD ALSO BE PIS - FOR PRESSURE INDICATING SWITCH

OPERATOR PILOT DEVICE LEGEND

DEVICE TYPE \ PILOT DEVICE FUNCTION	LOCAL-OFF-REMOTE (LOR) OR LOCAL-STOP-REMOTE (LSR)	STOP (SP)	START (ST)	HAND-OFF-AUTO (HOA)	OFF-ON (OO)	SELECT (SEL)	OPEN-STOP-CLOSE (OSC)	JOG OPEN-HOLD-CLOSE (JOHC)	SEMIAUTO-AUTO-MANUAL (SAAM)	LEAD-LAG-STANDBY (LLGS)	JOG OPEN-JOG CLOSE (JOJC)	ONLINE-OFFLINE (OLOF)	AUTO-MANUAL (AM)
PILOT DEVICE TAG (HAND SWITCHES)	HSA*	HSB	HSC	HSD*	HSE	HSF	HSG*	HSH*	HSI	HSJ*	HSK*	HSL*	HSM*
SCADA/HMI TAG (HAND ACTION)	HAA	HAB	HAC	HAD	HAE	HAF	HAG	HAH	HAI	HAJ	HAK	HAL	HAM

DEVICE TYPE \ PILOT DEVICE FUNCTION	FIXED RATE-LEVEL RATE (FRLR)	OPEN-CLOSE (OC)	NO OFFLINE-OFFLINE TRANSITION (NOOT)	LOW-HIGH (LH)	RESET (RST)	SPEED (SPD)	START-STOP (STSP)	E-STOP (E-SP)	BYPASS (BYP)				POSITION (POS)
PILOT DEVICE TAG (HAND SWITCHES)	HSN	HSO*	HSP	HSQ*	HSR	HSS	HST*	HSU	HSV	HSW	HSX	HSY	HSZ
SCADA/HMI TAG (HAND ACTION)	HAN	HAO	HAP	HAQ	HAR	HAS	HAT	HAU	HAV	HAW	HAX	HAY	HAZ

HSA* SELECTOR SWITCH POSITION EG: HSA(R) R = REMOTE, HSD(A) A = AUTO, ETC

I/O TYPE DESIGNATIONS

AUX1	RUNNING	MSL	MOTOR START LOW
AUX2	FAILED/FAULT	MSM	VALVE MODULATE
AUXF1	RUNNING FORWARD	MSP	MOTOR STOP
AUXH1	RUNNING HIGH	MSR	MOTOR START REVERSE
AUXL1	RUNNING LOW	MST	MOTOR START
AUXR1	RUNNING REVERSE	SS	SPEED SIGNAL
SVC	SOLENOID VALVE CLOSE	ZC	POSITION COMMAND
SVO	SOLENOID VALVE OPEN	ZCC	POSITION COMMAND CLOSE
MS	RUN	ZCO	POSITION COMMAND OPEN
MSF	MOTOR START FORWARD		
MSH	MOTOR START HIGH		

INSTRUMENT TYPE DESIGNATIONS

AM	AMMONIA	O3	OZONE	SC	STREAMING CURRENT
CAP	CAPACITANCE	ORP	OXIDATION REDUCTION POTENTIAL	SH	SODIUM HYPOCHLORITE
CG	COMBUSTIBLE GAS	P	PRESSURE	TDR	TIME DOMAIN REFLECTOMETRY
CL	CHLORINE	P-SUB	PRESSURE SUBMERSIBLE	TH	THERMAL
COND	CONDUCTIVITY	PC	PARTICLE COUNTER	TSS	TOTAL SUSPENDED SOLIDS
DO	DISSOLVED OXYGEN	PO	PHOSPHOROUS	TURB	TURBIDITY
FMCW	FREQ. MODULATED CONT. WAVE	PTOF	PULSE TIME OF FLIGHT	US	ULTRASONIC
HSF	FLUORIDE	R/I	RESISTANCE TO CURRENT	UVI	UV INTENSITY
IS	INTRINSIC SAFETY BARRIER	ROT	ROTAMETER	UVT	UV TRANSMITTANCE
LEL	LOWER EXPLOSIVE LIMIT	RTD	RESISTANCE TEMP DETECTOR	VAC	VACUUM
MAG	MAGNETIC				

SPECIFIC ABBREVIATIONS

APH	A PHASE	MWH	MOTOR WINDING HEATER
BPH	B PHASE	SSG	SECONDARY SWITCHGEAR
BRB	BEARING BOTTOM	SV*	SOLENOID VALVE
BRT	BEARING TOP	SPD	SURGE PROTECTIVE DEVICE
BTFLY	BUTTERFLY	UPS	UNINTERRUPTABLE POWER SUPPLY
CPH	C PHASE	YA	STATUS AUTO
CC*	CALIBRATION COLUMN * = 1, 2, 3, ETC.	YR	STATUS REMOTE
HTR	HEATER	Y1	STATUS RUNNING
HTU	HEAT TRACE UNIT	Y2	ALARM FAILED/FAULT

* CC# AND SV# # = 1, 2, 3 ETC. AND REPRESENTS A UNIQUE IDENTIFIER

INSTRUMENT LINE SYMBOLS

INSTRUMENT OR CONNECTION TO PROCESS	————————
PNEUMATIC SIGNAL	—//——//——//——//——//——//——//——//—
ELECTRIC SIGNAL	— — — — — — — — — —
HYDRAULIC SIGNAL	— L — L — L — L — L —
CAPILLARY TUBE	—X——X——X——X——X——X—
ELECTROMAGNETIC OR SONIC SIGNAL (GUIDED)	
ELECTROMAGNETIC OR SONIC SIGNAL (NOT GUIDED)	
INTERNAL SYSTEM LINK (SOFTWARE OR DATA LINK)	— o — o — o — o — o — o —
COPPER ETHERNET	— C — C — C — C — C —
FIBER OPTIC ETHERNET	— F — F — F — F — F —
WIRELESS ETHERNET	— W — W — W — W — W —
PROFIBUS DP	— PBD — PBD — PBD — PBD — PBD —
PROFIBUS PA	— PBA — PBA — PBA — PBA — PBA —
DEVICENET	— DN — DN — DN — DN — DN —
FOUNDATION FIELDBUS	— FF — FF — FF — FF — FF —

PROCESS LINE SYMBOLS

PRIMARY PROCESS FLOW IN PIPE

SECONDARY PROCESS FLOW IN PIPE

PRIMARY PROCESS FLOW IN CHANNEL

SECONDARY PROCESS FLOW IN CHANNEL

DESIGNATIONS

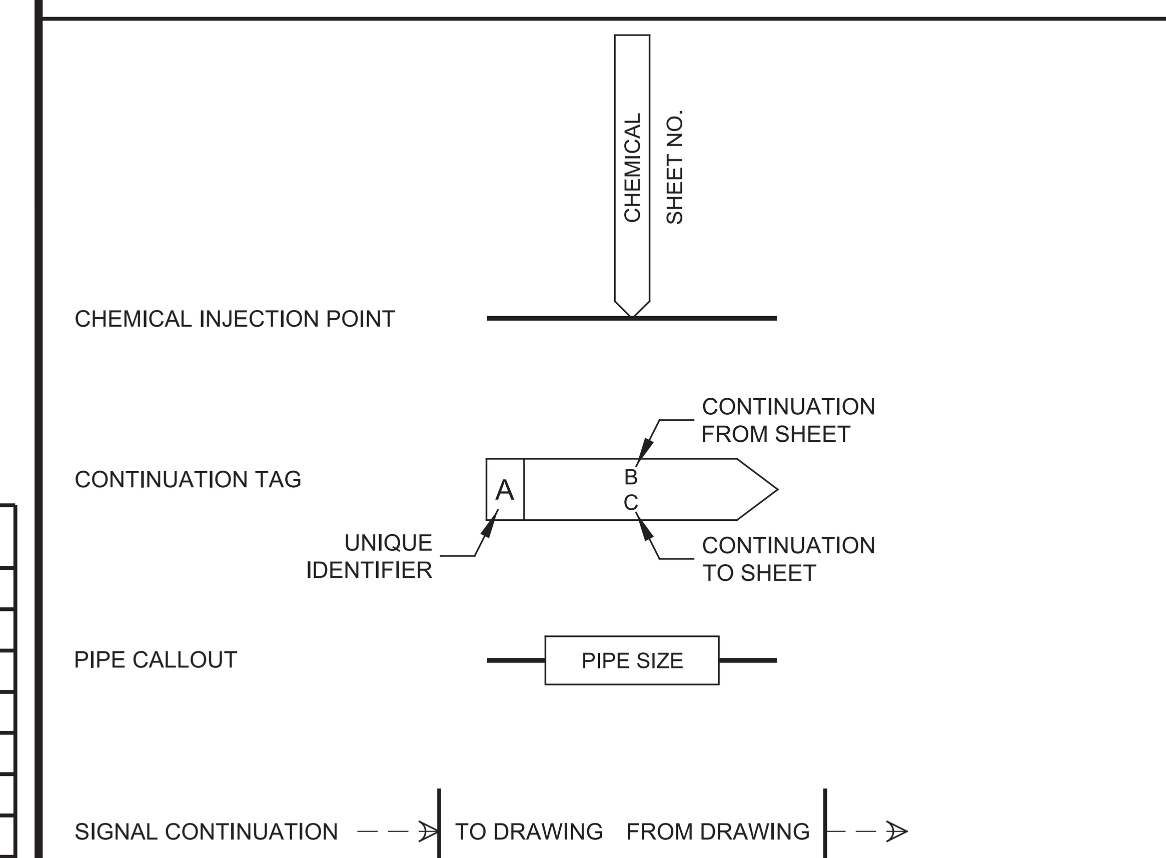
EQUIPMENT ENCLOSURE

EXISTING

FUTURE

FUTURE

MISCELLANEOUS P&ID SYMBOLS



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ACTUATORS

- DIAPHRAGM
- ELECTRIC DISCRETE
- ELECTRIC MODULATING
- ELECTRIC HYDRAULIC
- HAND
- HYDRAULIC
- PNEUMATIC
- SOLENOID
- HYDRAULIC MODULATING
- PNEUMATIC SINGLE SOLENOID OPEN/CLOSE
- PNEUMATIC SINGLE SOLENOID w/ SPEED CONTROL
- PNEUMATIC DUAL SOLENOID OPEN/CLOSE
- PNEUMATIC DUAL SOLENOID OPEN/HOLD/CLOSE
- PNEUMATIC DUAL SOLENOID OPEN/CLOSE w/ SPEED CONTROL
- PNEUMATIC MODULATING
- PNEUMATIC MODULATING OPEN/CLOSE w/ SPEED CONTROL

PIPING

- AIR GAP
- BLIND FLANGE
- CAPPED OR PLUGGED
- CONCENTRIC INCREASER
- CONCENTRIC REDUCER
- DRAIN
- ECCENTRIC INCREASER
- ECCENTRIC REDUCER
- EXPANSION COUPLING
- EXPANSION JOINT VIBRATION CENTER
- FLEXIBLE CONNECTION
- QUICK DISCONNECT
- TEE
- UNION

PUMPS

- AIR DRIVEN
- CENTRIFUGAL
- CHEMICAL FEED DIAPHRAGM
- DIAPHRAGM
- GEAR
- PERISTALTIC OR HOSE
- PISTON
- PROGRESSIVE CAVITY
- SUBMERSIBLE
- VERTICAL TURBINE
- VERTICAL CHOPPER
- WATER CHAMP

BLOWERS/ COMPRESSORS

- CENTRIFUGAL SINGLE STAGE BLOWER
- CENTRIFUGAL MULTI STAGE BLOWER
- RECIPROCATING COMPRESSOR
- SCREW COMPRESSOR
- FAN
- LIQUID RING COMPRESSOR
- ROTARY LOBE BLOWER

MISC

- AIR DAMPER
- AIR/ CHEMICAL DIFFUSER
- BASKET STRAINER
- BLOW-OFF SILENCER
- CALIBRATION COLUMN
- COALESCER
- DESICCANT DRYER
- EDUCTOR/EJECTOR
- EYEWASH
- EXHAUST FAN
- FILTER
- FILTER SEPARATOR
- FINE FILTER
- FIRE ALARM/SENSOR
- FLAME ARRESTER
- FLAME ARRESTER w/THERMALLY OPERATED VALVE
- FLOW CONDITIONER
- GAS CANNON
- GRINDER
- HEAT EXCHANGER
- HOIST
- HORIZONTAL MIXER
- HOSE CONNECTION
- INLET STRAINER
- INLINE STATIC MIXER
- MATERIAL CHANGE
- MIXER
- MOTOR
- NOZZLE
- ORIFICE RESTRICTION
- PERISTALTIC COMPOSITE SAMPLER
- PULSATION DAMPENER
- REFRIGERATED DRYER
- RUPTURE DISK
- SAMPLE PORT
- SIGHT TUBE
- SMOKE DETECTOR
- STRAINER - MECHANICALLY CLEANED
- STRAINER WITH BLOW OFF
- STRAINER WYE TYPE
- VAPOR HEATER
- VAPORIZER
- VENT
- VENT TO ATMOSPHERE

CHECK VALVES

- BACK FLOW PREVENTOR
- BALL
- DIAPHRAGM CHECK
- DOUBLE FLAP
- FLAPPER
- SPRING LOADED GENERAL
- SPRING LOADED SWING
- SWING

PRESSURE VALVES

- BACKPRESSURE REGULATING SELF CONTAINED
- BACKPRESSURE REGULATING EXTERNAL TAP
- PRESSURE REDUCING SELF CONTAINED
- PRESSURE REDUCING EXTERNAL PRESSURE TAP
- REGULATING
- PRESSURE RELIEF
- VACUUM RELIEF

VALVES

- 3-WAY
- 3-WAY PLUG
- 4-WAY
- AIR-RELIEF
- ANGLE
- BALL
- BALL V-NOTCH
- BUTTERFLY
- BUTTERFLY- BURIED VALVE BOX
- CONE
- DIAPHRAGM
- GATE
- GATE- BURIED VALVE BOX
- GLOBE
- HOSE
- MUD
- NEEDLE
- PINCH
- PLUG ECCENTRIC
- PLUG ECCENTRIC w-VALVE BOX
- PLUG ECCENTRIC LUBRICATED
- PLUG ECCENTRIC LUBRICATED BURIED VALVE BOX
- PLUG CONCENTRIC
- PLUG CONCENTRIC -BURIED VALVE BOX
- PLUG CONCENTRIC LUBRICATED
- PLUG CONCENTRIC LUBRICATED BURIED VALVE BOX
- PUMP DISCHARGE
- TELESCOPING

VALVE DESIGNATIONS

NO	NORMALLY OPEN
NC	NORMALLY CLOSED
FO	FAIL OPEN
FC	FAIL CLOSE
FLP	FAIL LAST POSITION

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DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER ASHRITHA BANAPURAM No. 21815 ELECTRICAL STATE OF CALIFORNIA

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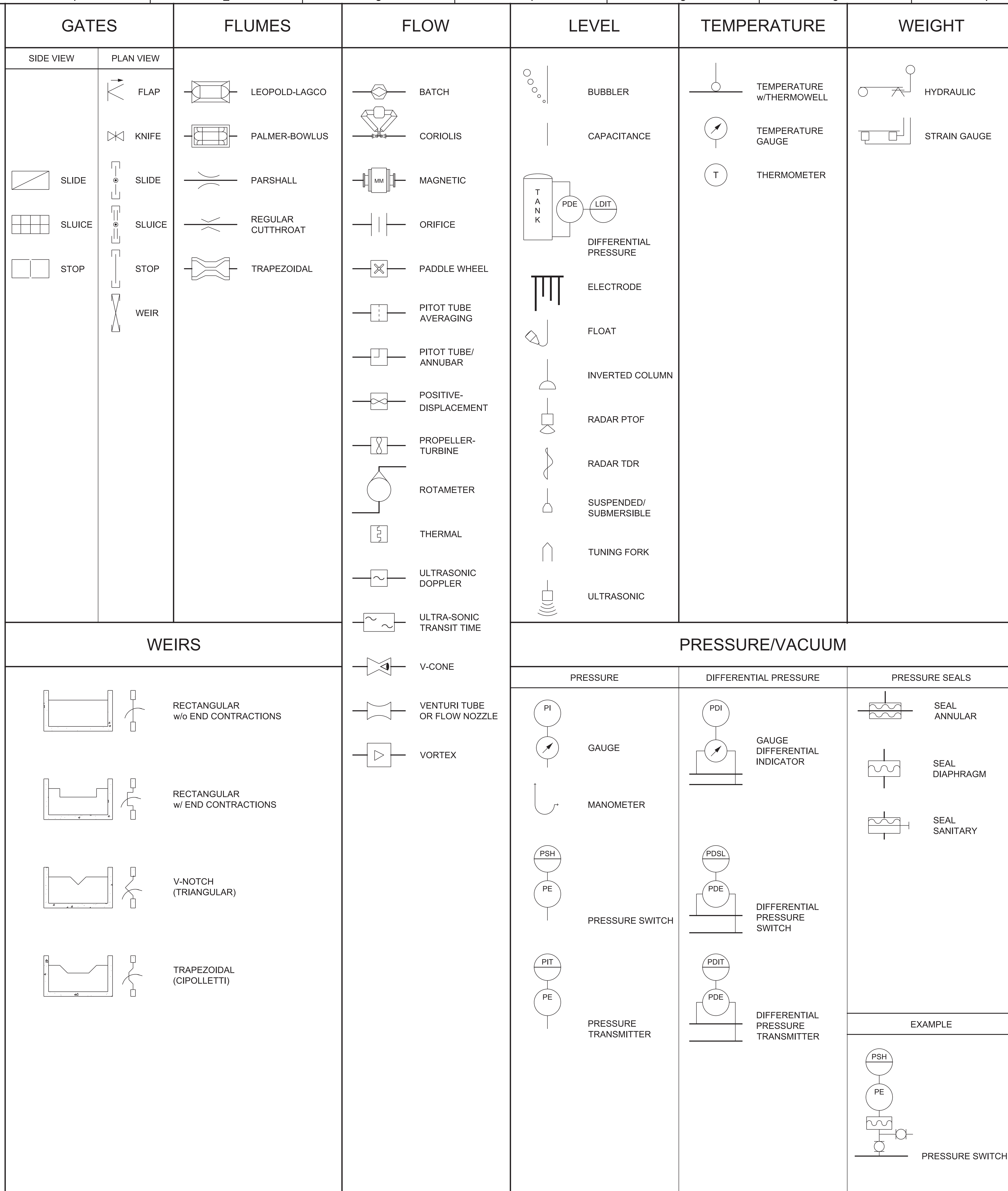
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INSTRUMENTATION
SYMBOLS & ABBREVIATIONS - III

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DRAWING NO. N03
SHEET NO. 105 OF 122

PROJECT NO.
FILE NAME: 10595A1000N003.dgn



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INSTRUMENTATION

SYMBOLS & ABBREVIATIONS - IV

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SHEET NO. 106 OF 122

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PROCESS SWITCHES

- FLOAT SWITCH CLOSE ON RISING LEVEL
- FLOAT SWITCH OPEN ON RISING LEVEL
- PRESSURE SWITCH CLOSE ON RISING PRESSURE
- PRESSURE SWITCH OPEN ON RISING PRESSURE
- TEMPERATURE SWITCH CLOSE ON RISING TEMPERATURE
- TEMPERATURE SWITCH OPEN ON RISING TEMPERATURE
- FLOW SWITCH CLOSE ON INCREASE IN FLOW
- FLOW SWITCH OPEN ON INCREASE IN FLOW
- VIBRATION SWITCH OPEN ON RISING VIBRATION
- VIBRATION SWITCH CLOSE ON RISING VIBRATION
- TORQUE SWITCH OPEN ON HIGH TORQUE
- TORQUE SWITCH CLOSE ON HIGH TORQUE
- NORMALLY CLOSED LIMIT SWITCH
- NORMALLY CLOSED HELD OPEN LIMIT SWITCH
- NORMALLY OPEN LIMIT SWITCH
- NORMALLY OPEN HELD CLOSED LIMIT SWITCH

HAND SWITCHES

- NORMALLY OPEN MOMENTARY PUSHBUTTON
- NORMALLY CLOSED MOMENTARY PUSHBUTTON
- xoo — THREE POSITION SELECTOR SWITCH
  x - DENOTES POSITION CONTACTS CLOSED IN
- xo — TWO POSITION SELECTOR SWITCH
  x - DENOTES POSITION CONTACTS CLOSED IN
- MUSHROOM HEAD PUSHBUTTON
- PUSH-PULL PUSHBUTTON MAINTAINED CONTACT
- xox — PADLOCK SWITCH
  x - DENOTES POSITION CONTACTS CLOSED IN
- PULL CORD SWITCH
- STOP-LOCKOUT PUSHBUTTON
- xoo — SPRING-RETURN
  x - DENOTES POSITION CONTACTS CLOSED IN

PILOT LIGHTS

PILOT LIGHT
a = LENS COLOR
R = RED
G = GREEN
W = WHITE
A = AMBER

RELAYS

RELAY COIL (d / a / b / c)
a = TYPE
- CR - CONTROL RELAY
- TD - TIME DELAY RELAY
- M - MOTOR STARTER COIL
- L - MOTOR STARTER COIL - LOW SPEED
- H - MOTOR STARTER COIL - HIGH SPEED
- F - MOTOR STARTER COIL - FORWARD
- R - MOTOR STARTER COIL - REVERSE

b = TDON - TIME DELAY ON ENERGIZATION
TDOFF - TIME DELAY ON DEENERGIZATION

c = TIMING RANGE/SETTING
d = DESCRIPTION

- NORMALLY OPEN CONTROL CONTACT
- NORMALLY CLOSED CONTROL CONTACT
- NOTC — TIME DELAY CONTACT NORMALLY OPEN TIMED CLOSING
- NCTO — TIME DELAY CONTACT NORMALLY CLOSED TIMED OPENING
- NOTO — TIME DELAY CONTACT NORMALLY OPEN TIMED OPENING
- NCTC — TIME DELAY CONTACT NORMALLY CLOSED TIMED CLOSING

TERMINAL BLOCKS

- TERMINAL IN PLC/PCM PANEL
- TERMINAL IN MOTOR CONTROL CENTER
- TERMINAL IN LOCAL STARTER CONTROL PANEL
- TERMINAL AT FIELD DEVICE
- TERMINAL IN RTU
- TERMINAL IN FIELD PANEL
- TERMINAL IN (USER CHOICE)
- DIGITAL BUS CONNECTOR
  - * = D - DEVICENET
  - * = PA - PROFIBUS PA
  - * = DP - PROFIBUS DP
  - * = H1 - FOUNDATION FIELDBUS H1
  - * = H2 - FOUNDATION FIELDBUS H2

I/O

- (a) PLC DISCRETE
  a = INPUT OR OUTPUT AS INDICATED
- (ANALOG / a) PLC ANALOG
  a = INPUT OR OUTPUT AS INDICATED
- (DIGITAL BUS) DIGITAL BUS

MISC

- SOLENOID
- (M) METER UNIT
  M = TYPE
- (HP) MOTOR
- CIRCUIT BREAKER
- DISCONNECT
- FUSE
- TRANSIENT SURGE PROTECTION
- MWH-* MOTOR WINDING HEATER
  * - MOTOR TAG I.D.
- SPACE HEATER
- VARISTOR
- CAPACITOR
- RESISTOR
- BATTERY
- DIODE
- MOTOR OVERLOAD HEATERS
- OVERLOAD CONTACT
- DRAWOUT CONNECTION
- GROUND
- LIGHTNING ARRESTOR
- (H1, H3, H2, H4, X1, X2) CONTROL POWER TRANSFORMER
- KI-* ETM — ELAPSED TIME METER

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INSTRUMENTATION
SCHEMATIC SYMBOLS

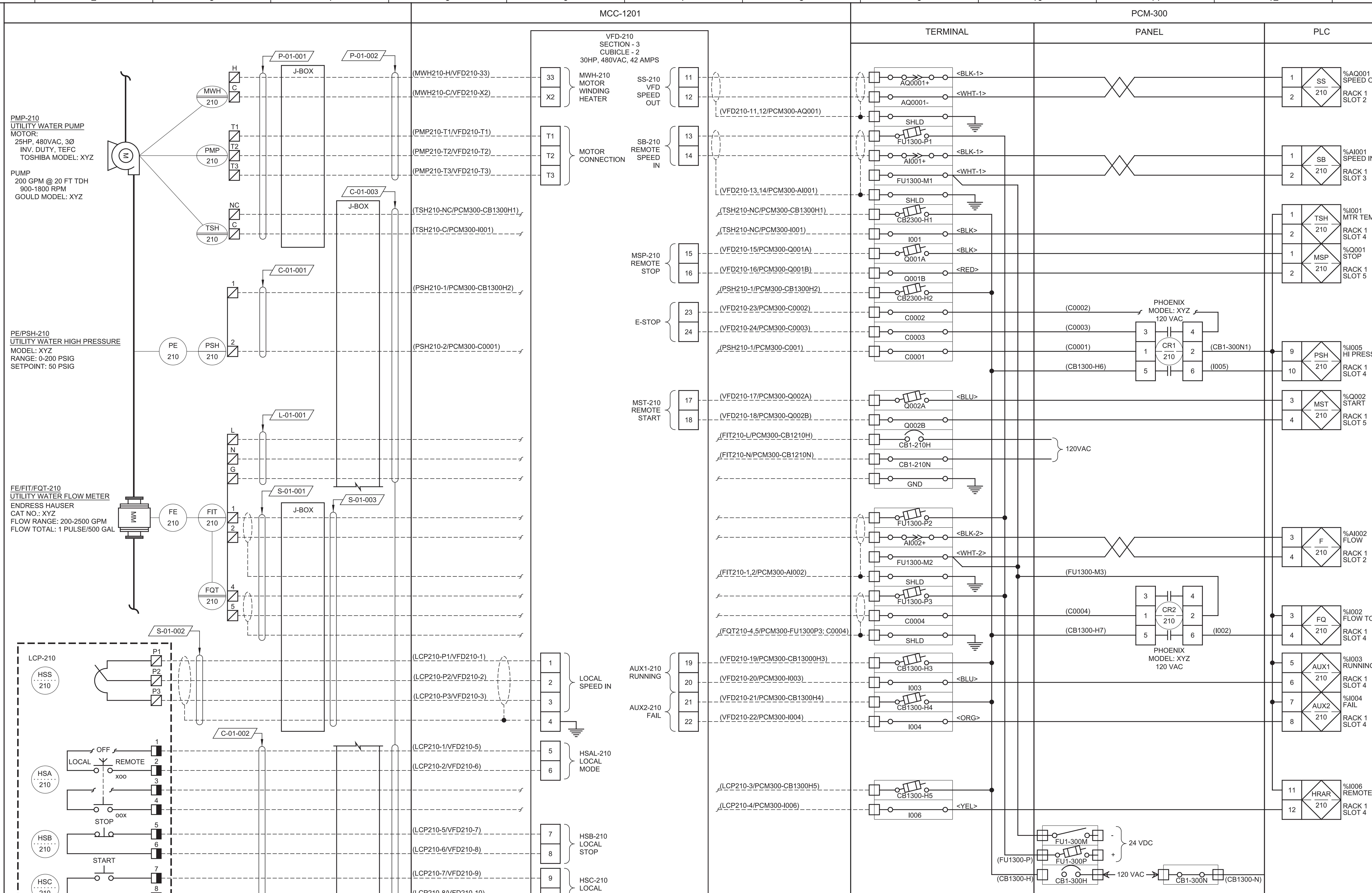
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User: svcPW
PlotScale: 2:1
DesignScript: Carollo_Std_Pen_v0905.pen
ColorTable: gshade.ctb
Model: Layout1
LAST SAVED BY: crollins



THE ABOVE DRAWING IS INCLUDED AS AN EXAMPLE ONLY AND IS NOT PROJECT SPECIFIC. CONTRACTOR SHALL FURNISH LOOP DIAGRAMS FOR THE ENTIRE FACILITY. PRELIMINARY DETAILED LOOP DIAGRAMS TO BE SUBMITTED FOR REVIEW PRIOR TO BEGINNING CONSTRUCTION. THE LOOP DIAGRAM SHOWN ABOVE DISPLAYS THE LEVEL OF EXPECTED DETAIL.

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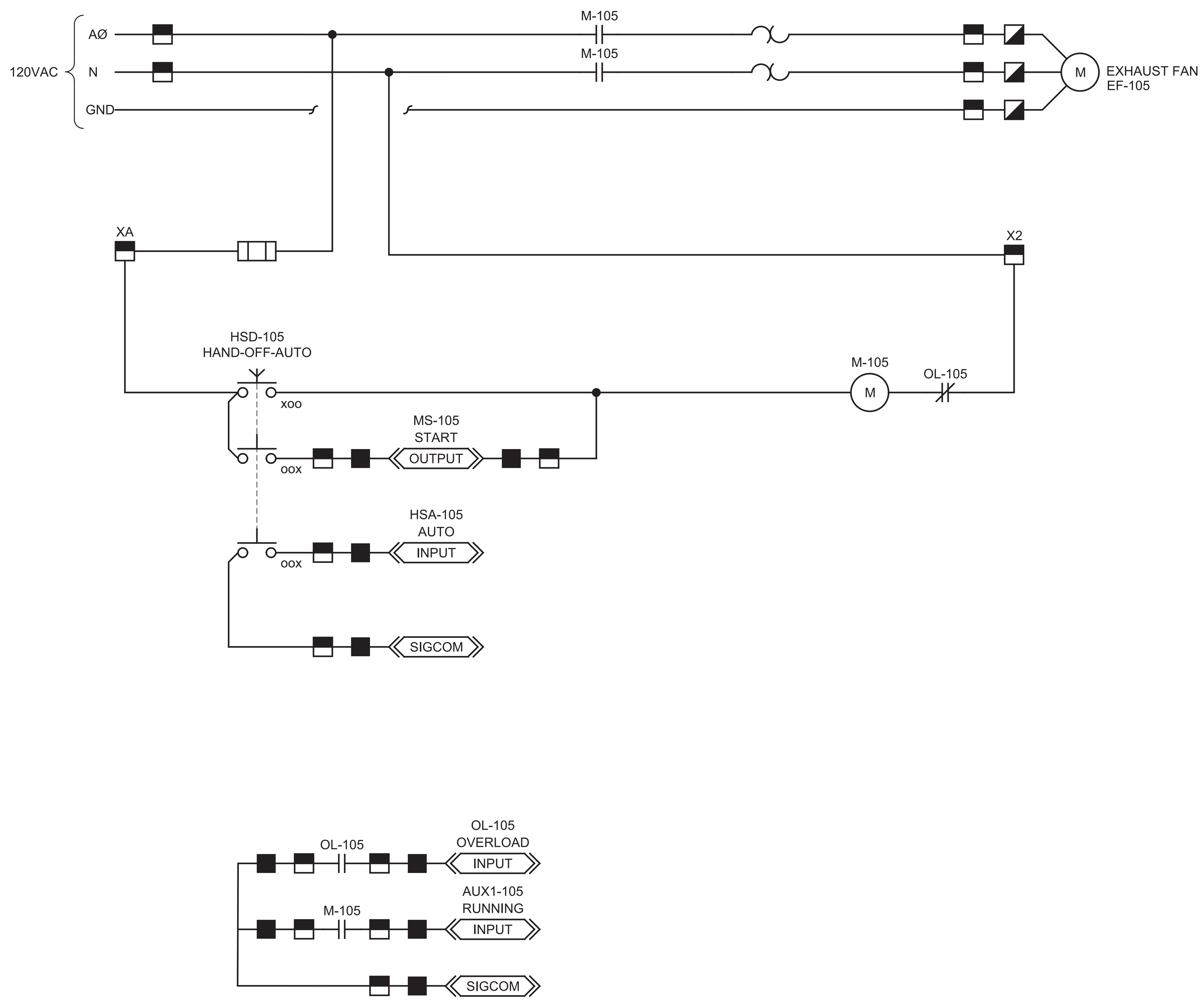
INSTRUMENTATION

SAMPLE LOOP DRAWING

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DRAWING NO. N06
SHEET NO. 108 OF 122

PROJECT NO.
FILE NAME: 10595A1000N006.dgn



1 EXHAUST FAN EF-105

N02

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DATE APRIL 2018

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CONTROL SCHEMATICS

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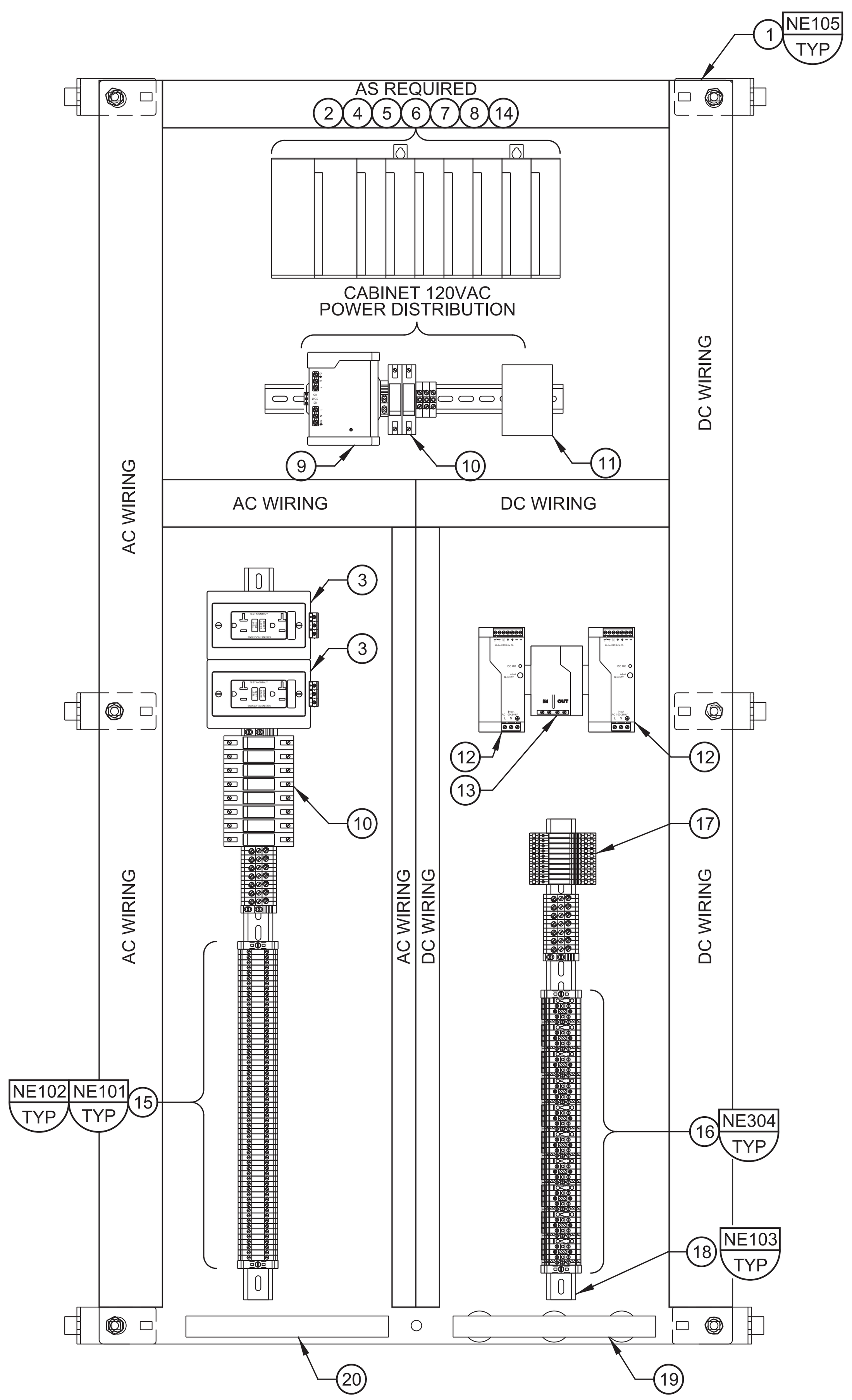
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DRAWING NO. N07
SHEET NO. 109 OF 122

PROJECT NO.
FILE NAME: 10595A1000N007.dgn

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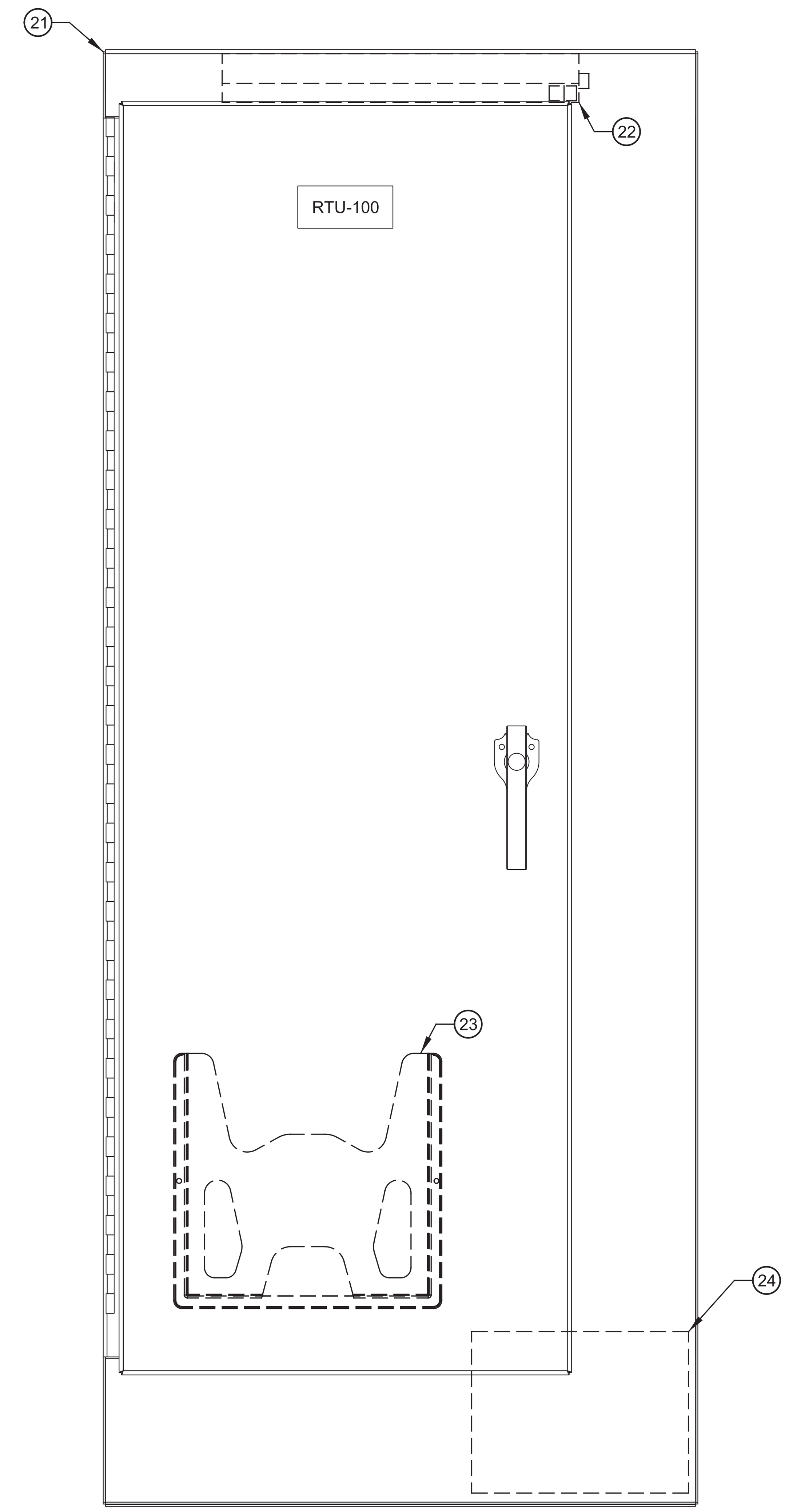
GENERAL NOTES:

1. ENCLOSURE DRAWING REPRESENTS DESIGN INTENT. CONTRACTOR TO SUPPLY AS-BUILT DRAWINGS SHOWING FINAL ENCLOSURE LAYOUT WITH ALL EQUIPMENT, MANUFACTURERS, AND PART NUMBERS.
2. ALL TIE WRAPS SHALL BE LOCATED OUTSIDE OF THE WIRE DUCTS. INSTALLATION OF ALL NYLON TIE WRAPS SHALL BE TENSIONED AND TRIMMED FLUSH.
3. ELEVATE ALL TERMINAL BLOCK DIN RAIL A MINIMUM OF 2 INCHES OFF OF BACK PANEL.
4. ALL CONDUIT PENETRATIONS SHALL BE LOCATED AT THE TOP OR BOTTOM OF THE ENCLOSURE. NO SIDE, FRONT, OR REAR PENETRATIONS ALLOWED.



INTERNAL ELEVATION

SCALE: NO SCALE
FILE: 10595A1002N601.2dm



EXTERNAL ENCLOSURE

SCALE: NO SCALE
FILE: 10595A1002N601.2dm

MAJOR EQUIPMENT SCHEDULE	
ITEM	DESCRIPTION
1	BACK PANEL
2	RTU BACKPLANE
3	RECEPTACLE
4	RTU POWER SUPPLY
5	RTU DI MODULE
6	RTU DO MODULE
7	RTU AI MODULE
8	RTU AO MODULE
9	SPD SURGE PROTECTION DEVICE
10	120 VAC CIRCUIT BREAKERS
11	RADIO
12	REDUNDANT 24VDC POWER SUPPLY
13	DIODE BRIDGE
14	RTU ETHERNET COMMUNICATION MODULE
15	DISCRETE TERMINAL BLOCKS
16	ANALOG TERMINAL BLOCKS
17	24VDC FUSED TERMINAL BLOCKS
18	DIN RAIL
19	ISOLATED GROUND BAR
20	GROUND BAR
21	NEMA 4X SST ENCLOSURE
22	LIGHT FIXTURE
23	DATA POCKET SHELF
24	UPS

REV	DATE	BY	DESCRIPTION

DESIGNED AB
DRAWN CGR
CHECKED BJR
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER ASHRITHA BANAPURAM No. 21815 ELECTRICAL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.24 13:33:22-07'00'

Digitally signed by Ashritha Banapuram
Contact Info: Carollo Engineers, Inc
Date: 2018.04.24 15:06:13-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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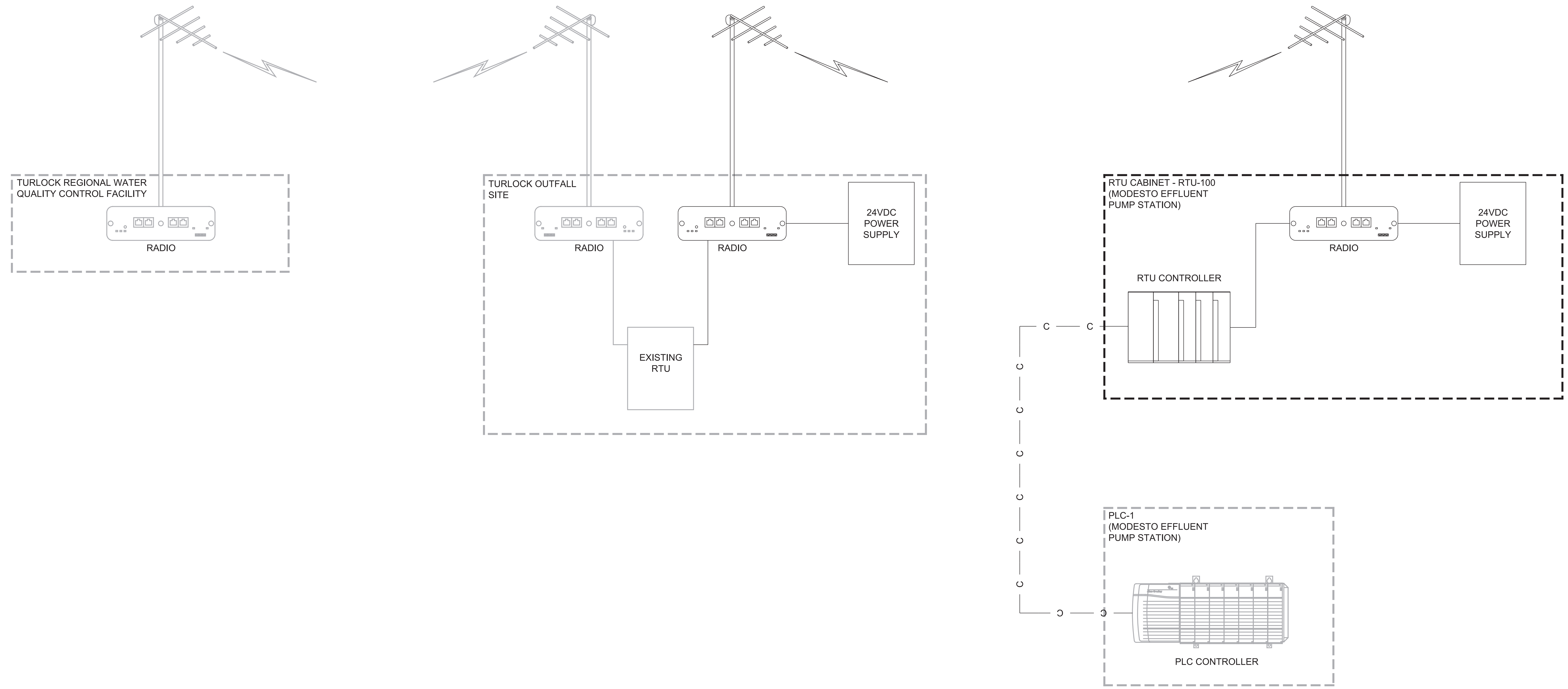
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
INSTRUMENTATION
RTU CABINET INTERNAL LAYOUT

VERIFY SCALES
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JOB NO. 10595A.10
DRAWING NO. N08
SHEET NO. 110 OF 122

Plot Date: 21-APR-2018 9:23:24 AM User: svcPW PlotScale: 2:1 DesignScript: Carollo_Std_Pen_v0905.pen ColorTable: gshade.ctb Model: Layout1
LAST SAVED BY: SBoyd
PROJECT NO. FILE NAME: 10595A1000N008.dgn



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REGISTERED PROFESSIONAL ENGINEER
ASHRITHA BANAPURAM
No. 21815
ELECTRICAL
STATE OF CALIFORNIA

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Contact Info: Carollo Engineers, Inc
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DARREN G. BAUNE
No. 68899
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NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
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INSTRUMENTATION
SCADA BLOCK DIAGRAM

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JOB NO. 10595A.10
DRAWING NO. N09
SHEET NO. 111 OF 122

PROJECT NO.
FILE NAME: 10595A1000N009.dgn

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REGISTERED PROFESSIONAL ENGINEER ASHRITHA BANAPURAM No. 21815 ELECTRICAL STATE OF CALIFORNIA

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JOB NO. 10595A.10
DRAWING NO. N10
SHEET NO. 112 OF 122

PROJECT NO. FILE NAME: 10595A1000N010.dwg

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REGISTERED PROFESSIONAL ENGINEER ASHRITHA BANAPURAM No. 21815 ELECTRICAL STATE OF CALIFORNIA

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REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK

NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT


INSTRUMENTATION

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JOB NO. 10595A.10
DRAWING NO. N11
SHEET NO. 113 OF 122

PROJECT NO. FILE NAME: 10595A1000N011.dwg



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DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER ASHRITHA BANAPURAM No. 21815 ELECTRICAL STATE OF CALIFORNIA

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Date: 2018.04.24 13:34:08-07'00'

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JOB NO. 10595A.10
DRAWING NO. N12
SHEET NO. 114 OF 122

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ELECTRICAL ABBREVIATIONS:

Δ	DELTA CONNECTED
Y	WYE CONNECTED
0	PHASE
&	AND
@	AT
'	FEET
"	INCHES
A	AMPERES
AC	ALTERNATING CURRENT
ACT	ABOVE COUNTERTOP/BACKSPLASH
ADJ	ADJACENT, ADJOINING
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AL	ALUMINUM
APPROX	APPROXIMATE
ARCH	ARCHITECT
AUTO	AUTOMATIC
AUX	AUXILIARY
ALT	ALTERNATE
AWG	AMERICAN WIRE GAUGE
B	BARE
BC	BARE COPPER GROUND
BKBD	BACKBOARD
BRKR	BREAKER
BLDG	BUILDING
C	CONDUIT OR CONTRACTOR
CAB	CABINET
CATV	CABLE TELEVISION
CKT	CIRCUIT
CLG	CEILING
CO	CONDUIT ONLY
COMM	COMMUNICATION
CONC	CONCRETE
CONN	CONNECT
CONT	CONTINUATION OR CONTINUED
COORD	COORDINATE
CR	CONTROL RELAY
CT	CURRENT TRANSFORMER
COMP	COMPRESSOR
CU	COPPER
DC	DIRECT CURRENT
DET	DETAIL
DI	DISCREET INPUT
DISC	DISCONNECT
DIST	DISTRIBUTION
DLO	WIRE TYPE – SEE SPECS.
DSA	DIVISION OF THE STATE ARCHITECT
DWG	DRAWING
(E), EXIST	EXISTING
EC	ELECTRICAL CONTRACTOR
EL, ELEV	ELEVATION
EL	EMERGENCY LIGHT
ELECT	ELECTRICAL
EMS	ENERGY MANAGEMENT SYSTEM
EMT	ELECTRICAL METALLIC TUBING
EOL	END OF LINE
ENCL	ENCLOSURE
EP	EXPLOSION PROOF
EQUIP	EQUIPMENT
ETC	ET CETERA
EVAP	EVAPORATOR
(F)	FUTURE
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FAT	FIRE ALARM TERMINAL CABINET
FIXT	FIXTURE
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FLUOR	FLUORESCENT
FS	FLOW SWITCH
FOR	FORWARD–OFF–REVERSE
FT	FEET
GALV	GALVANIZED
GND	GROUND
GC	GENERAL CONTRACTOR
HI	HIGH
HOA	HAND–OFF–AUTO
HOS	HAND–OFF–STANDBY
HV	HIGH VOLTAGE
HVAC	HEATING, VENTILATION, AIR CONDITIONING
IDF	INTERMEDIATE DISTRIBUTION FRAME
INCAN	INCANDESCENT
IDC	INITIATING DEVICE CIRCUIT
IN	INCHES
INST	INSTANTANEOUS
J	JUNCTION BOX
KV	KILOVOLTS
KVA	KILOVOLT AMPERES
KW	KILOWATTS
L	LINE
LB	ELBOW
LF	LINEAR FEET
LFMC	LIQUID FILLED METAL CONDUIT
LOS	LOCKOUT–STOP
LOH	LOCK–OFF–HALT
LV	LOW VOLTAGE
M	MOTOR
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPS
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILLS
MCP	MOTOR CIRCUIT PROTECTOR
MDF	MAIN DISTRIBUTION FRAME
MECH	MECHANICAL
MFG	MANUFACTURER
MIN	MINIMUM
MPOE	MAIN POINT OF ENTRY
MSB	MAIN SWITCHBOARD
N	NEUTRAL
(N)	NEW
NA	NON–AUTOMATIC
NAC	NOTIFICATION APPLIANCE CIRCUIT
NC	NORMALLY CLOSED
NIES	NOT IN ELECTRICAL SECTION
NIC	NOT IN ELECTRICAL CODE
NO., #	NUMBER
NO	NORMALLY OPEN
NL	NIGHT LIGHT
OC	ON CENTER
OH	OVERHEAD
OL	THERMAL OVERLOAD RELAY
OT	OVER TEMPERATURE
OSHPD	OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
P	POLE
PA	PUBLIC ADDRESS
PB	PULL BOX
PNL	PANEL
PH	PHASE
PR	PAIR
PRI	PRIMARY
PS	PRESSURE SWITCH
PWR	POWER
(R)	REMOVE(D)
RA	REMOTE ANNUNCIATOR
RD	ROAD
REQD	REQUIRED
REQMTS	REQUIREMENTS
RGP	REDUNDANT GROUND PATH
RHW	WIRE TYPE– SEE SPECS.
RM	ROOM
RECP	RECEPTACLE
RT	RAIN TIGHT
SCH	SCHEDULE
SEC	SECONDS, SECONDARY
SHT	SHEET
SIG	SIGNAL
SPECS	SPECIFICATIONS
SW	SWITCH
SWD	SWITCHED
STD	STANDARD
STR	STRANDED
SWBD	SWITCHBOARD
TELE	TELEPHONE
TEMP	TEMPERATURE
TOA	TEST OFF AUTOMATIC
TH	THERMOSTAT
TRANSF	TRANSFORMER
TYP	TYPICAL
TSP	TWISTED SHIELDED PAIR
THRU	THROUGH
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
V	VOLTS
VA	VOLT AMPS
VFD	VARIABLE FREQUENCY DRIVE
VM	VOLT METER
W	WIRE
W/	WITH
W/O	WITHOUT
WP	WEATHERPROOF
WHD	WATT HOUR DEMAND METER
WM	WATT METER
WH	WATER HEATER
XFMER	TRANSFORMER
(XR)	REMOVE AND RELOCATE(D)

ELECTRICAL COMPLIANCE NOTES

THE INTENT OF THE DRAWINGS AND SPECIFICATION IS TO CONSTRUCT THE PROPOSED BUILDING IN ACCORDANCE WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF TITLE 22, DIVISION 7, CHAPTER 7, CALIFORNIA CODE OF REGULATIONS AND TITLE 24 –– ALL APPLICABLE PARTS OF LATEST EFFECTIVE EDITIONS.

ALL WORK PERFORMED UNDER THIS CONTRACT SHALL CONFORM TO THE FOLLOWING CODES AND REGULATIONS AS APPLICABLE:

2016 CALIFORNIA ADMINISTRATIVE CODE (CAC)
PART 1, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)
2016 CALIFORNIA BUILDING CODE (CBC)
PART 2, TITLE 24, CCR
BASED ON THE 2015 INTERNATIONAL BUILDING CODE (IBC)
2016 CALIFORNIA ELECTRICAL CODE (CEC)
PART 3, TITLE 24, CCR
BASED ON THE 2014 NATIONAL ELECTRICAL CODE (NEC)
2016 CALIFORNIA MECHANICAL CODE (CMC)
PART 4, TITLE 24, CCR
BASED ON THE 2015 UNIFORM MECHANICAL CODE (UMC)
2016 CALIFORNIA PLUMBING CODE (CPC)
PART 5, TITLE 24, CCR
BASED ON THE 2015 UNIFORM PLUMBING CODE (UPC)
2016 CALIFORNIA FIRE CODE (CFC)
PART 9, TITLE 24, CCR
BASED ON THE 2015 INTERNATIONAL FIRE CODE (IFC)

UNLESS OTHERWISE STATED, IT IS INTENDED THAT THE ABOVE CODES AND REGULATIONS REFER TO THE LATEST EDITION OR REVISION IN EFFECT ON THE DATE OF THE CONTRACT. NOTHING ON THE DRAWING IS TO BE CONSTRUED AS REQUIRING OR PERMITTING WORK THAT IS CONTRARY TO THE ABOVE LISTED CODES AND REGULATIONS, OR OTHER LOCAL, STATE OR FEDERAL CODES OR REGULATIONS WHICH MAY BE APPLICABLE.

GENERAL ELECTRICAL LEGEND

- CONCRETE PULL BOX –SIZE AS NOTED – LIDS AS NOTED 'P' POWER, 'S' SIGNAL, 'F' FIRE ALARM & 'D' DATA; '–T' DENOTES TRAFFIC LID
- CONDUIT –SURFACE MOUNTED OR ABOVE CEILING –EMT WITH COMPRESSION FITTING UNLESS NOTED ON PLANS
- CONDUIT –CONCEALED BELOW FLOOR IN EMT OR UNDERGROUND IN PVC SCH 40 WITH IMC ELBOWS
- HOMERUN TO PERSPECTIVE PANEL OR CABINET –BRANCH CIRCUIT WITH OUT FURTHER DESIGNATION IS A #12 WIRE CIRCUIT
- FLEX
- TERMINAL CABINET
- PANEL BOARD –SEE SCHEDULE
- MOTOR/EXHAUST FAN –N.I.E.S. –CONNECT AS REQUIRED
- DUPLEX RECEPTACLE +15" A.F.F. FROM BOTTOM OF BOX U.O.N.
- QUADPLEX RECEPTACLE +15" A.F.F. FROM BOTTOM OF BOX U.O.N.
- FLOOR POWER RECEPTACLE –WALKER OR EQUAL
- 30A. –4 WIRE GROUND RECEPTACLE +15" A.F.F. FROM BOTTOM OF BOX U.O.N.
- 50A. –4 WIRE GROUND RECEPTACLE +15" A.F.F. FROM BOTTOM OF BOX U.O.N.
- GFCI RECEPTACLE +15" A.F.F. FROM BOTTOM OF BOX U.O.N.
- JUNCTION BOX –4 11/16" x 2 1/8" SQUARE OR SMALL
- JUNCTION BOX –LARGER THAN 4 11/16" x 2 1/8" SQUARE
- FLOOR JUNCTION BOX –WALKER OR EQUAL
- FUSED DISCONNECT SWITCH –SIZE AS NOTED –30A. SHOWN
- FULL VOLTAGE STARTER –SIZE AS NOTED –SIZE 3 SHOWN
- COMBINATION STARTER –SIZE AS NOTED –SIZE 3 SHOWN

GROUND WIRE SIZE – XX – NEUTRAL CKT. WIRE

GENERAL ELECTRICAL NOTES:

1. PROVIDE ALL LABOR, MATERIALS, TOOLS, PLANT EQUIPMENT, TRANSPORTATION AND PERFORM ALL OPERATIONS NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF ALL ELECTRICAL WORK REQUIRED FOR THE COMPLETE AND OPERATING SYSTEMS AS OUTLINED WITHIN THE SCOPE OF WORK.
2. UNDERWRITERS LABORATORIES, INC., SHALL MEET THEIR REQUIREMENTS AND SHALL BEAR THEIR LABEL WHEREVER STANDARDS HAVE BEEN ESTABLISHED AND LABEL SERVICE IS REGULARLY FURNISHED BY THAT AGENCY.
3. THE SIZE AND LOCATIONS OF EQUIPMENT ARE SHOWN TO SCALE WHEREVER POSSIBLE, CONTRACTOR SHALL MAKE USE OF ALL DATA IN ALL CONTRACT DOCUMENTS AND VERIFY THIS INFORMATION AT THE SITE.
4. CONDUCTORS SHALL BE COPPER CONDUCTORS TYPE AS NOTED ON CONSTRUCTION DOCUMENTS.
5. ALL WORK TO BE IN ACCORDANCE WITH REQUIREMENTS OF STATE & GOVERNING LOCAL FIRE CODES AND BUILDING CODES.
6. WHERE EXISTING CONSTRUCTION IS CUT, DAMAGED, OR REMODELED, PATCH WITH MATERIALS TO MATCH IN KIND, QUALITY, AND PERFORMANCE.
7. WORK SHALL BE EXECUTED IN A CAREFUL AND ORDERLY MANNER WITH THE LEAST POSSIBLE DISTURBANCE TO PUBLIC AND TO OCCUPANTS OF EXISTING BUILDING.
8. CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR SAFETY OF ALL PERSONS ON OR ABOUT THE CONSTRUCTION SITE, IN ACCORDANCE WITH APPLICABLE LAWS AND CODES. GUARD ALL HAZARDS IN ACCORDANCE WITH THE SAFETY PROVISIONS OF THE LATEST MANUAL OF ACCIDENT PREVENTION PUBLISHED BY THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA.
9. CLEAN ALL EXPOSED SURFACES AND NEW EQUIPMENT AFTER COMPLETION.
10. OPERATED DEVICES SUCH AS, BUT NOT LIMITED TO, TELE/DATA OUTLETS, RECEPTACLE OUTLETS AND LIGHT SWITCHES INSTALLED IN AREAS NOT RESTRICTED TO AUTHORIZED MAINTENANCE PERSONAL SHALL BE MOUNTED AT A MINIMUM OF +15" AFF., AS MEASURED FROM THE BOTTOM OF THE DEVICE OUTLET BOX, AND MAXIMUM OF +44" AFF., AS MEASURED FROM THE TOP OF THE DEVICE OUTLET BOX.
11. ALL PERSONNEL WORKING WITH ENERGIZED EQUIPMENT WITHIN THE RESTRICTED ZONE PER NFPA–70E SHALL COMPLY WITH ALL NFPA–70E AND OSHA REQUIREMENTS AND BE ARC FLASH SAFETY CERTIFIED.
12. PRIOR TO SUBMISSION OF ANY BID, THE CONTRACTOR SHALL PERFORM A THOROUGH FIELD SURVEY OF THE EXISTING SITE CONDITIONS AND FEATURES. ANY SITE CONDITIONS WHICH MAY CAUSE SIGNIFICANT DEVIATION FROM THE DESIGN DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF ENGINEER OF RECORD FOR CLARIFICATION PRIOR TO SUBMISSION OF THE CONTRACTOR'S BID. VERIFY DIMENSIONS OF ALL OWNER–FURNISHED OPERATING EQUIPMENT TO ENSURE PROPER COORDINATION WITH CONSTRUCTION.
13. SCHEDULE ALL WORK WITH THE FACILITY ADMINISTRATOR INCLUDING CONSTRUCTION ACCESS AND STORAGE
14. THE CONSTRUCTION SCHEDULE PROCEDURE SHALL BE APPROVED BY THE FACILITY'S ADMINISTRATOR PRIOR TO THE START OF CONSTRUCTION
15. ALL UTILITIES REQUIRED FOR THE CONTINUOUS OPERATION OF ALL EXISTING FACILITIES MUST BE MAINTAINED IN SERVICE AT ALL TIMES.
16. ALL REMOVED ITEMS DEEMED TO HAVE VALUE BY THE OWNER SHALL BE DELIVERED TO A PLACE OF STORAGE AT THE SITE AS DIRECTED. ALL OTHER ITEMS MUST BE DISPOSED OF OFF SITE IN A LEGAL MANNER.
17. IF ANY PART OF THIS CONTRACTOR'S WORK DEPENDS UPON THE WORK OF A SEPARATE CONTRACTOR, THIS CONTRACTOR SHALL INSPECT SUCH OTHER WORK AND PROMPTLY REPORT IN WRITING TO THE ENGINEER ANY DEFECTS IN SUCH OTHER WORK THAT RENDERS IT UNSUITABLE TO RECEIVE THE WORK OF THIS CONTRACTOR. FAILURE OF THIS CONTRACTOR TO SO INSPECT AND REPORT SHALL CONSTITUTE AN ACCEPTANCE OF THE OTHER CONTRACTOR'S WORK, EXCEPT AS TO DEFECTS WHICH MAY DEVELOP IN OTHER CONTRACTOR'S WORK AFTER EXECUTION OF THIS CONTRACTOR'S WORK.
18. SCHEDULE ALL ELECTRICAL OUTAGES WITH OWNER AND OBTAIN APPROVAL FOR THE SAME. INCLUDE ANY OVERTIME OR STANDBY GENERATORS AS REQUIRED IN THE BID.
19. ALL GROUNDING OF DEVICES AND EQUIPMENT SHOWN ON PLANS SHALL BE IN ACCORDANCE WITH CEC 250.122.
20. ALL ELECTRICAL EQUIPMENT EXPOSED TO WEATHER SHALL BE LISTED FOR EXTERIOR USE.

REV	DATE	BY	DESCRIPTION

DESIGNED KLP
DRAWN CAL
CHECKED KLP
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER KEVIN L. PEZZONI NO. 16764 EXP. 12-31-19 ELECTRICAL STATE OF CALIFORNIA

MILLER PEZZONI & ASSOCIATES, INC.
CONSULTING ELECTRICAL ENGINEERS
909 FIFTEENTH ST., STE 7, MODESTO, CA, 95354, PHONE (209) 575-0312, FAX (209) 575-0613
795 FOLSOM ST., 1ST FLOOR, SAN FRANCISCO, CA, 94107, PHONE (415) 652-6592

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CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER TURLOCK COMPONENT
HARDING DRAIN BYPASS PUMP STATION GENERATOR
ABBREVIATIONS, NOTES AND LEGEND

VERIFY SCALES
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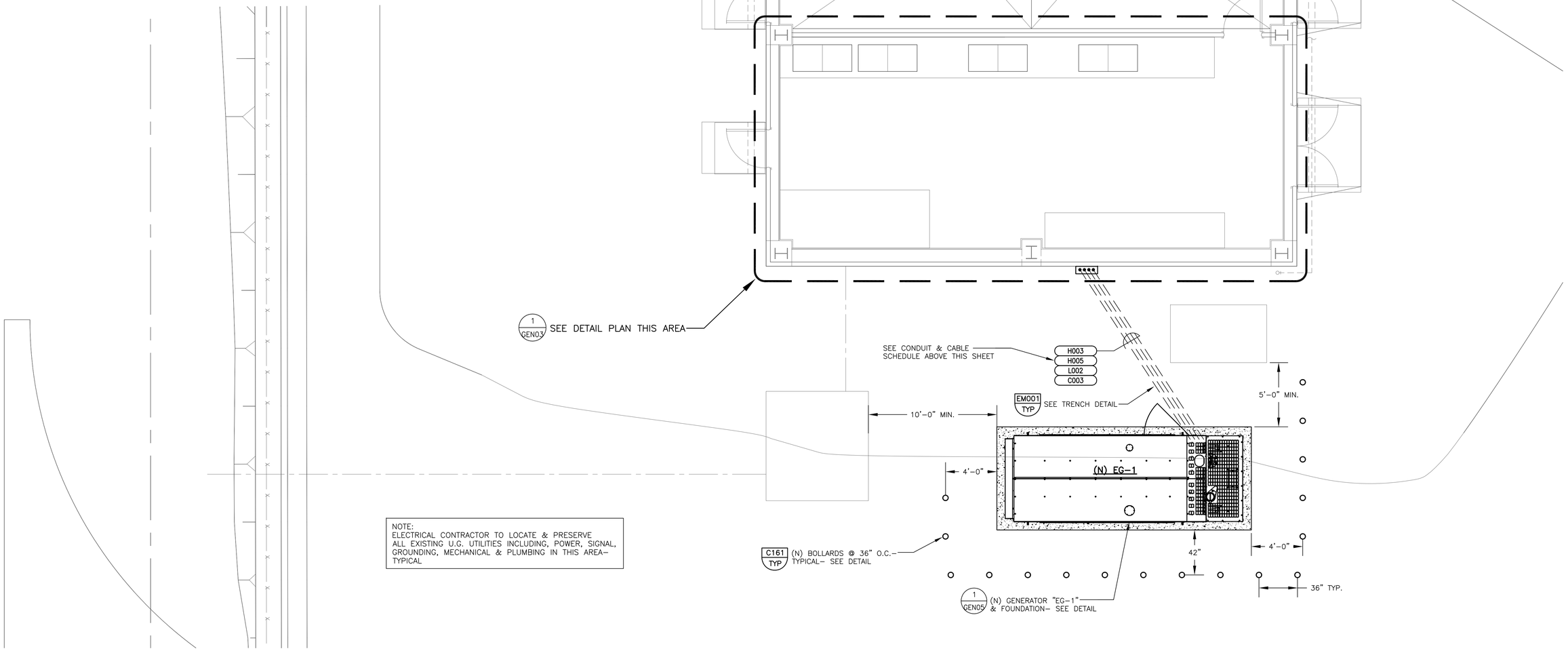
JOB NO. 10595A.10
DRAWING NO. GEN01
SHEET NO. 115 OF 122

04/19/18 3:34:53 PM F:\17\916 CITY OF TURLOCK NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM PIPELINE\ENGR\SHEETS\916_TURLOCK RECYCLED_ELECT_COVER.DWG CLeighton

CONDUIT & CABLE SCHEDULE

CONDUIT ID#	FROM	TO	CONDUIT QNTY	CONDUIT SIZE	CONDUIT TYPE	CONDUCTOR QNTY	CONDUCTOR SIZE	CONDUCTOR GND	CABLE QNTY	CABLE TYPE	NOTES
H 001	(E) MDB-1 (MAIN BREAKER)	(N) ATS		24"	TRAY	15	535.3MCM DLO	#4/o			[3] [5]
H 002	(N) ATS	(E) MDB-1 (DIST LUGS)		24"	TRAY	15	535.3MCM DLO	#4/o			[3] [5]
H 003	(N) ATS	(N) EG-1	2	5"	RGS	4	600MCM	#4/o			[1] [2] [4]
H 004	(E) MDB-1	(E) XFMER "TR-A"	1	1 1/2"	RGS	3	#2	#6			
H 005	(E) PANEL "DP-1"	(N) EG-1	1	1"	RGS	3	#10	#10			[2] [4]
L 001	(E) XFMER "TR-A"	(E) PANEL "LP-A"	1	2"	RGS	4	#2	#8			[4]
L 002	(E) PANEL "LP-A"	(N) EG-1	1	1"	RGS	4	#12	#12			[2] [4]
C 001	(N) EG-1	TEE CONDULET	1	1"	RGS	14	#14	#14			[2] [4]
C 002	TEE CONDULET	(N) ATS	1	3/4"	RGS	8	#14	#14			
C 003	TEE CONDULET	(E) PLC CABINET	1	3/4"	RGS	10	#14	#14			

NOTES:
[1] = PROVIDE CONDUCTOR/CABLES IN ALL CONDUITS
[2] = RACEWAY BELOW GRADE MAY BE PVC SCH 40
[3] = PROVIDE LUGS FOR USE WITH DLO, RHW, CT RATED CABLES
[4] = PROVIDE FLEXIBLE LFMC CONNECTION AT EQUIPMENT
[5] = 4c/PHASE+3c/NEUTRAL WITHIN TRAY



NOTE:
ELECTRICAL CONTRACTOR TO LOCATE & PRESERVE ALL EXISTING U.G. UTILITIES INCLUDING, POWER, SIGNAL, GROUNDING, MECHANICAL & PLUMBING IN THIS AREA- TYPICAL

Know what's **below.** **Call** before you dig.

1 PARTIAL ELECTRICAL SITE PLAN

SCALE: 1/4"=1'-0"

REV	DATE	BY	DESCRIPTION

DESIGNED KLP
DRAWN CAL
CHECKED KLP
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER KEVIN L. PEZZONI NO. 16268 EXP. 6-30-19 ELECTRICAL STATE OF CALIFORNIA

MILLER PEZZONI & ASSOCIATES, INC.
CONSULTING ELECTRICAL ENGINEERS
909 FIFTEENTH ST., STE 7, MODESTO, CA. 95354, PHONE (209) 575-0312, FAX (209) 575-0813
795 FOLSOM ST., 1ST FLOOR, SAN FRANCISCO, CA. 94107, PHONE (415) 652-6592

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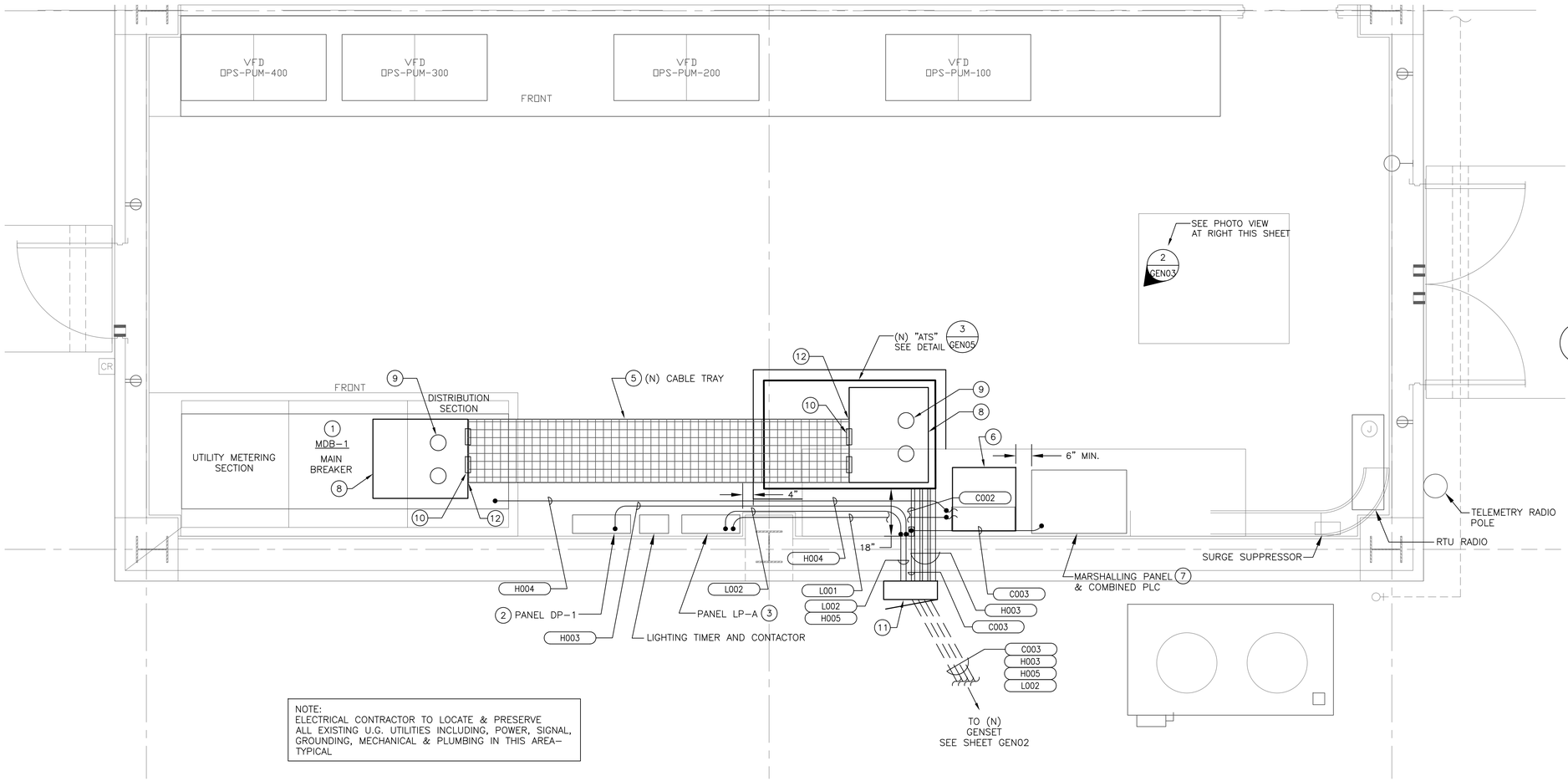
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STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER
TURLOCK COMPONENT
HARDING DRAIN BYPASS PUMP STATION GENERATOR
PARTIAL ELECTRICAL SITE PLAN

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

JOB NO. 10595A.10
DRAWING NO. GEN02
SHEET NO. 116 OF 122

F:\17\916 CITY OF TURLOCK NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM PIPELINE\ENGR\SHEETS\916_TURLOCK RECYCLED_ELECT_SITE.DWG CLeighton
04/19/18 3:35:01 PM





2 ELECTRICAL ROOM DEMO PLAN

SCALE: NONE

NOTE:
ELECTRICAL CONTRACTOR TO LOCATE & PRESERVE ALL EXISTING U.G. UTILITIES INCLUDING, POWER, SIGNAL, GROUNDING, MECHANICAL & PLUMBING IN THIS AREA- TYPICAL

1 ELECTRICAL ROOM POWER PLAN

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

N

SYMBOL (##) PLAN NOTES:

1. COORDINATE MODIFICATIONS TO "MDB-1" W/ DOUG TROUTMAN AT CAPITAL PACIFIC PRODUCTS -SEE SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.
2. INSTALL (N) 20A.-3P. BREAKER IN (E) PANEL & LABEL AS "EG-1 HEATER".
3. CONNECT (N) 120V. CKTS. FROM "EG-1" ONTO SPARE 20A-1P BREAKERS (#40 & #42) & LABEL AS "EG-1 BATT." & "EG-1 MISC."
4. (N) NEMA-4X 36"X36"X12" AT +8"AFG.
5. (N) CABLE TRAY SUPPORT- SEE DETAIL 2, SHT. GEN05.
6. (N) LOCATION OF (E) XFMER "TR-A" (UNDER (E) CABINET)- RECONNECT IN KIND & FASTEN TO PAD W/ (4) 1/2"ø x3" MIN. EMBED W/ STAINLESS HILTI KB-TZ.
7. COORDINATE W/ HSQ, GENSET & ATS -FOR SCADA/PLC INTEGRATION SCOPE OF WORK LISTED ON THIS SHEET.
8. INSTALL (N) 30"x36"x24"H. PULL BOX ON TOP OF EQUIPMENT AS SHOWN.
9. PROVIDE (2) 6" CHASE NIPPLE OPENINGS INTO TOP OF EQUIPMENT.
10. PROVIDE (2) 6" CHASE NIPPLE OPENINGS INTO SIDE OF (N) J-BOX -LOCATE BOTTOM OF NIPPLE 3' ABOVE BOTTOM OF TRAY.
11. INSTALL (N) 36"X36"X10" NEMA-4X J-BOX +6"AFG.
12. FASTEN CABLE TRAY TO (N) J-BOX W/ BOLTED 3/8" MIN. CONNECTIONS.

SCADA/PLC INTEGRATION SCOPE OF WORK:

CONTRACTOR TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM WITH THE FOLLOWING ALARMS ONTO SCADA & A SINGLE HMI SCREEN WITH THE FOLLOWING:

- UTILITY POWER STATUS (ON/OFF)
- GENSET POWER STATUS (RUNNING/OFF)
- ATS POSITION (UTILITY/GENERATOR)
- GENSET GENERAL FAULT (ON/OFF)
- GENSET FUEL LO-LO (ON/OFF)

PROVIDE ADDITIONAL DI MODUAL & RELAYS TO INCLUDE THE 5 ITEMS ABOVE. COORDINATE WITH THE CITY.

811 Know what's **below.** **Call** before you dig.

REV	DATE	BY	DESCRIPTION

DESIGNED KLP
DRAWN CAL
CHECKED KLP
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER KEVIN L. PEZZONI NO. 16284 EXP. 12-31-19 STATE OF CALIFORNIA

MILLER PEZZONI & ASSOCIATES, INC.
CONSULTING ELECTRICAL ENGINEERS
909 FIFTEENTH ST., STE 7, MODESTO, CA. 95354, PHONE (209) 575-0312, FAX (209) 575-0813
795 FOLSOM ST., 1ST FLOOR, SAN FRANCISCO, CA. 94107, PHONE (415) 652-6592

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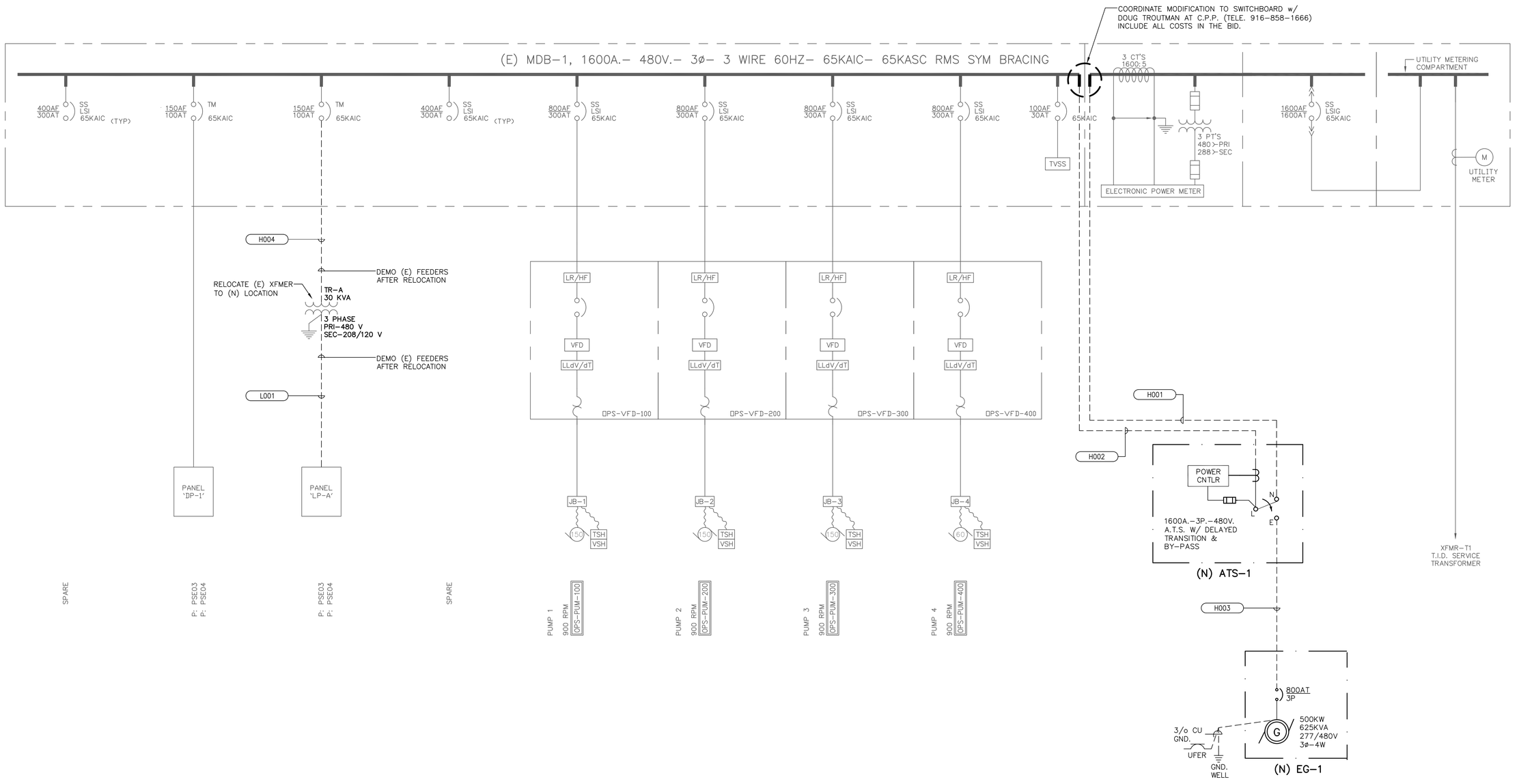
CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER
TURLOCK COMPONENT
HARDING DRAIN BYPASS PUMP STATION GENERATOR
ELECTRICAL ROOM POWER PLAN

VERIFY SCALES
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JOB NO. 10595A.10
DRAWING NO. GEN03
SHEET NO. 117 OF 122

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1 SINGLE LINE DIAGRAM

SCALE: NONE

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DESIGNED KLP
DRAWN CAL
CHECKED KLP
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER KEVIN L. PEZZONI NO. 16764 EXP. 12-31-19 STATE OF CALIFORNIA

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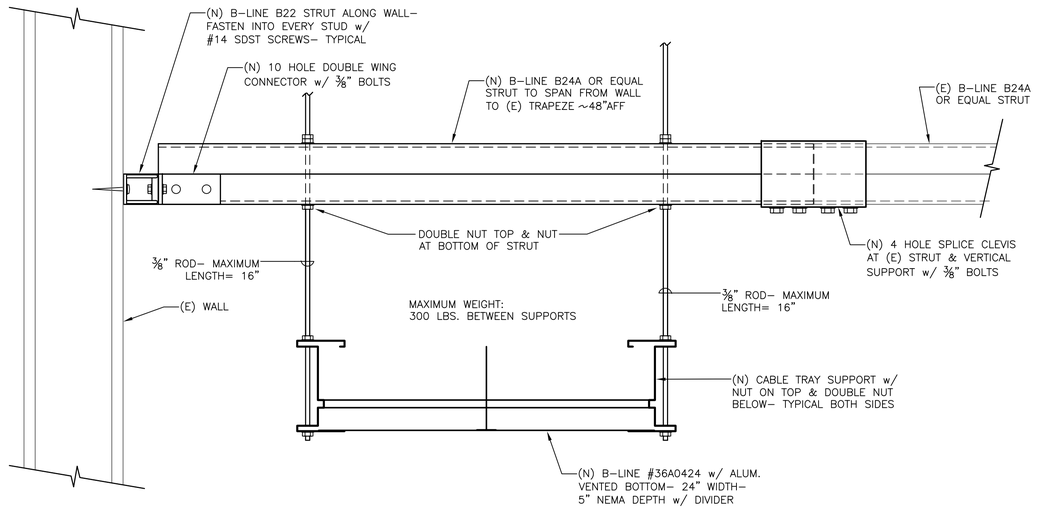
CITY OF TURLOCK INC. 1908
STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER TURLOCK COMPONENT
HARDING DRAIN BYPASS PUMP STATION GENERATOR
SINGLE LINE DIAGRAM

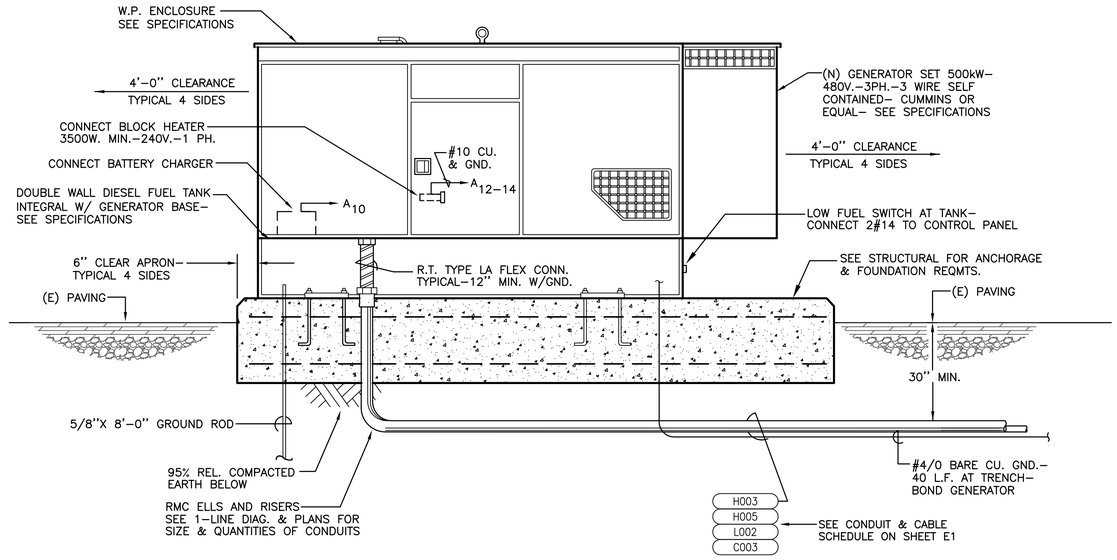
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JOB NO. 10595A.10
DRAWING NO. GEN04
SHEET NO. 118 OF 122

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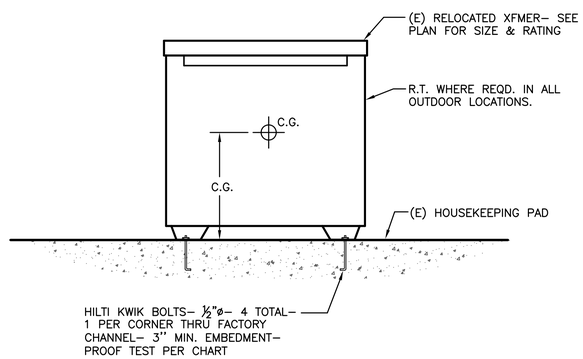


2 CABLE TRAY INSTALLATION
SCALE: N.T.S.

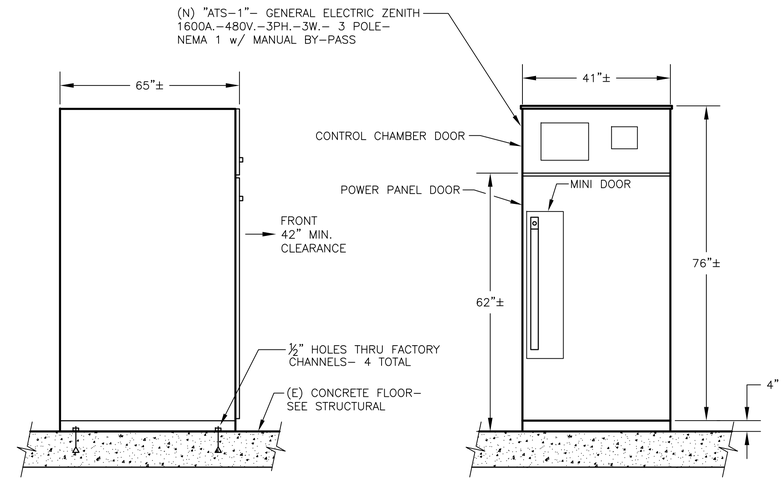


1 NEW GEN-SET "EG-1" AND FOUNDATION
SCALE: N.T.S.

TRANSFORMER DATA					XFMER. FTG. DIMENSIONS			HILTI INFO	
XFMER. SIZE	C.G.	W.	D.	WT.	F.W.	F.D.	F.H.	SIZE	TEST *
45	18"	20"	20"	340 LBS.	28"	28"	12"	1/2"	1150#



4 RELOCATED PAD MTD. DRY TYPE TRANSFORMER
SCALE: N.T.S.



3 NEW "ATS-1"
SCALE: N.T.S.

REV	DATE	BY	DESCRIPTION

DESIGNED KLP
DRAWN CAL
CHECKED KLP
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER KEVIN L. PEZZONI NO. 16282 EXP. 12-31-19 STATE OF CALIFORNIA

MILLER PEZZONI & ASSOCIATES, INC.
CONSULTING ELECTRICAL ENGINEERS
909 FIFTEENTH ST., STE 7, MODESTO, CA. 95354, PHONE (209) 575-0312, FAX (209) 575-0813
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STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER TURLOCK COMPONENT
HARDING DRAIN BYPASS PUMP STATION GENERATOR
ELECTRICAL DETAILS

VERIFY SCALES
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JOB NO. 10595A.10
DRAWING NO. GEN05
SHEET NO. 119 OF 122

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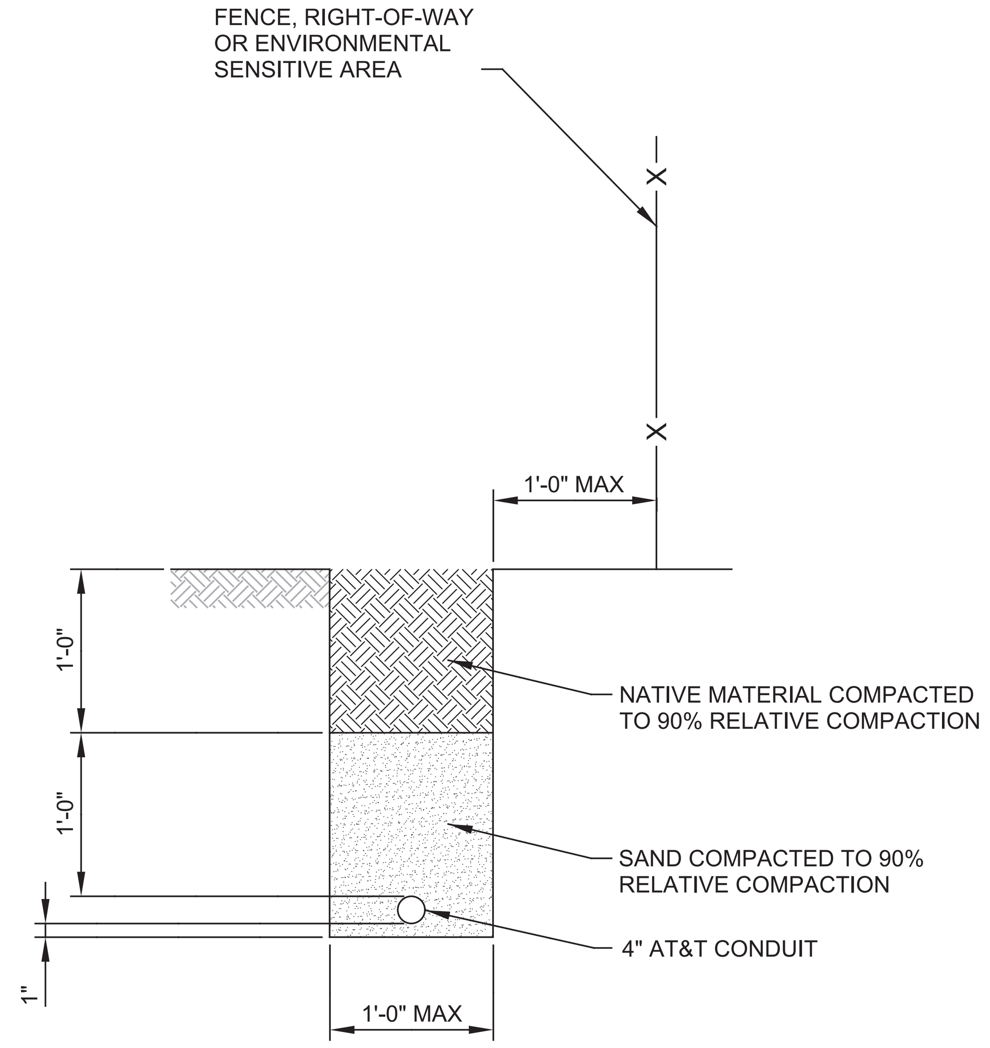
Plot Date: 23-APR-2018 11:51:17 AM User: svcPW PlotScale: 2:1 DesignScript: Carollo_Std_Pen_v0905.pen ColorTable: gshade.ctb Model: Layout1

AT&T RELOCATION NOTES:

1. AT&T IS CURRENTLY FINALIZING THE RELOCATION DESIGN DRAWINGS. AT&T'S DESIGN DRAWINGS SHALL BE USED FOR THE RELOCATION CONSTRUCTION.
2. THE PURPOSE OF THESE DESIGN DRAWINGS IS TO PROVIDE INFORMATION TO CONTRACTORS FOR BIDDING PURPOSES. THESE DESIGN DRAWINGS ARE ANTICIPATED TO BE SIMILAR IN NATURE TO AT&T'S FINAL DESIGN DRAWINGS.
3. POTHOLE THE EXISTING AT&T LINE EVERY 100 LINEAR FEET FROM STATION 227+00 TO STATION 239+00 AND FROM STATION 281+00 TO STATION 319+00 TO CONFIRM WHERE THE AT&T LINE WILL CONFLICT WITH CONSTRUCTING THE PROJECT. IF POTHOLING CONFIRMS THE AT&T LINE WILL CONFLICT WITH LESS THAN THE LENGTH ASSUMED, NOTIFY THE ENGINEER, WHO WILL PROVIDE DIRECTION AND POTENTIALLY REDUCE THE EXTENT OF REQUIRED AT&T RELOCATION.
4. FOR BIDDING PURPOSES, ASSUME THE AT&T LINE REQUIRES RELOCATION FROM STATION 227+00 TO STATION 239+00 AND FROM STATION 281+00 TO STATION 319+00.
5. CONTRACTOR SHALL FURNISH & INSTALL THE AT&T CONDUIT AND PULL / SPLICE BOXES. ONCE INSTALLED, AT&T WILL COMPLETE THE UTILITY RELOCATION WORK, WHICH IS ANTICIPATED TO TAKE APPROXIMATELY 8 WEEKS.

AT&T RELOCATION STANDARD CONSTRUCTION REQUIREMENTS:

1. CONTACT AT&T AT LEAST SEVEN (7) WORKING DAYS PRIOR TO CONSTRUCTION TO ARRANGE A PRE-CONSTRUCTION MEETING DATE.
2. NOTIFY AT&T AT LEAST 48 HOURS PRIOR TO TRENCHING TO ENSURE AN AT&T INSPECTOR WILL BE ON SITE, IF REQUIRED.
3. VERIFY THE LOCATION OF AT&T AND ALL OTHER UTILITY SUBSTRUCTURES AND BURIED FACILITIES SEVEN (7) WORKING DAYS PRIOR TO EXCAVATION. CALL UNDERGROUND SERVICE ALERT: 811.
4. PROVIDE SUPERVISION AND COORDINATION BETWEEN THE VARIOUS CONTRACTORS WORKING WITHIN THE PROJECT IN ORDER TO PREVENT DAMAGE TO AT&T FACILITIES. THE DEVELOPER IS RESPONSIBLE FOR THE COST OF REPAIRS, REPLACEMENT OR RELOCATION MADE NECESSARY BY DAMAGE TO THE AT&T FACILITIES BY OTHER WORK OPERATIONS.
5. CONSTRUCT TRENCH AND PLACE SUBSTRUCTURES ACCORDING TO AT&T PLANS AND SPECIFICATIONS.
6. REQUEST AND GET AUTHORIZATION FOR ANY DESIGN CHANGE FROM THE AT&T ENGINEER OR AT&T INSPECTOR PRIOR TO IMPLEMENTING THE CHANGE.
7. PROVIDE "AS BUILT" DRAWINGS WITH THE FOOTAGES TO THE AT&T ENGINEER OR AT&T INSPECTOR UPON COMPLETION OF THE CONDUIT SYSTEM.
8. CALL AT&T FOR INSPECTION OF BUILDING REQUIREMENTS AT LEAST SEVEN (7) WORKING DAYS PRIOR TO NEEDING TELEPHONE SERVICE, INCLUDING TEMPORARY ALARM CIRCUITS.
9. AT&T FACILITIES WILL NOT BE PLACED UNTIL ALL DEVELOPER REQUIREMENTS ARE COMPLETED TO AT&T SPECIFICATION AND MEET AT&T APPROVAL.

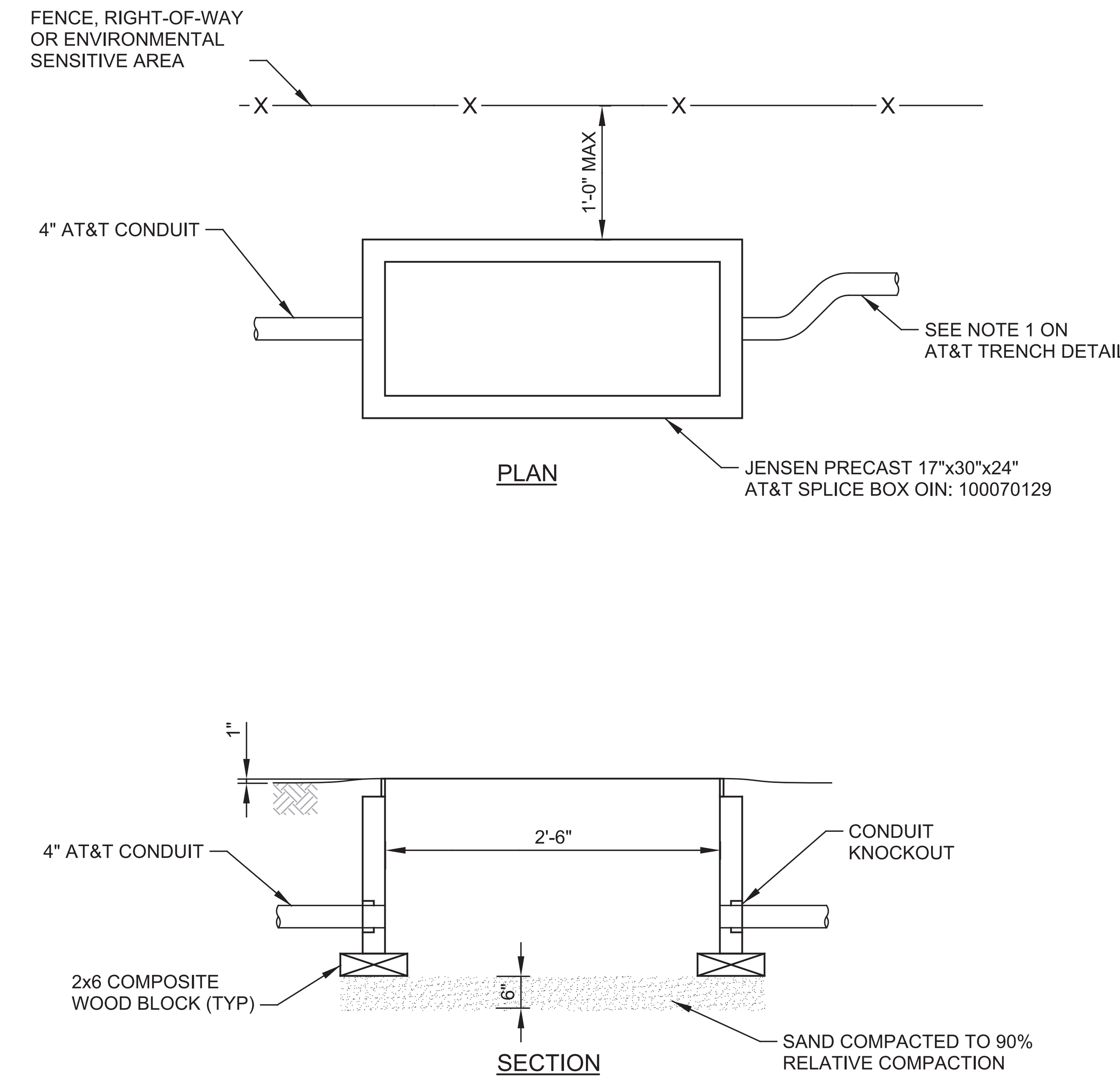


NOTES:

1. CONDUIT SHALL BE TYPE C PVC. THE MINIMUM SWEEP IS 3 FEET 90° RADIUS. A MAXIMUM OF TWO 90° BENDS ARE PERMITTED.
2. WITHIN CONDUIT, INSTALL 3/16" MINIMUM POLYPROPYLENE PULL ROPE OR EQUIVALENT STRENGTH POLYESTER WOVEN MULE TAPE FROM END TO END OF CONDUIT. LEAVE A MINIMUM 3 FEET OF SECURED ROPE (OR TAPE) AT EACH END OF THE CONDUIT. ROPE) OR TAPE) MUST BE ONE CONTINUOUS LENGTH FOR EACH SECTION - TYING OR SPLICING OF ROPE (OR TAPE) IS NOT ALLOWED.

1 AT&T TRENCH DETAIL

SCALE: NOT TO SCALE
FILE: 10595A10C401



NOTES:

1. TERMINATE CONDUIT FLUSH WITH THE INTERIOR OF CONDUIT KNOCKOUT. SEAL ENTIRE SPACE BETWEEN CONDUIT KNOCKOUT AND EXTERIOR OF CONDUIT WITH CEMENT MORTAR OR WATER PLUG CEMENT. SEAL UNUSED CONDUIT KNOCKOUTS WITH CEMENT MORTAR OR WATER PLUG CEMENT.

2 AT&T PULL / SPLICE BOX

SCALE: NOT TO SCALE
FILE: 10595A10C401

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:21:23-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:56:24-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

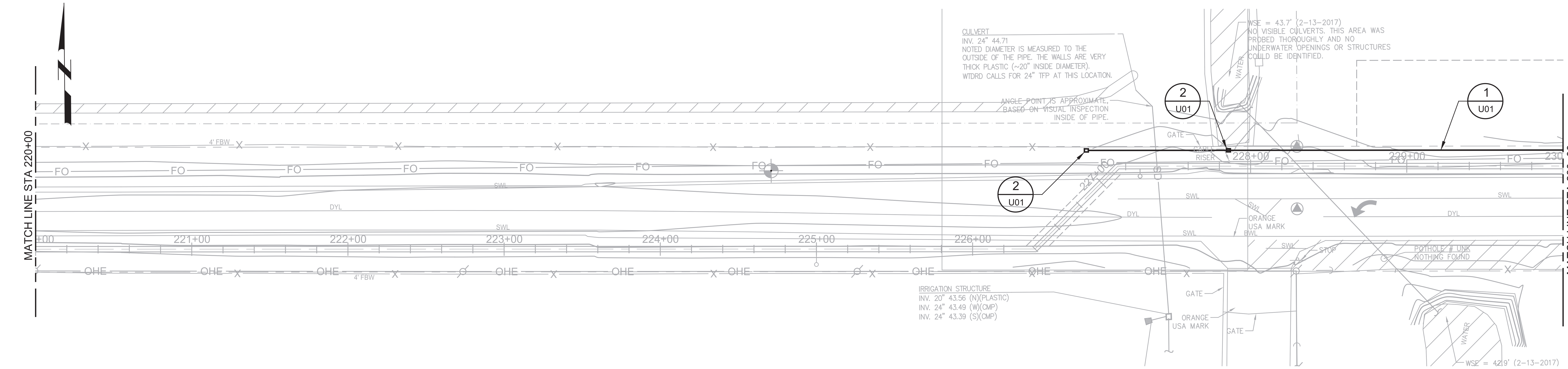
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
AT&T RELOCATION - I

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JOB NO. 10595A.10
DRAWING NO. U01
SHEET NO. 120 OF 122

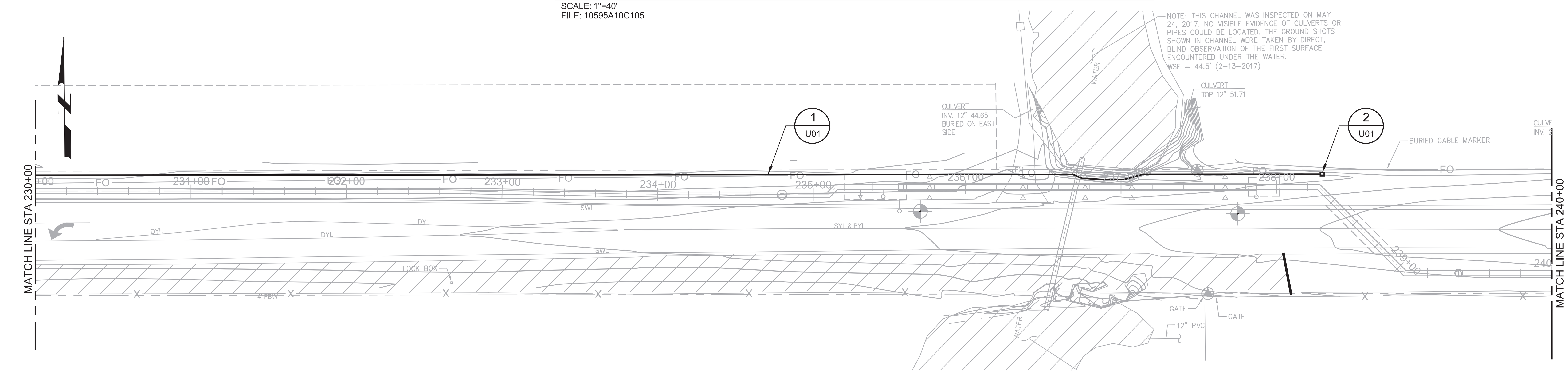
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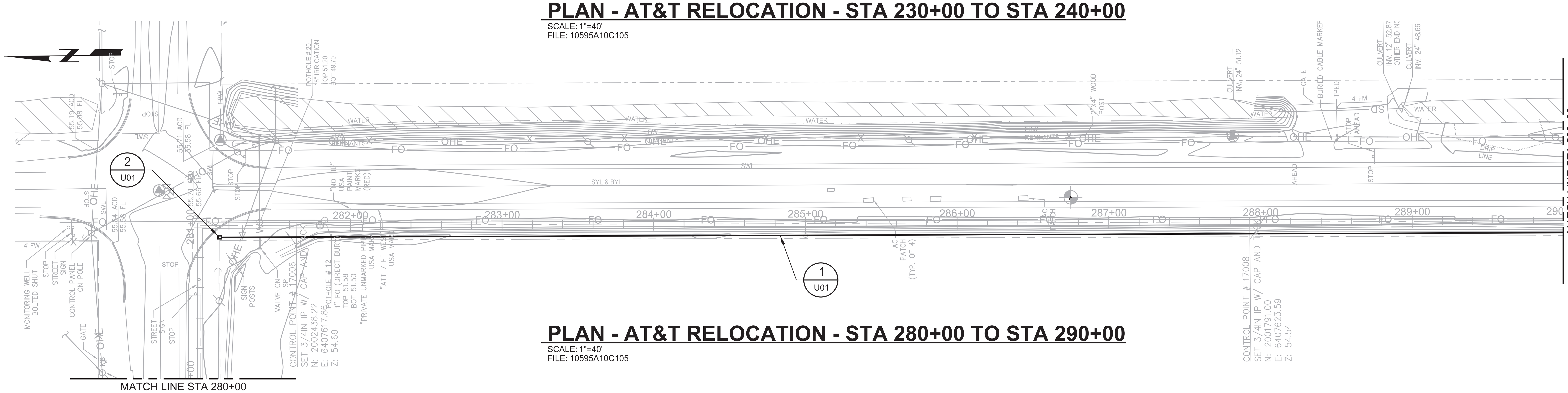
PLAN - AT&T RELOCATION - STA 220+00 TO STA 230+00

SCALE: 1"=40'
FILE: 10595A10C105



PLAN - AT&T RELOCATION - STA 230+00 TO STA 240+00

SCALE: 1"=40'
FILE: 10595A10C105



PLAN - AT&T RELOCATION - STA 280+00 TO STA 290+00

SCALE: 1"=40'
FILE: 10595A10C105

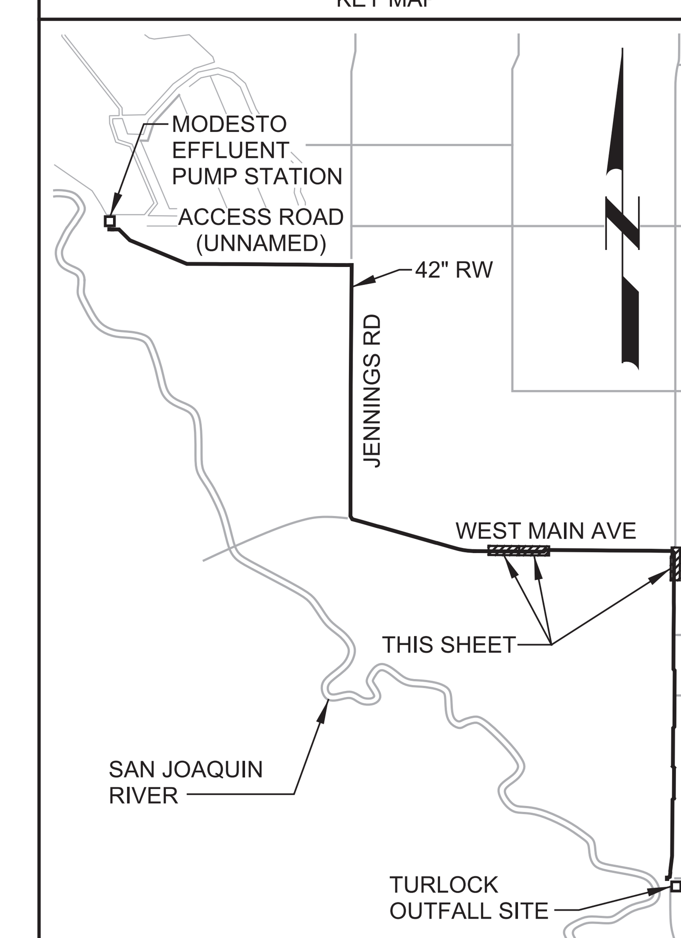
NOTES

GENERAL NOTES:

1. SEE NOTES AND REQUIREMENTS ON DRAWING U01.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

HORIZONTAL: 0, 20', 40', 80'

VERTICAL: 0, 2', 4', 8'

REV	DATE	BY	DESCRIPTION

DESIGNED: JPM
DRAWN: AL
CHECKED: AP
DATE: APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

Digitally signed by Darren G. Baune
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:21:35-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:56:11-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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STANISLAUS COUNTY, CALIFORNIA

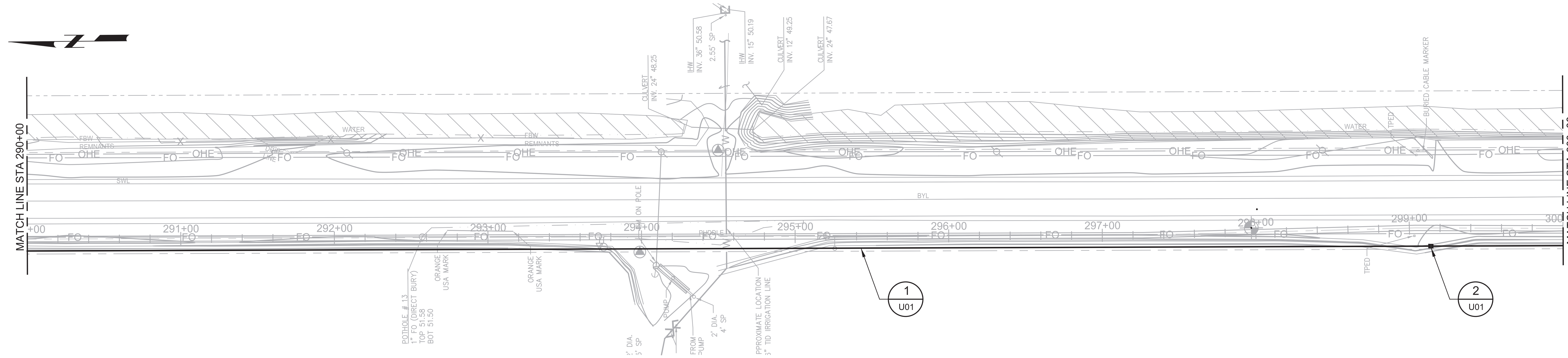
CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL
AT&T RELOCATION - II

VERIFY SCALES
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DRAWING NO. U02
SHEET NO. 121 OF 122

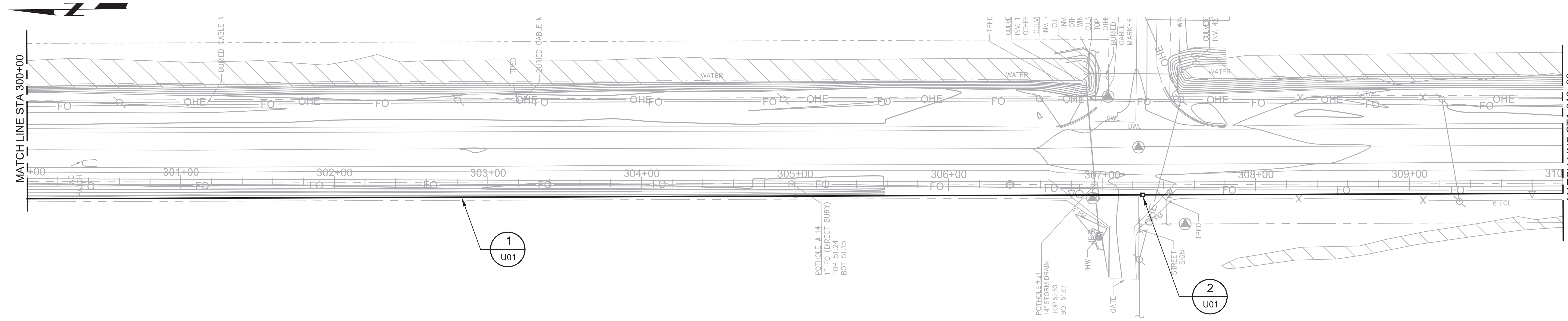
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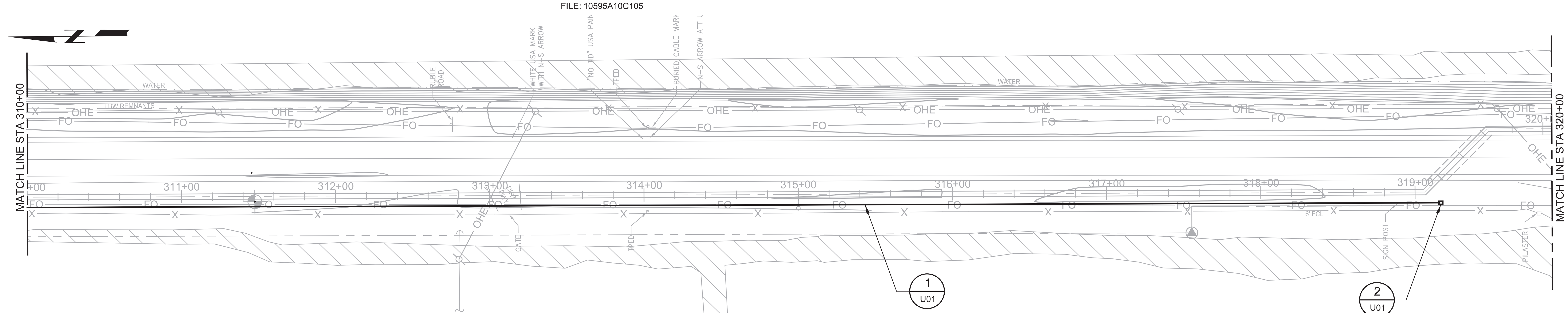
PLAN - AT&T RELOCATION - STA 290+00 TO STA 300+00

SCALE: 1"=40'
FILE: 10595A10C105



PLAN - AT&T RELOCATION - STA 300+00 TO STA 310+00

SCALE: 1"=40'
FILE: 10595A10C105



PLAN - AT&T RELOCATION - STA 310+00 TO STA 320+00

SCALE: 1"=40'
FILE: 10595A10C105

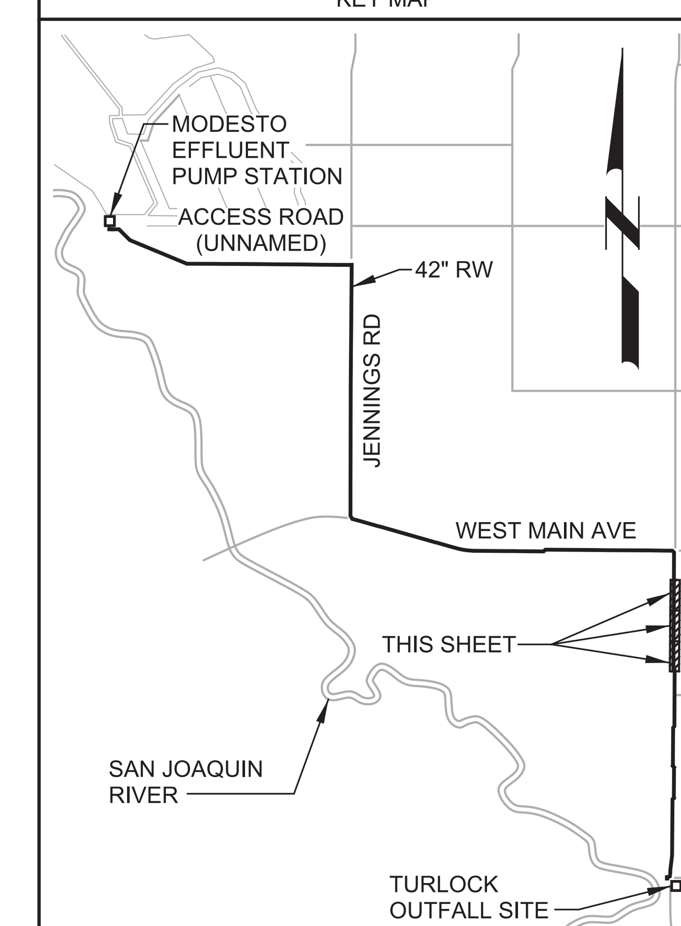
NOTES

GENERAL NOTES:

1. SEE NOTES AND REQUIREMENTS ON DRAWING U01.

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Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-642-2444

KEY MAP



SCALE

0 20' 40' 80'
HORIZONTAL

0 2' 4' 8'
VERTICAL

REV	DATE	BY	DESCRIPTION

DESIGNED JPM
DRAWN AL
CHECKED AP
DATE APRIL 2018

REGISTERED PROFESSIONAL ENGINEER JONATHON P. MARSHALL No. 73265 CIVIL STATE OF CALIFORNIA

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Date: 2018.04.25 09:21:44-07'00'

Digitally signed by Jonathon P. Marshall
Contact Info: Carollo Engineers, Inc.
Date: 2018.04.25 09:55:45-07'00'

REGISTERED PROFESSIONAL ENGINEER DARREN G. BAUNE No. 68899 CIVIL STATE OF CALIFORNIA

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CITY OF TURLOCK INC. 1908

STANISLAUS COUNTY, CALIFORNIA

CITY OF TURLOCK
NORTH VALLEY REGIONAL RECYCLED WATER PROGRAM
TURLOCK COMPONENT
CIVIL

AT&T RELOCATION - III

VERIFY SCALES
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SHEET NO. 122 OF 122

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FILE NAME: 10595A10U03.dgn