

CONSTRUCTION PLANS FOR THE SOUTHMOST REGIONAL WATER AUTHORITY (SRWA) INSTALLATION of NEW TRANSFER PUMP #3

BID No. B005-20

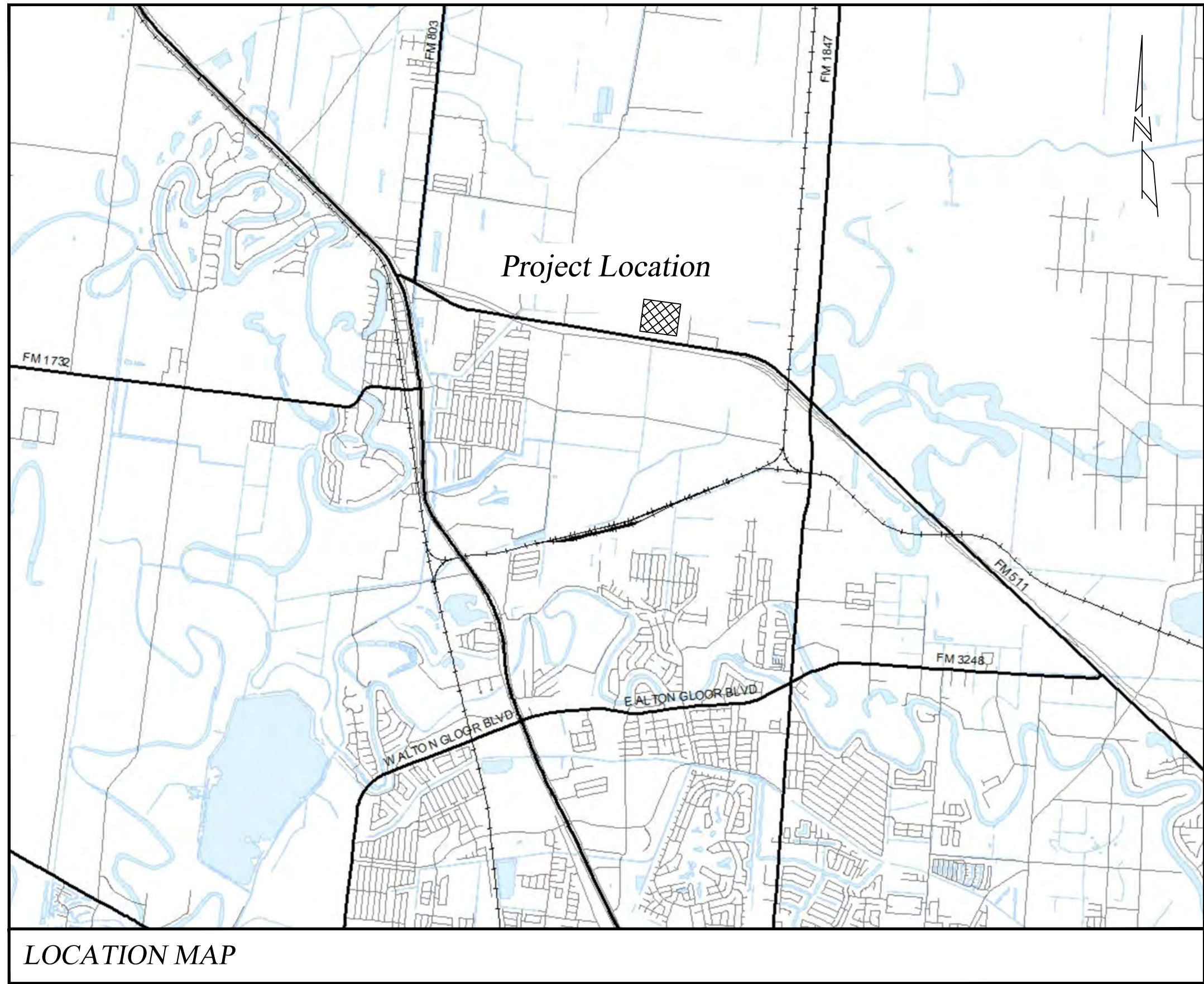
PREPARED FOR:

BROWNSVILLE PUBLIC UTILITIES BOARD

DATE: NOVEMBER 2019

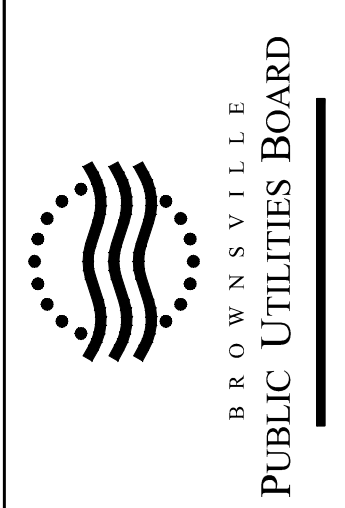
Brownsville Public Utilities Board - Board of Directors

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- MAYOR TREY MENDEZ.....EX-OFFICIO MEMBER



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- E6 Electrical Details
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Public Utilities Board
1425 Robinhood Drive
Brownsville, Texas 78521
1-800-869-2922
Water and Wastewater
Engineering Department
(956) 983-6215
FAX: (956) 983-6220



JJB
11/21/19

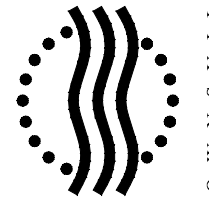
SOUTHMOST REGIONAL
WATER AUTHORITY
(SRWA)

INSTALLATION of
NEW TRANSFER PUMP

REVISIONS		
NO.	DATE	APP.



Scale: 1" = 40'
Date: November 2019
Designed by: Karla Ruiz / Juan Bujanos, PE
Drawn by: Luis Martinez
Checked by: Juan Bujanos, PE
Approved by: Juan Bujanos, PE
Project #:



BROWNSVILLE
PUBLIC UTILITIES BOARD

Public Utilities Board
1425 Robinson Drive
Brownsville, Texas 78521
1-800-809-2922
Water and Wastewater
Engineering Department
P.O. Box 983-0215
P.O. Box 983-0220



JJB
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GENERAL NOTES

SOUTHWEST REGIONAL WATER
AUTHORITY (SRWA)
INSTALLATION of
NEW TRANSFER PUMP

Scale: NTS Date: November, 2019
Designed by: Kora Ruiz / Juan Bujanos, PE
Drawn by: Luis Martinez
Checked by: Juan Bujanos, PE
Approved by: Juan Bujanos, PE
Project #:

SHEET

2

OF 12

GENERAL NOTES

- NO SEPARATE PAY FOR ITEMS REQUIRED BY NOTES ON THIS SHEET.
- BLASTING IS NOT PERMITTED ON THIS PROJECT.
- ALL CONSTRUCTION OPERATIONS TO BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION. COPIES OF OSHA STANDARDS MAY BE PURCHASED FROM THE U.S. GOVERNMENT PRINTING OFFICE.
- ELECTRICAL LINES ARE LOCATED IN THE PROJECT AREA. THE ATTENTION OF THE CONTRACTOR IS DIRECTED TO STATE LAW (VERNON'S ANNOTATED TEXAS STATUTES, ARTICLE 1436 (C)) CONCERNING CONSTRUCTION OPERATIONS IN THE VICINITY OF ELECTRICAL LINES AND THE NEED FOR EFFECTIVE PRECAUTIONARY MEASURES.
- THESE PLANS, PREPARED BY BPUB, DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF BPUB'S REGISTERED PROFESSIONAL ENGINEER(S) HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED IN THE WORK. THE CONSTRUCTION CONTRACTOR TO PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS.
- ANY CHANGES OR REVISIONS TO THESE PLANS MUST FIRST BE SUBMITTED TO THE BROWNSVILLE PUBLIC UTILITY BOARD FOR REVIEW AND WRITTEN APPROVAL.
- EXISTING PAVING, BUILDING, AND OTHER ITEMS SHOWN ON PLANS NOT SPECIFICALLY RELATED TO THE WORK OF THE CONTRACTOR ARE FOR INFORMATION ONLY.
- CONTRACTOR TO COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS REGARDING EXCESS AND WASTE MATERIAL, INCLUDING METHODS OF HANDLING AND DISPOSAL. EXCESS SOIL, ROCK, AND SPOIL MATERIAL SHALL BE REMOVED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE ENVIRONMENTAL LAWS.
- CONTRACTOR TO MAINTAIN ACCESS TO PUBLIC AND PRIVATE FACILITIES, RESIDENCES, AND BUSINESSES DURING CONSTRUCTION. CONTRACTOR SHALL MAKE ALL EFFORTS TO KEEP DRIVEWAYS OPEN AND ACCESSIBLE DURING CONSTRUCTION. CONSTRUCTION ACTIVITIES TO BE COORDINATED WITH OWNER'S REPRESENTATIVE AND THE BROWNSVILLE PUBLIC UTILITIES BOARD. THE CONTRACTOR SHALL COORDINATE ALL DRIVEWAY CLOSURES WITH THE PROPERTY OWNER.
- CONTRACTOR TO TAKE ALL DUE PRECAUTIONS TO PROTECT EXISTING FACILITIES FROM DAMAGE. ANY DAMAGE TO EXISTING FACILITIES INCURRED AS A RESULT OF THESE CONSTRUCTION OPERATIONS ARE TO BE REPAIRED IMMEDIATELY BY THE CONTRACTOR TO AT LEAST THE PRE-EXISTING CONDITION AT NO ADDITIONAL COST TO OWNER.
- LOCATION OF EXISTING UTILITIES SHOWN ON PLANS WAS COMPILED FROM RECORD INFORMATION. NO WARRANTY IS IMPLIED AS TO THE ACTUAL LOCATION OF EXISTING UTILITIES. CONTRACTOR TO FIELD VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO COMMENCEMENT OF CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE FOLLOWING:
 - TEXAS ONE CALL SYSTEM (TOCS) 800-344-8317
 - PLUS ENTITIES LISTED ON COVER SHEET.
 LOCATIONS AND DEPTHS SHOWN FOR EXISTING UTILITIES ARE APPROXIMATE. IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO DETERMINE EXACT LOCATIONS AND DEPTHS OF ALL APPLICABLE LINES, AND TO REPAIR ANY DAMAGES MADE AS A RESULT OF PROJECT CONSTRUCTION, INCLUDING UTILITIES NOT SHOWN ON THESE DRAWINGS.
- CONTRACTOR TO COORDINATE INTERRUPTIONS OF ALL UTILITIES AND SERVICES WITH APPLICABLE UTILITY COMPANY OR COMPANIES. ALL WORK TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY COMPANY OR AGENCY INVOLVED.
- WHEN NOT LOCATED OR INCORRECTLY LOCATED UNDERGROUND PIPING OR A BREAK IN A LINE OR OTHER UTILITIES AND SERVICES ARE ENCOUNTERED DURING SITE WORK OPERATIONS, CONTRACTOR TO NOTIFY THE APPLICABLE UTILITY COMPANY IMMEDIATELY TO OBTAIN DIRECTION. CONTRACTOR TO COOPERATE WITH THE APPLICABLE UTILITY COMPANY IN MAINTAINING ACTIVE SERVICES IN OPERATION.
- CONTRACTOR TO ASSURE THAT ALL CONSTRUCTION PERMITS HAVE BEEN OBTAINED PRIOR TO COMMENCEMENT OF WORK. REQUIRED PERMITS THAT CAN ONLY BE ISSUED TO CONTRACTOR ARE TO BE OBTAINED AT THE CONTRACTOR'S EXPENSE.
- OWNER, ENGINEER, CONTRACTOR, REPRESENTATIVES OF ALL UTILITY COMPANIES, AND A REPRESENTATIVE FROM THE TESTING LAB TO ATTEND PRE-CONSTRUCTION CONFERENCE PRIOR TO START OF CONSTRUCTION.
- CONTRACTOR TO LOCATE, PROTECT, AND MAINTAIN BENCHMARKS, MONUMENTS, AND CONTROL POINTS. CONTRACTOR TO RE-ESTABLISH DISTURBED OR DESTROYED ITEMS BY A REGISTERED PUBLIC SURVEYOR IN THE STATE OF TEXAS AT THE CONTRACTOR'S EXPENSE.
- MATERIAL STORAGE, LAYDOWN, AND STAGING AREAS TO BE ON SAME SIDE OF ROADWAY AS ADJACENT WORK ZONE. STAGING AREAS ARE NOT TO BE USED FOR STOCKPILING SPOIL.
- SPOIL MATERIAL SHALL NOT BE MOUNDED MORE THAN 18" HIGH ADJACENT TO DRIVEWAYS.
- ANY DAMAGE CAUSED TO EXISTING PAVEMENT, CURBS, SIDEWALKS, ETC., SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE CITY PRIOR TO ACCEPTANCE OF THE PROJECT.
- ALL JOINTS TO MATCH EXISTING PAVEMENT SHALL BE SAW CUT. PAVEMENT PATCHING SHALL BE IN ACCORDANCE WITH BROWNSVILLE PUBLIC UTILITY BOARD STANDARDS.
- ALL SIDEWALKS TO BE CUT OR PATCHED TO COMPLY WITH AMERICANS WITH DISABILITIES ACT REQUIREMENTS.
- CONTRACTOR SHALL NOTIFY THE BROWNSVILLE PUBLIC UTILITIES BOARD ENGINEERING DEPARTMENT AT LEAST 48 HOURS BEFORE DEMOLITION OF, OR CONNECTION WITH, ANY CITY UTILITY OR STREET.

- CONTRACTOR TO GIVE A MINIMUM OF 48 HOURS NOTICE TO ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS, OR PERSONS IN CHARGE OF PRIVATE AND PUBLIC UTILITIES AFFECTED BY HIS OPERATIONS PRIOR TO COMMENCEMENT OF WORK.
- THE CONTRACTOR SHALL GIVE THE BROWNSVILLE PUBLIC UTILITIES BOARD SUFFICIENT ADVANCE NOTICE PRIOR TO PLACEMENT OF ANY CONCRETE, TO PERMIT THE REVIEW OF FORMS, REINFORCING STEEL PLACEMENT, AND OTHER PREPARATIONS.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH TCEQ REGULATIONS AND THE LATEST AWWA STANDARD AND ACI CODES.
- CONTRACTOR TO SUBMIT WORKPLAN DETAILING SEQUENCE OF CONSTRUCTION FOR REVIEW AND APPROVAL BY THE BROWNSVILLE PUBLIC UTILITY BOARD PRIOR TO BEGINNING OF CONSTRUCTION. WATER AND WASTEWATER SERVICES SHALL NOT BE INTERRUPTED BETWEEN THE HOURS OF 5:30 PM AND 9:00 A.M.
- BURNING OF TREES, BRUSH OR OTHER VEGETATIVE MATTER ON THE PROJECT SITE IS NOT PERMITTED.
- NO TREES SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER OR ENGINEER, UNLESS OTHERWISE NOTED.
- FUEL STORAGE IS NOT ALLOWED ON THIS PROJECT.
- CONTRACTOR TO ADVISE OWNER IMMEDIATELY, VERBALLY AND IN WRITING, OF ANY FUEL OR TOXIC MATERIALS SPILLS ONTO THE PROJECT/CONSTRUCTION AREA AND THE ACTIONS TO BE TAKEN TO REMEDY THE PROBLEM.
- CONTRACTOR IS RESPONSIBLE FOR DISPOSING OF THEIR FUELS, MATERIALS, AND CONTAMINATED EXCAVATIONS IN A LEGALLY APPROVED MANNER.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING & MAINTAINING SANITARY FACILITIES ON THIS PROJECT FOR EMPLOYEES.
- OWNER TO PROVIDE WATER REQUIRED FOR AND IN CONNECTION WITH WORK TO BE PERFORMED AND FOR SPECIFIED TESTS OF PIPING, EQUIPMENT, DEVICES, OR FOR OTHER USE AS REQUIRED FOR PROPER COMPLETION OF THE WORK. OWNER WILL PROVIDE WATER FOR PIPELINE FILLING, TESTING, AND FLUSHING ONE TIME ONLY AT NO COST TO CONTRACTOR. IF ADDITIONAL WATER IS REQUIRED FOR RETESTING OF PIPELINES FAILING THE INITIAL TEST, COST OF ADDITIONAL WATER TO BE PAID BY THE CONTRACTOR.
- CONTRACTOR TO OBTAIN WATER METER FROM THE BROWNSVILLE PUBLIC UTILITY BOARD FOR ALL CONSTRUCTION WATER.
- UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, ALL CONCRETE IS TO BE CLASS "K" (4000 PSI~28 DAYS), AND ALL REINFORCING STEEL TO BE ASTM A615 GRADE 60.
- PROJECT MANHOLE CASTINGS OF ALL TYPES AND TOPS OF ALL VALVE BOXES SHALL BE BROUGHT TO FINISHED GRADE BY THE CONTRACTOR.
- PRIOR TO ACCEPTANCE OF THE PROJECT, ALL GRADED AND DISTURBED AREAS ARE TO BE REVEGETATED IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS.
- APPROPRIATE SHORING AND BRACING EQUIPMENT SHALL BE USED WHERE TRENCHES ARE DEEPER THAN FIVE (5') FEET OR WHERE CONDITIONS WARRANT, AND SHALL COMPLY WITH OSHA REGULATIONS.
- MAXIMUM LENGTH OF OPEN TRENCH TO BE 100', OR AS DIRECTED BY THE OWNER.
- NO CONSTRUCTION OPERATIONS RELATIVE TO INSTALLATION OF UTILITIES, INCLUDING STOCKPILING OF EXCAVATED MATERIALS, SHALL BE PERMITTED WITHIN THE LIMITS OF EXISTING PAVEMENTS CARRYING TRAFFIC ON STATE HIGHWAYS, OR SHOULDERS ADJACENT THERETO, UNLESS SPECIFICALLY AUTHORIZED BY THE TEXAS DEPARTMENT OF TRANSPORTATION.
- WHEN WORK IS PERFORMED ON PRIVATE PROPERTY OR EASEMENTS; ALL LAWN GRASS, SHRUBBERY, FLOWERS, AND FENCES IN THE WAY OF THE WORK SHALL BE REMOVED, PROTECTED AND REPLACED TO THEIR ORIGINAL POSITION AND CONDITION UPON COMPLETION OF THE WORK.
- ALL DIMENSIONS GIVEN ARE TO CENTERLINE OF PIPE, UNLESS OTHERWISE NOTED. DO NOT ATTEMPT TO SCALE DIMENSIONS FROM THESE DRAWINGS, ALTHOUGH DRAWINGS ARE TO SCALE, THE ENGINEER SHOULD BE CONSULTED IF DIMENSIONING IS UNCLEAR OR INSUFFICIENT.

WATER AND WASTEWATER NOTES

- SEWER LINES AND APPURTENANCES WHICH ARE TO BE REMOVED ARE INCIDENTAL TO THE WORK (NO SEPARATE PAYMENT). CONTRACTOR TO FOLLOW APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS REGARDING THE DISPOSAL OF ALL EXISTING SEWER LINES AND APPURTENANCES REMOVED DURING THE WORK.
- PRESSURE RATING OF VALVES, FITTINGS, AND APPURTENANCES IS TO EQUAL OR EXCEED PRESSURE RATING OF ADJACENT PIPELINE.
- THE CONTRACTOR TO PROVIDE FITTINGS, PLUGS, AND OTHER DEVICES FOR USE IN FILLING, FLUSHING, TESTING, ETC.
- INCLUDE PRICE OF ALL BEDDING AND APPURTENANCES OF STANDARD TYPE REQUIRED FOR PIPELINE INSTALLATION IN PRICE BID PER LINEAR FOOT OF PIPE (WHERE APPLICABLE).
- PIPELINES TO BE CONSTRUCTED OF THE MATERIALS SPECIFIED ON PLANS.
- CONTRACTOR TO PROVIDE ADEQUATE THRUST BLOCKING TO WITHSTAND TEST PRESSURES.

PIPING NOTES

- ALL UNDERGROUND DUCTILE IRON PIPE, VALVES, AND FITTINGS TO BE WRAPPED WITH AT LEAST 8-MIL POLYETHYLENE WRAP, IN ACCORDANCE WITH THE PROCEDURES SET FORTH IN AWWA C 105.
- DO NOT EXCEED MANUFACTURER'S RECOMMENDATION FOR CURVATURE OF LINES AND/OR DEFLECTION OF PIPE JOINTS. INSTALL JOINTS AS REQUIRED. COMPLY WITH DEFLECTION LIMITATIONS STATED ON CONTRACT DRAWINGS.
- ALL UNDERGROUND DUCTILE IRON FITTINGS TO BE MECHANICAL JOINT, UNLESS OTHERWISE NOTED.
- UNLESS OTHERWISE INDICATED, ABOVE-GROUND FITTINGS AND FIRST UNDERGROUND CONNECTION TO BE FLANGED, SHORT-RADIUS.
- UNLESS OTHERWISE INDICATED, ALL PIPE, VALVES, AND FITTINGS TO BE RATED FOR 150 PSI MINIMUM.
- UNLESS OTHERWISE INDICATED, STEEL PIPE IS TO BE THREADED FOR 175 PSI OPERATING PRESSURE.
- DIELECTRIC CONNECTIONS TO BE PREVENTED BY USE OF NON-CONDUCTIVE GASKETS BETWEEN DISSIMILAR PIPING MATERIALS.
- CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL PIPING NECESSARY FOR A COMPLETE OPERATING FACILITY WHETHER OR NOT SUCH PIPING IS INCLUDED IN THE SCHEDULE.
- EXPOSED ABOVE GROUND PIPING SHALL BE INSULATED AND HEAT TRACED FROM FREEZING, AS SPECIFIED IN THE PLANS AND SPECIFICATIONS.
- CONTRACTOR TO FURNISH ADEQUATE SUPPORT FOR ALL ABOVE-GROUND PIPING WHETHER OR NOT SHOWN IN THE PLANS. LOCATION AND NUMBER OF PIPE HANGERS AND PIPE SUPPORTS NOT SHOWN SHALL BE A MAXIMUM SPACING OF 10' OR AS RECOMMENDED BY MANUFACTURER.
- ALL PIPING JOINTS SHALL BE WATERTIGHT. STANDARD WALL PIPE SHALL BE USED WHEREVER PIPING PASSES FROM A STRUCTURE TO BACKFILL UNLESS OTHERWISE NOTED.
- NUMBER AND LOCATIONS OF UNIONS OR FLANGED ADAPTERS SHOWN ON PLANS ARE APPROXIMATE ONLY. PROVIDE ALL UNIONS OR COUPLINGS NECESSARY TO FACILITATE CONVENIENT REMOVAL OF VALVES AND MECHANICAL EQUIPMENT.
- LINES ARE TO BE HYDROSTATICALLY TESTED AT TEST PRESSURES PER THE PIPING SCHEDULE AND SPECIFICATIONS. THE OWNER REPRESENTATIVE OBSERVE AND APPROVE OR REJECT THE TEST. REPAIRS, IF REQUIRED, SHALL BE MADE AND THE LINE SHALL BE RETESTED UNTIL APPROVED. TEST SHALL NOT MADE UNTIL THRUST BLOCKS HAVE AGED A MINIMUM OF 7 DAYS.
- PUSH-ON PIPE SHALL HAVE PUSH-ON, RUBBER GASKET JOINTS OF THE BELL AND SPIGOT TYPE WITH THICKENED INTEGRAL BELLS, OR OF THE DOUBLE SPIGOT TYPE WITH THICKENED COUPLING SLEEVES WITH RUBBER GASKET JOINTS. THE WALL THICKNESS OF EACH PIPE BELL AND JOINT COUPLING MUST BE GREATER THAN THE STANDARD PIPE AND BARREL THICKNESS. CLEARANCE MUST BE PROVIDED IN EVERY GASKET JOINT FOR BOTH LATERAL PIPE DEFLECTION AND FOR LINEAR EXPANSION AND CONTRACTION.
- CONCRETE THRUST BLOCKING OR MECHANICAL JOINT RESTRAINT SHALL BE PROVIDED FOR ALL BENDS AND FITTINGS IN ACCORDANCE WITH DETAILS. COST FOR THRUST BLOCKING OR RESTRAINT SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO OTHER ITEMS OF WORKS.

HANGERS AND SUPPORT

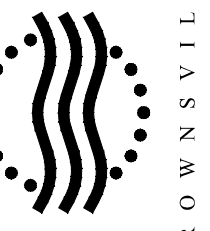
- CONTRACTOR IS RESPONSIBLE FOR FURNISHING, AND INSTALLING HANGERS AND SUPPORTS FOR ALL PIPING AND VALVES PER SPECIFICATION SECTION 15061, TO PREVENT SAGGING AND LATERAL MOVEMENT, AND TO PREVENT TRANSFERRING STRESS TO EQUIPMENT OR COUPLINGS.
- TRAPEZE HANGERS ARE PERMITTED, PROVIDED PIPES ARE AT THE SAME ELEVATION AND PARALLEL, AND ROLLER SUPPORTS ARE PROVIDED FOR EACH PIPE.
- PERFORATED STRAP HANGERS ARE NOT ACCEPTABLE.
- HANGER RODS TO BE SIZED AS REQUIRED TO ADEQUATELY SUSPEND THE EQUIPMENT WITH A MINIMUM FACTOR OF SAFETY OF 2.
- PIPE HANGERS AND SUPPORTS TO BE STAINLESS STEEL 316. TWO NUTS TO BE PROVIDED (ONE FOR LOCKING PURPOSES) ON ALL HANGER RODS AND SUPPORTS.
- ALL SUPPORTS TO BE SECURELY FASTENED.

RECORD DRAWINGS

- RECORD DRAWINGS ARE PROVIDED AS REFERENCE DRAWINGS TO SHOW EXISTING FACILITIES WITHIN THE PLANT. THE RECORD DRAWINGS AND THE EXISTING FACILITIES ARE SHOWN WITH GRAY LINE TO DIFFERENTIATE FROM PROPOSED IMPROVEMENTS.
- THE REFERENCE DRAWINGS INCLUDED IN THIS CONTRACT WERE SELECTED FROM PREVIOUS CONSTRUCTION CONTRACTS AND THESE DRAWINGS DEFINE WORK THAT WAS DONE DURING THOSE CONTRACTS.
- THE WORK THAT IS PART OF THIS CONTRACT IS SHOWN WITH SOLID, BLACK LINE. CONTRACTOR TO DISREGARD ANY WORK SHOWN WITH THIN, GRAY LINE OR GRAY TEXT, SINCE THAT WORK WAS PART OF PREVIOUS CONTRACTS.
- SOME INFORMATION ON THE REFERENCE DRAWINGS MAY BE DIFFERENT FROM THE ACTUAL FIELD CONDITIONS.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR VERIFYING ACTUAL FIELD CONDITIONS AND DIMENSIONS PRIOR TO ORDERING EQUIPMENT MATERIALS.
- MORE THAN ONE REFERENCE DRAWING MAY BE USED TO SHOW EXISTING CONDITIONS OF SAME FACILITY. THESE DRAWINGS MAY SHOW DIFFERENT CONDITIONS FOR THE SAME AREA, WHICH MAY BE ATTRIBUTABLE TO THE VARYING TIMELINES. CONTRACTOR TO CHECK THE DATE DRAWINGS WERE ISSUED TO DETERMINE THE MOST RECENT CONDITIONS.
- PARTS OF THE RECORD DRAWINGS ARE USED AS BACKGROUND TO DEPICT THE PROPOSED WORK. CONTRACTOR TO DISREGARD ANY WORK DIRECTIVES FOUND IN THE REFERENCE DRAWINGS. ACTUAL FIELD CONDITIONS MAY BE DIFFERENT FROM THE CONDITIONS SHOWN IN THE RECORD DRAWINGS BACKGROUND.
- CONTRACTOR TO FIELD VERIFY INSTALLED CONDITIONS IMPACTING OR IMPACTED BY HIS WORK PRIOR TO INITIATING WORK.

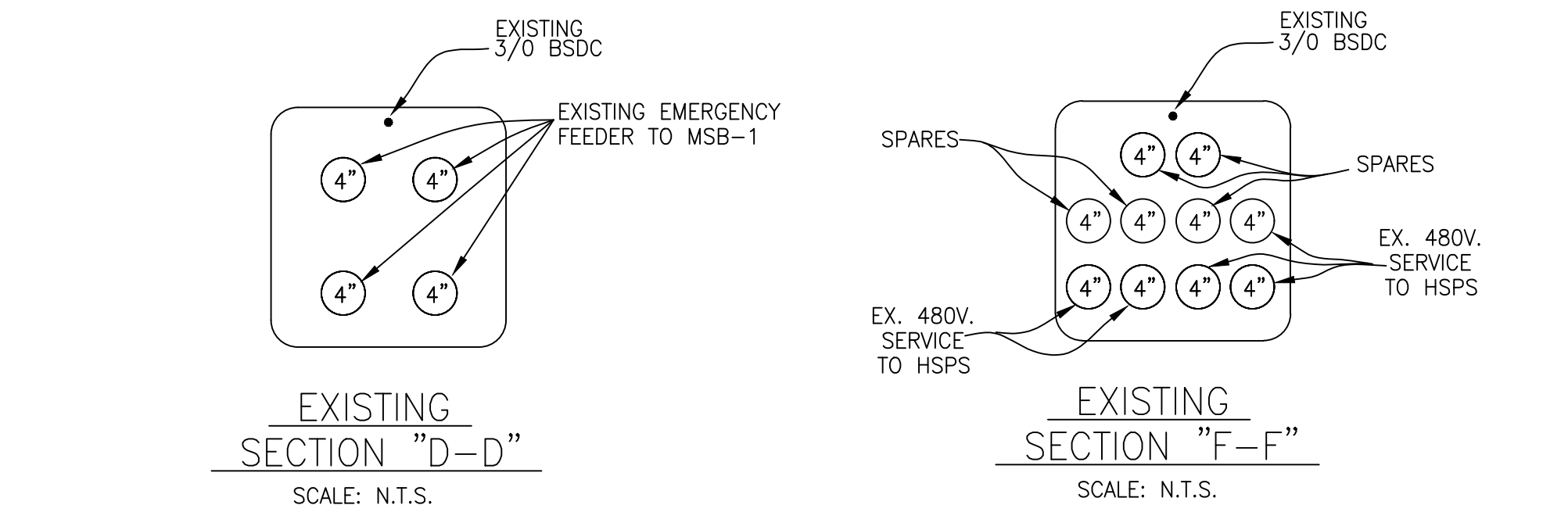
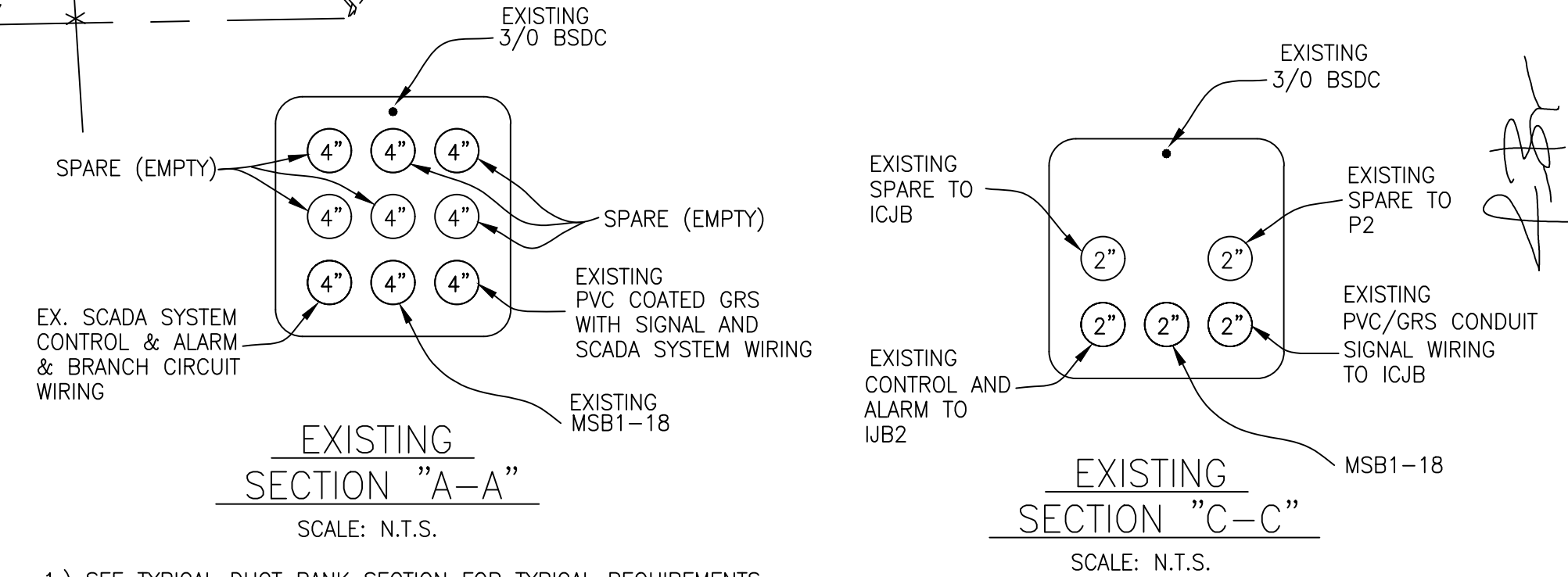
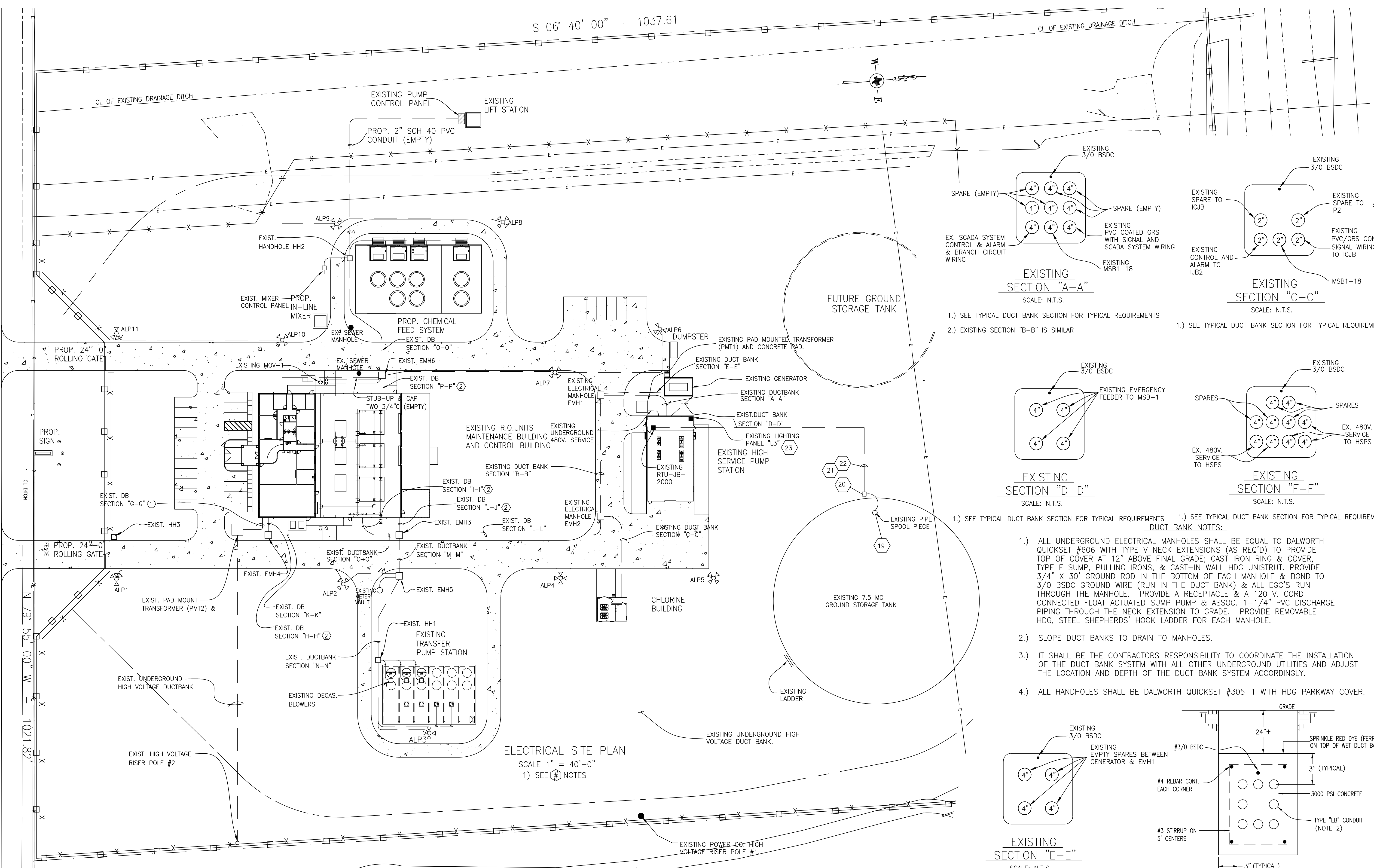
SEISMIC DESIGN DATA

1. SEISMIC IMPORTANCE FACTOR, I	1.00
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b. AT SHORT PERIODS OF 1 SEC, S ₁	0.013
3. SITE CLASS	D
4. DESIGN SPECTRAL RESPONSE ACCELERATION	
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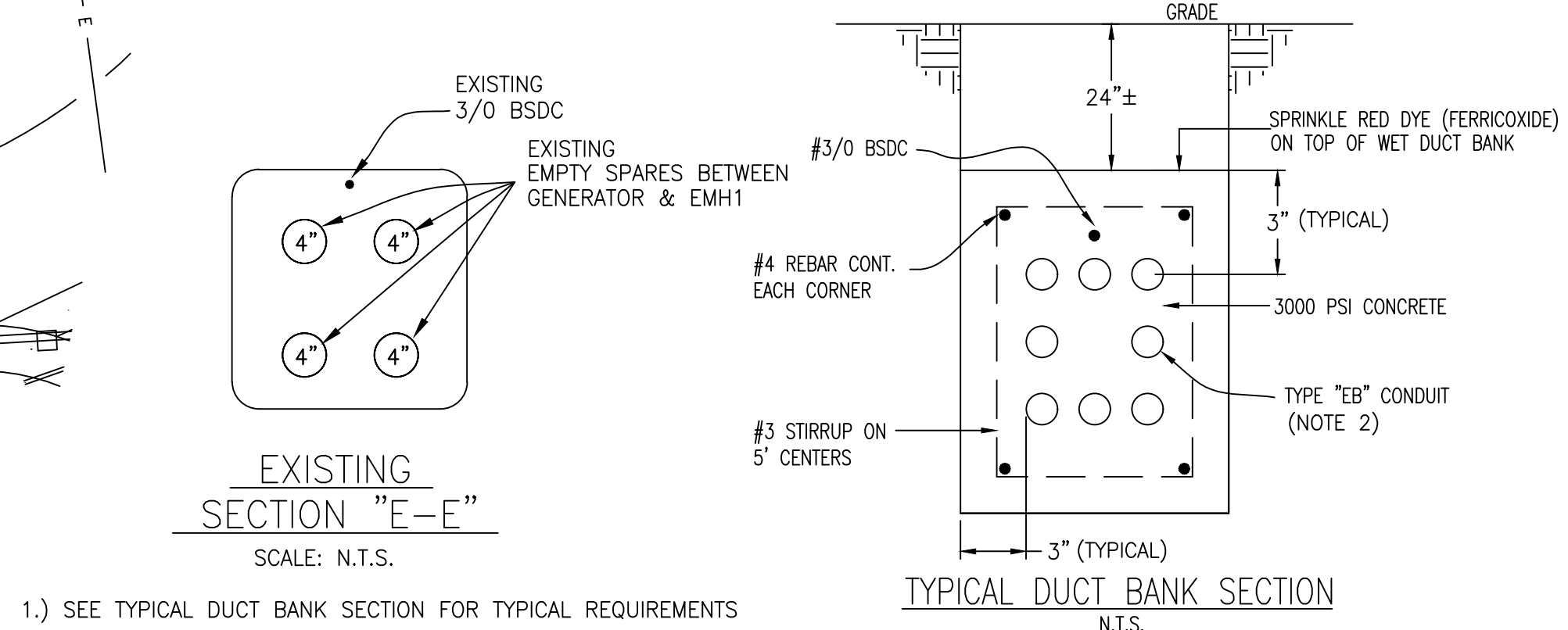


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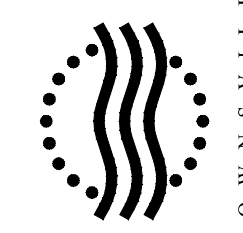
- DUCT BANK NOTES:**
- ALL UNDERGROUND ELECTRICAL MANHOLES SHALL BE EQUAL TO DALWORTH QUICKSET #606 WITH TYPE V NECK EXTENSIONS (AS REQ'D) TO PROVIDE TOP OF COVER AT 12" ABOVE FINAL GRADE; CAST IRON RING & COVER, TYPE E SUMP, PULLING IRONS, & CAST-IN WALL HDG UNISTRUT. PROVIDE 3/4" X 30" GROUND ROD IN THE BOTTOM OF EACH MANHOLE & BOND TO 3/0 BSDC GROUND WIRE (RUN IN THE DUCT BANK) & ALL EGC'S RUN THROUGH THE MANHOLE. PROVIDE A RECEPTACLE & A 120 V. CORD CONNECTED FLOAT ACTUATED SUMP PUMP & ASSOC. 1-1/4" PVC DISCHARGE PIPING THROUGH THE NECK EXTENSION TO GRADE. PROVIDE REMOVABLE HDG, STEEL SHEPHERD'S HOOK LADDER FOR EACH MANHOLE.
 - SLOPE DUCT BANKS TO DRAIN TO MANHOLES.
 - IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO COORDINATE THE INSTALLATION OF THE DUCT BANK SYSTEM WITH ALL OTHER UNDERGROUND UTILITIES AND ADJUST THE LOCATION AND DEPTH OF THE DUCT BANK SYSTEM ACCORDINGLY.
 - ALL HANDHOLES SHALL BE DALWORTH QUICKSET #305-1 WITH HDG PARKWAY COVER.



REFERENCE NOTE:
SRWA-WATER TREATMENT PLANT ELECTRICAL INTERFACE AS-BUILT DRAWINGS TAKEN FROM CONSTRUCTION/AS BUILT PLANS DESIGNED BY NRS CONSULTING ENGINEERS.
PROJECT NAME: SOUTHWEST REGIONAL WATER AUTHORITY, CAMERON COUNTY, TEXAS / WATER TREATMENT PLANT ELECTRICAL INTERFACE.
PLAN SHEET TITLED: SOUTHWEST REGIONAL WATER AUTHORITY CAMERON COUNTY, TEXAS / INTERFACE PROJECT - ELECTRICAL / SITE PLAN / PLANSHEET 18 OF 26 SIGNED AND SEALED BY WILLARD JORDAN ON 3/31/03 AND STAMPED AS BUILT.

FM 511

N 79° 55' 00" W 1021.82



BROWNVILLE
PUBLIC UTILITIES BOARD

Public Utilities Board
1425 Robb Road Drive
Brownsville, Texas 78521
1-800-869-2922
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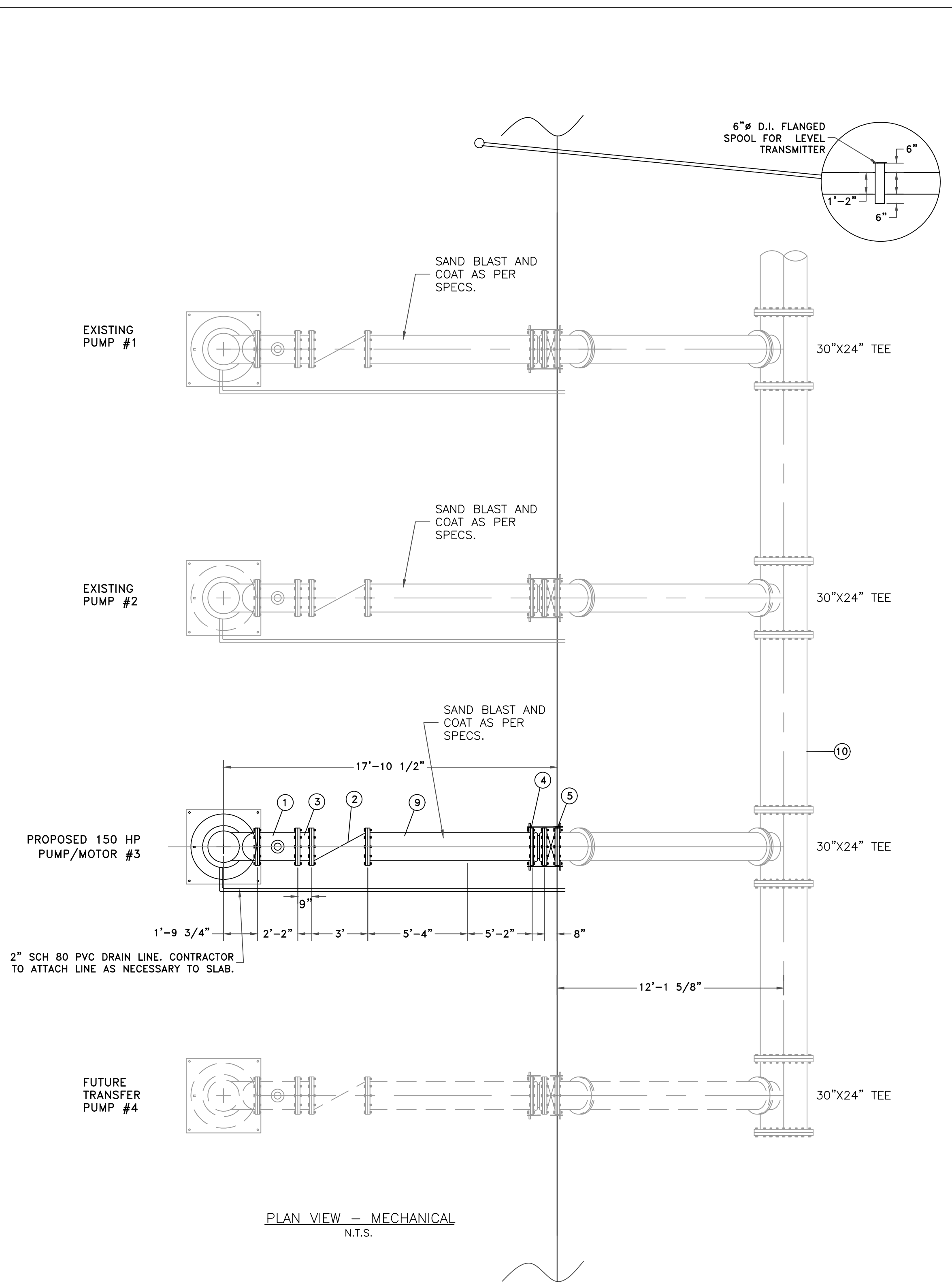
J.B.
11/21/19

SOUTHMOST REGIONAL WATER
AUTHORITY, TEXAS
CAMERON COUNTY, TEXAS
TRANSFER PUMP STATION
MECHANICAL PLAN
IMPROVEMENTS

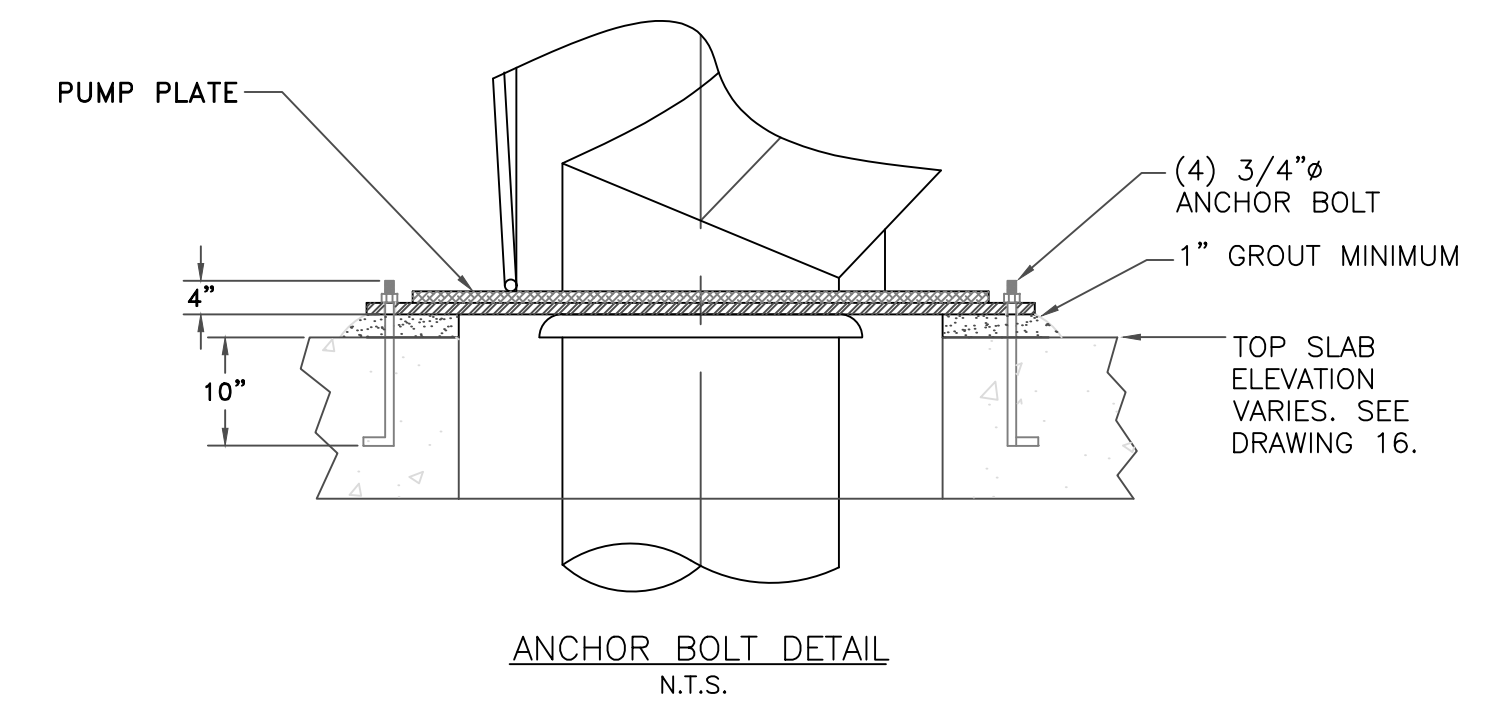
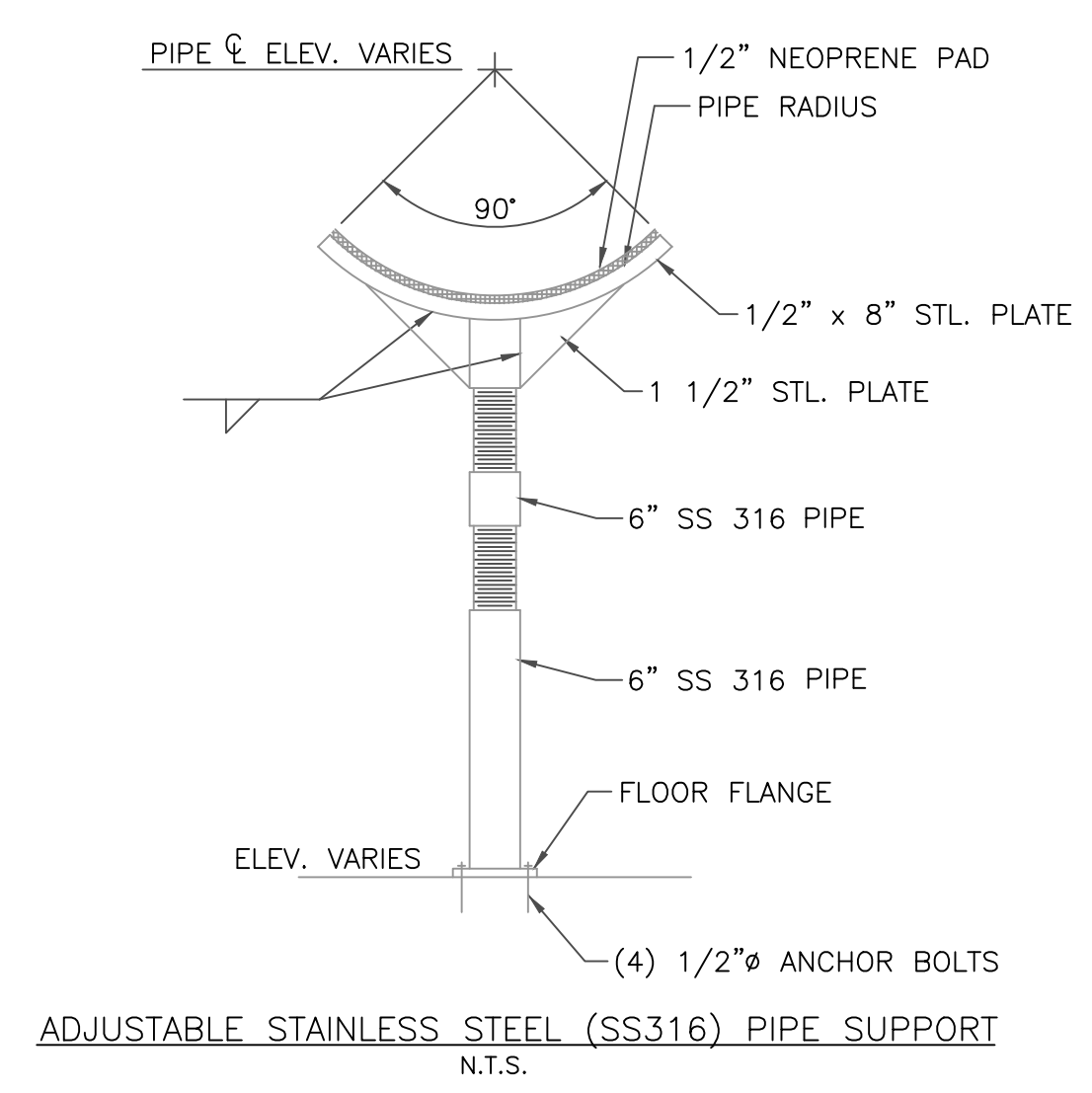
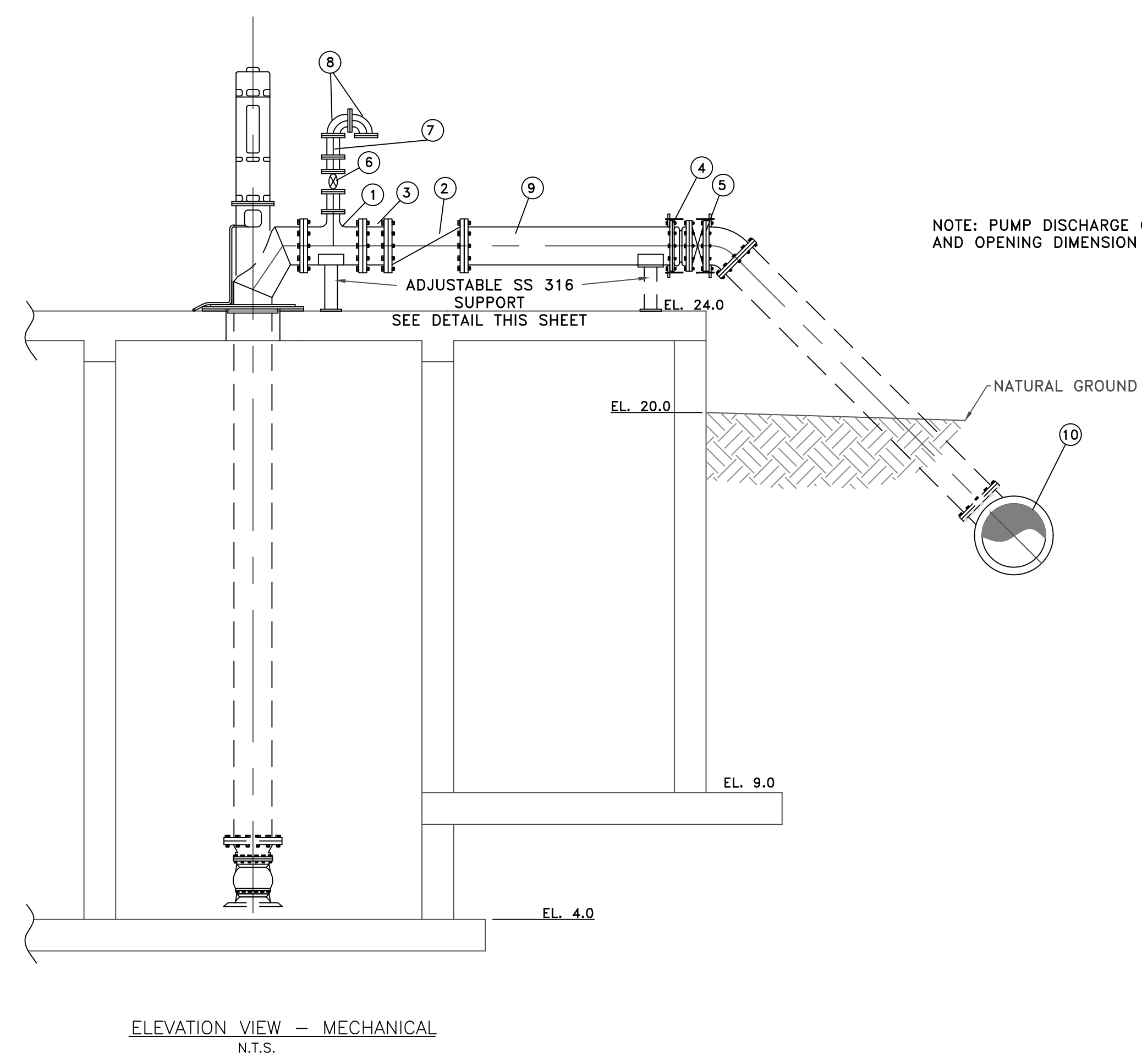
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Scale: AS SHOWN	Date: MARCH 2017
Designed by: BPUB	
Drawn by: JFM	
Checked by: J.B.	
Approved by: J.B.	
Project #: NRS-SMG201	

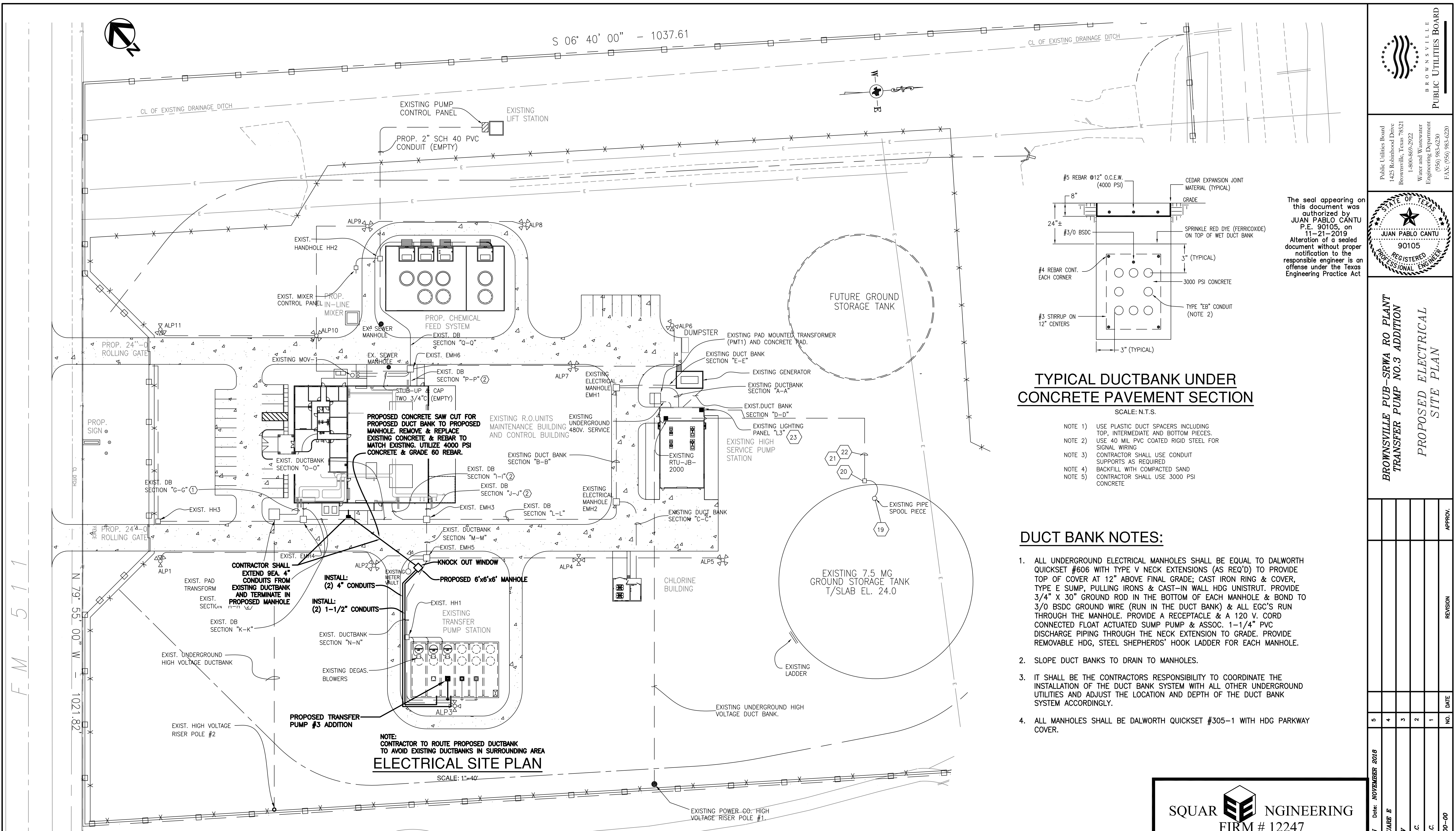
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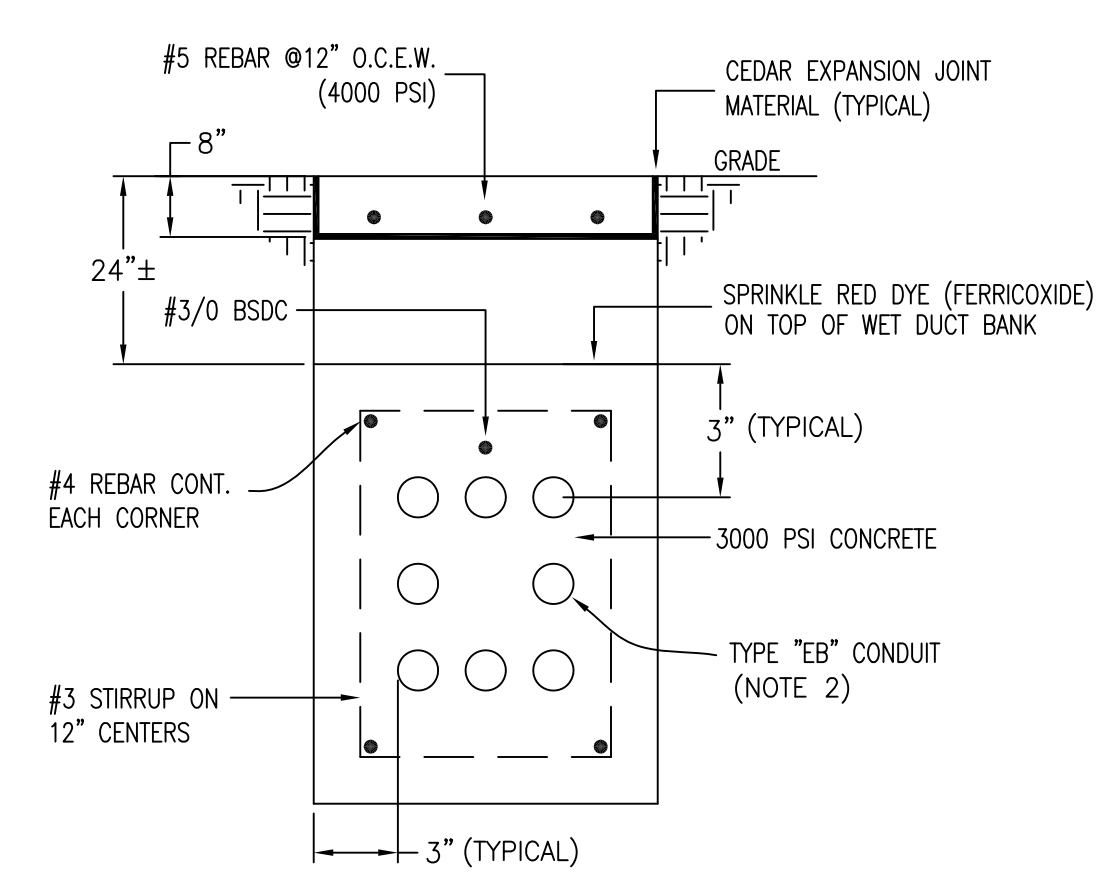
- PIPING AND VALVE LEGEND**
- ① PROP. 24"X24"X4" TEE (FEXFE)
 - ② PROP. 24" VAL-MATIC TILT DISC CHECK VALVE (MODEL NO. 9624-TMD-DSS-DW, 150# ANSI, 285-PSI VALVE) OR APPROVED EQUAL
 - ③ PROP. 24" D.I. SPOOL (FEXFE)
 - ④ PROP. UNIFLEX-200 XL COUPLING OR APPROVED EQUAL
 - ⑤ PROP. 24" BUTTERFLY VALVE
 - ⑥ PROP. 4" PLUG VALVE
 - ⑦ PROP. 4" AIR RELEASE VALVE VAL-MATIC MODEL 104 DWS-DW.2 OR APPROVED EQUAL
 - ⑧ PROP. 4" 90° BENDS
 - ⑨ PROP. 24" PIPE (FEXPE)
 - ⑩ EXIST. 30" HEADER PIPE



REFERENCE NOTE:
SRWA-HIGH SERVICE AND TRANSFER PUMP STATIONS, CHLORINE BUILDING, CHEMICAL FEED STORAGE AREA AND MIXER VAULT AS-BUILT DRAWINGS TAKEN FROM CONSTRUCTION/AS BUILT PLANS DESIGNED BY NRS CONSULTING ENGINEERS.
PROJECT NAME: SOUTHMOST REGIONAL WATER AUTHORITY, CAMERON COUNTY, TEXAS / HIGH SERVICE AND TRANSFER PUMP STATIONS, CHLORINE BUILDING, CHEMICAL FEED STORAGE AREA AND MIXER VAULT.
PLAN SHEET TITLED: SOUTHMOST REGIONAL WATER AUTHORITY CAMERON COUNTY, TEXAS / TRANSFER PUMP STATION / MECHANICAL PLAN / PLANSHEET 18 OF 26 SIGNED AND SEALED BY M.L. MYERS ON 8/26/02 AND STAMPED AS BUILT.



ELECTRICAL SITE PLAN
SCALE: 1"=40'



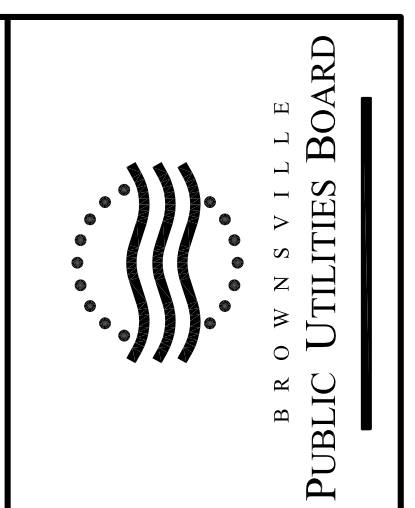
TYPICAL DUCTBANK UNDER CONCRETE PAVEMENT SECTION
SCALE: N.T.S.

- NOTE 1) USE PLASTIC DUCT SPACERS INCLUDING TOP, INTERMEDIATE AND BOTTOM PIECES.
NOTE 2) USE 40 MIL PVC COATED RIGID STEEL FOR SIGNAL WIRING
NOTE 3) CONTRACTOR SHALL USE CONDUIT SUPPORTS AS REQUIRED
NOTE 4) BACKFILL WITH COMPACTED SAND
NOTE 5) CONTRACTOR SHALL USE 3000 PSI CONCRETE

DUCT BANK NOTES:

1. ALL UNDERGROUND ELECTRICAL MANHOLES SHALL BE EQUAL TO DALWORTH QUICKSET #606 WITH TYPE V NECK EXTENSIONS (AS REQ'D) TO PROVIDE TOP OF COVER AT 12" ABOVE FINAL GRADE; CAST IRON RING & COVER, TYPE E SUMP, PULLING IRONS & CAST-IN WALL HDG UNISTRUT. PROVIDE 3/4" X 30" GROUND ROD IN THE BOTTOM OF EACH MANHOLE & BOND TO 3/0 BSDC GROUND WIRE (RUN IN THE DUCT BANK) & ALL EGC'S RUN THROUGH THE MANHOLE. PROVIDE A RECEPTACLE & A 120 V. CORD CONNECTED FLOAT ACTUATED SUMP PUMP & ASSOC. 1-1/4" PVC DISCHARGE PIPING THROUGH THE NECK EXTENSION TO GRADE. PROVIDE REMOVABLE HDG, STEEL SHEPHERDS' HOOK LADDER FOR EACH MANHOLE.
2. SLOPE DUCT BANKS TO DRAIN TO MANHOLES.
3. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO COORDINATE THE INSTALLATION OF THE DUCT BANK SYSTEM WITH ALL OTHER UNDERGROUND UTILITIES AND ADJUST THE LOCATION AND DEPTH OF THE DUCT BANK SYSTEM ACCORDINGLY.
4. ALL MANHOLES SHALL BE DALWORTH QUICKSET #305-1 WITH HDG PARKWAY COVER.

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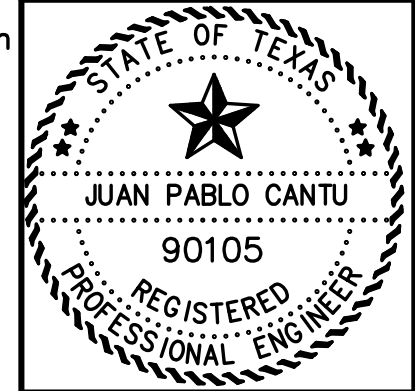
**BROWNSVILLE PUB-SRWA RO PLANT
TRANSFER PUMP NO.3 ADDITION**
**PROPOSED ELECTRICAL
SITE PLAN**

NO.	DATE	REVISION	APPROV.
5			
4			
3			
2			
1			

Scale: AS SHOWN Date: NOVEMBER 2018
Designed by: SQUARE E
Drawn by: MSY
Checked by: J.P.C.
Approved by: J.P.C.
Project #: B000-00

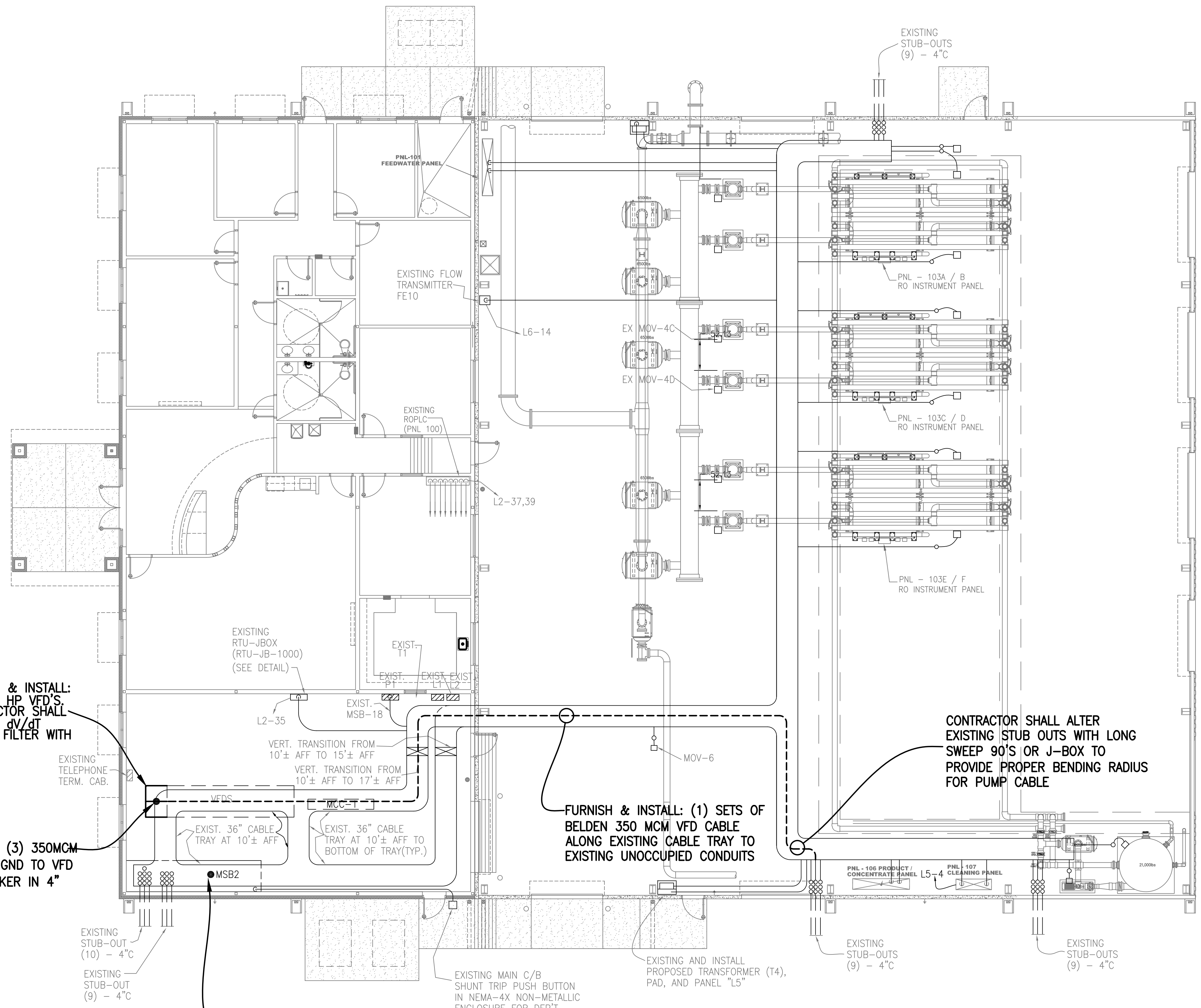
SQUAR ENGINEERING
FIRM # 12247
PHONE: (956) 466-3492
32212 WHIPPLE RD.
LOS FRESNOS TX. 78566
PROJECT NO. 6902-13
DRAWN BY: EG
DESIGN BY: JPC

REFERENCE NOTE:
SRWA-WATER TREATMENT PLANT ELECTRICAL INTERFACE AS-BUILT DRAWINGS TAKEN FROM CONSTRUCTION/AS BUILT PLANS DESIGNED BY NRS CONSULTING ENGINEERS.
PROJECT NAME: SOUTHWEST REGIONAL WATER AUTHORITY, CAMERON COUNTY, TEXAS / WATER TREATMENT PLANT ELECTRICAL INTERFACE.
PLAN SHEET TITLED: SOUTHWEST REGIONAL WATER AUTHORITY CAMERON COUNTY, TEXAS / INTERFACE PROJECT - ELECTRICAL / SITE PLAN / PLANSHEET 18 OF 26 SIGNED AND SEALED BY WILLARD JORDAN ON 3/31/03 AND STAMPED AS BUILT.



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BROWN SVILLE PUB-SRW A RO PLANT
TRANSFER PUMP NO.3 ADDITION
PROPOSED ELECTRICAL
SITE PLAN



FURNISH & INSTALL:
(1) 150 HP VFD'S.
CONTRACTOR SHALL
PROVIDE dv/dt
OUTPUT FILTER WITH
VFD

PROPOSED (1) SET OF (3) 350MCM
CABLES W/ (1) #2/0 GND TO VFD
FROM PROPOSED BREAKER IN 4"
CONDUIT

FURNISH & INSTALL (1) 225 AMP
BREAKERS INSIDE EXISTING MSB2

FURNISH & INSTALL: (1) SETS OF
BELDEN 350 MCM VFD CABLE
ALONG EXISTING CABLE TRAY TO
EXISTING UNOCCUPIED CONDUITS

CONTRACTOR SHALL ALTER
EXISTING STUB OUTS WITH LONG
SWEEP 90'S OR J-BOX TO
PROVIDE PROPER BENDING RADIUS
FOR PUMP CABLE

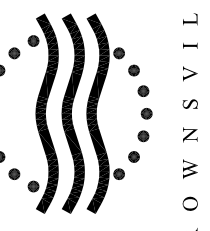
RO WTP ELECTRICAL PLAN
SCALE: 1/8" = 1'-0"

REFERENCE NOTE:
SRWA-WATER TREATMENT PLANT ELECTRICAL INTERFACE AS-BUILT
DRAWINGS TAKEN FROM CONSTRUCTION/AS BUILT PLANS DESIGNED BY
NRS CONSULTING ENGINEERS.
PROJECT NAME: SOUTHWEST REGIONAL WATER AUTHORITY, CAMERON
COUNTY, TEXAS / WATER TREATMENT PLANT ELECTRICAL INTERFACE.
PLAN SHEET TITLED: SOUTHWEST REGIONAL WATER AUTHORITY CAMERON
COUNTY, TEXAS / INTERFACE PROJECT - ELECTRICAL / W.T.P.
ELECTRICAL PLAN AND ELECTRICAL CONSTRUCTION NOTES/ PLANSHEET
4 OF 9 SIGNED AND SEALED BY WILLARD JORDAN ON 3/31/03 AND
STAMPED AS BUILT.

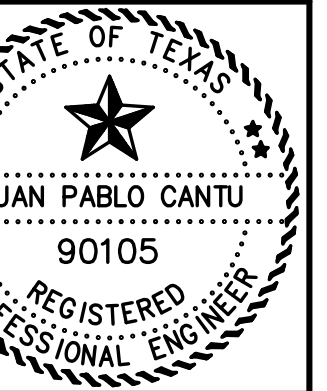
SQUAR ENGINEERING
FIRM # 12247
PHONE: (956) 466-3492
32212 WHIPPLE RD.
LOS FRESNOS TX. 78566
PROJECT NO. 6902-13
DRAWN BY: MSV
DESIGN BY: JPC

NO.	DATE	REVISION	APPROV.
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Scale: AS SHOWN Date: October, 2019
Designed by: SQUAR E
Drawn by: MSV
Checked by: J.P.C.
Approved by: J.P.C.
Project #: B000-00

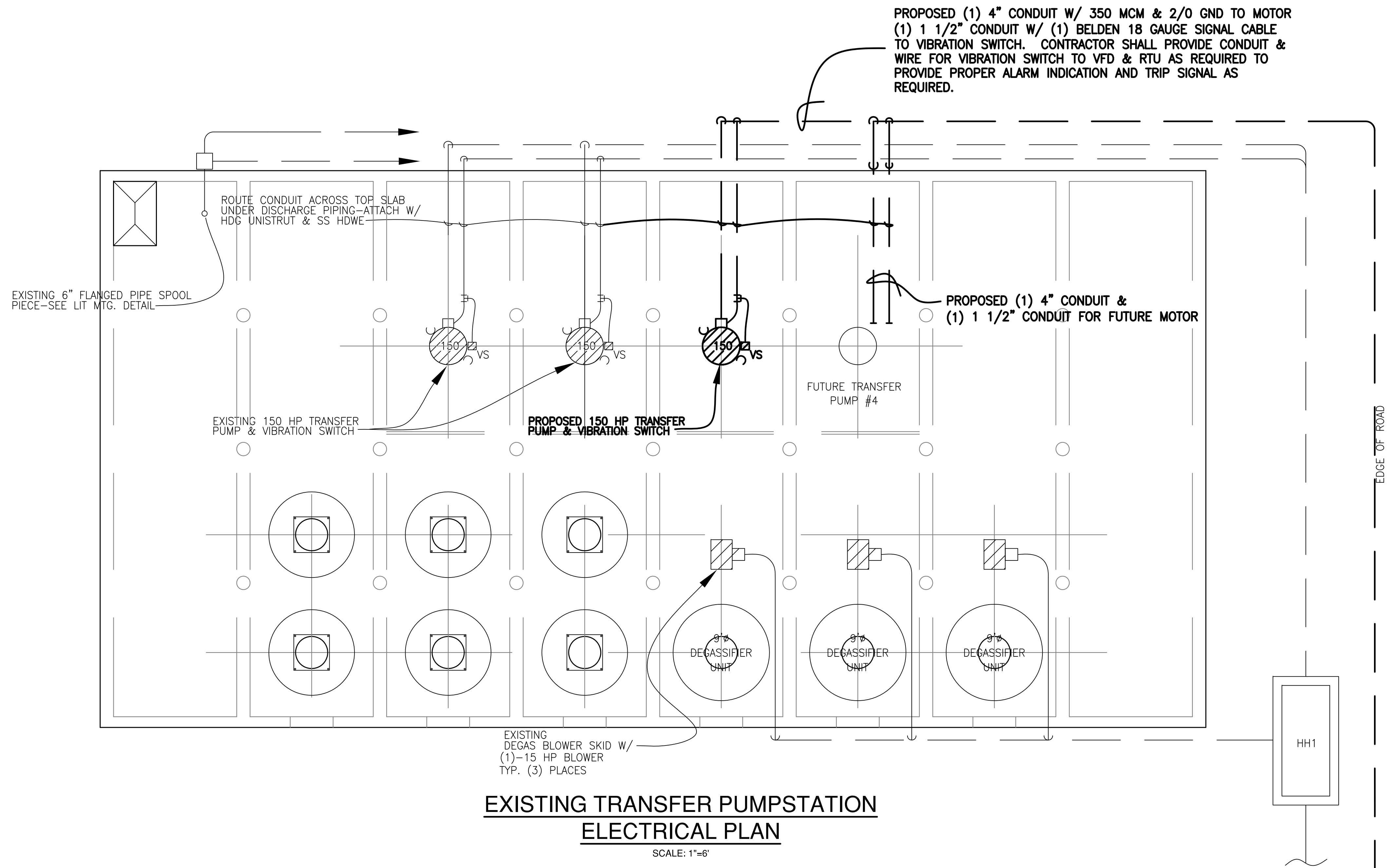


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WATER TREATMENT PLANT NO.2
CAUSTIC SODA CHEMICAL FEED
IMPROVEMENTS
PROPOSED TRANSFER
PUMPSTATION ELECTRICAL
LAYOUT



**EXISTING TRANSFER PUMPSTATION
ELECTRICAL PLAN**

SCALE: 1"=6'

NOTE: FURNISH AND INSTALL PROPOSED CONDUIT & WIRING AND CONNECT TO EXISTING EQUIPMENT AS INDICATED.

REFERENCE NOTE:
SRWA-WATER TREATMENT PLANT ELECTRICAL INTERFACE AS-BUILT DRAWINGS TAKEN FROM CONSTRUCTION/AS BUILT PLANS DESIGNED BY NRS CONSULTING ENGINEERS.
PROJECT NAME: SOUTHMOST REGIONAL WATER AUTHORITY, CAMERON COUNTY, TEXAS / WATER TREATMENT PLANT ELECTRICAL INTERFACE.
PLAN SHEET TITLED: SOUTHMOST REGIONAL WATER AUTHORITY CAMERON COUNTY, TEXAS / INTERFACE PROJECT - ELECTRICAL / SITE PLAN / PLANSHEET 18 OF 26 SIGNED AND SEALED BY WILLARD JORDAN ON 3/31/03 AND STAMPED AS BUILT.

SQUAR ENGINEERING
FIRM # 12247
PHONE: (956) 466-3492
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DRAWN BY: MSV
DESIGN BY: JPC

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Scale: AS SHOWN Date: NOVEMBER 2018

Designed by: SQUARE E

Drawn by: MSV

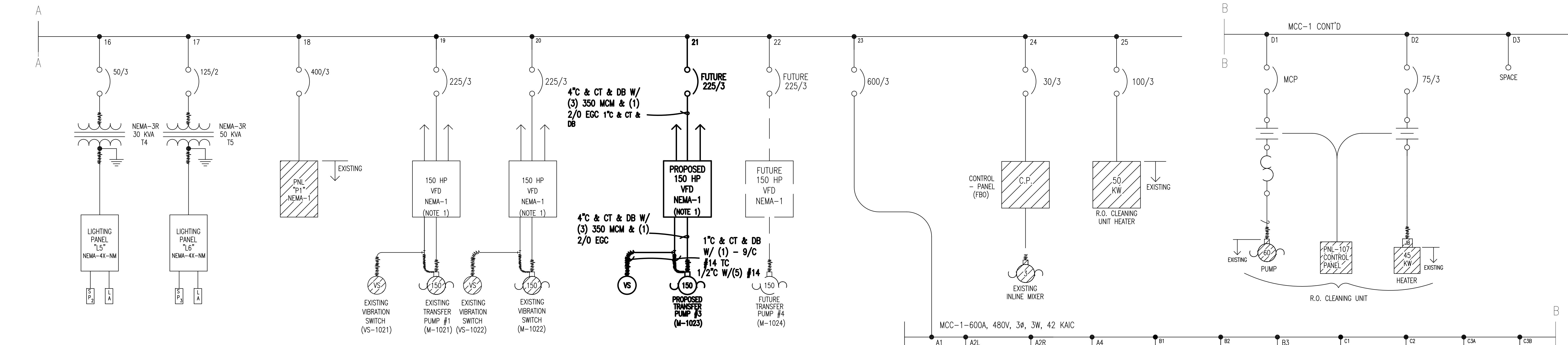
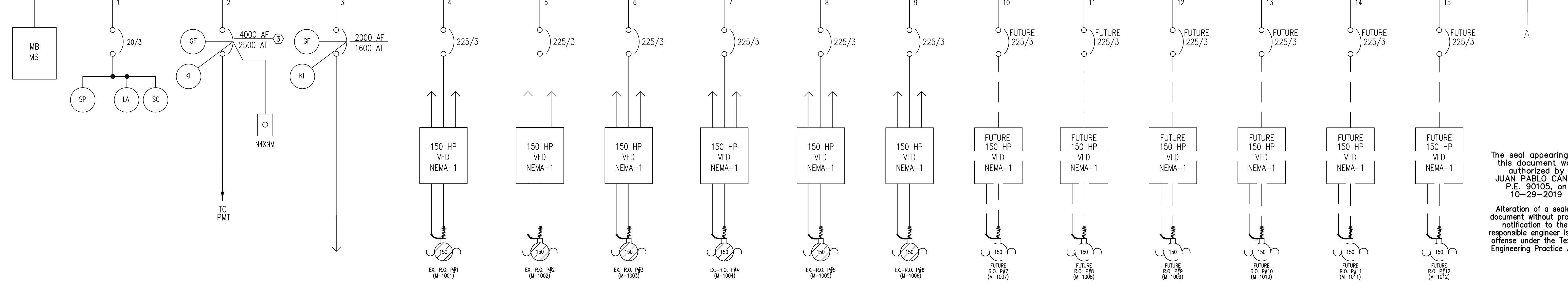
Checked by: J.P.C.

Approved by: J.P.C.

Project #: B000-00

SHEET
E3
OF 88

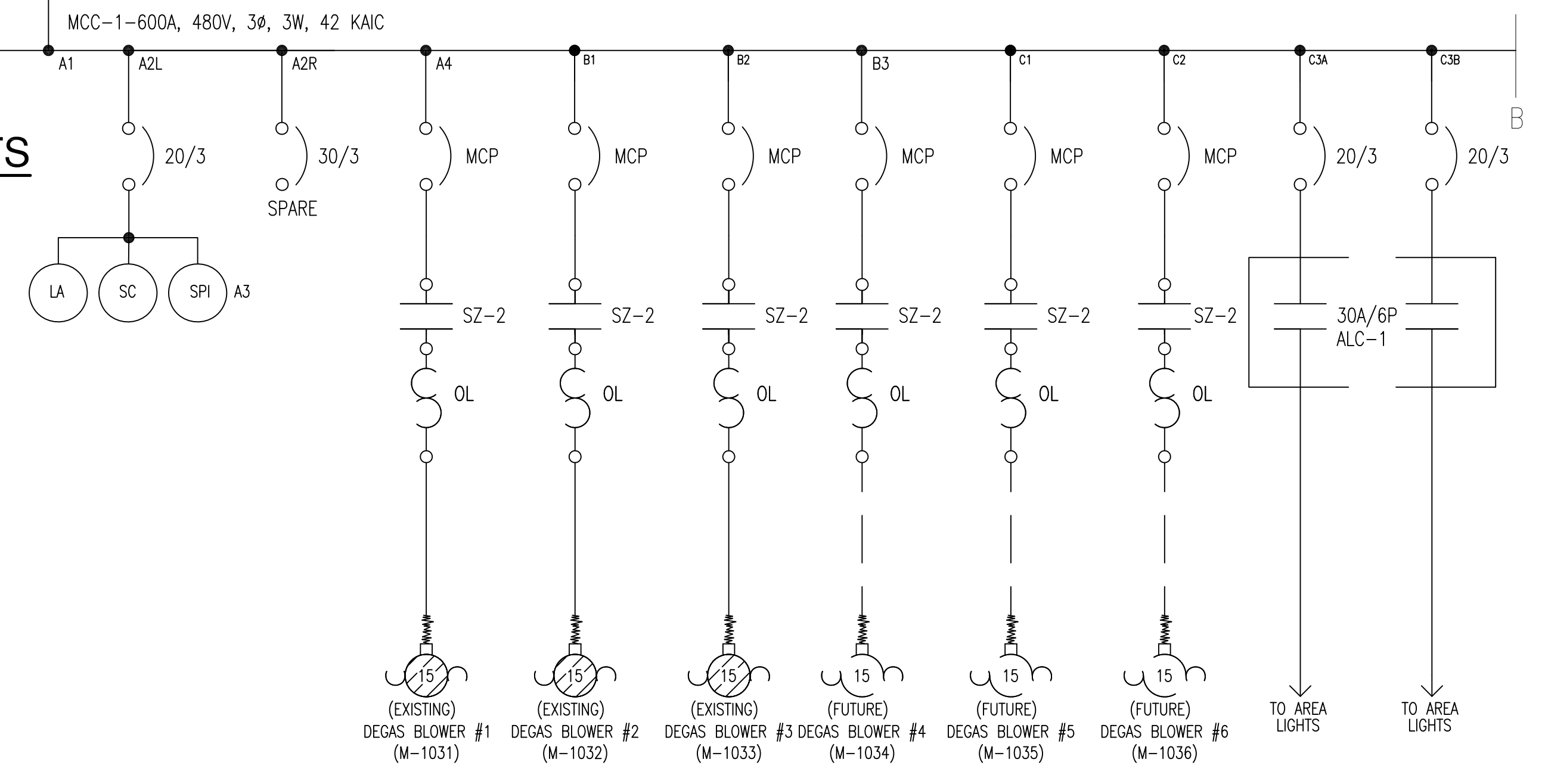
MAIN SWITCH BOARD-MSB-2
4000A, 277/480V, 3Ø, 4W, 65 KAIC W/ 50% N.BUS & GRD BUS



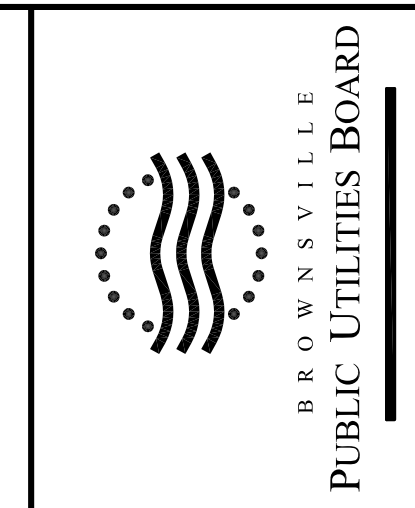
EXISTING ONELINE DIAGRAM W/ PROPOSED IMPROVEMENTS

SCALE: N.T.S.

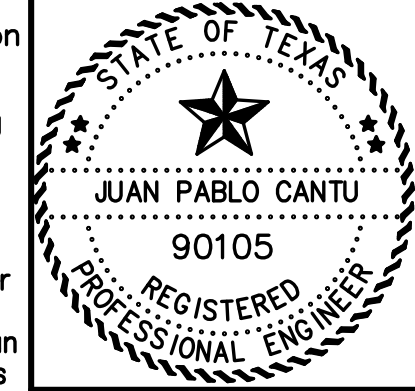
NOTE 1) PROVIDE OUTPUT REACTOR AS REQ'D - SEE VFD SPECIFICATIONS
NOTE 2) MSB2 IS SHOWN SCHEMATICALLY FROM LEFT TO RIGHT. THE ACTUAL PHYSICAL LAYOUT SHALL BE FROM RIGHT TO LEFT WHEN FACING THE ENCLOSURE.



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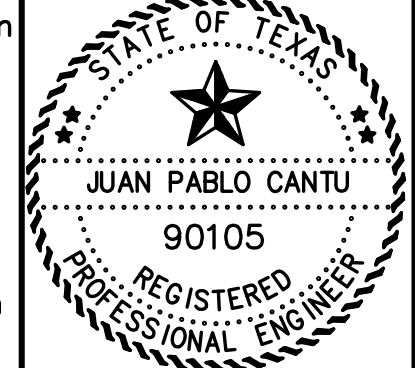
BROWNSVILLE, PUB-SRWA RO PLANT
TRANSFER PUMP NO. 3 ADDITION
EXISTING ONELINE DIAGRAM
W/ PROPOSED IMPROVEMENTS

SQUAR ENGINEERING
FIRM # 12247
PHONE: (956) 466-3492
32212 WHIPPLE RD.
LOS FRESNOS TX. 78566
PROJECT NO. 6902-13
DRAWN BY: MSV
DESIGN BY: JPC

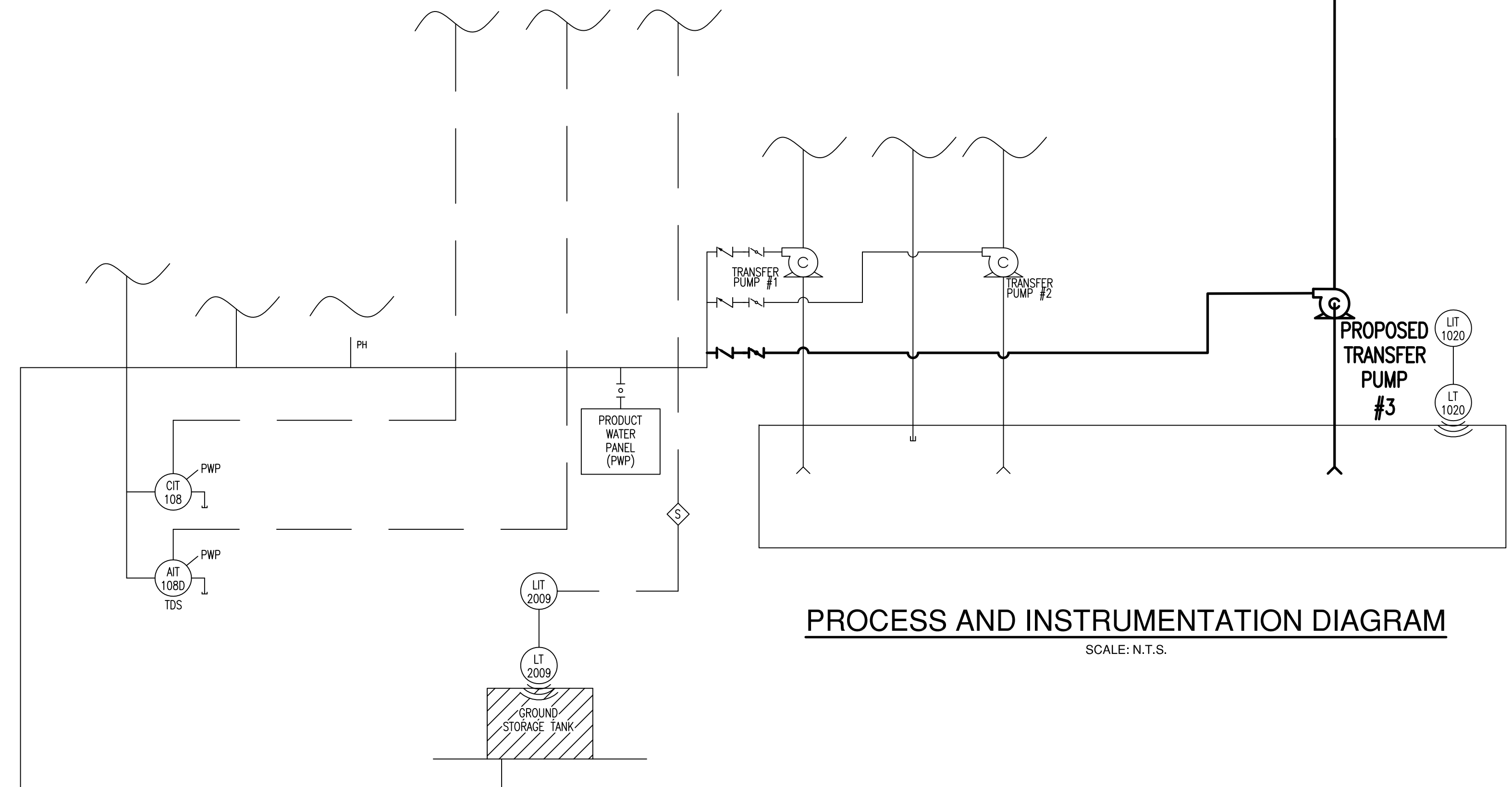
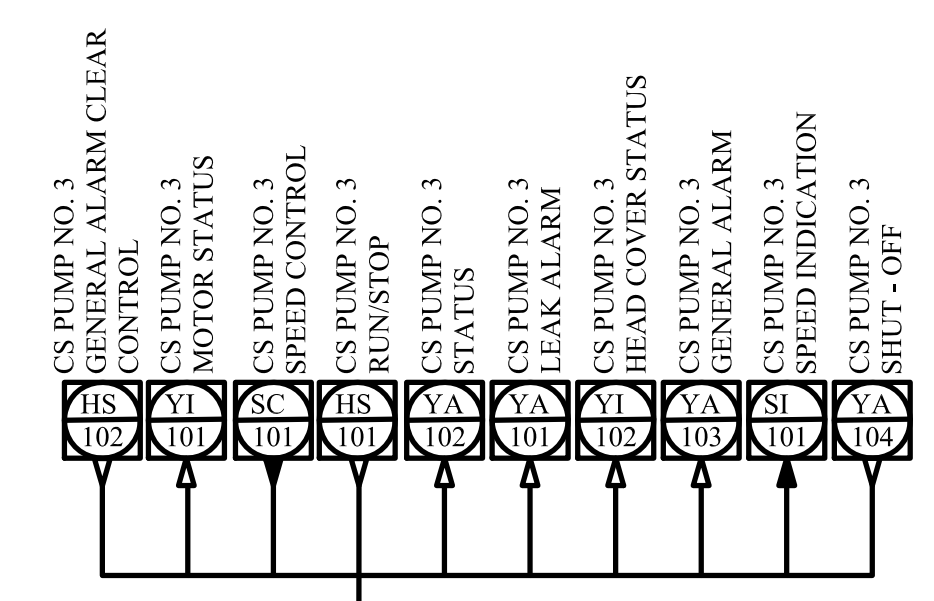
REFERENCE NOTE:
SRWA-WATER TREATMENT PLANT ELECTRICAL INTERFACE AS-BUILT DRAWINGS TAKEN FROM CONSTRUCTION/AS BUILT PLANS DESIGNED BY NRS CONSULTING ENGINEERS.
PROJECT NAME: SOUTHWEST REGIONAL WATER AUTHORITY, CAMERON COUNTY, TEXAS / WATER TREATMENT PLANT ELECTRICAL INTERFACE.
PLAN SHEET TITLED: SOUTHWEST REGIONAL WATER AUTHORITY CAMERON COUNTY, TEXAS / INTERFACE PROJECT - ELECTRICAL / SITE PLAN / PLANSHEET 18 OF 26 SIGNED AND SEALED BY WILLARD JORDAN ON 3/31/03 AND STAMPED AS BUILT.

NO.	DATE	REVISION	APPROV.
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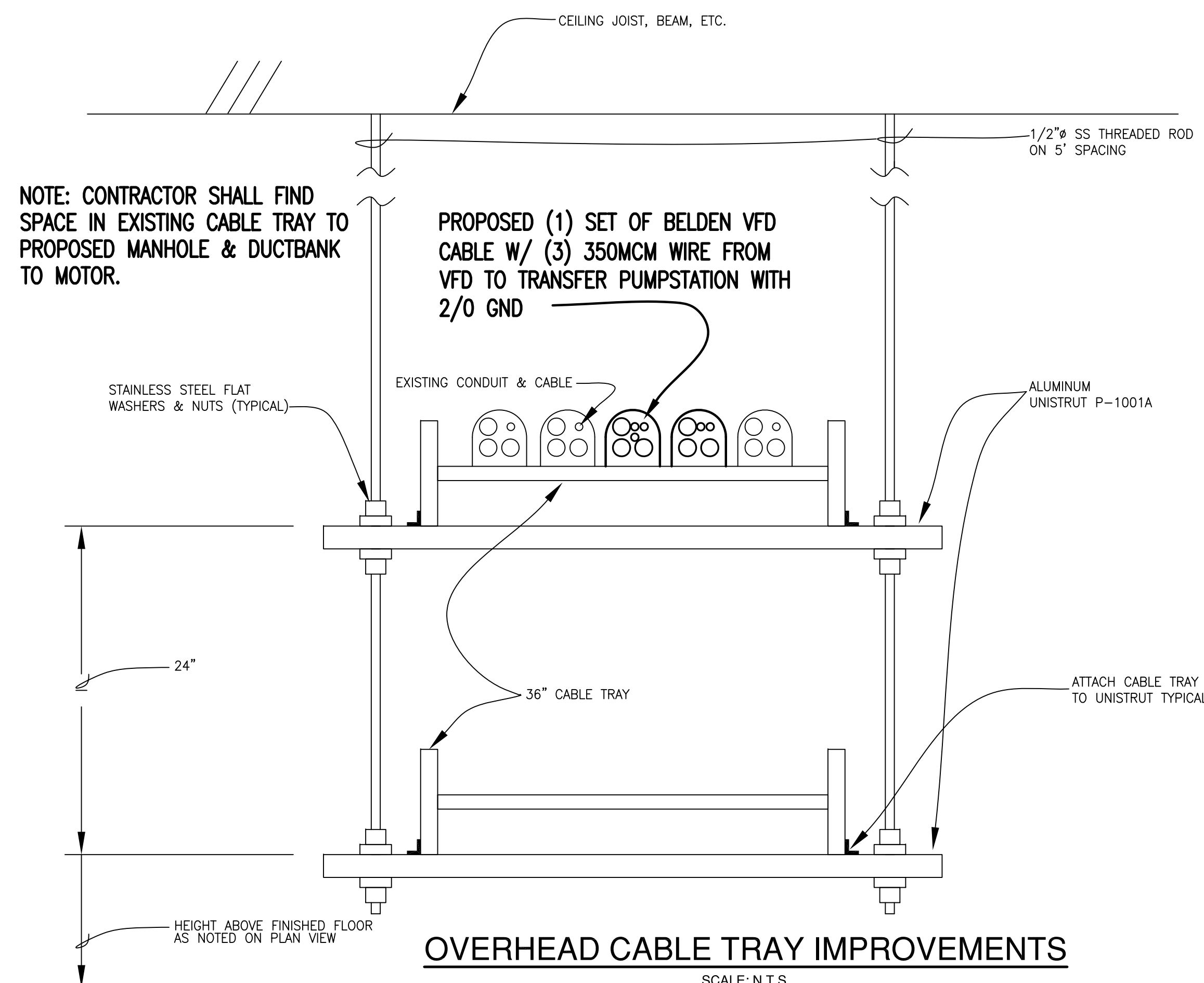
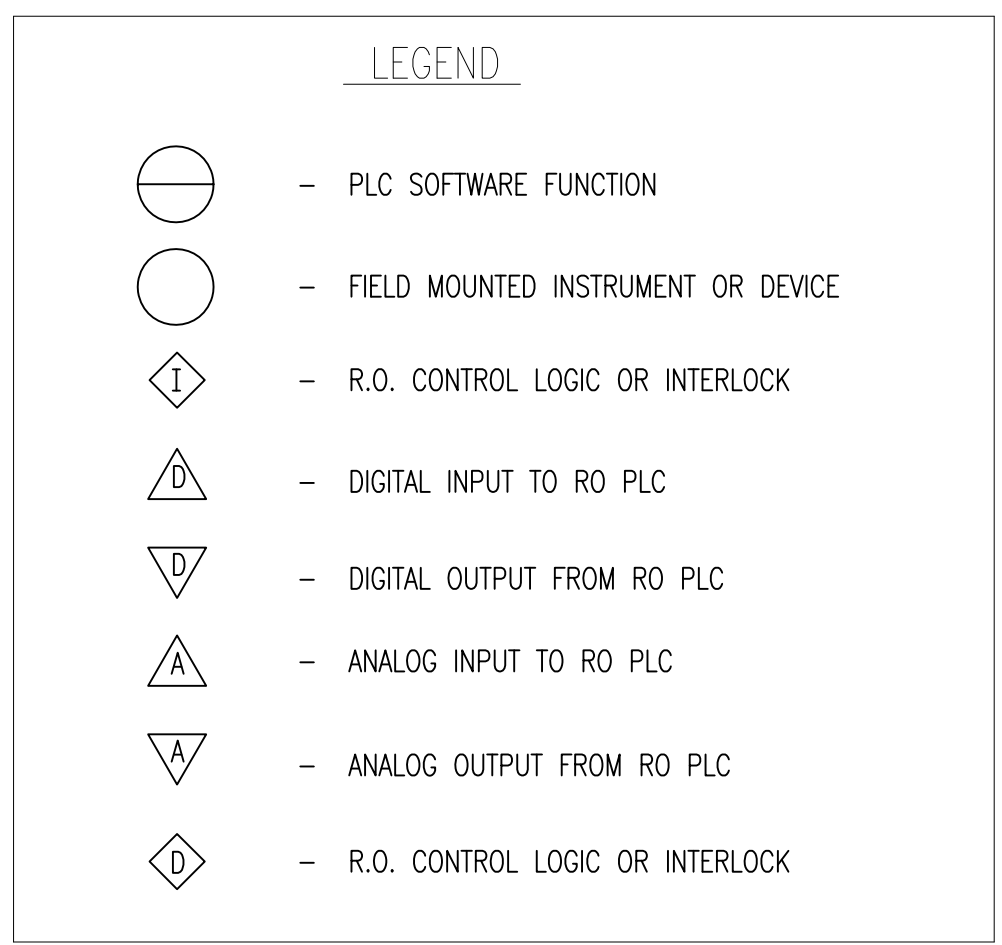
Scale: AS SHOWN Date: NOVEMBER 2018
Designed by: SQUAR E
Drawn by: MSV
Checked by: J.P.C.
Approved by: J.P.C.
Project #: B000-00



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PROCESS AND INSTRUMENTATION DIAGRAM
SCALE: N.T.S.



OVERHEAD CABLE TRAY IMPROVEMENTS
SCALE: N.T.S.

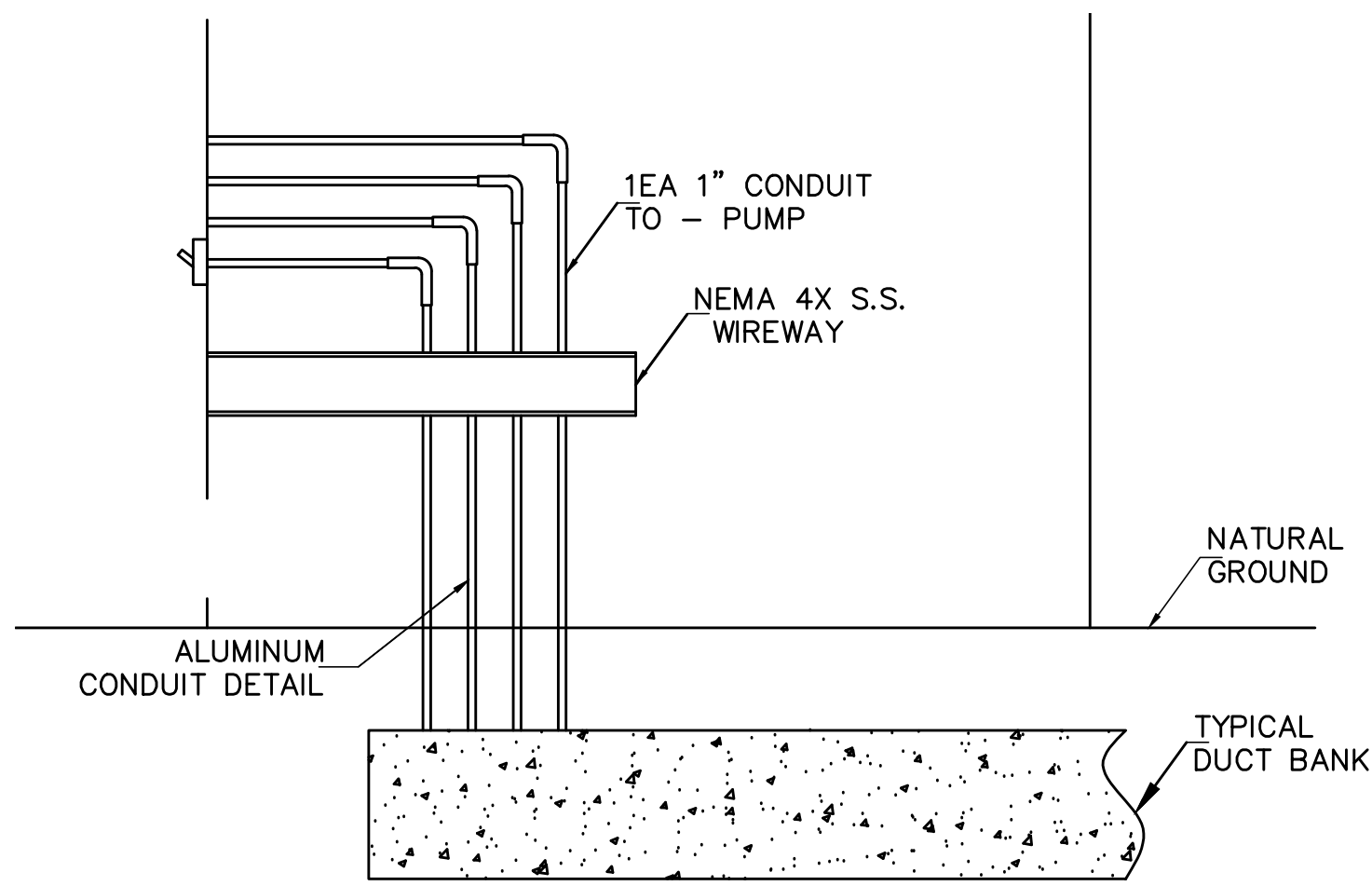
- 1) ALL CABLE SHALL BE SUITABLE FOR TYPICAL AMBIENT AND FOR TRAY CABLE INSTALLATION
- 2) USE SPACE ON EXISTING TRAY CABLE.
- 3) COORDINATE CONSTRUCTION WITH OWNER AND ENGINEER
- 4) ALL CABLE TRAY WIRING INSTALLATION SHALL COMPLY WITH NEC-392
- 5) ALL CABLE TRAY WIRING 1/0 AWG & LARGER SHALL BE SINGLE CONDUCTOR AND APPROVED & MARKED FOR CABLE TRAY USE. SINGLE CONDUCTOR SHALL BE 4" AWG MINIMUM

REFERENCE NOTE:
SRWA-WATER TREATMENT PLANT PROJECT AS-BUILT DRAWINGS TAKEN FROM CONSTRUCTION/AS BUILT PLANS DESIGNED BY NRS CONSULTING ENGINEERS.
PROJECT NAME: SOUTHMOST REGIONAL WATER AUTHORITY, CAMERON COUNTY, TEXAS / REVERSE OSMOSIS TREATMENT PLANT.
PLAN SHEET TITLED: SOUTHMOST REGIONAL WATER AUTHORITY CAMERON COUNTY, TEXAS / REVERSE OSMOSIS TREATMENT PLANT SCADA / PROCESS AND INSTRUMENTATION DIAGRAM - SECTION II / PLANSHEET 10 OF 13 SIGNED AND SEALED BY WILLARD JORDAN ON 3/31/03 AND STAMPED AS BUILT.

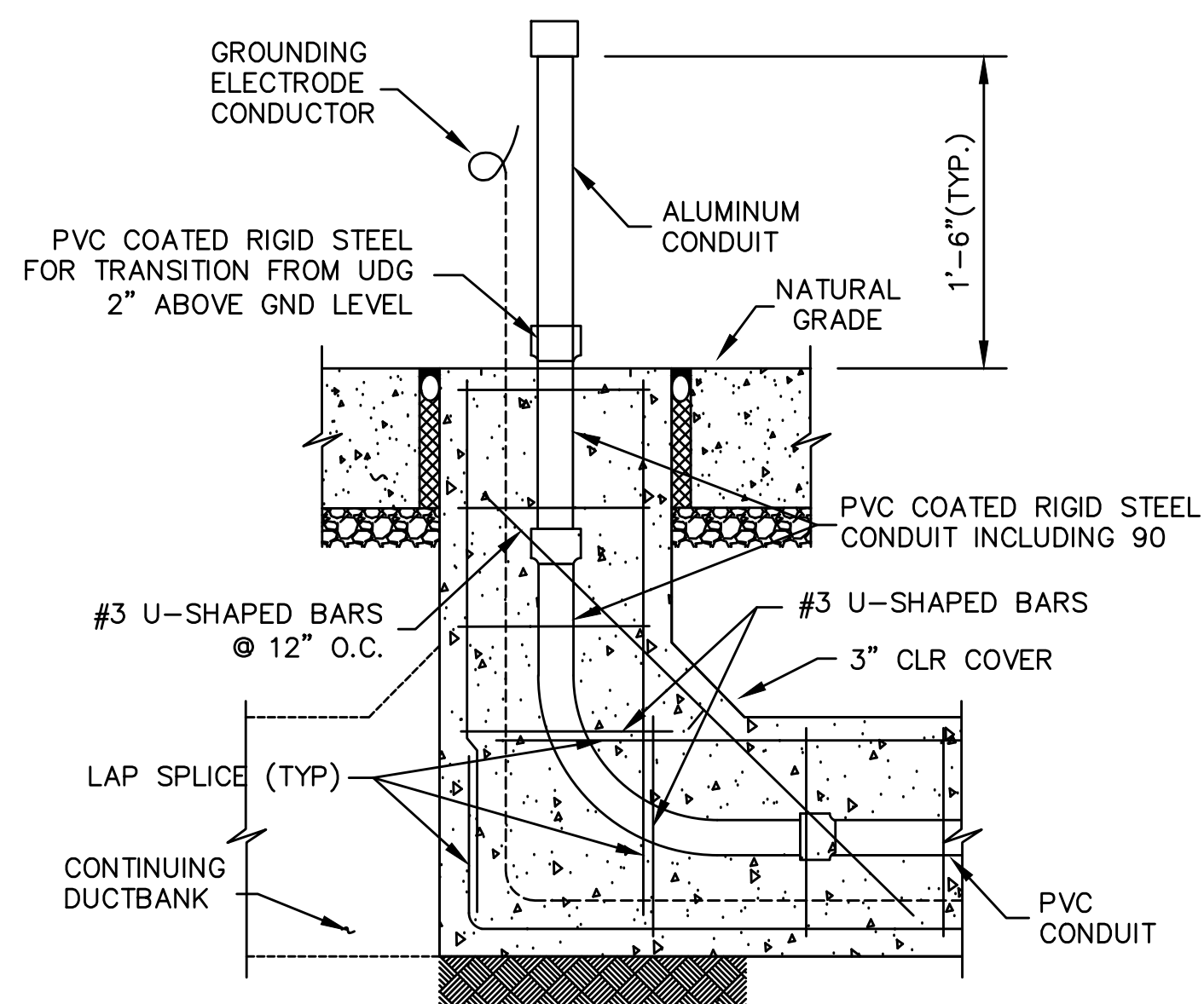
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FIRM # 12247
PHONE: (956) 466-3492
32212 WHIPPLE RD.
LOS FRESNOS TX. 78566
PROJECT NO. 6902-13
DRAWN BY: MSV
DESIGN BY: JPC

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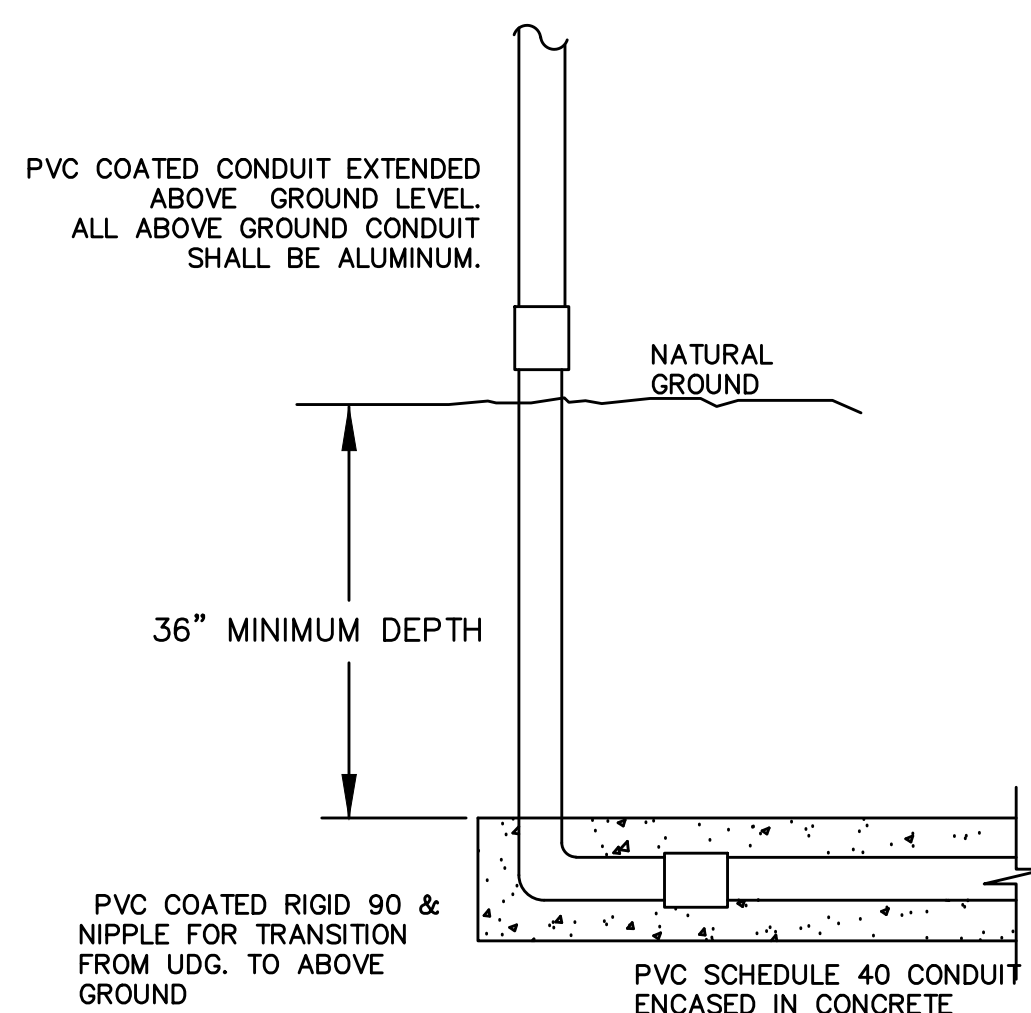
Scale: AS SHOWN Date: NOVEMBER 2019
Designed by: SQUARE E
Drawn by: MSV
Checked by: J.P.C.
Approved by: J.P.C.
Project #: B000-00



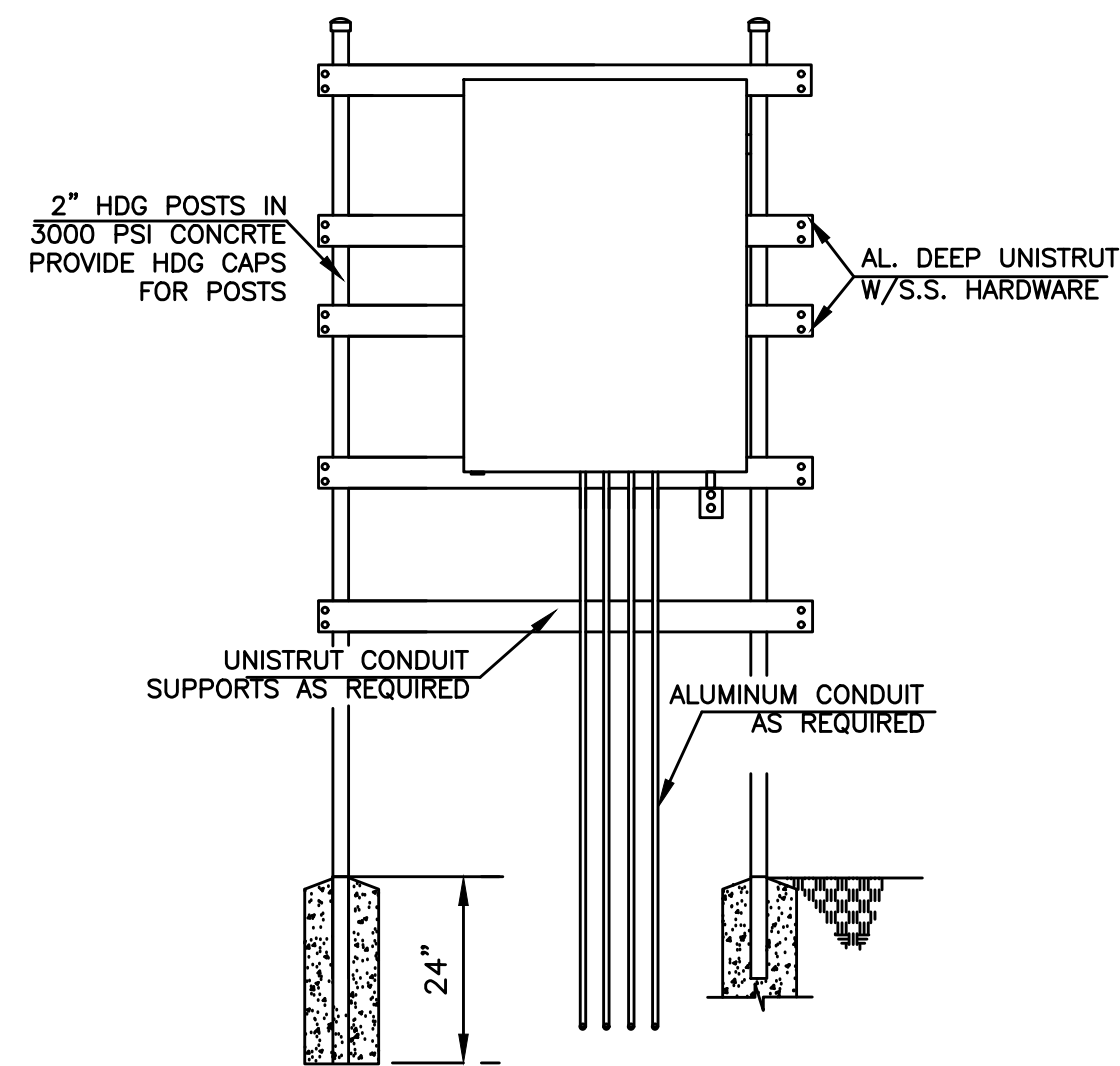
GUTTER BOX SURFACE MOUNT DETAIL
SCALE: N.T.S.



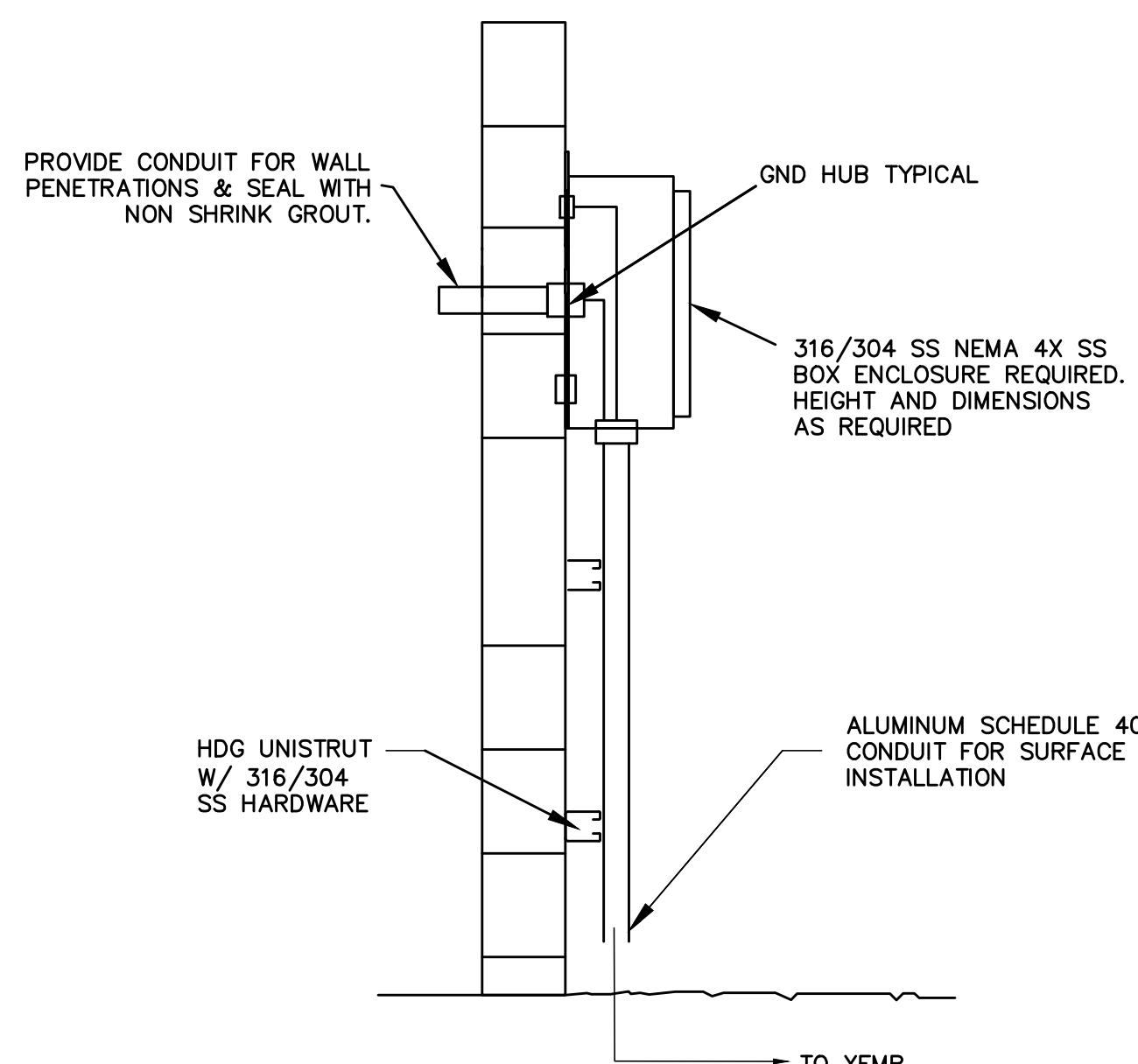
DUCTBANK TRANSITION DETAIL
SCALE: N.T.S.



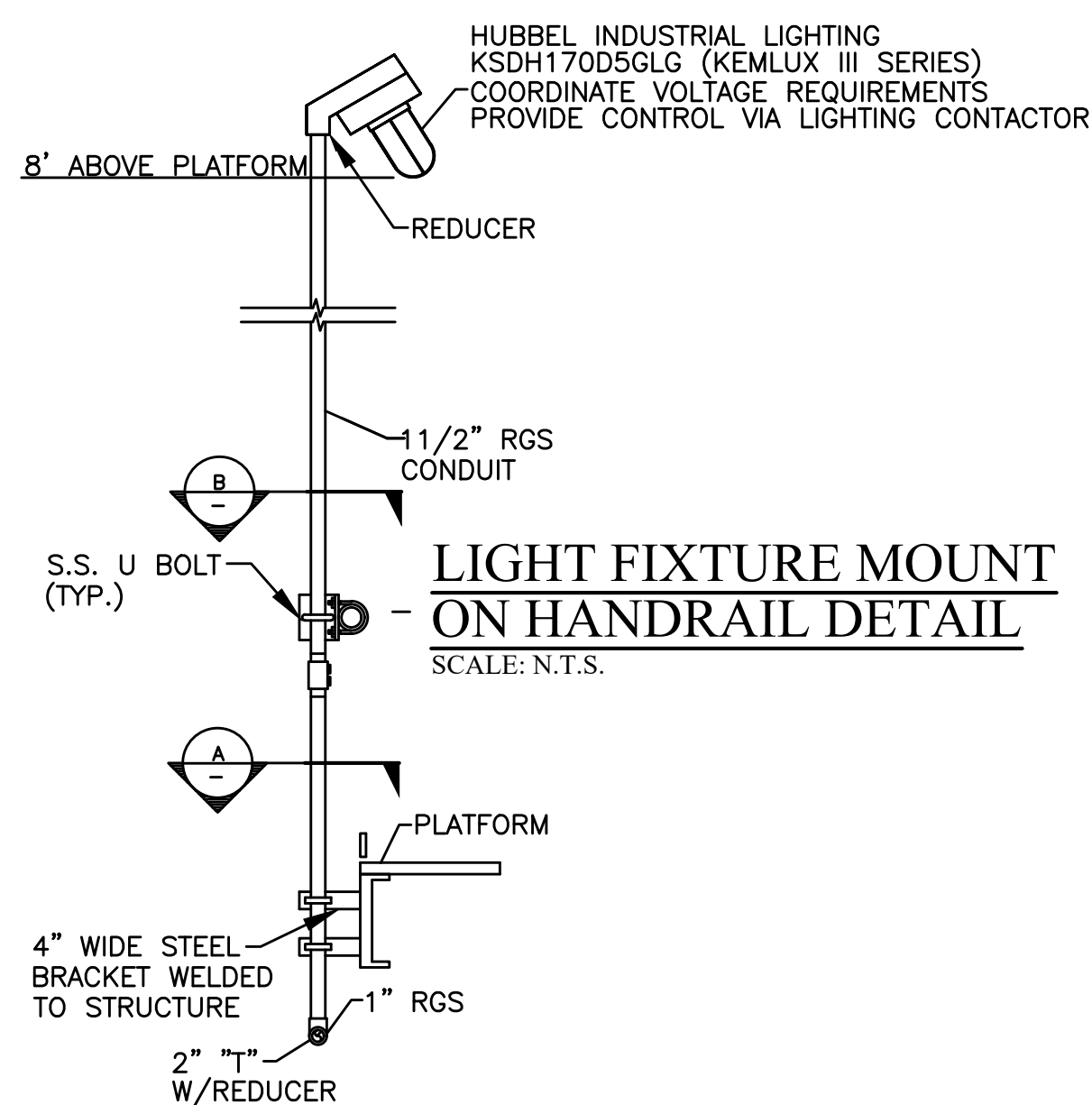
CONDUIT TRANSITION DETAIL
SCALE: N.T.S.



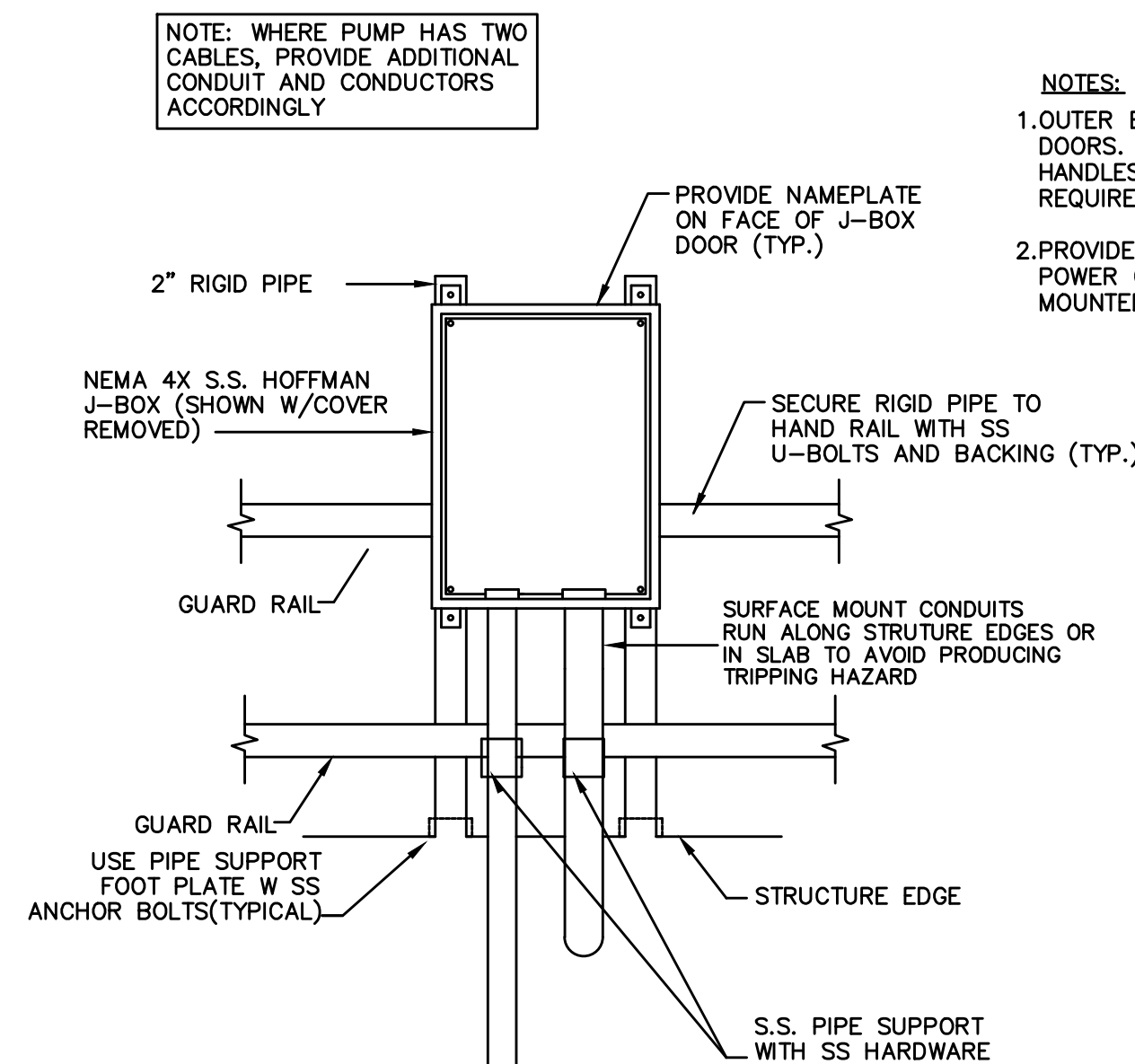
RACK MOUNT DETAIL
SCALE: N.T.S.
NOTE: SS NEMA 4XJ-BOX. SIZED AS PER NEC.



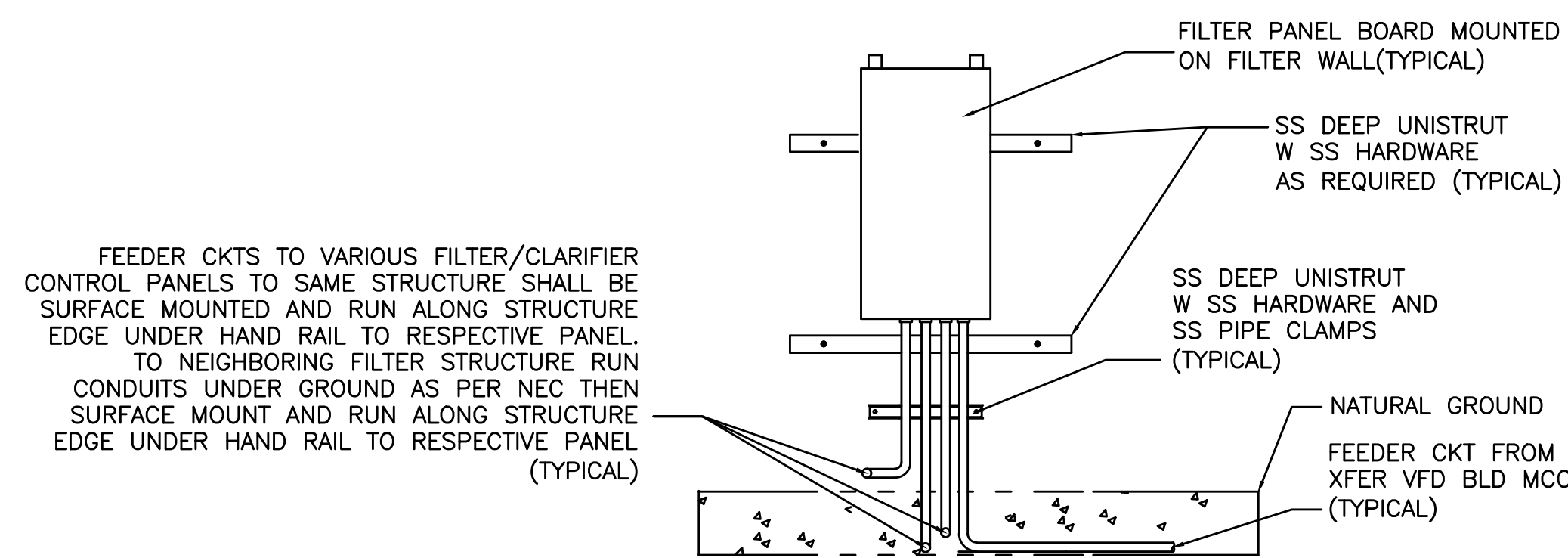
TYP. WALL J BOX INSTALLATION DETAIL
SCALE: N.T.S.



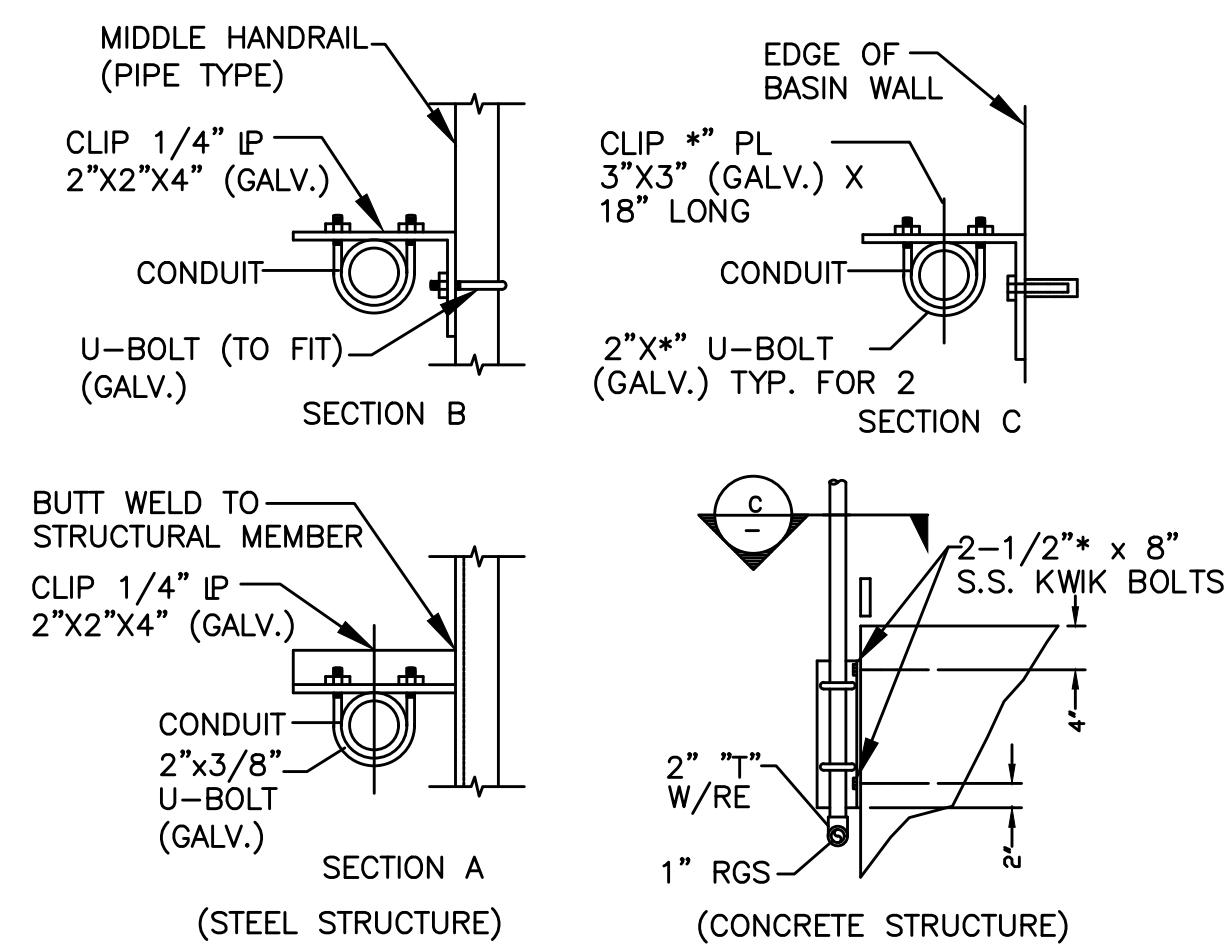
LIGHT FIXTURE MOUNT ON HANDRAIL DETAIL
SCALE: N.T.S.



CONTROL PANEL MOUNTED ON HAND RAIL
SCALE: N.T.S.



FILTER PANELBOARD WALL MOUNTING DETAIL
SCALE: N.T.S.

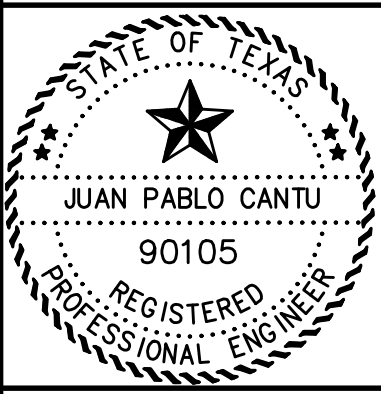


SURFACE MOUNT CONDUIT DETAIL
SCALE: N.T.S.

- NOTES:**
1. OUTER ENCLOSURE DOORS SHALL ALLOW FULL OPENING OF INNER DOORS. PROVIDE OUTER ENCLOSURE WITH LOCKING HASP, LATCH HANDLES AND DOOR RESTRAINTS. SEE SPECIFICATIONS FOR COOLING REQUIREMENTS
 2. PROVIDE SERVICE ARRANGEMENT AND ALL REQUIRED EQUIPMENT PER POWER COMPANY STANDARDS. WHERE UNDERGROUND SERVICE OF PAD MOUNTED TRANSFORMER IS USED BY POWER CO.

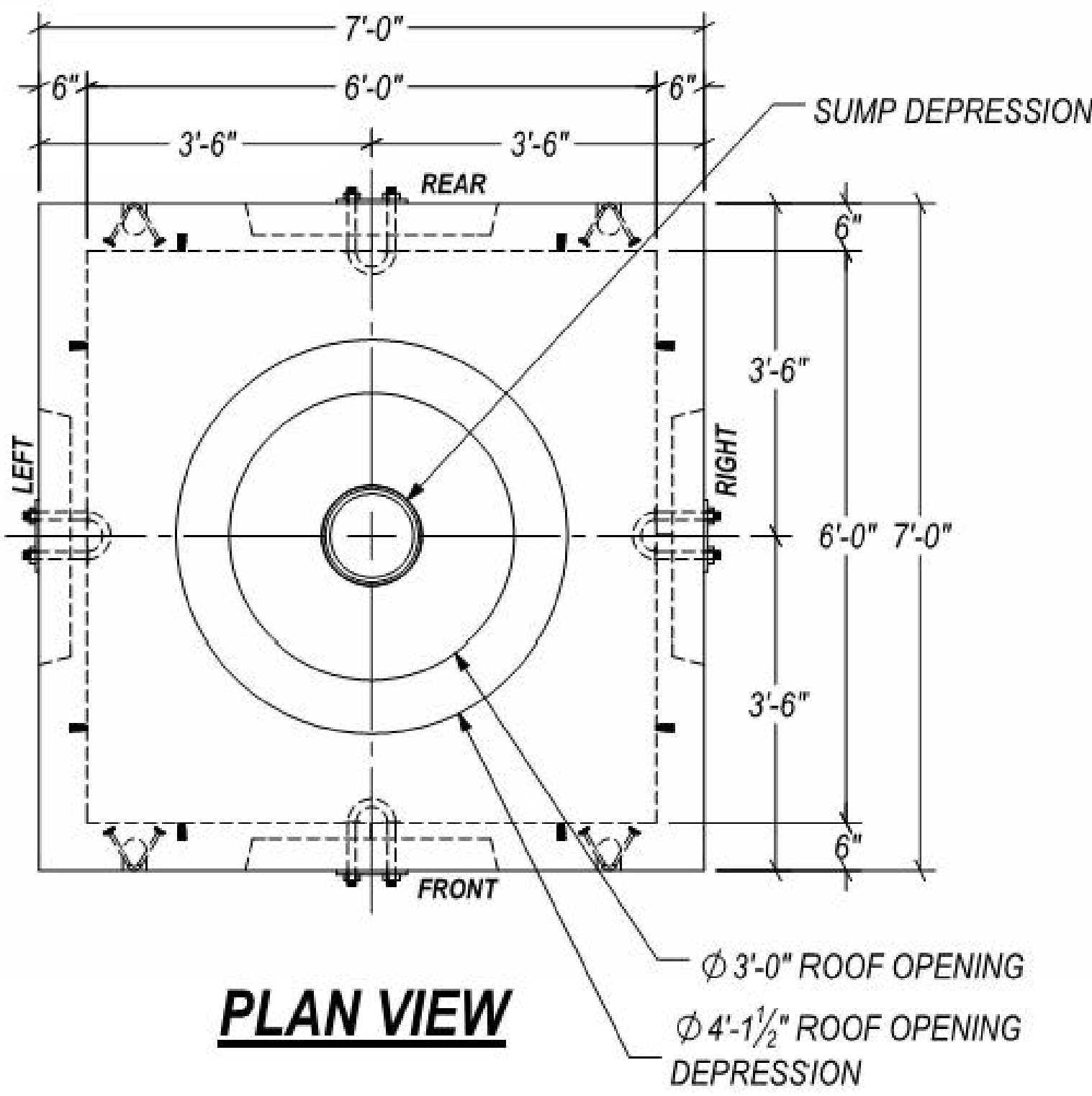
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- GENERAL NOTES:**
1. DETAILS HERE ARE SHOWN FOR ILLUSTRATIVE PURPOSES CONTRACTOR SHALL ADJUST NUMBER OF CONDUITS TO MEET REQUIRED LOAD
 2. ADJUST SIZE OF CONDUIT SUPPORTS BASED AS REQUIRED TO ACCOMMODATE ACTUAL NUMBER OF CONDUITS REFER TO SITE LAYOUT AND OR SITE INSPECTIONS FOR NUMBER AND SIZE OF CONDUITS.
 3. AREA TO FOOT AROUND AND 18 INCHES ABOVE WET WELL OPENING SHALL BE CONSIDERED A CLASS 1 DIV 2 HAZARDOUS AREA PROVIDE SEAL-OFFS FILLED WITH CHICO COMPOUND THROUGH A GUTTER BOX AS SHOWN FOR CONDUITS ENTERING OR LEAVING THIS ZONE
 4. USE ONLY SS 304 DEEP UNISTRUT WITH SS HARDWARE AND CONDUIT SUPPORTS AND ALUMINUM CONDUIT WITH ALUMINUM FITTINGS
 5. ALL OPENING INTO ENCLOSURES TO BE PROPERLY SEALED.



NO.	DATE	REVISION	APPROV.
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SQUAR ENGINEERING
FIRM # 12247
PHONE: (956) 466-3492
32212 WHIPPLE RD.
LOS FRESNOS TX. 78566
PROJECT NO. 6902-13
DRAWN BY: MSV
DESIGN BY: JPC



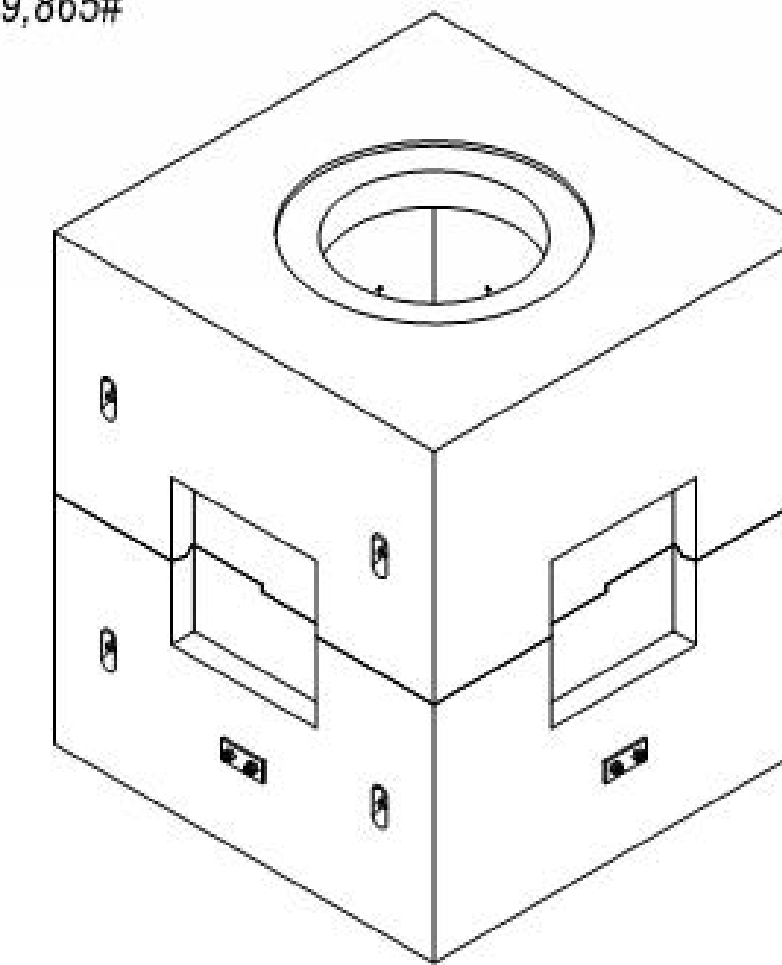
PLAN VIEW

INSTALLATION NOTE:
 CONTRACTOR TO PROVIDE PROPER
 SELECT FILL, GRAVEL BEDDING
 AND COMPACTION AS
 PRE-APPROVED BY OWNER &
 ENGINEER

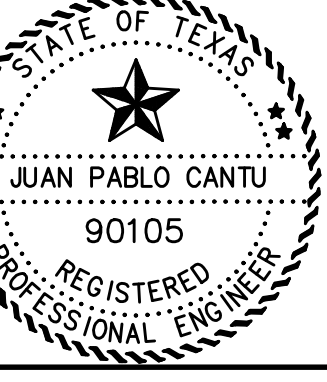
CONTRACTOR TO VERIFY THE FOLLOWING:

- * WINDOWS SIZE & LOCATIONS.
- * PLASTIC THREADED INSERT LOCATIONS.
- * PULLING IRON LOCATIONS.

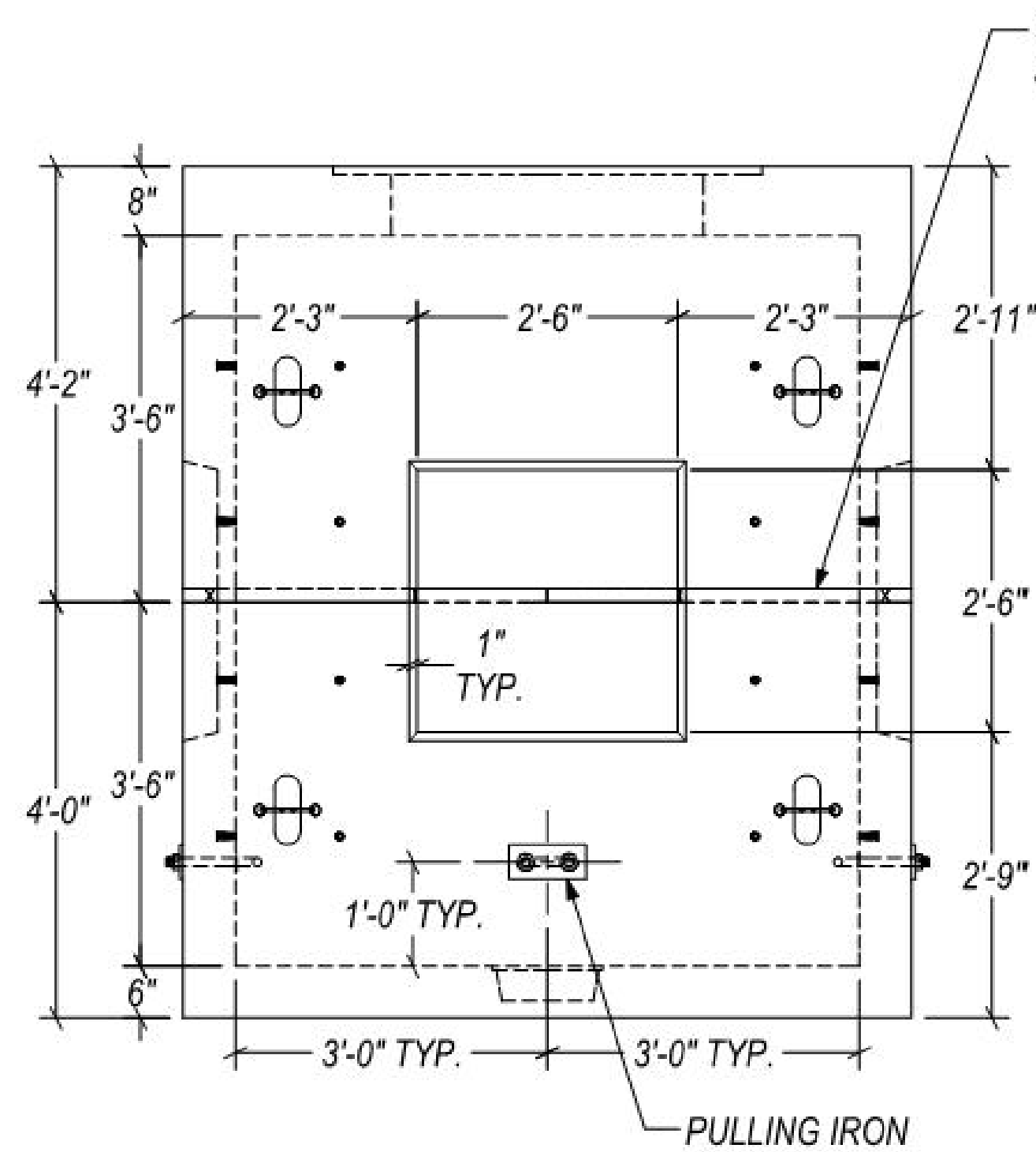
- NOTES:
1. CONCRETE: 6,000 p.s.i. @ 28 DAYS 5%-8% ENTRAINED AIR.
 2. REBAR: ASTM A-615, GRADE 60, BLACK BAR.
 3. DESIGN CRITERIA: ASTM C858. LOADING PER ASTM C857. HS-20 LOAD RATING WITH 2'-0" TO 5'-0" EARTH COVER. WATERTABLE ASSUMED @ 3'-0" BELOW GRADE.
 4. LIFTING: (8) 6" MIN. SLAB UTILITY ANCHORS (LA-UA-6-HIGH).
 5. (4) Φ 1" HOT DIPPED GALVANIZED, U-BOLT TYPE.
 6. UCP SUMP DEPRESSION WITH PLASTIC LID.
 7. (4) BONDING RIBBON ASSEMBLIES, EACH ASSEMBLY INCLUDES:
 (4) Φ 1/4" INSERTS WITH HEX HEAD BOLTS.
 (6) 1/16"x3/8" SOFT TINNED COPPER BONDING RIBBON.
 (4) 5/8" CABLE CLAMPS.
 8. (6 ROLLS) 1"x14.5'/roll BUTYL RUBBER JOINT SEALANT.
 9. (32) PLASTIC THREADED INSERTS.
 10. THE CONTRACTOR AND/OR OWNER SHALL DETERMINE THE SUITABILITY AND APPLICATION OF THIS PRODUCT THROUGH A LICENSED PROFESSIONAL ENGINEER EXPERIENCED IN UNDERGROUND CONSTRUCTION.
 11. CONTRACTOR TO MAKE STRUCTURE WATERTIGHT IN THE FIELD.
 12. STRUCTURE TOLERANCE= $\pm 1/4"$.
 13. WEIGHT: TOP SECTION: 10,160#
 BOTTOM SECTION: 9,865#



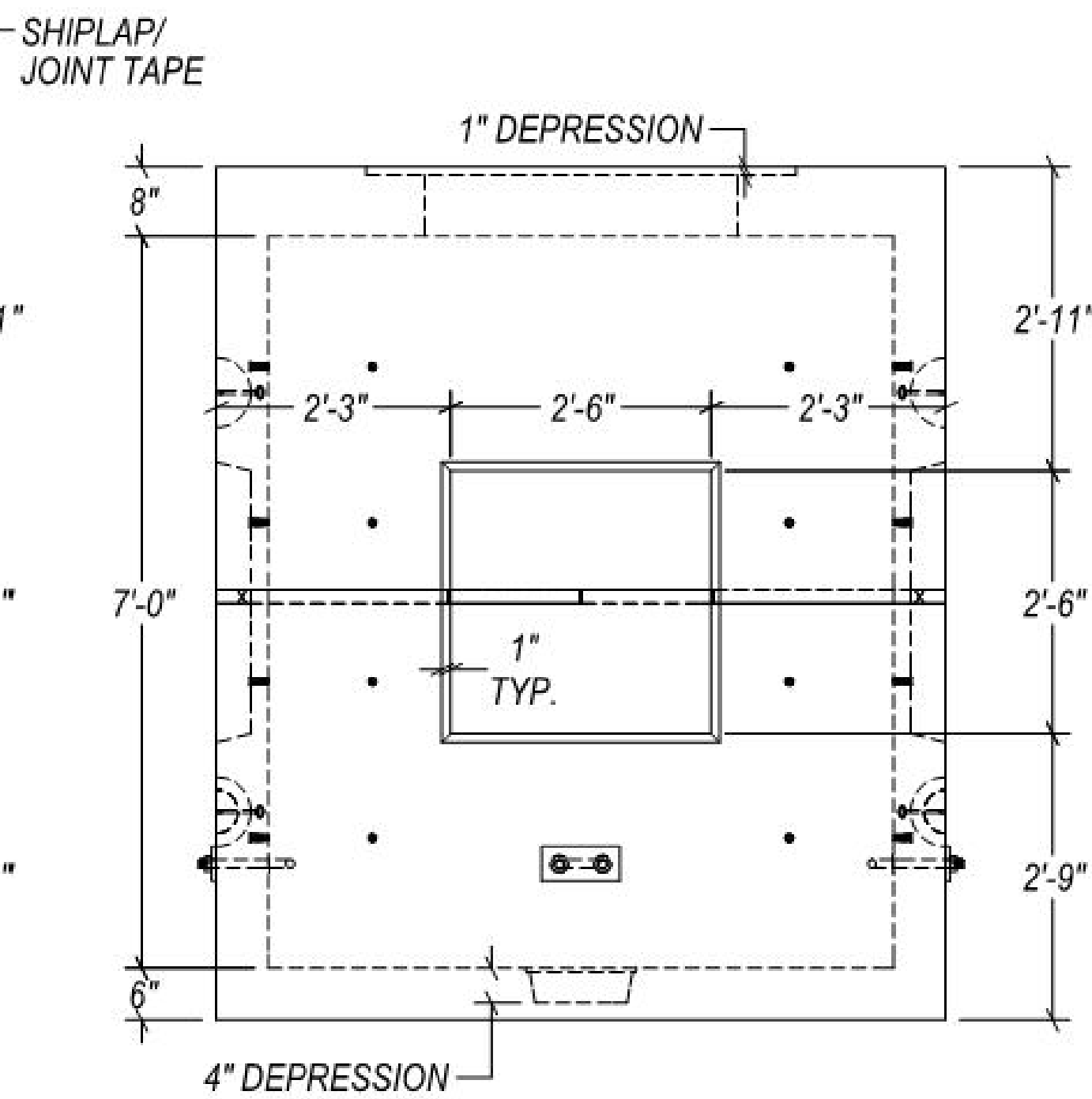
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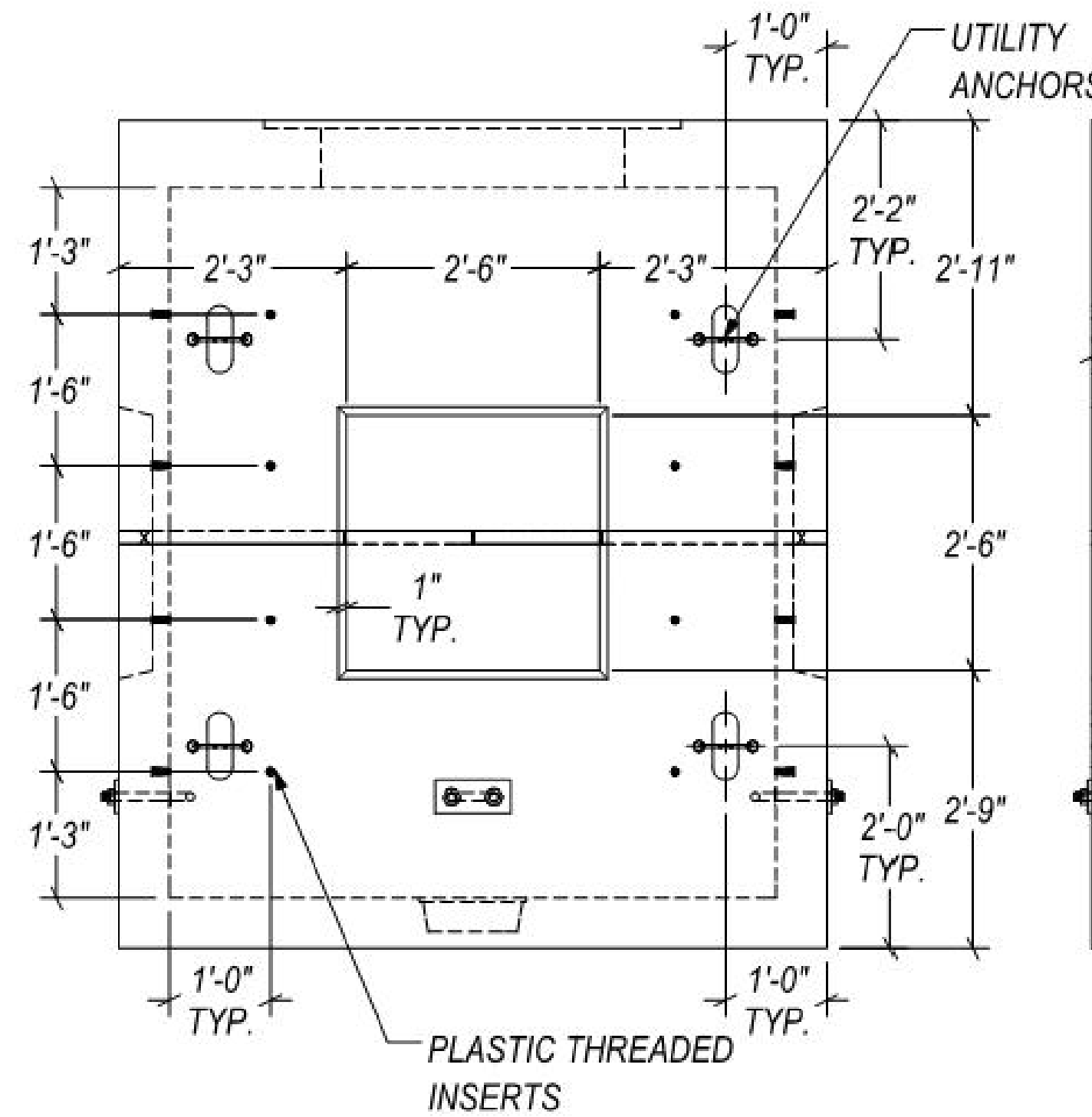
BROWNSVILLE PUB-SRWA RO PLANT
 TRANSFER PUMP NO. 3 ADDITION
 ELECTRICAL MANHOLE DETAIL



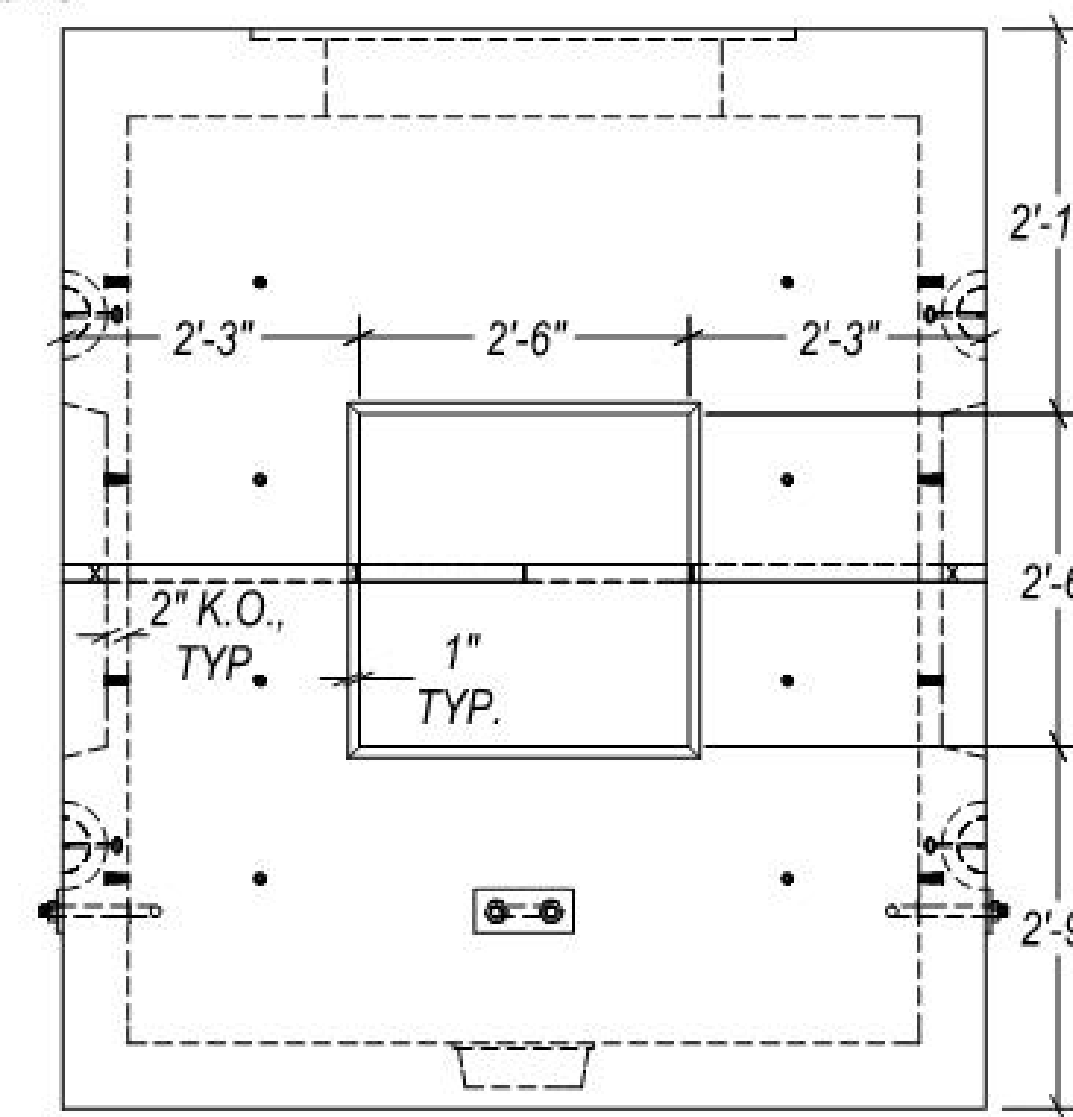
FRONT ELEVATION



RIGHT ELEVATION



REAR ELEVATION



LEFT ELEVATION

REFERENCE NOTE:
 DRAWING TAKEN FROM (UCP) UTILITY CONCRETE PRODUCTS,
 6'-0"x6'-0"x7'-0" HS-20 LOAD RATED MANHOLE SHOP DRAWING /
 UCP #667MH / FINAL SHOP DRAWINGS SIZING AND DETAILS SHALL BE
 PRE-APPROVED DURING THE SUBMITTAL PROCESS BY THE OWNER AND
 ENGINEER PRIOR TO CONSTRUCTION.

SQUAR ENGINEERING
 FIRM # 12247
 PHONE: (956) 466-3492
 32212 WHIPPLE RD.
 LOS FRESNOS TX. 78566
 PROJECT NO. 6902-13
 DRAWN BY: MSV
 DESIGN BY: JPC

NO.	DATE	REVISION	APPROV.
5			
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3			
2			
1			

Scale: AS SHOWN Date: NOVEMBER 2018

Designed by: SQUAR E

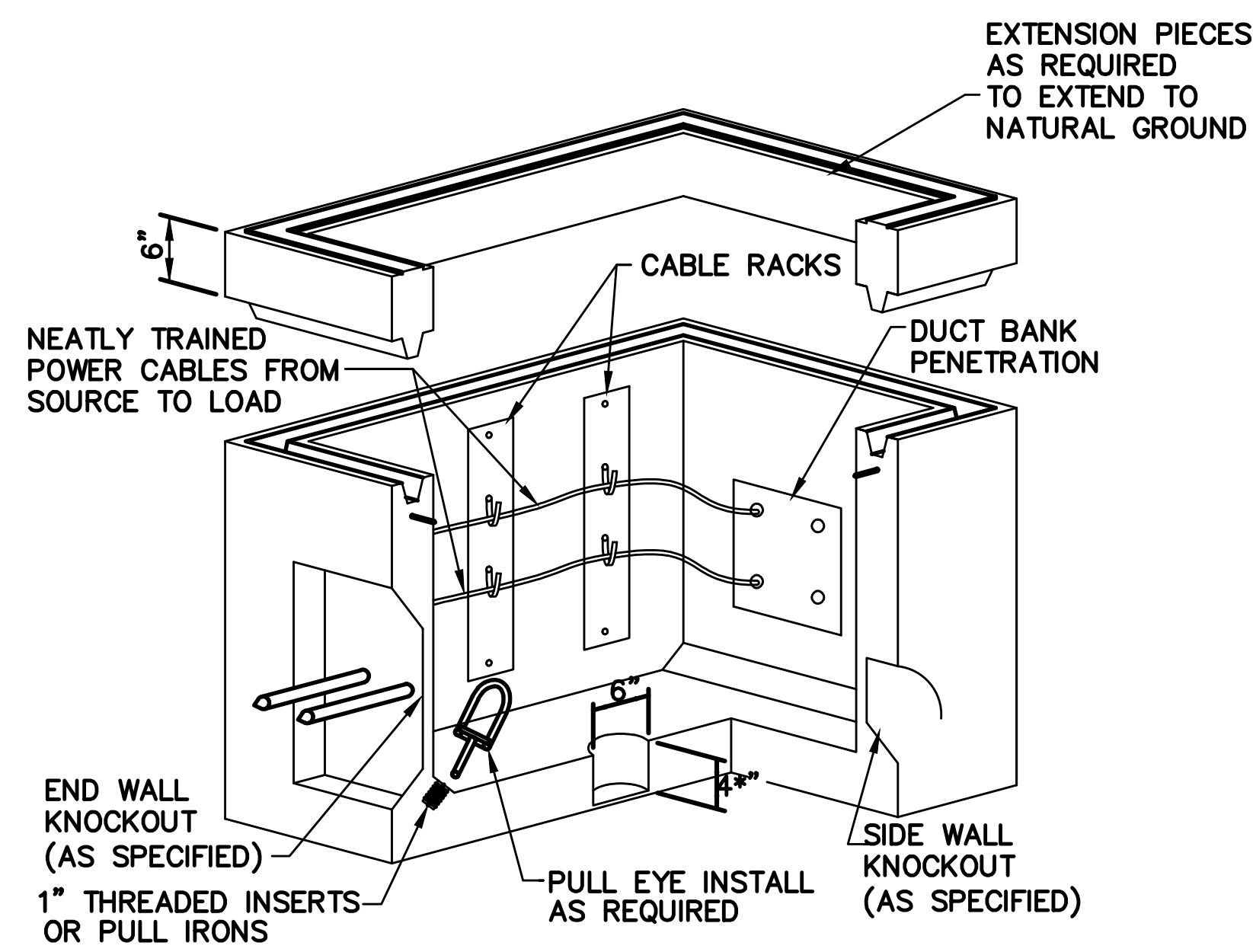
Drawn by: MSV

Checked by: J.P.C

Approved by: J.P.C

Project #: B000-00

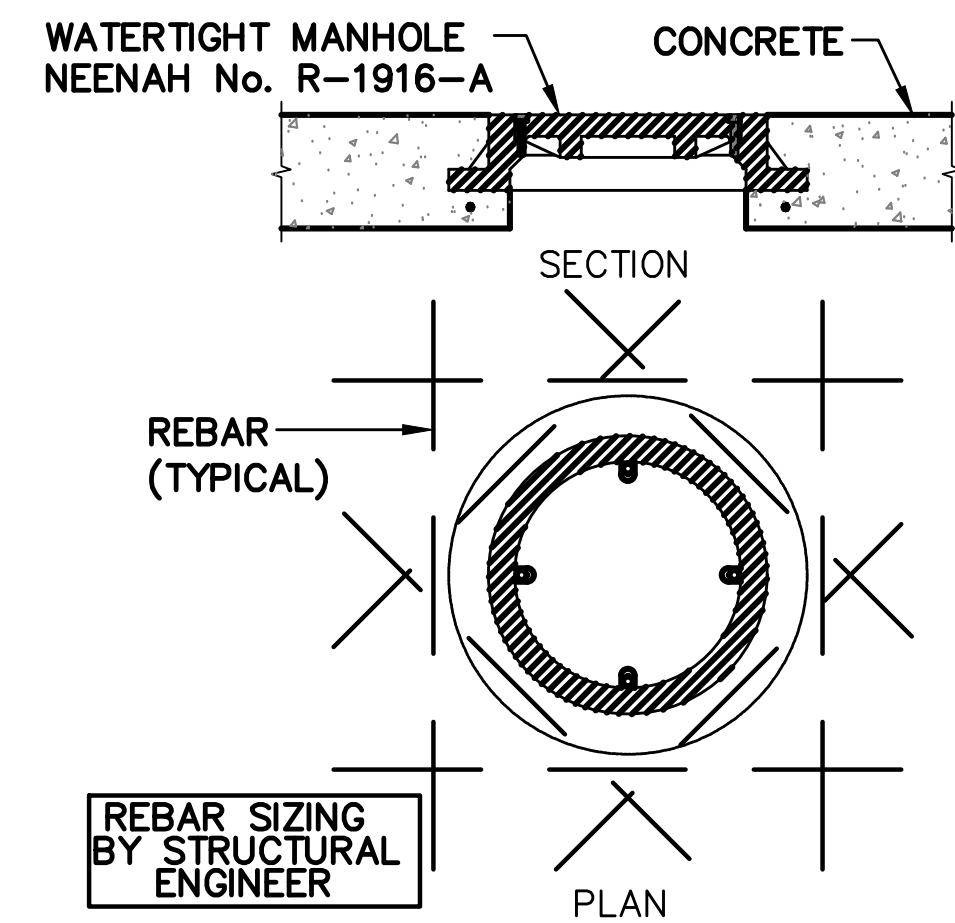
SHEET
E7
 OF E8



ELECTRICAL MANHOLE WIRE RACK DETAIL
SCALE: N.T.S.

NOTE: CONTRACTOR SHALL PROVIDE PROPER SIZE OF WIRE RACKS AND INSTALL IN A NEAT & WORKMAN LIKE MANNER. PROVIDE QUANTITY & SIZE CABLE RACKS AS NEEDED. NEATLY TRAIN ALL CABLING AS WELL.

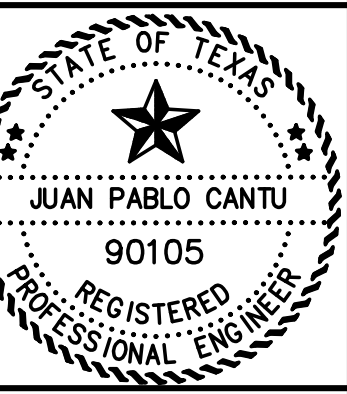
NOTE:
INSTALL TOP FLUSH WITH FINISH GRADE IN PAVED AREAS. INSTALL TOP 2" ABOVE FINISHED UNPAVED AREAS WHERE NO FUTURE PAVING IS TO BE PLANNED. SEE CIVIL PLANS FOR FINISHED ELEVATIONS, WHERE APPLICABLE.



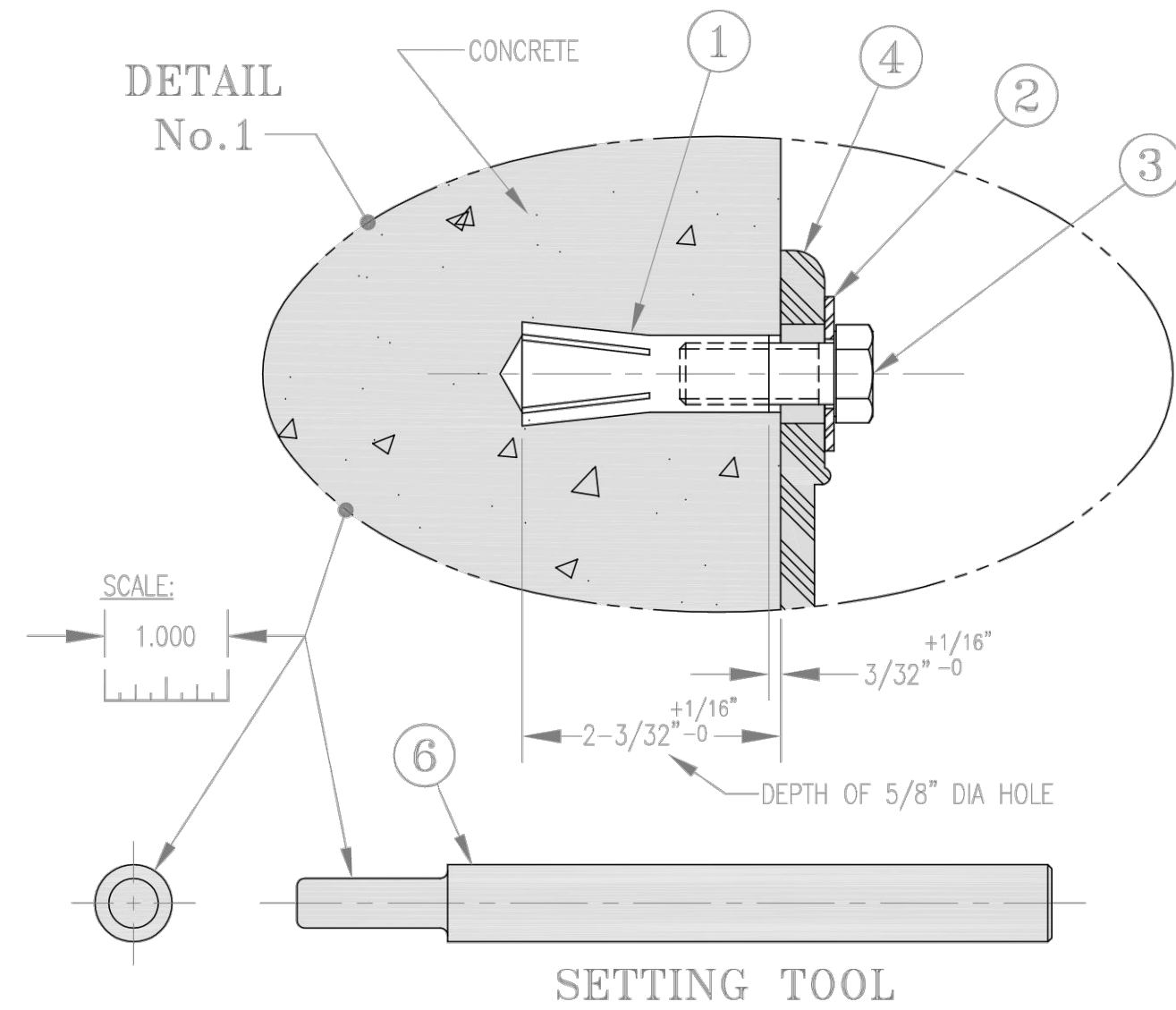
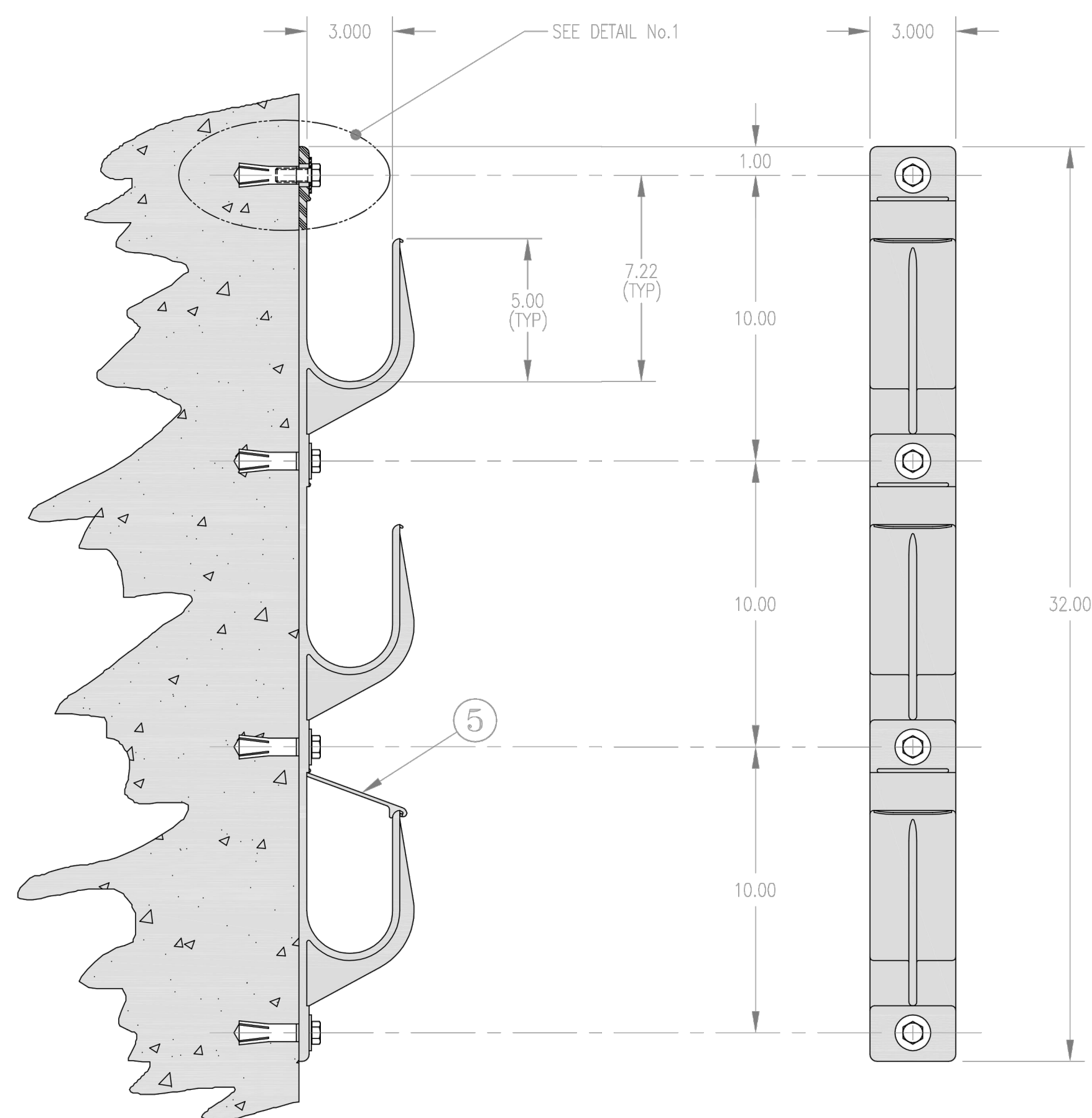
MANHOLE COVER DETAIL
SCALE: N.T.S.

- GENERAL NOTES:**
1. DETAILS HERE ARE SHOWN FOR ILLUSTRATIVE PURPOSES. CONTRACTOR SHALL ADJUST NUMBER OF CONDUITS TO MEET REQUIRED LOAD.
 2. ADJUST SIZE OF CONDUIT SUPPORTS BASED AS REQUIRED TO ACCOMMODATE ACTUAL NUMBER OF CONDUITS REFER TO SITE LAYOUT AND OR SITE INSPECTIONS FOR NUMBER AND SIZE OF CONDUITS.
 3. AREA 10 FOOT AROUND AND 18 INCHES ABOVE WET WELL OPENING SHALL BE CONSIDERED A CLASS 1 DIV 2 HAZARDOUS AREA PROVIDE SEAL-OFFS FILLED WITH CHICO COMPOUND THROUGH A GUTTER BOX AS SHOWN FOR CONDUITS ENTERING OR LEAVING THIS ZONE.
 4. USE ONLY SS 304 DEEP UNISTRUT WITH SS HARDWARE AND CONDUIT SUPPORTS AND ALUMINUM CONDUIT WITH ALUMINUM FITTINGS.
 5. ALL OPENING INTO ENCLOSURES TO BE PROPERLY SEALED.

The seal appearing on this document was authorized by JUAN PABLO CANTU P.E. 90105, on 11-06-2018. Alteration of a sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act.



BROWNSVILLE PUB-SRWA RO PLANT
TRANSFER PUMP NO. 3 ADDITION
ELECTRICAL DETAILS 1



- GENERAL INSTALLATION GUIDE LINES:**
1. BE SURE THE SURFACE OF THE CONCRETE WALL IS FLAT AND SMOOTH.
 2. ONE FASTENER SHOULD BE INSTALLED IN EACH OF THE SADDLE RACKS ELONGATED HOLES.
 3. INSTALL EACH DROP-IN ANCHOR AS SHOWN ON THIS DRAWING AND AS DESCRIBED BELOW.
 - A. DRILL A 5/8" DIA HOLE 2-3/32" DEEP.
 - B. BLOW OUT HOLE.
 - C. DRIVE ANCHOR 3/32" TO 5/32" BELOW THE SURFACE OF THE CONCRETE SURFACE.
 - D. EXPAND ANCHOR WITH FR112 SETTING TOOL. ANCHOR IS PROPERLY SET WHEN SHOULDER OF SETTING TOOL IS FLUSH WITH THE TOP OF ANCHOR.

- GENERAL INSTALLATION GUIDE LINES (CONTINUED):**
4. INSTALL THE FLAT WASHER AND TIGHTEN THE CAP SCREW JUST ENOUGH TO ATTAIN A SNUG FIT. AVOID HIGH SCREW TORQUE WHICH INDUCES COMPRESSIVE STRESS.

NOTES:
* SADDLE RACK AND LOCK ARE ALSO AVAILABLE IN GLASS REINFORCED NYLON. ADD "N" SUFFIX TO CATALOG NUMBER.

REFERENCE NOTE:
TYPICAL INSTALLATION OF CABLE RACK DRAWING TAKEN FROM SHOP DRAWING PROVIDED BY UNDERGROUND DEVICES, INC.
DRAWING NAME: 3SR3 SADDLE RACK MOUNTING HARDWARE & INSTALLATION DETAIL (INSTALLATION OF CONCRETE WALL USING DROP-IN ANCHORS DATED: 5-4-93)

SQUARE ENGINEERING
FIRM # 12247
PHONE: (956) 466-3492
32212 WHIPPLE RD.
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