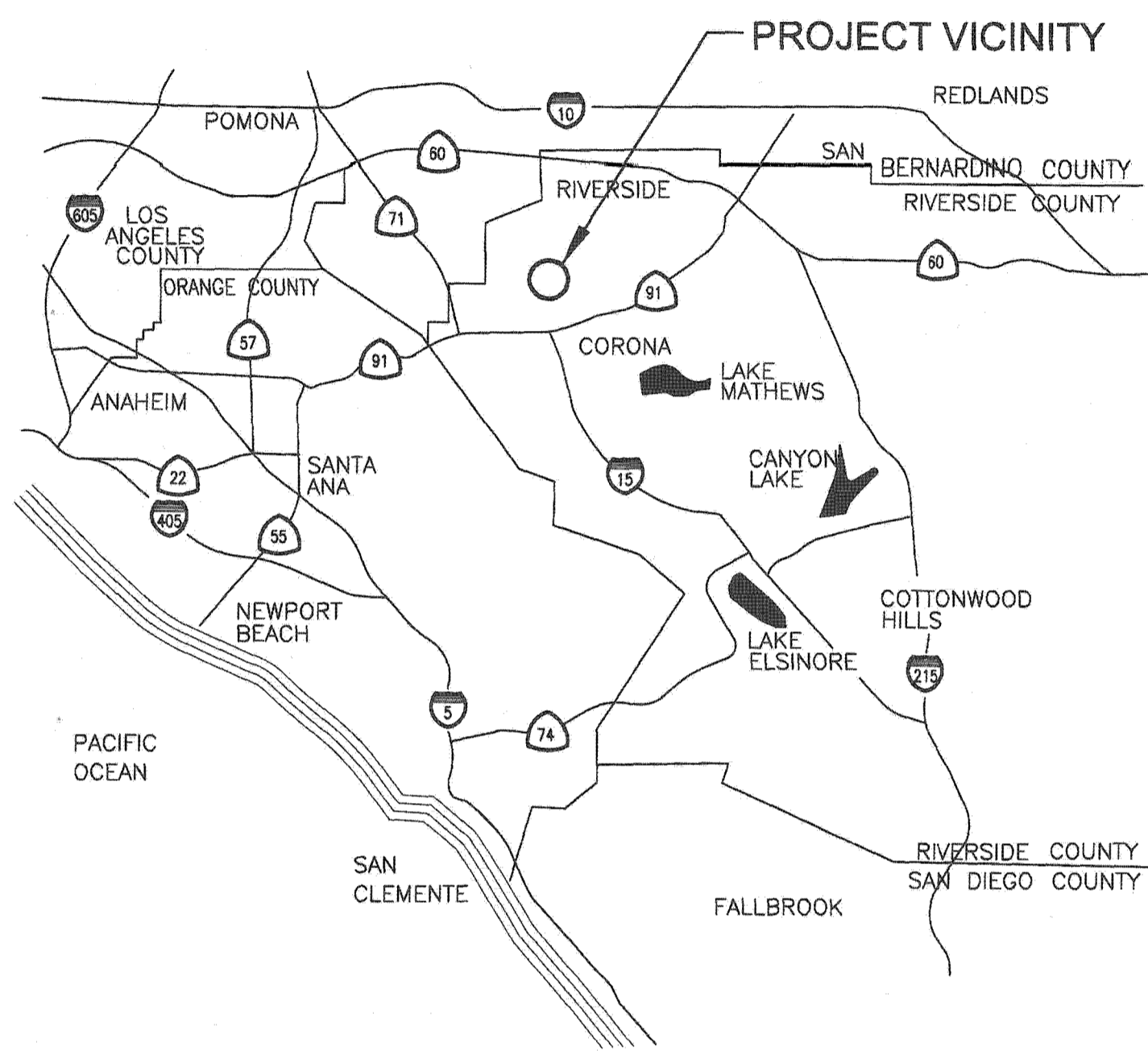
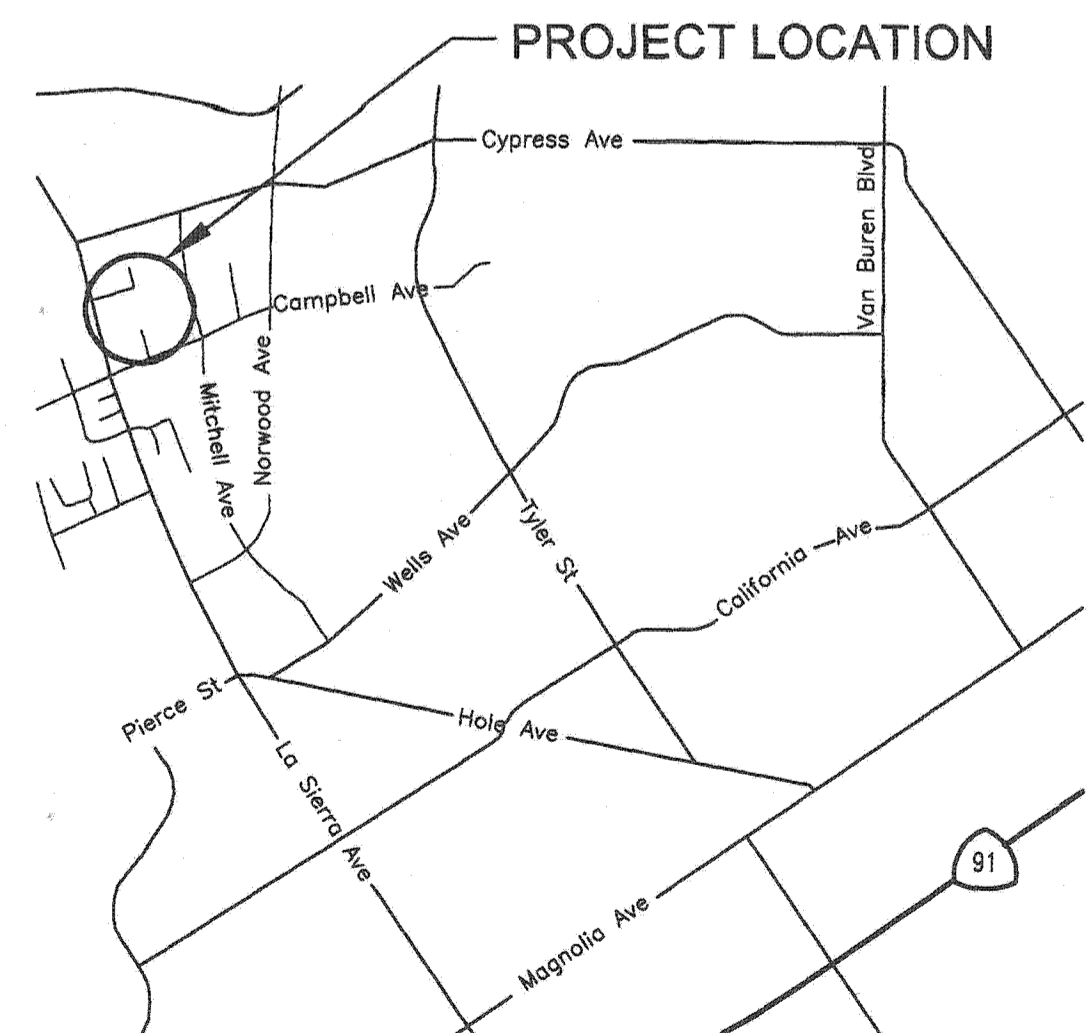


CITY OF RIVERSIDE, CALIFORNIA PUBLIC WORKS DEPARTMENT

LA SIERRA SEWAGE LIFT STATION



VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

DRAWING INDEX

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PROTECT SPECIFIC REQUIREMENTS AND DATA

LIFT STATION DESIGN CAPACITY [GPM]	FORCE MAIN PIPE DIA. [IN.]	FORCE MAIN LENGTH [FT.]	MINIMUM STATIC LIFT [FT.]	MAXIMUM STATIC LIFT [FEET]
120	4	25	18	221

PIPING UNIT PERFORMANCE			
CONDITION	DISCHARGE CAPACITY [GPM]	TOTAL DYNAMIC HEAD [FT.]	MINIMUM HYDRAULIC EFF.
1	50	26	35
2 (1)	120	21	40
3	200	18	35
MINIMUM SHUT-OFF HEAD 2 FT.			
MINIMUM MOTOR SIZE 5 HP.			

NOTE:
1. DESIGN CONDITION WITH ONE PUMP OPERATING THROUGH 4" FORCE MAIN.

A:\306.01 LA (Confidential) (Sheet) (General)\G-1.dwg, 04/25/16, 9:26am

PUBLIC UTILITIES-WATER APPROVED <i>CG</i> DATE 5-10-2016	NOTES: THE CITY OF RIVERSIDE WILL NOT ACCEPT THE MAINTENANCE RESPONSIBILITY OF THE SEWAGE LIFT STATION OR THE SEWER FORCE MAIN UNTIL ALL DWELLING UNITS WITHIN THIS DEVELOPMENT HAVE BEEN COMPLETELY SOLD, AND OCCUPIED BY HOMEOWNERS.	BENCH MARK: G-243 ELEV. = 779.743 (1 91 ADJ.) NGVD 1929 DAT M PK NAIL & CITY ENGINEER TAG IN THE TOP OF THE EASTERLY CURB OF LA SIERRA AVE, APPROX. 40' NORTHERLY OF CENTERLINE OF PALM TERRACE LANE. BASIS OF BEARINGS: THE BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF LA SIERRA AVENUE BEING N 14° 13' 00" W ROATED TO N 13° 32' 33" W PER TRACT NO. 22001, MB. 210/76-78, RECORDS OF RIVERSIDE COUNTY.	UNDERGROUND SERVICE ALERT Call/Toll FREE 1-800-221-2600 TWO WORKING DAYS BEFORE YOU DIG	 METROPOINTE ENGINEERS 17520 Newhope Street, Suite 140 Fountain Valley, CA 92708 714.438.1095 fax: 714.438.1097	 PROFESSIONAL ENGINEER CIVIL No. 58726 Exp. 03/31/17 STATE OF CALIFORNIA	CITY OF RIVERSIDE, CALIFORNIA PUBLIC WORKS DEPARTMENT APPROVED BY <i>JA</i> BY <i>JA</i> DATE 5/10/16 ENGINEERING MANAGER CAPTAIN PROJECTS SEWER MAINTENANCE APPROVED BY <i>JA</i> CITY ENGINEER / PW DIRECTOR DATE 5/10/16	LA SIERRA SEWAGE LIFT STATION TITLE SHEET, VICINITY MAP, LOCATION MAP AND DRAWING INDEX TRACT MAP 34794 HORIZONTAL SCALE: PER PLAN VERTICAL SCALE: PER PLAN PW15-0163 S-2131 SHEET 1 OF 23 DWG. NO. G-1
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CONSTRUCTION NOTES

GENERAL NOTES:

- EQUIPMENT AND MATERIALS, INCLUDING PIPING, VALVES, FITTINGS, DRAINS, PIPE SUPPORTS, ETC. ARE SHOWN ON THE DRAWINGS BY SYMBOLS. PIPE SIZE IS SHOWN AS STANDARD CALL OUT WITH SIZE AND PIPE DUTY. MATERIAL DESCRIPTION LISTS, WHERE PROVIDED, ARE FOR CLARITY AND SPECIAL ITEMS ON SOME DRAWINGS. NOT ALL EQUIPMENT, PIPING, VALVES, AND FITTINGS ARE INCLUDED IN MATERIAL DESCRIPTION LISTS. CONTRACTOR SHALL FURNISH AND INSTALL EQUIPMENT AND MATERIALS AS SHOWN ON THE DRAWINGS BY SYMBOL AND PER MATERIAL DESCRIPTION LISTS, INCLUDING MINOR PIPE FITTING, ADAPTERS, AND APPURTENANCES NECESSARY TO PROVIDED COMPLETE, OPERABLE SYSTEMS.
- ASTERISK (*) DENOTES A DIMENSION DEPENDENT UPON ACTUAL EQUIPMENT FURNISHED OR EXISTING EQUIPMENT AS INSTALLED. DIMENSION TO BE VERIFIED PRIOR TO CONSTRUCTION AND PRIOR TO ORDERING EQUIPMENT DEPENDENT UPON DIMENSION. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS WITH ACTUAL FABRICATED EQUIPMENT DELIVERED TO PROJECT OR AS-BUILT CONDITIONS. CONTRACTOR SHALL ALLOW FOR ADJUSTMENTS TO CONNECTIONS TO EQUIPMENT DUE TO FABRICATION TOLERANCES AND INSTALLATION TOLERANCES.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE AND CROSS CHECK DETAILS AND DIMENSIONS SHOWN ON THE DRAWINGS, FLOOR AND WALL OPENINGS, SLEEVES, PENETRATIONS AND OTHER CIVIL, STRUCTURAL, MECHANICAL, OR ELECTRICAL REQUIREMENTS MUST BE COORDINATED BEFORE CONTRACTOR PROCEEDS WITH CONSTRUCTION.
- IN NO CASE SHALL WORKING DIMENSIONS BE SCALED FROM PLANS, SECTIONS, OR DETAILS ON DRAWINGS.
- THE PRECISE DIMENSIONS AND LOCATIONS OF ALL OPENINGS AND PENETRATIONS SHALL BE DETERMINED FOR THE ACTUAL EQUIPMENT BEING FURNISHED. SHOP DRAWINGS WITH ADEQUATE ACCURATE DIMENSIONS MUST BE SUBMITTED AND REVIEWED PRIOR TO CONTRACTOR CONSTRUCTING FACILITIES THAT ARE AFFECTED BY SAID EQUIPMENT.
- CONTRACTOR IS ADVISED THAT THE WORK ON THIS PROJECT MAY INVOLVE WORKING IN A CONFINED SPACE. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING WORK AREA CLASSIFICATIONS AND IMPLEMENTATION OF ALL PRACTICES AND PROCEDURES REQUIRED FOR "CONFINED SPACES" UNDER THE CALIFORNIA ADMINISTRATIVE CODE, TITLE 8.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING PROJECT SITE SECURITY. PROJECT SITE SHALL REMAIN SECURED AT ALL TIMES BY EXISTING CITY FENCE OR TEMPORARY 6' HIGH CHAIN LINK FENCE.
- CONTRACTOR SHALL PROVIDE HIS OWN SANITARY AND OFFICE FACILITIES INCLUDING TELEPHONE AND TEMPORARY POWER.

UNDERGROUND FACILITIES AND EXISTING IMPROVEMENTS

- THE LOCATIONS OF EXISTING UNDERGROUND FACILITIES (PIPING, VALVES, CONDUCTORS, ELECTRICAL CONDUIT, ETC.) ARE SHOWN IN AN APPROXIMATELY ONLY AND ARE BASED ON OWNER'S EXISTING RECORDS. CONTRACTOR SHALL EXERCISE CARE DURING EXCAVATIONS TO AVOID DAMAGE TO SAID FACILITIES. CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UNDERGROUND FACILITIES BEFORE COMMENCING WORK, CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY DAMAGES WHICH RESULT FROM HIS FAILURE TO EXACTLY LOCATE AND PROTECT ANY AND ALL FACILITIES.
AT LEAST 48 HOURS BEFORE COMMENCING ANY EXCAVATION, CONTRACTOR SHALL REQUEST UNDERGROUND SERVICE ALERT (1-800-227-2600) AND NON-MEMBER COMPANIES OR UTILITIES TO MARK OR OTHERWISE INDICATE THE LOCATION(S) OF THEIR SUBSURFACE FACILITIES INCLUDING, BUT NOT LIMITED TO, STRUCTURES, VAULTS, PIPING, VALVES, CONDUCTORS, CONDUIT, CABLES, AND SERVICE CONNECTIONS.
- AS FIRST ITEM OF WORK (WITHIN 30 DAYS OF EXECUTION OF CONTRACT) CONTRACTOR SHALL EXCAVATE AND EXPOSE ("POTHOLE") EXISTING FACILITIES IN LOCATIONS WHERE NEW FACILITIES ARE PROPOSED TO ESTABLISH THE EXACT HORIZONTAL LOCATION, SIZE, AND ELEVATION, AND DETERMINE IF THERE WILL BE AN INTERFERENCE WITH PROPOSED FACILITIES. CHANGES OR DELAYS CAUSED BY CONTRACTOR'S FAILURE TO PERFORM WORK COMPENSATION OR TIME EXTENSION.
CONTRACTOR SHALL SUBMIT "POTHOLE" DATA (EXACT ELEVATION, SIZE, AND HORIZONTAL LOCATION) TO CITY FOR EVERY UTILITY EXPOSED. BASED ON SAID "POTHOLE DATA" CITY MAY MODIFY BELOW GRADE PIPING ALIGNMENT AND GRADE TO AVOID EXISTING PIPING AND WILL SUBMIT MODIFICATIONS, IF ANY, TO CONTRACTOR WITHIN TWO WEEKS OF RECEIPT OF ALL "POTHOLE" DATA.
- CONTRACTOR SHALL REPLACE IN KIND ALL EXISTING IMPROVEMENTS DAMAGED OR REMOVED BY CONSTRUCTION ACTIVITIES. LIMITS OF REMOVAL AND REPLACEMENT SHALL BE APPROVED BY THE CITY PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.

SITE WORK AND GRADING

- SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THE PROVISIONS OF THE CALIFORNIA BUILDING CODE (LATEST EDITION), SOIL REPORT, AND CONTRACT DOCUMENTS. IN THE EVENT OF CONFLICT BETWEEN THESE DOCUMENTS, THE MOST STRINGENT REQUIREMENTS SHALL PREVAIL.

- RELATIVE COMPACTION OF 95% SHALL MEAN SOIL COMPACTED TO A DRY DENSITY EXCEEDING 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D 1557, LATEST EDITION.
- ALL DEBRIS, BRUSH, AND RUBBISH SHALL BE REMOVED AND DISPOSED OF TO LEAVE THE AREA WHICH HAS BEEN DISTURBED WITH A NEAT AND FINISHED APPEARANCE FREE FROM ALL DEBRIS. WHERE REMOVAL OF SUBSURFACE OBSTRUCTIONS IS NECESSARY, CAVITIES CREATED BY THE REMOVAL SHALL BE CLEARED OF ALL LOOSE DEBRIS AND SOIL AND SHAPED TO PROVIDE ACCESS FOR BACKFILLING AND COMPACTION EQUIPMENT. SAID MATERIALS SHALL BE LEGALLY DISPOSED OF IN AN APPROVED OFFSITE LOCATION (CITY OR COUNTY LANDFILL).
- ALL AREAS TO BE GRADED SHALL BE STRIPPED OF VEGETATION AND DELETERIOUS MATERIAL. VEGETATION AND DELETERIOUS MATERIALS SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF.
- CONTRACTOR IS ADVISED THAT ROCK OR UNACCEPTABLE FILL MATERIAL SHALL BE ENCOUNTERED DURING EXCAVATION OPERATION. WHERE SUCH MATERIAL IS ENCOUNTERED, CONTRACTOR SHALL (AT NO ADDITIONAL COST TO THE CITY) EXCAVATE SAID ROCK OR UNACCEPTABLE MATERIAL.
- CONTRACTOR IS ADVISED THAT GROUNDWATER WAS ENCOUNTERED DURING PERFORMANCE OF THE PRELIMINARY GEOTECHNICAL INVESTIGATION FOR THE PROPOSED FACILITIES. CONTRACTOR SHALL INCLUDE ALL COSTS FOR PROVIDING MATERIALS, EQUIPMENT, POWER, LABOR, AND RELATED EXPENSES ASSOCIATED WITH DEWATERING GROUNDWATER WITHIN THE EXCAVATIONS. CONTRACTOR EXCAVATIONS TO ADEQUATELY REMOVE WATER FROM WITHIN THE EXCAVATIONS DURING CONSTRUCTION.
ALL DEWATERING SHALL BE PERFORMED IN CONFORMANCE WITH ALL SAFETY REGULATIONS AND REGIONAL WATER QUALITY CONTROL BOARD (RWQCB) REQUIREMENTS. CONTRACTOR SHALL HAVE THE SOLE RESPONSIBILITY TO OBTAIN ALL PERMITS AND CLEARANCES FROM ANY AND ALL REGULATORY AGENCIES. WHERE REQUIRED BY RWQCB, MONITORING SHALL BE PERFORMED BY CONTRACTOR.
- EXCAVATED NATIVE SOILS MAY BE UTILIZED FOR SELECT FULL MATERIAL, PROVIDED THESE MATERIALS ARE FREE OF VEGETATIVE MATTER AND OTHER DELETERIOUS SUBSTANCES, AND SHALL NOT CONTAIN ROCKS OR IRREDUCIBLE MATERIALS GREATER THAN 8" IN MAXIMUM DIMENSION.
- IF REQUIRED, CONTRACTOR SHALL IMPORT SUFFICIENT QUANTITIES OF SELECT FILL MATERIAL TO ACHIEVE THE SPECIFIED FINISHED GRADES AND MINIMUM RELATIVE COMPACTION. IMPORT SELECT FILL MATERIAL SHALL BE INORGANIC, GRANULAR, NON-EXPANSIVE SOIL, FREE OF ROCKS OR LUMPS GREATER THAN 8" IN MAXIMUM DIMENSION. IMPORT SELECT FILL MATERIAL SHALL MEET THE USCS CLASSIFICATIONS OF SM, SP-SM, OR SW-SM WITH 5% TO 35% PASSING THE No. 200 SIEVE.
- THE SOILS UNDER THE ENTIRE SITE SHALL BE REMOVED A MINIMUM OF 3" BELOW EXISTING GRADE. THE EXPOSED SUBGRADE SHALL BE SCARIFIED TO A DEPTH OF 12", BROUGHT TO NEAR OPTIMUM MOISTURE CONTENT, AND COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 90%. SELECT FILL MATERIAL SHALL BE PLACED ON THE COMPACTED SUBGRADE AND BROUGHT TO NEAR OPTIMUM MOISTURE CONTENT, AND COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 90%.
- THE SOIL UNDER THE WET WELL AND VALVE VAULT FOUNDATIONS SHALL BE REMOVED A MINIMUM OF 12" BELOW THE BOTTOM OF THE FOUNDATION. THE EXPOSED SUBGRADE SHALL BE SCARIFIED TO A DEPTH OF 12". BROUGHT TO NEAR OPTIMUM MOISTURE CONTENT, AND COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 95%. CRUSHED MISCELLANEOUS BASE SHALL BE PLACED 12" THICK ON THE COMPACTED SUBGRADE AND COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 95%.
- SELECT FILL MATERIAL SHALL BE PLACED IN LIFTS NO GREATER THAN 8" IN LOOSE THICKNESS AND COMPACTED TO THE SPECIFIED MINIMUM RELATIVE COMPACTION.
- SELECT BACKFILL MATERIAL AROUND WET WELL AND VALVE VAULT SHALL BE PACKED IN LAYERS WHICH, WHEN COMPACTED, SHALL NOT EXCEED 8" IN THICKNESS. EACH LAYER SHALL SPREAD, MOISTENED, AND COMPACTED UNIFORMLY TO INSURE ALL BACKFILL IS PROPERLY COMPACTED. AFTER EACH LAYER OF BACKFILL HAVE BEEN PLACED, MIXED AND SPREAD EVENLY. IT SHALL BE THOROUGHLY COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 90%.
- CITY SHALL APPROVE PREPARATION OF ALL NATURAL GROUND SURFACE PRIOR TO PLACEMENT OF FILL ON THAT SURFACE.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND INSTALLING EROSION AND DUST CONTROL MEASURES, AND AS NECESSARY TO COMPLY WITH APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
- CRUSHED MISCELLANEOUS BASE (CMB) SHALL BE PER SSPWC SECTION 200-2.4, FINE GRADATION.

- ALL SUBGRADES TO RECEIVE CONCRETE PAVEMENT, ASPHALT CONCRETE PAVEMENT, CRUSHED BASE PAVING, OR 3/4" CRUSHED ROCK SHALL RECEIVE SOIL TREATMENT PER SPECIFICATION SECTION 02280.

LIFT STATION SITE ASPHALT CONCRETE PAVEMENT

PERMANENT ASPHALT CONCRETE PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH SSPWC, EXCEPT MODIFIED HEREAFTER.

A. PREPARATION

UPPER 12" OF SUBGRADE BENEATH CRUSHED BASE SHALL BE SCARIFIED AND COMPACTED TO 95% RELATIVE COMPACTION MINIMUM.

B. THICKNESS

UNLESS NOTED OTHERWISE, PERMANENT ASPHALT CONCRETE PAVEMENT SHALL BE HOT PLACED TO 8" TOTAL THICKNESS MINIMUM PLACED OVER 8" OF CRUSHED MISCELLANEOUS BASE. ASPHALT CONCRETE PLACEMENT AND CRUSHED MISCELLANEOUS BASE SHALL BE COMPACTED TO 95% RELATIVE COMPACTION MINIMUM.

C. LIFT STATION SITE ASPHALT CONCRETE PAVEMENT SPECIFICATIONS

PERMANENT PAVEMENT SHALL BE PLACED IN TWO LIFTS. THE FIRST LIFT SHALL BE 4.8" AND MAY BE PLACED WITH A BLADE AND ROLLER. THE SECOND LIFT SHALL BE 1.2" AND SHALL BE PLACED WITH A SELF-PROPELLED MECHANICAL SPREADING AND PAVING MACHINE.

THE SECOND LIFT SHALL OVERLAP TRENCH EDGES 1' MINIMUM, AND EDGES SHALL BE FEATHERED TO MEET EXISTING PAVEMENT. AFTER PLACEMENT, PAVEMENT SHALL NOT VARY MORE THAN 0.01" FROM A STRAIGHT EDGE PLACED ACROSS ANY TRENCH.

PAVEMENT MATERIALS SHALL COMPLY WITH SSPWC SECTION 2203-6. UNLESS NOTED OTHERWISE, THE FIRST LIFT SHALL BE B-PG64-10 AND THE SECOND LIFT SHALL BE C2-PG64-10.

D. INSTALLATION

FINISHED GRADE SHALL MATCH EXISTING GRADES WHERE NEW PAVING ABUTS EXISTING PAVING. UNLESS NOTED OTHERWISE, ALL EXPOSED PAVING EDGES SHALL BE PLACED AGAINST 2"x4" REDWOOD HEADERS.

PIPING/VALVES





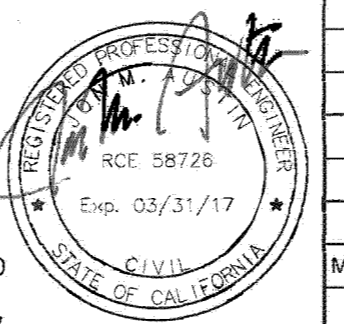
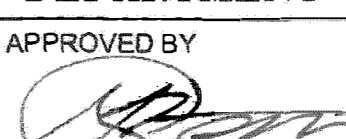
- PIPING MATERIALS AND TEST PRESSURES SHALL BE AS SHOWN ON THE PIPE MATERIAL SCHEDULE AND AS SPECIFIED HEREIN. PIPING HAS BEEN DESIGNED BASED ON SAID TABLE. ALL PIPING SHALL BE CONSTRUCTED WITH RESTRAINED JOINTS. RESTRAINED JOINTS SHALL BE FLANGED, VICTAULIC (GROOVED TYPE), WELDED, THREADED, OR EQUAL FLANGED AND VICTAULIC JOINTS SHALL BE PROVIDED WHERE SHOWN.
- PIPELINE ELEVATIONS SHOWN ARE FOR CENTERLINE OF PIPE UNLESS OTHERWISE NOTED. PIPELINES SHALL BE STRAIGHT GRADE BETWEEN ELEVATIONS SHOWN. CONTRACTOR SHALL PROVIDE ALL SHORTS, SPOOLS, AND FITTINGS NECESSARY TO MEET ELEVATIONS SPECIFIED.
- VALVES SHALL COMPLY WITH REQUIREMENTS OF THE SPECIFICATIONS, AS LISTED IN EQUIPMENT AND MATERIALS DESCRIPTIONS, AS SHOWN BY SYMBOL ON THE DRAWINGS, AND AS SPECIFIED HEREIN. UNLESS NOTED OTHERWISE, VALVES ABOVE 4" AND LARGER SHALL BE FLANGED AND FURNISHED WITH GEAR OPERATORS. ALL VALVES ABOVE GRADE SHALL BE FURNISHED WITH HAND WHEEL OPERATORS (8" MINIMUM DIAMETER). BURIED VALVES SHALL BE FURNISHED WITH VALVE BOXES AND STEM EXTENSIONS PER CITY STANDARD DRAWINGS. VALVE CAN LIDS SHALL BE MARKED ACCORDING TO THEIR RESPECTIVE SERVICE.
- ALL PIPE ZONE BEDDING AND TRENCH BACKFILL SHALL BE PER CITY STANDARD DRAWINGS 452 AND 453. SEWER PIPE BEDDING SHALL BE CASE III. FORCE MAIN PIPE BEDDING SHALL BE CASE I.
- PIPE SHALL BE INSTALLED IN TRENCH CONDITION AND AS SPECIFIED IN SPECIFICATION SECTION. BACKFILL SHALL BE COMPLETED INCLUDING COMPACTION TESTS PRIOR TO PRESSURE TESTING BACKFILL IN PIPE ZONE SHALL BE COMPACTED BY HAND TAMPING TO MINIMUM 90% COMPACTION. WHERE PIPE IS LOCATED UNDER CONCRETE SLABS, ALL TRENCH BACKFILL SHALL BE MINIMUM 95% COMPACTION.
- PIPING WHERE STIBBED THROUGH SLABS/FOUNDATIONS SHALL BE DOUBLE WRAPPED WITH 33 MIL PVC TAPE.
- CONTRACTOR SHALL BACKFILL WITH TWO SACK CEMENT/SAND SLURRY ALL PIPELINE CROSSINGS WITH EXISTING MAINLINE UTILITIES AND ALL LOCATIONS SHOWN ON THE CONSTRUCTION DRAWINGS. THE TWO SACK CEMENT/SAND SLURRY SHALL EXTEND FIVE FEET ON EACH SIDE OF THE EXISTING FACILITY AND EXTEND FROM THE BOTTOM OF THE PROPOSED PIPELINE TO THE SPRINGLINE OF THE EXISTING FACILITY TO BE SUPPORTED.
- UNLESS OTHERWISE SHOWN, MINIMUM COVER ON BELOW GRADE PIPE SHALL BE 30".

- UNLESS NOTED OTHERWISE, TRENCH BACKFILL SHALL BE COMPACTED TO 90% RELATIVE COMPACTION (MINIMUM).
- ALL BELOW GRADE PIPE UNDER CONCRETE SLABS AND LESS THAN 30" BELOW THE TOP OF SLAB SHALL BE BACKFILLED WITH 2 SACK CEMENT/SAND SLURRY.
- ALL BELOW GRADE PIPE UNDER CONCRETE FOUNDATIONS SHALL BE BACKFILLED WITH 2 SACK CEMENT/SAND SLURRY TO THE BOTTOM OF THE FOUNDATION AND 2' BEYOND THE FOUNDATION LIMITS.
- ALL PIPE SHALL BE RESTRAINED, WHERE MECHANICAL JOINTS ENDS ARE CALLED OUT (M.J.), THE JOINT SHALL INCLUDE A MEGA-LUG FOR RESTRAINT.
- PIPE JOINTS FOR VITRIFIED CLAY PIPES SHALL BE TYPE "G" AS SPECIFIED IN SECTION 708-22.3 OF THE SSPWC. IF PLASTIC PIPE IS ALLOWED AS AN ALTERNATIVE, ALL PIPE JOINTS SHALL BE GASKETED. CEMENT JOINTS SHALL NOT BE ALLOWED.
- CONTRACTOR SHALL PERFORM A VIDEO INSPECTION OF ALL NEW SEWERS PRIOR TO FINAL ACCEPTANCE OF THE WORK. THE VIDEO INSPECTION SHALL BE PERFORMED IN THE PRESENCE OF THE PUBLIC WORKS INSPECTOR. A RECORDING OF THE VIDEO INSPECTION SHALL BE SUBMITTED TO THE CITY FOR REVIEW AND ACCEPTANCE.

CONCRETE CONSTRUCTION

- ALL CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH SSPWC AND NOTES HEREON. UNLESS NOTED OTHERWISE, ALL CONCRETE FOUNDATIONS (INCLUDING, BUT NOT LIMITED TO, WET WELL FOUNDATIONS, BELOW GRADE MANHOLE AND VAULT BASES, AND SLABS ON GRADE) SHALL BE PLACED ON SOIL SCARIFIED TO A MINIMUM DEPTH OF 12" AND THEN COMPACTED TO 95% RELATIVE COMPACTION. ALL CONCRETE SHALL BE CONCRETE CLASS 650-CW-4000 UNLESS INDICATED OTHERWISE ON DRAWINGS. FOR ALL CONCRETE, USE TYPE V PORTLAND CEMENT.
- FORMWORK, CURING, AND BACKFILL
 - FOUNDATIONS
 - CURE PER SPECIFICATIONS. WET WELL FOUNDATION SHALL CURE A MINIMUM OF 7 DAYS AND ACHIEVE A MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI PRIOR TO SETTING WET WELL RCP. TEST CYLINDERS SHALL BE CURED IN FIELD.
 - SUSPENDED SLABS
 - CURE PER SPECIFICATIONS. FORMS SHALL REMAIN IN PLACE UNTIL A MINIMUM OF 14 DAYS AND 90% OF DESIGN STRENGTH ARE REACHED. TEST CYLINDERS SHALL BE CURED IN FIELD.
- CONCRETE FINISHING
 - GRADE SLABS AND FLOOR SLABS SHALL RECEIVE A MONOLITHIC TROWEL FINISH FOLLOWED BY A LIGHT BROOM FINISH AS APPROVED BY CITY.
 - ALL EXPOSED EXTERIOR FORMED CONCRETE SHALL RECEIVE A "SACKED" FINISH PER CAST-IN-PLACE CONCRETE SPECIFICATIONS.
 - THE LOCATION OF ALL CONSTRUCTION JOINTS NOT SPECIFICALLY NOTED OR SHOWN SHALL BE APPROVED BY THE CITY.
 - ALL NON-SHRINK GROUT SHALL BE NON-METALLIC.

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						APPROVED BY ENGINEERING MANAGER CAPITAL PROJECTS SEWER MAINTENANCE	BY Fm Tm	DATE 5/10/16 5/10/16	APPROVED BY  CITY ENGINEER / PW DIRECTOR	CONSTRUCTION NOTES SHEET 2 OF 23
MARK REVISIONS APPR. DATE						DESIGNED BY JA DRAWN BY JT CHECKED BY JA	TRACT MAP 34794 HORIZONTAL SCALE: PER PLAN VERTICAL SCALE: PER PLAN		DWG. NO. G-2	

CONSTRUCTION NOTES

STRUCTURAL AND MISCELLANEOUS STEEL

- ALL STRUCTURAL AND MISCELLANEOUS STEEL CONSTRUCTION SHALL BE IN ACCORDANCE WITH SSPWC.
- STRUCTURAL STEEL AND SHOP DRAWINGS SHALL BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO FABRICATION AND ERECTION.
- ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS, LATEST EDITION. ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO THE FOLLOWING SPECIFICATION (UNLESS NOTED OTHERWISE):

WIDE FLANGE (W AND WT) SECTIONS:	ASTM A992 FY=36 KSI
CHANNELS AND MSC. SHAPES (C, MC, S, M, HP):	ASTM A36FY=36 KSI
ANGLES AND PLATES:	ASTM A36FY=36 KSI
PIPE COLUMNS (STANDARD, X-STRG, XX-STRG):	ASTM A53 TYPE E, GR BFY=36 KSI
TUBES:	ASTM A500, GR BFY=46 KSI
- ALL WELDING SHALL COMPLY WITH AMERICAN WELDING SOCIETY (AWS) SPECIFICATIONS AND SHALL BE EXECUTED BY ELECTRIC ARC PROCESS WITH E70XX ELECTRODES. COMPLETE AND PARTIAL PENETRATION GROOVE WELDS SHALL BE PERFORMED USING "INNERSHIELD" AND "ML-2" SEMI-AUTOMATIC EQUIPMENT. ALL WELDERS SHALL BE AWS CERTIFIED FOR THE TYPE OF WELDING PERFORMED.
- WHERE FILLET WELD SYMBOL IS GIVEN WITHOUT INDICATION OF SIZE, USE MINIMUM SIZE WELDS AS SPECIFIED IN THE AISC MANUAL OF STEEL CONSTRUCTION, 9TH EDITION SPECIFICATION J2.2.B.
- NUTS ON BOLTS OF SLOTTED CONNECTIONS SHALL BE INSTALLED FINGER-TIGHT ONLY, WITH THREADS SPOILED, UNLESS NOTED OTHERWISE.
- STRUCTURAL STEEL EMBEDDED IN CONCRETE OR MASONRY SHALL BE UNPAINTED.
- UNLESS NOTED OTHERWISE, ALL MACHINE BOLTS, ANCHOR BOLTS, DEFERRED BOLTING DEVICES, AND FASTENERS SHALL BE 316 STAINLESS STEEL. UNLESS NOTED OTHERWISE, ALL ANCHOR BOLTS FOR ROTATING OR VIBRATING EQUIPMENT SHALL BE CAST-IN-PLACE OR DRILLED AND EPOXIED. EPOXY ANCHORS SHALL BE HILTI HIT C-100 SYSTEM, RED HEAD EPOX SYSTEM, OR EQUAL. PRIOR TO INJECTING EPOXY, EACH DRILLED HOLE SHALL BE CLEANED OUT WITH A NYLON BRUSH. CONTRACTOR SHALL INSTALL DOWELS AND ANCHOR BOLTS IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

ELECTRICAL

- CONTRACTOR SHALL CONSTRUCT POWER SERVICE FACILITIES IN ACCORDANCE WITH CITY REQUIREMENTS AND SHALL PERFORM ALL COORDINATION WITH CITY. CONTRACTOR SHALL FURNISH AND INSTALL TRANSFORMER SLAB BOX, SERVICE SECTION, CONDUITS, GROUNDING FACILITIES, AND GUARD POSTS. SHALL COORDINATE ALL WORK INCLUDING ABANDONMENT OF EXISTING ELECTRICAL SERVICE WITH CITY, AND VERIFY ALL FACILITIES LOCATIONS WITH CITY PRIOR TO INSTALLATION. ALL SERVICE EQUIPMENT AND PANELS SHALL BE IN STRICT ACCORDANCE WITH CITY REQUIREMENTS. SHOP DRAWINGS FOR ALL CITY FACILITIES SHALL BE SUBMITTED AND APPROVED BY OWNER AND CITY.
- CONTRACTOR SHALL INSTALL CONDUIT AND ELECTRICAL EQUIPMENT IN LOCATIONS THAT WILL CAUSE MINIMAL INTERFERENCE WITH THE MAINTENANCE AND REMOVAL OF MECHANICAL EQUIPMENT. CONDUITS AND FLEX CONNECTIONS ARE SHOWN SCHEMATICALLY. CONTRACTOR SHALL RUN CONDUIT IN A NEAT MANNER AND ROUTE TOGETHER WHERE THERE ARE PARALLEL RUNS, SUPPORTING EXPOSED CONDUITS WITH UNISTRUT TYPE SUPPORT SYSTEM.
- GROUNDING SHALL BE AS SHOWN ON DRAWING E-4 AND IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE, LATEST EDITION.
- UNLESS NOTED OTHERWISE, UNDERGROUND CONDUIT SHALL BE MINIMUM 1" DIA. SCHED. 40 PVC, EXCEPT THAT VERTICAL RISERS AND ELBOWS SHALL BE PVC COATED GALVANIZED RIGID STEEL. MINIMUM COVER SHALL BE 30" UNLESS SHOWN OTHERWISE ON DRAWINGS.

CONDUIT CAST IN CONCRETE, UNDER CONCRETE SLABS OR FOOTINGS, OR IN MASONRY WALLS SHALL BE MINIMUM 1" DIA. PVC COATED GALVANIZED RIGID STEEL UNLESS NOTED OTHERWISE. CONDUITS SHALL BE INSTALLED BENEATH CONCRETE SLABS, FOOTINGS, OR TRENCHED, AND SHALL BE PROVIDED WITH A MINIMUM OF 6" CLEARANCE BETWEEN CONDUIT AND BOTTOM OF CONCRETE. CONDUIT BACKFILL WHERE INSTALLED BENEATH CONCRETE SHALL BE TWO (2) SACK CEMENT/SAND SLURRY. CONDUITS SHALL BE CAST IN CONCRETE ONLY WHERE SPECIFICALLY SHOWN ON DRAWINGS.

WHERE CONDUIT IS STUBBED UP THROUGH CONCRETE SLABS OR FOOTINGS INTO MCC/ELECTRICAL PANELS, CONTRACTOR SHALL PROVIDE A MINIMUM OF 1 1/2" CLEARANCE BETWEEN REBAR AND CONDUIT AND A MINIMUM OF 1" CLEARANCE BETWEEN CONDUITS. CONTRACTOR SHALL ADJUST REBAR SPACING AS NECESSARY TO A MAXIMUM OF ONE-HALF THE NOMINAL SPACING SUCH THAT MAXIMUM REBAR SPACING DOES NOT EXCEED 1 1/2" TIMES THAT SPECIFIED. THE TOTAL AMOUNT OF REINFORCING STEEL SHALL NOT BE REDUCED.

EXPOSED CONDUITS INDOOR OR OUTDOORS SHALL BE MINIMUM 1" GALVANIZED RIGID PVC COATED STEEL (SCHED. 40), PVC COATED. UNLESS NOTED OTHERWISE, CONDUITS SHALL NOT BE RUN CONCEALED IN WALLS OR ROOFS. CONDUITS SHALL BE SURFACE MOUNTED ON WALLS, ROOFS, OR COLUMNS, EXPOSED CONDUITS SHALL BE PLUMB, PARALLEL, AND PERPENDICULAR TO BUILDING WALLS, EQUIPMENT, AND PIPING.

ALL CONDUITS SHALL, UNLESS SPECIFIED AS FLUSH, EXTEND 2 INCHES ABOVE SLAB GRADE, OR WALL. SPARE CONDUITS SHALL BE PROVIDED WITH THREADED CAPS OR PLUGS AND PULL CHORDS.

CONDUIT BETWEEN PUMPS AND PUMP JUNCTION BOXES FOR PUMP CABLES SHALL BE A MINIMUM OF 2" DIAMETER.

CONTRACTOR SHALL BE RESPONSIBLE FOR LAYOUT/CONFIGURATION OF DUCT BANKS AND COORDINATION OF PULL BOX SIZES. PROPOSED DUCT BANK LAYOUTS AND CROSS SECTIONS SHALL BE SUBMITTED TO THE OWNER FOR REVIEW PRIOR TO COMMENTING INSTALLATION. CONTRACTOR'S AS-BUILT DRAWINGS SHALL INCLUDE CROSS SECTIONS (DRAWN BY CONTRACTOR) OF ALL ELECTRICAL DUCT BANKS. SAID DUCT BANKS CROSS SECTIONS AND AS-BUILT DRAWINGS SHALL BE PREPARED AS THE PROJECT PROCEEDS AND SHALL BE REVIEWED BY THE CONTRACTOR WITH THE OWNER AT LEAST MONTHLY.

COMPLETE AS-BUILT ELECTRICAL DRAWINGS SHALL BE SUBMITTED TO THE OWNER UPON COMPLETION OF CONSTRUCTION.

- UNLESS NOTED OTHERWISE, EXPOSED CONDUITS SHALL BE MOUNTED WITH UNISTRUT SUPPORTS OR CONDUIT CLAMPS AT 8'-0" MAXIMUM SPACING. CONTRACTOR SHALL PROVIDE 3/8" STAINLESS STEEL WEDGE ANCHORS FOR SUPPORTS OR CLAMPS ATTACHED TO CONCRETE OR MASONRY. UNLESS NOTED OTHERWISE, ALL UNISTRUT SUPPORTS SHALL BE 12 GAUGE 316 STAINLESS STEEL.

- ALL CONDUIT CAST DEVICE BOXES, JUNCTION BOXES AND CONDUITS SHALL BE ADEQUATELY SIZED FOR REQUIRED CIRCUITRY. ALL CAST DEVICE BOXES SHALL BE CONSTRUCTED OF A MALLEABLE IRON (HDG) AND SHALL BE "DEEP" STYLE. EXCEPT AS NOTED HEREINAFTER, ALL BOXES SHALL BE SUPPORTED WITH UNISTRUT SUPPORTS.

HDG CAST MALLEABLE IRON BOXES AND CONDUITS SHALL BE MANUFACTURED BY CROUSE-HINDS APPLETON, OR EQUAL. PVC COATED HDG CAST MALLEABLE IRON BOXES AND CONDUITS SHALL BE MANUFACTURED BY ROBROY, OR EQUAL. HOWEVER ALL BOXES AND CONDUITS OF THE SAME TYPE SHALL BE FURNISHED BY A SINGLE MANUFACTURER. SURFACE MOUNTING TO WALLS SHALL BE PROVIDED BY EXPANSION ANCHORS.

- UNLESS NOTED OTHERWISE ON THE DRAWINGS, JUNCTION BOXES SHALL BE NEMA 12 WHERE LOCATED INDOORS AND NEMA 4X 316 STAINLESS OUT OF DOORS. MINIMUM JUNCTION BOX SIZE SHALL BE 4" X 4" X 3". BOXES SHALL BE SUPPORTED BY CONDUITS THROUGH FLOOR SLAB, ON STANCHIONS AS SPECIFIED, PROVIDED WITH FEET FOR WALL MOUNTING, OR MOUNTED WITH UNISTRUT SUPPORTS. ALL BOXES SHALL BE ADEQUATELY SIZED FOR REQUIRED CIRCUITRY. MOUNTING TO WALLS SHALL BE PROVIDED BY STAINLESS STEEL WEDGE ANCHORS.

- CONNECTION FROM JUNCTION BOX OR CONDUIT TO MOTOR OR EQUIPMENT TERMINAL BOX SHALL BE WITH FLEXIBLE CONDUIT. ALL FLEXIBLE CONDUIT SHALL BE LIQUID-TIGHT AND SHALL HAVE AN INTERLOCKED FLEXIBLE GALVANIZED STEEL CORE WITH PERMANENTLY BONDED CONTINUOUS EXTERIOR GRAY POLYVINYL CHLORIDE JACKET. EXTERIOR FLEXIBLE CONDUIT SHALL BE UV PROTECTED.

- UNLESS NOTED OTHERWISE, CONTRACTOR SHALL USE 316 STAINLESS STEEL EXPANSION ANCHORS (WEDGE OR SLEEVE TYPE) FOR MOUNTING ELECTRICAL CONDUIT, BOXES, AND EQUIPMENT. NO TYPE OF EXPLOSIVE ANCHOR WILL BE PERMITTED.

- NAMEPLATES SHALL BE PROVIDED IN ACCORDANCE WITH THE ELECTRICAL SPECIFICATIONS AND SHALL BE LAMINATED PLASTIC WITH WHITE LETTERING ON BLACK BACKGROUND, FASTENED WITH STAINLESS STEEL DRIVE SCREWS OR ESCUTCHEON PINS. NAMEPLATES SHALL BE PROVIDED FOR ALL LOCAL CONTROL STATIONS, FIELD INSTRUMENTS, PANELS, MCC SECTIONS, AND ELECTRICAL EQUIPMENT.

- CONTRACTOR SHALL FIELD NUMBER AND LABEL ALL CONDUCTORS AND CONDUITS AND PROVIDE COMPLETE AS-BUILT DRAWINGS TO THE OWNER. ALL CONDUITS WITH MANHOLES/PULL BOXES SHALL BE PERMANENTLY LABELED THEREIN AND LABELED WHERE THEY STUB UP INTO AN MCC OR PANEL. STATUS, ALARM, AND CONTROL SIGNAL (I/O) CONDUCTORS TO AND FROM THE RTU TERMINAL STRIPS SHALL BE IDENTIFIED USING THE LABELING DESIGNATION.

- UNLESS NOTED OTHERWISE ON THE DRAWINGS, CONDUCTORS 250 MCM OR SMALLER SHALL BE STRANDED COPPER WITH 75° C THIN INSULATION AND MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG. UNLESS NOTED OTHERWISE ON THE DRAWINGS, CONDUCTORS LARGER THAN 250 MCM SHALL BE STRANDED COPPER WITH 75° C XHHW INSULATION.

- UNLESS NOTED OTHERWISE, PROVIDE 3C (MINIMUM) #16 SHIELD BELDEN CABLE FOR ALL 4 TO 20 MA SIGNALS.

- CONTROL (LADDER) DIAGRAMS ARE PROVIDED TO DESCRIBE DESIRED OPERATION AND CONTROL. SINGLE RELAYS ARE SHOWN REGARDLESS OF NUMBER OF CONTACTS REQUIRED AND MULTIPLE EQUIPMENT UNITS ARE SHOWN AS TYPICAL. CONTRACTOR SHALL FURNISH THE NUMBER OF RELAYS, AUXILIARY CONTACTS, AND CONTROL EQUIPMENT NECESSARY TO PROVIDE THE OPERATION AS SPECIFIED.

- ALL FIELD WIRING TO CONTROL PANEL(S) AND TO SECTIONS OF THE MCC SHALL TERMINATE AT TERMINAL STRIPS IN THE RESPECTIVE PANELS AND BUCKETS.

- CONTRACTOR SHALL SUBMIT ELECTRICAL SHOP DRAWINGS INCLUDING COMPLETE CONTROL LADDER DIAGRAMS AND COMPLETE INTERCONNECT DIAGRAMS WITH APPROPRIATE WIRE AND TERMINAL NUMBERING. LADDER DIAGRAMS SHALL BE PROVIDED WITH NUMBERS FOR EACH LINE INCLUDING REFERENCES TO THE LINE NUMBER WHERE CONTACTS FOR EACH RELAY ARE SHOWN. LADDER DIAGRAMS SHALL SHOW WIRE NUMBERS, TERMINAL BLOCKS, AND TERMINAL BLOCK NUMBERS.

INTERCONNECT DIAGRAMS SHALL SHOW ALL INTERCONNECTIONS BETWEEN EQUIPMENT, CONTROL PANELS, RTU, MCC, AND INSTRUMENTATION DIAGRAMS SHALL BE PROVIDED WITH WIRE NUMBERS AND TERMINAL BLOCK NUMBERS. STATUS, ALARM, AND CONTROL SIGNAL (I/O) CONDUCTORS TO AND FROM THE RTU TERMINAL STRIPS SHALL BE IDENTIFIED USING THE LABELING DESIGNATION.

- ELECTRICAL MCC/PANEL ELEVATIONS HEREIN SHOW APPROXIMATE SPACE REQUIREMENTS FOR EQUIPMENT. LAYOUTS SHALL BE MODIFIED AS REQUIRED FOR THE MANUFACTURER'S SPECIFIC EQUIPMENT BUT SHALL COMPLY WITH SPACE LIMITS SHOWN. MANUFACTURER'S WHICH CANNOT COMPLY WITH SPACE LIMITS SHOWN ARE NOT ACCEPTABLE. ADDITIONAL PANEL SECTIONS OR WIDER SECTIONS SHALL BE PROVIDED AS NECESSARY PROVIDED LAYOUT COMPLIES WITH SPACE LIMITS SHOWN. CONTRACTOR SHALL SUBMIT COMPLETE SHOP DRAWINGS WHICH SHALL INCLUDE ELEVATIONS VIEWS OF ALL ELECTRICAL PANELS FOR OWNER APPROVAL. EXTERIOR COLOR OF ALL ELECTRICAL PANELS SHALL BE LIGHT GRAY.

CONDUITS SHALL TERMINATE WITHIN THE RESPECTIVE MCC/PANEL SECTION, OR IN ADJACENT SECTION IF ADDITIONAL SPACE IS REQUIRED. CONTRACTOR SHALL ADJUST LOCATION OF CONDUIT TERMINATIONS BASED ON THE APPROVED MCC/PANEL LAYOUT.

- AFTER INSTALLATION IS COMPLETE, THE CONTRACTOR SHALL CHECK ALL CONTROLS BY SIMULATING ALL OPERATING CONDITIONS WITH THE OWNER PRESENT. SUBSEQUENT START-UP OF FACILITIES SHALL BE PERFORMED BY THE CONTRACTOR AND SHALL INCLUDE OPERATION OF ALL EQUIPMENT IN ALL MODES OF CONTROL, INCLUDED START, STOP, SHUTDOWN AND ALARM CONDITIONS.

- CONTROL RELAYS SHALL BE RATED 120 VOLTS A.C. WITH MINIMUM 10 AMP CONTACTS UNLESS OTHERWISE SHOWN.

- UPON COMPLETION OF START-UP AND TESTING, CONTRACTOR SHALL THOROUGHLY CLEAN ALL EXPOSED PARTS OF ELECTRICAL INSTALLATION, INCLUDING PANEL INTERIORS. CONTRACTOR SHALL REMOVE ALL TRACES OF DIRT, OIL, GREASE, ETC.

- CONTRACTOR SHALL PERFORM SHORT CIRCUIT STUDY, ARC FLASH STUDY, SET ALL PROTECTIVE DEVICES, AND PROVIDE LABELING ACCORDING TO STUDIES. PRIOR TO ENERGIZING ANY FACILITIES, CONTRACTOR SHALL PROVIDE SERVICES OF AN INDEPENDENT TESTING CONSULTANT TO PERFORM TESTING TO VERIFY SETTINGS, GROUNDING, AND COMPLIANCE WITH CONTRACT DOCUMENTS. REFER TO TECHNICAL SPECIFICATIONS SECTION 16040.

- UNDERGROUND PULL BOXES (MANHOLE) SHALL BE SIZED AND LOCATED AS SHOWN ON THE DRAWINGS AND INDICATED ON THE ELECTRICAL PULL BOX SCHEDULE. ADDITIONAL PULL BOXES SHALL BE PROVIDED AS NECESSARY FOR CONDUCTOR PULLING. PULL BOX SIZES SHOWN ARE MINIMUM SIZES. (DEPENDENT UPON THE CONTRACTOR'S DUCT BANK CONFIGURATION AND PULL BOX KNOCKOUT AREA). LARGER SIZE PULL BOXES MAY BE NECESSARY. COST OF ADDITIONAL OR LARGER PULL BOXES SHALL BE BORNE BY THE CONTRACTOR. PULL BOXES SHALL BE PRECAST CONCRETE WITH REQUIRED KNOCKOUTS AND CONCRETE SUMP (BROKEN OUT). PULL BOXES SHALL BE SET ON MINIMUM OF 12" THICK 3/4" CRUSHED ROCK. UNLESS NOTED OTHERWISE, PULL BOXES SHALL BE PROVIDED WITH ONE PIECE, HDG STEEL, BOLT DOWN TYPE TRAFFIC COVERS WITH LIFTING HOLES. PULL BOXES AND COVERS SHALL BE MANUFACTURED BY JENSEN, OR EQUAL.

- CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT AND CONDUCTORS AS SHOWN ON THE DRAWINGS, AS SHOWN ON THE CONTROL DIAGRAMS, AND AS LISTED ON THE SCHEDULE OF CONDUIT AND CONDUCTORS' DRAWING. CONTRACTOR IS ADVISED THAT NOT ALL CONDUIT AND CONDUCTORS ARE LISTED IN THE SCHEDULE (PARTICULARLY 120V LIGHTING AND RECEPTACLES) AND THAT NOT ALL CONDUIT AND CONDUCTORS LISTED IN THE SCHEDULE ARE SPECIFICALLY SHOWN, LABELED, OR CALLED OUT INDIVIDUALLY ON OTHER DRAWINGS.

- CONTRACTOR IS ADVISED THAT INTERCONNECTING WIRING WITHIN AND BETWEEN LINEUPS (ASSEMBLED PANELS WITH COMMON INTERCONNECTING HORIZONTAL WIREWAYS) OF MCCS, DISTRIBUTION PANELS, MCPS, AND CONTROL PANELS IS NOT SPECIFICALLY LISTED OR SHOWN ON THE DRAWINGS. CONTRACTOR IS DIRECTED TO CONTROL DIAGRAMS AND RTU CONNECTION DIAGRAMS ON THE DRAWINGS FOR THESE CONNECTIONS, WHICH ARE SUBJECT TO CHANGE ACCORDING TO APPROVED SHOP DRAWINGS. CONTRACTOR SHALL INSTALL WIRING FOR SAID CONNECTIONS WITHIN THE BOTTOM WIREWAY OF MCCS AND PANELS.

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PUBLIC UTILITIES-WATER APPROVED DATE	NOTES: THE CITY OF RIVERSIDE WILL NOT ACCEPT THE MAINTENANCE RESPONSIBILITY OF THE SEWAGE LIFT STATION OR THE SEWER FORCE MAIN UNTIL ALL DWELLING UNITS WITHIN THIS DEVELOPMENT HAVE BEEN COMPLETELY SOLD AND OCCUPIED BY HOMEOWNERS.	BENCH MARK: 02+45 ELEV. = 773.743 (1971 ADJ.) NGVD 1929 DATUM PK NAIL & CITY ENGINEER TAG IN THE TOP OF THE EASTERLY CURB OF LA SIERRA AVE. APPROX. 40' NORTHERLY OF CENTERLINE OF PALM TERRACE LANE.	UNDERGROUND SERVICE ALERT Call Toll FREE 1-800-227-2600 TWO WORKING DAYS BEFORE YOU DIG	 METROPOINTE ENGINEERS 17520 Newhope Street, Suite 140 Fountain Valley, CA 92708 714.438.1095 fax: 714.438.1097	 REGISTERED PROFESSIONAL ENGINEER RCE 58726 Exp. 03/31/17 CIVIL STATE OF CALIFORNIA	CITY OF RIVERSIDE, CALIFORNIA PUBLIC WORKS DEPARTMENT		LA SIERRA SEWAGE LIFT STATION		PW15-0163
						APPROVED BY DATE	APPROVED BY DATE	CONSTRUCTION NOTES AND SCHEDULES TRACT MAP 34794		SHEET 3 OF 23

SYMBOLS AND LEGEND

	SECTION VIEW SECTION "C", CUT ON DRAWING M-6.
	SECTION CUT SECTION "M" SHOWN ON DRAWING E-4.
	DETAIL 2 SHOWN ON DRAWING S-5.
	STANDARD STRUCTURAL DETAIL S1, REFER TO MISCELLANEOUS AND STANDARD STRUCTURAL DETAILS
	STANDARD MECHANICAL DETAIL M2, REFER TO MISCELLANEOUS AND STANDARD MECHANICAL DETAILS
	STANDARD ELECTRICAL DETAIL E3, REFER TO MISCELLANEOUS AND STANDARD ELECTRICAL DETAILS
	30= DIAMETER OF PIPELINE RW= DUTY OF PIPELINE
	PROPOSED FINISH CONTOUR.
	EXISTING CONTOUR.
	CHAIN LINK FENCE, 6' HIGH W/3 STRANDS BARBED WIRE PER SPECIFICATIONS.
	PROPOSED FACILITY
	EXISTING FACILITY

FITTING SYMBOLS

	WELDED
	FLANGED
	FLANGED TEE
	FLANGED ELBOW (ANGLE AS SHOWN)
	FLANGED JOINT
	REDUCER
	VITAUCAL GROOVED PIPE COUPLING
	MECHANICAL JOINT
	BLIND FLANGE

THREADED AND SOLVENT-WELDED FITTING SYMBOLS

	ELBOW		UNION
	ELBOW UP		END CAP
	ELBOW DOWN (ANGLES AS SHOWN, ALL EVEN INCREMENTS OF 90° I.e. 90°, 45°, 22 1/2°, 11 1/4°, ETC.)		
	REDUCER		
	TEE		
	TEE BRANCH UP		
	TEE BRANCH DOWN		

VALVES, UNO

	SINGLE LINE		DOUBLE LINE
	SHORT BODY FLANGED BUTTERFLY VALVE, A.W.W.A. C504, SHOWING ORIENTATION OF OPERATOR		
	WAFER STYLE BUTTERFLY VALVE		
	GATE VALVE (USE THREADED VALVE FOR 3" OR SMALLER UNLESS OTHERWISE NOTED)		
	CPVC (UNO) BALL VALVE, TRUE UNION (1" AND UNDER) OR FLANGED TYPE (OVER 1")		
	STAINLESS STEEL BALL VALVE		
	ECCENTRIC PLUG VALVE		
	CHECK VALVE		
	CHECK VALVE		
	AUTOMATIC OPERATED VALVE		
	SOLENOID OPERATED VALVE		
	MULTIPORT VALVE 3-WAY		
	PRESSURE RELIEF VALVE		
	HYDRAULICALLY OPERATED VALVE		
	PRESSURE REGULATING VALVE		
	BACK-PRESSURE VALVE		
	ANTI-SIPHON VALVE		

MISCELLANEOUS SYMBOLS

	ROTAMETER		HANDRAIL PER STANDARD DETAIL, ALUMINUM UNLESS NOTED OTHERWISE
	FLOW SWITCH		GRATING PER STANDARD DETAIL, FIBERGLASS UNLESS NOTED OTHERWISE
	FLOW METER		CAST IRON FLOOR DRAIN WITH 6" BRONZE STRAINER, THREADED OUTLET AND POWDER EPOXY COATING (ZURN Z415, TYPE B, OR EQUAL). PROVIDE WITH P-TRAP (ZURN Z1000, OR EQUAL).
	FLEX COUPLING		316 STAINLESS STEEL FLOOR DRAIN WITH 6" STRAINER AND THREADED OUTLET. (ZURN Z1725, OR EQUAL). PROVIDE WITH PVC P-TRAP
	GRAVITY CLEAN OUT		CAST IRON DRUM TRAP DRAIN WITH 6" BRONZE STRAINER AND THREADED OUTLET. (ZURN Z450 TYPE B, OR EQUAL)
	PRESSURE CLEAN OUT		CAST IRON FLOOR DRAIN WITH BRONZE FUNNEL STRAINER, THREADED OUTLET, AND POWDER EPOXY COATING (ZURN Z415 TYPE B, OR EQUAL). PROVIDE WITH P-TRAP (ZURN Z1000 OR EQUAL)
	FIRE HYDRANT		2" DIAMETER EQUIPMENT DRAIN WITH 6" LONG SCH. 40, 304 STAINLESS STEEL NIPPLE (PLAIN END x THREADED) EXTENDING 3" ABOVE F.F. AND SLIP x FEMALE THREADED ADAPTER COUPLING TO 2" DRAIN PIPE RISER. WHERE NOTED, PROVIDE WITH P-TRAP (ZURN Z1000, OR EQUAL).
	HOSE BIB (SIZE NOTED)		ED-1

ABBREVIATIONS AND NOTATIONS

ABBR.	ABBREVIATION	G	GAS	PS1	PIPE SUPPORT TYPE 1, 2, ETC., REFER TO MISCELLANEOUS DETAILS AND STANDARD DRAWINGS
A/C	AIR CONDITIONER	GA.	GAUGE	PSI	POUNDS PER SQUARE INCH
A.C./AC	ASPHALT CONCRETE	GB	GRADE BREAK	PT	PRESSURE TRANSMITTER
A.S.	AS SHOWN	GSM	GALVANIZED SHEET METAL	R	RADIUS
AV	AIR VALVE	HG	HOT DIPPED GALVANIZED	RC, R.C.	RELATIVE COMPACTION
BFV	BUTTERFLY VALVE	HDPE	HIGH DENSITY POLYETHYLENE	REQ.	REQUIRED, REQUIREMENTS
BOT	BOTTOM	HHWL	HIGH HIGH WATER LEVEL	RPBFD	REDUCED PRESSURE BACKFLOW DEVICE
BC	BEGINNING CURVE	HP	HIGH POINT	R/W	RIGHT OF WAY
CG	CENTER GRADE	HPI	HORIZONTAL POINT OF INFLECTION	S	SEWER
CJ	CONSTRUCTION JOINT	HWL	HIGH WATER LEVEL	SCH, SCHED	SCHEDULE
CL, CL	CENTERLINE	ID, I.D.	INSIDE DIAMETER	SPEC	BOUND SPECIFICATIONS
CL EL	CENTERLINE ELEVATION	INV.	INVERT ELEVATION	SQ.	SQUARE
CLR.	CLEAR, CLEARANCE	LF	LINEAR FEET	SSPWC	STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (2009 EDITION)
CMB	CRUSHED MISCELLANEOUS BASE	LLH	LONG LEG HORIZONTAL	STA.	STATION
CMU	CONCRETE MASONRY UNIT	LLV	LONG LEG VERTICAL	ST, STL, S.S.	STAINLESS STEEL
CONC.	CONCRETE	LLWL	LOW LOW WATER LEVEL	STD DWG	STANDARD DRAWING- REFER TO BOUND SPECIFICATION
CONT.	CONTINUOUS	LWL	LOW WATER LEVEL	T&B	TOP AND BOTTOM
C.O.T.G.	CLEAN-OUT TO GRADE	MANUF.	MANUFACTURER	TB	TOP OF BERM ELEVATION
CITF	CUT-TO-FIT	MAX.	MAXIMUM	TC, TOC	TOP OF CONCRETE ELEVATION, TOP OF CURB ELEVATION
CTRL JT	CONTROL JOINT	MGD	MILLION GALLONS PER DAY	TD	TOP OF DRAIN ELEVATION
DIA.	DIAMETER	MH	MANHOLE	TEL	TELEPHONE
DWC.	DRAWING	MIN.	MINIMUM	TELM.	TELEMETRY
E.#	EAST COORDINATE	MIP	MALE IRON PIPE	TF	TOP OF FOOTING ELEVATION
EC	END CURVE	MISC.	MISCELLANEOUS	TG	TOP OF GRATE ELEVATION, TOP OF GRATING
EG	EXISTING GRADE ELEVATION	MJ	MECHANICAL JOINT CONNECTION	THK.	THICK, THICKNESS
EL	ELEVATION	N.#	NORTH COORDINATE	TP	TOP OF PAVING
EMH	ELECTRICAL MANHOLE	N/A	NOT APPLICABLE, NOT AVAILABLE	TS	TOP OF SLAB, TOP OF STEEL
EP	EDGE OF PAVING	N.I.C.	NOT IN CONTRACT	TW, TOW	TOP OF WALL ELEVATION
EQ.	EQUAL, EQUALLY	No.	NUMBER	TYP, TYP.	TYPICAL
E.W.	EACH WAY	NPT	AMERICAN NATION STANDARD TAPERED PIPE THREADS	UNO, U.N.O.	UNLESS NOTED OTHERWISE
EXIST, E	EXISTING	N.T.S.	NOT TO SCALE	VPI	VERTICAL POINT OF INFLECTION
EXP.	EXPANSION	O.C.	ON CENTER	VTR	VENT TO ROOF
FD1	FLOOR DRAIN, TYPE 1, 2, ETC., REFER TO MISCELLANEOUS SYMBOLS	OD, O.D.	OUTSIDE DIAMETER	W	WATER
FLR	FINISH FLOOR ELEVATION	OFCL, O.F.C.I.	OWNER FURNISHED EQUIPMENT, CONTRACTOR TO INSTALL.	W/	WITH
FG	FINISH GRADE ELEVATION	OFOL, O.F.O.I.	OWNER FURNISHED OWNER INSTALLED EQUIPMENT	WS	WATER SURFACE
FIP	FEMALE IRON PIPE	OH	OPPOSITE HAND	WT.	WEIGHT
FL, CL	FLOW LINE ELEVATION	OHE	OVERHEAD ELECTRICAL	*	DENOTES A DIMENSION DEPENDENT UPON THE EQUIPMENT FURNISHED. CONTRACTOR TO VERIFY DIMENSION WITH ACTUAL EQUIPMENT DELIVERED TO SITE. SEE GENERAL CONSTRUCTION NOTES. DIMENSION TO BE VERIFIED PRIOR TO CONSTRUCTION AND PRIOR TO ORDERING EQUIPMENT DEPENDENT UPON DIMENSION.
FLG	FLANGE, FLANGED	PE	PLAIN END		
FRP	FIBERGLASS REINFORCED PLASTIC	PG	PRESSURE GAUGE		
FS	FINISH SURFACE ELEVATION	PORC	POINT OF REVERSE CURVE		
FTG	FOOTING	PL, CL	PROPERTY LINE		
FUT.	FUTURE CONSTRUCTION				

ABBREVIATIONS FOR PIPE MATERIALS

ABS	ACRYLONITRILE BUTADIENE STYRENE	ECTFE	ETHYLENE-CHLOROTRIFLUOROETHYLENE
AGS	ADVANCED GROOVE SYSTEM	FRP	FIBERGLASS REINFORCED PLASTIC
BSP	BLACK STEEL PIPE	GIP	GALVANIZED IRON PIPE (STD.WT.)
CCP	CONCRETE CYLINDER PIPE	HG	HOT DIPPED GALVANIZED (SCH.40 STEEL UNO)
CIP	CAST IRON PIPE	HDPE	HIGH DENSITY POLYETHYLENE
CISP	CAST IRON SOIL PIPE	PTFE	POLYTETRAFLUOROETHYLENE
CMC	CEMENT MORTAR COATED	PVC	POLYVINYL CHLORIDE
CML	CEMENT MORTAR LINED	PVDF	POLYVINYLIDENE FLUORIDE
CMLC, CML&C	WELDED STEEL PIPE CEMENT MORTAR LINED AND COATED	RCF	REINFORCED CONCRETE PIPE
CML&TC	WELDED STEEL PIPE CEMENT MORTAR LINED, TAPE WRAPPED, AND CEMENT MORTAR COATED	SCS	SEAMLESS CARBON STEEL
CMP	CORRUGATED METAL PIPE	SS, ST, STL	STAINLESS STEEL (SCH.40 UNO)
CPVC	CHLORINATED POLYVINYL CHLORIDE	STD.WGT.	STANDARD WEIGHT
CT	CYLINDER THICKNESS	STL	STEEL
DI	DUCTILE IRON	VCP	VITRIFIED CLAY PIPE (EXTRA-STRENGTH)
DIP	DUCTILE IRON PIPE	WSP	WELDED STEEL PIPE
		1/4"CT	WSP WITH 1/4" STEEL CYLINDER THICKNESS

DRAWING NUMBER ABBREVIATIONS

G	GENERAL	S	STRUCTURAL
C	CIVIL	E	ELECTRICAL
M	MECHANICAL/ELECTRICAL	D	DEMOLITION

PROJECT SPECIFIC ABBREVIATIONS/DEFINITIONS

CITY	CITY OF RIVERSIDE PUBLIC WORKS DEPARTMENT
OWNER	CITY OF RIVERSIDE PUBLIC WORKS DEPARTMENT

FOR PURPOSES OF ORGANIZATION, DRAWINGS ARE ARRANGED PER ABOVE DISCIPLINES. HOWEVER, TO REDUCE THE NUMBER OF DRAWINGS, MULTIPLE TYPES OF WORK MAY BE SHOWN ON ANY DRAWING.

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PUBLIC UTILITIES-WATER

 APPROVED c.g.
 DATE 5/16/2016

NOTES:
 THE CITY OF RIVERSIDE WILL NOT ACCEPT THE MAINTENANCE RESPONSIBILITY OF THE SEWAGE LIFT STATION OR THE SEWER FORCE MAIN UNTIL ALL DWELLING UNITS WITHIN THIS DEVELOPMENT HAVE BEEN COMPLETELY SOLD, AND OCCUPIED BY HOMEOWNERS.

BENCH MARK:
 G2-M3 ELEV. = 779.743 (1971 ADJ.) NGVD 1929 DATUM
 PK NAIL & CITY ENGINEER TAG IN THE TOP OF THE EASTERLY CURB OF LA SIERRA AVE., APPROX. 40' NORTHERLY OF CENTERLINE OF PALM TERRACE LANE.

BASIS OF BEARINGS:
 THE BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF LA SIERRA AVENUE BEING N 14° 13' 00" W ROATED TO N 13° 32' 33" W PER TRACT NO. 22001, M.B. 210/78-78, RECORDS OF RIVERSIDE COUNTY.

UNDERGROUND SERVICE ALERT

 TWO WORKING DAYS BEFORE YOU DIG

METROPOINTE ENGINEERS
 17520 Newhope Street, Suite 140
 Fountain Valley, CA, 92708
 714.438.1095 fax: 714.438.1097

CIVIL
 STATE OF CALIFORNIA
 Exp. 03/31/17

MARK	REVISIONS	APPR.	DATE
DESIGNED BY	J.A.	DRAWN BY	J.T.
CHECKED BY	J.A.		

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE	APPROVED BY
ENGINEERING MANAGER	J.A.	5/16/16	
CAPITAL PROJECTS	J.T.	5/16/16	
SEWER MAINTENANCE			

CITY ENGINEER / PW DIRECTOR
 DATE 5/16/16

LA SIERRA SEWAGE LIFT STATION
LEGENDS, SYMBOLS, AND ABBREVIATIONS
 TRACT MAP 34794
 HORIZONTAL SCALE: PER PLAN VERTICAL SCALE: PER PLAN

PW15-0163
S-2131
 SHEET 4 OF 23
 DWG. NO. G-4

FINISH AND PROTECTIVE COATING SCHEDULE (UNLESS NOTED OTHERWISE)

ITEM (1)	COATING (2)
EXTERIOR CONCRETE SURFACES	NO COATING REQUIRED.
WET WELL AND EMERGENCY STORAGE TANK INTERIOR SURFACES	COAT PER SERVICE CONDITION D.
EXPOSED FERROUS METAL PIPING, VALVES, FITTINGS, AND APPURTENANCES	COAT PER SERVICE CONDITION A. (3)
BELOW GRADE FERROUS METAL	COAT PER SERVICE CONDITION C.
EQUIPMENT AND MOTORS	FACTORY COATING. TOUCH UP WHERE DAMAGED PER MANUF. REQ.
MISCELLANEOUS FERROUS METAL (EXTERIOR)	COAT PER SERVICE CONDITION A. (3)
HOT DIPPED GALVANIZED STEEL (INTERIOR OR EXTERIOR)	NO COATING REQUIRED.
STAINLESS STEEL	NO COATING REQUIRED.
ALUMINUM	NO COATING, EXCEPT WHERE AGAINST CONCRETE COAT AREA PER SPECIFICATION. ANODIZE WHERE SPECIFIED.
ELECTRICAL PANELS	FACTORY COATING, BAKED ENAMEL. TOUCH UP WHERE DAMAGED.
ELECTRICAL DEVICE BOXES	FACTORY COATING, ZINC ELECTROPLATE AND ALUMINUM LACQUER OR HDG.
PIPE OR CONDUIT SUPPORTS	HOT DIPPED GALVANIZED.
EXPOSED ELECTRICAL CONDUIT	PVC COATED
ORNAMENTAL STEEL GATES AND FENCE	POWDER COAT PER SPECIFICATIONS.

NOTES (FINISH AND PROTECTIVE COATING SCHEDULE)

- (1) WHERE ITEM NOT SPECIFICALLY INCLUDED IN TABLE, REFER TO SPECIFICATION SECTION 11210.
- (2) UNLESS NOTED OTHERWISE, SURFACE PREPARATION AND COATING SHALL BE PER SPECIFICATION SECTION 11210. ALL COLORS SELECTED BY OWNER.
- (3) SHOP BLAST AND PRIME OR FIELD BLAST AND PRIME PRIOR.

PIPE MATERIAL SCHEDULE (UNLESS NOTED OTHERWISE)

DUTY	BURIED/BELOW GRADE (1)	ABOVE GRADE OR EXPOSED (1)	HYDROSTATIC AND LEAKAGE TEST PRESSURE (PSI) (2)	NOTES
AVD	S.S.	S.S.	25	(3)
FM	PVC, C900	N/A	150	(4)
PW	TYPE "K" COPPER	SCHED. 40 RED BRASS	150	(5) (7)
RSB	S.S.	S.S.	150	
RSD	CLASS 53 DIP	CLASS 53 DIP/S.S.	150	(6)
S	VCP	N/A	AIR TEST	(10)
SD	SCH. 40 PVC	TYPE K COPPER	50	(7)
V	STD. WT. STL.	STD. WT. STL.	N/A	(8)(9)

NOTES:

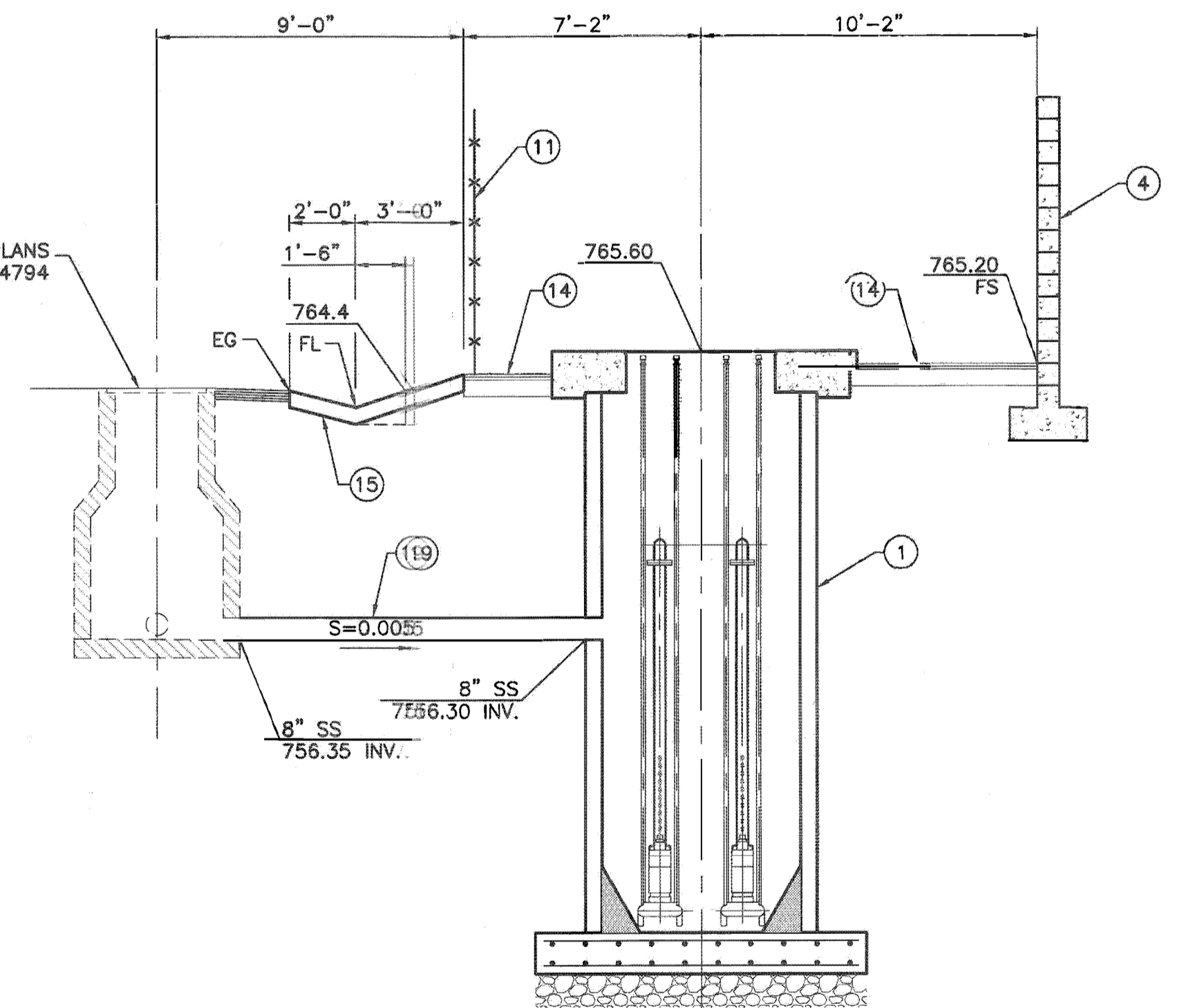
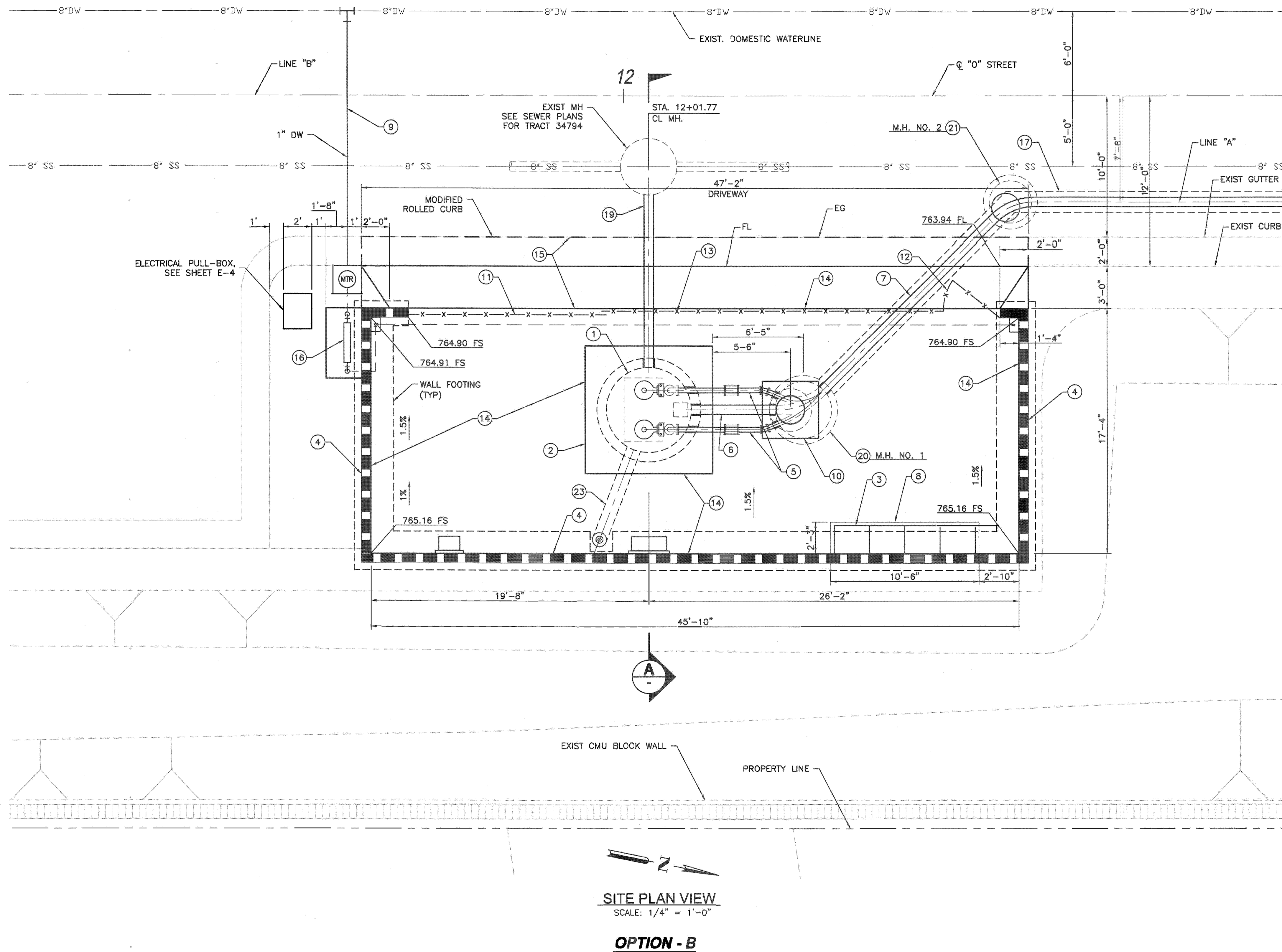
- (1) UNLESS NOTED OTHERWISE, PIPE MATERIAL AND FITTINGS SHALL BE PROVIDED IN ACCORDANCE WITH SPECIFICATION SECTION 11210.
- (2) LEAKAGE AND HYDROSTATIC TESTS SHALL BE PERFORMED IN ACCORDANCE WITH SSPWC. CONTRACTOR SHALL FURNISH ALL TESTING EQUIPMENT, INCLUDING CALIBRATED TEST GAUGES WITH PROVISIONS FOR OWNER'S TEST GAUGES. NO LEAKAGE IS PERMITTED ON ABOVE GRADE OR EXPOSED PIPING. TESTING AGAINST VALVES IS NOT PERMITTED.
- (3) TEST WITH AIR FOR 4 HOURS, NO LEAKAGE PERMITTED.
- (4) PVC PIPE SHALL BE AWWA C900 PRESSURE CLASS 185 (DR225) WITH DIP FITTINGS. ALL PIPE AND FITTING JOINTS SHALL PROVIDED WITH MECHANICAL TYPE EXTERNAL JOINT RESTRAINTS PER CITY'S APPROVED MATERIAL LIST.
- (5) DISINFECT PRIOR TO CONNECTION TO POTABLE WATER SYSTEM. CONNECTION PIPING SHALL BE SWABBED WITH CHLORINE.
- (6) EXPOSED PIPING INSIDE VALVE VAULT SHALL BE DIP. EXPOSED PIPING INSIDE WET WELL SHALL BE 316 S.S.
- (7) PVC PIPE SHALL BE SOLVENT WELDED. BELOW GRADE COPPER PIPE SHALL BE TAPE WRAPPED.
- (8) STD. WT. STL. PIPE SHALL CONFORM TO ASTM A53, TYPE E (ELECTRO RESISTANCE WELDED). PIPE FITTINGS SHALL BE STD. WT. STL. FITTINGS CONFORMING TO ANSI B16.9 AND ASTM A234. FLANGES FOR STD. WT. STL. PIPE SHALL BE ANSI B16.5, CLASS 150.
- (9) VENT PIPING SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
- (10) VCP SHALL BE PROVIDED IN ACCORDANCE WITH SSPWC.

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PUBLIC UTILITIES-WATER APPROVED DATE	NOTES: THE CITY OF RIVERSIDE WILL NOT ACCEPT THE MAINTENANCE RESPONSIBILITY OF THE SEWAGE LIFT STATION OR THE SEWER FORCE MAIN UNTIL ALL DWELLING UNITS WITHIN THIS DEVELOPMENT HAVE BEEN COMPLETELY SOLD, AND OCCUPIED BY HOMEOWNERS.	BENCH MARK: G2-M3 ELEV. = 779.743 (1971 ADJ.) NGVD 1929 DATUM PK NAIL & CITY ENGINEER TAG IN THE TOP OF THE EASTERLY CURB OF LA SIERRA AVE., APPROX. 40' NORTHERLY OF CENTERLINE OF PALM TERRACE LANE.	UNDERGROUND SERVICE ALERT Call/Toll FREE 1-800-227-2800 TWO WORKING DAYS BEFORE YOU DIG	 METROPOINTE ENGINEERS 17520 Newhope Street, Suite 140 Fountain Valley, CA 92708 714.438.1095 fax: 714.438.1097	 CIVIL STATE OF CALIFORNIA RCE 58728 Exp. 03/31/17	CITY OF RIVERSIDE, CALIFORNIA PUBLIC WORKS DEPARTMENT APPROVED BY DATE ENGINEERING MANAGER CAPITAL PROJECTS SEWER MAINTENANCE CITY ENGINEER / PW DIRECTOR DATE	LA SIERRA SEWAGE LIFT STATION SCHEDULES AND PIPE DUTY DESIGNATION TRACT MAP 34794 HORIZONTAL SCALE: PER PLAN VERTICAL SCALE: PER PLAN	PW15-0163 S-2131 SHEET 5 OF 23 DWG. NO.
--	---	---	--	--	--	--	---	---

CIVIL CONSTRUCTION NOTES FOR DRAWINGS C-1 AND C-2

- 1 6" DIA SEWAGE LIFT STATION WITH SUBMERSIBLE PUMPS
- 2 CONSTRUCT 9' SQ x 6" THK CONC. PAD, SEE SHEET S-1.
- 3 MCC CABINET, SEE SHEET E-2.
- 4 BLOCK WALL PER SPPWC STD. PLAN 601-3, TYPE 1, H=8'-0"
- 5 4" DIA PUMP DISCHARGE PIPING, SEE SHEET M-1.
- 6 8" PVC SDR-35 OVERFLOW PIPE, SSEE SHEET M-1.
- 7 8" PVC SDR-35 GRAVITY SEWER, SEE SHEET M-1.
- 8 6" CONCRETE MCC PAD, SEE SHEET M-1.
- 9 1" WATER SERVICE LATERAL AND 1" WATER METER PER WATER PLAN NO. # PUW14-0247.
- 10 CONSTRUCT 4' SQ. x 6" THK CONC. PAD.
- 11 14" WROUGHT IRON SLIDING GATE PER DETAIL 1, SHEET C-4 (WITH SITE ENTRY ALARM SWITCH)
- 12 4' WROUGHT IRON SECURITY MANGATE W/LATCH AND HOLE FORR PAD LOCK PER DETAIL 3, SHEET C-4 (WITH SITE ENTRY ALARM SWITCH)
- 13 WROUGHT IRON FENCE, H=8' PER DETAIL 2, SHEET C-4
- 14 ASPAVEMENT, 4" AC OVER 8" CMB
- 15 CONCRETE DRIVEWAY APPROACH PER CITY OF RIVERSIDE STD. PLAN 302 (MOD.) DETAIL 6, SHEET C-3.
- 16 1" I.R.P. BACK FLOW PREVENTER WITH CONC. PAD PER CITY OF RIVERSIDE STD PLAN CWD 616-1
- 17 BACKFILL TRENCH WITH 2-SACK SLURRY PER DETAIL 1, SHEET C-3
- 18 CONSTRUCT CONC. ENCASEMENT PER CITY OF RIVERSIDE DETAIL 2, SHEET C-3
- 19 8" PVC INFLOW SEWER, SEE SHEET M-1
- 20 M.H.H. NO. 1, 4' DIA MANHOLE PER CITY OF RIVERSIDE STD DWG NO. 500, WITH HINGED COVER AND TAMPER PROOF LOCK, FORR CONNECTION DETAIL, SEE DETAIL 4, SHEET C-3
- 21 M.H.H. NO. 2, 3' DIA MANHOLE PER CITY OF RIVERSIDE STD DWG NO. 500, WITH HINGED COVER AND TAMPER PROOF LOCK, FORR CONNECTION DETAIL, SEE DETAIL 5, SHEET C-3
- 22 M.H.H. NO. 3, 4' DIA MANHOLE PER CITY OF RIVERSIDE STD DWG NO. 500, FOR CONNECTION DETAIL, SEE DETAIL 6, SHEET C-3
- 23 WELL WELL EXHAUST FAN AND DUCT. SEE DETAILS ON SHEET M-1.



SITE PLAN VIEW

SCALE: 1/4" = 1'-0"

OPTION - B

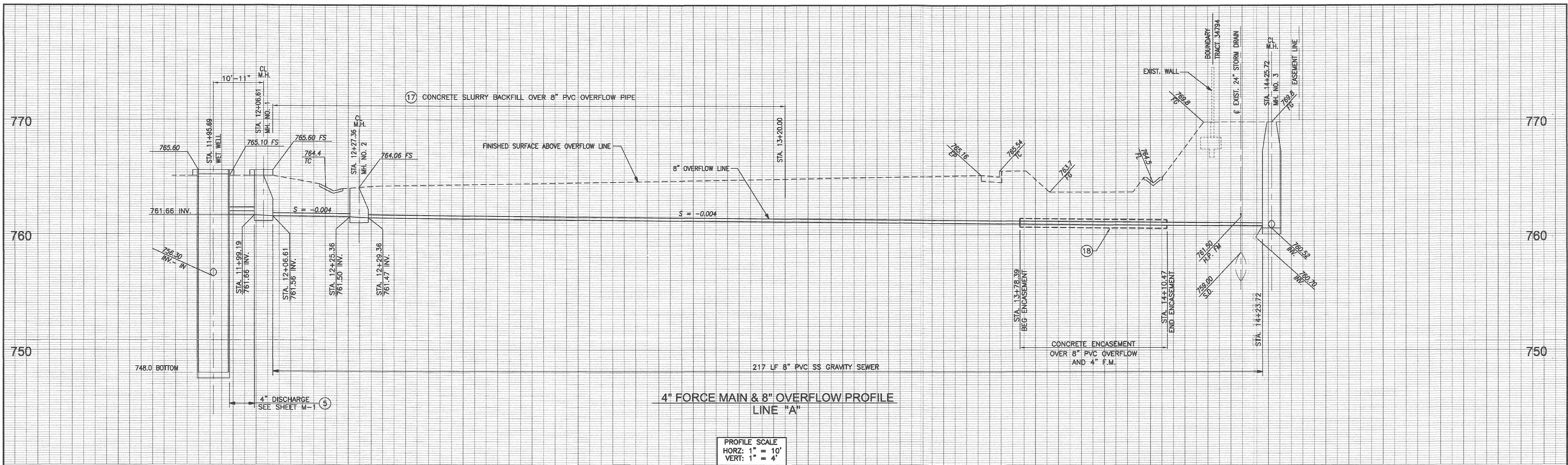
SECTION

SCALE: 1/4" = 1'-0"

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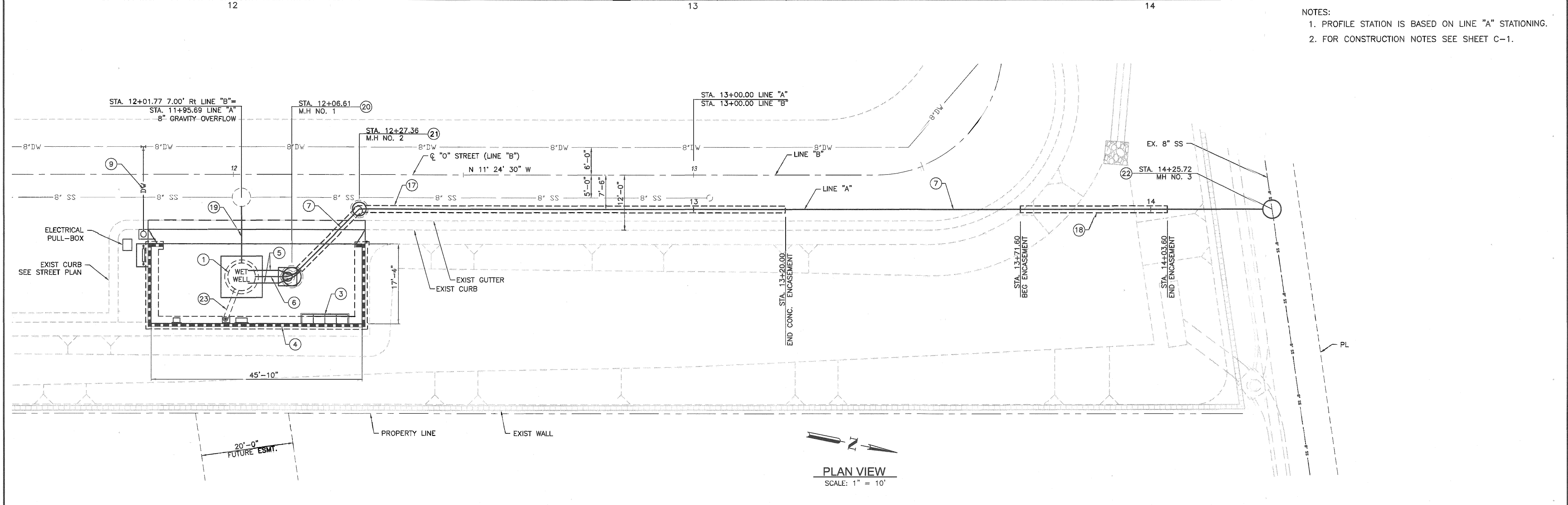
<p>PUBLIC UTILITIES-WATER</p> <p>APPROVED <i>[Signature]</i> DATE <i>[Signature]</i></p>	<p>NOTES: THE CITY OF RIVERSIDE WILL NOT ACCEPT THE MAINTENANCE RESPONSIBILITY OF THE SEWAGE LIFT STATION OR THE SEWER FORCE MAIN UNTIL ALL DWELLING UNITS WITHIN THIS DEVELOPMENT HAVE BEEN COMPLETELY SOLD, AND OCCUPIED BY HOMEOWNERS.</p>	<p>BENCH MARK: G2MS ELEV. = 779.743 (1971 ADJ.) NGVD 1929 DATUM PK NAIL & CITY ENGINEER TAG IN THE TOP OF THE EASTERLY CURB OF LA SIERRA AVE., APPROX. 40' NORTHERLY OF CENTERLINE OF PALM TERRACE LANE.</p> <p>BASIS OF BEARINGS: THE BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF LA SIERRA AVENUE BEING N 14° 13' 00" W ROATED TO N 13° 32' 33" W PER TRACT NO. 22001, M.B. 210 176-78, RECORDS OF RIVERSIDE COUNTY.</p>	<p>UNDERGROUND SERVICE ALERT</p> <p>Call/Toll FREE 1-800-227-2600</p> <p>TWO WORKING DAYS BEFORE YOU DIG</p> <p><i>[Logo]</i> METROPOINT ENGINEERS</p> <p>17520 Newhope Street, Suite 140 Fountain Valley, CA 92708 714.438.1095 fax: 714.438.1097</p>	<p>CITY OF RIVERSIDE, CALIFORNIA PUBLIC WORKS DEPARTMENT</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>APPROVED BY</td> <td>BY</td> <td>DATE</td> </tr> <tr> <td>ENGINEERING MANAGER</td> <td>PA</td> <td>5/27/16</td> </tr> <tr> <td>CAPITAL PROJECTS</td> <td>TAL</td> <td>5/27/16</td> </tr> <tr> <td>SEWER MAINTENANCE</td> <td></td> <td></td> </tr> </table> <p>DESIGNED BY <i>JA</i> DRAWN BY <i>JT</i> CHECKED BY <i>JA</i></p>	APPROVED BY	BY	DATE	ENGINEERING MANAGER	PA	5/27/16	CAPITAL PROJECTS	TAL	5/27/16	SEWER MAINTENANCE			<p>LA SIERRA SEWAGE LI FT STATION</p> <p>CIVIL SITE PLAN</p> <p>TRACT MAP 34794</p> <p>HORIZONTAL SCALE: PER PLAN VERTICAL SCALE: PER PLAN</p>	<p>PW15-0163</p> <p>S-2131</p> <p>SHEET 6 OF 23</p> <p>DWG. NO. C-1</p>
APPROVED BY	BY	DATE																
ENGINEERING MANAGER	PA	5/27/16																
CAPITAL PROJECTS	TAL	5/27/16																
SEWER MAINTENANCE																		

Copied 2/28/13



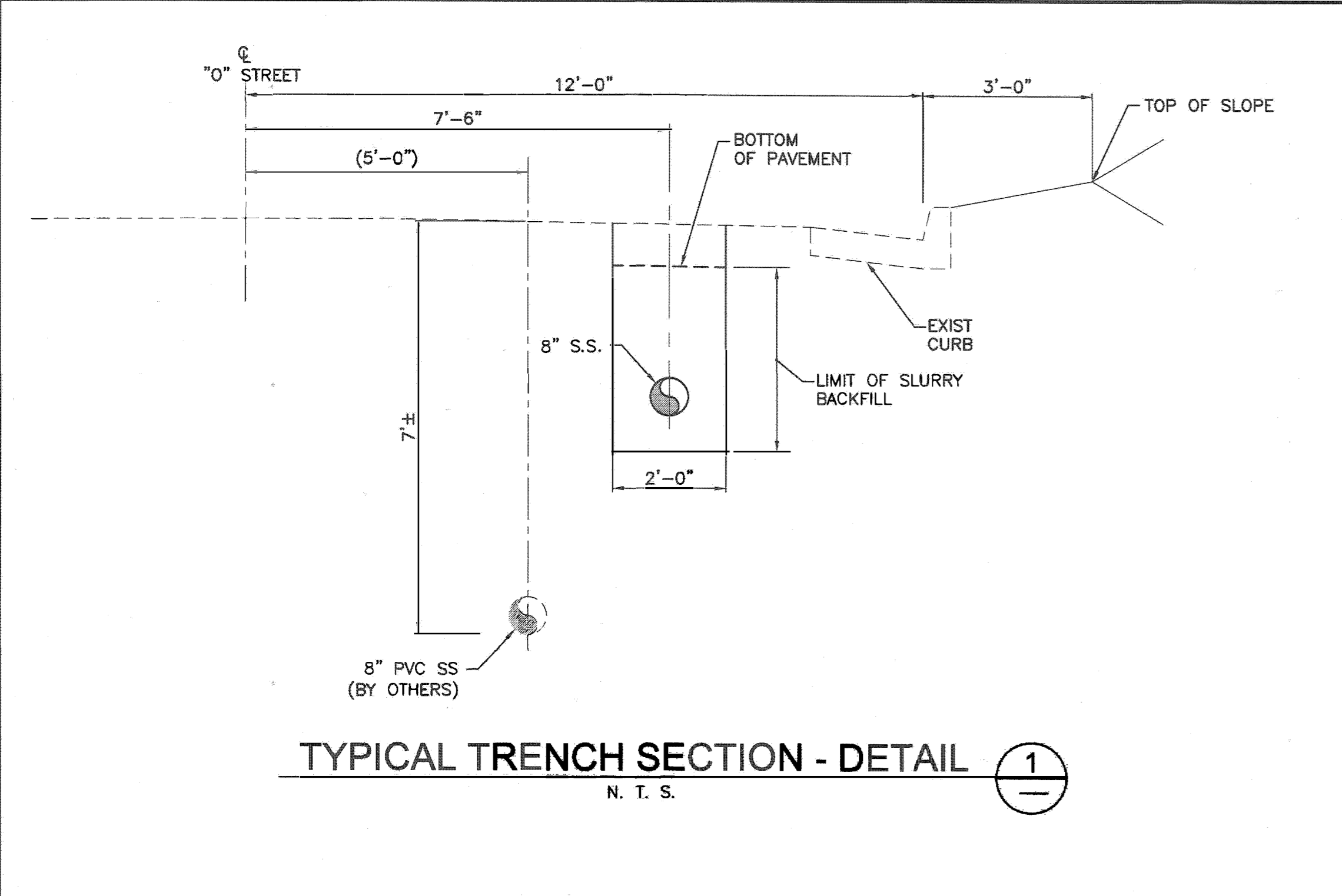
PROFILE SCALE
 HORZ: 1" = 10'
 VERT: 1" = 4'

- NOTES:
 1. PROFILE STATION IS BASED ON LINE "A" STATIONING.
 2. FOR CONSTRUCTION NOTES SEE SHEET C-1.

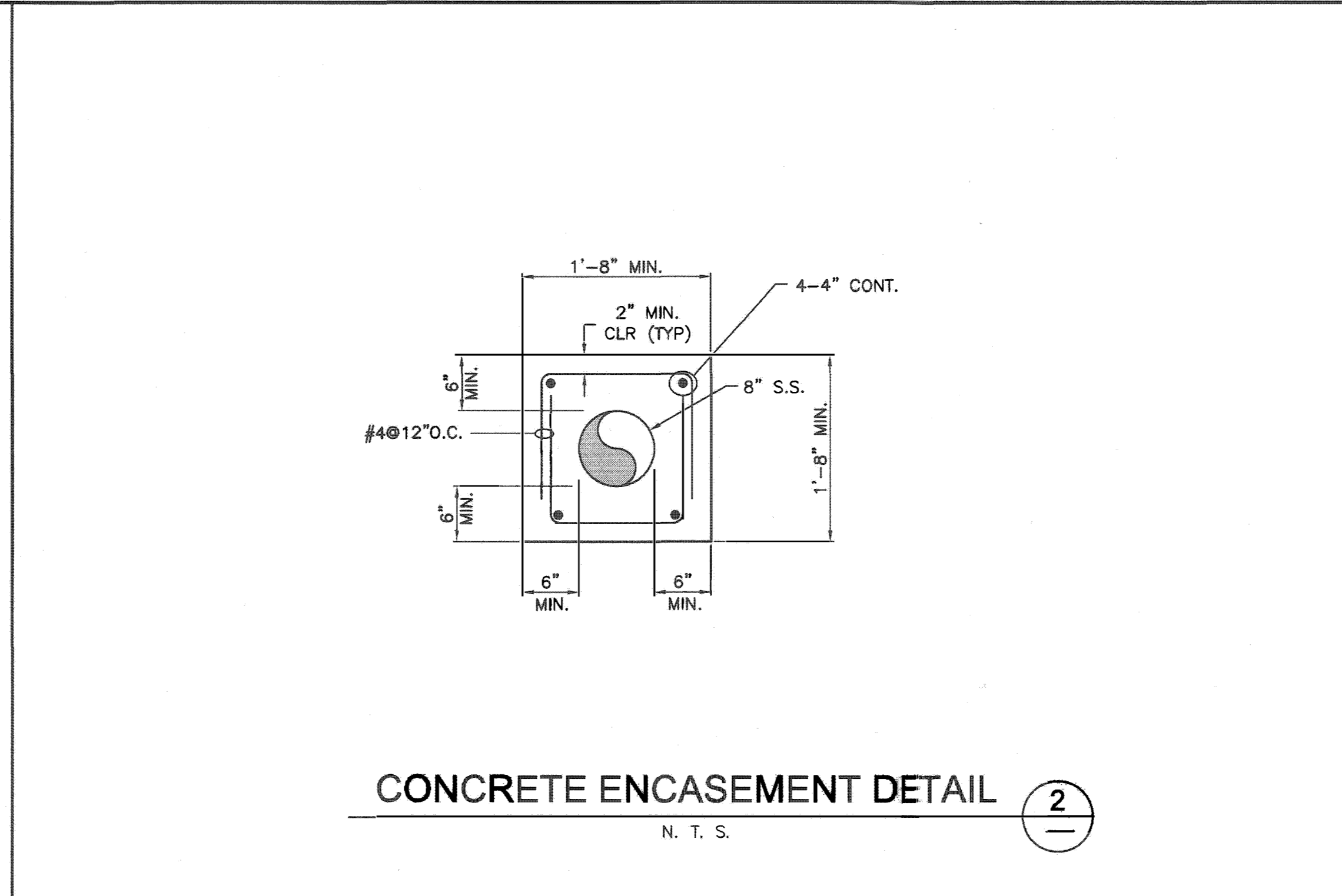


PLAN VIEW
 SCALE: 1" = 10'

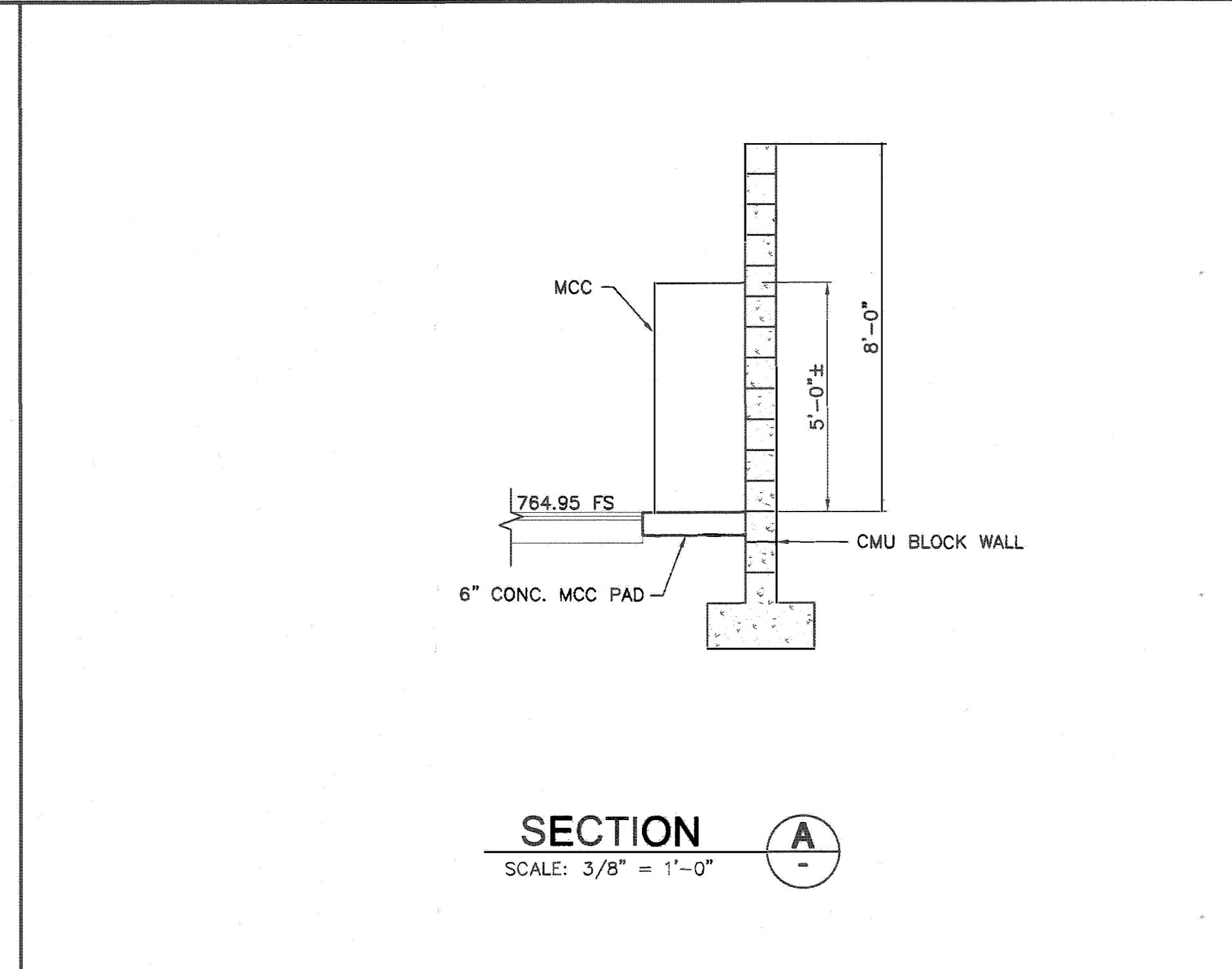
PUBLIC UTILITIES-WATER APPROVED <i>[Signature]</i> DATE 5/16/16	NOTES: THE CITY OF RIVERSIDE WILL NOT ACCEPT THE MAINTENANCE RESPONSIBILITY OF THE SEWER LIFT STATION OR THE SEWER FORCE MAIN UNTIL ALL DWELLING UNITS WITHIN THIS DEVELOPMENT HAVE BEEN COMPLETELY SOLD AND OCCUPIED BY HOMEOWNERS.	BENCH MARK: G2-M3 ELEV. = 779.743 (1971 ADJ.) NGVD 1929 DATUM PK NAIL & CITY ENGINEER TAG IN THE TOP OF THE EASTERLY CURB OF LA SIERRA AVE., APPROX. 40' NORTHERLY OF CENTERLINE OF PALM TERRACE LANE. BASIS OF BEARINGS: THE BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF LA SIERRA AVENUE BEING N 14° 13' 00" W ROATED TO N 13° 32' 33" W PER TRACT NO. 22001, M.B. 210/76-78, RECORDS OF RIVERSIDE COUNTY.	UNDERGROUND SERVICE ALERT Call: Toll FREE 1-800-227-2600 TWO WORKING DAYS BEFORE YOU DIG 	CITY OF RIVERSIDE, CALIFORNIA PUBLIC WORKS DEPARTMENT APPROVED BY: <i>[Signature]</i> DATE: 5/16/16 BY: <i>[Signature]</i> DATE: 5/17/16 CAPITAL PROJECTS SEWER MAINTENANCE CITY ENGINEER / PW DIRECTOR DATE: 5/16/16	LA SIERRA SEWER LIFT STATION SEWER PLAN AND PROFILE TRACT MAP 34794 HORIZONTAL SCALE: PER PLAN VERTICAL SCALE: PER PLAN PW15-0163 S-2131 SHEET 7 OF 23 DWG. NO. C-2 S2131-7
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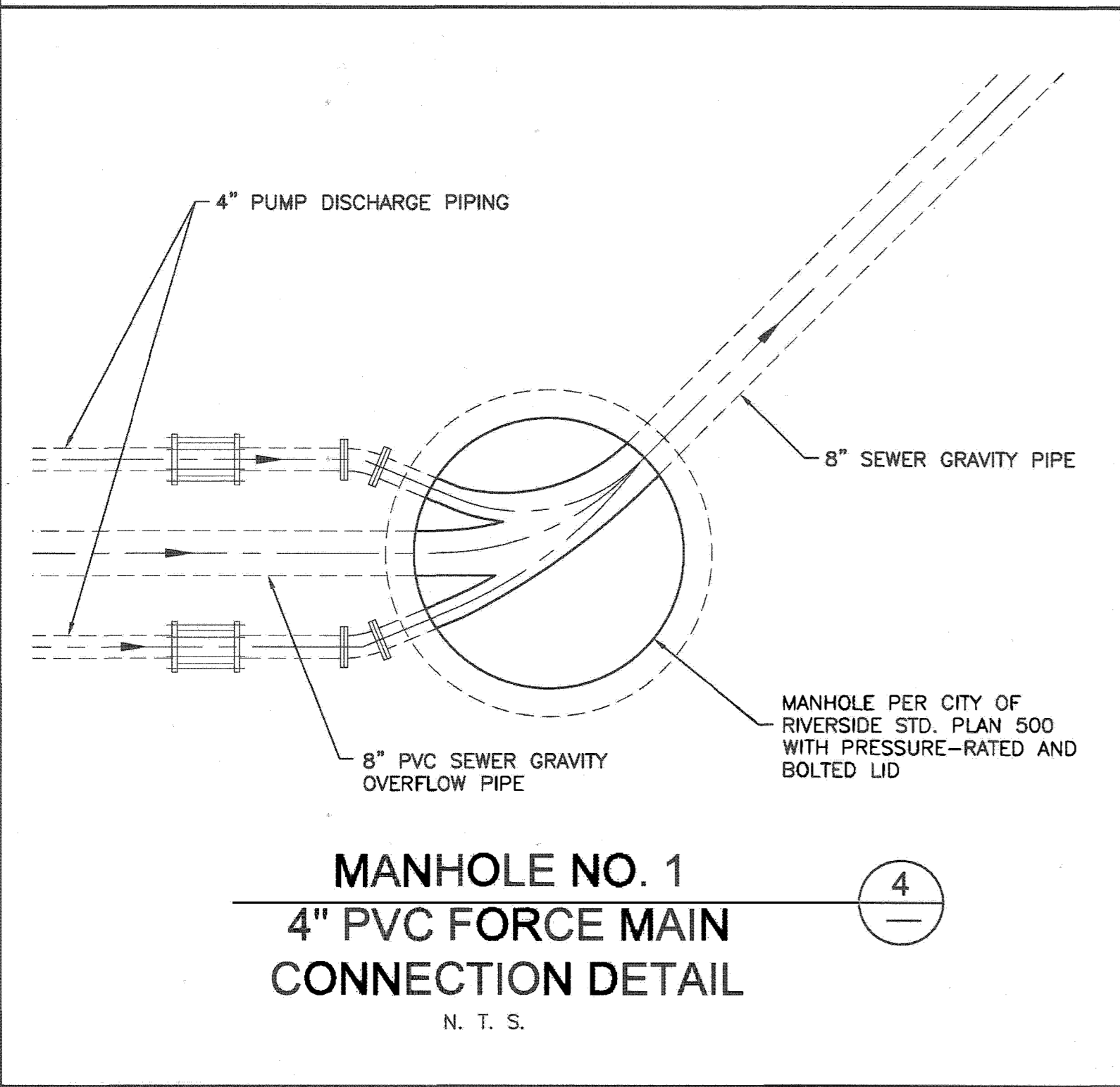
TYPICAL TRENCH SECTION - DETAIL 1
N. T. S.



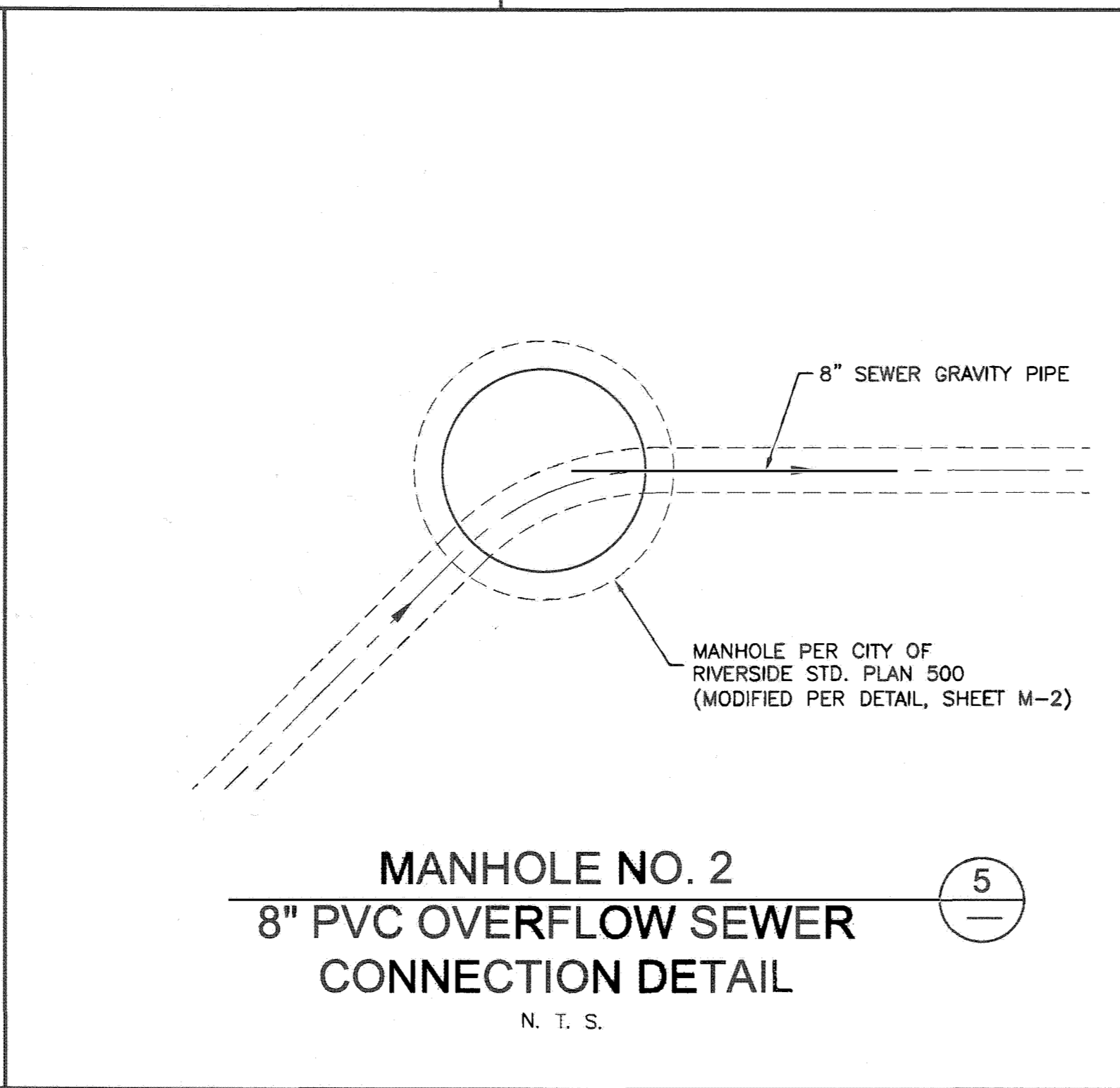
CONCRETE ENCASEMENT DETAIL 2
N. T. S.



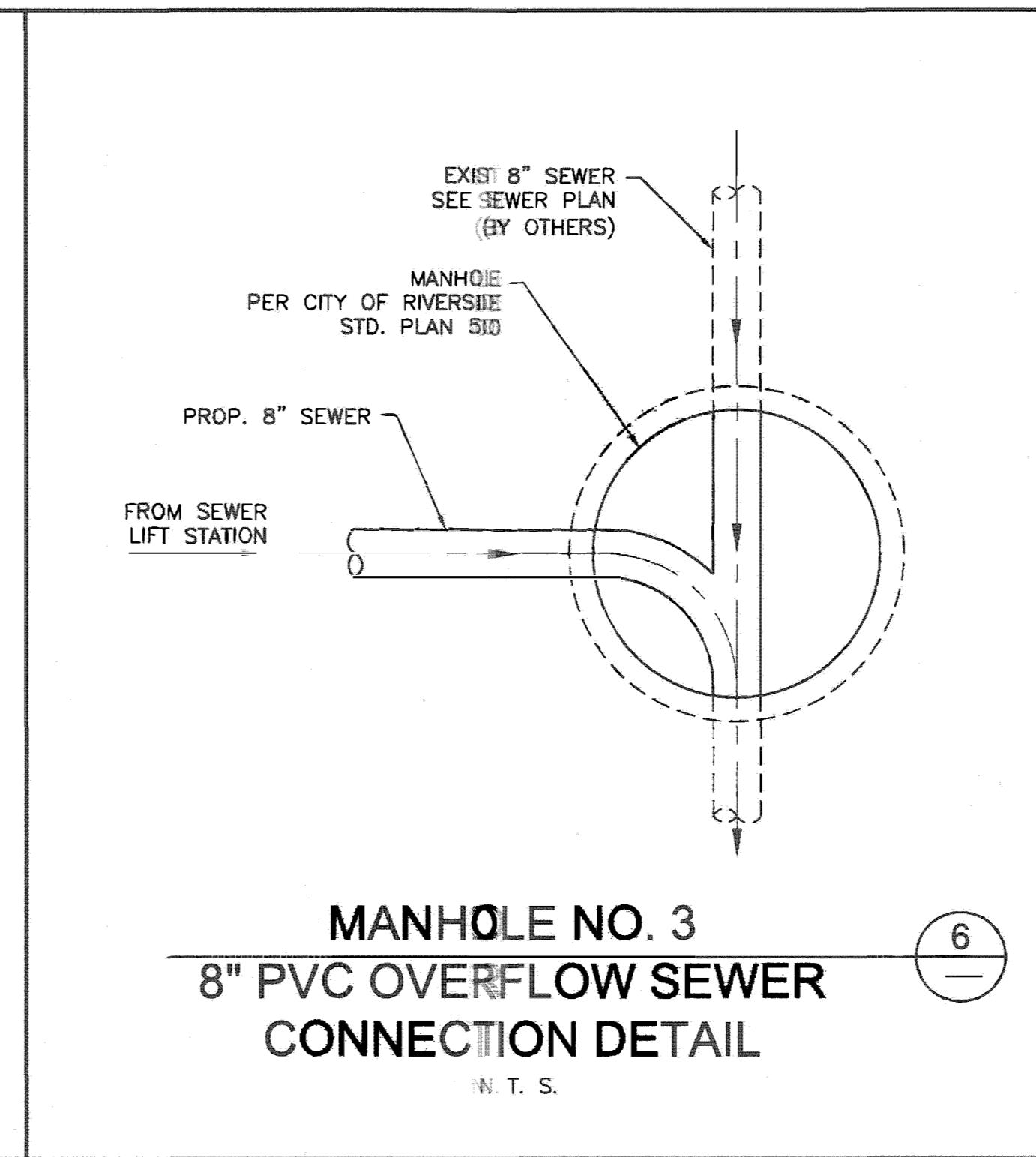
SECTION A
SCALE: 3/8" = 1'-0"



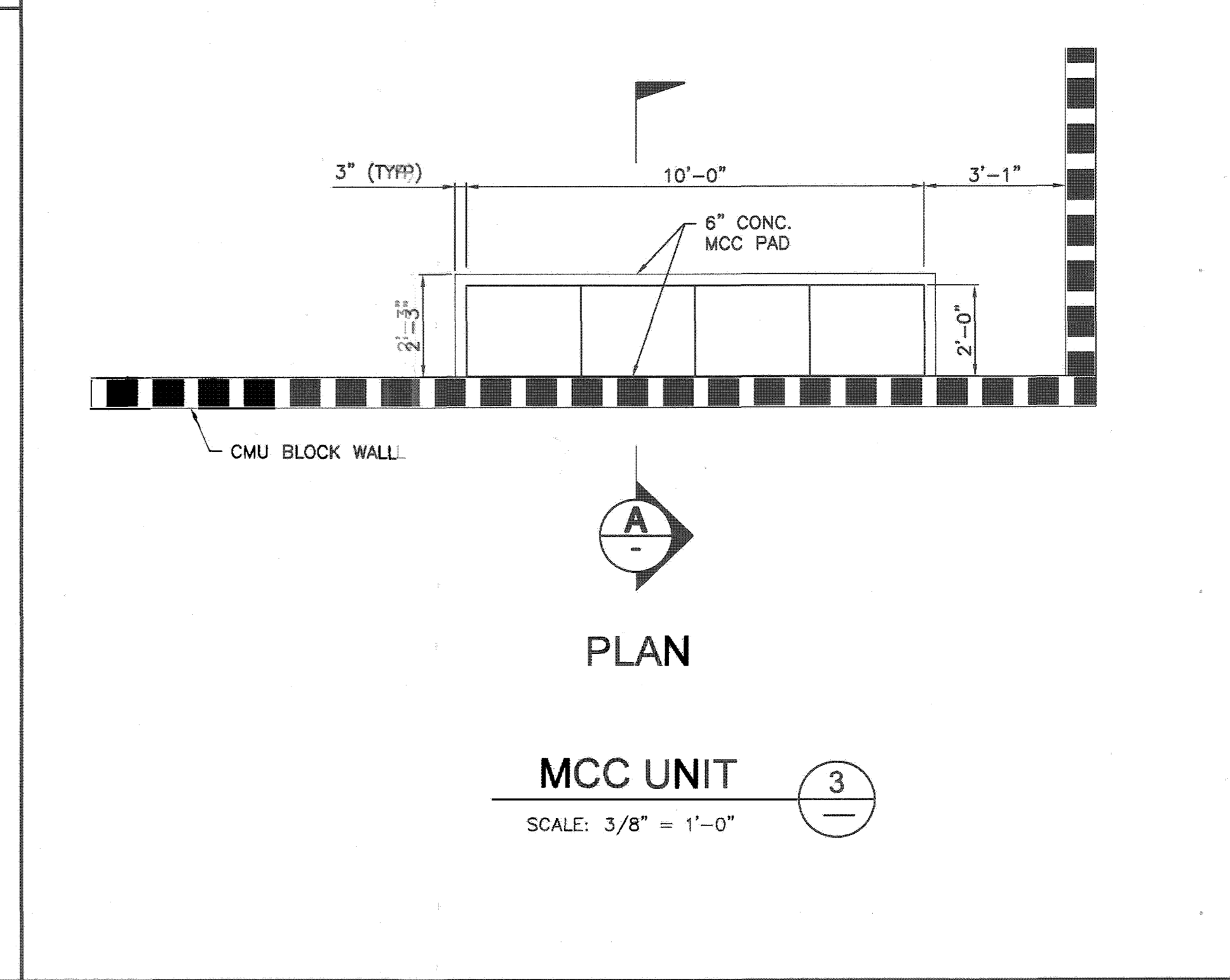
MANHOLE NO. 1
4" PVC FORCE MAIN CONNECTION DETAIL
N. T. S.



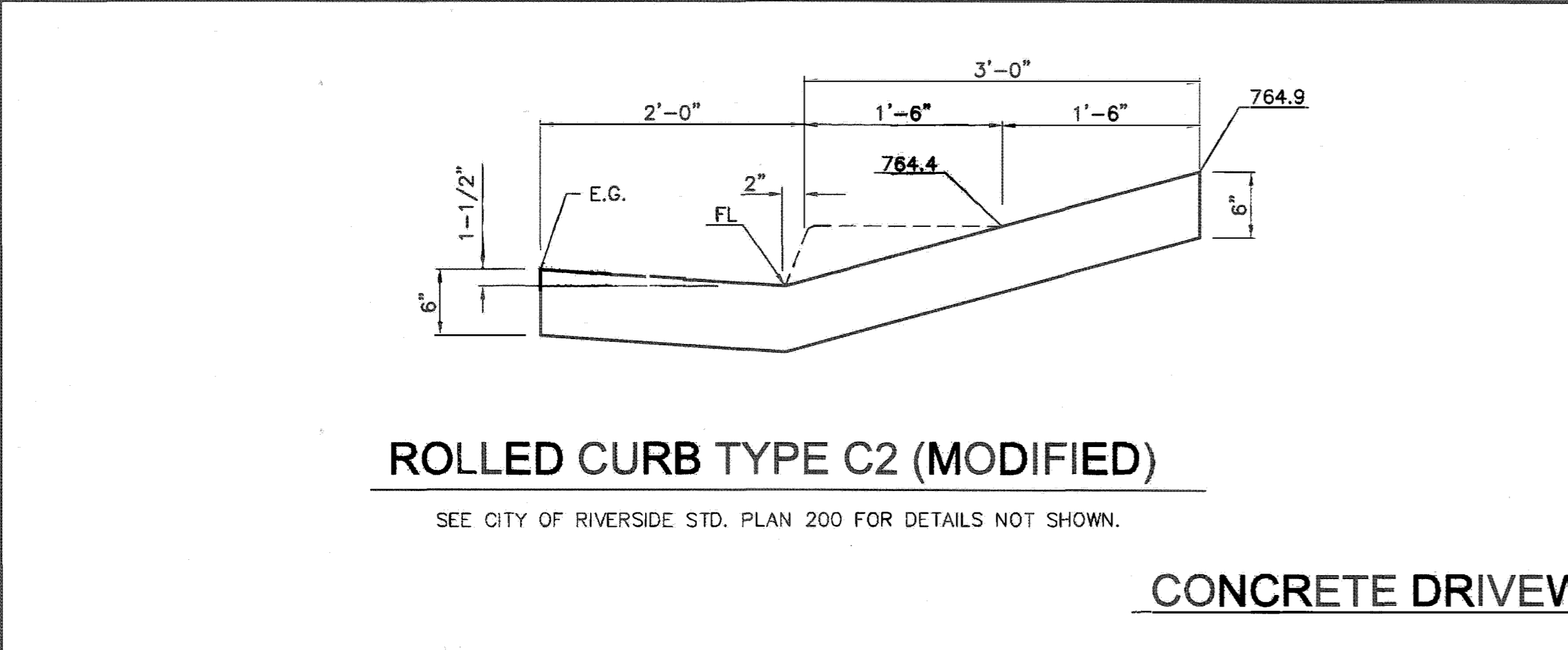
MANHOLE NO. 2
8" PVC OVERFLOW SEWER CONNECTION DETAIL
N. T. S.



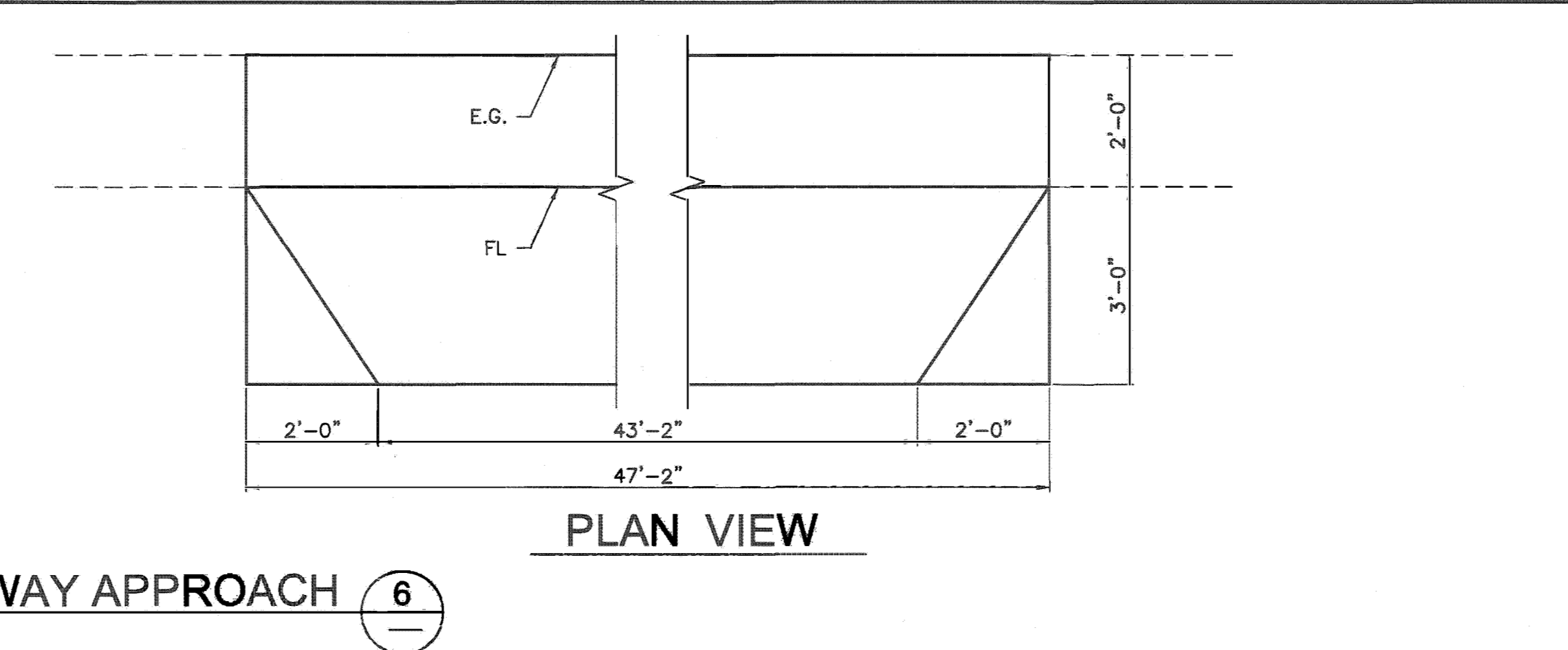
MANHOLE NO. 3
8" PVC OVERFLOW SEWER CONNECTION DETAIL
N. T. S.



MCC UNIT 3
SCALE: 3/8" = 1'-0"



ROLLED CURB TYPE C2 (MODIFIED)
SEE CITY OF RIVERSIDE STD. PLAN 200 FOR DETAILS NOT SHOWN.



CONCRETE DRIVEWAY APPROACH 6

PUBLIC UTILITIES-WATER
APPROVED *Matthew B...* DATE 5/16/2016

NOTES:
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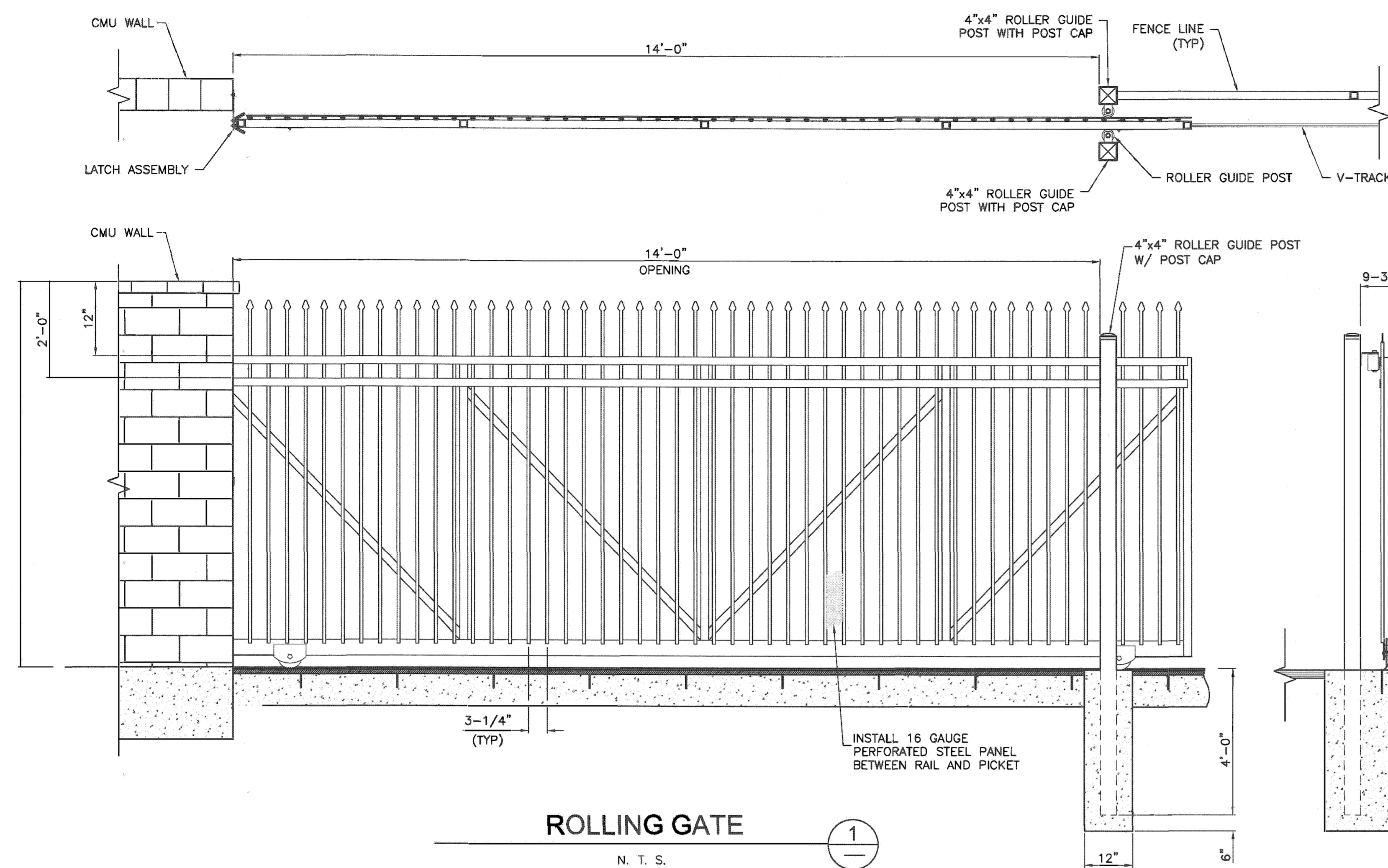
METROPOINTE ENGINEERS
17520 Newport Street, Suite 140
Fountain Valley, CA. 92708
714.438.1095 fax: 714.438.1097

REVISIONS
DESIGNED BY *J.A.* DRAWN BY *J.T.* CHECKED BY *J.A.*

CITY OF RIVERSIDE, CALIFORNIA PUBLIC WORKS DEPARTMENT
APPROVED BY *[Signature]* BY *CA* DATE 5/17/16
ENGINEERING MANAGER
CAPITAL PROJECTS
SEWER MAINTENANCE
APPROVED BY *[Signature]* CITY ENGINEER / PW DIRECTOR
DATE 5/16/16

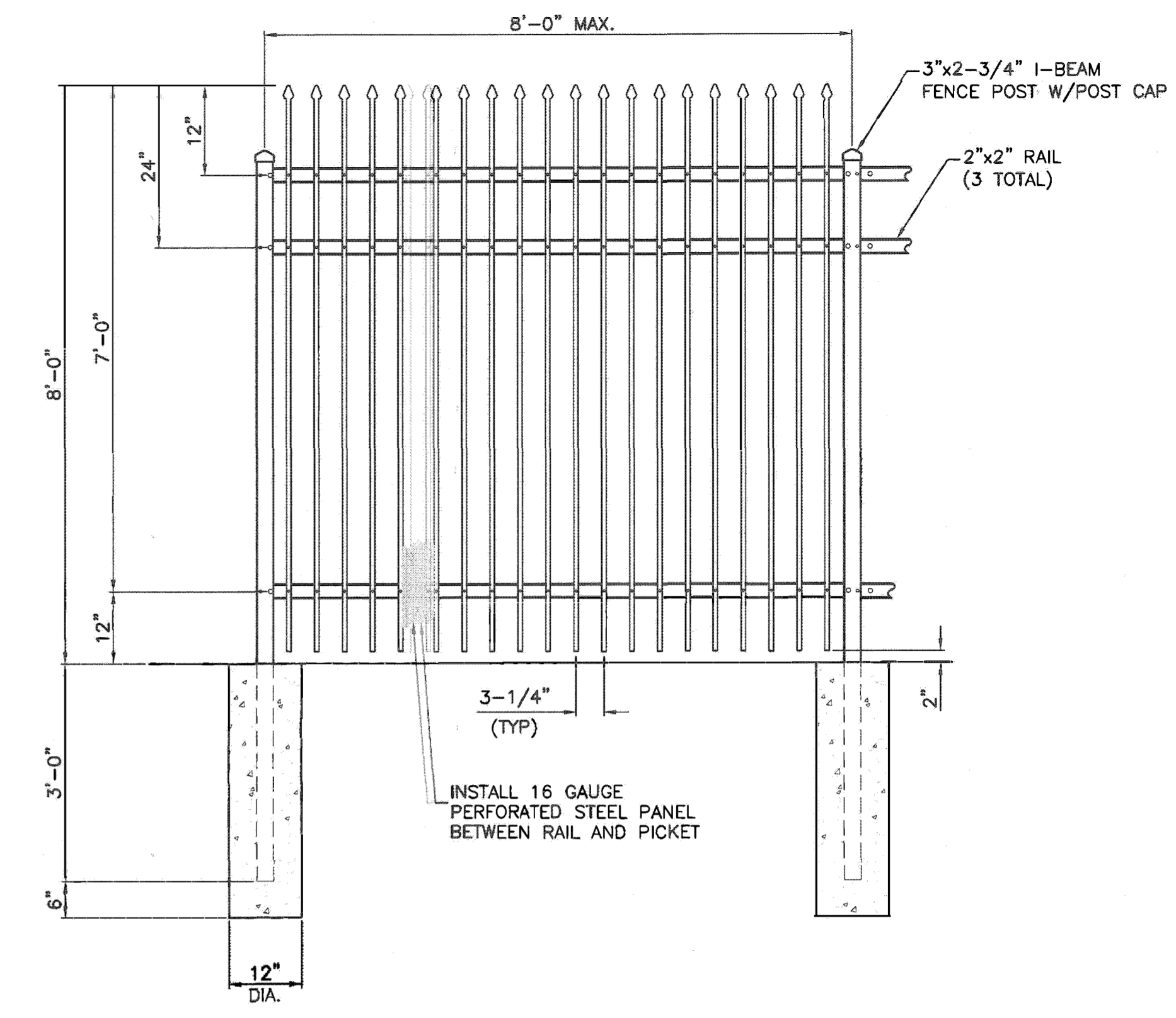
LA SIERRA SEWAGE LIFT STATION
CIVIL DETAILS
TRACT MAP 34794
HORIZONTAL SCALE: PER PLAN VERTICAL SCALE: PER PLAN
PW15-0163
S-2131
SHEET 8 OF 23
DWG. NO. C-3

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ROLLING GATE
N. T. S.

NOTE:
DETAIL IS BASED ON AMERISTAR PASSPORT HIGH SECURITY
3-RAIL STEEL ROLLING GATE WITH TRIDENT PICKETS

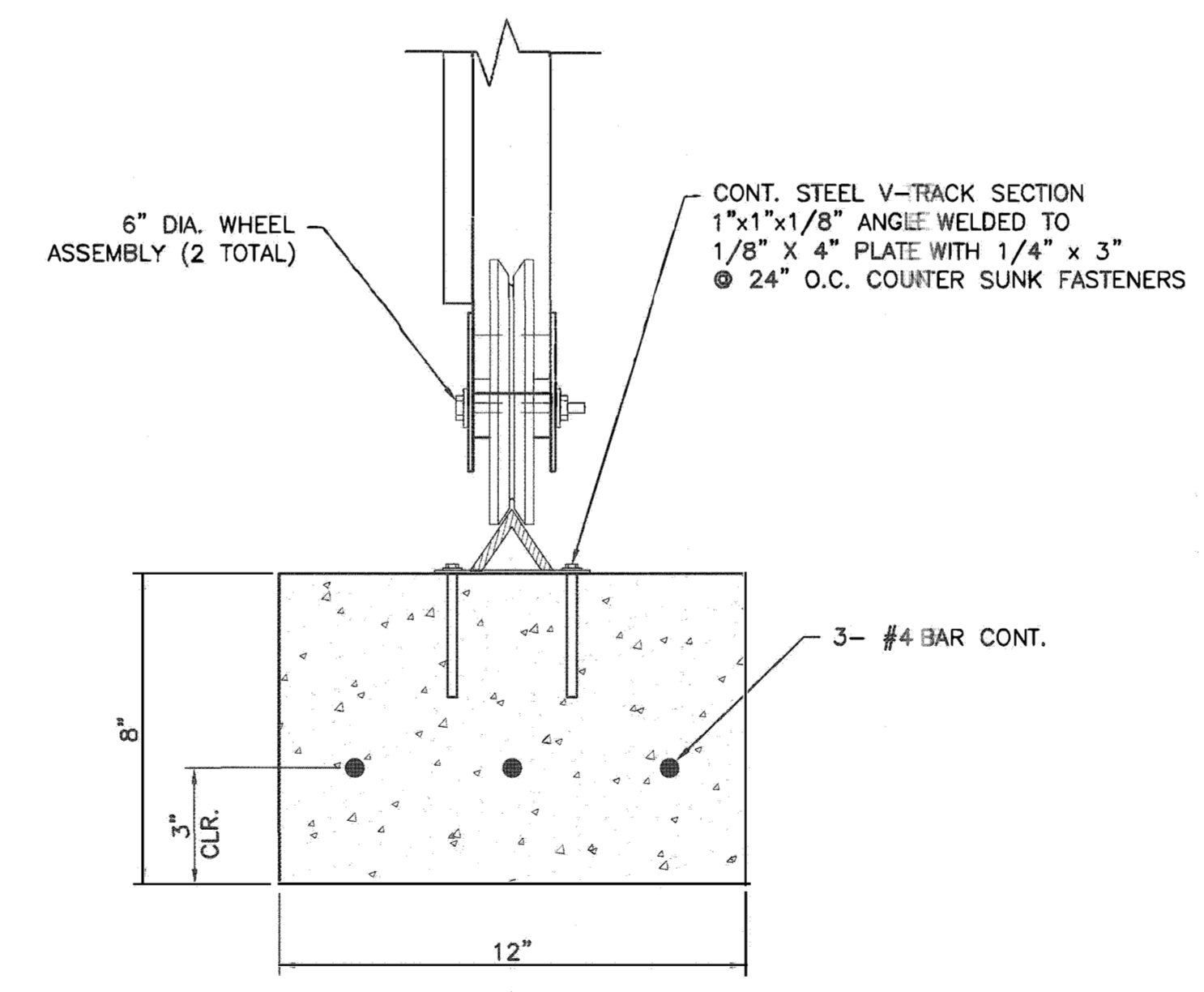


TYPICAL FENCE
N. T. S.

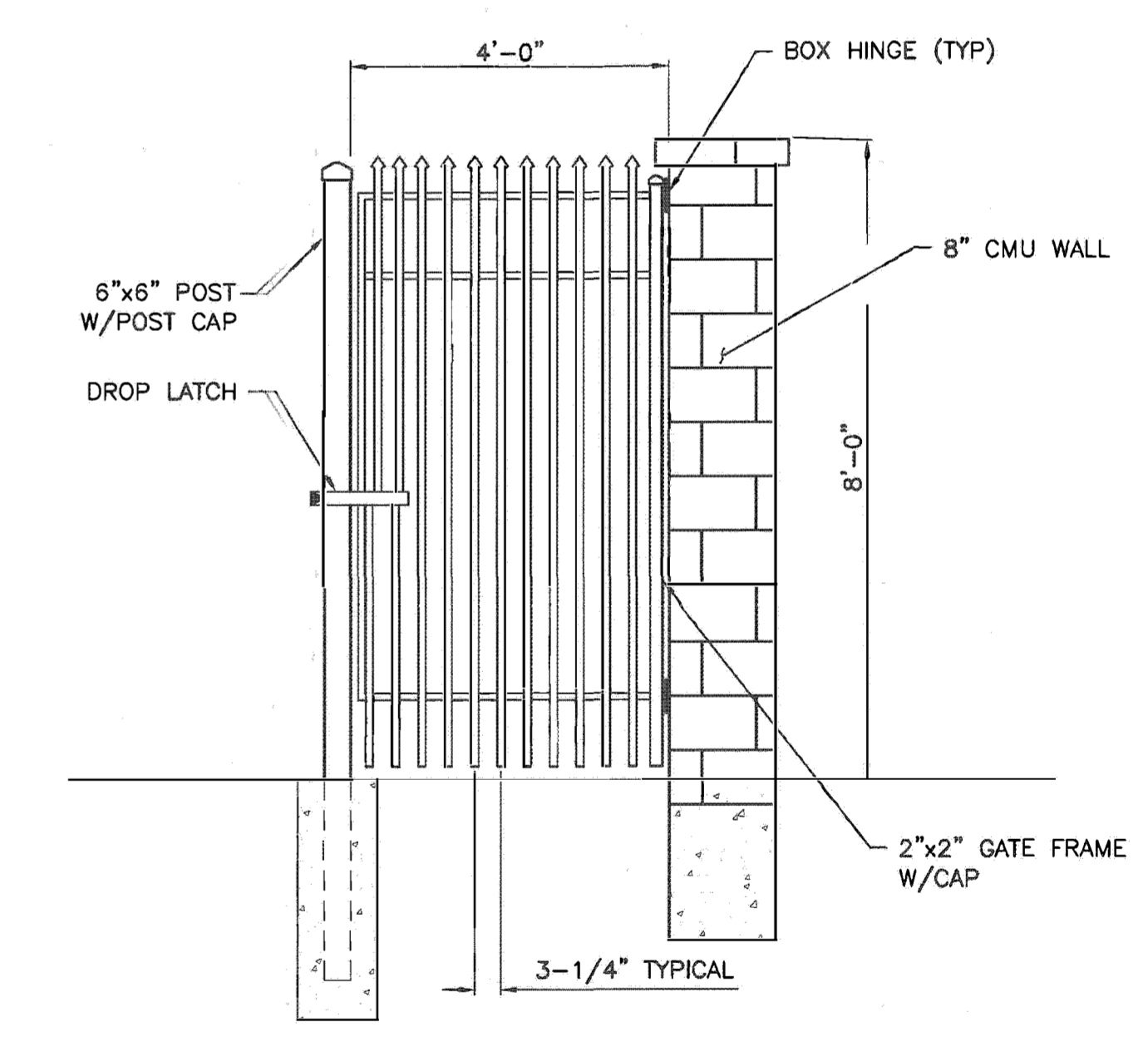
NOTE:
DETAIL BASED ON AMERISTAR IMPASSE II HIGH SECURITY
3-RAIL STEEL FENCE SYSTEM WITH TRIDENT PICKETS

GATE NOTES:

1. STEEL MATERIAL FOR THE FENCE FRAMEWORK (I.E. PICKETS, RAILS, POSTS, GATES, AND HARDWARE), WHEN GALVANIZED PRIOR TO FORMING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A924/A924M, WITH MINIMUM YIELD STRENGTH OF 45,000 PSI (310 MPa). THE STEEL SHALL BE HOT-DIPPED GALVANIZED TO MEET THE REQUIREMENTS OF ASTM A653/A653M WITH A MINIMUM ZINC COATING WEIGHT OF 0.90 OZ/SQFT, COATING DESIGNATION G-90.
2. MATERIAL FOR THE PRIVACY SCREENING SHALL BE PERFORATED STEEL MESH, 16 GA. PRE-GALVANIZED, 3/16" HOLES ON 5/16" STAGGERED CENTERS WITH POWDER COATED FINISH PROCESS TO MATCH IMPASSE II FENCE. OTHER GAUGES, HOLE SIZES AND SPACING CONFIGURATION WILL BE CONSIDERED DEPENDING ON MATERIAL AVAILABILITY AND COST. CONTRACTOR SHALL SUBMIT A MINIMUM OF SIX (6), 12" X 12" SAMPLES OF PERFORATED STEEL FOR APPROVAL BY THE ENGINEER. SAMPLES SHALL RANGE FROM 3/16" IN DIAMETER SPACED ON 5/16" CENTERS TO 3/4" IN DIAMETER SPACED ON 1-1/4" CENTERS IN A 60 DEGREE STAGGERED PATTERN.
3. THE MANUFACTURED GALVANIZED FRAMEWORK SHALL BE SUBJECT TO THE "PERMACOAT" THERMAL STRATIFICATION COATING PROCESS (HIGH-TEMPERATURE, IN-LINE, MULTI-STAGE, MULTI-LAYER) INCLUDING, AS A MINIMUM, A SIX-STAGE PRE-TREATMENT / WASH (WITH ZINC PHOSPHATE), AN ELECTROSTATIC SPRAY APPLICATION OF AN APPHOXY BASE, AND A SEPARATE ELECTROSTATIC SPRAY APPLICATION OF A POLYMER FINISH. THE BASE COAT SHALL BE A THERMOSETTING EPOXY POWDER COATING (GRAY IN COLOR) WITH A MINIMUM THICKNESS OF 2 MILS (0.0508mm). THE TOPCOAT SHALL BE A "NO-MAR" TGIC POLYESTER POWDER COAT FINISH WITH A MINIMUM THICKNESS OF 2 MILS (0.0508mm). THE COLOR SHALL BE BLACK.
4. PANELS OR COMPLETE SECTIONS SHALL BE CAPABLE OF SUPPORTING A 400 POUND LOAD APPLIED AT MID-SPAN WITHOUT PERMANENT DEFORMATION.
5. GATE SHALL BE EQUIPPED WITH ALARM SYSTEM AND AUTOMATIC DIALER TO NOTIFY THE CITY MAINTENANCE STAFF OF UNAUTHORIZED ENTRY.



V-GROOVE WHEEL DETAIL
N. T. S.



MANGATE GATE
N. T. S.

PUBLIC UTILITIES-WATER
APPROVED *[Signature]* DATE 3/16/2016

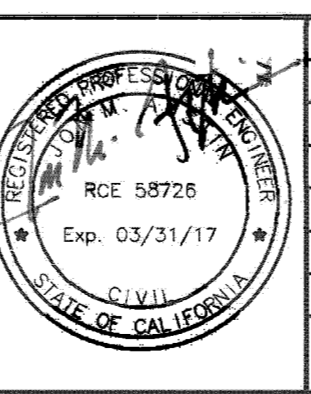
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METROPOINT ENGINEERS
17520 Newhope Street, Suite 140
Fountain Valley, CA. 92708
714.438.1095 fax: 714.438.1097



MARK	REVISIONS	APPR.	DATE
DESIGNED BY <i>J.A.</i>	DRAWN BY <i>J.T.</i>	CHECKED BY <i>J.A.</i>	

**CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT**

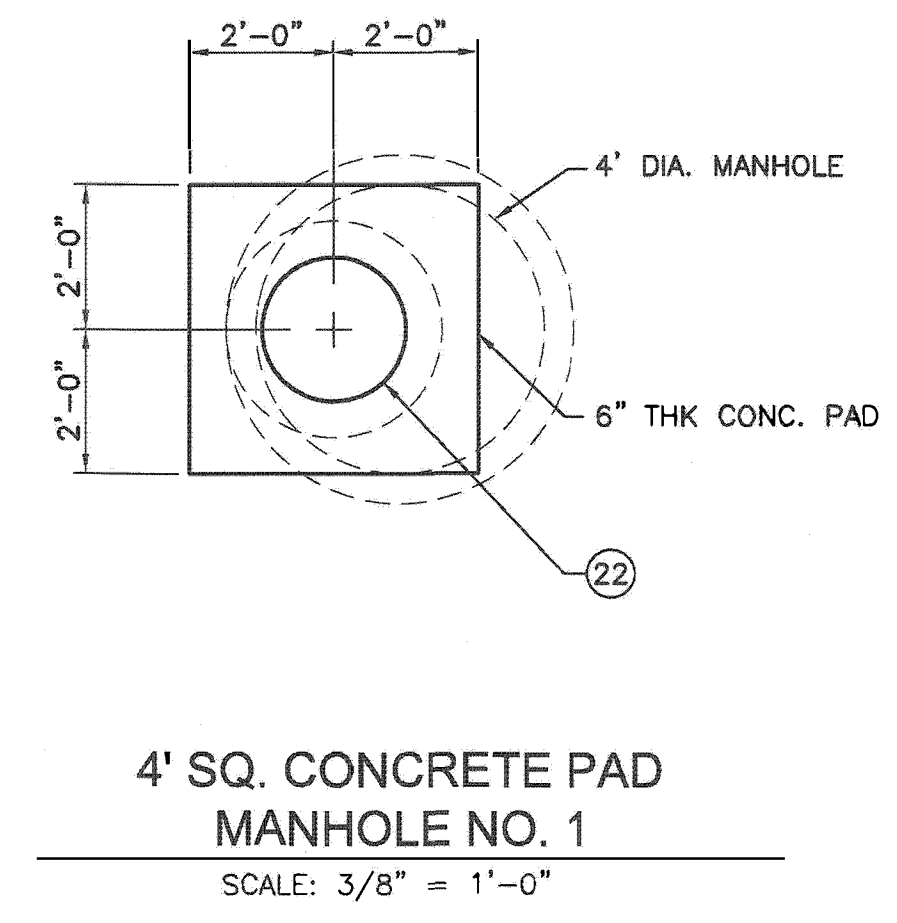
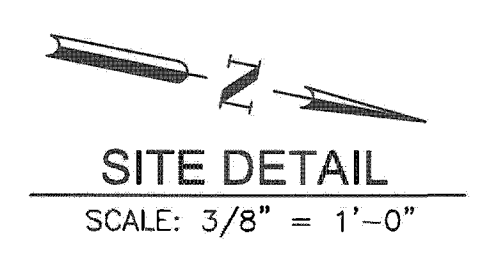
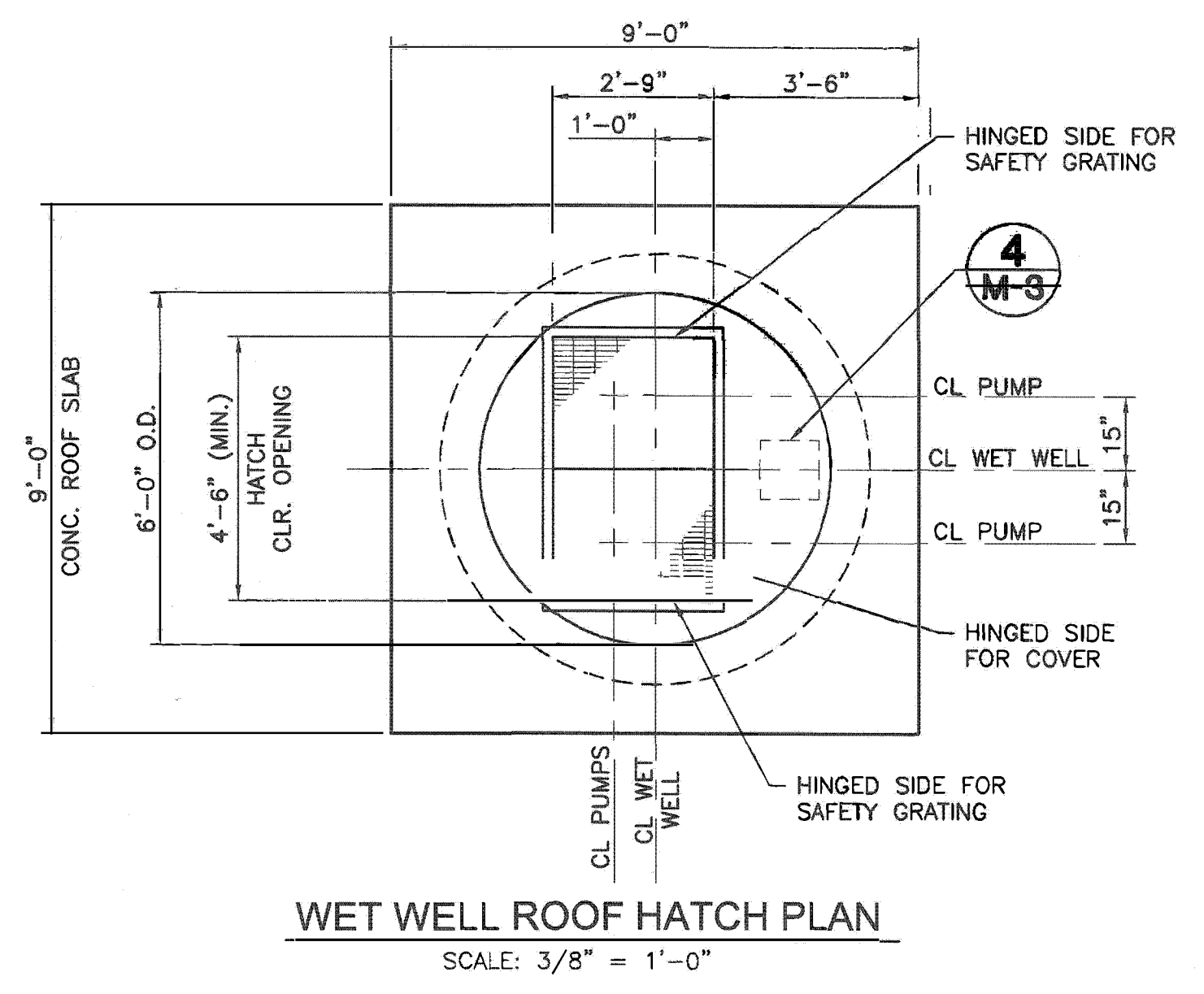
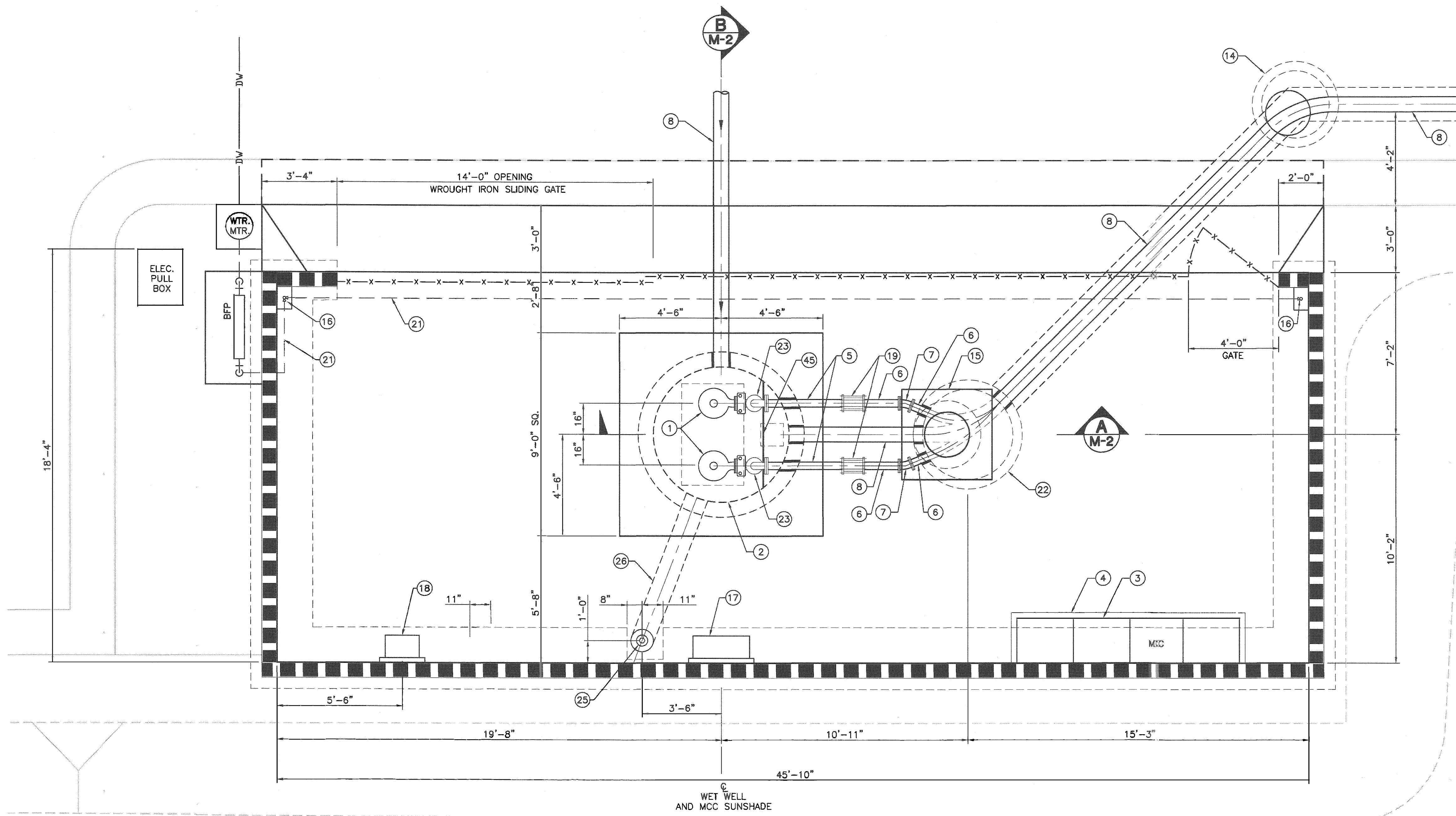
APPROVED BY	BY	DATE	APPROVED BY
ENGINEERING MANAGER	<i>[Signature]</i>	3/16/16	
CAPITAL PROJECTS	<i>[Signature]</i>	3/16/16	
SEWER MAINTENANCE			

CITY ENGINEER / PWD DIRECTOR
DATE *3/16/16*

LA SIERRA SEWAGE LIFT STATION
CIVIL DETAILS
TRACT MAP 34794
HORIZONTAL SCALE: PER PLAN VERTICAL SCALE: PER PLAN

PW15-0163
S-2131
SHEET 9 OF 23
DWG. NO. C-4

- MECHANICAL CONSTRUCTION NOTES**
- (11) SUBMERSIBLE SEWAGE PUMP.
 - (22) 6' DIA. REINFORCED CONCRETE WET WELL.
 - (33) MCC CABINET, SEE SHEET E-2.
 - (44) CONCRETE PAD FOR MCC.
 - (55) 4" SCH 40 S.S. FLG'D x PE SPOOL.
 - (66) 4" D.I. PIPE, FLG'D x PE.
 - (77) 4" D.I. PIPE 22.5' ELBOW.
 - (88) 8" PVC SDR-35 SEWER PIPE.
 - (114) M.H. NO. 2, 4' DIA MANHOLE PER CITY OF RIVERSIDE STD DWG NO. 500, WITH HINGED COVER AND TAMPER PROOF LOCK, FOR CONNECTION DETAIL, SEE DETAIL 5, SHEET C-3
 - (155) CONSTRUCT 4' SQ. x 6" THK CONC. PAD.
 - (165) 1" HOSE BIB PER DETAIL 2, SHEET M-3.
 - (177) ELECTRICAL PULL BOX, SEE SHEET E-2.
 - (188) TRANSFER SWITCH PANEL, SEE SHEET E-2.
 - (189) 4" S.S. FLEXIBLE COUPLING.
 - (220) 8" PVC 45° ELBOW.
 - (221) 1-1/2" PVC SCH 40, DW.
 - (222) M.H. NO. 1, 4' DIA MANHOLE PER CITY OF RIVERSIDE STD DWG NO. 500, WITH HINGED COVER AND TAMPER PROOF LOCK, FOR CONNECTION DETAIL, SEE DETAIL 4, SHEET C-3
 - (223) 4" S.S. 90° FLG'D ELBOW.
 - (224) 4" SCH 40 S.S. FLG'D END SPOOL.
 - (225) UP BLAST CENTRIFUGAL EXHAUST VENTILATOR EF1, DIRECT DRIVE, LOREN COOK MODEL ACRU-D, OR EQUAL.
 - (226) EXHAUST DUCT, 1/8" MIN. STEEL, SIZE TO MATCH EXHAUST FAN COLLAR.
 - (445) INTERMEDIATE GUIDE RAIL SUPPORT (MIN. 2 REQUIRED) PER, DETAIL 5, SHEET M-3.

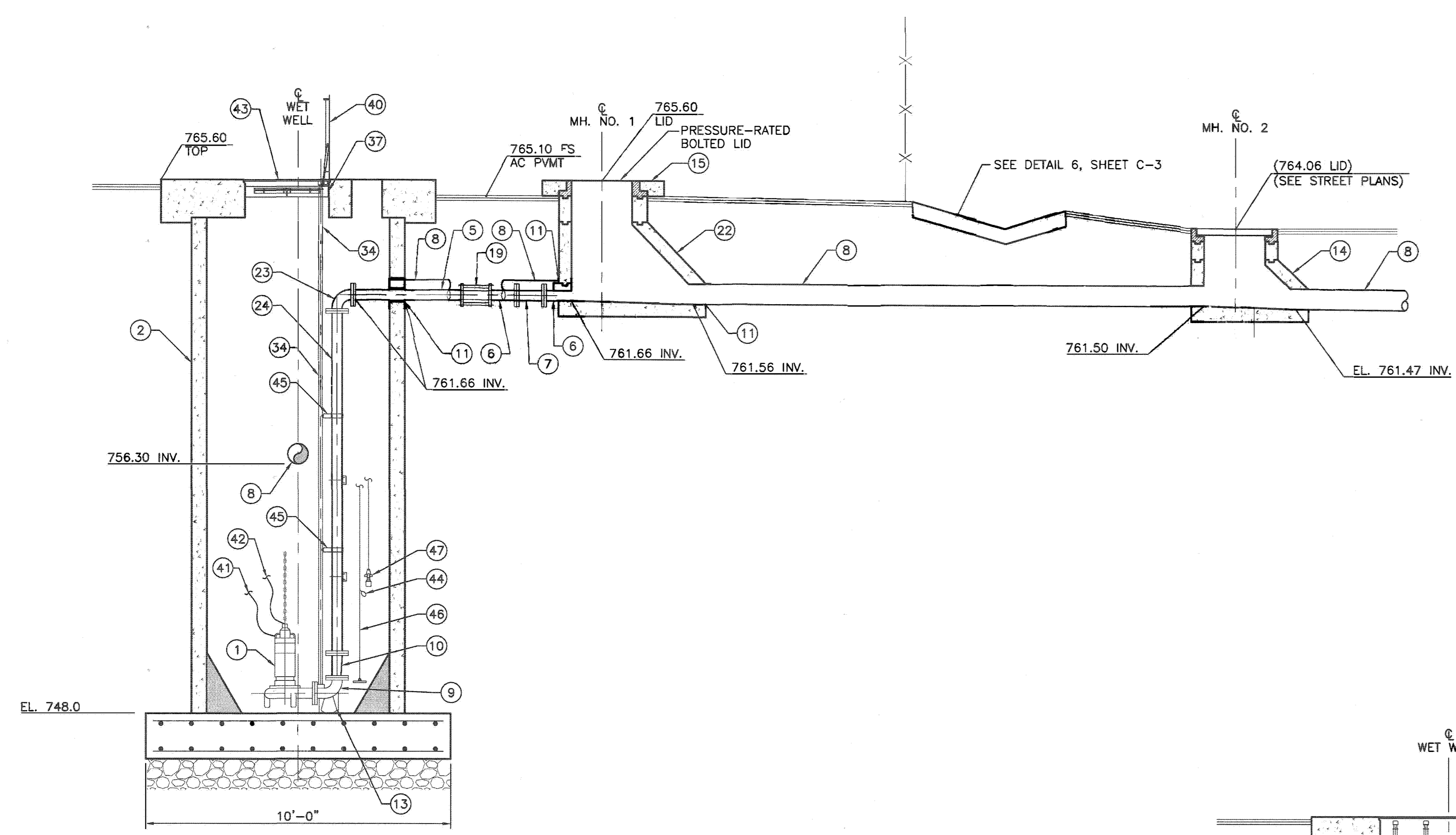


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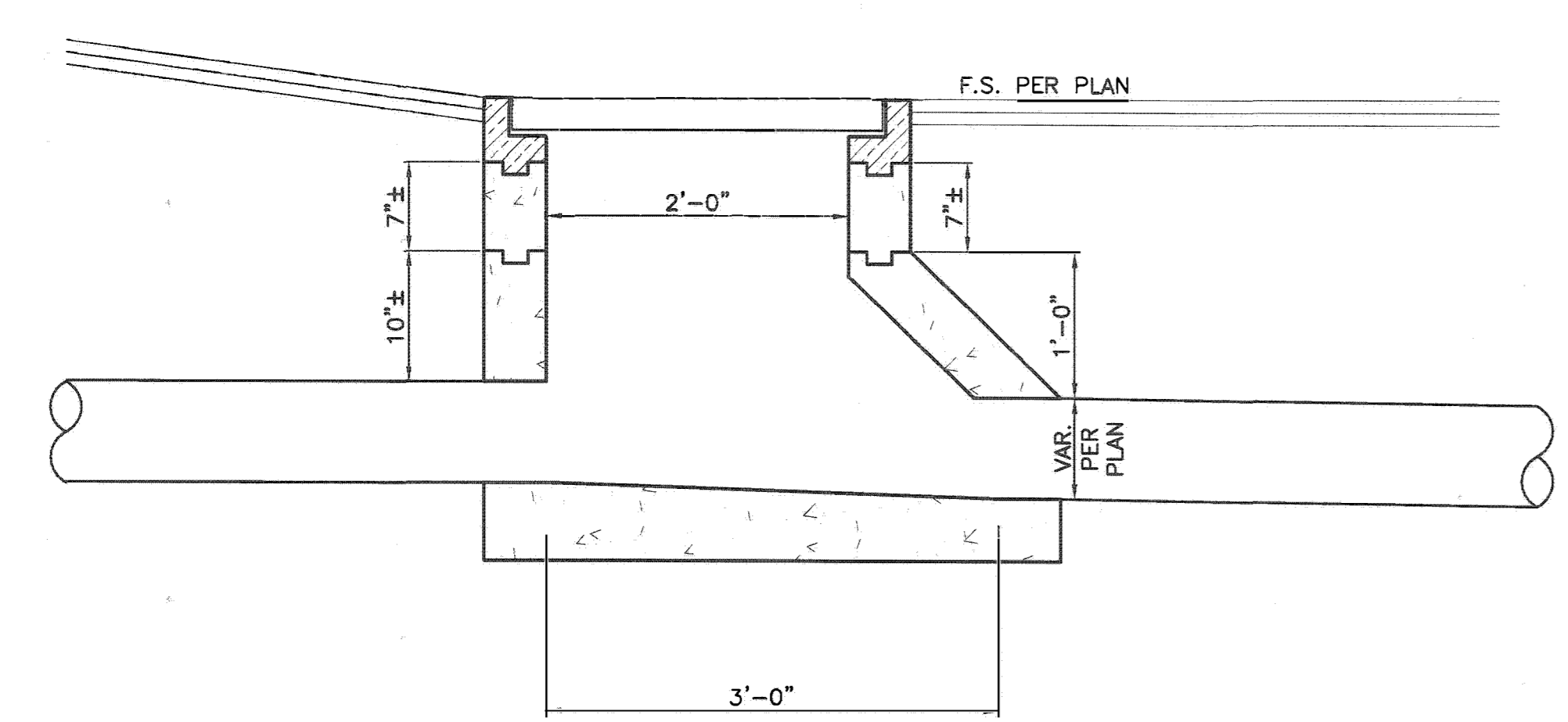
PUBLIC UTILITIES-WATER	<p>NOTES: THE CITY OF RIVERSIDE WILL NOT ACCEPT THE MAINTENANCE RESPONSIBILITY OF THE SEWAGE LIFT STATION OR THE SEWER FORCE MAIN UNTIL ALL DWELLING UNITS WITHIN THIS DEVELOPMENT HAVE BEEN COMPLETELY SOLD, AND OCCUPIED BY HOMEOWNERS.</p>	<p>BENCH MARK: G2-M3 ELEV. = 779.743 (1971 ADJ.) NGVD 1929 DATUM PK NAIL & CITY ENGINEER TAG IN THE TOP OF THE EASTERLY CURB OF LA SIERRA AVE., APPROX. 40' NORTHERLY OF CENTERLINE OF PALM TERRACE LANE.</p> <p>BASIS OF BEARINGS: THE BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF LA SIERRA AVENUE BEING N 14° 13' 00" W ROATED TO N 13° 32' 33" W PER TRACT NO. 22001, M.B. 210 / 78-78, RECORDS OF RIVERSIDE COUNTY.</p>	<p>UNDERGROUND SERVICE ALERT</p> <p>Call: Toll FREE 1-800-227-2600 TWO WORKING DAYS BEFORE YOU DIG</p>	<p>METROPOINTE ENGINEERS 17520 Newhope Street, Suite 140 Fountain Valley, CA 92708 714.438.1095 fax: 714.438.1097</p>		<p>CITY OF RIVERSIDE, CALIFORNIA PUBLIC WORKS DEPARTMENT</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>APPROVED BY</td> <td>BY</td> <td>DATE</td> <td>APPROVED BY</td> </tr> <tr> <td>ENGINEERING MANAGER</td> <td>J.A.</td> <td>5/12/16</td> <td>CITY ENGINEER / PW DIRECTOR</td> </tr> <tr> <td>CAPITAL PROJECTS</td> <td>T.M.</td> <td>5/21/16</td> <td></td> </tr> <tr> <td>SEWER MAINTENANCE</td> <td></td> <td></td> <td></td> </tr> </table> <p>DESIGNED BY <u>J.A.</u> DRAWN BY <u>J.T.</u> CHECKED BY <u>J.A.</u></p>	APPROVED BY	BY	DATE	APPROVED BY	ENGINEERING MANAGER	J.A.	5/12/16	CITY ENGINEER / PW DIRECTOR	CAPITAL PROJECTS	T.M.	5/21/16		SEWER MAINTENANCE				<p>LA SIERRA SEWAGE LIFT STATION</p> <p>MECHANICAL PLAN</p> <p>TRACT MAP 34794</p> <p>HORIZONTAL SCALE: PER PLAN VERTICAL SCALE: PER PLAN</p>	<p>PW15-0163</p> <p>S-2131</p> <p>SHEET 10 OF 23</p> <p>DWG. NO. M-1</p>
APPROVED BY	BY	DATE	APPROVED BY																					
ENGINEERING MANAGER	J.A.	5/12/16	CITY ENGINEER / PW DIRECTOR																					
CAPITAL PROJECTS	T.M.	5/21/16																						
SEWER MAINTENANCE																								

MEECHANICAL CONSTRUCTION NOTES

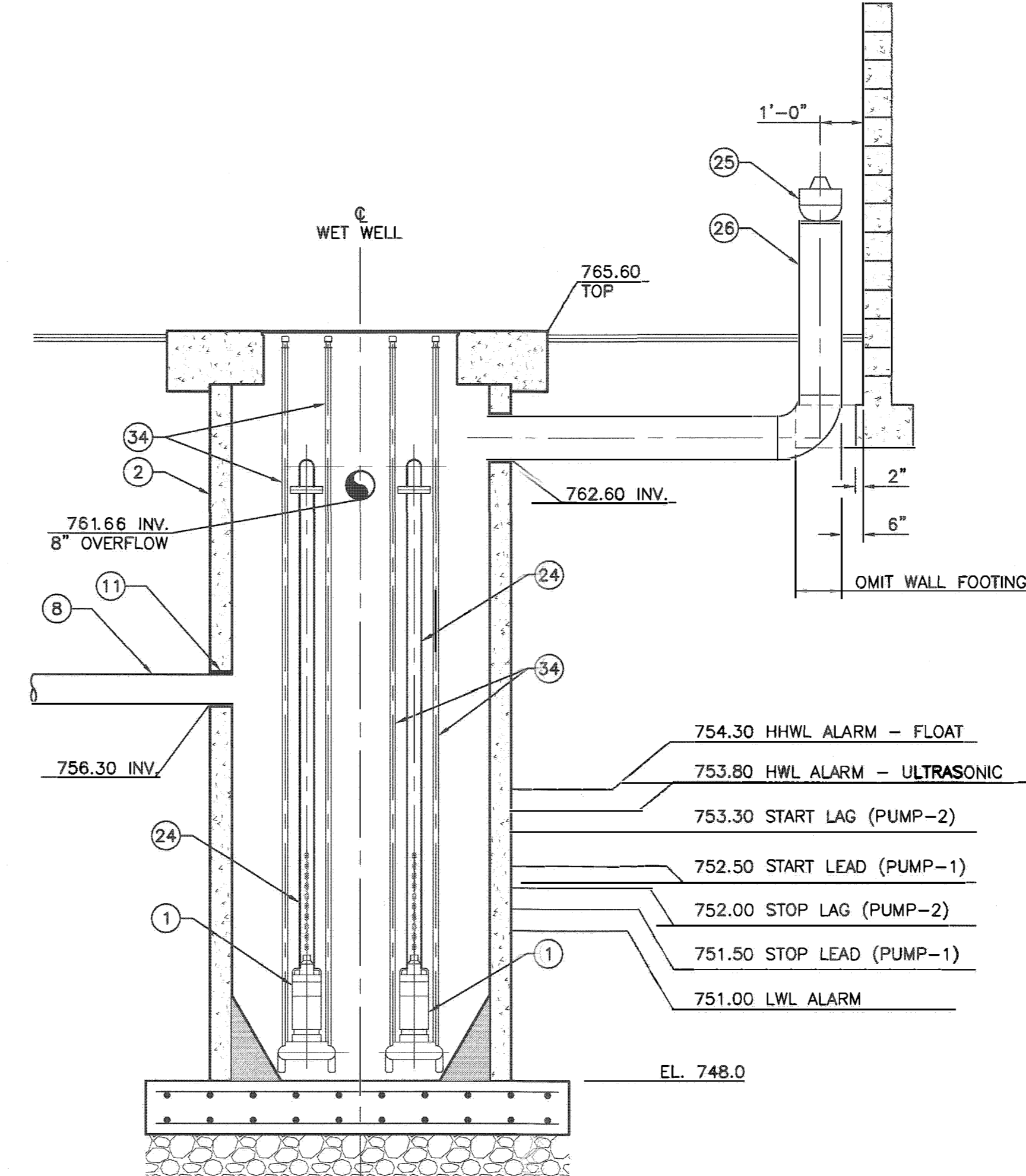
- 1) SUBMERSIBLE SEWAGE PUMP.
- 2) 6' DIA. REINFORCED CONCRETE WET WELL.
- 5) 4" SCH 40 S.S. FLG'D x PE SPOOL.
- 6) 4" D.I. PIPE, FLG'D x PE.
- 7) 4" D.I. PIPE 22.5' ELBOW.
- 8) 6" PVC SDR-35 SEWER PIPE.
- 9) PUMP DISCHARGE ELBOW FURNISHED BY PUMP MANUFACTURER.
- 10) 4" x 3" S.S. FLG'D ECC REDUCER.
- 11) PIPE PENETRATION PER DETAIL 1, SHEET M-3.
- 13) PUMP BASE AND GUARDRAIL SUPPORT PER MANUFACTURER.
- 14) M.H. NO. 2, 4' DIA MANHOLE PER CITY OF RIVERSIDE STD DWG NO. 500, WITH HINGED COVER AND TAMPER PROOF LOCK, FOR CONNECTION DETAIL, SEE DETAIL 5, SHEET C-3
- 15) CONSTRUCT 4' SQ. x 6" THK CONC. PAD.
- 19) 4" S.S. FLEXIBLE COUPLING.
- 22) M.H. NO. 1, 4' DIA MANHOLE PER CITY OF RIVERSIDE STD DWG NO. 500, WITH HINGED COVER AND TAMPER PROOF LOCK, FOR CONNECTION DETAIL, SEE DETAIL 4, SHEET C-3
- 23) 4" S.S. 90° FLG'D ELBOW.
- 24) 4" SCH 40 S.S. FLG'D END SPOOL.
- 25) 1/2" HP BLAST CENTRIFUGAL EXHAUST VENTILATOR EF1, DIRECT DRIVE, LLOREN COOK MODEL ACRU-D, OR EQUAL.
- 26) EXHAUST DUCT, 1/8" MIN. STEEL, SIZE TO MATCH EXHAUST FAN COLLAR.
- 34) SCHEDULE 40 316 STAINLESS STEEL PIPE GUIDE RAILS FOR SUBMERSIBLE PUMP.
- 37) UPPER GUIDE RAIL SUPPORT - ALL 316 S.S. ATTACHED TO CONCRETE FLOOR WITH S.S. EPOXY ANCHORS. ANCHOR BOLT SIZE, EMBEDMENT AND QTY PER MANUFACTURER.
- 40) ACCESS HATCH, ALL 316 S.S. CONSTRUCTION WITH SAFETY GRATING. HATCH SIZE SHOWN IS MINIMUM, PROVIDE LARGER SIZE IF NECESSARY FOR PUMPING UNITS FURNISHED.
- 41) POWER AND CONTROL CABLES TO PUMPING UNIT. SUPPORT CABLES WITH ALL STAINLESS STEEL KELLEMS GRIPS HUNG FROM SUPPORT. LOOP (EXCESS PUMP CABLE (3' MIN. TO 6' MAX LENGTH) OVER SUPPORT. THE POWER AND CONTROL CABLES TOGETHER PER MANUFACTURER'S RECOMMENDATIONS.
- 42) 5/8" DIAMETER (MIN.) 316 S.S. LIFTING CHAIN LOOPED THROUGH 316 S.S. PUMP LIFTING ASSEMBLY AND SECURED WITH 316 S.S. LOCKING CLEVIS. PROVIDE CONNECTOR AT END OF CABLE TO CREATE END LOOP AND HANG FROM CABLE SUPPORT. CABLE SHALL HAVE A MINIMUM RATED CAPACITY OF 2000 LB. OR 4 TIMES PUMPING UNIT WEIGHT WHICHEVER IS GREATER.
- 43) SAFETY GRATING (2-PIECE) BENEATH HATCH DOOR LEAFS, RATED FOR 3300 LB/SF LIVE LOAD, SEE NOTE 40 HEREON.
- 44) WET WELL HIGH WATER LEVEL (HHWL) FLOAT SWITCH.
- 45) INTERMEDIATE GUIDE RAIL SUPPORT (MIN. 2 REQUIRED) PER, DETAIL 5, SHEET M-3.
- 46) 1 1/4" DIA. 316 WIRE ROPE (7 x 19 STRAND CORE) ATTACHED TO 10 LB S.S. WEIGHT. LOCATE WEIGHT APPROXIMATELY 24" FROM BOTTOM OF WET WELL. ATTACH FLOAT SWITCH CABLES TO WIRE ROPE AT LEVELS SPECIFIED WITH NYLON TIES (4" O.C. MAX) PROVIDE CLOSED LOOP AT TOP OF WIRE ROPE FOR SUPPORT HOOK.
- 47) ULTRASONIC LEVEL TRANSDUCER. MANUFACTURER TO VERIFY OPERATIONS. INITIALLY SET TRANSDUCER TWO FEET ABOVE GRAVITY SEWER INVERT. IF THERE IS INTERFERENCE FROM ADJACENT EQUIPMENT. LOWER TRANSDUCER.



SECTION A-M-1
SCALE: 3/8" = 1'-0"



SECTION B-M-1
SCALE: 3/8" = 1'-0"



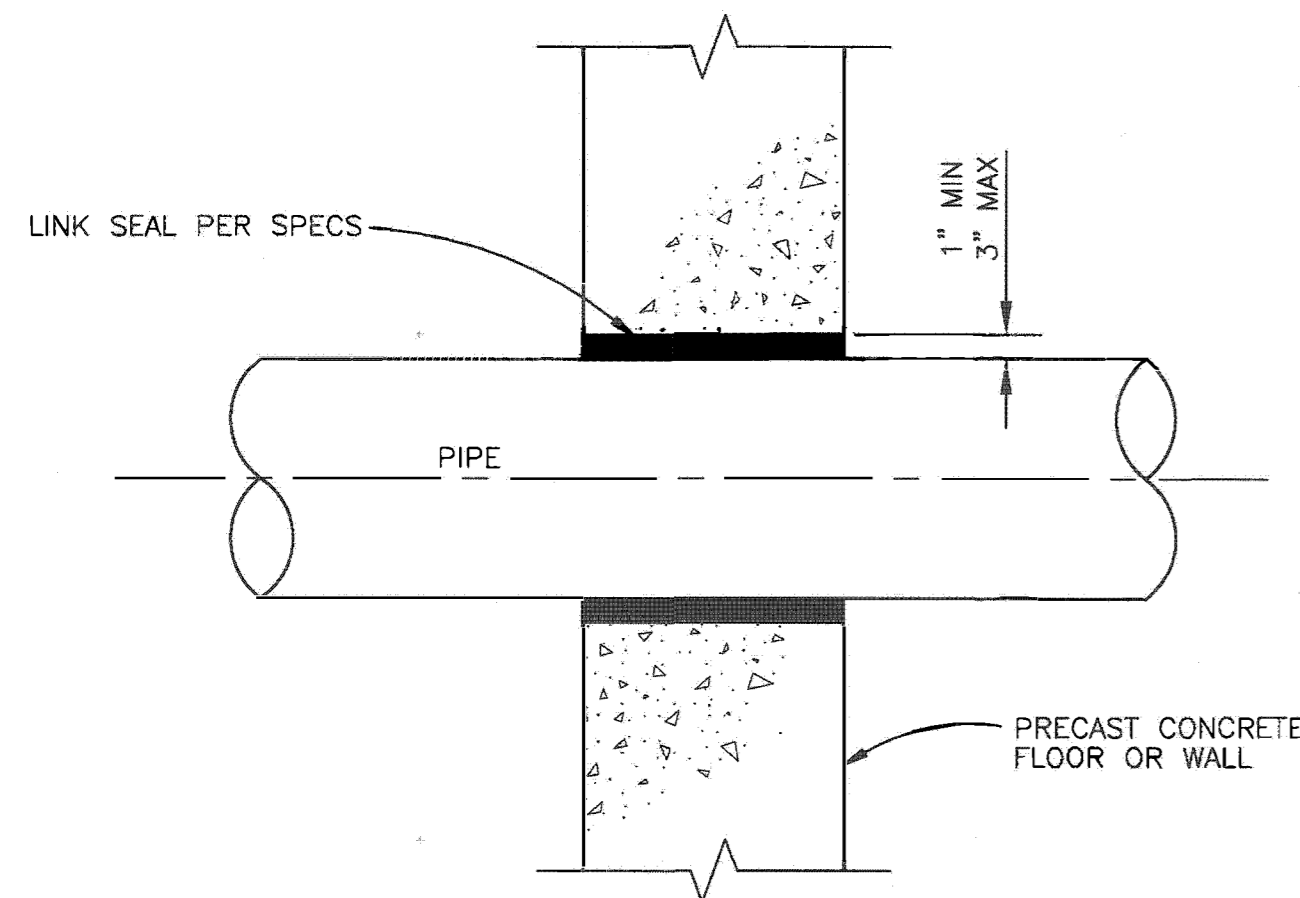
SECTION E-M-1
SCALE: 3/8" = 1'-0"

NOTE:
FOR INFORMATION NOT SHOWN SEE CITY OF RIVERSIDE STD. PLAN 500

SECTION A-M-1
SCALE: 3/8" = 1'-0"

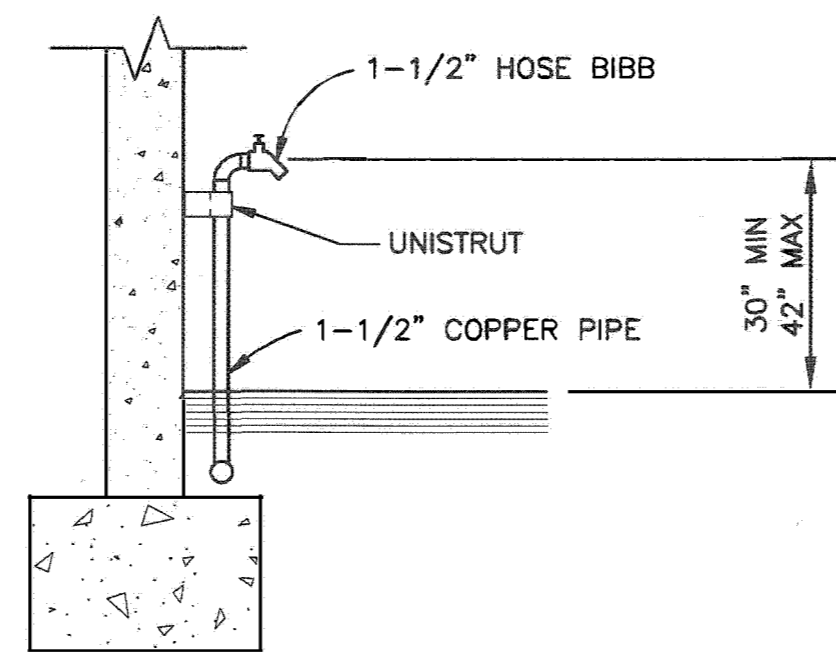
<p>PUBLIC UTILITIES-WATER</p> <p>APPROVED <i>Matthew B...</i> DATE <i>5/13/2016</i></p>	<p>NOTES: THE CITY OF RIVERSIDE WILL NOT ACCEPT THE MAINTENANCE RESPONSIBILITY OF THE SEWAGE LIFT STATION OR THE SEWER FORCE MAIN UNTIL ALL DWELLING UNITS WITHIN THIS DEVELOPMENT HAVE BEEN COMPLETELY SOLD, AND OCCUPIED BY HOMEOWNERS.</p>	<p>BENCH MARK: G2-M3 ELEV. = 778.743 (1971 ADJ.) NGVD 1929 DATUM PK NAIL & CITY ENGINEER TAG IN THE TOP OF THE EASTERLY CURB OF LA SIERRA AVE., APPROX. 40' NORTHERLY OF CENTERLINE OF PALM TERRACE LANE.</p> <p>BASIS OF BEARINGS: THE BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF LA SIERRA AVENUE BEING N 14° 13' 00" W ROATED TO N 13° 32' 33" W PER TRACT NO. 22001, M.B. 210 / 78 -78, RECORDS OF RIVERSIDE COUNTY.</p>	<p>UNDERGROUND SERVICE ALERT</p> <p>Call: Toll FREE 1-800-227-2600</p> <p>TWO WORKING DAYS BEFORE YOU DIG</p>	<p>METRO-POINT ENGINEERS</p> <p>17520 Newhope Street, Suite 140 Fountain Valley, CA 92708 714.438.1095 fax: 714.438.1097</p>	<p>CITY OF RIVERSIDE, CALIFORNIA PUBLIC WORKS DEPARTMENT</p> <p>APPROVED BY: <i>[Signature]</i> BY: <i>[Signature]</i> DATE: <i>5/13/16</i></p> <p>ENGINEERING MANAGER CAPITAL PROJECTS SEWER MAINTENANCE</p> <p>APPR. DATE</p> <p>DESIGNED BY: <i>JA</i> DRAWN BY: <i>JT</i> CHECKED BY: <i>JA</i></p>	<p>LA SIERRA SEWAGE LIFT STATION</p> <p>MECHANICAL SECTIONS AND DETAILS</p> <p>TRACT MAP 34794</p> <p>HORIZONTAL SCALE: PER PLAN VERTICAL SCALE: PER PLAN</p>	<p>PW15-0163</p> <p>S-2131</p> <p>SHEET 11 OF 23</p> <p>DWG. NO. M-2</p>
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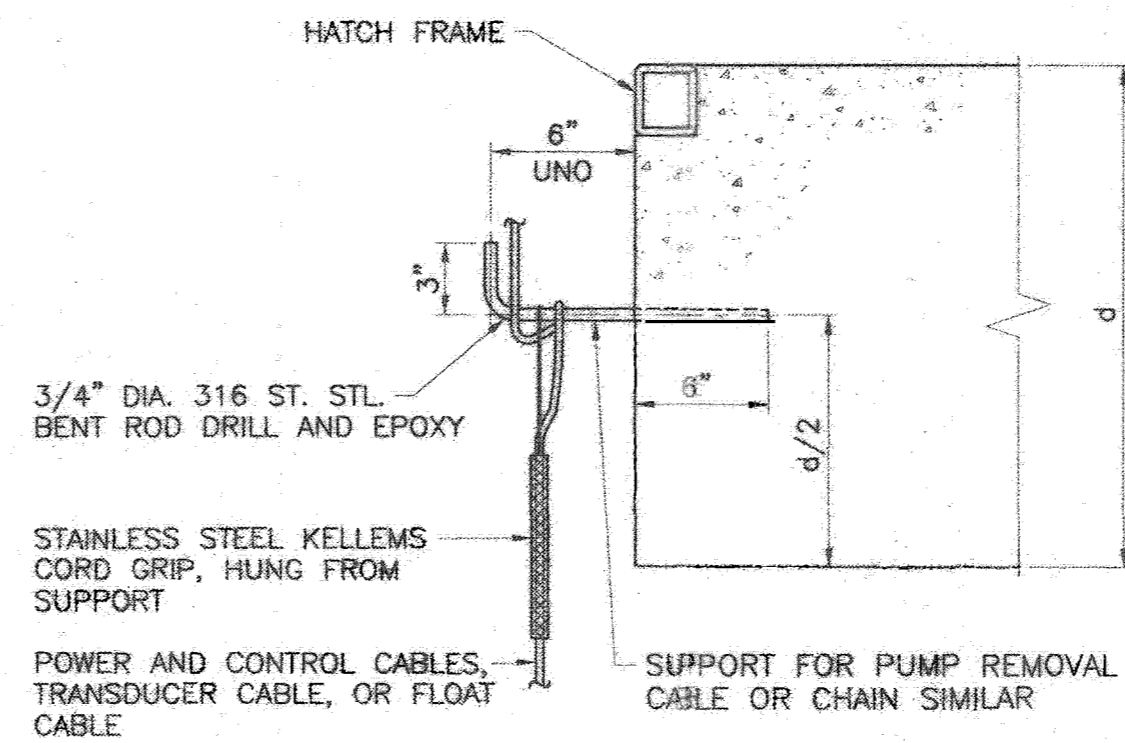


PIPE PENETRATION DETAIL
N. T. S. (1)

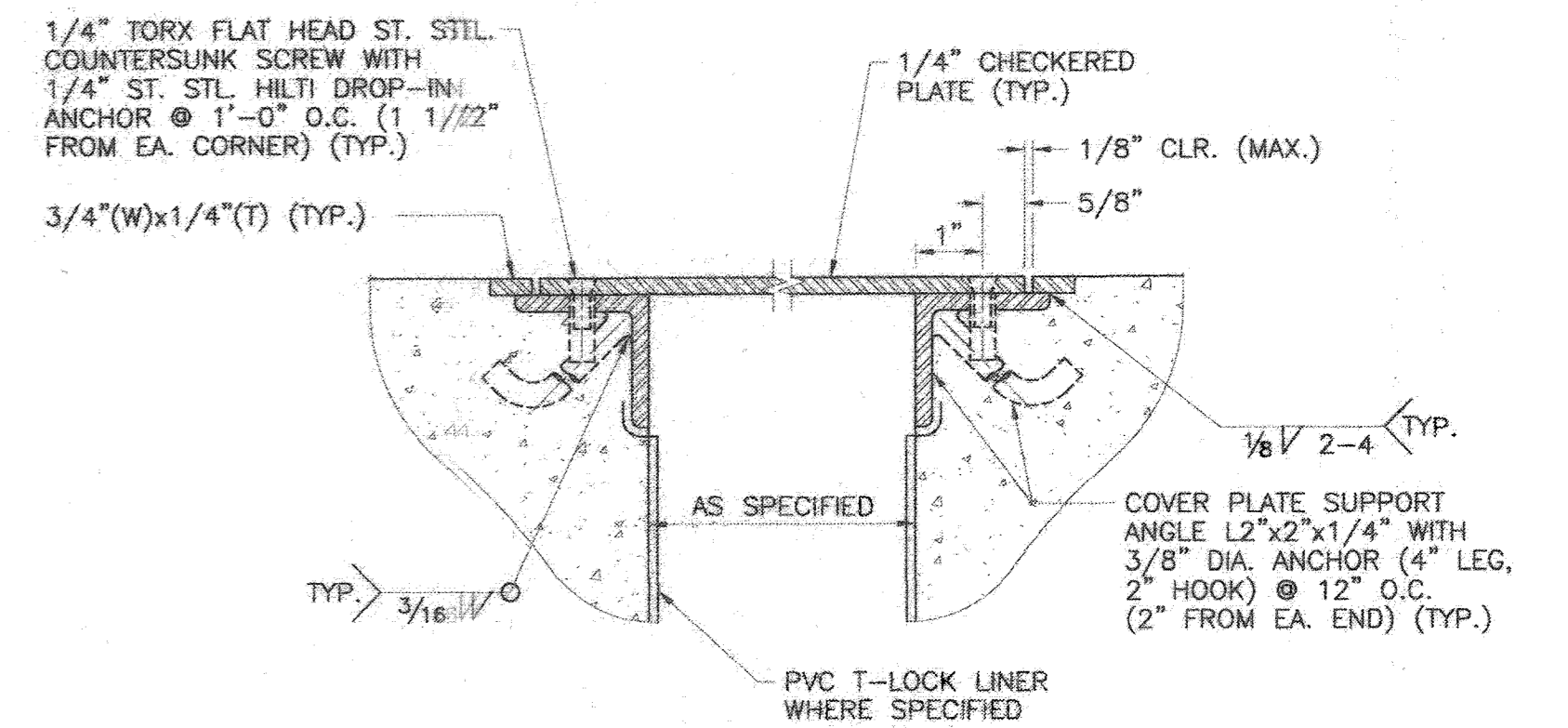
NOTE: PVC WRAP OR SLEEVE ALL BURIED COPPER



HOSE BIB DETAIL
N. T. S. (2)

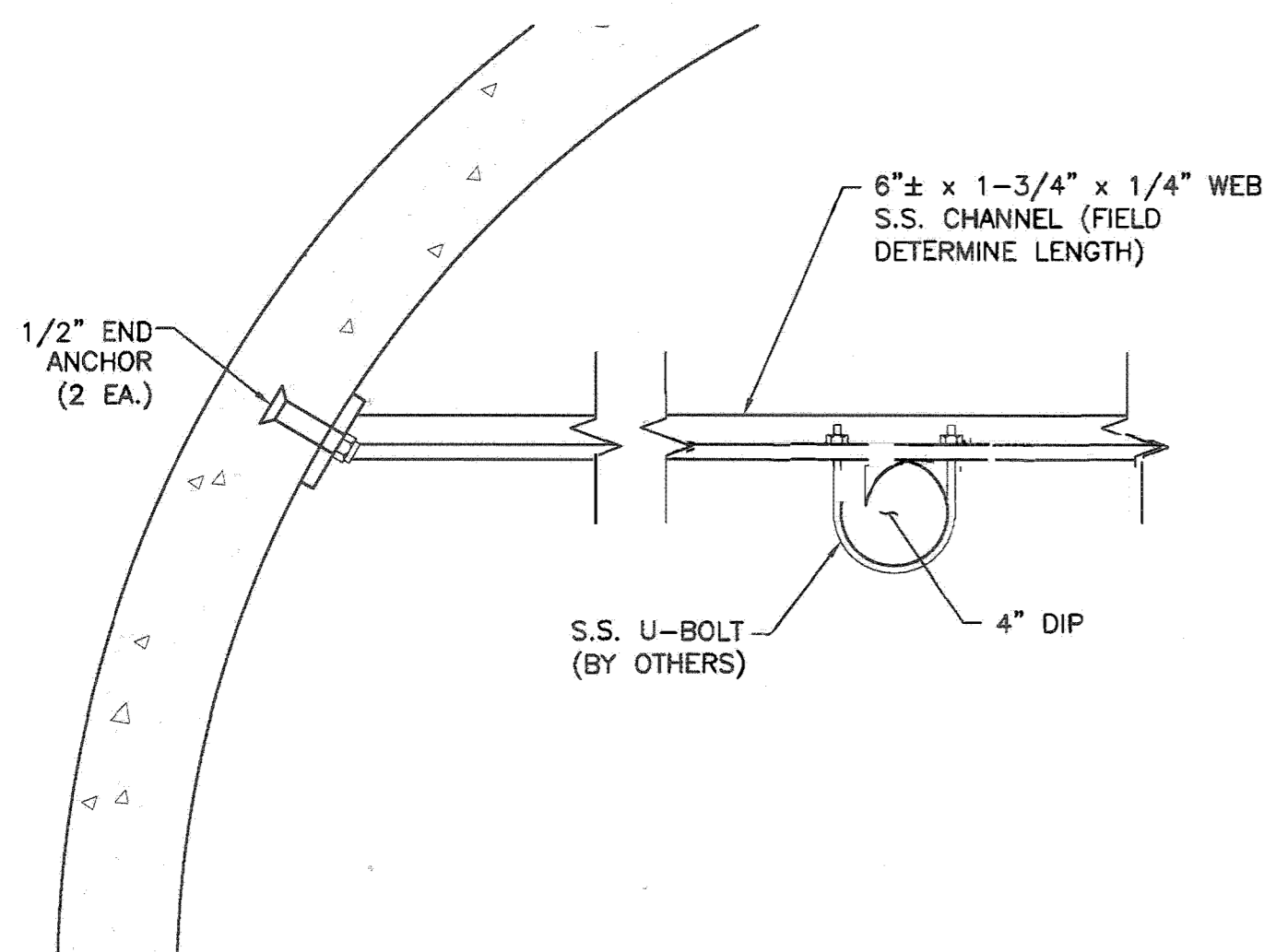


CABLE AND LIFTING CHAIN SUPPORT HOOK DETAIL
N. T. S. (3)

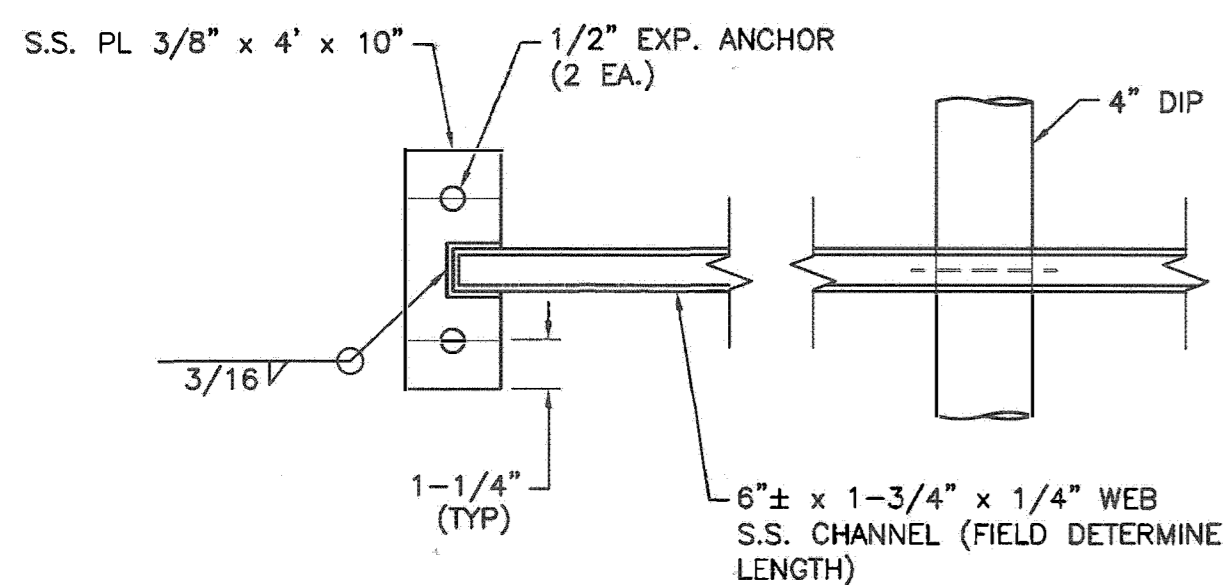


NOTE: UNLESS NOTED OTHERWISE, ALL MATERIALS SHALL BE 316 STAINLESS STEEL.

STAINLESS STEEL COVER PLATE DETAIL
N. T. S. (4)



PLAN
N. T. S.



DISCHARGE PIPE SUPPORT
N. T. S. (5)

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PUBLIC UTILITIES-WATER APPROVED <i>Matthew Beck</i> DATE <i>5/16/16</i>	NOTES: THE CITY OF RIVERSIDE WILL NOT ACCEPT THE MAINTENANCE RESPONSIBILITY OF THE SEWAGE LIFT STATION OR THE SEWER FORCE MAIN UNTIL ALL DWELLING UNITS WITHIN THIS DEVELOPMENT HAVE BEEN COMPLETELY SOLD AND OCCUPIED BY HOMEOWNERS.	BENCH MARK: G2-M3 ELEV. = 779.743 (1971 ADJ.) NGVD 1929 DATUM PK NAIL & CITY ENGINEER TAG IN THE TOP OF THE EASTERLY CURB OF LA SIERRA AVE., APPROX. 40' NORTHERLY OF CENTERLINE OF PALM TERRACE LANE. BASIS OF BEARINGS: THE BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF LA SIERRA AVENUE BEING N 14° 13' 00" W ROATED TO N 13° 32' 33" W PER TRACT NO. 22001, M.B. 210/176-78, RECORDS OF RIVERSIDE COUNTY.	UNDERGROUND SERVICE ALERT Call: TOLL FREE 1-800-227-2600 TWO WORKING DAYS BEFORE YOU DIG *CAUTION* Remember that the USA Center notifies only those utilities belonging to the center. There could be other utilities present at the work site. The center will inform you of whom they notify.	 METROPOINTE ENGINEERS 17520 Newhope Street, Suite 140 Fountain Valley, CA 92708 714.438.1095 fax: 714.438.1097	 CITY OF RIVERSIDE, CALIFORNIA PUBLIC WORKS DEPARTMENT <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>APPROVED BY</td> <td>BY</td> <td>DATE</td> <td>APPROVED BY</td> </tr> <tr> <td>ENGINEERING MANAGER</td> <td><i>CM</i></td> <td><i>5/27/16</i></td> <td><i>[Signature]</i></td> </tr> <tr> <td>CAPITAL PROJECTS</td> <td><i>CM</i></td> <td><i>5/27/16</i></td> <td></td> </tr> <tr> <td>SEWER MAINTENANCE</td> <td></td> <td></td> <td></td> </tr> </table> CITY ENGINEER / PW DIRECTOR DATE <i>5/16/16</i>	APPROVED BY	BY	DATE	APPROVED BY	ENGINEERING MANAGER	<i>CM</i>	<i>5/27/16</i>	<i>[Signature]</i>	CAPITAL PROJECTS	<i>CM</i>	<i>5/27/16</i>		SEWER MAINTENANCE				LA SIERRA SEWAGE LIFT STATION MECHANICAL DETAILS TRACT MAP 34794 HORIZONTAL SCALE: PER PLAN VERTICAL SCALE: PER PLAN	PW15-0163 S-2131 SHEET 12 OF 23 DWG. NO. M-3
APPROVED BY	BY	DATE	APPROVED BY																				
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CAPITAL PROJECTS	<i>CM</i>	<i>5/27/16</i>																					
SEWER MAINTENANCE																							

GENERAL NOTES

- THIS DRAWING CONTAINS STANDARD SYMBOLS. NOT ALL SYMBOLS SHOWN ARE USED ON THIS PROJECT.
- THESE DRAWINGS ARE SUPPLEMENTED WITH STANDARD SPECIFICATIONS. OBTAIN A COPY OF THE SPECIFICATIONS FROM CITY OF RIVERSIDE OFFICE.
- CONTRACTOR SHALL NOT CUT ANY STRUCTURAL MEMBER(S) OR USE ANY ATTACHMENTS THAT WOULD IMPAIR THEIR STRENGTH.
- CONTRACTOR SHALL DESIGN THE SUPPORTS IN BETWEEN THE STRUCTURAL SUPPORT MEMBER(S) AND SUBMIT THE DESIGN AS A SHOP DRAWING SUBMITTAL.
- THE ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, FEDERAL COMMUNICATION COMMISSION (FCC), STATE FIRE MARSHALL REGULATIONS, AND ALL OTHER ORDINANCES HAVING JURISDICTION ALBEIT NOT SHOWN ON DRAWINGS OR SHOWN OTHERWISE.
- THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTION REQUIREMENTS.
- ELECTRICAL CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS, TRANSPORTATION, ETC., FOR A COMPLETE AND PROPERLY-OPERATING SYSTEM, ENERGIZED THROUGHOUT AND AS INDICATED ON THE DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.
- ALL MATERIALS AND EQUIPMENT SHALL BE NEW, EXCEPT AS NOTED, AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. MATERIALS SHALL BE LISTED AND APPROVED BY UNDERWRITER'S LABORATORY AND SHALL BEAR THE INSPECTION LABEL UL WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH THE APPROVAL OF THE DIVISION OF INDUSTRIAL SAFETY AND ALL GOVERNING BODIES HAVING JURISDICTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA, AND NFPA.
- ALL ABOVE GROUND OUTDOOR WIRING SHALL BE IN RIGID STEEL PVC COATED CONDUIT. FLEXIBLE CONDUIT SHALL BE USED FOR SHORT CONNECTIONS TO LIGHTING FIXTURES AND OTHER VIBRATING EQUIPMENT. USE NEOPRENE JACKETED FLEXIBLE CONDUIT AND FITTINGS WHERE EXPOSED TO WEATHER.
- ALL CONDUCTORS SHALL BE COPPER, STRANDED AND RATED 600 VOLTS. USE TYPE THHN/THWN/THW.
- OUTLET BOXES SHALL BE CAST BOXES WITH THREADED HUBS, GASKETED COVER PLATES, AND PROPER DEVICE. FOR VAULT INSTALLATIONS MATCH EXISTING BOXES IF OTHER THAN CAST BOX.
- ALL SURFACE-MOUNTED ELECTRICAL EQUIPMENT AND DEVICES SHALL BE PROPERLY SECURED TO WALL OR CEILING.
- TEST THE ENTIRE SYSTEM AND DEMONSTRATE THAT THE ELECTRICAL COMPONENTS AND SPECIAL SYSTEMS ARE COMPLETE AND FUNCTION PROPERLY. MAKE NECESSARY CORRECTIONS AND LEAVE SYSTEMS READY FOR OPERATION.
- THE CONTRACTOR SHALL MAINTAIN THE UNIFORMITY AND CONTINUITY OF THE GROUNDING SYSTEM. PROVIDE SEPARATE GROUND WIRE IN ALL PLASTIC AND FLEX CONDUITS.
- ALL OUTDOOR EQUIPMENT SHALL BE IN WEATHERPROOF NEMA 4X STAINLESS STEEL ENCLOSURE EXCEPT AS NOTED. ALL EQUIPMENT AND DEVICES SHALL BE PAD LOCKED ALL KEYS ALIKE WITH 5 KEYS FOR EACH SITE SUBMITTED TO THE DISTRICT AFTER ACCEPTANCE.

PLANS ELECTRICAL SYMBOLS

	DUPEX RECEPTACLE, GFCI, WEATHER PROOF
	DUPEX RECEPTACLE, GFCI, NEMA 5-20R
	SINGLE RECEPTACLE, NEMA 5-20R
	DUPEX RECEPTACLE, GFCI, NEMA 5-20R
	WALL SWITCH 2- DOUBLE POLE 3- THREE WAY 4- FOUR WAY CRE- CORROSION RESISTANT D- DIMMER K- KEY OPERATED P- PILOT LIGHT WP- WEATHERPROOF EP- EXPLOSIONPROOF b- OUTLET CONTROLLED
	THERMOSTAT OUTLET + 66° UON
	JUNCTION BOX
	CONTROL STATION SEE SCHEMATIC DIAGRAM
	NON-FUSED SWITCH, 30A, 3P U.O.N.
	FUSED SWITCH, 30A, 3P U.O.N.
	ENCLOSED COMBINATION STARTER, NUMBER INDICATES NEMA SIZE, NEMA SIZE #1 U.O.N.
	GROUND WELL
	GROUND ROD
	CONDUIT DESIGNATION SEE CONDUIT SCHEDULE
	CONDUIT IN SLAB OR UNDER GROUND
	CONDUIT EXPOSED
	CONDUIT SEAL, MOUNT VERTICALLY. PROVIDE UG PULL BOX IF NECESSARY
	CONDUIT WITH CONDULET OR FITTING
	EXOTHERMIC WELD CONNECTION
	CONDUIT BENDS TOWARD OBSERVER CONDUIT BENDS AWAY FROM OBSERVER OR WITH FITTING AT THE END OF CONDUIT.
	CONDUIT STUB-OUT AND CAPPED
	FLEXIBLE CONDUIT CONNECTION
	MOTOR CONNECTION
	PANELBOARD
	FLUORESCENT FIXTURE, SEE FIXTURE SCHED.
	WALL MOUNTED FIXTURE, SEE FIXTURE SCHED.
	POLE MOUNTED LIGHT
	RADIO ANTENNA
	JUNCTION BOX / PULLBOX, SIZE AS REQUIRED

SCHEMATIC DIAGRAM SYMBOLS

NORMALLY OPEN	NORMALLY CLOSED	DEVICE
		CONTACT
		TIMED CONTACT CONTACT ACTION RETARDED ON ENERGIZATION
		TIMED CONTACT CONTACT ACTION RETARDED ON DE-ENERGIZATION
		PUSH BUTTON SINGLE CIRCUIT MOMENTARY CONTACT
		PUSH BUTTON SINGLE CIRCUIT LOCK-OUT
		LIMIT SWITCH
		LIQUID LEVEL SWITCH
		PRESSURE OR VACUUM SWITCH
		FLOW SWITCH
		TEMPERATURE SWITCH
		SELECTOR SWITCH
		MANUAL MOTOR STARTER
		MOTOR OVERLOAD HEATER CONTACTS
		MOTOR OVERLOAD HEATER
		PILOT LIGHT R=RED, W=WHITE, G=GREEN, A=AMBER
		PILOT LIGHT, PUSH TO TEST R=RED, W=WHITE, G=GREEN, A=AMBER
		CONTROL RELAY, FUNCTION AS DEFINED
		TIME DELAY RELAY
		PHOTO CELL
		STARTER COIL
		SOLENOID OPERATED VALVE
		PHASE MOTOR
		BELL OR BUZZER
		ELAPSED TIME METER
		FUSE, TRIP RATING AS NOTED
		CONTRL. POWER TRANSFORMER
		GROUND
		WIRING IN MOTOR STARTER
		FIELD WIRING
		TERMINAL BLOCK
		BATTERY
		CIRCUIT BREAKER, TRIP RATING AS NOTED

ABBREVIATIONS

A	AMPERE, AUTO, AUTOMATIC	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
A/C	ALTERNATING CURRENT	NIC	NOT IN CONTRACT
AFF	ABOVE FINISHED FLOOR	N/O OR NO	NORMALLY OPEN
AI	ANALOG INPUT TO PLC	NO. OR #	NUMBER
AIC	AVAILABLE INTERRUPTING CURRENT	NS	INTRUSION SWITCH
ANN	ANNUNCIATOR	NTS	NOT TO SCALE
AO	ANALOG OUTPUT FROM PLC		
ATS	AUTOMATIC TRANSFER SWITCH	OC	ON CENTER
AUX	AUXILIARY		
AWG	AMERICAN WIRE GAUGE	P	POLE
BAT/BATT	BATTERY	PAH	PRESSURE ALARM HIGH
BLD	BUILDING	PAL	PRESSURE ALARM LOW
BRKR	BREAKER	P&ID	PROCESS AND INSTRUMENTATION DIAGRAM
BTWC	BARE TINNED COPPER WIRE	PB	PULL BOX
		PC	PHOTO CELL
		PFA	POWER FAILURE ALARM
		PFR	PHASE FAILURE RELAY
		PH	PHASE
		PID	PROPORTIONAL, INTEGRAL, AND DERIVATIVE (TUNING)
		PLC	PROGRAMMABLE LOGIC CONTROLLER
		P/L	PROPERTY LINE
		PM	POWER MONITORING
		PNL	PANEL
		PS	PULL SECTION
		PSH	PRESSURE SWITCH HIGH
		PSL	PRESSURE SWITCH LOW
		PT	PRESSURE TRANSMITTER
		PTT	PUSH-TO-TEST
		PVC	POLYVINYL CHLORIDE
		Ø	PHASE
		RE	REPLACE EXISTING
		REQD	REQUIRED
		REQMT	REQUIREMENT
		RTU	REMOTE TERMINAL UNIT
		SHT	SHEET
		SLD	SINGLE LINE DIAGRAM
		SPDT	SINGLE-POLE, DOUBLE-THROW
		SPEC	SPECIFICATION
		SPST	SINGLE-POLE, SINGLE-THROW
		S/N	SOLID NEUTRAL
		S/S	START-STOP
		SW	SWITCH
		TB	TERMINAL BLOCK, OR TERMINAL BOX
		TBD	TO BE DISCUSS
		TD	TIME DELAY
		TERM	TERMINAL
		TYP	TYPICAL
		TSP	TWISTED SHIELDED PAIR, #16 AWG
		TST	TWISTED SHIELDED TRIAD, #16 AWG
		UL	UNDERWRITER'S LABORATORY
		UNON	UNLESS OTHERWISE NOTED
		UPS	UNINTERRUPTIBLE POWER SUPPLY
		UG	UNDERGROUND
		UGPS	UNDERGROUND PULL SECTION
		V	VOLTAGE
		VA	VOLT-AMPERES
		VFD	VARIABLE FREQUENCY DRIVE
		XFMR	TRANSFORMER
		XTMR	TRANSMITTER
		W	WATT
		WH	WATTHOUR
		WP	WEATHERPROOF
		WT	WATER TIGHT
		Z	IMPEDANCE
		ZSC	LIMIT SWITCH CLOSED
		ZSO	LIMIT SWITCH OPEN
		3W	THREE-WIRE
		4W	FOUR-WIRE

NOTES

LIGHT THIN LINES DEPICTING WIRES, EQUIPMENT, DEVICES, COMPONENTS, CONDUITS, ETC. ARE EXISTING AND ARE SHOWN FOR CLARITY.

NOT ALL SYMBOLS AND ABBREVIATIONS ABOVE APPEAR ON THE ACCOMPANYING CONTRACT PLANS OR ELSEWHERE IN THE CONTRACT DOCUMENTS.

PUBLIC UTILITIES-WATER

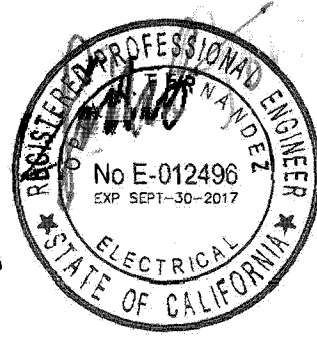
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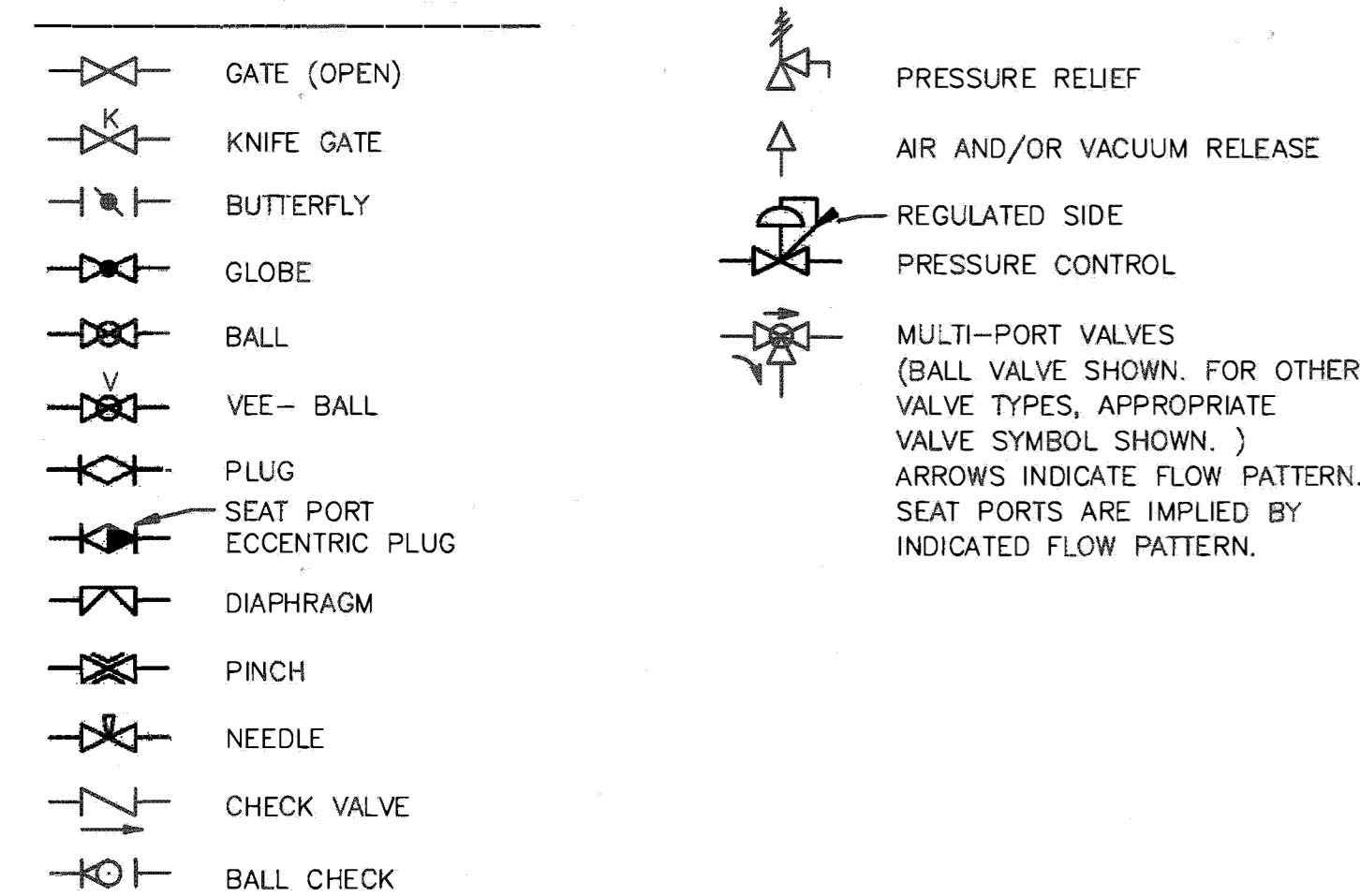
CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE	APPROVED BY
ENGINEERING MANAGER	JA	10/16/14	JA
CAPITAL PROJECTS	TM	10/16/14	
SEWER MAINTENANCE			
MARK	REVISIONS	APPR.	DATE
DESIGNED BY	J.A.	DRAWN BY	J.T.
CHECKED BY	J.A.		

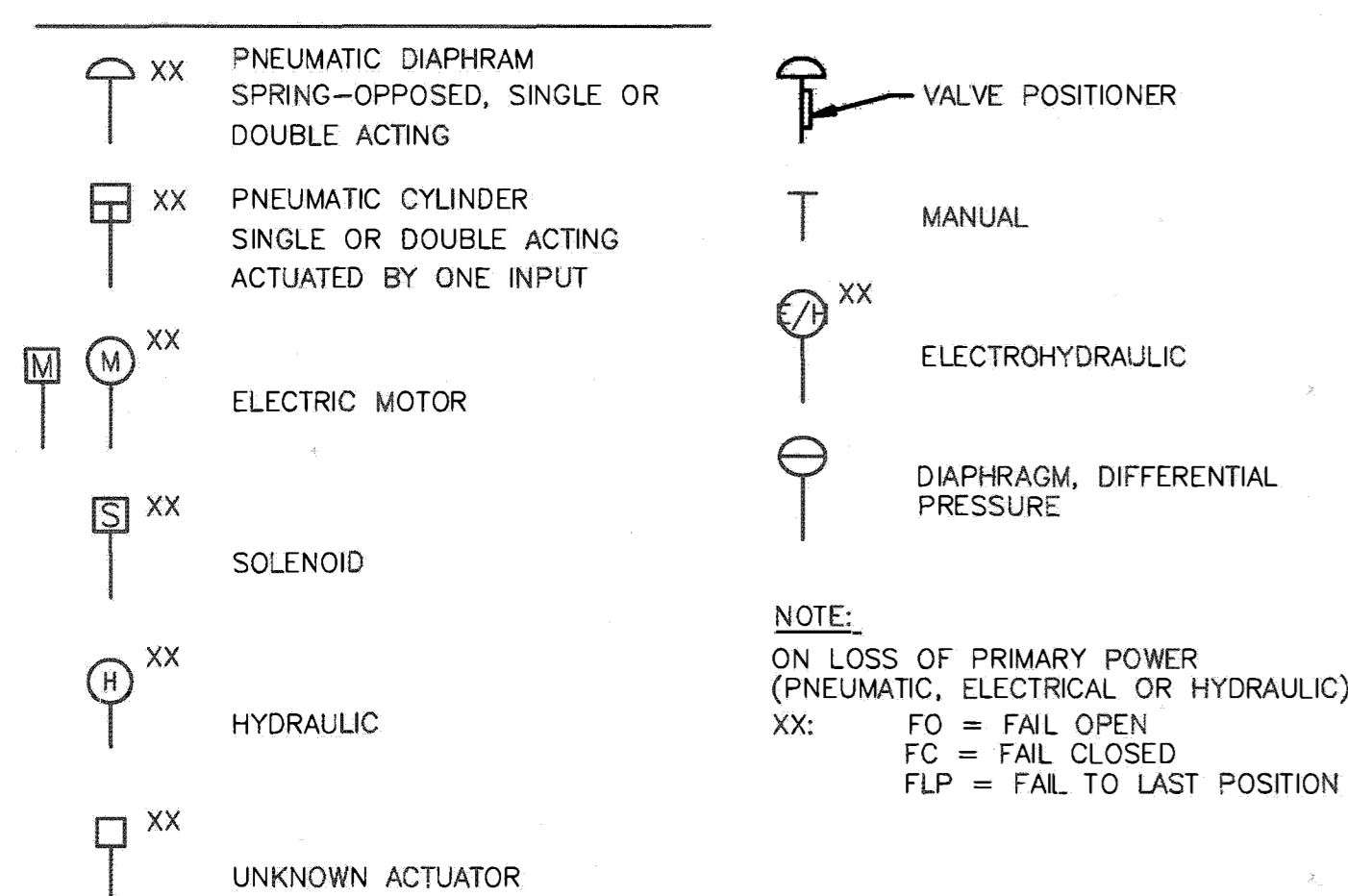
LA SIERRA SEWAGE LIFT STATION
ELEC. SYMBOLS, ABB. LIST, & GEN. NOTES
TRACT MAP 34794
HORIZONTAL SCALE: PER PLAN VERTICAL SCALE: PER PLAN DWG. NO.

E-1
SHEET 14 OF 23

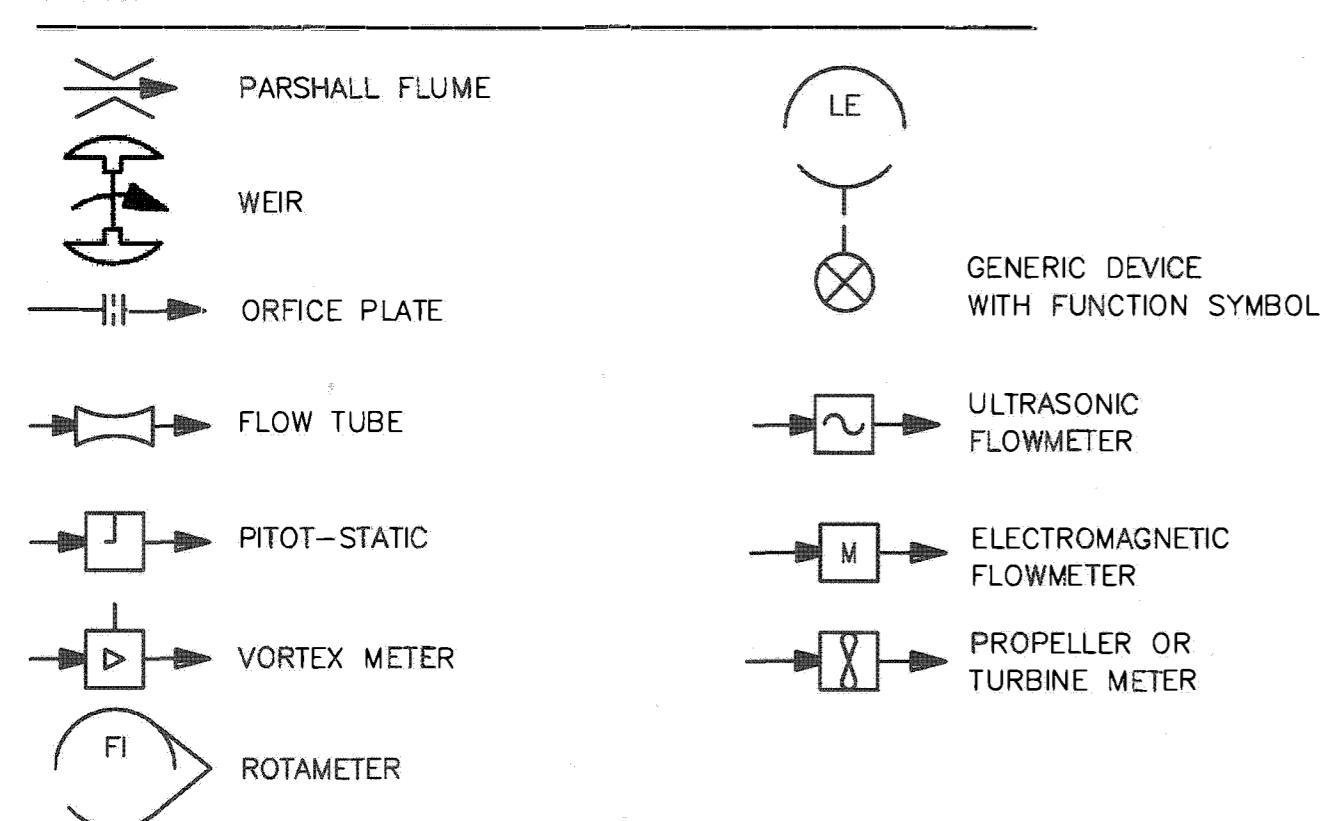
VALVE SYMBOLS



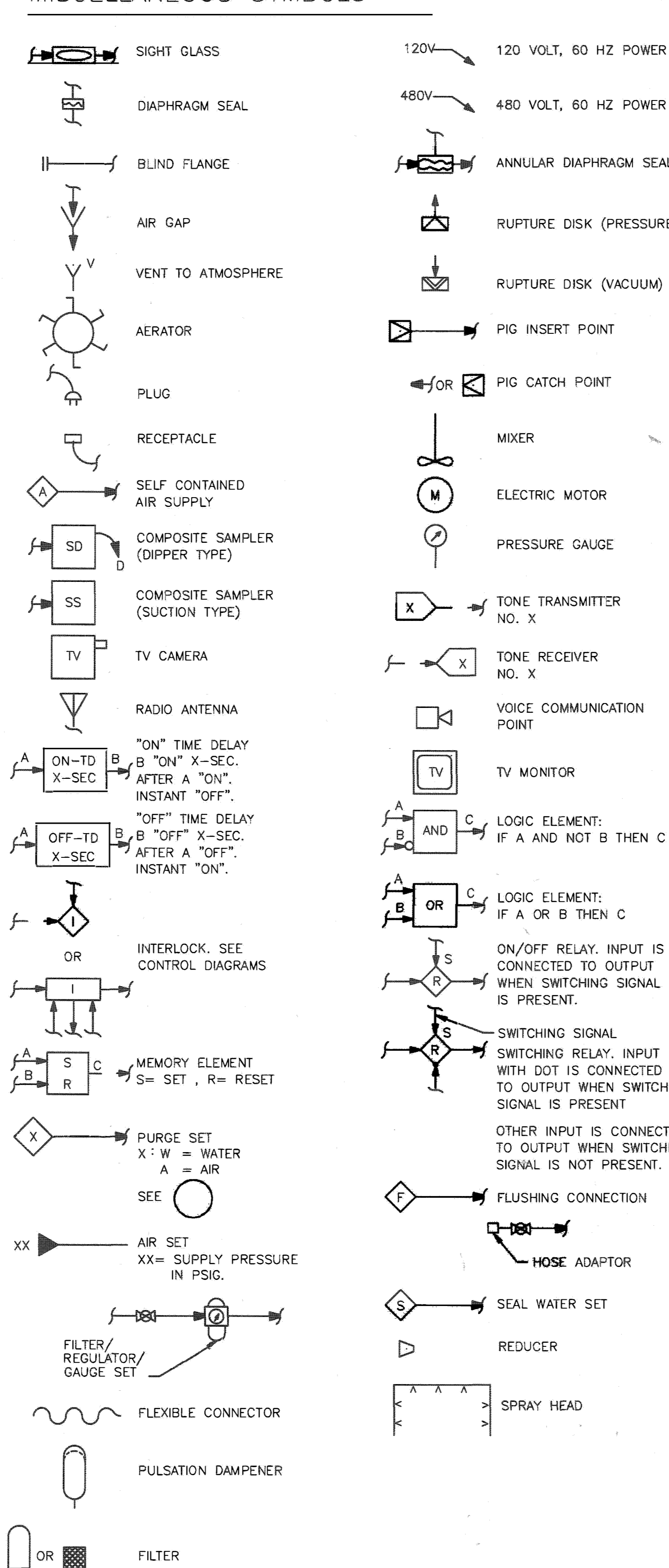
ACTUATOR SYMBOLS



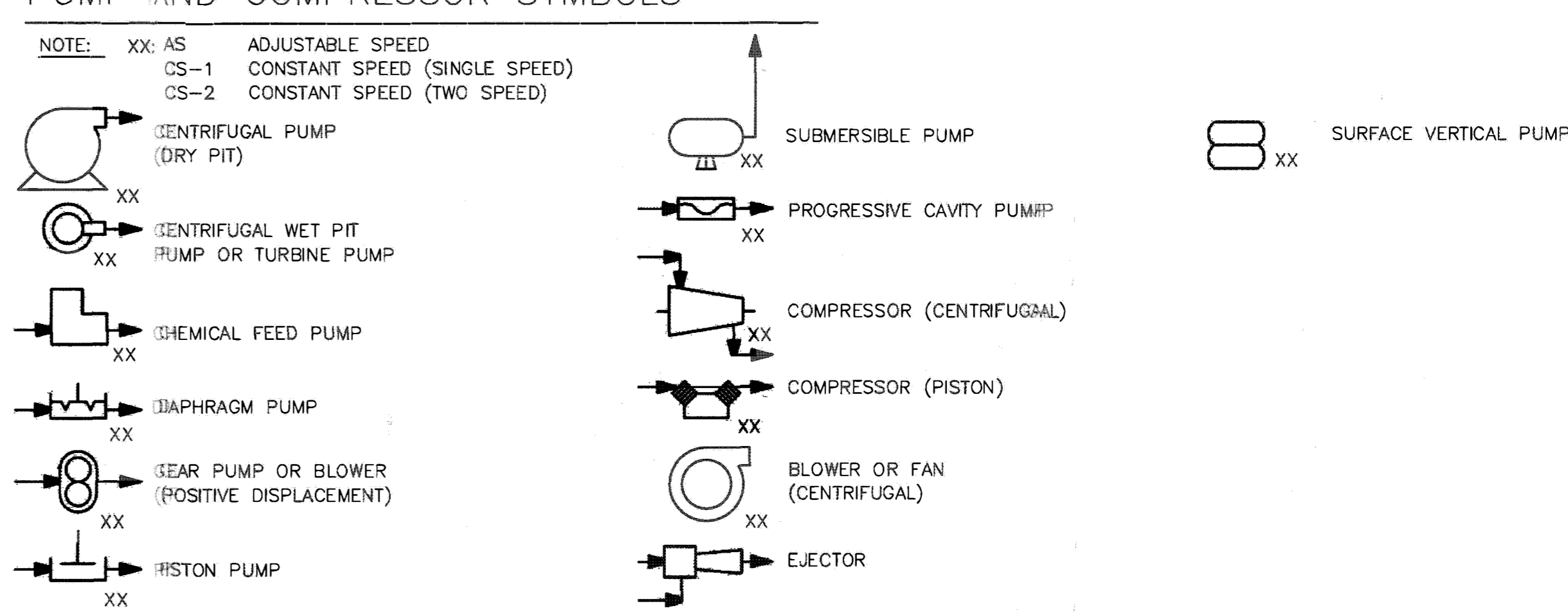
PRIMARY ELEMENT SYMBOLS



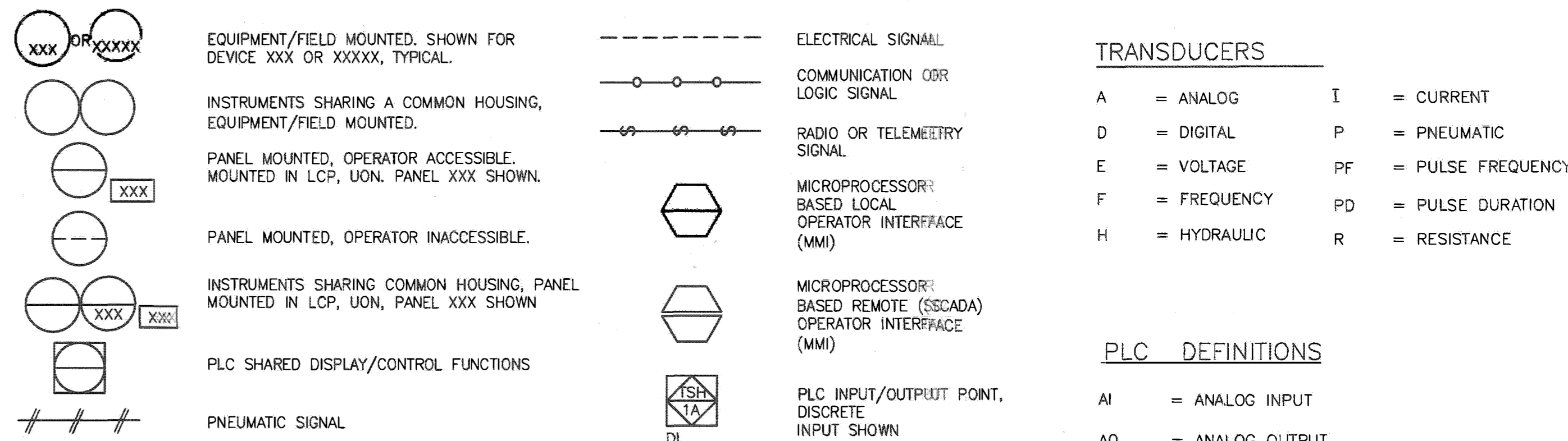
MISCELLANEOUS SYMBOLS



PUMP AND COMPRESSOR SYMBOLS



GENERAL INSTRUMENTATION, CONTROL FUNCTION SYMBOLS & DEFINITIONS

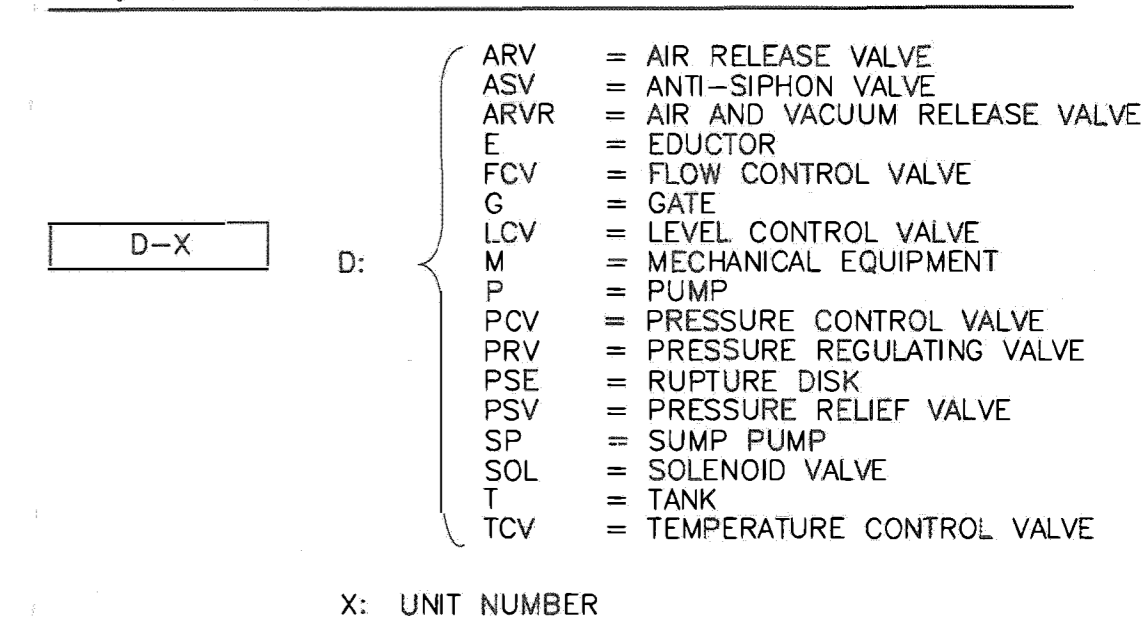


ISA - S5.1 TABLE 1 IDENTIFICATION LETTERS

FIRST LETTER(S)		SUCCEEDING LETTERS		
MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM	
B	BURNER, COMBUSTION			
C	CONDUCTIVITY		CLOSE	CLOSED
D	DENSITY	DIFFERENTIAL		
E	VOLTAGE		PRIMARY ELEMENT	
F	FLOW RATE	RATIO (FRACTION)		
G	GAUGE		GLASS, VIEWING DEVICE	
H	HAND (MANUAL)			HIGH
I	CURRENT (ELECTRICAL)		INDICATE	
J	POWER	SCAN		
K	TIME, TIME SCHED.	TIME RATE OF CHANGE		CONTROL STATION
L	LEVEL		LIGHT	LOW
M	MOISTURE	MOMENTARY		MIDDLE
N	INTRUSION			NORMAL
O	TORQUE		OPEN	OPENED
P	PRESSURE, VACUUM		POINT CONNECTION	
Q	QUANTITY	INTEGRATE, TOTALIZE		
R	RADIATION		RECORD OR PRINT	
S	SPEED, FREQUENCY	SAFETY		SWITCH
T	TEMPERATURE			TRANSMIT
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION		VALVE, LOUVER	
W	WEIGHT, FORCE		WELL	
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT
Z	POSITION	Z AXIS		DRIVER, ACTUATOR, FINAL CONTROL ELEMENT

REFERENCE ISA-S5.1 SECTION 5.1 AND TABLE 2 FOR EXPLANATION AND TYPICAL LETTER COMBINATIONS

SELF CONTAINED VALVE & EQUIPMENT TAG NUMBERS



PUBLIC UTILITIES-WATER
 APPROVED: [Signature] DATE: [Date]

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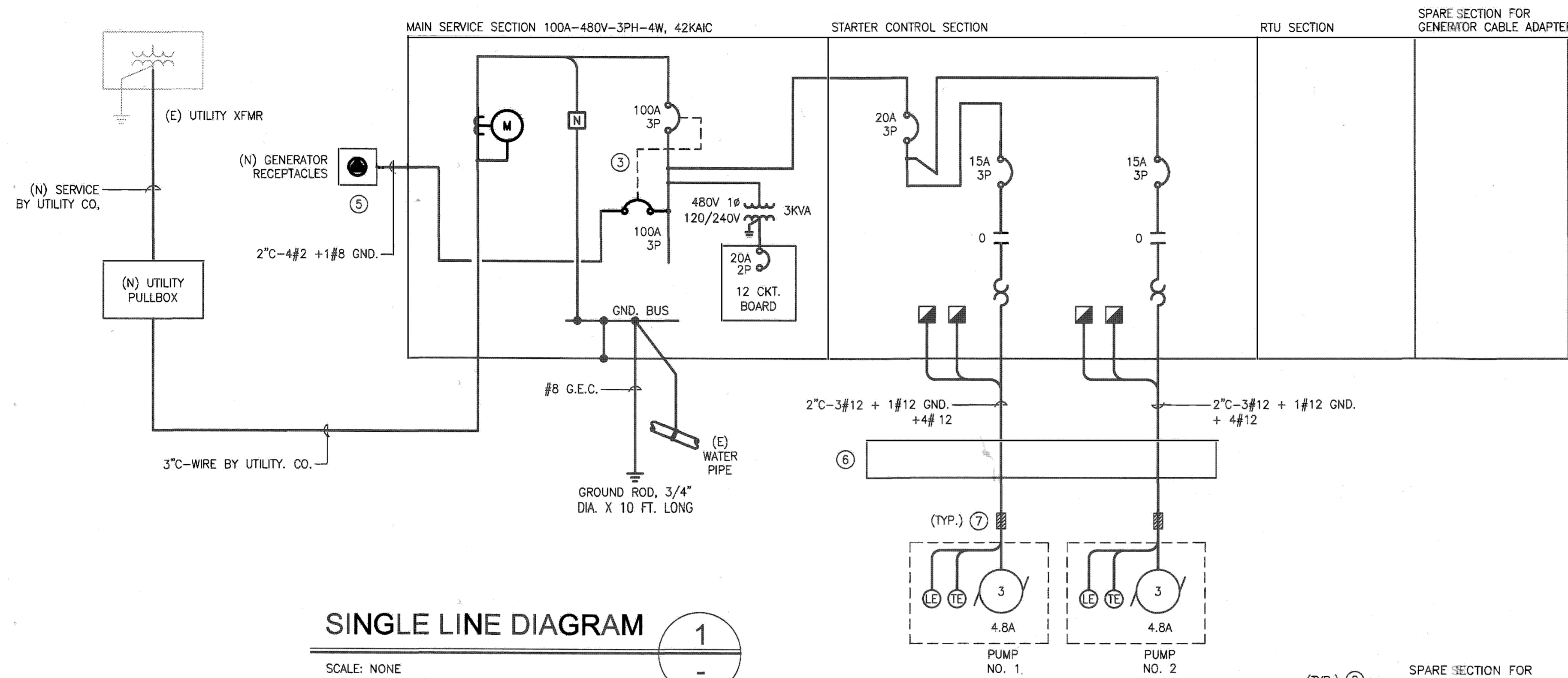
LINKTURE
 CONSULTING ENGINEERS
 15 Flagstone
 Trabuco Canyon, CA 92679
 Phone: 949.589.1909 Fax: 949.589.8888
 email@linkture.com

DESIGNED BY: J.A. DRAWN BY: J.T. CHECKED BY: J.A.

CITY OF RIVERSIDE, CALIFORNIA
 PUBLIC WORKS DEPARTMENT
 APPROVED BY: [Signature] DATE: [Date]
 CITY ENGINEER / PW DIRECTOR

LA SIERRA SEWAGE LIFT STATION
INSTRUMENTATION AND CONTROL LEGEND
 TRACT MAP 34794
 HORIZONTAL SCALE: PER PLAN VERTICAL SCALE: PER PLAN DWG. NO. E-2 SHEET 15 OF 23

(N) MAIN SERVICE EQUIPMENT & MOTOR CONTROL SECTION IN NEMA-4X ENCLOSURE



SINGLE LINE DIAGRAM

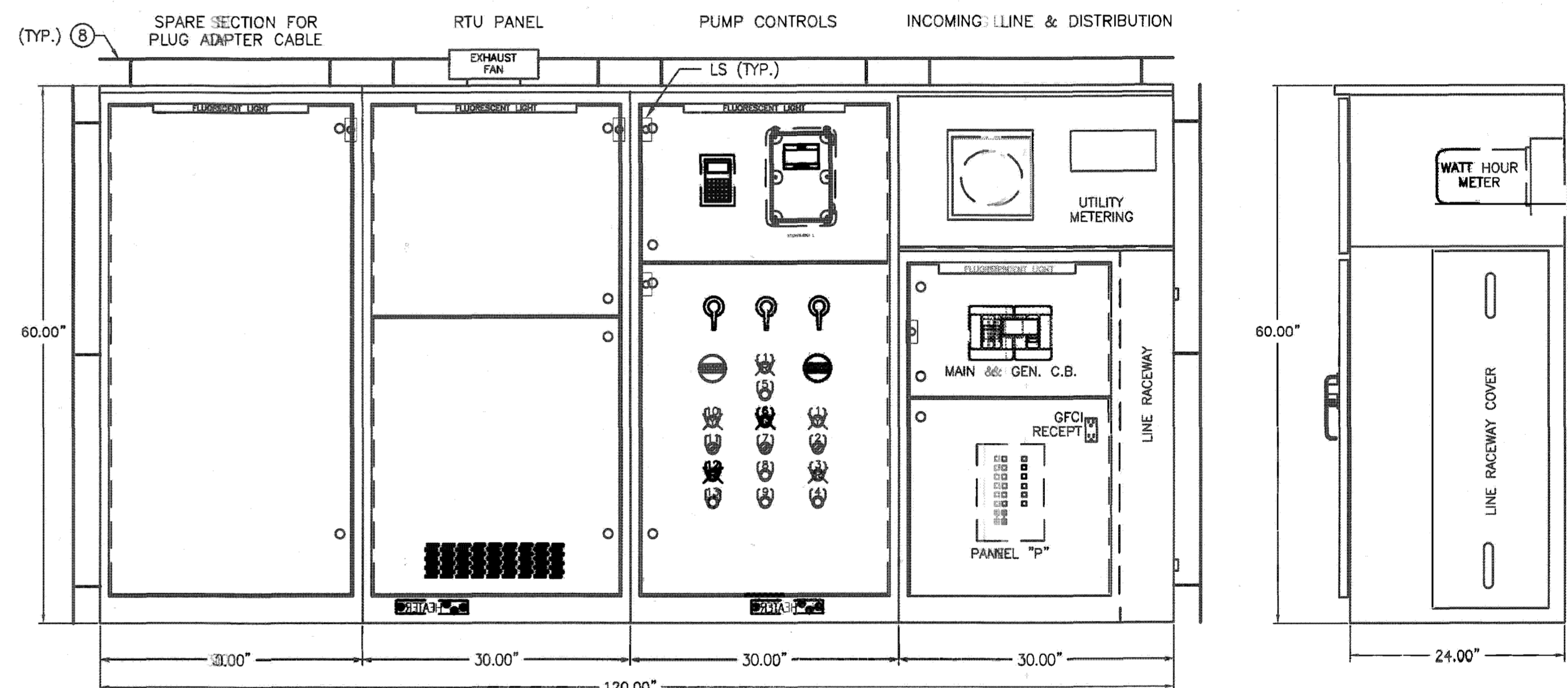
SCALE: NONE

1

ELECTRICAL DESIGN LOAD SUMMARY	
SERVICE DESCRIPTION	LOAD (KVA)
PUMP NO. 1	4.00
PUMP NO. 2	4.00
4 TRANSFORMER	3.00
25% OF LML	1.00
TOTAL KVA	12.00
TOTAL A	14.44

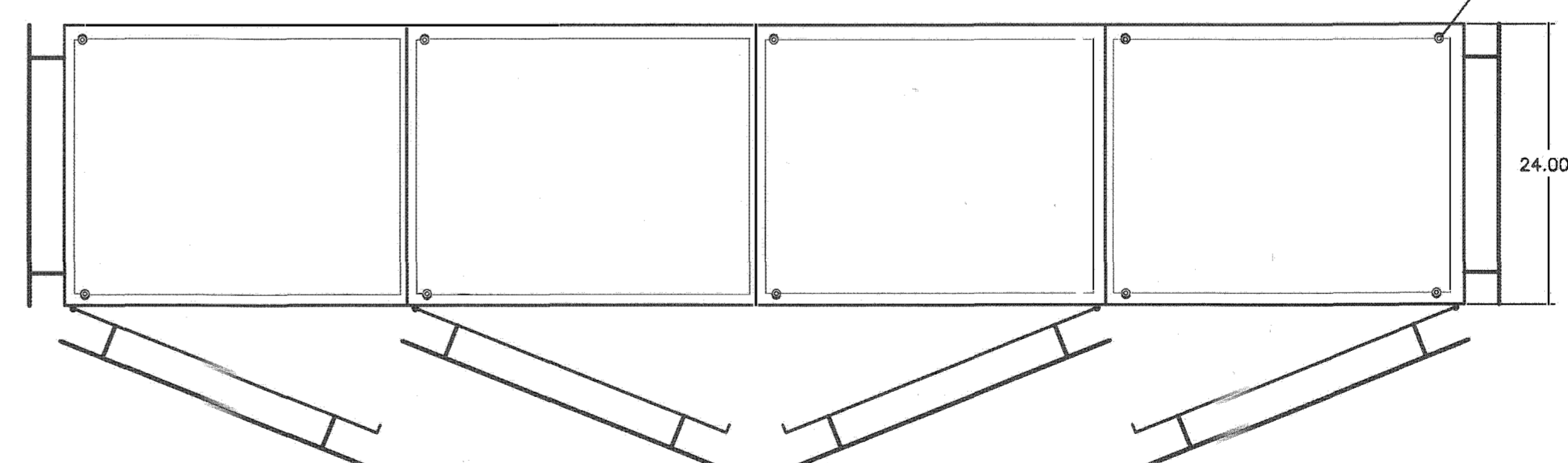
GENERAL NOTES:

- NEW MAIN SERVICE EQUIPMENT APPROVED BY UTILITY COMPANY.
- ALL ELECTRICAL EQUIPMENT AND ALL CIRCUIT BREAKERS SHALL BE FULLY RATED FOR THE AVAILABLE FAULT CURRENT.
- PROVIDE IMAIN C.B. AND GENERATOR C.B. INTERLOCK USING SLIDING BAR AND PAD LOCK.
- OVERLOAD PROTECTION SHALL BE SIZED TO PROTECT THE MOTOR WINDING PER NEC.
- PROVIDE GENERATOR RECEPTACLE NEMA-4X USING HUBBELL-KILLARK 100A GENERATOR RECEPTACLE WITH BACK BOX. PROVIDE ADAPTER CABLE WITH PLUG AT ONE END ONLY (PLUG SIZE TO MATCH RECEPTACLE, FIELD VERIFY REQUIRED CABLE LENGTH).
- PROVIDE CLASS 1, DIV. 1 EXPLOSION PROOF TERMINAL BOX NEMA 4X.
- PROVIDE CONDUIT SEAL USING HUBBELL-KILLARK EYD40.
- PROVIDE CABINET WITH SUN SHIELD (TYP. ALL PARTS EXPOSED TO SUNLIGHT).



INNER DEADFRONT DOOR PLAN

(SHOWN WITH OUTER DOORS REMOVED)



PANEL BASE PLAN

ELECTRICAL DISTRIBUTION & CONTROL PANEL

SCALE: NONE

2

120/240V, 1 PHASE, 3W														
100A BUS, 10KAIC														
PANEL 'P'														
ENCLOSURE: IN METER CABINET														
FEEDER: UTILITY SERVICE														
MAIN: 20A C.B.														
CKT NO.	AMP	P	LTG	REC	MISC	DESCRIPTION	LOAD (WATTS)				QTY	CKT BKR	CKT NO.	
							LOAD	AØ	BØ	LOAD				
1	20	1				RTU PANEL	1000	1000				1	20	2
3	20	1	1			GEN. RECEPT.	180		180			1	20	4
5	20	1	1			LIGHTS	36	36				1	20	6
7	20	1			1	EXHAUST FAN	1200		1200			1	20	8
9	20	1				SPARE		0				1	20	10
11	20	1				SPARE		0				1	20	12
PHASE TOTALS (WATTS)							1036		1380					
PHASE BALANCE							14%	43%	57%					
TOTAL CONNECTED LOAD (WATTS)							2416							
25% OF LONG CONTINUOUS LOAD (LCL) AND LARGEST MOTOR							309							
TOTAL LOAD (WATTS)							2725							
TOTAL LOAD (AMPS)							11.4							

NOTE:
CL - CONTINUOUS LOAD
LML - LARGEST MOTOR LOAD

PANEL SCHEDULE

SCALE: NONE

3

IMPORTANT NOTE:

CONTRACTOR SHALL VERIFY DIMENSIONS OF ALL ELECTRICAL EQUIPMENT PRIOR TO BID. CHANGE ORDER IS NOT ACCEPTABLE IF LARGER ENCLOSURES THAN SHOWN ON PLANS ARE REQUIRED. CONTRACTOR SHALL ADJUST DIMENSIONS AND BUILDING AND/OR WALL ENCLOSURE DIMENSIONS IF NECESSARY TO ACCOMMODATE ELECTRICAL EQUIPMENT AT NO ADDITIONAL COST.

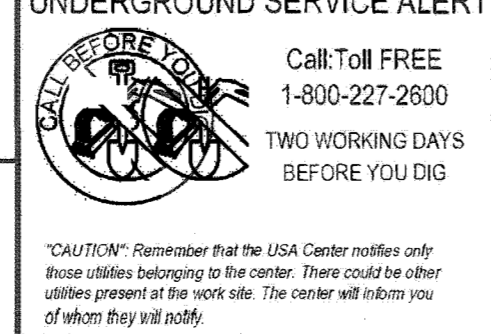
PUBLIC UTILITIES-WATER

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CONSULTING ENGINEERS
15 Flagstone
Trabuco Canyon, CA 92679
Phone: 949.589.1909 Fax: 949.589.8888
email@linkture.com



CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY: [Signature] DATE: 1/10/14
ENGINEERING MANAGER
CAPITAL PROJECTS
SEWER MAINTENANCE

APPROVED BY: [Signature] DATE: 1/10/14
CITY ENGINEER / PW DIRECTOR

LA SIERRA SEWAGE LIFT STATION

SINGLE LINE DIAGRAM

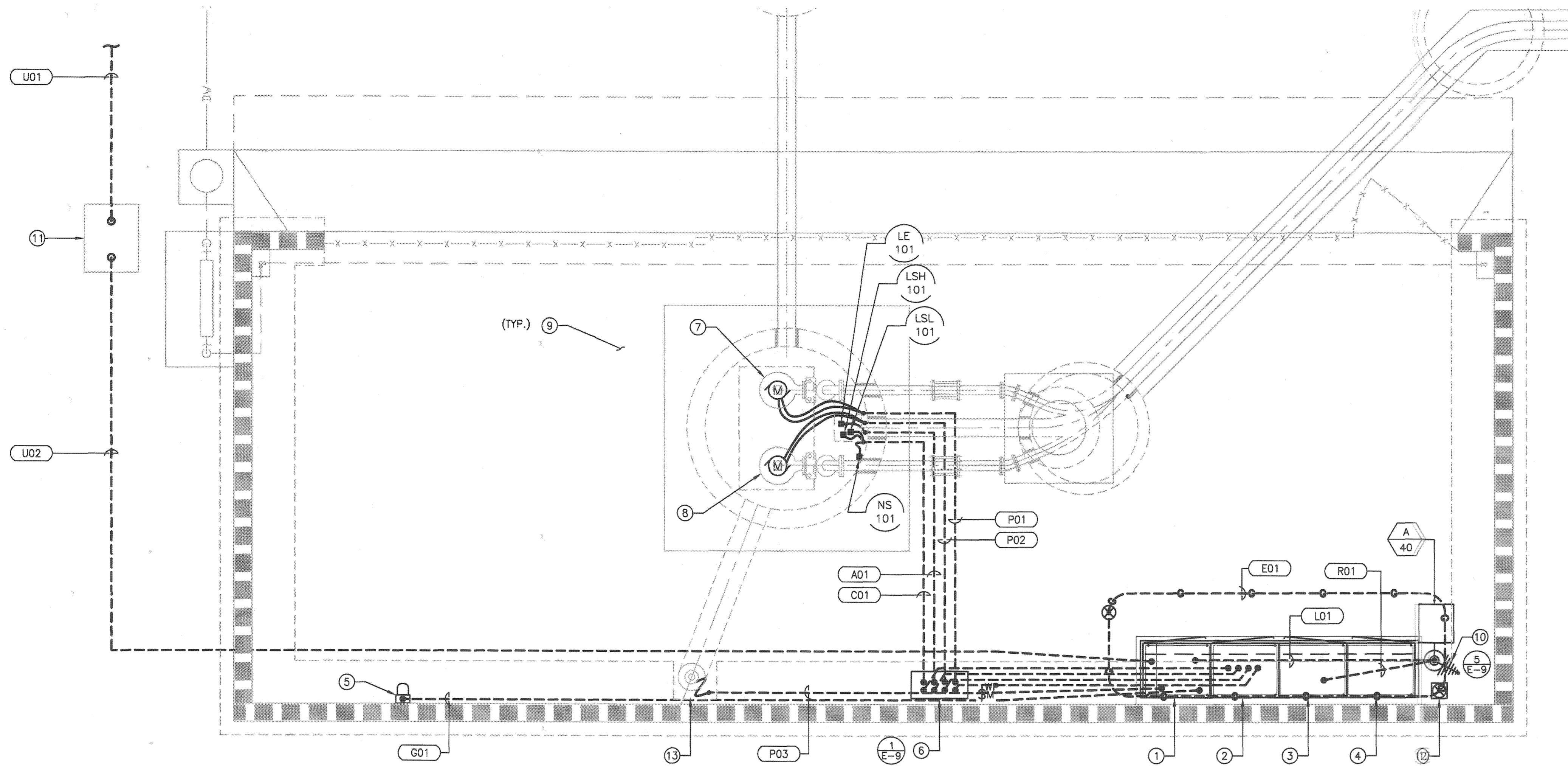
TRACT MAP 34794

HORIZONTAL SCALE: PER PLAN VERTICAL SCALE: PER PLAN

E-3

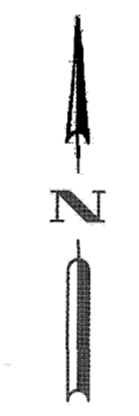
SHEET 16 OF 23

DWG. NO.



- KEY NOTES:**
- ① (N) INCOMING LINE AND ELECTRICAL DISTRIBUTION.
 - ② (N) PUMP CONTROL SECTION.
 - ③ (N) PLC/SCADA SECTION.
 - ④ (N) SPARE SECTION FOR GENERATOR CABLE ADAPTER.
 - ⑤ (N) GENERATOR RECEPTACLE, SEE SLD.
 - (N) TERMINAL BOX, KEEP OUTSIDE THE CLASSIFIED AREAS, NEMA 4X RATED ENCLOSURE. PROVIDE CONDUIT SEAL FOAM ON BOTH ENDS OF ALL CONDUITS ENTERING THE WET WELL. PROVIDE EXPLOSION PROOF CONDUIT SEAL ON ALL CONDUITS THE TERMINAL BOX TO THE MOTOR CONTROL CENTER.
 - ⑦ (N) SUBMERSIBLE PUMP 1, SEE SLD.
 - ⑧ (N) SUBMERSIBLE PUMP 2, SEE SLD.
 - ⑨ CLASS 1 DIV. 1 WITHIN 5 FT. OF OPENING AROUND HAZARDOUS AREA.
 - ⑩ (N) RADIO ANTENNA, TO BE DETERMINE BY RADIO SURVEYOR.
 - ⑪ (E) UTILITY PULLBOX.
 - ⑫ (N) GROUND ROD 3/4" DIA. 10 FT. LONG. PLACE (1) GROUND ACCESS WELL.
 - (N) EXHAUST FAN. MOTOR AND ALL ELECTRICAL COMPONENTS SHALL BE EXPLOSION PROOF. PROVIDE CONDUIT SEAL AT THE RISER NEAR THE MOTOR AND AT THE RISER NEAR THE MANUAL SWITCH ON THE WALL.

ENLARGED ELECTRICAL PLAN 1
 SCALE: 3/8" = 1'-0"



CONDUIT SCHEDULE							
PLAN SYMBOL	CONDUIT		WIRE		LOCATION		
##	QTY	SIZE (")	% FILL	QTY SIZE	USE	FROM	TO
U01	PER UTIL.	PER UTIL.	-	BY UTILITY CO.	SERVICE FEEDER	UTILITY M.P.O.C.	UTIL. PULLBOX
U02	1	3	-	BY UTILITY CO.	SERVICE FEEDER	UTIL. PULLBOX	MAIN SERVICE EQUIPMENT
G01	1	2	11.67	3#2 + 1#8 GND.	GENERATOR SERVICE	(N) RECEPTACLE	MAIN SERVICE EQUIPMENT
E01	-	-	-	#2 BTCW	GROUND RING	-	-
R01	1	2	-	COAX CABLE	RADIO CABLE	(N) RADIO ANTENNA	PLC/SCADA PANEL
L01	1	1	4.80	2#12 + 1#12	LIGHTING FIXTURES	DISTRIBUTION PANEL	FIXTURE
P01	1	1	11.06	3#12 + 1#12	PUMP 1 FEEDER	PUMP CONTROL	PUMP 1
				4#14	PUMP 1 THERMAL & WET SEAL	PUMP 1	PUMP CONTROL
P02	1	1	11.06	3#12 + 1#12	PUMP 2 FEEDER	PUMP CONTROL	PUMP 2
				4#14	PUMP 2 THERMAL & WET SEAL	PUMP 2	PUMP CONTROL
P03	1	1	11.058	3#10 & 1#10 GND.	EXHAUST FAN	DISTRIBUTION PANEL	EXHAUST FAN
A01	1	1	10.91	2/C#16 TSP	WET WELL LEVEL	LE-101	PUMP CONTROL
C01	1	1	7.00	2#14	WET WELL INTRUSION	WET WELL	PLC/SCADA PANEL
				4#14	WET WELL HI/LO FLOAT SWITCH	WET WELL	PUMP CONTROL

FIXTURE LIST							
TYPE	LAMP		VOLTS	MOUNTING		DESCRIPTION	
WATTS	QTY	TYPE	120 277 480	CEILING WALL STAIR GRAB POLE	MANUFACTURER	CATALOG No.	REMARKS
A 40	2	141W LED LAMP			LITHONIA	KAD-LED 40C 1000 40K R5 MVOLT RPUMBK04 DDBXD	LED FIXTURE, MOUNTED ON ANTENNA'S POLE PROVIDE PHOTOCEL DLL127F1.5JU

PUBLIC UTILITIES-WATER
 APPROVED *CC* DATE *5/10/10*

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MARK REVISIONS APPR. DATE
 DESIGNED BY *JA* DRAWN BY *J.T.* CHECKED BY *JA*

CITY OF RIVERSIDE, CALIFORNIA
 PUBLIC WORKS DEPARTMENT

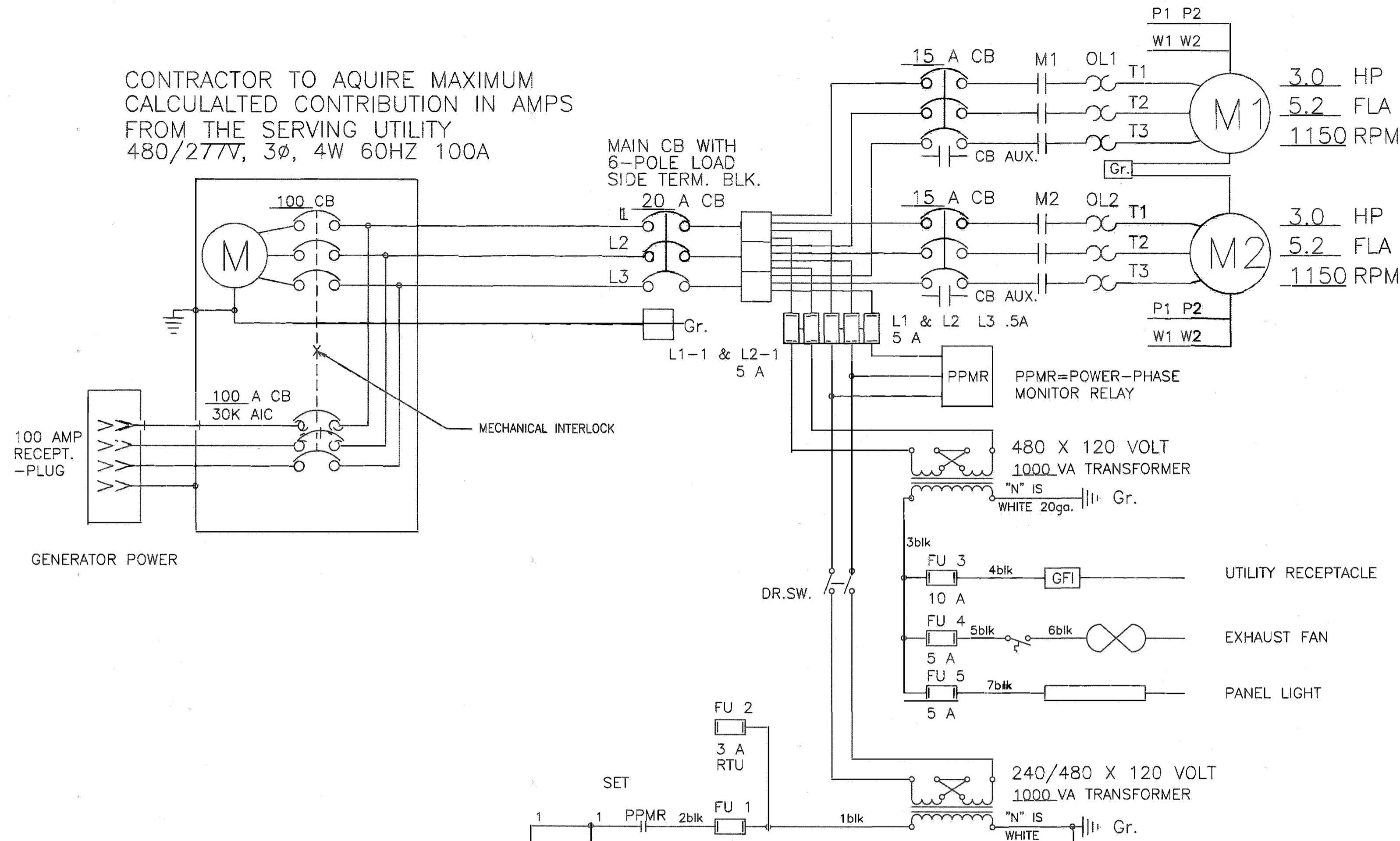
APPROVED BY	BY	DATE	APPROVED BY
ENGINEERING MANAGER	<i>JA</i>	<i>5/10/10</i>	<i>JA</i>
CAPITAL PROJECTS	<i>JA</i>	<i>5/10/10</i>	
SEWER MAINTENANCE	<i>JA</i>	<i>5/10/10</i>	

CITY ENGINEER / PW DIRECTOR
 DATE *5/10/10*

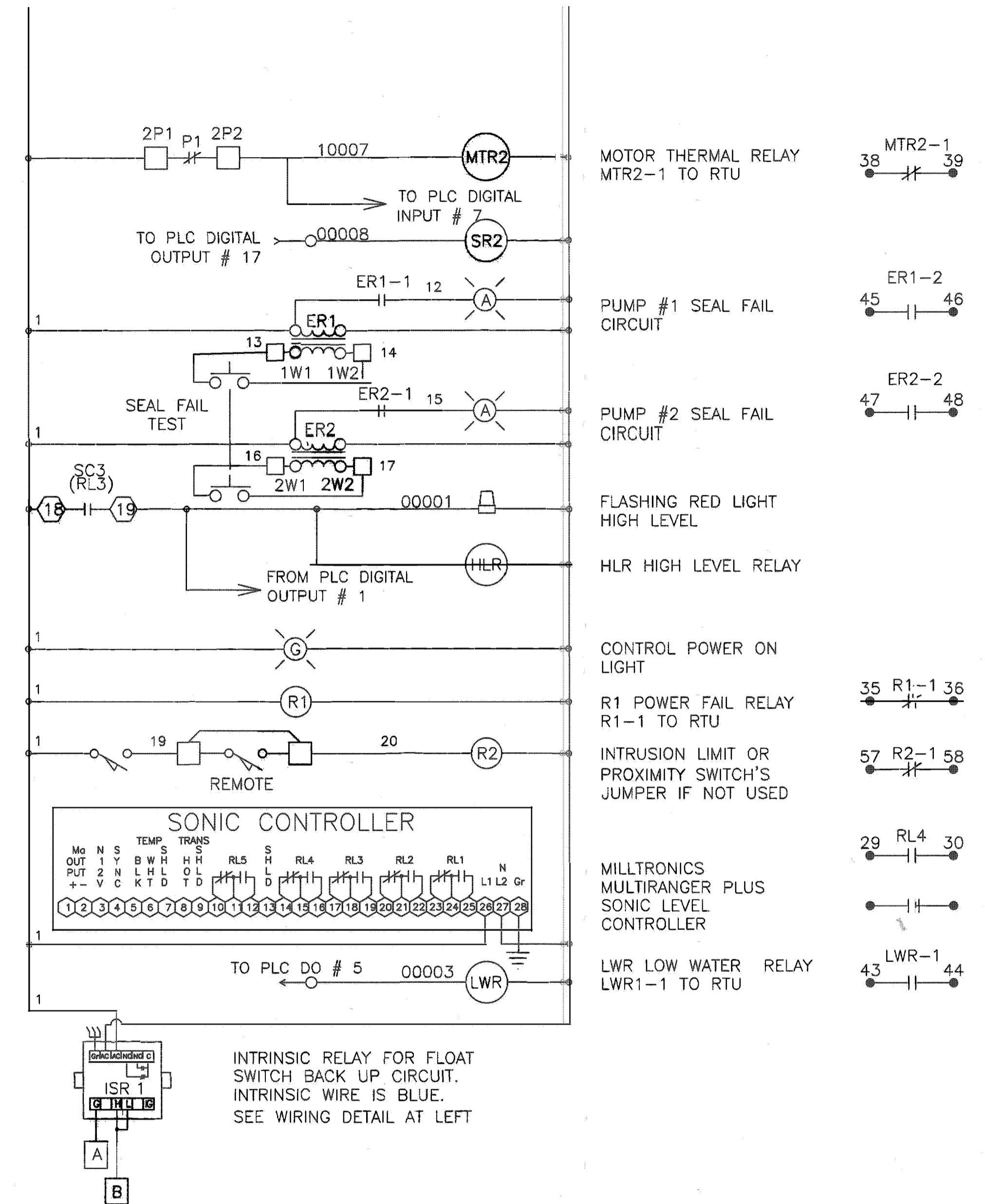
LA SIERRA SEWAGE LIFT STATION
ENLARGED ELECTRICAL PLAN
 TRACT MAP 34794
 HORIZONTAL SCALE: PER PLAN VERTICAL SCALE: PER PLAN

E-4
 SHEET 17 OF 23
 DWG. NO.

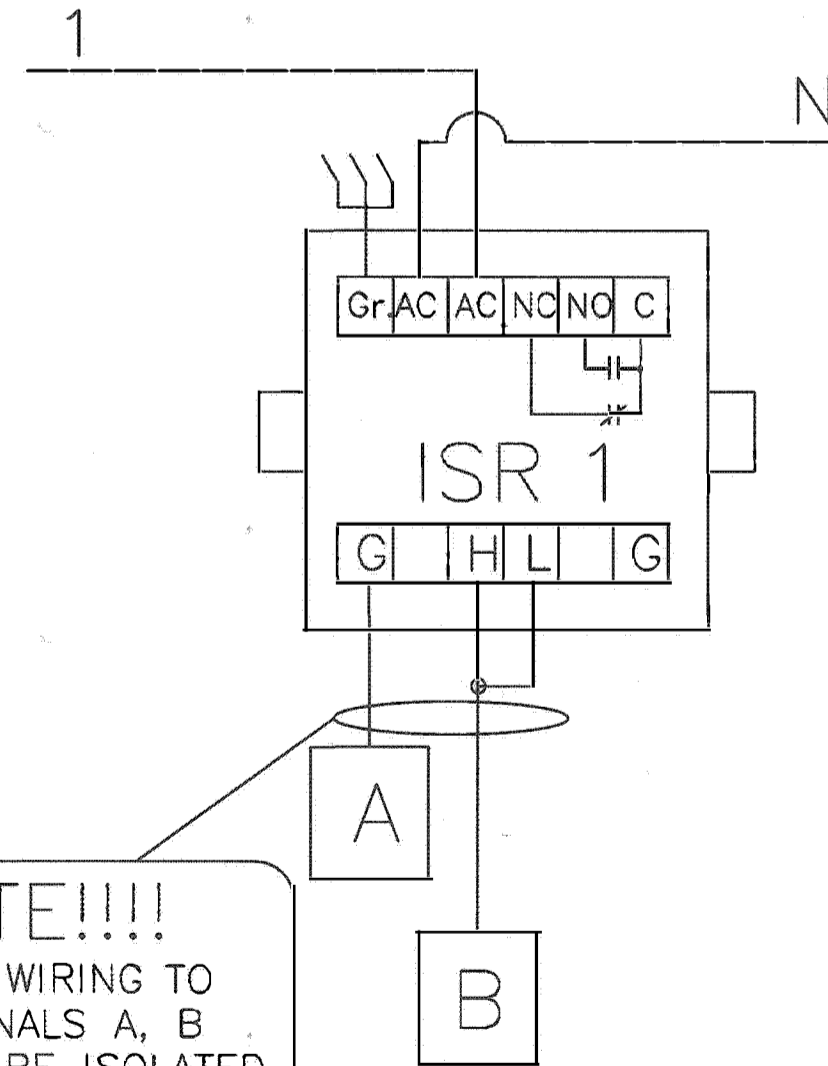
CONTRACTOR TO ACQUIRE MAXIMUM CALCULATED CONTRIBUTION IN AMPS FROM THE SERVING UTILITY
480/277V, 3Ø, 4W 60HZ 100A



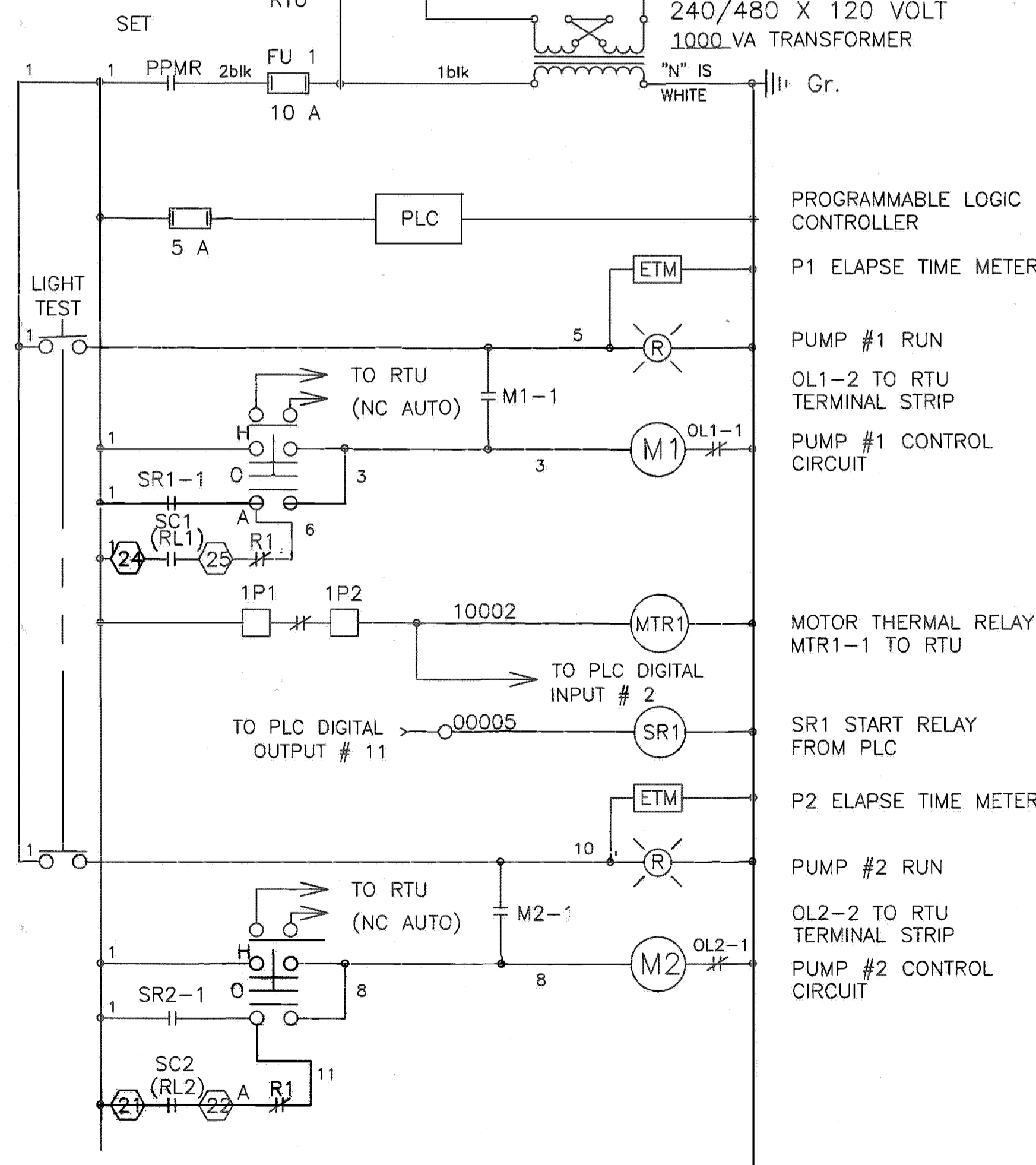
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INTRINSICALLY SAFE RELAY WIRING DETAIL



NOTE!!!!
FIELD WIRING TO TERMINALS A, B MUST BE ISOLATED FROM ALL OTHER VOLTAGE BY AT LEAST 3 INCHES.



CONTINUED ABOVE RIGHT

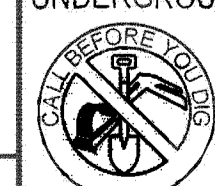
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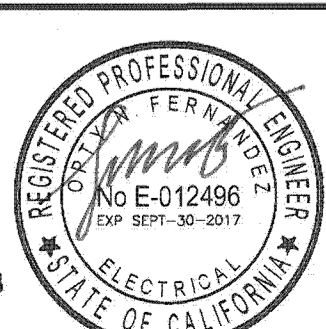
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Phone: 949.589.1909 Fax: 949.589.8888
email@linkture.com



MARK	REVISIONS	APPR.	DATE
DESIGNED BY JA	DRAWN BY JT	CHECKED BY JA	

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE	APPROVED BY
ENGINEERING MANAGER	JA	5/11/2017	SRM
CAPITAL PROJECTS	JA	5/11/2017	SRM
SEWER MAINTENANCE			
			CITY ENGINEER / PW DIRECTOR
			DATE 5/11/2017

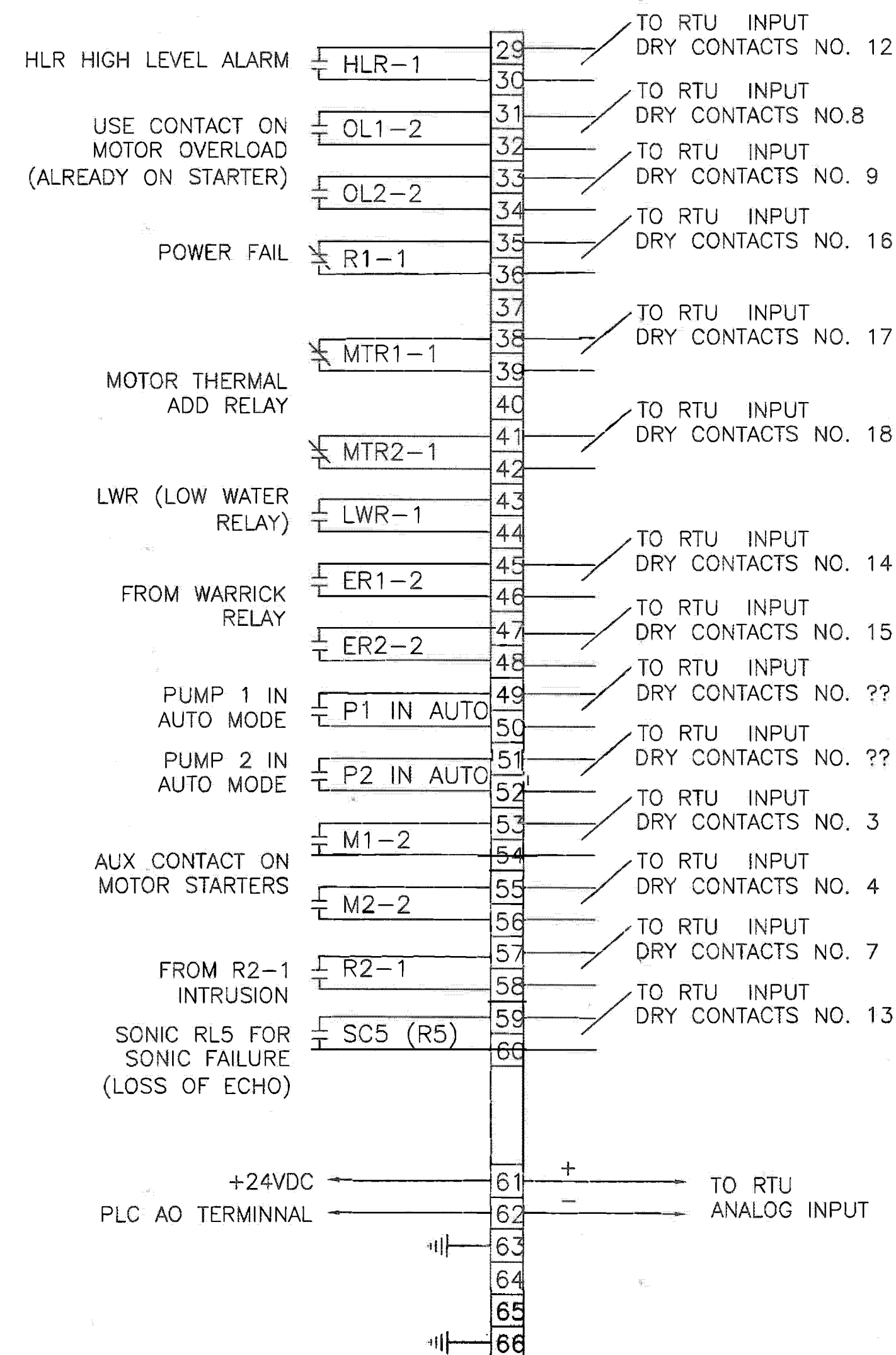
L A 918 R/SEWAGE LIFT STATION

PUMP CONTROL DIAGRAM

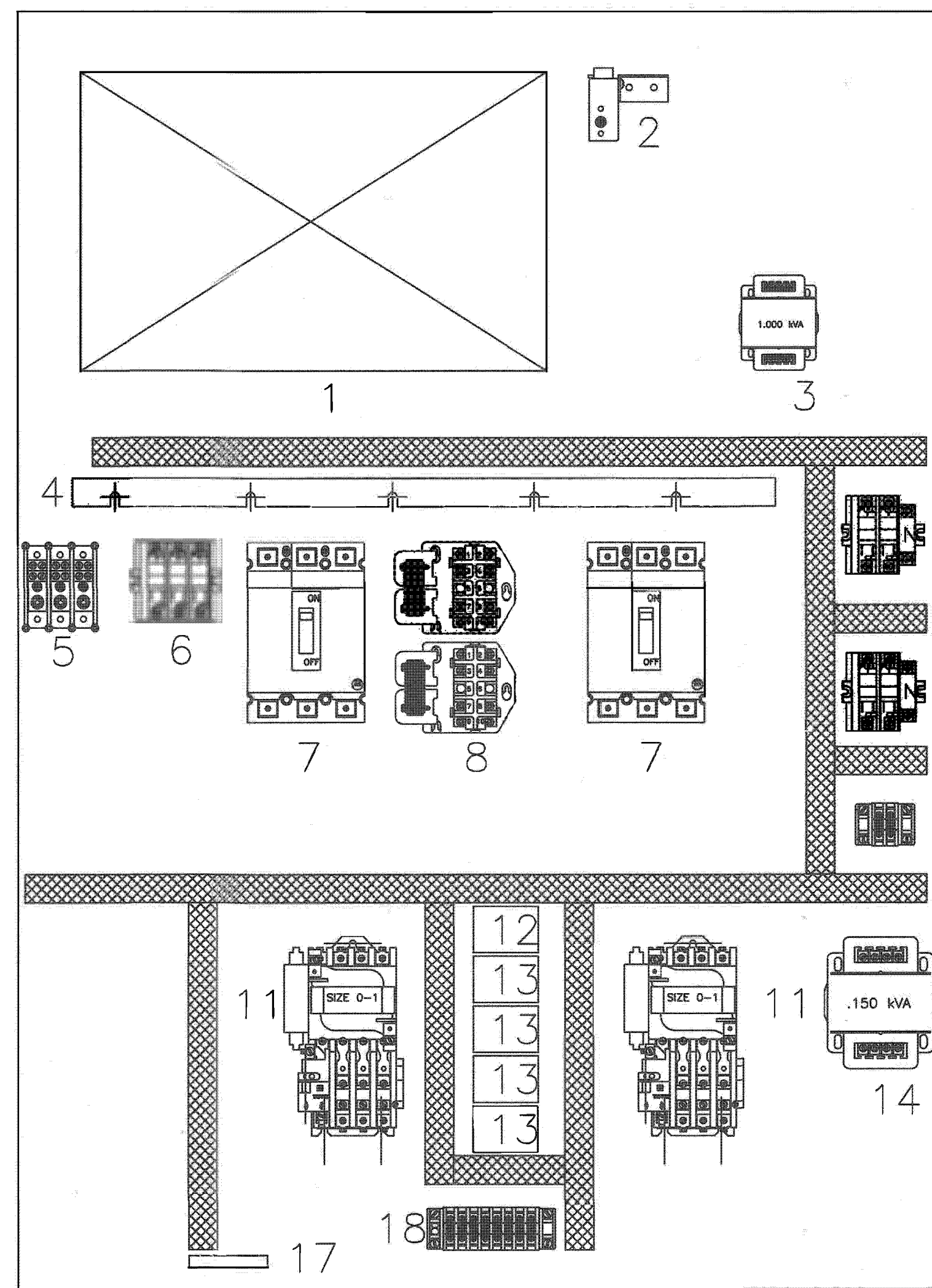
TRACT MAP 34794

HORIZONTAL SCALE: PER PLAN VERTICAL SCALE: PER PLAN

E-5
SHEET 18 OF 23



BACK PANEL LAYOUT



- 1 PLC (QUANTUM 140 PLC)
- SCHNEIDER 140 QUANTUM PLC.
- (1) P.S. - CPS 114 20
- (1) CPU - CPU 113 02
- (1) DISCRETE INPUT - DAI 543 00
- (1) DISCRETE OUTPUT - DAO 842 10
- (1) ANALOG INPUT - ACI 0300 00
- (1) ANALOG OUTPUT - ACO 0200 00
- 2 CONTROL POWER SWITCH
- 3 CONTROL POWER TRANSFORMER
- 4 HIGH VOLTAGE BARRIER 304 SS
- 5 LINE VOLTAGE TERMINAL BLOCK
- 6 CONTROL FUSE
- 7 MOTOR CIRCUIT BREAKER
- 8 SEAL FAIL RELAY
- 9 CONTROL POWER TERMINAL
- 10
- 11 MOTOR STARTERS
- 12 POWER/PHASE MONITOR RELAY
- 13 CONTROL RELAY
- 14 PLC DO ISOLATION TRANSFORMER
- 15
- 16
- 17 GROUND TERMINAL BLOCK
- 18 MOTOR CONTROL TERMINAL BLOCK
- = WIRE WAY

PUBLIC UTILITIES-WATER

NOTES:
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BENCH MARK:
G2-M3 ELEV. = 779.743 (1971 ADJ.) NGVD 1929 DATUM
PK NAIL & CITY ENGINEER TAG IN THE TOP OF THE EASTERLY CURB OF LA SIERRA AVE., APPROX. 40' NORTHERLY OF CENTERLINE OF PALM TERRACE LANE.

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CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE	APPROVED BY
ENGINEERING MANAGER	MA	5/17/10	CITY ENGINEER / PW DIRECTOR
CAPITAL PROJECTS	TN	5/17/10	
SEWER MAINTENANCE			

DESIGNED BY: J.A. DRAWN BY: J.T. CHECKED BY: J.A.L.

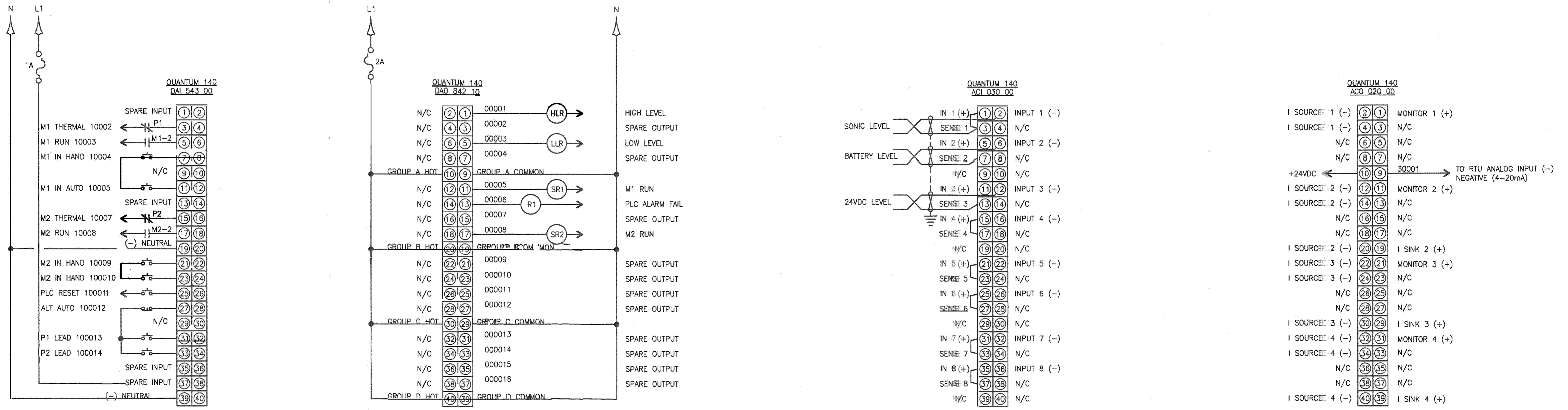
LA SIERRA SEWAGE LIFT STATION

PUMP CONTROL
PANEL LAYOUT

TRACT MAP 34794

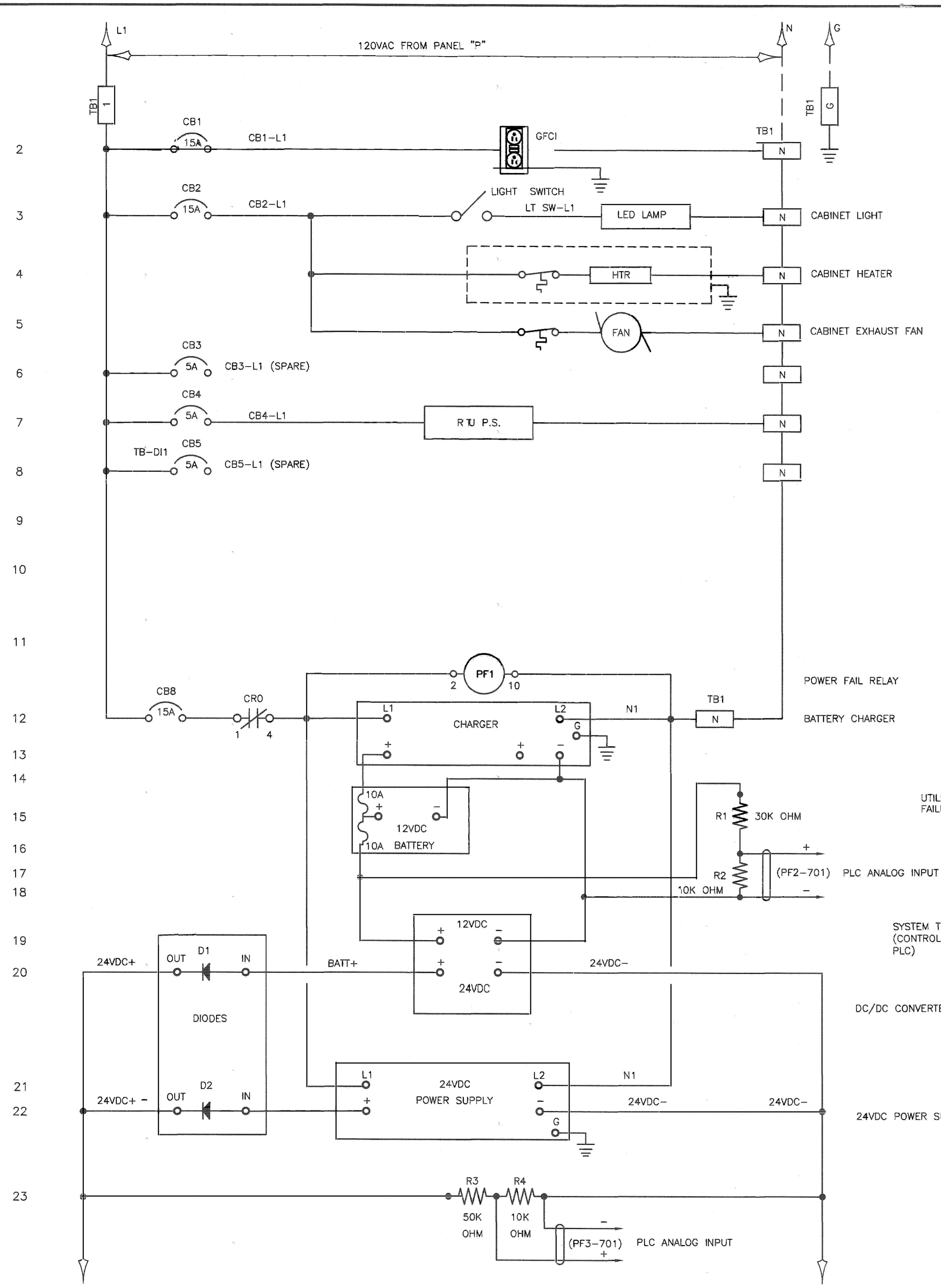
HORIZONTAL SCALE: PER PLAN VERTICAL SCALE: PER PLAN

E-6
SHEET 19 OF 23



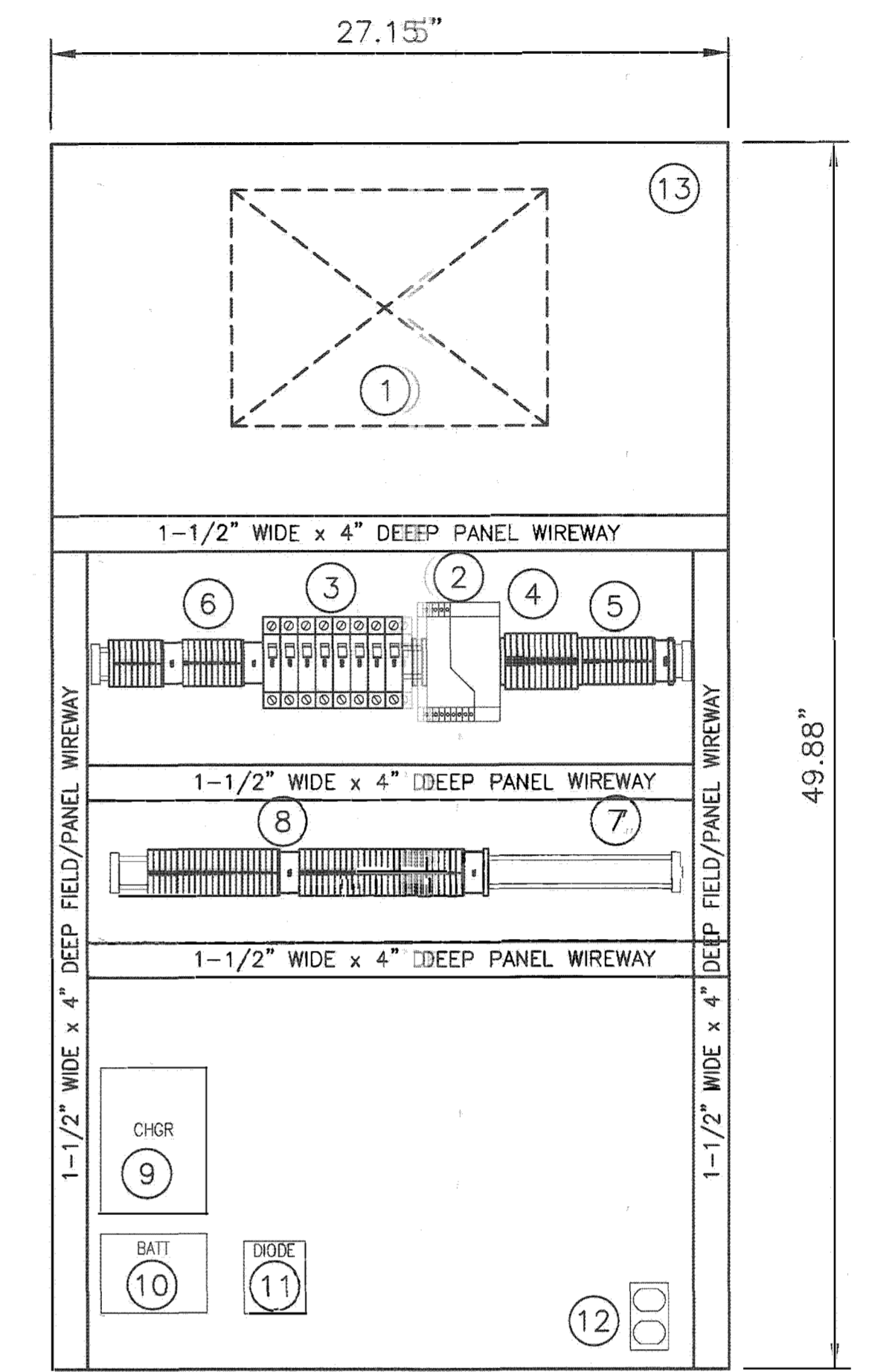
PLC I/O WIRING DIAGRAM

PUBLIC UTILITIES-WATER APPROVED <i>cc</i> DATE <i>5/16/2016</i>	NOTES: THE CITY OF RIVERSIDE WILL NOT ACCEPT THE MAINTENANCE RESPONSIBILITY OF THE SEWAGE LIFT STATION OR THE SEWER FORCE MAIN UNTIL ALL DWELLING UNITS WITHIN THIS DEVELOPMENT HAVE BEEN COMPLETELY SOLD AND OCCUPIED BY HOMEOWNERS.	BENCH MARK: G2-M3 ELEV. = 779.743 (1971 ADJ.) NGVD 1929 DATUM PER ANIMAL & CITY ENGINEER TAG IN THE TOP OF THE EASTERLY CURB OF LA SIERRA AVE., APPROX. 40' NORTHERLY OF CENTERLINE OF PALM TERRACE LANE.	UNDERGROUND SERVICE ALERT Call: Toll FREE 1-800-227-2600 TWO WORKING DAYS BEFORE YOU DIG	LINKTURE CONSULTING ENGINEERS 15 Flagstone Trabuco Canyon, CA 92679 Phone: 949.589.1909 Fax: 949.589.8888 email@linkture.com	 REGISTERED PROFESSIONAL ENGINEER No E-012496 State of California	CITY OF RIVERSIDE, CALIFORNIA PUBLIC WORKS DEPARTMENT APPROVED BY: [Signature] BY: [Signature] DATE: 5/16/16 CAPITAL PROJECTS SEWER MAINTENANCE CITY ENGINEER / PW DIRECTOR	LA SIERRA SEWAGE LIFT STATION CONTROL PANEL WIRING DIAGRAM TRACT MAP 34794 HORIZONTAL SCALE: PER PLAN VERTICAL SCALE: PER PLAN	 E-7 SHEET 20 OF 23 DWG. NO.
--	--	--	---	--	--	--	--	--



RTU POWER WIRING DIAGRAM

- ① MOTOROLA REMOTE TERMINAL UNIT + CDM750 RADIO
- ② 24V, 10A POWER SUPPLY.
- ③ CIRCUIT BREAKER, SEE RTU POWER WIRING DIAGRAM.
- ④ FUSES, SEE RTU POWER WIRING DIAGRAM.
- ⑤ VOLTAGE 125 TERMINAL BLOCK.
- ⑥ VOLTAGE 40 TERMINAL BLOCK.
- ⑦ DIN RAIL (TYP.)
- ⑧ INPUT-OUTPUT TERMINAL BLOCK.
- ⑨ BATTERY CHARGER.
- ⑩ 12V BATTERY.
- ⑪ DIODE.
- ⑫ GFCI RECEPTACLE.
- ⑬ BACK PANEL.



RTU BACK PANEL LAYOUT

PUBLIC UTILITIES-WATER
 APPROVED *Matthew R. [Signature]* DATE 5/16/16

NOTES:
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DESIGNED BY	REVISIONS	APPROVED BY	DATE
JA		JA	5/16/16

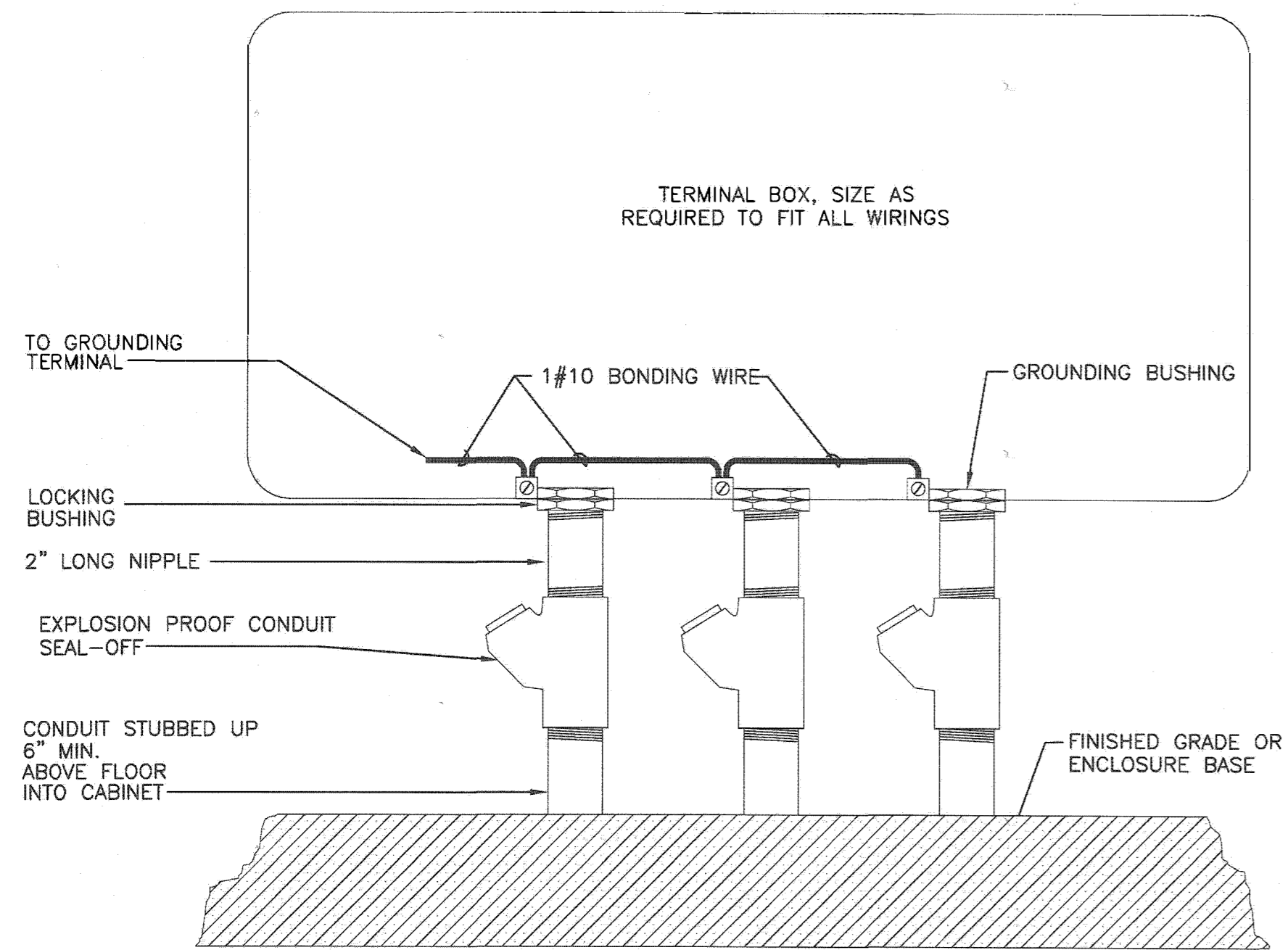
CITY OF RIVERSIDE, CALIFORNIA
 PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE	APPROVED BY
ENGINEERING MANAGER	JA	5/16/16	JA
CAPITAL PROJECTS			
SEWER MAINTENANCE			

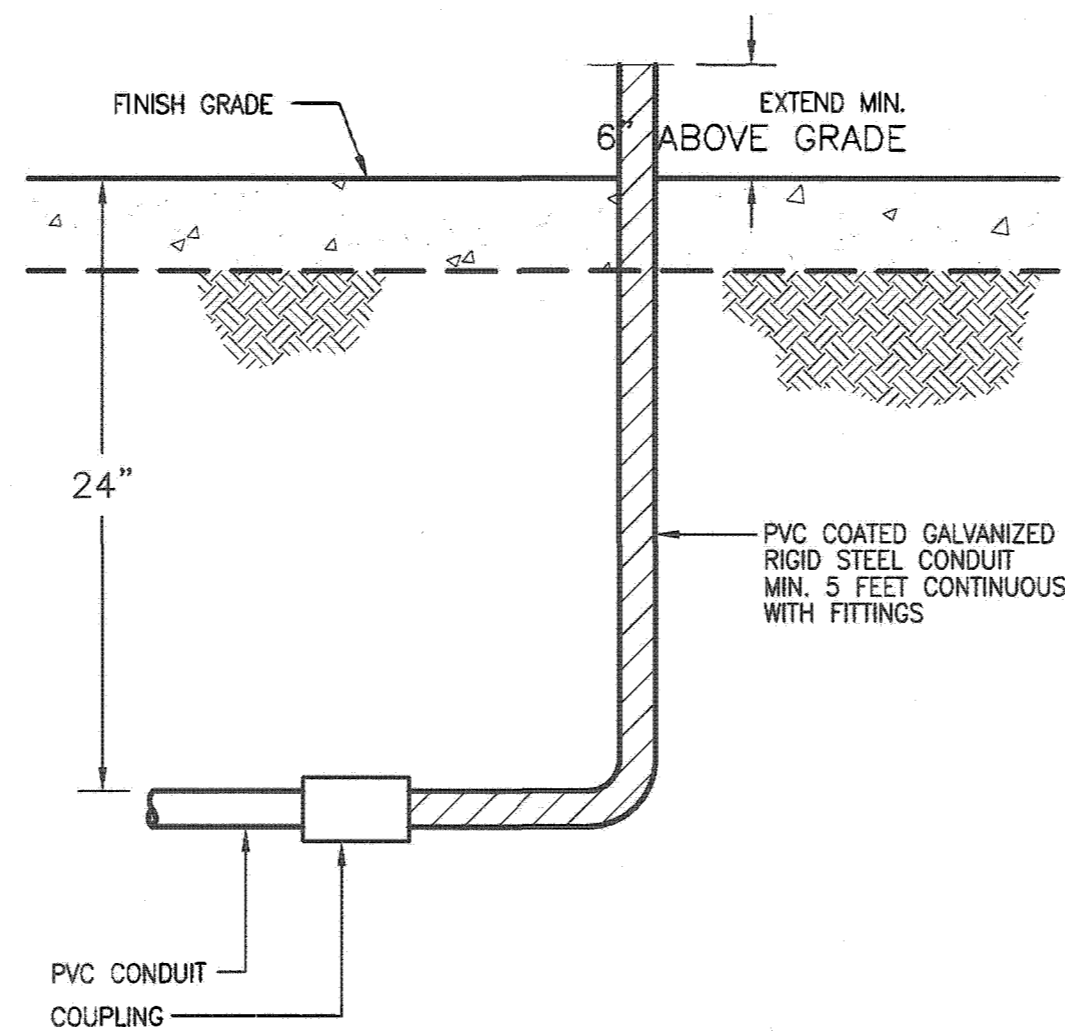
CITY ENGINEER / PW DIRECTOR

LA SIERRA SEWAGE LIFT STATION
CONTROL PANEL WIRING AND LAYOUT
 TRACT MAP 34794
 HORIZONTAL SCALE: PER PLAN VERTICAL SCALE: PER PLAN

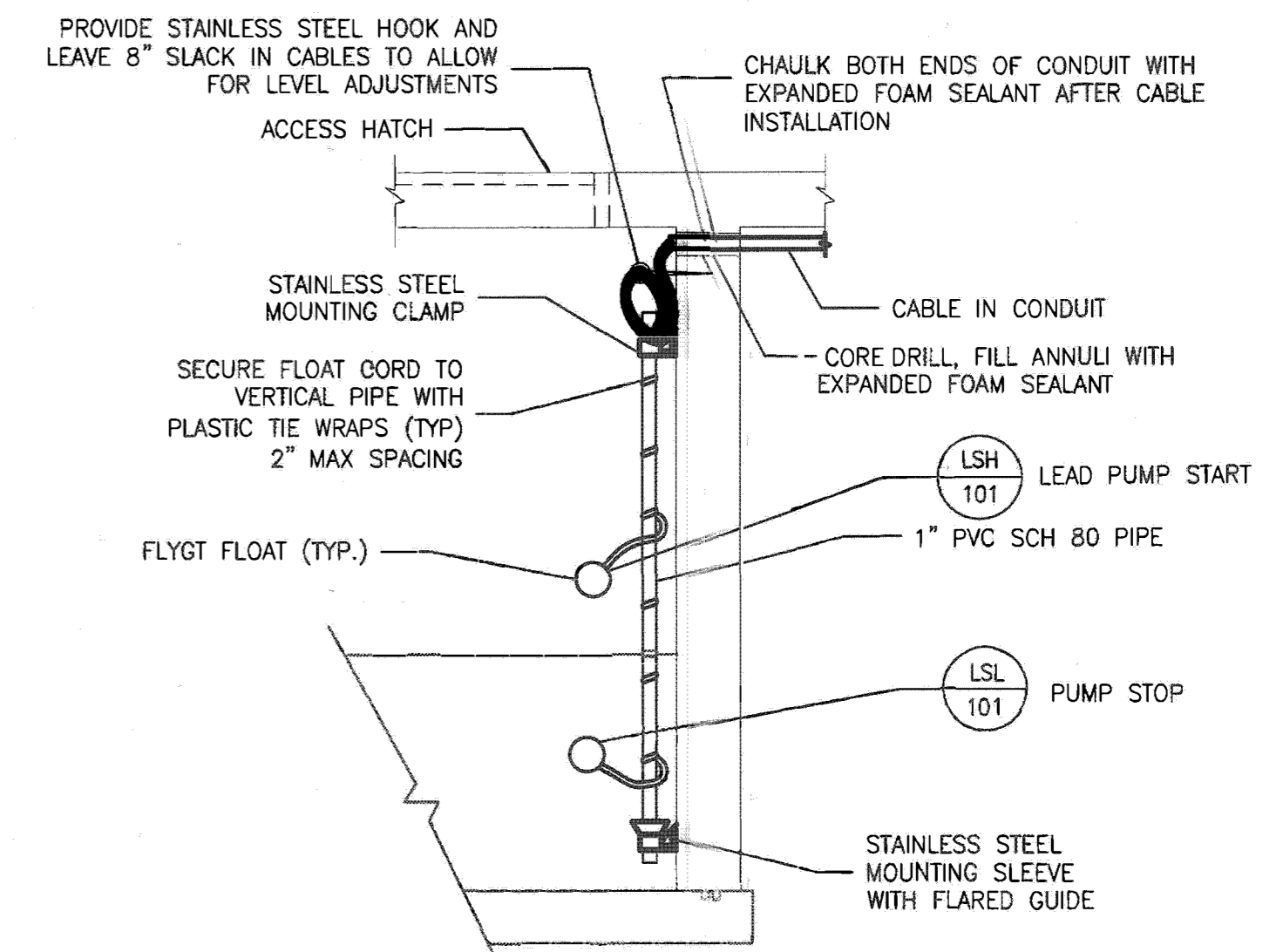
E-8
 SHEET 21 OF 23
 DWG. NO. S2131-21



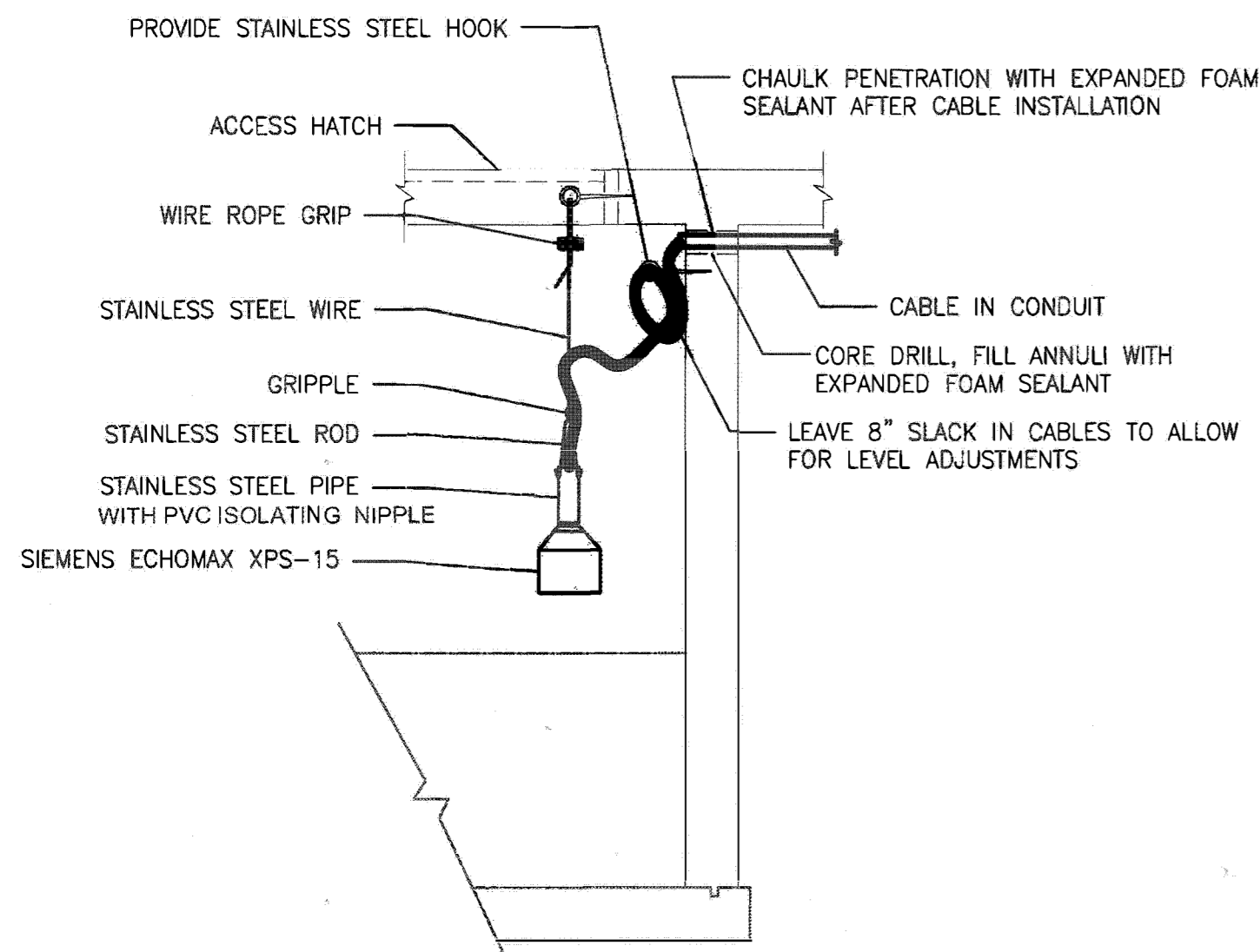
1 TYPICAL CONDUIT STUB-UP DETAIL
NOT TO SCALE



2 CONDUIT STUB-UP
NONE

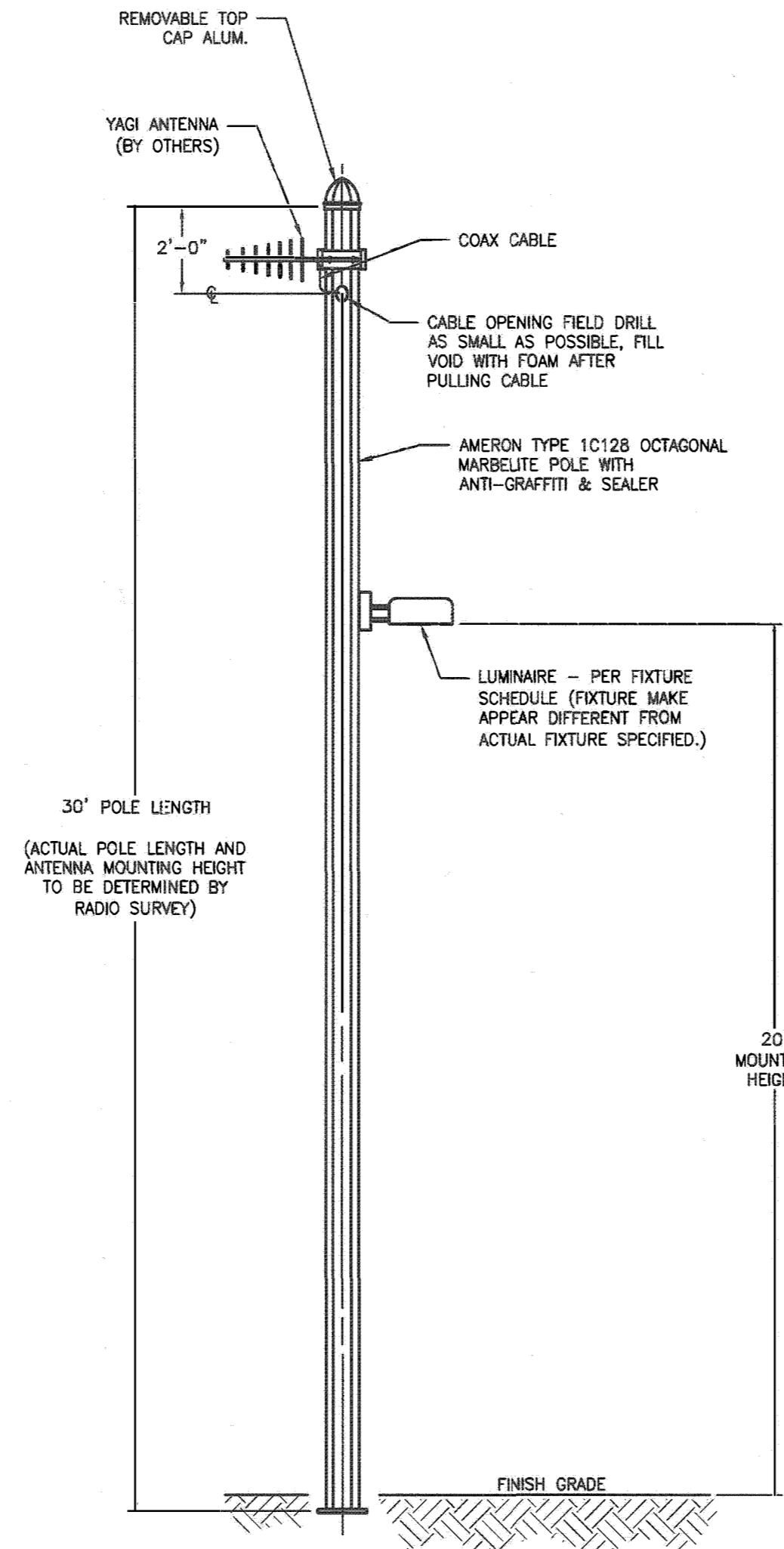


3 TYPICAL LEVEL FLOAT
NOT TO SCALE

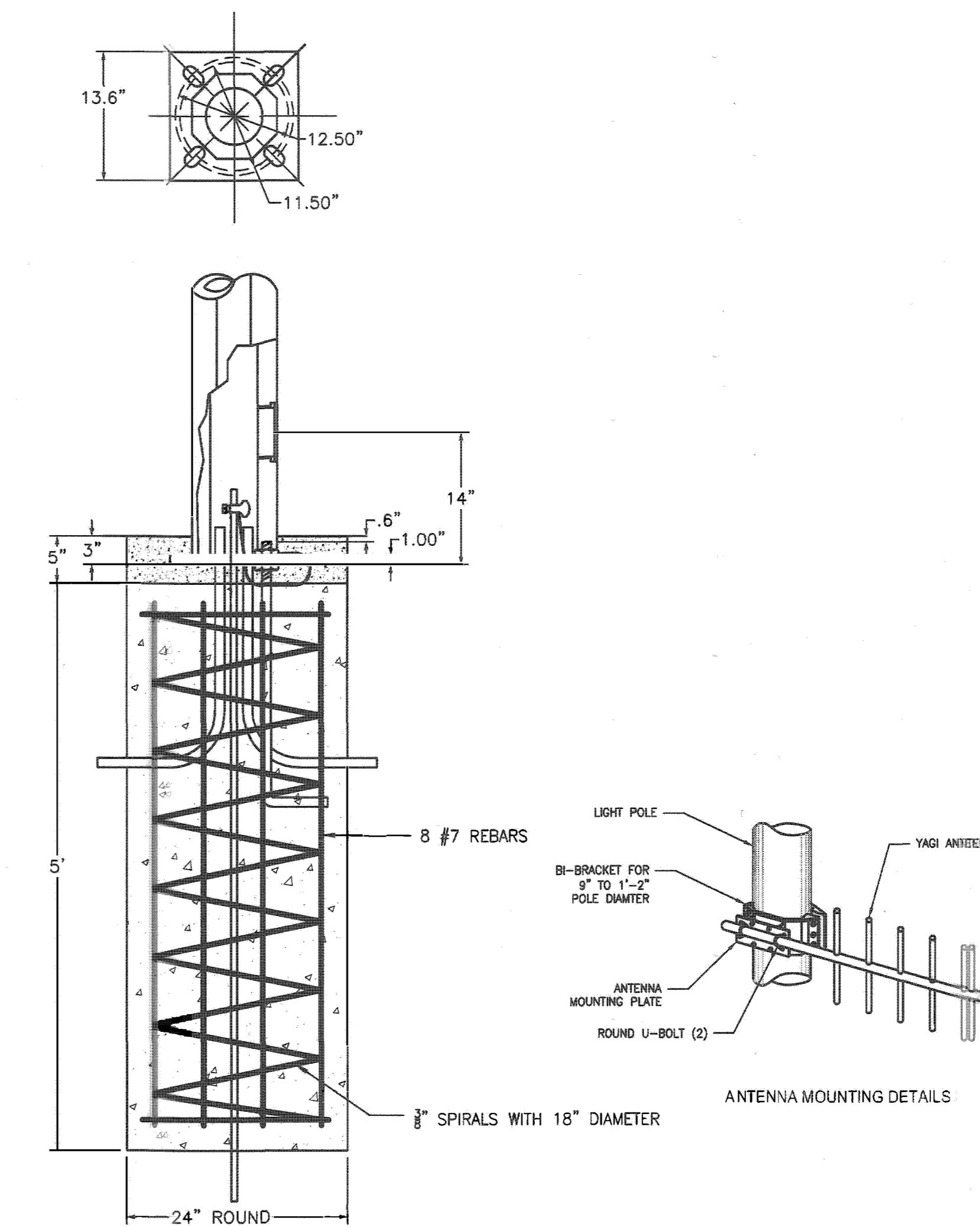


NOTE:
SONIC LEVEL SHALL BE ACCESSIBLE FROM HATCH OR ACCESS WAY AND EASILY REMOVABLE FOR MAINTENANCE. INSTALLATION METHOD SHALL BE APPROVED BY THE CONSTRUCTION MANAGER OR ENGINEER PRIOR TO INSTALLATION. MOUNTING HEIGHT SHALL BE PER MECHANICAL PLANS.

4 TYPICAL SONIC LEVEL
NOT TO SCALE



5 TYPICAL ANTENNA MAST MOUNTING
NOT TO SCALE



PUBLIC UTILITIES-WATER
APPROVED *[Signature]* DATE

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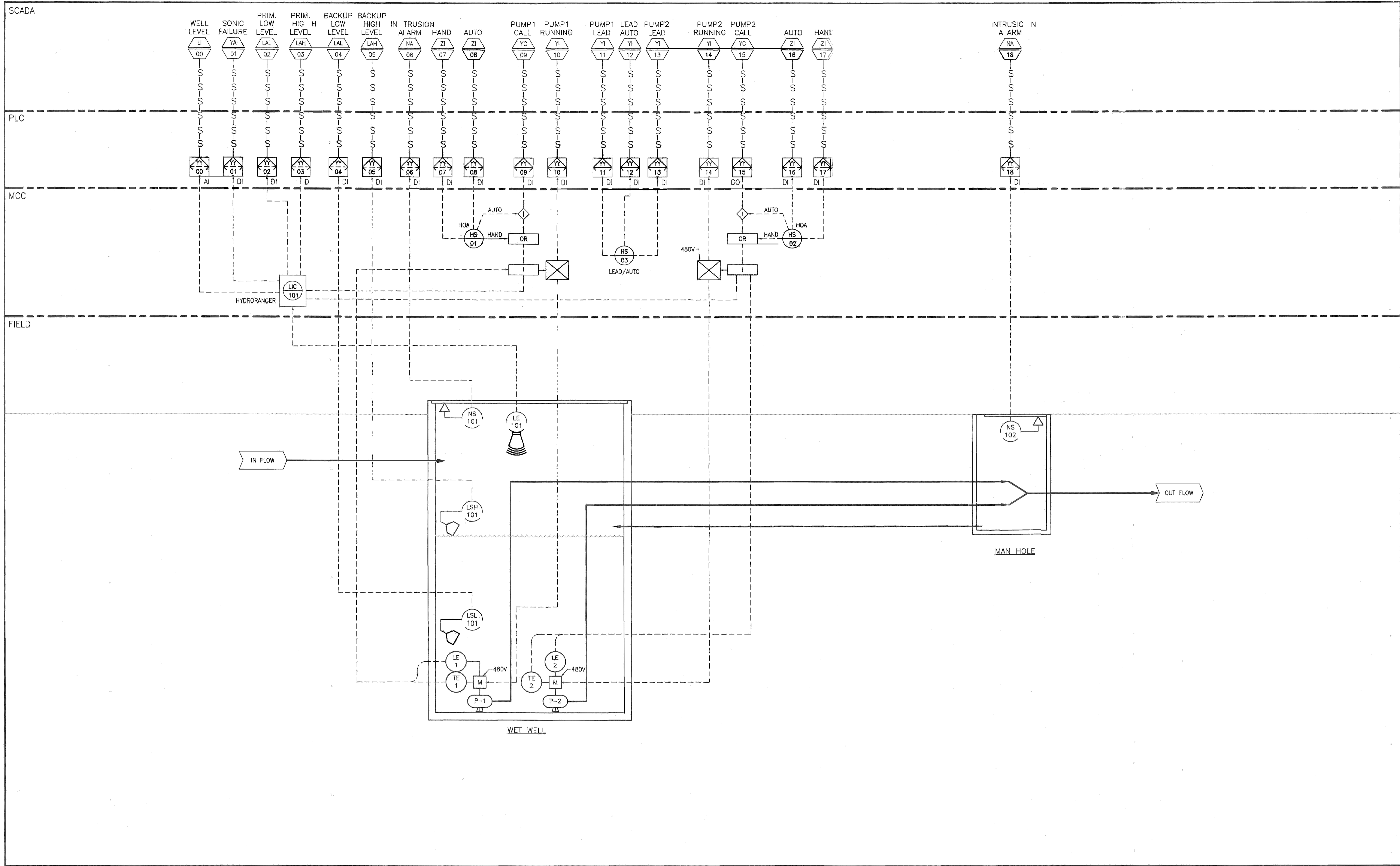
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email@linkture.com
[Professional Engineer Seal]

MARK REVISIONS APRR DATE
DESIGNED BY J.A. DRAWN BY J.T. CHECKED BY J.A.

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT
APPROVED BY: [Signature] BY: [Signature] DATE: [Date]
ENGINEERING MANAGER: [Signature] DATE: [Date]
CITY ENGINEER PW DIRECTOR: [Signature] DATE: [Date]

LA SIERRA SEWAGE LIFT STATION
MISCELLANEOUS DETAILS
TRACT MAP 34794
HORIZONTAL SCALE: PER PLAN VERTICAL SCALE: PER PLAN
DWG. NO. E-9 SHEET 22 OF 23
S2131-22



PUBLIC UTILITIES-WATER

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APPROVED: *[Signature]* DATE: 5/14/16

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[Logo]

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email@linkture.com

[Professional Engineer Seal]

DESIGNED BY	J.A.	DRAWN BY	J.I.	CHECKED BY	J.A.
MARK		REVISIONS		APPR.	DATE

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE	APPROVED BY
ENGINEERING MANAGER	<i>[Signature]</i>	5/14/16	<i>[Signature]</i>
CAPITAL PROJECTS	TR	5/14/16	
SEWER MAINTENANCE			

CITY ENGINEER / PW DIRECTOR

DATE: 5/14/16

LA SIERRA SE W. ALET STA ON

PIPING & INSTRUMENTATION

TRACT MAP 34794

HORIZONTAL SCALE: PER PLAN VERTICAL SCALE: PER PLAN

E-10
SHEET 23 OF 23

DWG. NO.