

LEGEND

- CL CENTER LINE
- WLE WATERLINE EASEMENT
- PUE PUBLIC UTILITY EASEMENT
- DE DRAINAGE EASEMENT
- SLE SEWERLINE EASEMENT
- BC BACK OF CURB
- WTR WATER
- SWR SEWER
- P PAVEMENT
- R/W RIGHT-OF-WAY
- ⊙ SURVEY MONUMENT
- ⊗ WATER VALVE
- ⊕ FIRE HYDRANT
- SEWER MANHOLE
- (X) CONSTRUCTION NOTES
- SEWER LINE
- SEWER CLEANOUT
- SEWER TAP
- ▨ SEWER TAP ENCASEMENT
- WATER LINE
- WATER METER
- ◆ GEOTECHNICAL BORE LOCATION (REFER TO SPECS)
- POTHOLE LOCATION (REFER TO SPECS)

BUCKSKIN SANITARY DISTRICT PHASE 4 LIFT STATION NO. 1 -CONTRACT 107-

SITUATED IN PORTIONS OF:
SECTIONS 1, 11, 12, 14 AND 15, TOWNSHIP 10 NORTH, RANGE 19 WEST,
SECTION 31, TOWNSHIP 11 NORTH, RANGE 18 WEST,
AND SECTION 6, TOWNSHIP 10 NORTH, RANGE 18 WEST
OF THE GILA AND SALT RIVER BASE MERIDIAN, LA PAZ COUNTY, ARIZONA

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PROJECT CONTROL

BEARINGS & COORDINATES SHOWN HEREON ARE BASED UPON GRID COORDINATES (CONVERTED TO GROUND) AS LISTED AS SECONDARY CONTROL BEING SHOWN IN THE RIGHT-OF-WAY PLANS OF THE PARKER BUSINESS ROUTE SR95B, SR 95B TURNBACK, 095B LA 148 H4696 01R, S B95-A-800 PREPARED FOR THE ARIZONA DEPARTMENT OF TRANSPORTATION BY ARCADIS GERAGHTY 7 MILLER, PROJECT NO. AZ 000838, DRAWING NO. D-15_T-015 HAVING A STAMP DATE OF 7/15/03.

ELEVATIONS SHOWN HEREON ARE BASED ON AN ADOT ALUMINUM CAP LOCATED AT STATION 236+70.9 AS SHOWN ON THE SURVEY CONTROL SHEET CREATED BY STANLEY CONSULTANTS PREPARED FOR THE BUCKSKIN SANITARY DISTRICT ON SHEET 6 OF 80, PROJECT NO. 17471.02.00 HAVING PRINT DATE OF 2/9/07. ELEVATION = 390.81 ADOT (NGVD 29)

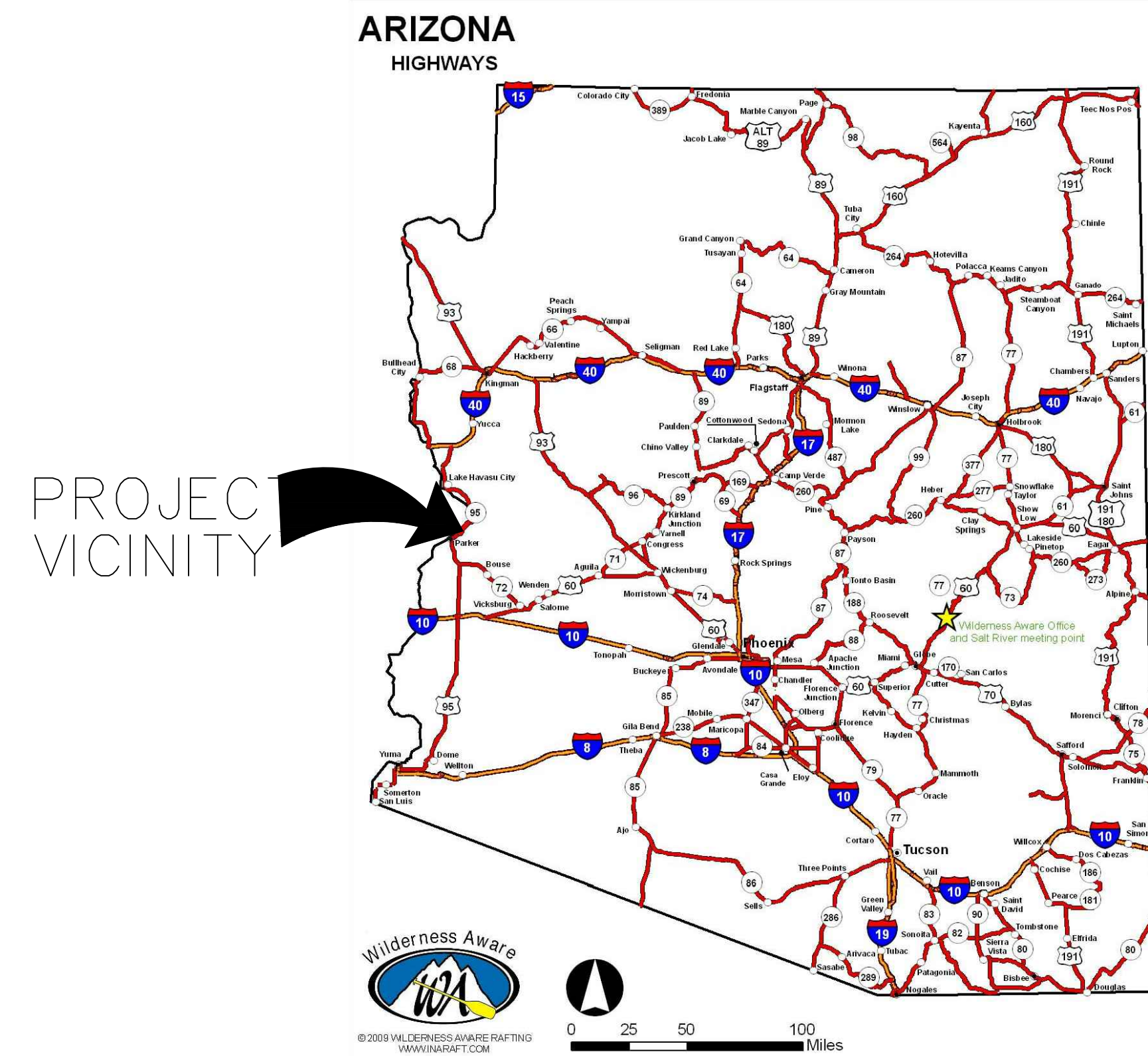
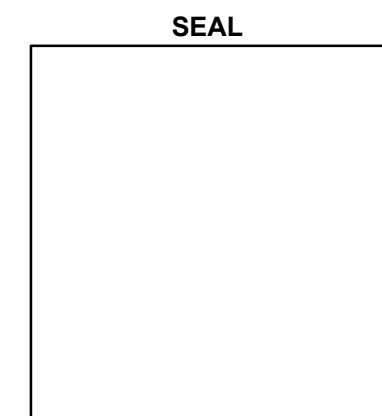
APPROXIMATE GEOGRAPHIC PROJECT LOCATION

THIS APPROXIMATE GEOGRAPHIC LOCATION REPRESENTS THE EXISTING BUCKSKIN SANITARY DISTRICT WASTE WATER TREATMENT PLANT SERVING THIS PHASE 4 PROJECT.

LATITUDE: 34° 12' 18.47"N
LONGITUDE: 114° 13' 4.93"W

SEWER "AS BUILT" CERTIFICATION:

I HEREBY CERTIFY THAT THE "AS-BUILT" MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED, AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AFTER DUE REVIEW. ADDITIONALLY, I HEREBY CERTIFY THAT ALL MAINS AND SERVICES HAVE BEEN INSTALLED WITHIN THE LIMITS OF EASEMENTS DEDICATED TO BUCKSKIN SANITARY DISTRICT OR INSIDE DEDICATED STREET RIGHTS-OF-WAYS OR PUBLIC UTILITY EASEMENTS.



UTILITY SERVICES

- SEWER BUCKSKIN SANITARY DISTRICT
- WATER BROOKE UTILITIES
- GAS SOUTHWEST GAS
- ELECTRICITY A.P.S.
- COMMUNICATIONS FRONTIER COMMUNICATIONS
- COMMUNICATIONS SUDDENLINK COMMUNICATIONS
- POLICE LA PAZ COUNTY SHERIFF
- FIRE BUCKSKIN FIRE DEPT
- STORM DRAINAGE LA PAZ COUNTY

UTILITY NOTIFICATION:

THESE PLANS HAVE BEEN SUBMITTED TO THE FOLLOWING UTILITY COMPANIES, WHERE THE WORK TO BE DONE CONFLICTS WITH ANY OF THESE UTILITIES, THE CONFLICTS SHALL BE RESOLVED AS SPECIFIED AS NOTED ON THESE PLANS. CONFLICTS ARISING DURING THE COURSE OF CONSTRUCTION FROM UNFORSEEN CIRCUMSTANCES SHALL BE REPORTED TO THE INTERESTED UTILITY COMPANY AND BE RESOLVED BY THEM AND THE DESIGN ENGINEER.

- BROOKE UTILITIES
- A.P.S.
- FRONTIER COMMUNICATIONS
- SUDDENLINK COMMUNICATIONS
- SOUTHWEST GAS

SEWER OWNER/OPERATOR

BUCKSKIN SANITARY DISTRICT
8632 RIVERSIDE DRIVE #4
PARKER, ARIZONA 85344
PHONE: (928) 667-7197
FAX: (928) 667-1797
CONTACT: WAYNE POSEY, DISTRICT MANAGER

CIVIL ENGINEER

ENERGY AND WATER SOLUTIONS
4241 E. HANO STREET
PHOENIX, AZ 85044
PHONE: (602) 309-3824
FAX: (480) 656-9778
CONTACT: GLENN PANARO, PE.

LOCATION MAP
N.T.S.

SURVEYOR

JG ELLIS LAND SURVEYING SERVICES
3238 NORTH 81ST PLACE
SCOTTSDALE, AZ 85251
PHONE: (602) 970-6265
FAX: (602) 970-6271
CONTACT: JAMES ELLIS, RLS

GEOTECHNICAL ENGINEER

WESTERN TECHNOLOGIES, INC.
1524 EAST DRINDA WAY #113
FORT MOHAVE, AZ 86426
PHONE: (928) 758-8378
FAX: (928) 727-1776
CONTACT: DENNIS ROBERTS

ELECTRICAL ENGINEER

WRIGHT ENGINEERING CORP.
165 EAST CHILTON DRIVE
CHANDLER, AZ 85225
PHONE: (480) 497-5829
FAX: (480) 497-5807
CONTACT: WADE WILLIAMS, PE.

APPROVALS:

- BUCKSKIN SANITARY DISTRICT
- ARIZONA DEPT. OF ENVIRONMENTAL QUALITY
- LA PAZ COUNTY, ARIZONA



EXPIRES 3/31/20



ENERGY AND WATER SOLUTIONS, LLC
CIVIL ENGINEERING LAND DEVELOPMENT WATER RESOURCES

P.O. BOX 20112, FOUNTAIN HILLS, AZ 85269
PHONE: 602.309.3824 FAX: 480.656.9778 EMAIL: gpanaro@cox.net

JOB #:
DATE: 5-10-19
SCALE: N.T.S.

REVISIONS	BY	DATE

**BUCKSKIN SANITARY DISTRICT
PHASE 4 SEWER
COVER**

SHEET 1

BUCKSKIN SANITARY DISTRICT - TYPICAL SEWER NOTES

- ALL CONSTRUCTION SHALL CONFORM TO THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, MARICOPA ASSOCIATION OF GOVERNMENTS AND THE UNIFORM STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, MARICOPA ASSOCIATION OF GOVERNMENTS MOST RECENT ADDITION (MAG SPECS & MAG DETAILS); THE ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY ENGINEERING BULLETIN NO. 11; AND REQUIREMENT OF THE BUCKSKIN SANITARY DISTRICT, WHICHEVER IS MOST STRINGENT.
- BEDDING MATERIAL SHALL NOT BE LARGER THAN 3/4" INCH IN SIZE.
- ALL FACILITIES, MATERIALS, AND WORKMANSHIP ARE SUBJECT TO THE APPROVAL AND ACCEPTANCE OF THE SANITARY DISTRICT MANAGER OR DULY AUTHORIZED REPRESENTATIVE IN ORDER TO ASSURE THE INTEGRITY OF THE SANITARY DISTRICT'S COLLECTION SYSTEM.
- ANY WORK PERFORMED WITHOUT THE APPROVAL OF THE SANITARY DISTRICT MANAGER OR DULY AUTHORIZED REPRESENTATIVE AND/OR ALL WORK AND MATERIALS NOT IN CONFORMANCE WITH THE SPECIFICATIONS IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
- ANY DEVIATION FROM THE PLANS AND SPECIFICATIONS MUST BE APPROVED IN WRITING BY THE SANITARY DISTRICT MANAGER OR DULY AUTHORIZED REPRESENTATIVE PRIOR TO ACCEPTANCE.
- THE CONTRACTOR MUST OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM BUCKSKIN SANITARY DISTRICT, LA PAZ COUNTY AND ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY AND ANY OTHER ENTITY HAVING JURISDICTION PRIOR TO CONSTRUCTION. THE SANITARY DISTRICT MANAGER OR DULY AUTHORIZED REPRESENTATIVE SHALL BE NOTIFIED 24 HOURS PRIOR TO THE DIFFERENT PHASES OF CONSTRUCTION FOR SCHEDULING INSPECTIONS.
- THE CONTRACTOR WILL UNCOVER ALL EXISTING LINES BEING TIED INTO TO VERIFY THEIR LOCATION PRIOR TO TRENCHING. THE CONTRACTOR WILL LOCATE OR HAVE LOCATED ALL EXISTING UNDERGROUND PIPELINES, TELEPHONE AND ELECTRIC CONDUITS, AND STRUCTURES IN ADVANCE OF CONSTRUCTION AND WILL OBSERVE ALL POSSIBLE PRECAUTIONS TO AVOID DAMAGE TO THE SAME.
- TRAFFIC CONTROL SHALL BE MAINTAINED IN ACCORDANCE WITH MAG SPECIFICATION 401, MANUAL OF TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (LATEST EDITION), AND THE REQUIREMENTS FOR SIGNING AND BARRICADES OF THE LA PAZ COUNTY TRANSPORTATION DEPARTMENT.
- BACKFILLING SHALL NOT BE STARTED UNTIL ALL LINES ARE APPROVED BY THE SANITARY DISTRICT MANAGER OR DULY AUTHORIZED REPRESENTATIVE.
- LOCATIONS AND FREQUENCY OF COMPACTION TESTING WIL BE CONDUCTED IN ACCORDANCE THE SPECIFICATIONS. COPIES OF THE TEST RESULTS SHALL BE SENT TO THE SANITARY DISTRICT MANAGER OR DULY AUTHORIZED REPRESENTATIVE. IF ANY TEST FAILURES ARE EXPERIENCED, THE DISTRICT RESERVES THE RIGHT TO REQUIRE ADDITIONAL TESTING AT NO EXPENSE TO THE DISTRICT.
- WHEN A SEWER CROSSES A WATER PIPE AT A POINT AT WHICH THE SEWER IS LESS THAN 2 FEET BELOW THE WATER PIPE, THE SEWER SHALL BE ENCASED IN CONCRETE, OR CONSTRUCTED OF DUCTILE IRONPIPE WITH MECHANICAL JOINTS, FOR A DISTANCE OF AT LEAST 6 FEET IN EACH DIRECTION FROM THE CROSSING, EXCEPT IN THE CASE OF A FORCE MAIN WHERE THE DISTANCE IS 10 FEET. WHEN THE SEWER IS A 4 OR 6 INCH HOUSE CONNECTION, NO PROTECTION IS REQUIRED IF THE VERTICAL SEPARATION IS 12 INCHES OR GREATER BELOW THE WATER PIPE.
- ALL SEWER TAP LATERALS SHALL BE CONSTRUCTED TO THE LOT LINE OR INTERIOR EDGE OF THE PUE WHICHEVER IS FURTHER ONTO THE PROPERTY. A PLUG OR CAP MUST BE INSTALLED AT THE END OF EACH LATERAL WITH A 2X4 INSTALLED VERTICALLY FROM THE PLUG OR CAP UP TO 2 FEET ABOVE GRADE. THESE 2X4'S SHALL HAVE #10 STEEL WIRE WRAPPED AROUND THEM TO AID IN LOCATING THE LATERAL. THE 2X4 SHALL BE PAINTED GREEN AND THE DEPTH OF THE SERVICES (FROM GRADE TO TOP OF CAP OR PLUG) SHALL BE MARKED ON THE 2X4. METAL 2X4'S WITHOUT WIRE ARE ALSO ACCEPTABLE.
- ALL SEWER STUBS SHALL END WITH A PLUG OR CAP AND MUST HAVE A 2X6 INSTALLED FROM THE END OF THE PLUG OR CAP UP TO 2 FEET ABOVE GRADE. THE 2X6 SHALL HAVE #10 WIRE WRAPPED AROUND IT TO ASSIST IN LOCATING THE STUB IN CASE THE 2X6 IS BROKEN OFF AT GRADE. 2X6'S MUST BE PAINTED GREEN. METAL 2X6'S WITHOUT WIRE ARE ALSO ACCEPTABLE ACCEPT IN TRAVEL WAYS.
- ALL SEWER LINES WILL BE AIR TESTED IN ACCORDANCE WITH MAG SPEC. SECTION 02722, PART 2.13-B. ALL MANHOLES WILL BE WATER TESTED IN ACCORDANCE WITH ADEQ ENGINEERING BULLETIN NO. 11 OR TESTED WITH NEGATIVE AIR PRESSURE IN ACCORDANCE WITH ASTM C 1244-93. A LETTER CERTIFYING THE PASSING TEST RESULTS MUST BE RECEIVED BY THE DISTRICT OR DULY AUTHORIZED REPRESENTATIVE PRIOR TO ACCEPTANCE.
- ANY PREVIOUSLY TESTED SEWER LINES BROKEN DURING THE INSTALLATION OF OTHER ADJACENT UTILITIES WILL BE REPAIRED AND RETESTED TO THE SATISFACTION OF THE SANITARY DISTRICT MANAGER OR DULY AUTHORIZED REPRESENTATIVE.
- ACCEPTANCE OF THE COMPLETED IMPROVEMENTS WILL NOT BE GIVEN UNTIL FULL SIZE PHOTO MYLAR REPRODUCIBLE "AS-BUILTS" HAVE BEEN SUBMITTED BY A REGISTERED ARIZONA PROFESSIONAL ENGINEER AND APPROVED BY THE SANITARY DISTRICT MANAGER OR DULY AUTHORIZED REPRESENTATIVE, ALONG WITH ELECTRONIC FILES IN PDF FORMAT OF ALL AS-BUILTS SHEETS.
- NON-SHRINK GROUT SHALL BE USED IN THE CONSTRUCTION OF ALL MANHOLES.
- ALL SANITARY SEWER PIPE SHALL BE POLYVINYL CHLORIDE (PVC), UNLESS OTHERWISE NOTED, IN ACCORDANCE WITH MAG SPECIFICATIONS. A CERTIFICATE SHALL BE FURNISHED FROM THE MANUFACTURER ATTESTING THAT THE PIPE MEETS THE REQUIRED ASTM REQUIREMENTS, PVC PIPE SDR 35, ASTM D 3034.
- ALL CLEANOUTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DISTRICT'S STANDARD DESIGN.
- COMPLIANCE WITH ALL COUNTY, STATE AND FEDERAL RULES AND REGULATIONS PERTAINING TO JOB SAFETY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE INSIDE OF ALL NEW MANHOLES SHALL BE COATED WITH INSECTICIDE PAINT IN ACCORDANCE WITH THE SPECIFICATIONS. USE EITHER INSECTA OR SUPER IQ. APPLICATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. A LETTER CERTIFYING THAT THE APPLICATION IS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS ALONG WITH A TWO YEAR WARRANTY SHALL BE PROVIDED TO THE DISTRICT.

GENERAL NOTES:

- THE ENGINEERING DESIGN OF THESE PLANS ARE ONLY APPROVED BY BUCKSKIN SANITARY DISTRICT IN SCOPE AND NOT IN DETAIL. CONSTRUCTION QUANTITIES ON THESE PLANS ARE NOT VERIFIED BY BUCKSKIN SANITARY DISTRICT. APPROVAL OF THESE PLANS ARE FOR PERMIT PURPOSES ONLY AND SHALL NOT PREVENT BUCKSKIN SANITARY DISTRICT FROM REQUIRING CORRECTION OF ERRORS IN THE PLANS WHERE SUCH ERRORS ARE SUBSEQUENTLY FOUND TO BE IN VIOLATION OF ANY LAW.
- AN APPROVED SET OF PLANS SHALL BE LOCATED ON THE SITE DURING CONSTRUCTION AND INSPECTION.
- A COPY OF ALL PERMITS AND THE DUST CONTROL INFORMATION SIGN MUST BE ON SITE AT ALL TIMES.
- ALL WORK AND MATERIALS WHICH DO NOT CONFORM TO THE SPECIFICATIONS ARE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
- INSPECTION IS TO BE DONE BY THE BUCKSKIN SANITARY DISTRICT OR A DULY AUTHORIZED REPRESENTATIVE OF THE DISTRICT.

GENERAL NOTES: (CONTINUED)

- ANY WORK PERFORMED WITHOUT THE KNOWLEDGE OF THE ENGINEER OR THE BUCKSKIN SANITARY DISTRICT REPRESENTATIVE IS SUBJECT TO REMOVAL AND REPLACEMENT OF SAME TO BE DONE AT THE CONTRACTORS EXPENSE.
- THE LA PAZ COUNTY ENGINEERING DEPARTMENT AND BUCKSKIN SANITARY DISTRICT SHALL BE NOTIFIED AT LEAST 4 WORKING DAYS PRIOR TO STARTING WORK.
- THE ENGINEER OF RECORD SHALL BE NOTIFIED AT LEAST 4 WORKING DAYS IN ADVANCE OF ANY CONSTRUCTION.
- FACILITIES WHICH ARE NOT SPECIFICALLY LOCATED WITH ACTUAL HORIZONTAL AND VERTICAL CONTROLS ARE LOCATED APPROXIMATELY AND TO THE BEST AVAILABLE INFORMATION.
- EXISTING UTILITIES AND OTHER FACILITIES HAVE BEEN PLACED ON THE PLANS FROM FIELD SURVEYS, EXISTING MAPS, AND OTHER CURRENT PLANS WITHIN THE AREA OF THIS PROJECT. THE CONTRACTOR WILL DETERMINE THE EXACT LOCATION AND/OR ELEVATION OF EXISTING UTILITIES WHICH PERTAIN TO AND AFFECT THE CONSTRUCTION OF THIS PROJECT.
- CONTRACTOR MUST PROTECT THE ADJACENT PROPERTIES AND IMPROVEMENTS THERETO FROM ANY DAMAGE DURING CONSTRUCTION. ANY DAMAGE TO ADJACENT PROPERTIES OR IMPROVEMENTS MUST BE REPAIRED OR REPLACED TO THE PROPERTY OWNER'S SATISFACTION, AT THE CONTRACTOR'S EXPENSE.
- WHEREVER THE CONTRACTORS WORK REQUIRES THE REMOVAL OF EXISTING CONCRETE OR ASPHALTIC CONCRETE PAVEMENT, THE PAVEMENT SHALL BE SAWCUT TO ACHIEVE A NEAT AND UNIFORM JOINT WITH THE REPLACED PAVEMENT.
- WHENEVER EXCAVATION IS TO BE DONE, THE CONTRACTOR SHALL CALL THE "BLUE STAKE CENTER" AT 1-800-STAKE-IT.
- DISPOSAL OF ALL WASTE MATERIAL WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS.
- CONTRACTOR SHALL VERIFY THE INVERTS AND HORIZONTAL LOCATIONS OF ALL EXISTING SEWER PRIOR TO ANY SEWER CONSTRUCTION. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF SANITARY SEWER, BY OTHERS, FOR COMPATIBILITY WITH WORK AND FOR ORDERING MATERIALS. WHEN REQUIRED, THE CONTRACTOR SHALL REMOVE EXISTING BULKHEAD. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING BULKHEAD AND PREVENTING ANY FLOODING FROM ANY INCOMING FLOWS. CONTRACTOR SHALL PROTECT THE SITE DURING CONSTRUCTION FROM ANY INCOMING FLOWS FROM EXISTING SANITARY SEWER. IF THE SANITARY SEWER BY OTHERS IS NOT COMPLETE AT THE TIME OF GRAVITY SEWER CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE A TEMPORARY BULKHEAD.
- TRENCHING SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND MAG SPECIFICATIONS.
- ALL FRAMES, COVERS, VALVE BOXES AND MANHOLES SHALL BE ADJUSTED TO FINISHED GRADE UPON COMPLETION OF PAVING OR RELATED CONSTRUCTION.
- ALL ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY REQUIREMENTS FOR THE CONSTRUCTION AND TESTING OF SEWER SHALL BE COMPLIED WITH.
- THE TOTAL LENGTH OF EACH SEWER SEGMENT SHALL BE TESTED TO INSURE UNIFORM SLOPE BY CCTV CAMERA PRIOR TO ACCEPTANCE. A COPY OF THE RESULTS FOR EACH SEGMENT SHALL BE PROVIDED TO BUCKSKIN SANITARY DISTRICT ON DVD IN A FORMAT READABLE BY THE DISTRICT PRIOR TO FINAL ACCEPTANCE.
- ALL COMPACTION AND BACKFILL WITHIN COUNTY RIGHT-OF-WAY SHALL CONFORM TO LA PAZ COUNTY REQUIREMENTS FOR THE INSTALLATION OF UNDERGROUND UTILITIES AND THE PROJECT SPECIFICATIONS. BACKFILL UNDER ANY EXISTING OR PROPOSED PAVEMENT, CURB, GUTTER OR WITHIN TWO (2) FEET OR LESS FROM THE EDGE OF PAVEMENT SHALL CONSIST OF AGGREGATE BASE COURSE (ABC) MATERIAL.
- ALL STRUCTURES, SUCH AS MANHOLES, VALVE BOX & COVERS, AND MONITORING WELLS MUST BE MARKED WITH AT LEAST TWO REFLECTORIZED YELLOW FLEX POST WHEN STRUCTURES ARE LOCATED OUTSIDE THE TRAVELED WAY AND WITHIN THE RIGHT-OF-WAY. (*APPLIES ONLY WHEN THERE IS NO CURB.')
- ALL EXISTING PAVEMENT MARKING, TRAFFIC SIGNS AND SIGNAL EQUIPMENT THAT NEEDS TO BE REMOVED, REPLACED, RELOCATED, OR REPAIRED BECAUSE OF CONTRACTOR'S WORK WILL BE DONE BY THE CONTRACTOR AT HIS EXPENSE. ALL TRAFFIC SIGNS THAT ARE REMOVED SHALL BE STOCKPILED ON THE PROJECT SITE AND THE CONTRACTOR IS TO NOTIFY THE INSPECTOR WHEN ALL SIGNS HAVE BEEN REMOVED. ALL NEW STREET NAME SIGNS SHALL BE PROVIDED AND INSTALLED BY PERMITEE AT NO EXPENSE TO BUCKSKIN SANITARY DISTRICT.
- PAVEMENT MARKING, SIGNING, AND SIGNAL WORK WILL BE INSPECTED AND WILL HAVE TO MEET COUNTY STANDARDS BEFORE RELEASE OF BOND.
- ANY EXCAVATION BY CONTRACTOR THAT UNCOVERS AN HISTORICAL OR ARCHEOLOGICAL ARTIFACT OR HUMAN REMAINS SHALL BE IMMEDIATELY REPORTED TO THE OWNER AND A REPRESENTATIVE AGENCY. CONSTRUCTION SHALL BE TEMPORARILY HALTED PENDING THE NOTIFICATION PROCESS AND FURTHER DIRECTIONS ISSUED BY AGENCY AFTER CONSULTATION WITH THE STATE HISTORIC PRESERVATION OFFICE (SHPO).
- PRIOR TO MOVING OR DESTROYING PROTECTED NATIVE PLANT SPECIES, THE CONTRACTOR SHALL FILE A FORMAL NOTICE OF INTENT WITH THE ARIZONA DEPARTMENT OF AGRICULTURE NATIVE PLANTS (602) 542-3292.
- EXCEPT UNDER EMERGENCY CONDITIONS, ROADS SHALL NOT BE CLOSED FROM CONSTRUCTION ACTIVITY UNLESS PRIOR APPROVAL IS OBTAINED FROM LA PAZ COUNTY PUBLIC WORKS DIRECTOR.

ENGINEER NOTES:

- THE CONTRACTOR SHALL CALL THE BLUE STAKE CENTER (602) 263-1100 OR 1-800-STAKE-IT OUTSIDE OF MARICOPA COUNTY) TWO WORKING DAYS PRIOR TO ANY EXCAVATION TO LOCATE ALL UNDERGROUND UTILITIES.
- THE ENGINEER HAS ATTEMPTED TO SHOW ALL PERTINENT EXISTING UNDERGROND UTILITIES AND STRUCTURES. HOWEVER, IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE PRESENCE OF AND TO PROTECT ANY OVERHEAD AND UNDERGROUND UTILITIES OR STRUCTURES PRIOR TO COMMENCEMENT OF CONSTRUCTION, WHETHER OR NOT SAID UTILITIES ARE SHOWN ON THESE PLANS. WHERE REQUIRED, CONTRACTOR SHALL MAKE EXPLORATORY EXCACATIONS TO LOCATE UNDERGROUND UTILITIES OR STRUCTURES.
- WHERE EXISTING UTILITIES ARE EXPOSED, CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANY FOR INSPECTION PRIOR TO BACKFILLING.
- THE CONTRACTOR SHALL TAKE NO ADVANTAGE OF ANY APPARENT ERROR OR OMISSION IN THESE PLANS. IN THE EVENT THE CONTRACTOR DISCOVERS SUCH AN ERROR OR OMISSION, HE SHALL IMMEDIATELY NOTIFY THE ENGINEER.
- THE ENGINEER WILL DECIDE ALL QUESTIONS WHICH MAY ARISE AS TO THE INTERPRETATION OF THE PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL MAKE ALL EFFORTS TO REVIEW THESE PLANS AND CONTACT THE ENGINEER WITH QUESTIONS OR CLARIFICATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. ANY QUESTIONS REGARDING THESE PLANS SHALL BE PRESENTED TO THE ENGINEER. WHEN NECESSARY THE ENGINEER SHALL ISSUE REVISED PLANS, DETAILS OR SPECIFICATIONS. THE ENGINEER ASSUMES NO REPONSIBILITY FOR ANY REVISIONS TO PLANS, DETAILS OR SPECIFICATIONS MADE BY ANY PARTY WITHOUT THE CONSENT AND APPROVAL OF THE ENGINEER.
- QUANTITIES LISTED ON THESE PLANS ARE ESTIMATES ONLY. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL QUANTITIES BEFORE SUBMITTING A BID FOR THIS WORK.

ENGINEER NOTES:

- ALL CONSTRUCTION WATER AND POWER SHALL BE OBTAINED AND HANDLED BY THE CONTRACTOR AT HIS OWN EXPENSE. THE CONTRACTOR SHALL MAKE HIS OWN ARRANGEMENTS TO PROVIDE WATER AND TRANSPORT WATER TO THE CONSTRUCTION SITE. ALL TEMPORARY FACILITIES SHALL BE REMOVED PRIOR TO FINAL ACCEPTANCE BY THE DISTRICT.
- ALL ASPHALT CONCRETE ROADWAY PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH MAG SECTIONS 336 AND 601. ALL ASPHALT CONCRETE SHALL RECEIVE A PRESERVATIVE SEAL IN ACCORDANCE WITH M.A.G. SPEC. SECTION 334.
- WHERE THERE IS A CONFLICT BETWEEN THE DISTRICT SPECIFICATIONS, M.A.G. SPECIFICATIONS OR THE PROJECT SPECIFICATIONS, THE MOST STRINGENT SHALL GOVERN.
- CONTRACTOR PERFORMING CONSTRUCTION OR EXCAVATING OPERATIONS IS RESPONSIBLE FOR LOCATING, RELOCATING AND/OR PROTECTING ALL UTILITIES IN CONFLICT OR WITHIN THE CLEAR ZONE, AT NO EXPENSE TO BUCKSKIN SANITARY DISTRICT.
- THE ENGINEER WILL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR FOR SAFETY PRECAUTIONS OR PROGRAMS UTILIZED IN CONNECTION WITH THE WORK, AND WILL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK.
- THE CONTRACTOR MUST FURNISH AND INSTALL ALL NECESSARY APPURTENANCES INCLUDING BUT NOT LIMITED TO: NUTS, BOLTS, GASKETS, FLANGES, TAPS, BUSHES, ADAPTERS, HADWHEELS, GEAR OPERATORS, SUPPORTS, RESTRAINTS, ETC. TO ACHIEVE COMPLETE AND FUNCTIONING PIPING SYSTEMS, WHETHER OR NOT SUCH INCIDENTAL ITEMS ARE INDICATED ON THE DRAWINGS OR SPECIFIED. PLUG VALVES SHALL BE INSTALLED WITH THEIR MAIN PLUG SHAFTS HORIZONTAL.
- THE CONTRACTOR SHALL USE EXTREME CAUTION IN THE AREA OF OVERHEAD ELECTRIC LINES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO USE APPROPRIATE SAFETY MEASURES. ALL WORK SHALL BE IN ACCORDANCE WITH CHAPTER 181, ARTICLE 6.4, ARS 40-360.41-45 (THE OVERHEAD POWERLINE SAFETY LAW).
- THE CONTRACTOR IS TO UNCOVER ALL EXISTING LINES BEING TIED INTO AND VERIFY GRADES BEFORE ANY OTHER CONSTRUCTION.
- CONTRACTOR SHALL VERIFY ALL QUANTITIES SHOWN ON THESE PLANS AND MAKE HIS BID BASED UPON THOSE VERIFICATIONS. IF ANY DISCREPANCY IN QUANTITIES IS FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UNDERGROUND PIPELINE, TELEPHONE AND ELECTRICAL CONDUITS AND STRUCTURES IN ADVANCE OF ANY CONSTRUCTION; AND WILL TAKE ALL POSSIBLE PRECAUTIONS TO AVOID ANY DAMAGE TO SUCH. THE ENGINEER AND/OR OWNER WILL NOT GUARANTEE ANY LOCATIONS AS SHOWN ON THESE PLANS OR THOSE OMITTED FROM SAME.
- ALL PLANS, SIGNED BY THE BUCKSKIN SANITARY DISTRICT ENGINEER OR REPRESENTATIVE IN CHARGE, ARE NULL AND VOID ONE YEAR FROM DATE OF SIGNATURE IF CONSTRUCTION HAS NOT STARTED.
- CONTRACTOR SHALL VERIFY LOCATIONS OF ALL SERVICE LATERALS WITH HOMEOWNERS PRIOR TO INSTALLATION. ALL SERVICE CONNECTIONS SHALL BE INSTALLED TO PROPERTY LINE/RIGHT-OF-WAY OR SEWER EASEMENT, WHICHEVER GOVERNS.

NOTE:
HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING UTILITIES ARE SHOWN ON THE PLANS, WHERE AVAILABLE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE PRESENCE OF ALL UTILITIES AND TO PROTECT ANY OVERHEAD AND UNDERGROUND UTILITIES OR STRUCTURES PRIOR TO COMMENCEMENT OF CONSTRUCTION, WHETHER OR NOT SAID UTILITIES ARE SHOWN ON THESE PLANS. WHERE REQUIRED, THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS TO LOCATE UNDERGROUND UTILITIES OR STRUCTURES AT HIS OWN EXPENSE.



EXPIRES 3/31/17

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

ENERGY AND WATER SOLUTIONS, LLC
CIVIL ENGINEERING LAND DEVELOPMENT WATER RESOURCES

P.O. BOX 20112, FOUNTAIN HILLS, AZ 85269
PHONE: 602.309.3824 FAX: 480.656.9778 EMAIL: gpanaro@cox.net

JOB #: _____
DATE: 5/24/15
SCALE: N.T.S.

REVISIONS	BY	DATE

BUCKSKIN SANITARY DISTRICT
PHASE 4 SEWER
STANDARD NOTES

FILES
4.1

PRECAST CONCRETE NOTES:

1. WETWELLS AND VALVE VAULTS SHALL BE PRECAST.
2. ALL PRECAST AND ASSOCIATED CAST-IN-PLACE CONCRETE SHALL BE DESIGNED IN ACCORDANCE WITH MAG SPECIFICATIONS AND STANDARDS (SEE SEWER SYSTEM MATERIAL SPECIFICATIONS) AND THE GEOTECHNICAL REPORT RECOMMENDATIONS.
3. THE PRECAST FABRICATOR SHALL BE RESPONSIBLE FOR THE DESIGN AND DETAILING OF ALL PRECAST UNITS AND APPURTENANCES INCLUDING BUT NOT LIMITED TO: PRECAST WETWELLS, PRECAST VALVE VAULTS, CAST-IN-PLACE BASES AND PRECAST VALVE VAULT AND WETWELL TOPS.
4. ALL DESIGN DETAILS AND CALCULATIONS SHALL BE SEALED BY A REGISTERED ENGINEER LICENSED IN THE STATE OF ARIZONA AND SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
5. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS INDICATING JOINT ANCHORAGE AND PIPE PENETRATION LOCATIONS AND DETAILS FOR WETWELLS AND VALVE VAULTS.

**BUCKSKIN SANITARY DISTRICT
SEWER SYSTEM MATERIAL SPECS**

- COLLECTION MAINS – SDR35 PVC SEWER PIPE IN ACCORDANCE WITH M.A.G. SPECIFICATIONS, ASTM D-3034, AND ASTM F-679 OR US PIPE PROTECTO 401 CERAMIC EPOXY DUCTILE IRON PIPE. ALL DUCTILE IRON PIPE SHALL BE POLYETHYLENE WRAPPED FOR THE ENTIRE LENGTH IN ACCORDANCE WITH M.A.G. SECTION 610.6.
- SEWER SERVICE – SDR35 PVC SEWER PIPE IN ACCORDANCE WITH M.A.G. SPECIFICATIONS AND ASTM D-3034.
- MANHOLE – PRECAST CONCRETE IN ACCORDANCE WITH M.A.G. SPEC. SECTION 625, EXCEPT THAT ALL MANHOLES SHALL HAVE NO STEPS INSTALLED. MANHOLES SHALL BE TREATED WITH "INSECTA" INSECT TREATMENT AS SOON AS MANHOLE IS RAISED TO GRADE AND PRIOR TO FINAL ACCEPTANCE. MANHOLES SUSCEPTIBLE TO HYDROGEN SULFIDE SHALL BE LINED WITH SAUERREISEN OR APPROVED EQUAL AS INDICATED ON THE DRAWINGS.
- MANHOLE COVER – IN ACCORDANCE WITH M.A.G. SPECIFICATIONS. LID TO BE STAMPED "BUCKSKIN SANITARY DISTRICT" IN ACCORDANCE WITH M.A.G. DETAILS 423-1,2 AND 424-1,2.
- ALL OTHER ITEMS – IN ACCORDANCE WITH M.A.G. SPECIFICATIONS.
- FORCE MAINS – PVC PRESSURE PIPE IN ACCORDANCE WITH AWWA C900 OR C905, DUCTILE IRON PIPE CLASS 53, MIN. PRESSURE CLASS 150. ALL DUCTILE IRON PIPE SHALL BE POLYETHYLENE WRAPPED FOR THE ENTIRE LENGTH IN ACCORDANCE WITH M.A.G. SPEC. SECTION 610.6 AND LINED AND COATED PER PROJECT SPECIFICATIONS.

FORCE MAIN NOTES:

1. FORCE MAINS SHALL BE PROVIDED WITH RESTRAINED JOINTS WHERE INDICATED ON THE PLANS CONFORMING TO REQUIREMENTS OF FORCE MAIN PIPE MATERIAL SPECIFICATIONS.
2. INSTALL RESTRAINED JOINTS FOR LENGTH OF PIPE ON BOTH SIDES OF EACH BEND OR FITTING FOR FULL LENGTH AS SHOWN ON THE PLANS.
3. HORIZONTAL AND VERTICAL BENDS BETWEEN ZERO AND TEN DEGREES DEFLECTION ANGLE WILL NOT REQUIRE RESTRAINED JOINTS UNLESS OTHERWISE SHOWN ON THE PLANS.
4. HORIZONTAL AND VERTICAL BENDS BETWEEN 11 AND 90 DEGREES DEFLECTION ANGLE SHALL HAVE THRUST RESTRAINT AS SHOWN ON THE PLANS.
5. ALL BURIED DUCTILE IRON PIPE WITHIN THE LIFT STATION SITES SHALL HAVE RESTRAINED JOINTS FOR THE FORCE MAINS UNLESS INDICATED OTHERWISE ON THE PLANS.
6. A MAXIMUM OF ONE DEGREE OF AXIAL GASKETED JOINT DEFLECTION WILL BE ALLOWED FOR PVC AND D.I. PIPE. IF GREATER CURVATURE OR JOINT DEFLECTION IS REQUIRED, THE CONTRACTOR SHALL USE SPECIAL FITTINGS.
7. CONTRACTOR SHALL ADHERE TO THE REQUIREMENTS OF DIVISION 15 – MECHANICAL AS IT PERTAINS TO THE FURNISHING AND INSTALLATION OF ALL LABOR, EQUIPMENT AND MATERIALS AND NECESSARY TO INSTALL ALL PIPING, FITTINGS, AND ACCESSORIES REQUIRED FOR THE COMPLETION OF FORCE MAIN PIPING WORK AS SHOWN ON THE CONTRACT DRAWINGS OR SPECIFIED HEREIN.
8. UNDERGROUND WARNING TAPE AND TRACER WIRE SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 15265 – PLASTIC PIPING AND TUBING.

LIFT STATION NOTES:

1.0 GENERAL:

LIFT STATIONS SHALL CONSIST OF A WET WELL, SUBMERSIBLE PUMPS, DRY VALVE VAULT, ELECTRICAL CONTROL PANEL, EMERGENCY GENERATOR AND OTHER RELATED ACCESSORIES. THE LIFT STATIONS SHALL CONFORM TO BUCKSKIN SANITARY DISTRICT'S SANITARY SEWER SYSTEM STANDARDS AND SPECIFICATIONS (SEE CHAPTER 2, SECTION T.6). ALL STATIONS SHALL CONTAIN AT LEAST TWO (2) PUMPS, EACH WITH 100% DESIGN CAPACITY.

2.0 WET WELLS:

- 2.1 THE WET WELL FOR EACH LIFT STATION SHALL BE REINFORCED POLYMER CONCRETE MEETING ASTM C478-02A (OR LATEST REVISION) STANDARD SPECIFICATION FOR PRE-CAST REINFORCED CONCRETE MANHOLE SECTIONS AND SHALL CONFORM WITH THE REQUIREMENTS OF SECTION 3410-PRECAST POLYMER AND CONCRETE STRUCTURES.
- 2.2 WALL PENETRATIONS THRU THE WET WELLS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 15200 – PIPE CONNECTING AND RESTRAINTS DEVICES. OPENINGS IN THE WALLS OF THE WET WELL SHALL BE THOROUGHLY FILLED WITH NON-SHRINKING GROUT AFTER INSTALLATION OF THE PIPES UNLESS MANUFACTURER RECOMMENDS OTHERWISE. SPECIAL CARE SHALL BE TAKEN TO INSURE A WATERTIGHT CONNECTION AT THESE POINTS.
- 2.3 THE PUMPS AND/OR ACCESSORIES SHALL BE SECURED TO THE CONCRETE BASE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MINIMUM DESIGN FOR ADEQUACY OF BASE AND TOP SLAB REINFORCEMENT IS FOR ASHTO H-20 TRUCK LOADING. THE CONCRETE BASE SHALL EXTEND A MINIMUM OF 6" BEYOND THE EDGE OF THE BODY OF THE WET WELL.
- 2.4 THE WET WELL SHALL CONTAIN STAINLESS STEEL GUIDE RAILS FOR THE PUMPS, SECURELY FASTENED AT THE TOP OPENING OF THE WET WELL TO ALLOW THE PUMPS TO ACCURATELY MATE WITH THE PUMP BASES, WHICH SHALL BE SECURED TO THE BOTTOM WITH STAINLESS STEEL BOLTS IN ACCORDANCE WITH PART 2.3 (B) OF SECTION 11400 OF THE SPECIFICATIONS.

- 2.5 THE WET WELL SHALL HAVE A 3" MINIMUM DIAMETER DUCTILE IRON OR STAINLESS STEEL AIR VENT EXTENDING THROUGH THE TOP SLAB. THE VENT PIPE WILL BE ATTACHED TO THE ODOR CONTROL UNIT IN ACCORDANCE WITH THE PLANS.
- 2.6 THE WET WELL SHALL BE INSTALLED PLUMB AND LEVEL ON A 12" THICK (MINIMUM) COMPACTED ROCK/STONE BED IN ACCORDANCE WITH THE PLANS.
- 2.7 A SIGN MUST BE POSTED ON THE WET WELL STATING "CONFINED SPACE."

3.0 PIPING INSIDE LIFT STATIONS:

- 3.1 PIPING INSIDE THE STATION WET WELL AND ABOVE GROUND PIPING SHALL BE DUCTILE IRON WITH FLANGED JOINTS. FLANGES SHALL BE EITHER WELDED OR THREADED TO THE CONNECTING PIPES. ALL FASTENERS INSIDE THE WET WELL AND VALVE VAULT SHALL BE STAINLESS STEEL.
- 3.2 DUCTILE IRON PIPE SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST REVISION OF ANSI/AWWA C150/A21.50 FOR A MINIMUM 150 PSI RATED WORKING PRESSURE PLUS A 100 PSI SURGE ALLOWANCE; A 2 TO 1 FACTOR OF SAFETY ON THE SUM OF WORKING PRESSURE PLUS SURGE PRESSURE;
- 3.3 DUCTILE IRON PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH THE LATEST REVISION OF ANSI/AWWA C151/A21.51. EACH PIPE SHALL BE SUBJECTED TO A HYDROSTATIC PRESSURE TEST OF AT LEAST 500 PSI AT THE POINT OF MANUFACTURE.
- 3.4 DUCTILE IRON PIPE SHALL BE COATED AND LINED IN ACCORDANCE WITH SECTION 15251 – DUCTILE IRON PIPE.
- 3.5 THE CLASS OR NOMINAL THICKNESS, NET WEIGHT WITHOUT LINING, AND CASTING PERIOD SHALL BE CLEARLY MARKED ON EACH LENGTH OF PIPE. ADDITIONALLY, THE MANUFACTURER'S MARK, COUNTRY WHERE CAST, YEAR IN WHICH THE PIPE WAS PRODUCED, AND THE LETTERS "DI" OR "DUCTILE" SHALL BE CAST OR STAMPED ON THE PIPE.
- 3.6 FITTINGS SHALL BE DUCTILE IRON. FITTINGS SHALL CONFORM TO THE LATEST REVISION OF EITHER ANSI/AWWA CI 10/A21.10 OR ANSI/AWWA C153/A21.53. FITTINGS AND ACCESSORIES SHALL BE FURNISHED WITH MECHANICAL TYPE JOINTS IN ACCORDANCE WITH ANSI/AWWA CI 11/A21.11, OF LATEST REVISION.
- 3.7 ALL PIPE, FITTINGS AND ACCESSORIES SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH THE LATEST REVISION OF ANSI/AWWA C600.

4.0 PUMPS AND MOTORS:

- 4.1 THE PUMP AND MOTOR UNITS SHALL BE THE SUBMERSIBLE TYPE TO DELIVER THE DESIGN FLOW THROUGH THE DISCHARGE FORCE MAIN AS SHOWN ON THE PLANS. THE CONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF SECTION 11400 – PUMPS.
- 4.2 THE DISCHARGE CONNECTION ELBOWS SHALL BE PERMANENTLY INSTALLED IN THE WET WELL AND THE PUMPS SHALL BE AUTOMATICALLY CONNECTED TO THE DISCHARGE CONNECTION WHEN LOWERED INTO PLACE AND SHALL BE EASILY REMOVED FOR INSPECTION OR SERVICE BY MEANS OF STAINLESS STEEL LIFTING CHAINS. THERE SHALL BE NO NEED FOR PERSONNEL TO ENTER THE WET WELL.
- 4.3 EACH PUMP SHALL BE FITTED WITH A STAINLESS STEEL LIFTING CHAIN OF ADEQUATE STRENGTH AND LENGTH TO PERMIT RAISING AND LOWERING THE PUMP FOR INSPECTION AND REMOVAL. THE LIFTING SYSTEM MUST PERMIT THE PUMP TO BE REMOVED IN ONE CONTINUOUS MOTION, WITHOUT INTERMEDIATE HOOKING.

5.0 VALVE VAULTS:

- 5.1 THE VALVE VAULT FOR EACH LIFT STATION SHALL BE REINFORCED CONCRETE MEETING ASTM C478-02A (OR LATEST REVISION) STANDARD SPECIFICATION FOR PRE-CAST REINFORCED CONCRETE MANHOLE SECTIONS AND SHALL CONFORM WITH THE REQUIREMENTS OF SECTION 3410-PRECAST CONCRETE STRUCTURES.
- 5.2 ALL VALVE VAULTS SHALL BE SIZED TO PROVIDE AT LEAST 12 INCHES OF CLEARANCE (TOP, BOTTOM, SIDES) BETWEEN THE WALLS OF THE BOX AND INTERNAL COMPONENTS
- 5.3 VALVE VAULTS FOR EACH LIFT STATION SHALL CONSIST OF A PRE-CAST BOX WITH AN APPROVED ALUMINUM ACCESS HATCH AND STEPS, THE SAME AS FOR THE WET WELL. THE VALVE VAULT SHALL CONTAIN TWO DISCHARGE LINES FROM THE PUMPS IN ACCORDANCE WITH THE PLANS. EACH DISCHARGE LINE SHALL HAVE A CHECK VALVE AND A GATE VALVE INSTALLED IN ACCORDANCE WITH SECTION 15100 – VALVES AND THE DRAWINGS.
- 5.4 ALL PIPING AND ALL FITTINGS SHALL BE FLANGED DUCTILE IRON AND ALL PIPING SHALL BE PROPERLY SUPPORTED. THE CONNECTION TO THE PVC FORCE MAIN OUTSIDE THE VALVE VAULT SHALL BE MADE WITH A RESTRAINED FLANGE ADAPTER, SERIES 2100 MEGAFLANGE, BY EBAA IRON, INC. OR EQUAL. PROVISIONS SHALL BE MADE FOR THE REMOVAL AND REPLACEMENT OF ALL PIPING, VALVES AND FITTINGS.
- 5.5 PIPES AND VALVES SHALL BE ALIGNED HORIZONTALLY WITH THE CHECK VALVE PRECEDING THE GATE VALVE.
- 5.6 THE FLOOR OF THE VALVE VAULT SHALL BE SHAPED OR SLOPED TO DRAIN TOWARD THE WET WELL. A 2" SCHEDULE 80 PVC DRAIN PIPE SHALL BE INSTALLED TO DRAIN ANY LIQUID CONTENTS OF THE VALVE VAULT TO THE WET WELL. A TIDEFLEX CHECK VALVE OR EQUAL SHALL BE INSTALLED ON THE DISCHARGE END OF THE DRAINAGE PIPE TO PREVENT THE WET WELL CONTENTS FROM ENTERING THE VALVE VAULT.

6.0 VALVES AND FITTINGS

ALL VALVES, FITTINGS AND ACCESSORIES FOR THE LIFT STATIONS SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 15100 – VALVES.

7.0 ACCESS FRAME AND COVER

7.1 A DOOR ACCESS FRAME ASSEMBLY SHALL BE FURNISHED FOR THE WET WELL AND VALVE VAULT AT EACH LIFT STATION IN ACCORDANCE WITH THE DIMENSIONS SHOWN ON THE DRAWINGS. THE FRAME COVER SHALL BE CAPABLE OF BEARING A 300 POUNDS PER SQUARE FOOT (PSF) LIVE LOAD.

7.2 THE ACCESS COVER SHALL CONSIST OF 1/4-INCH (6.4MM) ALUMINUM DIAMOND PLATE COVER EQUIPPED WITH CAST ALUMINUM FLUSH LIFTING HANDLE AND 316 STAINLESS STEEL HOLD-OPEN ARM WITH RED VINYL GRIP THAT AUTOMATICALLY KEEPS THE COVER IN ITS OPEN/UPRIGHT POSITION. DOOR SHALL LOCK IN THE 90-DEGREE POSITION.

7.3 THE FRAME SHALL CONSIST OF EXTRUDED ALUMINUM WITH INTEGRAL ANCHOR FLANGE AND DOOR SEAT ON ALL FOUR SIDES. THE HARDWARE SHALL BE MADE OF 316 STAINLESS STEEL HINGES AND TAMPER RESISTANT BOLTS/LOCK NUTS.

7.4 THE ENTRANCE LATCH SHALL BE CONSTRUCTED AND FABRICATED TO COMPLY WITH OSHA STANDARDS.

7.5 ALL SURFACES IN CONTACT WITH CONCRETE SHALL HAVE A SHOP COAT OF ZINC CHROMATIC PRIMER, APPROVED ALKALI RESISTANT PAINT OR OTHER APPROVED PROTECTIVE COATING. COVER MUST BE COMPATIBLE WITH PUMPS AND GUIDE RAIL SYSTEM. ALL HARDWARE, INCLUDING ANCHORS, BOLTS, HASPS, HINGES, GUIDES AND CABLE HOLDERS SHALL BE STAINLESS STEEL.

7.6 EACH ACCESS FRAME AND COVER SYSTEM SHALL BE EQUIPPED WITH FLYGT "SAFE-HATCH" FALL THROUGH PREVENTION SYSTEM, MDOEL FLEC(D)-SH, ADHERING TO OSHA SAFETY STANDARDS.

7.7 EACH ACCESS HATCH SHALL HAVE EXPOSED PADLOCK CLIP AND AN ALUMINUM LIFT HANDLE WHICH IS FLUSH WITH TOP OF DIAMOND PLATE.

7.8 A YALE MODEL 945, OR APPROVED EQUAL, SOLID BRASS PAD LOCK FOR EACH HATCH COVER SHALL BE SUPPLIED. LOCKS SHALL BE KEYED ALIKE WITH A MINIMUM OF 5 KEYS PROVIDED TO THE OWNER.

7.9 MANUFACTURER SHALL GUARANTEE AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF TEN YEARS.

8.0 CONTROL PANELS AND ELECTRICAL EQUIPMENT

THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL HARDWARE, SOFTWARE, LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO PROVIDE A COMPLETE CONTROL PANEL, IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THESE PLANS AND SPECIFICATIONS. THE CONTROL PANEL SHALL BE LOCATED AT A SAFE DISTANCE FROM THE WET WELL AS SHOWN ON THE PLANS.

9.0 PORTABLE HOISTS (LIFT STATION NO. 1 ONLY)

PROVIDE AND INSTALL SURFACE-MOUNTED STAINLESS STEEL FLOOR SOCKETS FOR THE PORTABLE HOISTS AT APPROPRIATE LOCATIONS SUCH THAT ALL PUMPS UNDER THIS SECTION MAY BE REMOVED BY INSERTION OF THE PORTABLE HOIST INTO FLOOR SOCKETS. ALL ANCHOR BOLTS SHALL BE STAINLESS STEEL. PORTABLE HOIST FLOOR SOCKETS SHALL BE FURNISHED TO MATCH THE PORTABLE HOIST THE DISTRICT PRESENTLY USES FOR MAINTENANCE.

RESTRAINED JOINT LENGTHS:

HORIZONTAL RESTRAINT LENGTH				
BEND ANGLE (DEGREES)	4-INCH PVC PIPE (FEET)	6-INCH PVC PIPE (FEET)	4-INCH D.I. PIPE (FEET)	6-INCH D.I. PIPE (FEET)
90	18	24	20	27
45	8	10	8	12
22.5	4	5	4	6
11.25	2	3	2	3

VERTICAL RESTRAINT LENGTH								
BEND ANGLE (DEGREES)	4-INCH PVC PIPE (FEET)		6-INCH PVC PIPE (FEET)		4-INCH D.I. PIPE (FEET)		6-INCH D.I. PIPE (FEET)	
	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER
45	22	8	31	10	32	8	45	12
22.5	11	4	15	5	16	4	22	6
11.25	6	2	8	3	8	2	11	3

CRITERIA

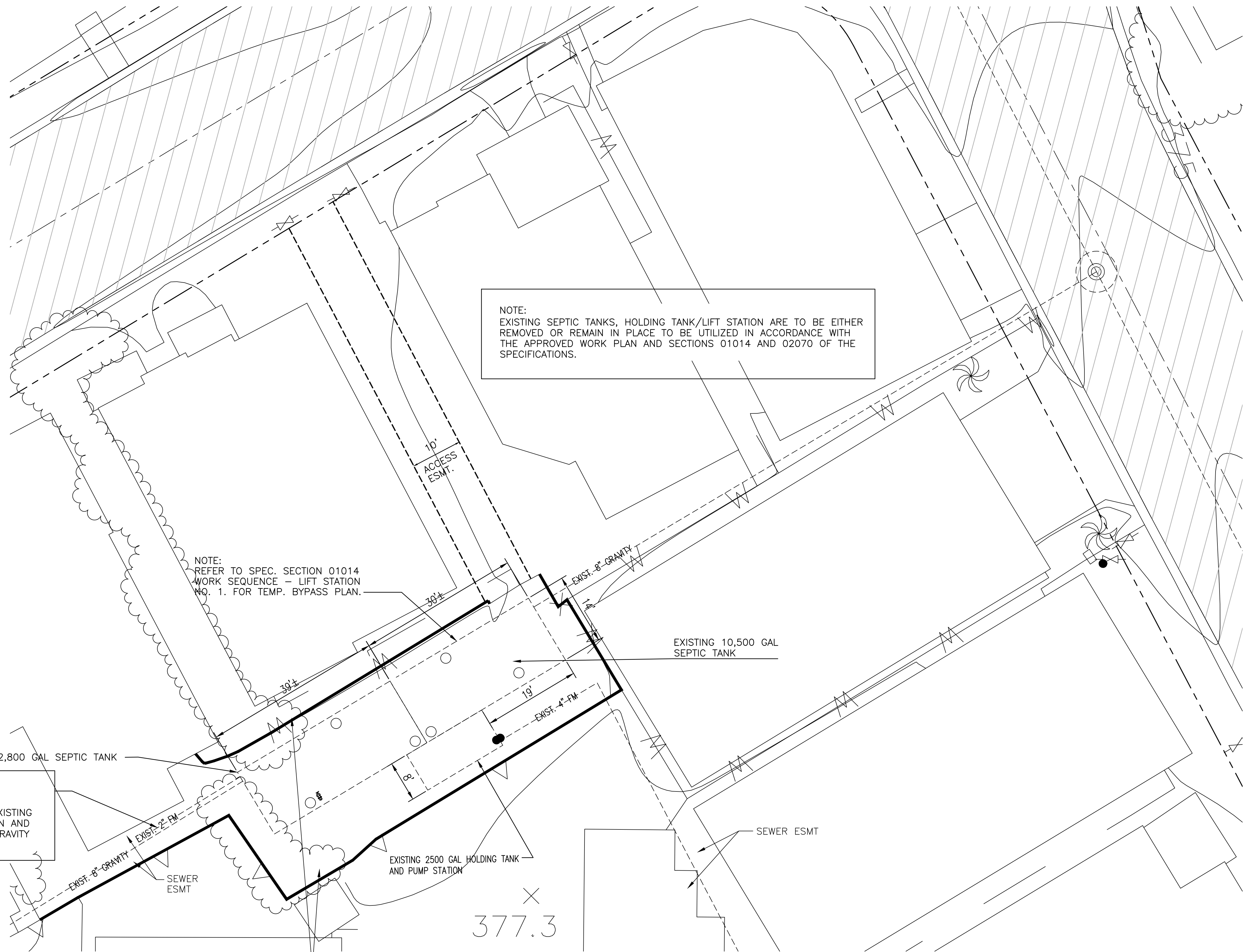
PIPE MATERIAL	PVC/D.I.
SOIL TYPE	GP/GM
SAFETY FACTOR	1.5
TRENCH TYPE	5
DEPTH OF BURY	3 FT
TEST PRESSURE	200



EXPIRES 3/31/17

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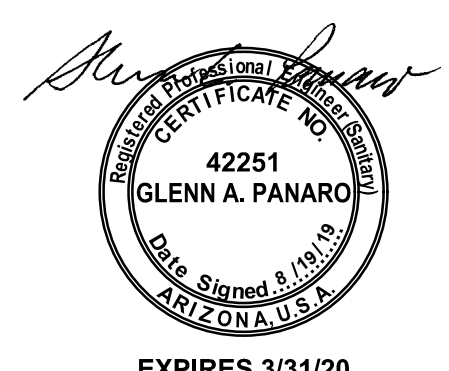
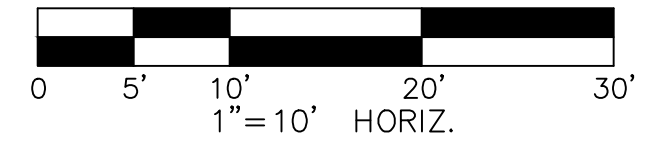
NOTE:
EXISTING SEPTIC TANKS, HOLDING TANK/LIFT STATION ARE TO BE EITHER REMOVED OR REMAIN IN PLACE TO BE UTILIZED IN ACCORDANCE WITH THE APPROVED WORK PLAN AND SECTIONS 01014 AND 02070 OF THE SPECIFICATIONS.

NOTE:
REFER TO SPEC. SECTION 01014 WORK SEQUENCE - LIFT STATION NO. 1. FOR TEMP. BYPASS PLAN.

NOTE:
PRIOR TO TIE-IN, CONTRACTOR SHALL DISCONNECT THE EXISTING 2-INCH FORCE MAIN AND TIE INTO 8-INCH GRAVITY LINE.

NOTE:
CONTRACTOR SHALL FIELD VERIFY THE DEPTH OF EXISTING TANKS PRIOR TO CONSTRUCTION AND TO NOTIFY ENGINEER OF ANY CONFLICTS OR DISCREPANCIES.

NOTE:
REFER TO SPEC. SECT. 2070, MODIFICATION TO EXISTING PUMPING STATION



EXPIRES 3/31/20

377.3

DEMOLITION PLAN
SCALE: 1"=10'

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ENERGY AND WATER SOLUTIONS, LLC
CIVIL ENGINEERING LAND DEVELOPMENT WATER RESOURCES

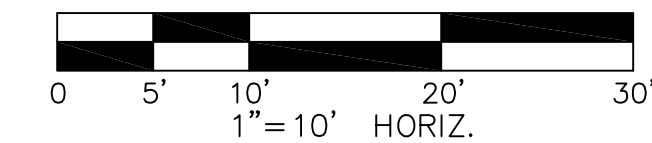
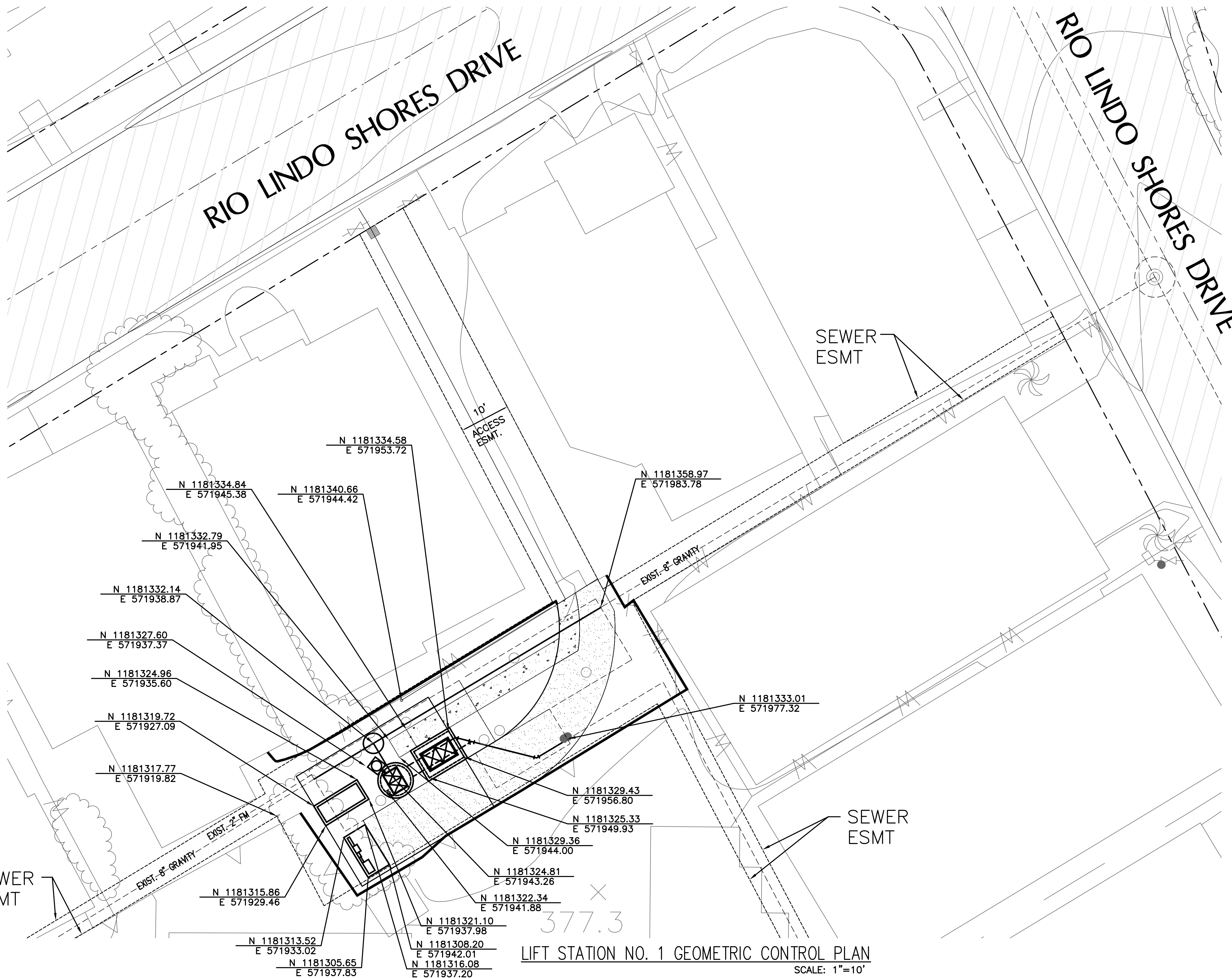
P.O. BOX 20112, FOUNTAIN HILLS, AZ 85269
PHONE: 602.309.3824 FAX: 480.656.9778 EMAIL: gpanaro@cox.net

JOB #:
DATE: 6/4/19
SCALE: 1"=10'

REVISIONS	BY	DATE

BUCKSKIN SANITARY DISTRICT
PHASE 4 SEWER
LIFT STATION NO. 1

SHEET
31



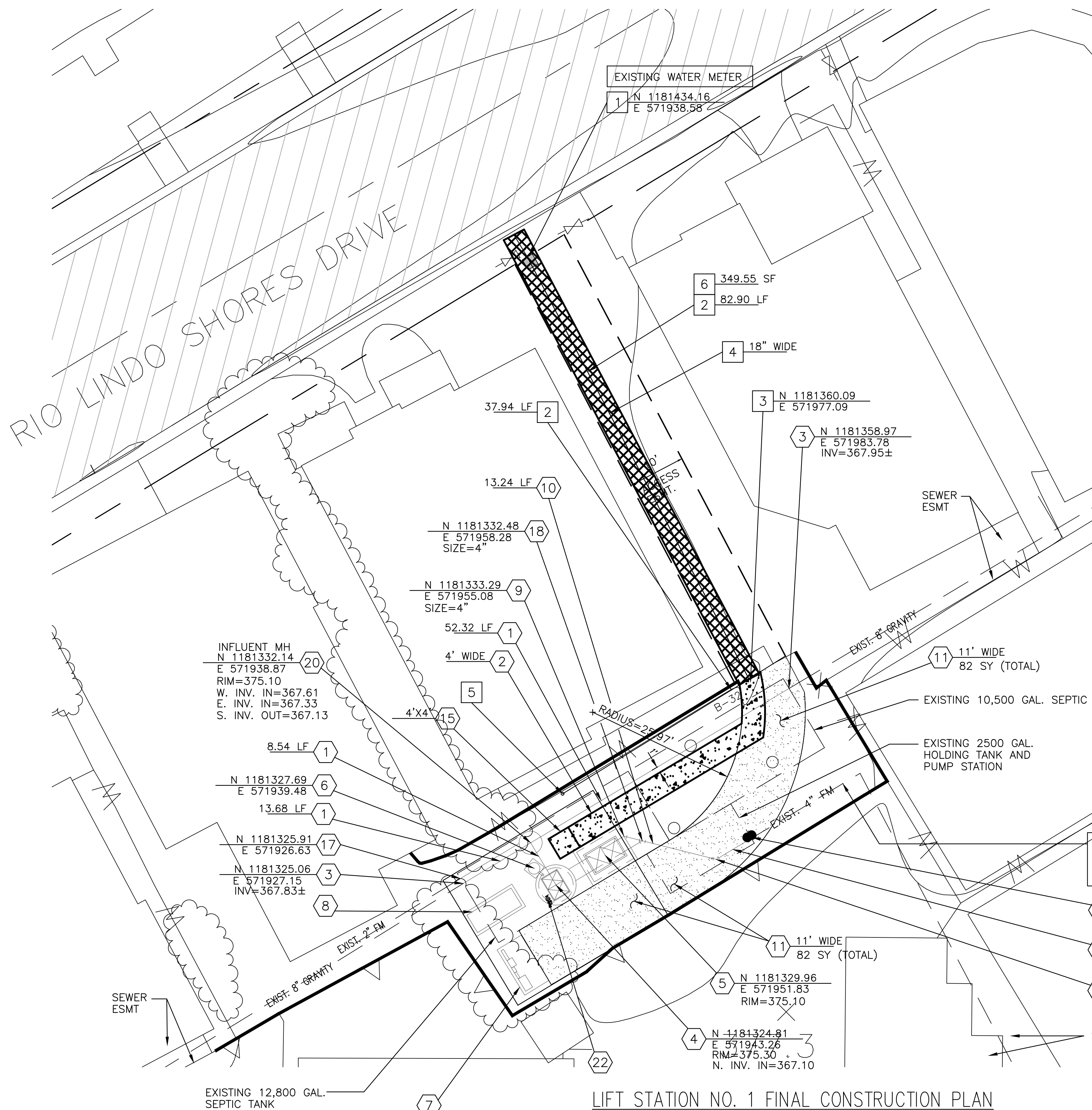
NOTE:
REFER TO SPEC SECT 2070,
MODIFICATION TO EXISTING
PUMPING STATION



EXPIRES 3/31/17

LIFT STATION NO. 1 GEOMETRIC CONTROL PLAN
SCALE: 1"=10'

REVISIONS	BY	DATE



GENERAL NOTES TO CONTRACTOR:

- CONTRACTOR TO SUPPLY ENGINEER AND SANITARY DISTRICT WITH A WORK PLAN AND SCHEDULE PRIOR TO CONSTRUCTION IDENTIFYING HOW CONTRACTOR PROPOSES TO DECOMMISSION EXISTING SEPTIC TANKS AND PUMPING STATION TO ALLOW FOR CONSTRUCTION OF PROPOSED LIFT STATION WHILE AVOIDING INTERRUPTION OF SERVICE TO EXISTING RESIDENCES CONNECTED TO EXISTING FACILITIES.
- CONTRACTOR SHOULD ATTEMPT TO AVOID CONSTRUCTION IN THE RIO LINDO SHORES COMMUNITY DURING MAJOR HOLIDAY WEEKENDS WHEN RESIDENCES IN COMMUNITY ARE HEAVILY POPULATED.
- CONTRACTOR SHALL KEEP ACCESS EASEMENT TO LIFT STATION AREA OPEN AND CLEAR OF OBSTRUCTIONS AT THE END OF EACH DAY TO ALLOW EXISTING RESIDENTS TO ACCESS THEIR GARAGE. WORK HOURS SHALL COMPLY WITH COUNTY STANDARDS WHEN WORKING ADJACENT TO EXISTING RESIDENCES.
- CONTRACTOR SHALL REPLACE GATE AND ANY FENCING DAMAGED DURING CONSTRUCTION.

NOTE:
ALL WORK DESIGNATED ON THIS SHEET IS WITHIN THE "LIMITS OF LIFT STATION NO. 1" INCLUDING ALL COSTS ASSOCIATED WITH THE INSTALLATION OF THE WATER LINE, WATER SERVICE PER BROOKE UTILITIES STANDARDS, AND ALL COSTS OF REPAIRING ACCESS EASEMENT.

NOTE:
REFER TO SPECIFICATION SECTION 01014, WORK SEQUENCE - L.S. #1

NOTE:
SEE SHEET 41 FOR LIFT STATION NO. 1 DETAILS.

EXISTING 4" FORCEMAIN TO REMAIN IN OPERATION DURING CONSTRUCTION. CONTRACTOR SHALL REFER TO APPENDIX II - AS-BUILT DRAWING OF SHEET 27 FOR LOCATION TO CONNECT THE TWO 4-INCH FORCE MAINS. SEE NOTE 19 ON SHEET 27.

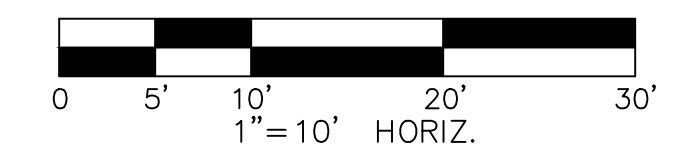
NOTE:
REFER TO SPEC SECT 2070, MODIFICATION TO EXISTING PUMPING STATION

SEWER CONSTRUCTION NOTES

- INSTALL 8" PVC SEWER
- CONSTRUCT 4' WIDE CONC. SIDEWALK PER MAG STD. DET. 230.
- CONNECT EXISTING 8" GRAVITY SEWER TO NEW 8" GRAVITY SEWER
- INSTALL 6' DIA. WET WELL
- INSTALL 6'x8' VALVE VAULT
- INSTALL ODOR CONTROL UNIT ON 2.5' SQ. CONC. PAD
- INSTALL ELECTRICAL CONTROL PANEL
- INSTALL EMERGENCY GENERATOR
- INSTALL 45° BEND, SIZE PER PLAN W/ JT. RESTRAINT
- INSTALL 4" PVC FORCE MAIN
- CONSTRUCT ACCESS ROAD PER DTL. ON SHT. 45 3" D.G. OVER 6" ABC, WIDTH PER PLAN
- CONSTRUCT CONC. CHEMICAL PAD, SIZE PER PLAN
- CONNECT NEW 4" FORCE MAIN TO EXISTING 4" FORCE MAIN USING MEGA COUPLING SERIES 3300 BY EBAA IRON, INC., OR APPROVED EQUAL
- CONNECT EXISTING 2" FORCE MAIN TO FM DISCHARGE MH, SEE DETAIL SHEET 45
- INSTALL FLANGED WYE CONNECTION, SIZE PER PLAN
- INSTALL 4' DIA. MH PER MAG STD. 420-1,2 W/ 24" DIA FRAME & COVER PER MAG STD. DET. 423-1.
- INSTALL SEWER QUICK BY-PASS CONNECTION PER DTL. ON SHEET 41

WATER CONSTRUCTION NOTES

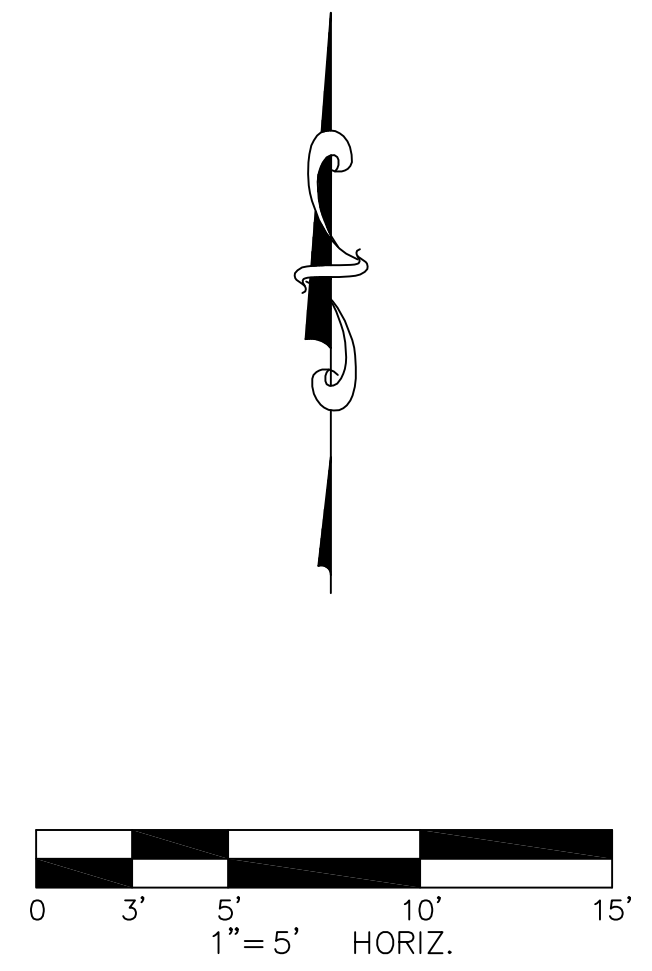
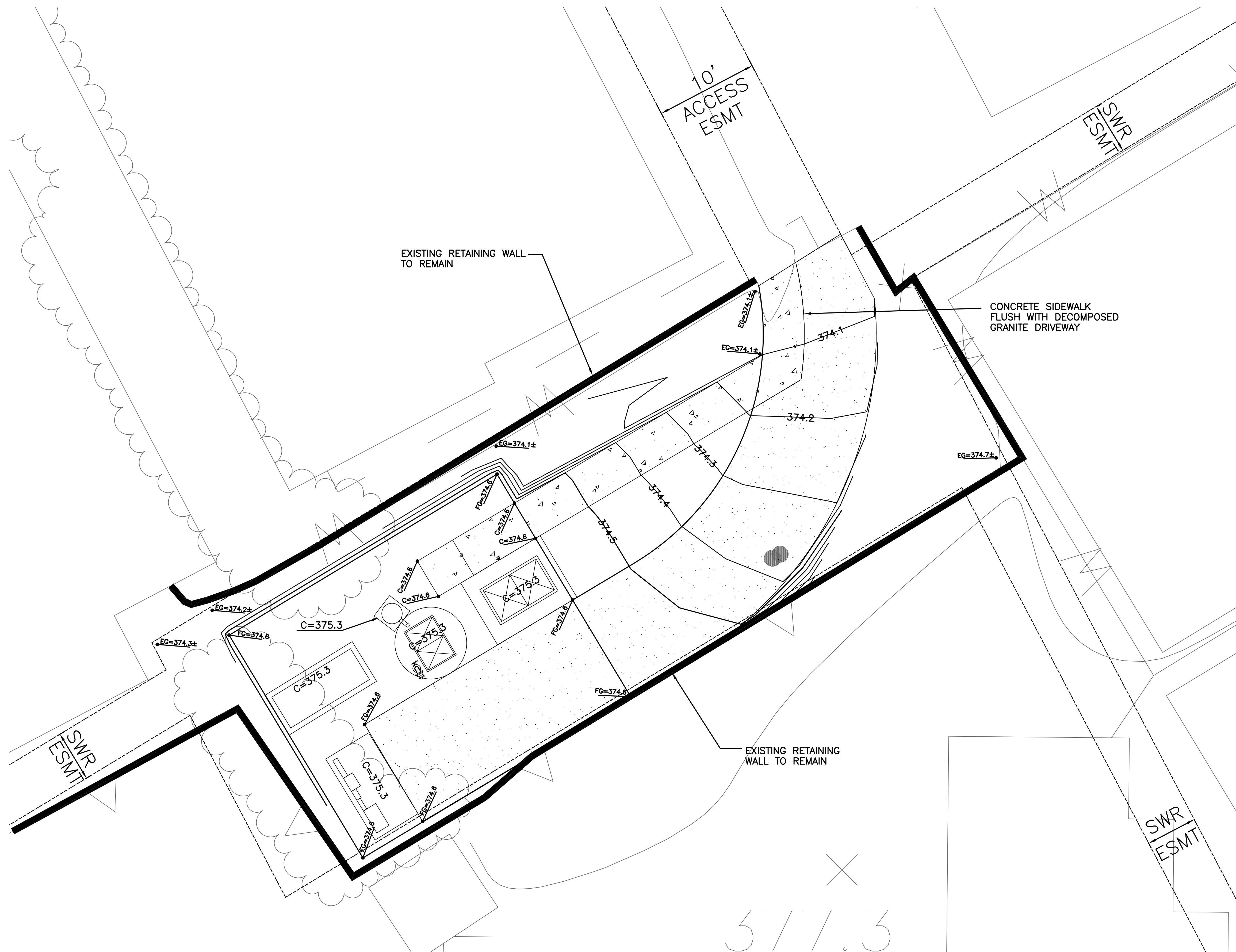
- INSTALL 1" SINGLE WATER SERVICE PER BROOKE UTILITIES STANDARDS
- INSTALL 1" WATER LINE
- INSTALL 1" - 90° BEND
- SAWCUT, REMOVE AND REPLACE EXISTING CONC. AS REQUIRED
- INSTALL 1" HOSE BIB ATTACHED TO WALL
- SAWCUT, REMOVE AND REPLACE CONCRETE AS REQUIRED TO INSTALL WATER LINE PER WATER COMPANY STANDARDS



LIFT STATION NO. 1 FINAL CONSTRUCTION PLAN
SCALE: 1"=10'

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377.3

LIFT STATION NO. 1 FINAL GRADING AND DRAINAGE PLAN
SCALE: 1"=5'



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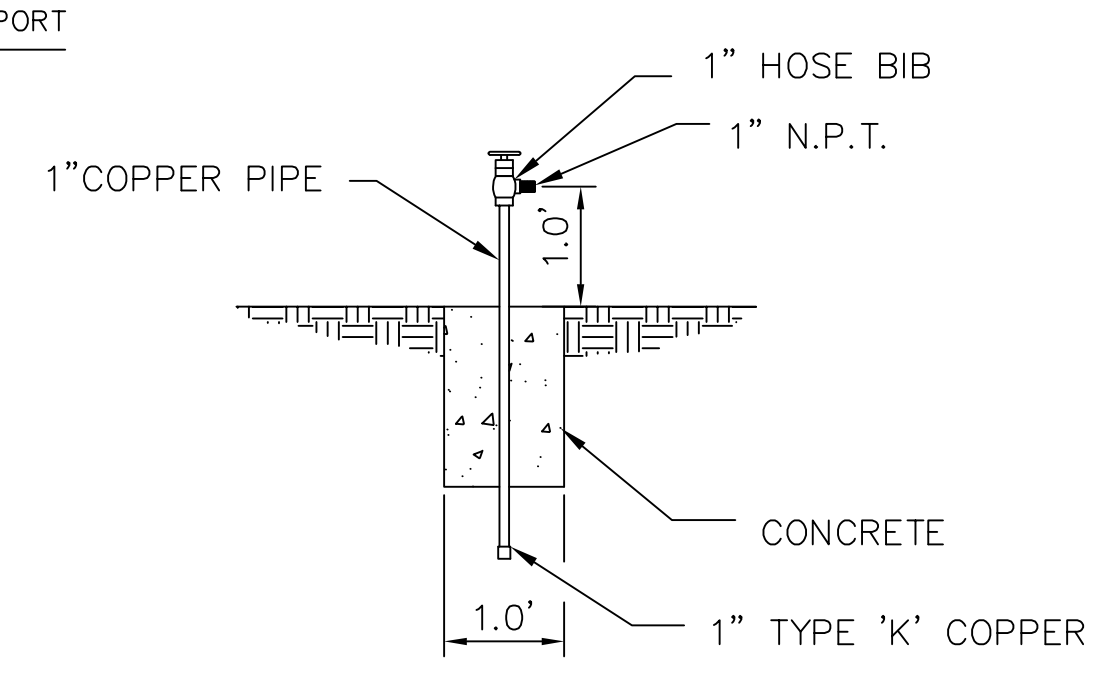
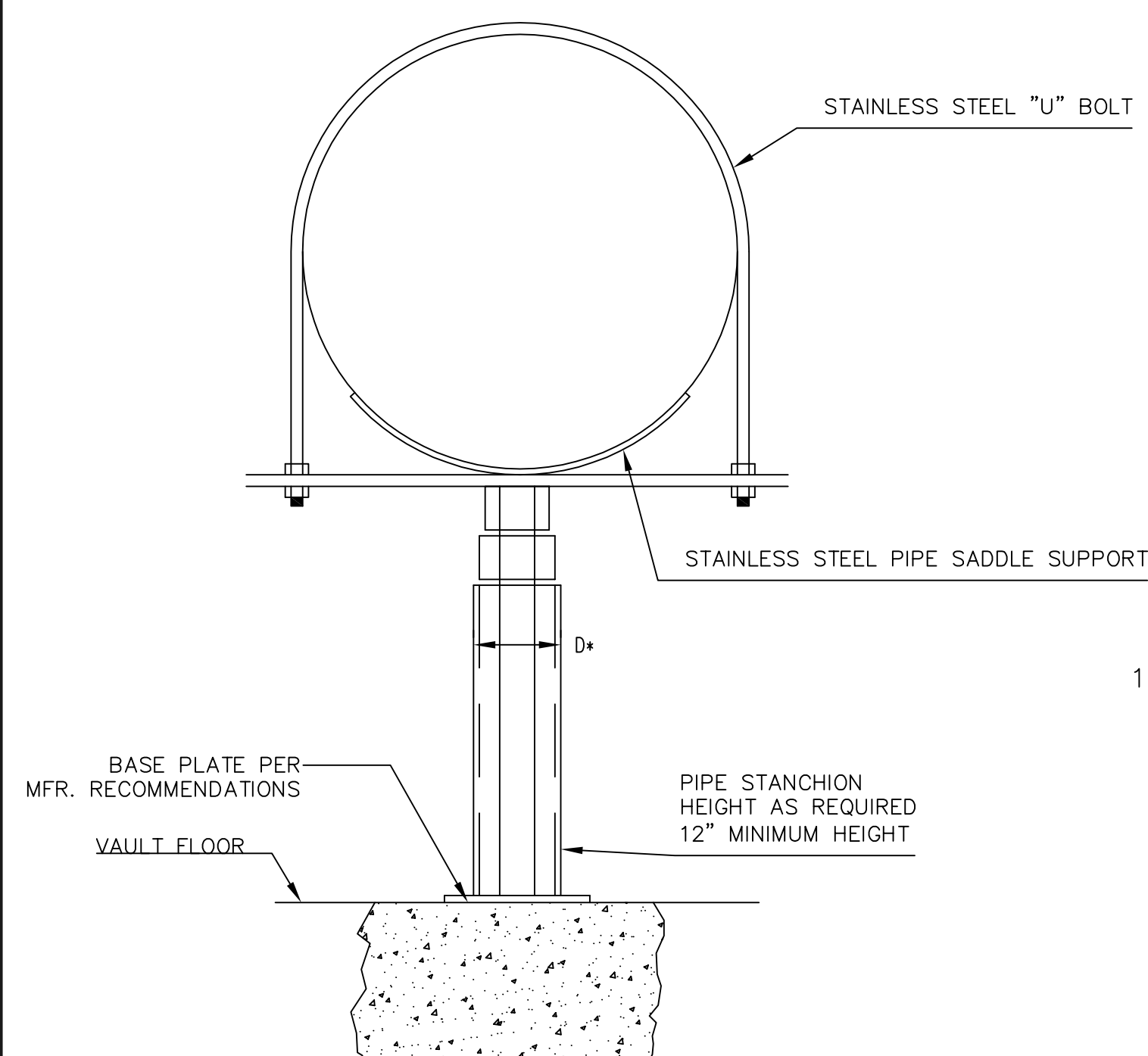
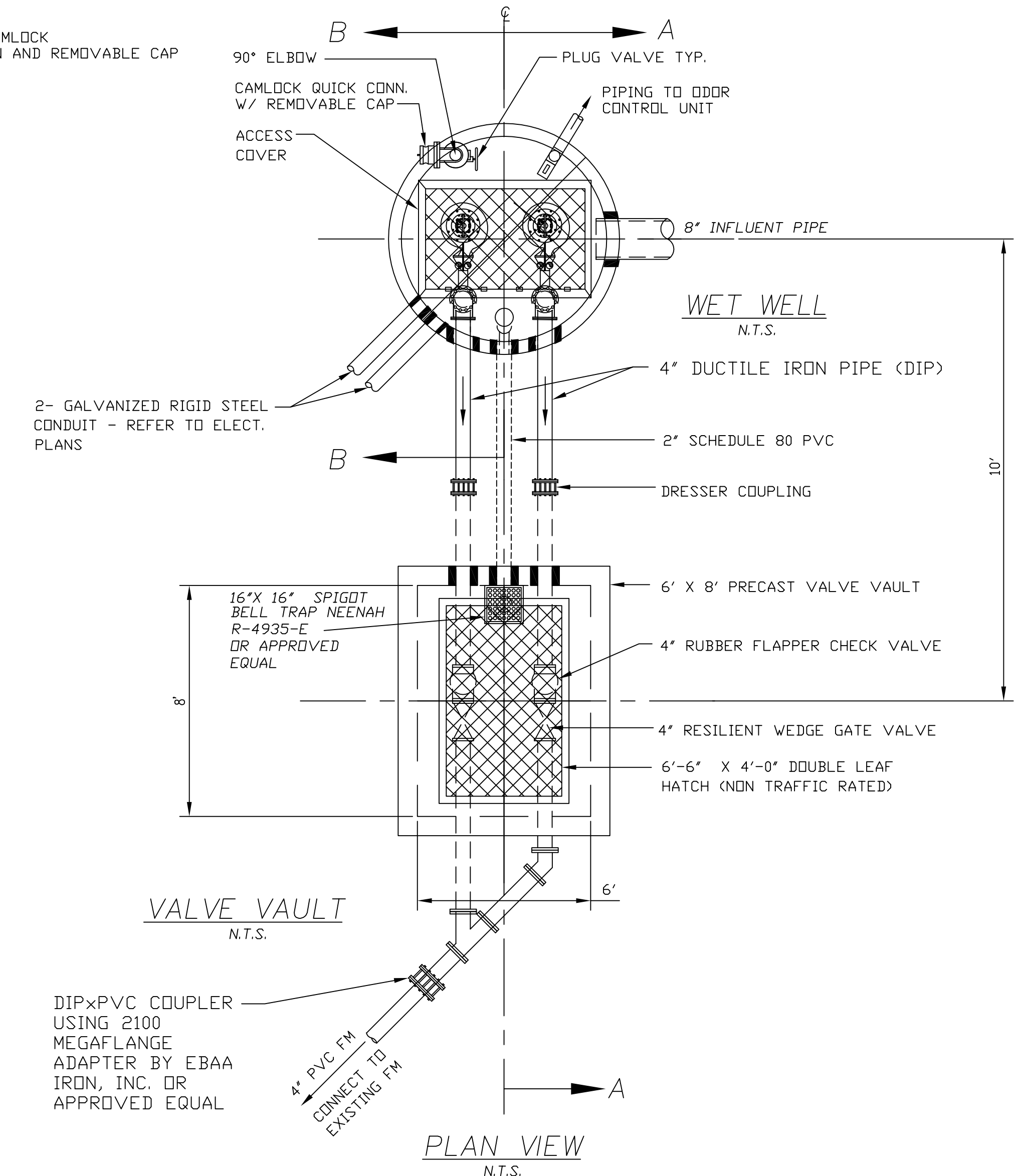
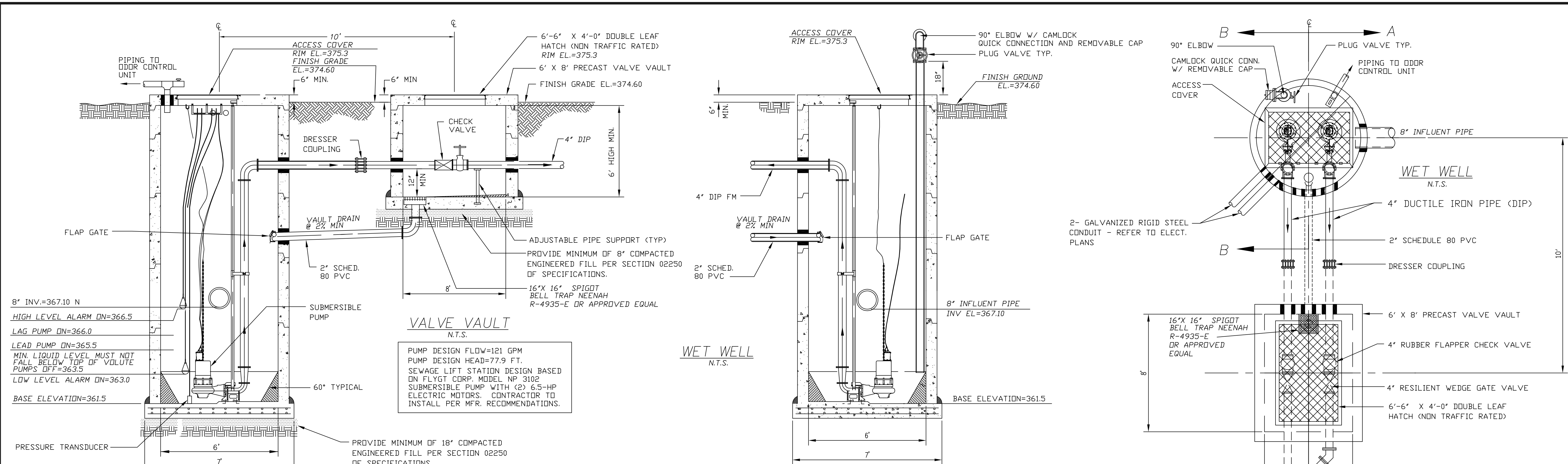
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SCALE: 1"=5'

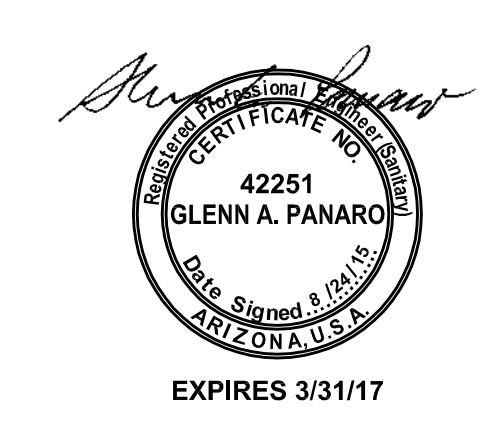
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BUCKSKIN SANITARY DISTRICT
PHASE 4 SEWER
LIFT STATION NO. 1

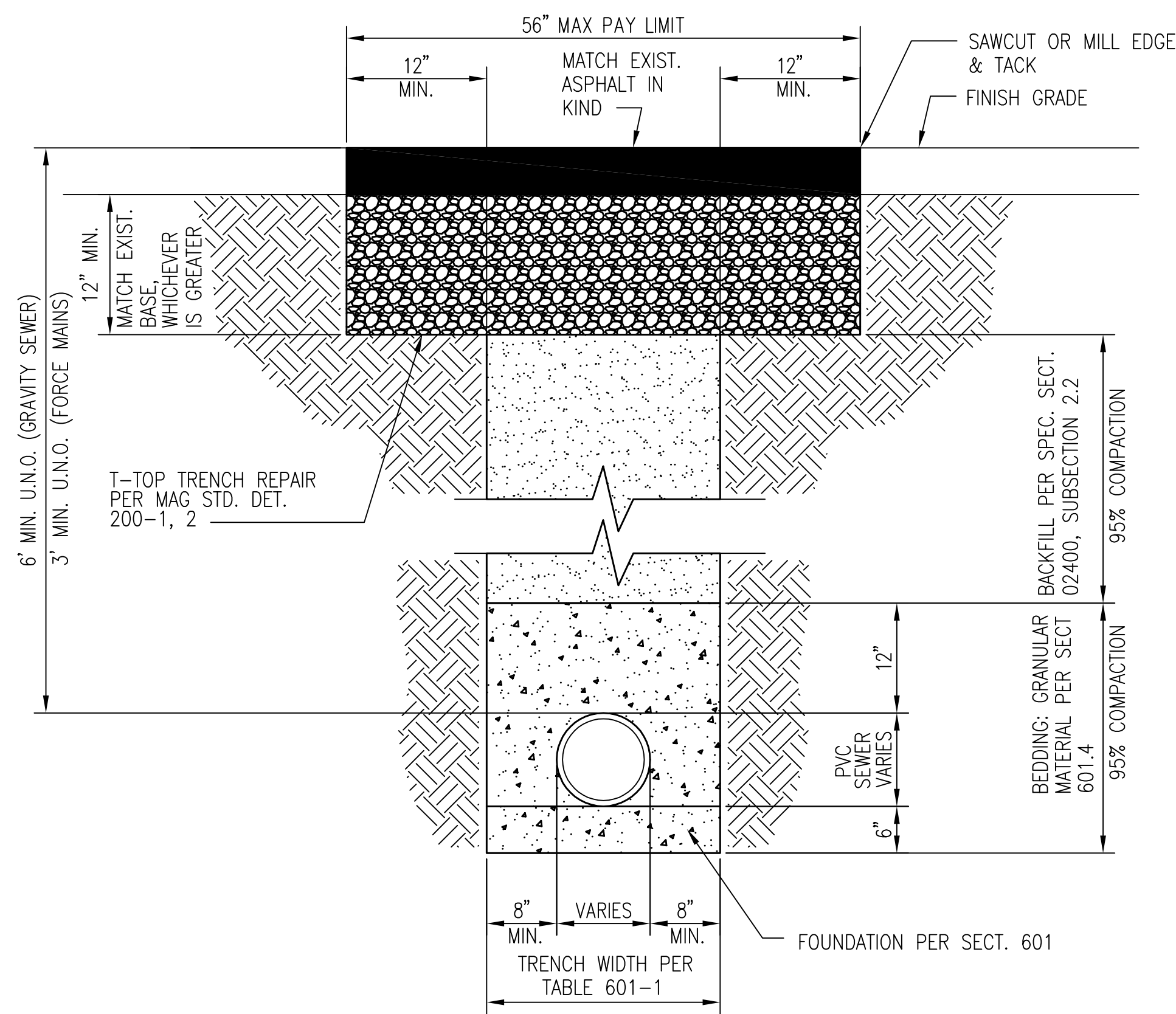
SHEET 34



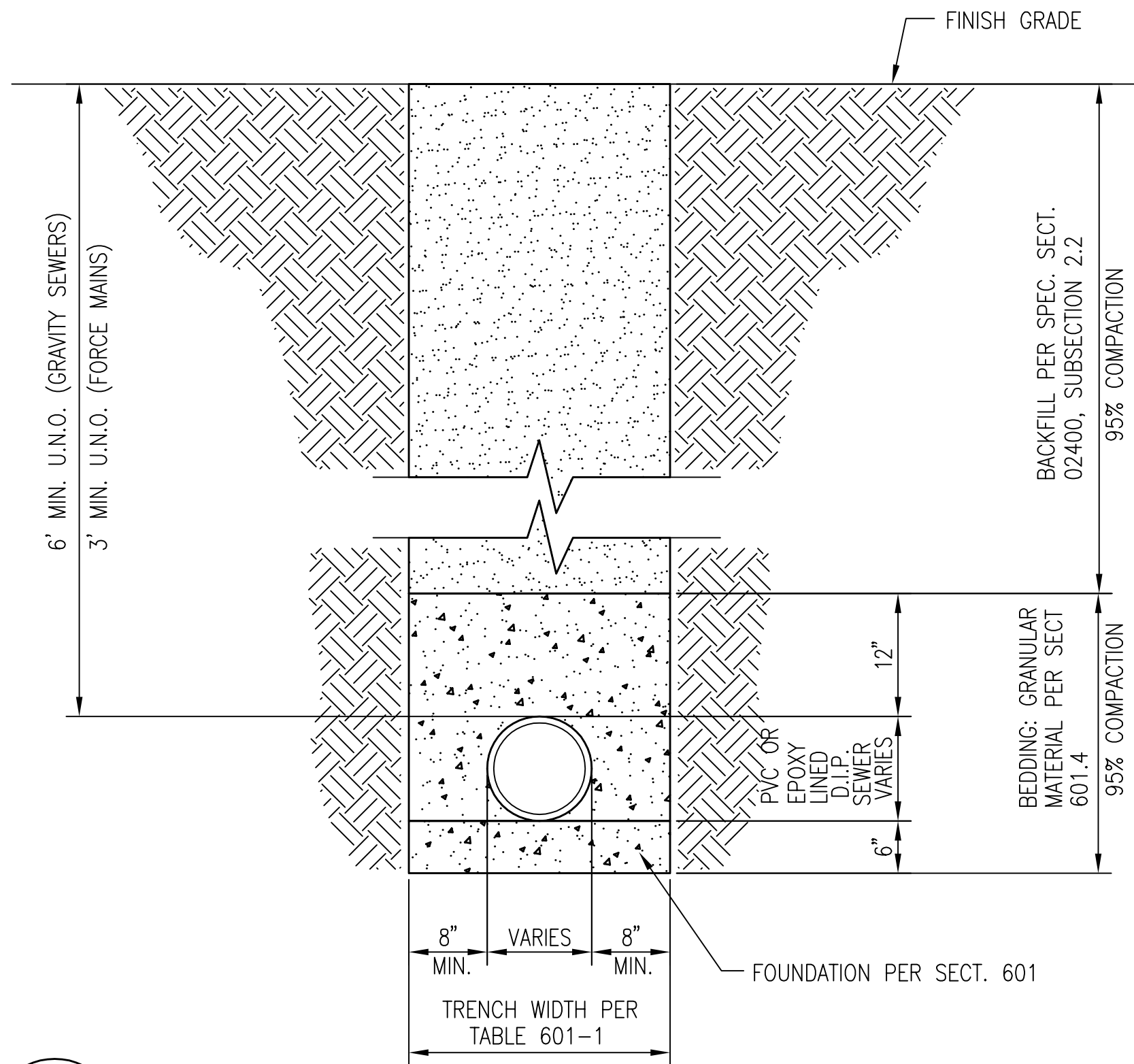
NOTE:
SEE SHEET 4.2 FOR STANDARD LIFT STATION NOTES.



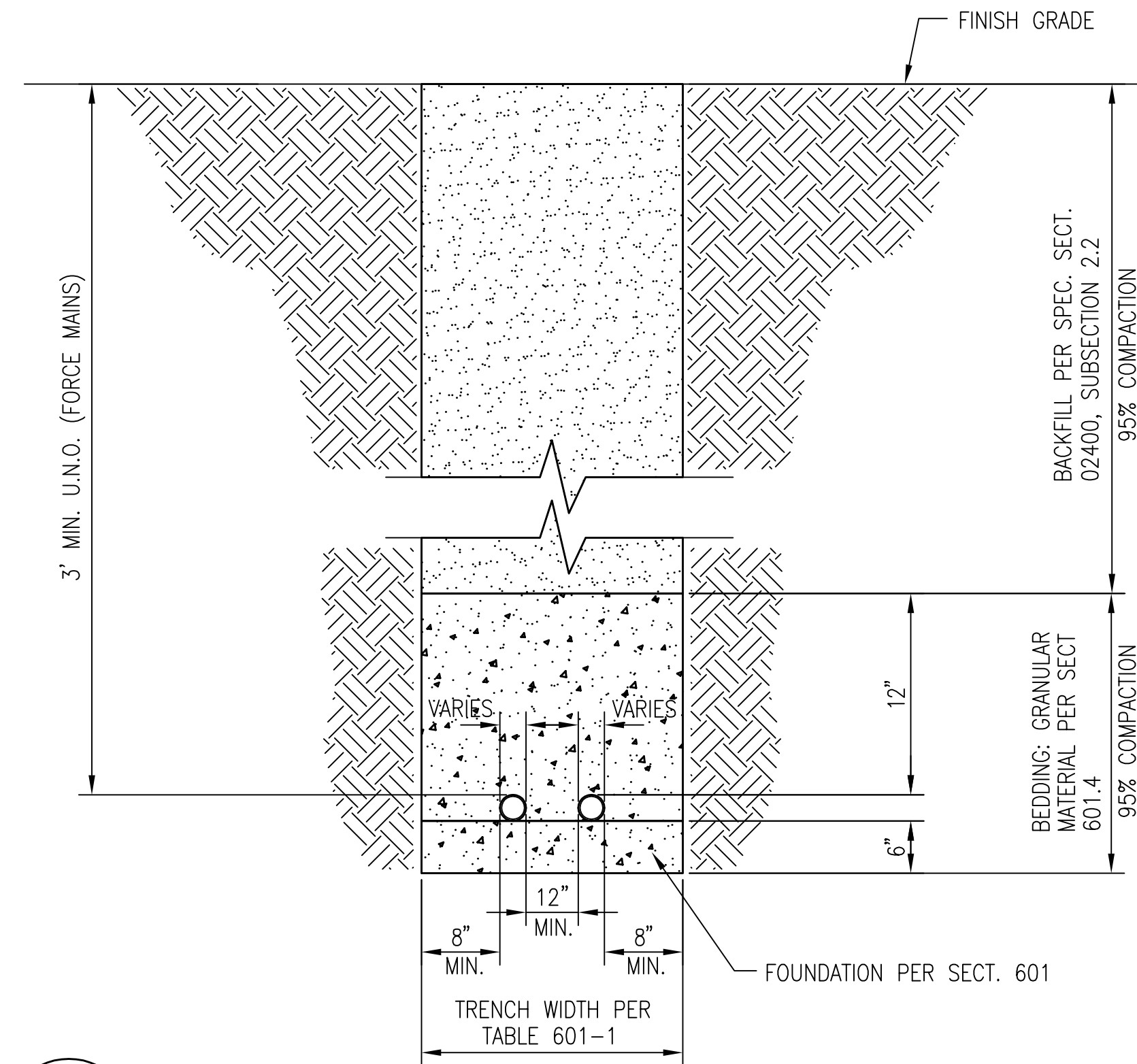
REVISIONS	BY	DATE



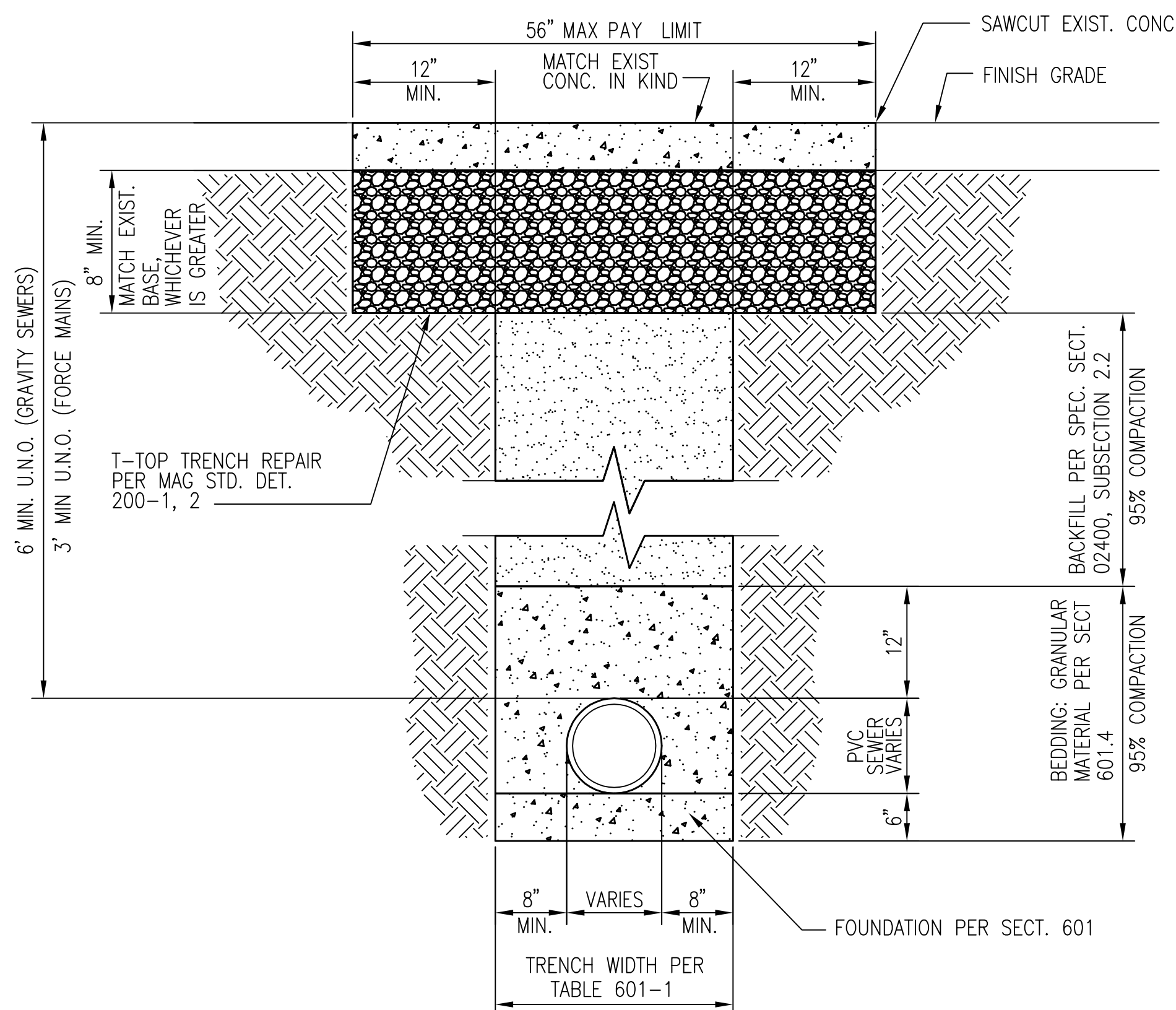
A TYPICAL GRAVITY / FORCE MAIN SEWER TRENCH IN PAVED AREAS
N.T.S.



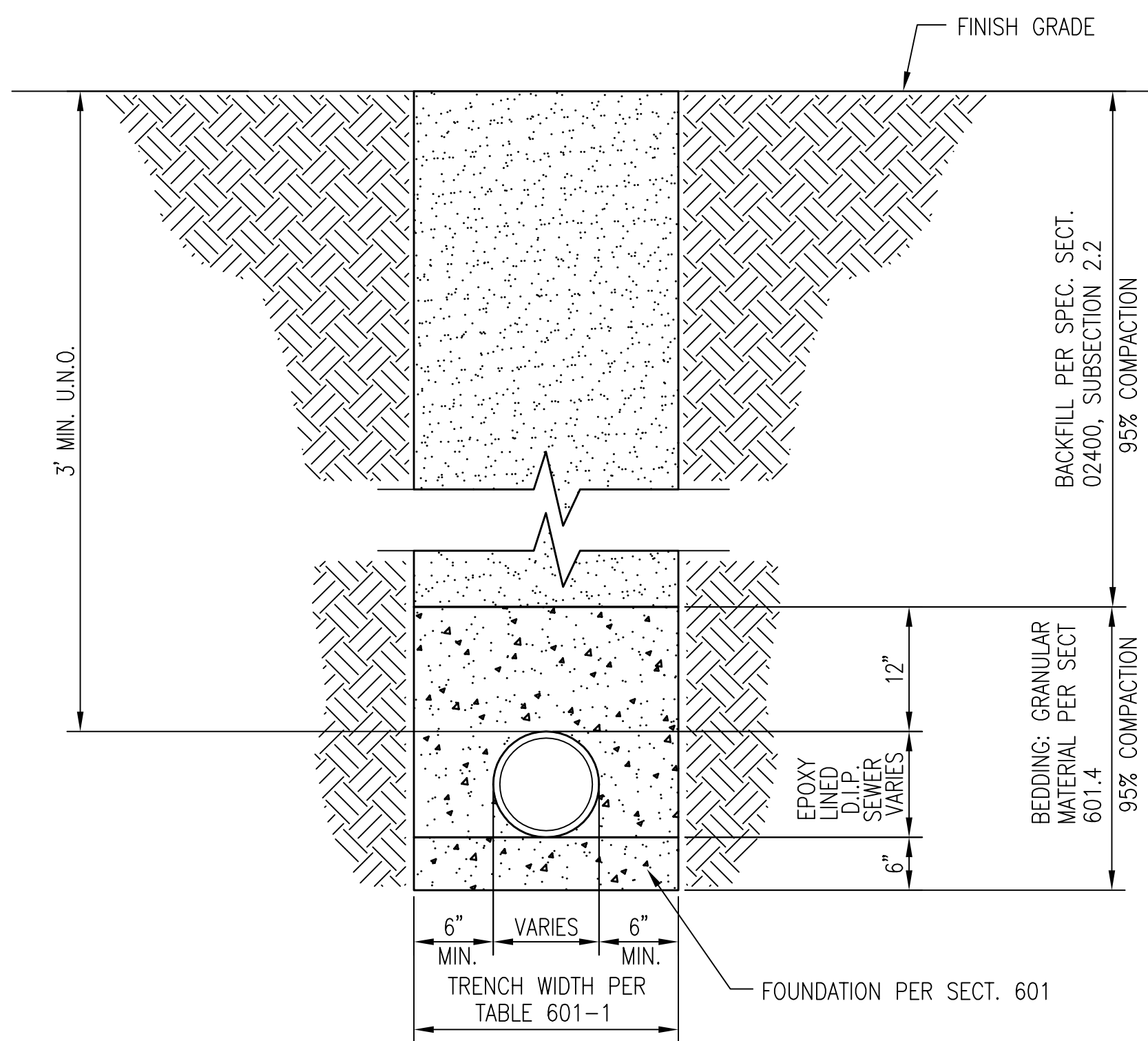
B TYPICAL GRAVITY / FORCE MAIN SEWER TRENCH IN NON-PAVED AREAS
N.T.S.



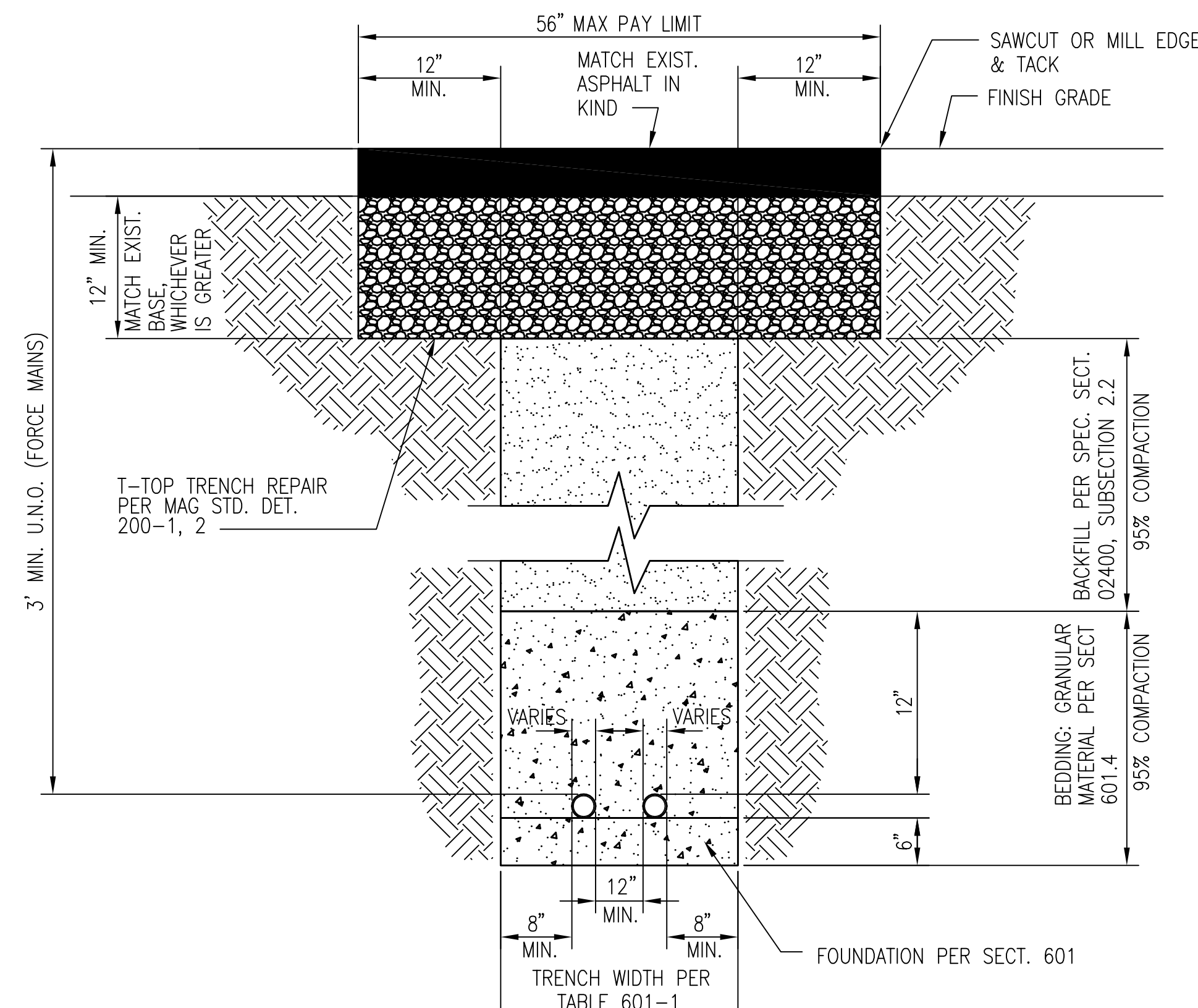
C JOINT TRENCH - DUAL FORCE MAINS IN NON-PAVED AREAS
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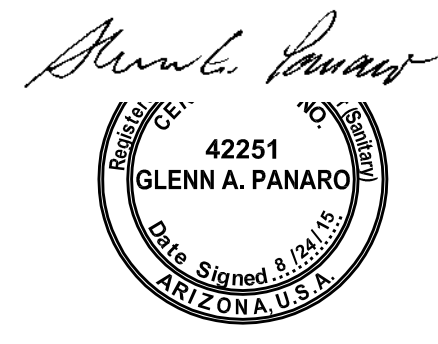
D TYPICAL GRAVITY / FORCE MAIN SEWER TRENCH DETAIL IN CONCRETE
N.T.S.



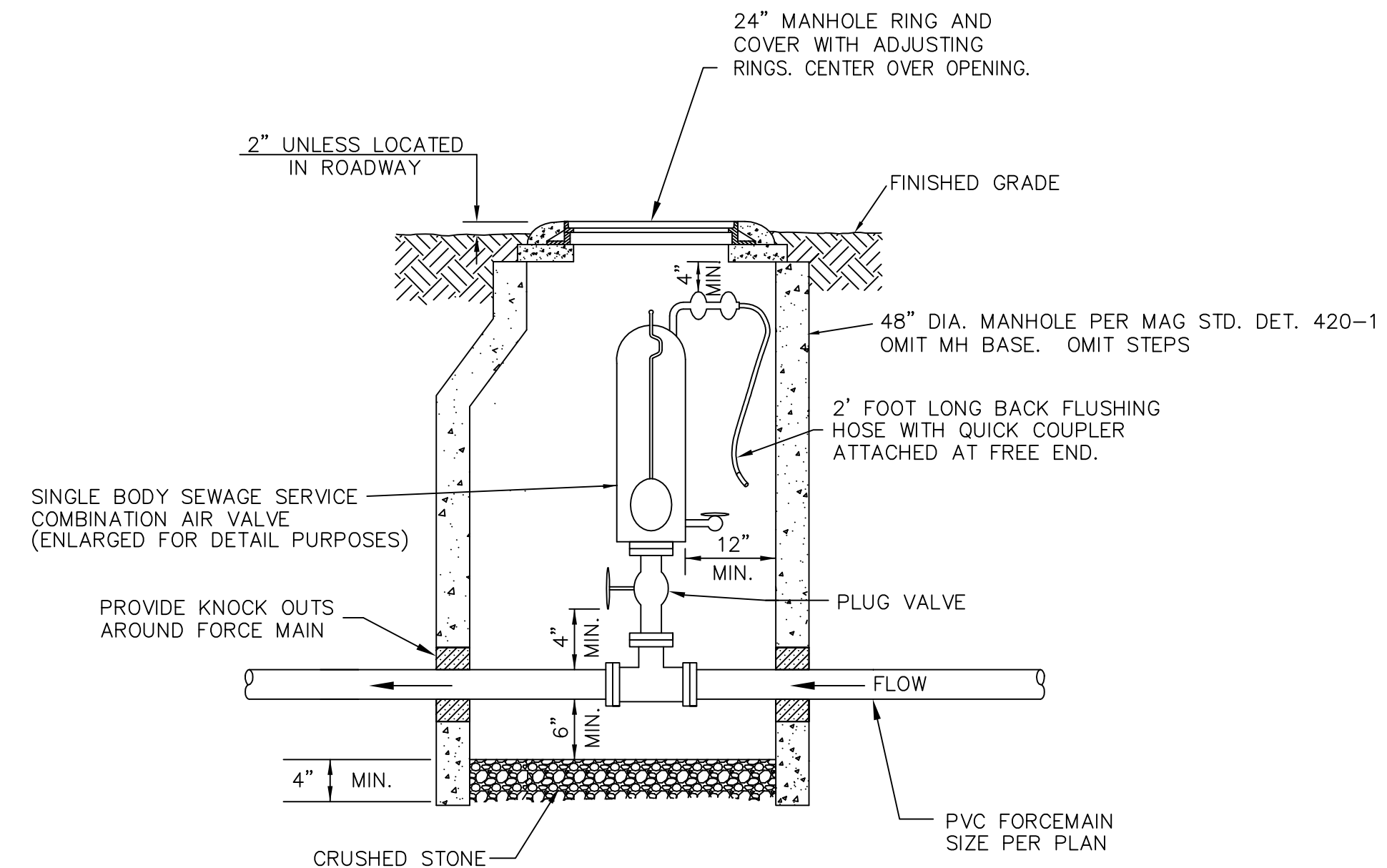
E FORCE MAIN SEWER TRENCH DETAIL IN WASH CROSSINGS
N.T.S.



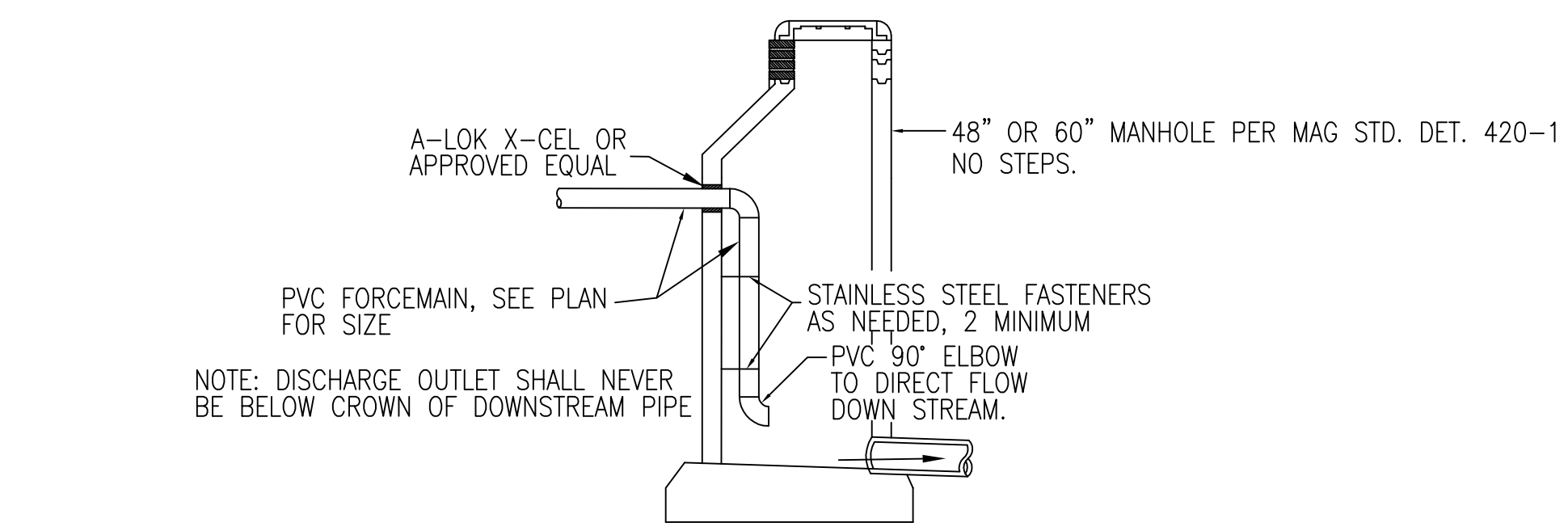
F JOINT TRENCH - DUAL FORCE MAIN SEWER IN PAVED AREAS
N.T.S.



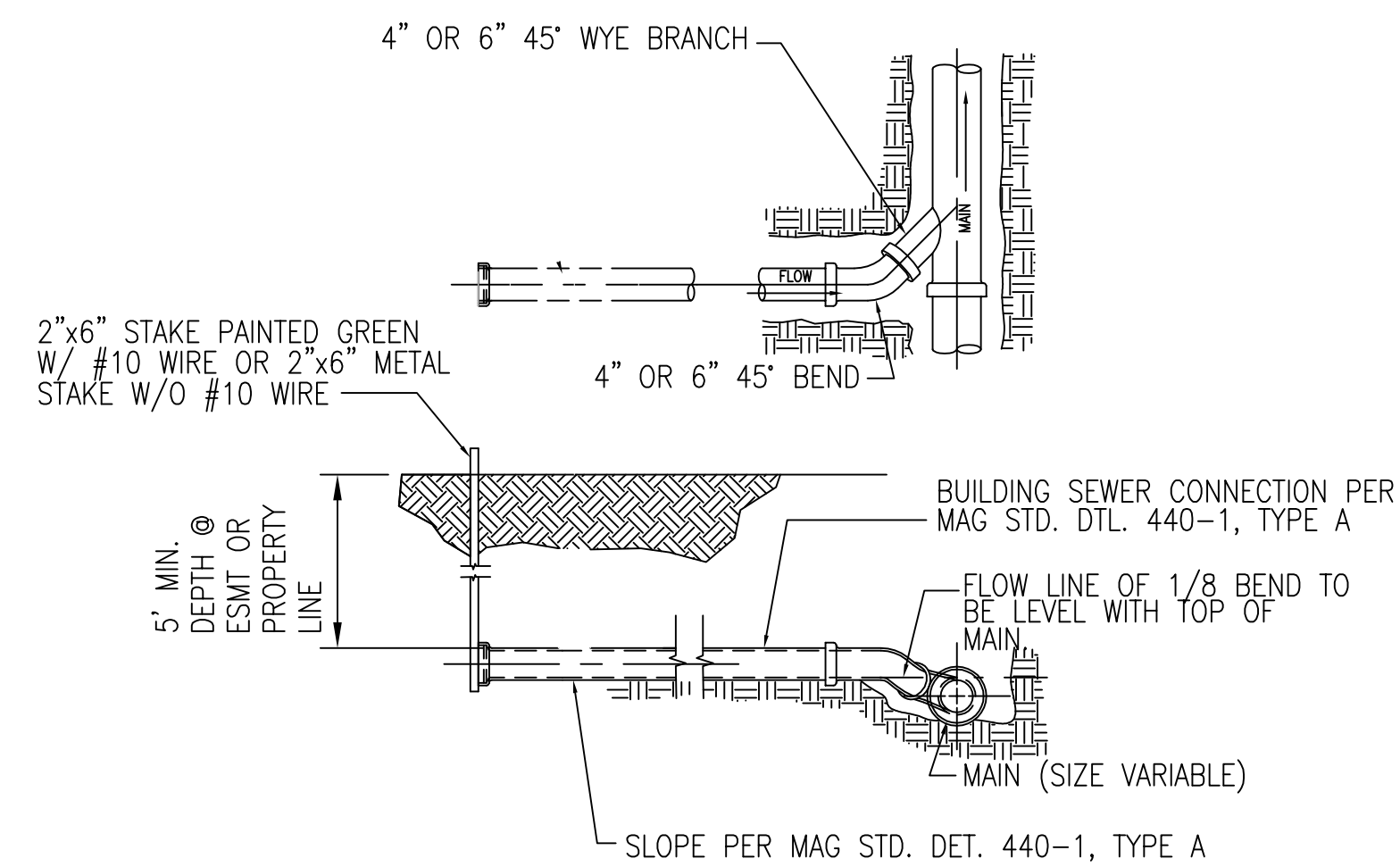
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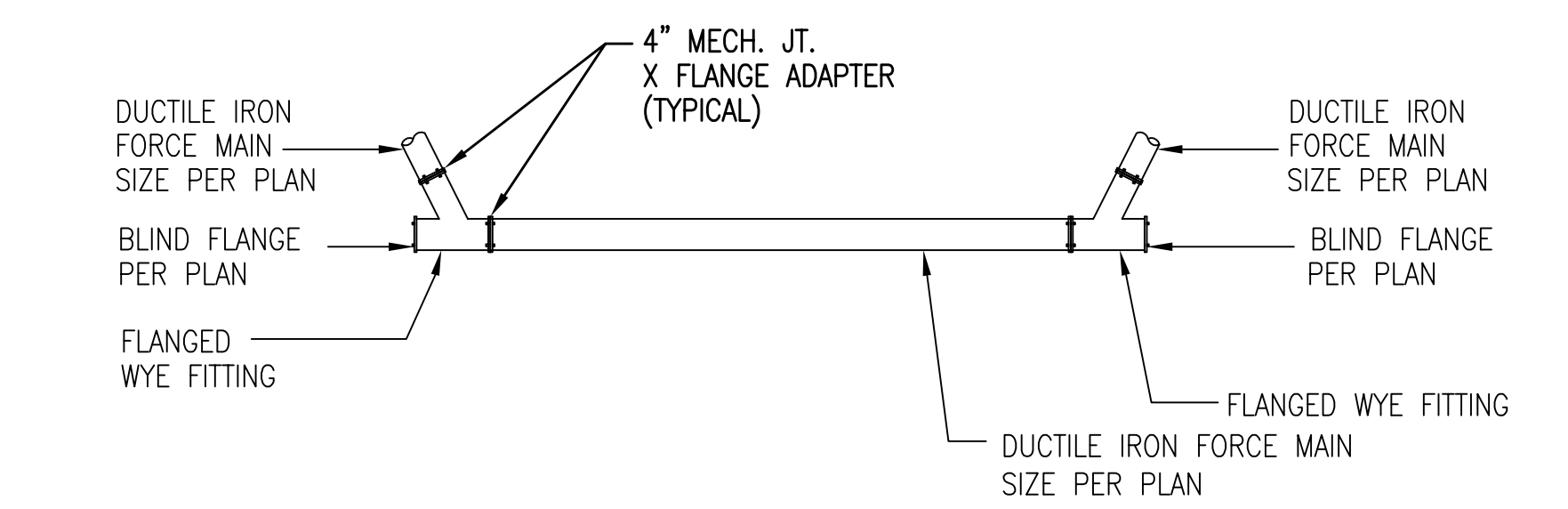
SEWER AIR RELEASE VALVE
N.T.S.



TYPICAL FORCEMAIN DISCHARGE MANHOLE
N.T.S.

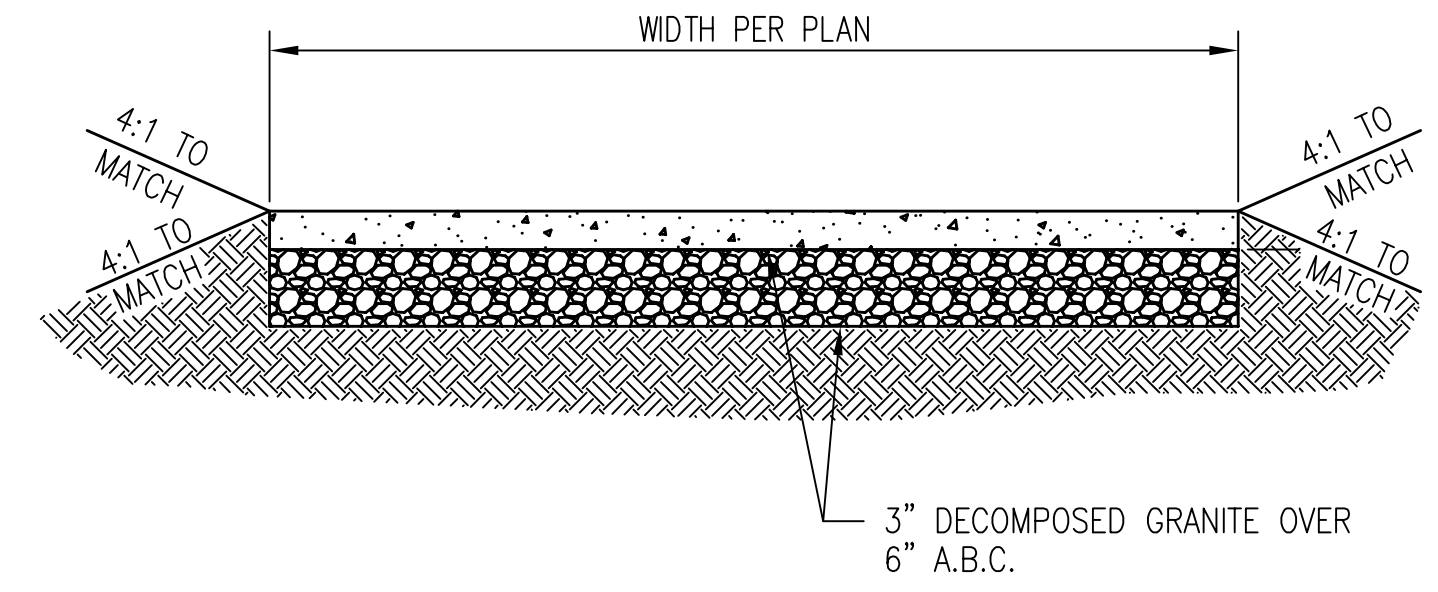


BUILDING SEWER CONNECTION
N.T.S.

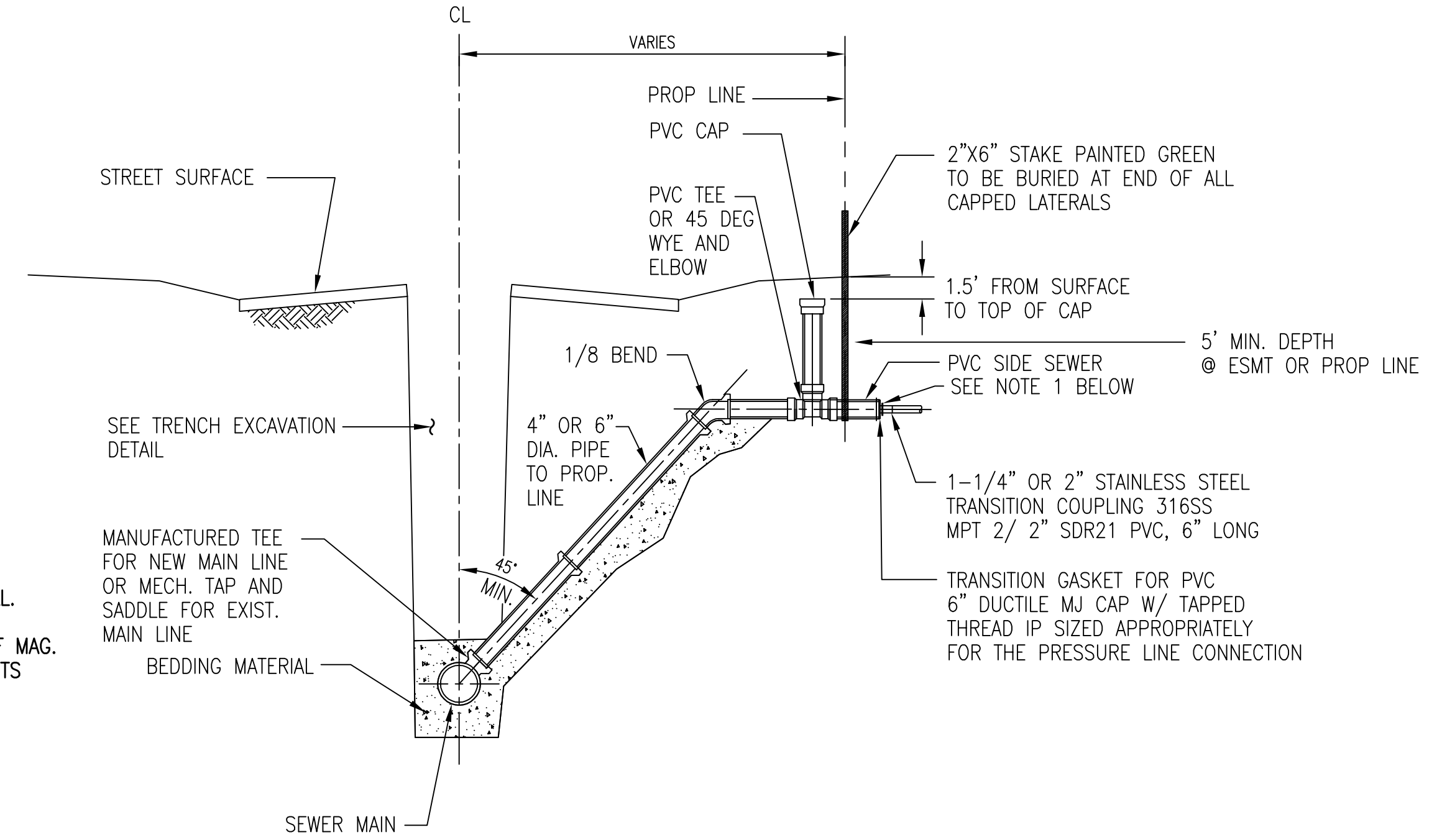


- NOTE:
1. ALL 4" DIP JOINTS SHALL BE RESTRAINED USING MEGA-LUG SERIES 1100 BY EBAA IRON INC., OR APPROVED EQUAL.
 2. ALL 4" D.I. PIPING AND FITTINGS SHALL BE LINED WITH CERAMIC EPOXY, "PROTECTO 401", OR APPROVED EQUAL.
 3. ALL 4" D.I. PIPING AND FITTINGS SHALL BE ENCASED WITH POLYETHYLENE IN ACCORDANCE WITH SECTION 610-6 OF MAG.
 4. D.I. PIPING SHALL BE CONCRETE ENCASED AT A MINIMUM OF 10' BEYOND THE OUTSIDE DIAMETER OF BOTH CULVERTS IN ACCORDANCE WITH MAG STD. DET. 404-1,2,3.

FORCE MAIN CLEANOUT
N.T.S.



ACCESS ROAD DETAIL
N.T.S.



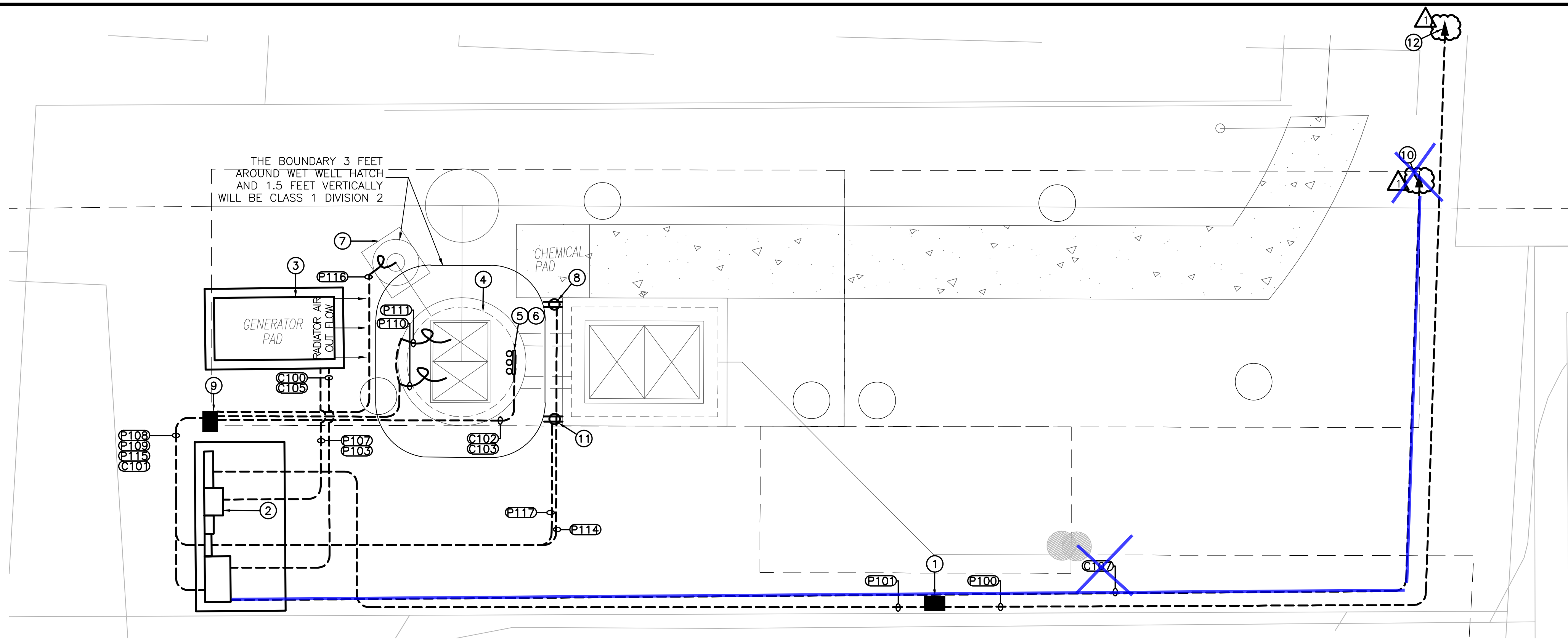
- NOTES:
1. FOR 1-1/4" SERVICE USE 2"x1-1/4" BRASS BUSHING FOR 2" TAP
 2. FOR 2" SERVICE, OMIT BUSHING

FORCE MAIN SEWER LATERAL SERVICE CONNECTION
N.T.S.

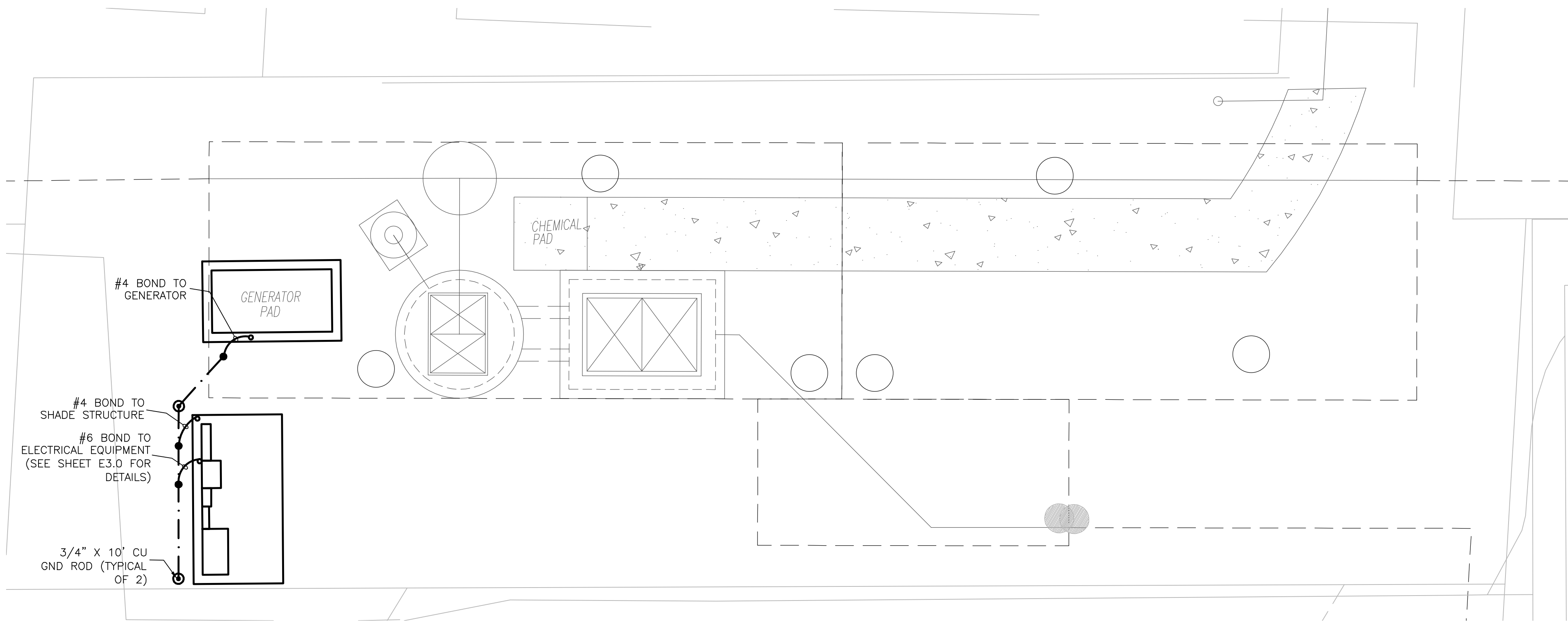


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LIFTSTATION NO. 1 ELECTRICAL PLAN



LIFTSTATION NO. 1 GROUNDING



CONSTRUCTION NOTES

- ① CONTRACTOR SHALL PROVIDE AND INSTALL NEW JUNCTION BOX PER ALL POWER COMPANY REQUIREMENTS AND SPECIFICATIONS.
- ② CONTRACTOR SHALL PROVIDE AND INSTALL NEW ELECTRICAL SERVICE, GEAR, AND SHADE STRUCTURE, SEE DETAILS 1 & 2 ON SHEET E4.0.
- ③ CONTRACTOR SHALL PROVIDE AND INSTALL NEW 40KW GENERATOR SET ON CONCRETE PAD. REFER TO CIVIL PLANS FOR DETAILS.
- ④ DUPLEX PUMP SEWAGE LIFT STATION PREPACKAGED BY OTHERS. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL ELECTRICAL CONNECTIONS AS REQUIRED. SEE DETAIL 4 ON SHEET E4.0.
- ⑤ NEW PRESSURE TRANSDUCER FOR WET WELL LEVEL INDICATION AS COORDINATED BY GENERAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL POWER AND CONTROL AS REQUIRED.
- ⑥ NEW LEVEL FLOAT(S) FOR WET WELL BACKUP LEVEL INDICATION AS COORDINATED BY GENERAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL POWER AND CONTROL AS REQUIRED.
- ⑦ NEW ODOR CONTROL. ELECTRICAL CONTRACTOR SHALL MAKE ELECTRICAL CONNECTIONS PER DETAIL 10 ON SHEET E4.1.
- ⑧ NEW GFCI RECEPTACLE WITH WEATHER PROOF WHILE IN USE METAL COVER FOR CHEMICAL FEED PUMP, SEE DETAIL 5 ON SHEET E4.1.
- ⑨ CONTRACTOR SHALL PROVIDE AND INSTALL NEW STANCHION MOUNTED J-BOX WITH LANDING LUGS AND EYS SEALS. SEE DETAIL 6 ON SHEET E4.1.
- ~~⑩ COORDINATE WITH TELEPHONE COMPANY TO PROVIDE SERVICE FOR AUTO DIALER. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL WIRE, 2\"~~
- ⑪ NEW GFCI RECEPTACLE WITH WEATHER PROOF WHILE IN USE METAL COVER FOR PORTABLE DAVIT CRANE, SEE DETAIL 5 ON SHEET E4.1.
- ⑫ CONTRACTOR SHALL COORDINATE WITH POWER COMPANY FOR UPGRADED ELECTRICAL SERVICE AND CONFIRM ALL SIZES AND DISTANCES PRIOR TO CONSTRUCTION. EXTEND NEW ELECTRICAL SERVICE CONDUIT TO THE EXISTING POWER COMPANY TRANSFORMER. REMOVE ALL UNUSED CONDUCTORS AND CONDUITS TO 24\"

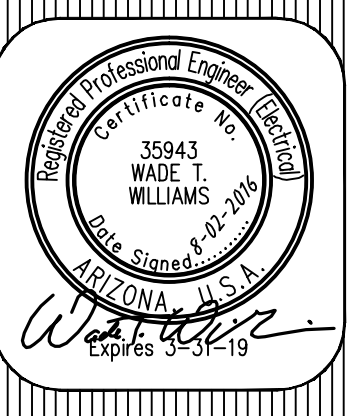
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PROJECT NO:
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DRAWN BY: JHB
CHECKED BY: WTW

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www.wrightengr.com

PROJECT: TITLE:

PARKER, ARIZONA
BUCKSKIN SANITARY DISTRICT
PHASE 4 SEWER PLANS
ELECTRICAL SITE PLAN LS#1

NO.	DATE	SUBMITTALS/REVISIONS (DESCRIPTIONS)
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5	MAR 2016	1ST REVISION. WIKER CNTRL & OMINISITE ADDED
6	AUG 2016	2ND REVISION. VFD'S REMOVED SIGNALS ADDED.



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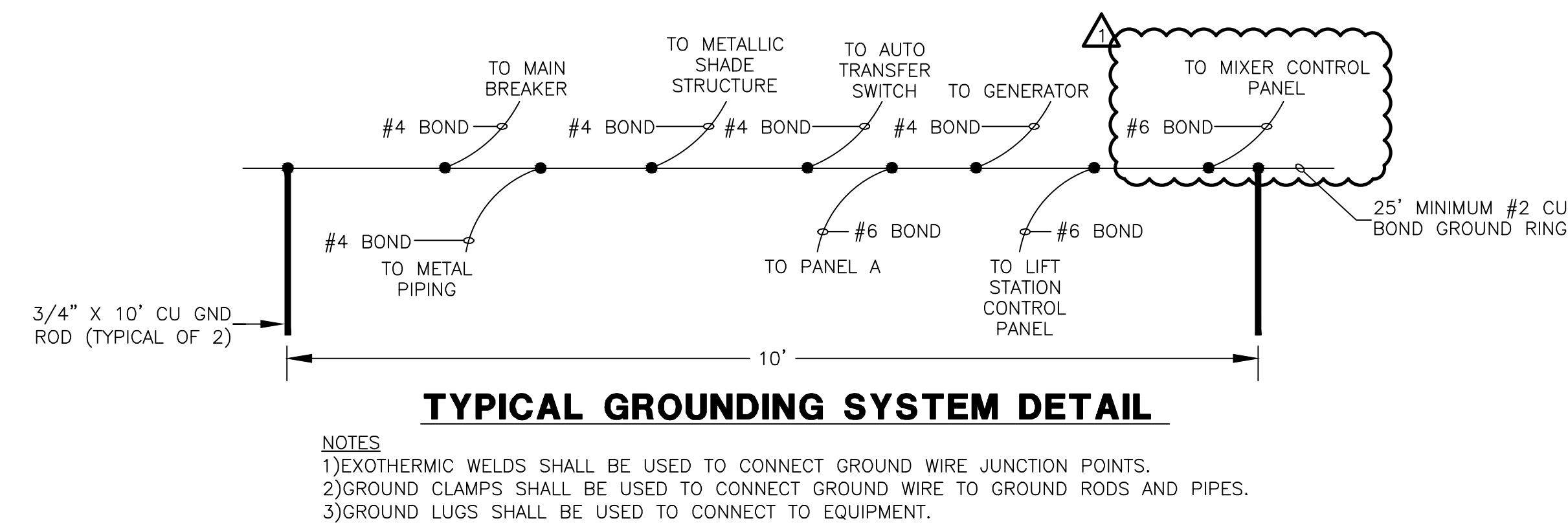
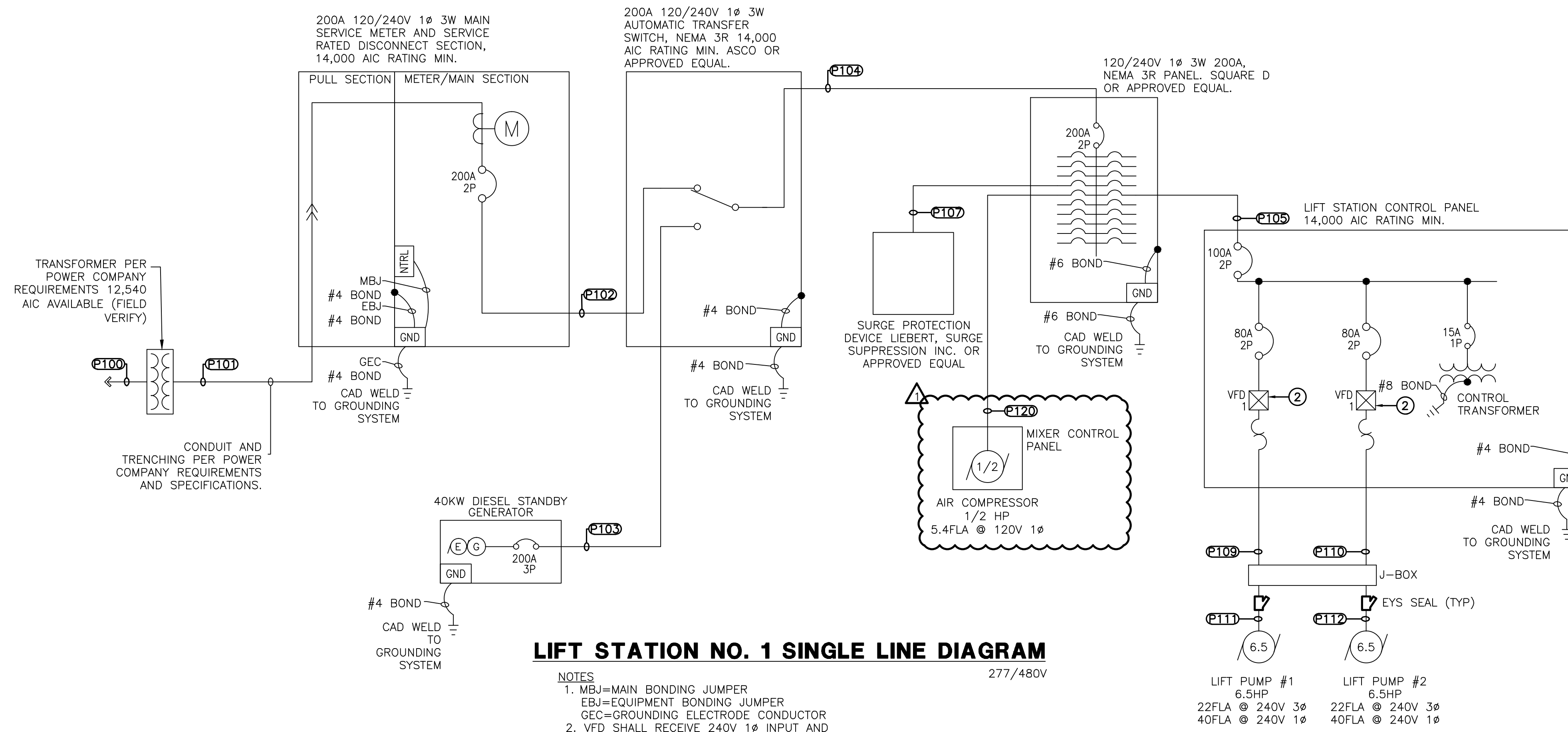
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LIFT STATION NO. 1 SERVICE ENTRANCE SECTION	
LOAD CALCULATION SUMMARY	
LOAD DESCRIPTION	CONNECTED
PANEL A	78.8
TOTAL AMPS / Ø	78.8

PANEL NAME: A	120/240V, 1Ø, 3W				200A MAIN BKR
LOCATION: STANCHION MTD	TYPE: PLUG-ON				STANCHION MTD, NEMA 3R
DESCRIPTION	BKR SIZE	CKT NO.	LOAD AØ	LOAD BØ	DESCRIPTION
SHADE LIGHTING*	20/1	1	160	2	GENERATOR BATTERY CHARGER +
CONVENIENCE RECEPTACLE	20/1	3	120	4	GENERATOR HEATER +
CHEMICAL FEED DEDICATED RECEPTACLE	20/1	5	1176	6	GENERATOR CONTROL PANEL +
ODOR CONTROL*	20/1	7	200	8	ALARM BEACON
AUTO DIALER	20/1	9	200	10	DAVIT ARM CRANE DEDICATED RECEPTACLE
SURGE PROTECTION DEVICE	60/	11	0	12	LIFT STATION CONTROL PANEL*
MIXER CONTROL PANEL	20/1	15	648	16	BUSSED SPACE
BUSSED SPACE		17	0	18	BUSSED SPACE
BUSSED SPACE		19	0	20	BUSSED SPACE
BUSSED SPACE		21	0	22	BUSSED SPACE
BUSSED SPACE		23	0	24	BUSSED SPACE
CODE TOTAL VA/Ø			9452	8884	*INDICATES LOAD @ 125%
CODE TOTAL AMPS/Ø			78.8	74.0	14,000 AIC BREAKERS

+ VERIFY WITH GENERATOR MANUFACTURER FOR EXACT SIZE AND QUANTITY PRIOR TO INSTALLATION.



CONDUIT AND WIRE SCHEDULE FOR POWER						
CONDUIT NO.	SIZE	POWER	GROUND	FROM	TO	REMARKS
P100	3"	WIRE BY POWER CO.		EX. POWER CO. TRANSFORMER	NEW PULL BOX	
P101	3"	WIRE BY POWER CO.		NEW PULL BOX	MAIN SES	
P102	2"	(3)	#3/0 #6	MAIN SES	AUTO TRANSFER SWITCH	
P103	2"	(3)	#3/0 #6	AUTO TRANSFER SWITCH	STANDBY GENERATOR	
P104	2"	(3)	#3/0 #6	AUTO TRANSFER SWITCH	PANEL A	
P105	1.25"	(3)	#2 #6	PANEL 'A'(12,14)	LIFT STATION CONTROL PANEL	
P106	1"	(2)	#6 #10	PANEL 'A'(11,13)	SURGE PROTECTION DEVICE	
P107	1"	(2)	#12 #12	PANEL 'A'-2	GENERATOR BATTERY CHARGER	
	1"	(2)	#12 #12	PANEL 'A'-4	GENERATOR HEATER	
P108	1"	(2)	#12 #12	PANEL 'A'-6	GENERATOR CONTROL PANEL	
	1.25"	(3)	#8 #10	LIFT STATION CONTROL PANEL	J-BOX	LIFT PUMP #1
P109	1.25"	(3)	#8 #10	LIFT STATION CONTROL PANEL	J-BOX	LIFT PUMP #2
P110	2"	FACTORY CABLE		J-BOX	LIFT PUMP #1	
P111	2"	FACTORY CABLE		J-BOX	LIFT PUMP #2	
P112	1"	(2)	#12 #12	PANEL 'A'-1	SHADE LIGHTS	
P113	1"	(2)	#12 #12	PANEL 'A'-3	CONVENIENCE RECEPTACLE	
P114	1"	(2)	#12 #12	PANEL 'A'-5	CHEMICAL FEED DEDICATED RECEPTACLE	
P115	1"	(2)	#12 #12	PANEL 'A'-7	J-BOX	ODOR CONTROL
P116	1"	FACTORY CABLE		J-BOX	SCRUBBER	
P117	1"	(2)	#12 #12	PANEL 'A'-10	DAVIT ARM CRANE DEDICATED RECEPTACLE	
P118	1"	(2)	#12 #12	PANEL 'A'-8	ALARM BEACON	
P119	1"	(2)	#12 #12	PANEL 'A'-9	AUTO DIALER	
P120	1"	(2)	#12 #12	PANEL 'A'-15	MIXER CONTROL PANEL	1/2 HP, 120V

CONDUIT AND WIRE SCHEDULE FOR CONTROL							
CONDUIT NO.	SIZE	POWER	GROUND	CONTROL	FROM	TO	REMARKS
C100	1"		#14	(4) #14	AUTO TRANSFER SWITCH	STANDBY GENERATOR	
C101	1"		#12	(8) #14	LIFT STATION CONTROL PANEL	J-BOX	LEVEL FLOATS
				#18 SHIELDED TWISTED PAIR			PRESSURE TRANSDUCER
C102	1"			FACTORY CABLE	J-BOX	LEVEL FLOATS	
C103	1"			FACTORY CABLE	J-BOX	PRESSURE TRANSDUCER	
C104	1"		#14	(2) #14	AUTO TRANSFER SWITCH	AUTO DIALER	
C105	1"		#14	(2) #14	STANDBY GENERATOR	AUTO DIALER	
C106	1"		#14	(14) #14	LIFT STATION CONTROL PANEL	AUTO DIALER	
C107	2"	PER TELEPHONE COMPANY			POINT OF SERVICE	TELEPHONE MOUNTING BOARD	
C108	2"	PER TELEPHONE COMPANY			TELEPHONE MOUNTING BOARD	AUTO DIALER	
C109	1"		#14	(4) #14	LIFT STATION CONTROL PANEL	MIXER CONTROLLER	
C110	1"			#18 SHIELDED TWISTED PAIR	PRESSURE TRANSDUCER	AUTO DIALER	

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BUCKSKIN SANITARY DISTRICT PHASE 4 SEWER PLANS
ELECTRICAL SINGLE LINE DIAGRAM #1

NO.	DATE	SUBMITTALS/REVISIONS (DESCRIPTIONS)
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5	MAR 2016	1ST REVISION. MIXER CNTRL & OMNISITE ADDED
6	AUG 2016	2ND REVISION. VFD'S REMOVED SIGNALS ADDED.

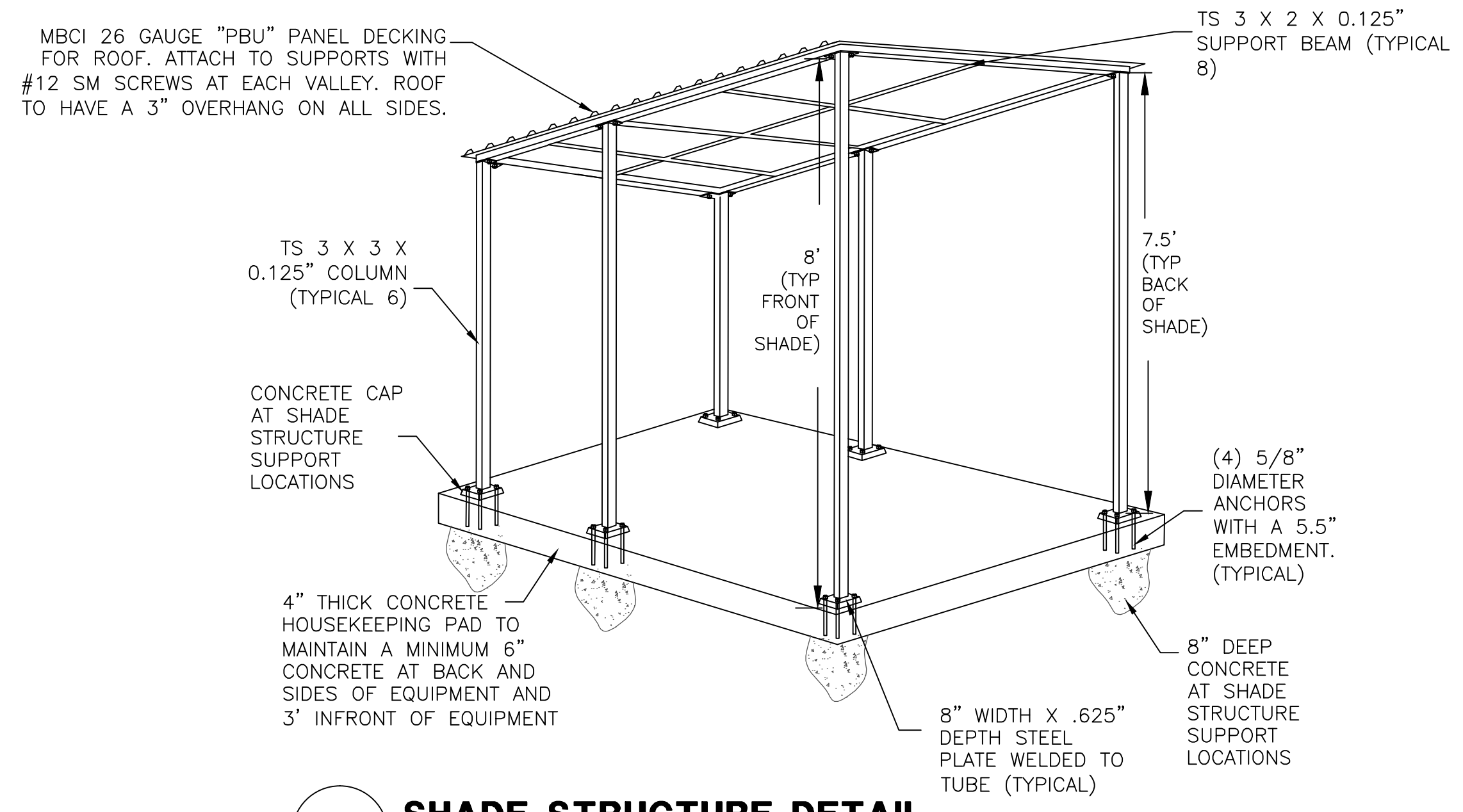
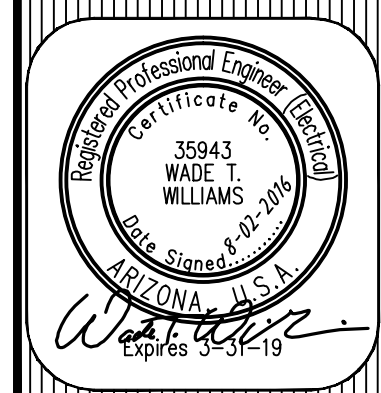
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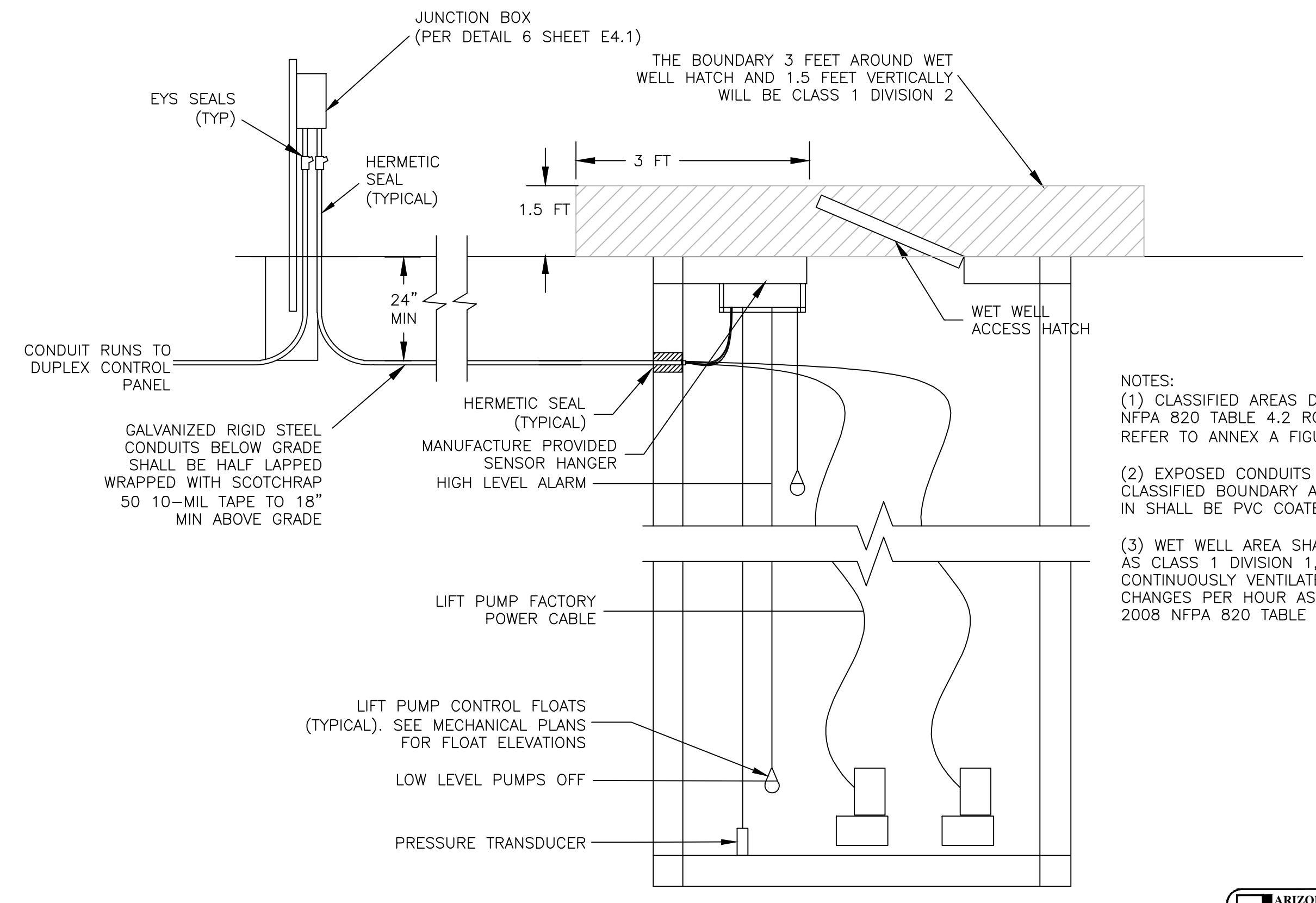
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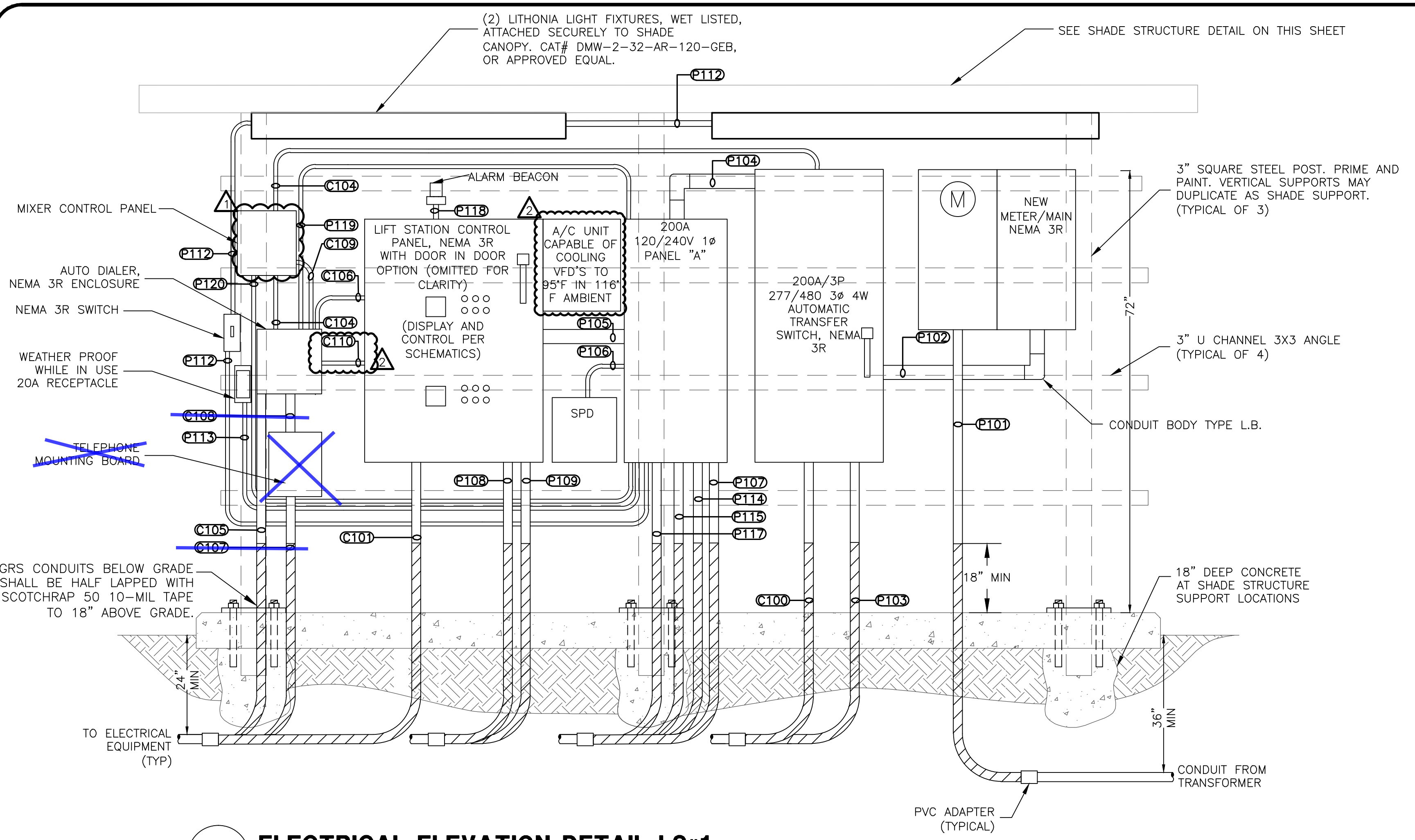
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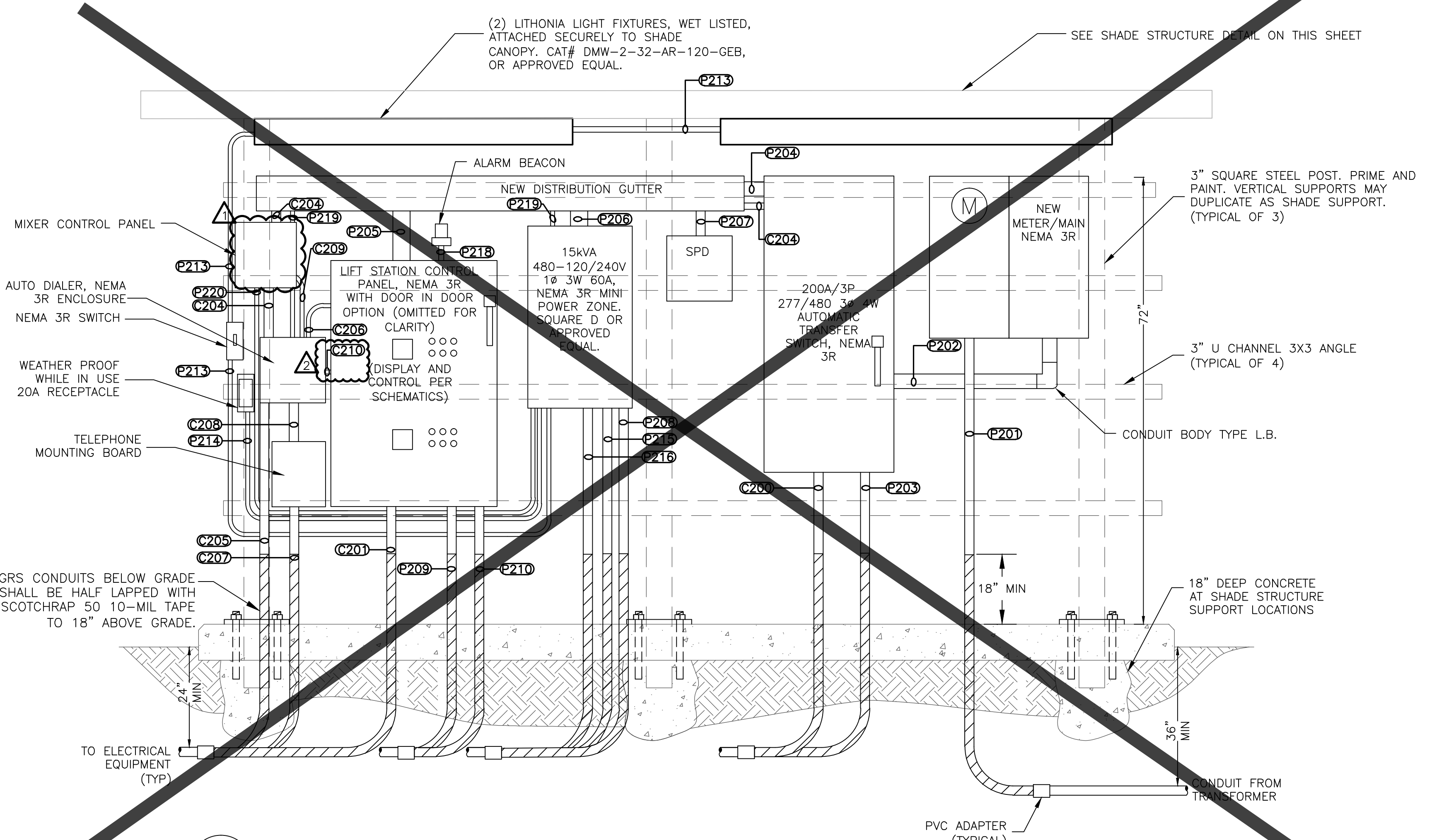
2 SHADE STRUCTURE DETAIL
NO SCALE
NOTE: PROVIDE ALUMA-LINE(480-926-38310) SHADE STRUCTURE ABOVE ELECTRICAL EQUIPMENT OVER ENTIRE CONCRETE PAD. COLOR TO BE DESERT TAN, ALABASTER, OR AS DIRECTED BY OWNER.



4 LIFT STATION DETAIL
NO SCALE



1 ELECTRICAL ELEVATION DETAIL LS#1
NO SCALE

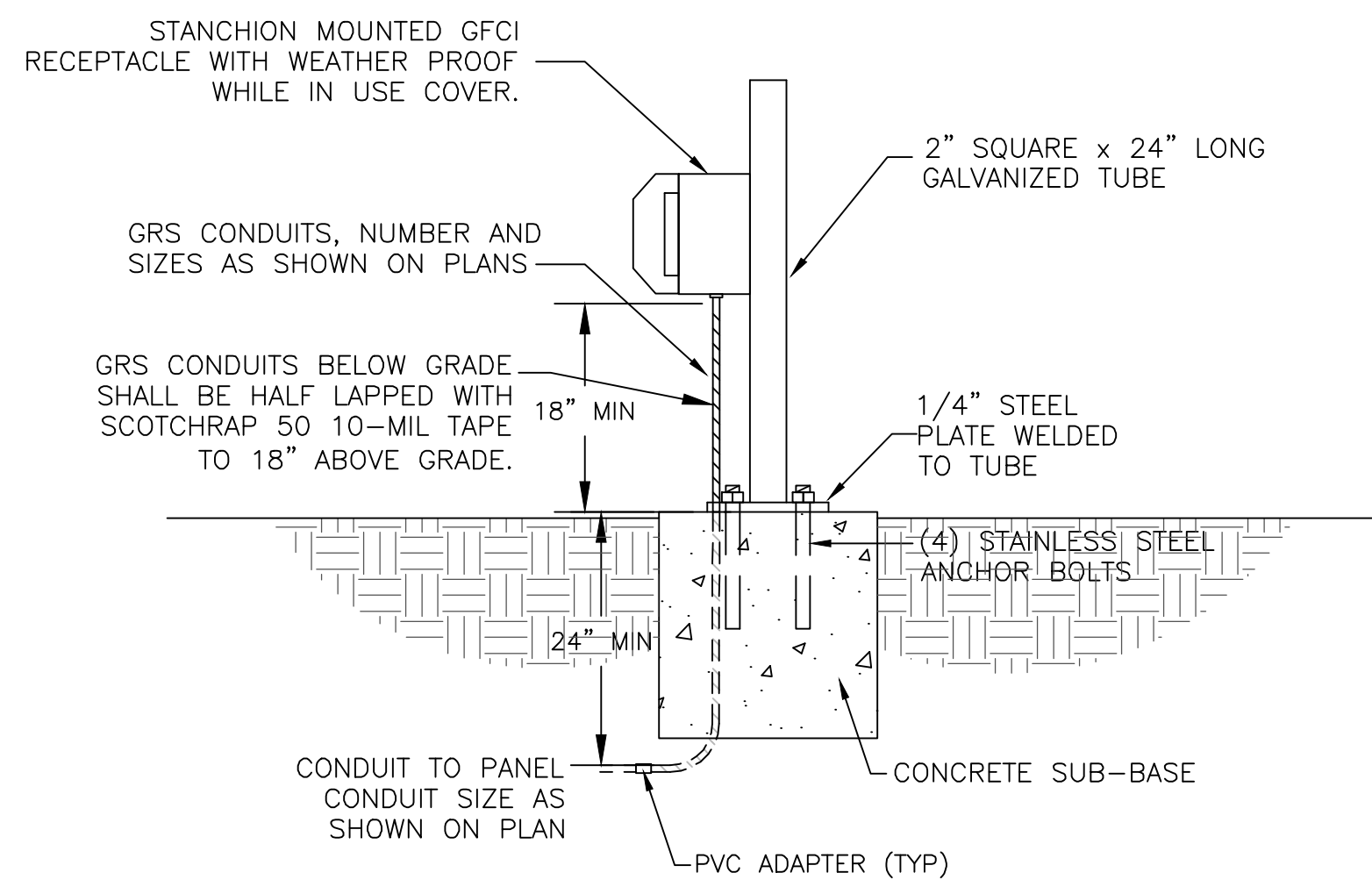


3 ELECTRICAL ELEVATION DETAIL LS#2 & #3 (TYP)
NO SCALE

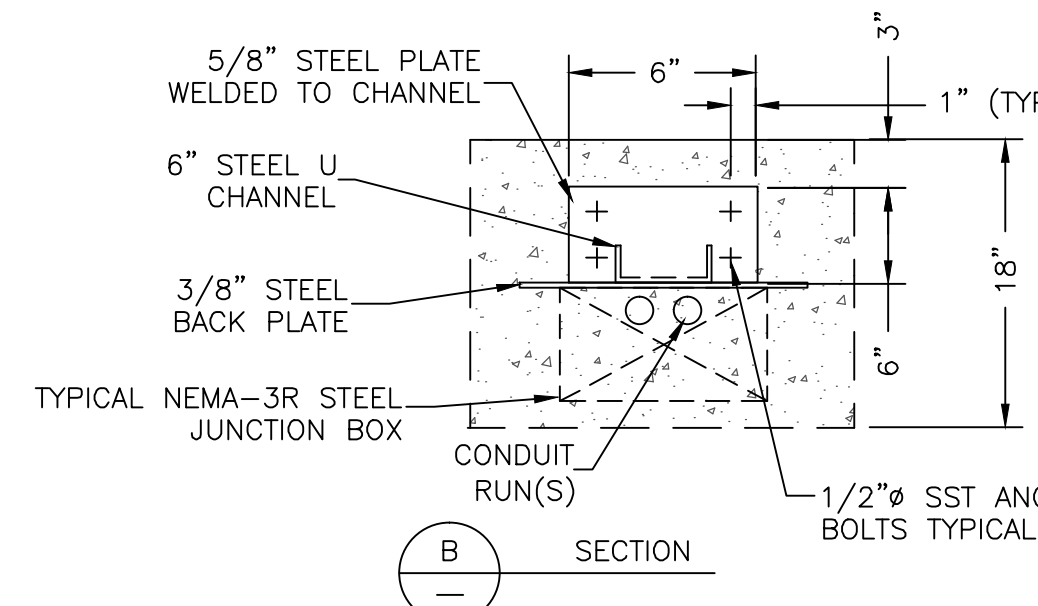
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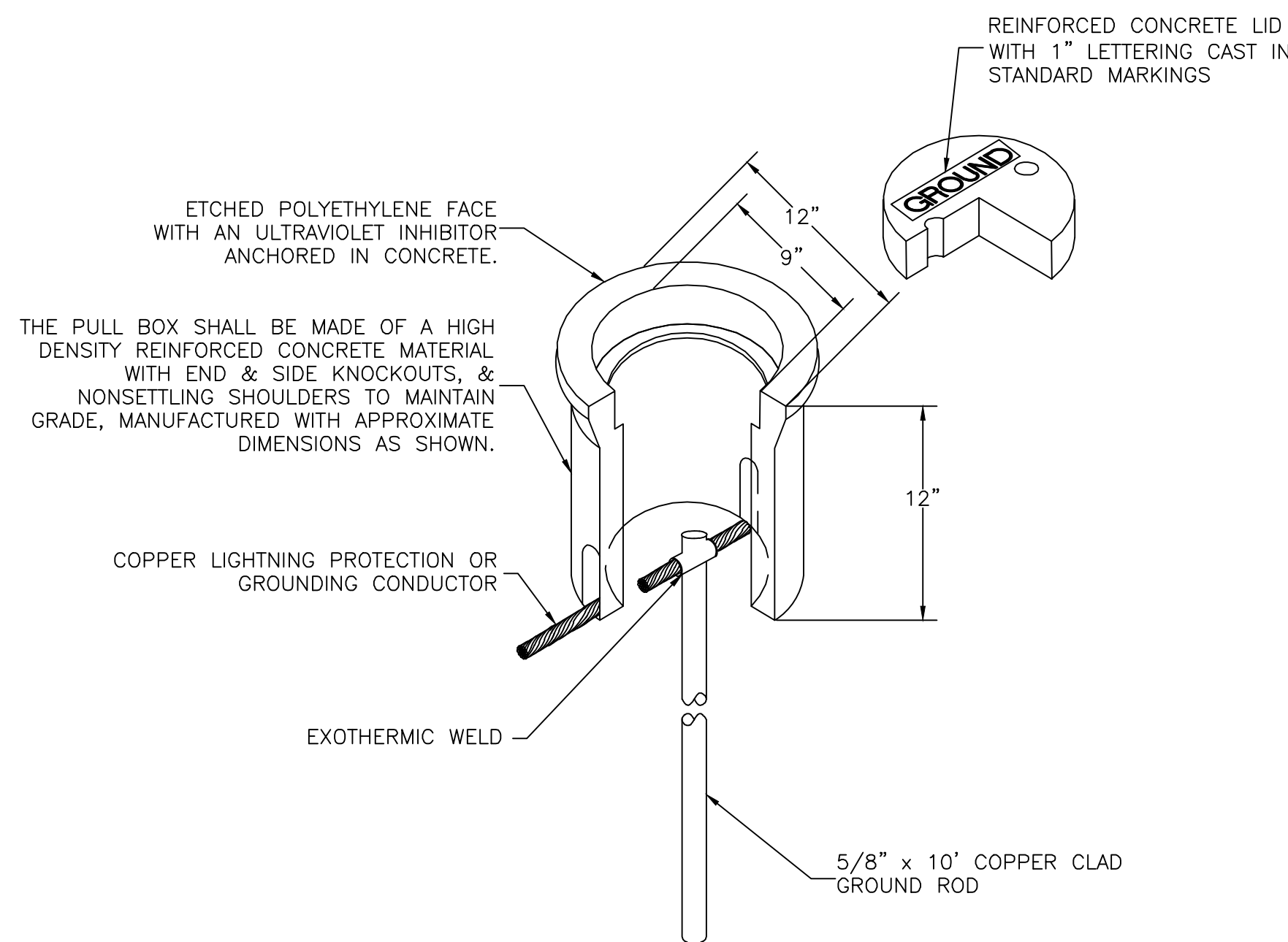
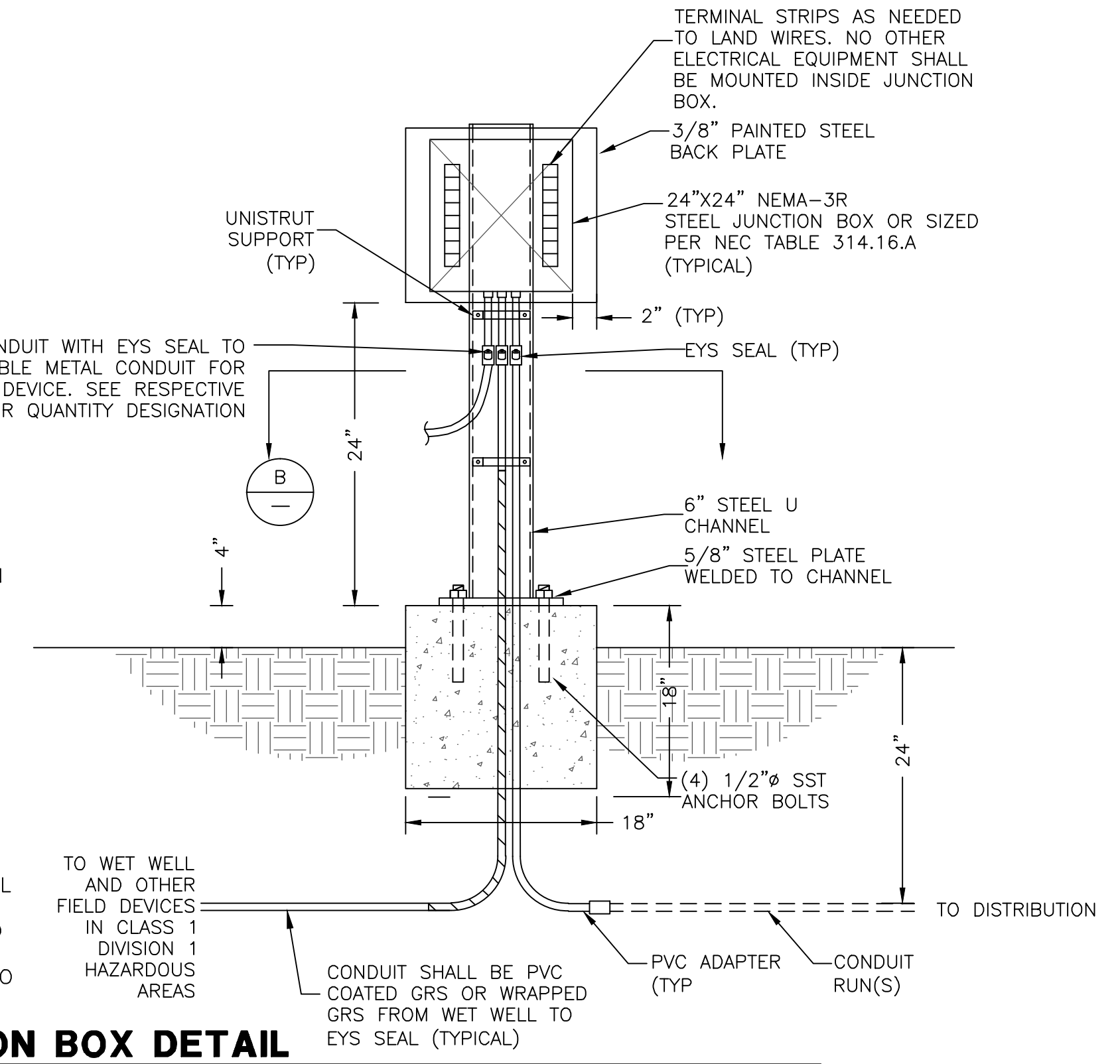


5 STANCHION MOUNTED RECEPTACLE DETAIL
NO SCALE

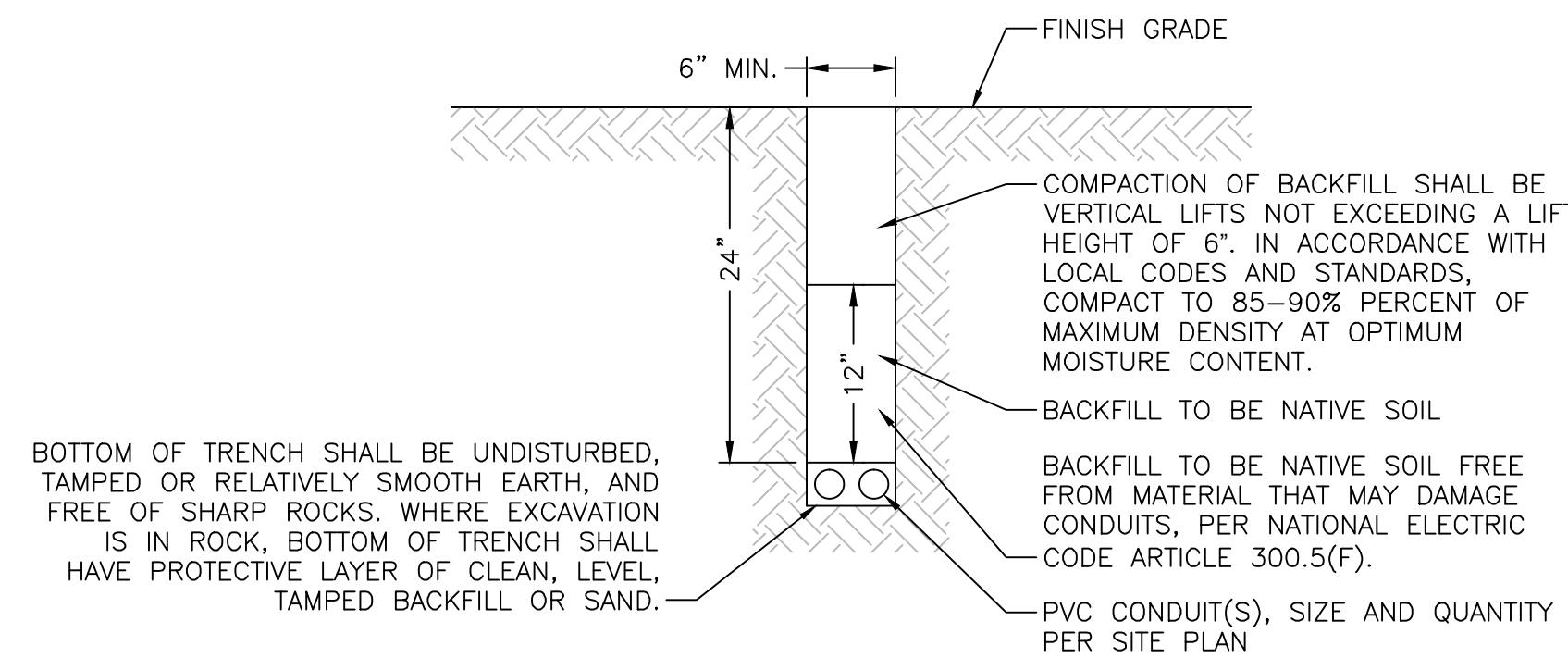


- NOTES:**
- 1) A 36" MIN. CLEARANCE SHALL BE MAINTAINED IN FRONT OF ALL ELECTRICAL DEVICES.
 - 2) ALL EXPOSED CONDUITS SHALL BE GALVANIZED RIGID STEEL TO BELOW GRADE PAST 90° BEND TO PVC/GRS ADAPTER UNLESS OTHERWISE NOTED ON PLANS. WRAP PER GENERAL NOTE 8.
 - 3) ALL JUNCTION BOXES SHALL BE NEMA-3R STEEL UNLESS OTHERWISE NOTED ON PLANS.
 - 4) ALL BARE STEEL COMPONENTS SHALL BE PRIMED AND PAINTED TAN TO MATCH SURROUNDING EQUIPMENT.
 - 5) SEE RESPECTIVE SITE PLAN FOR CONDUIT SIZE AND QUANTITY DESIGNATIONS.
 - 6) CONTRACTOR SHALL INSTALL EYS SEAL ON CONDUIT RUN COMING FROM WET WELL. SEAL SHALL BE LOCATED AT THE JUNCTION BOX. SEAL OFF SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE FOR CLASS 1, DIVISION 1 HAZARDOUS AREA. CONTRACTOR SHALL INSTALL HERMETIC SEALS AT THE END OF THE CONDUIT RUNS INTO VAULT WALL TO PREVENT MOISTURE FROM ENTERING CONDUIT. CONDUIT SHALL BE CONTINUOUS GRS FROM WET WELL TO EYS SEAL OFF.

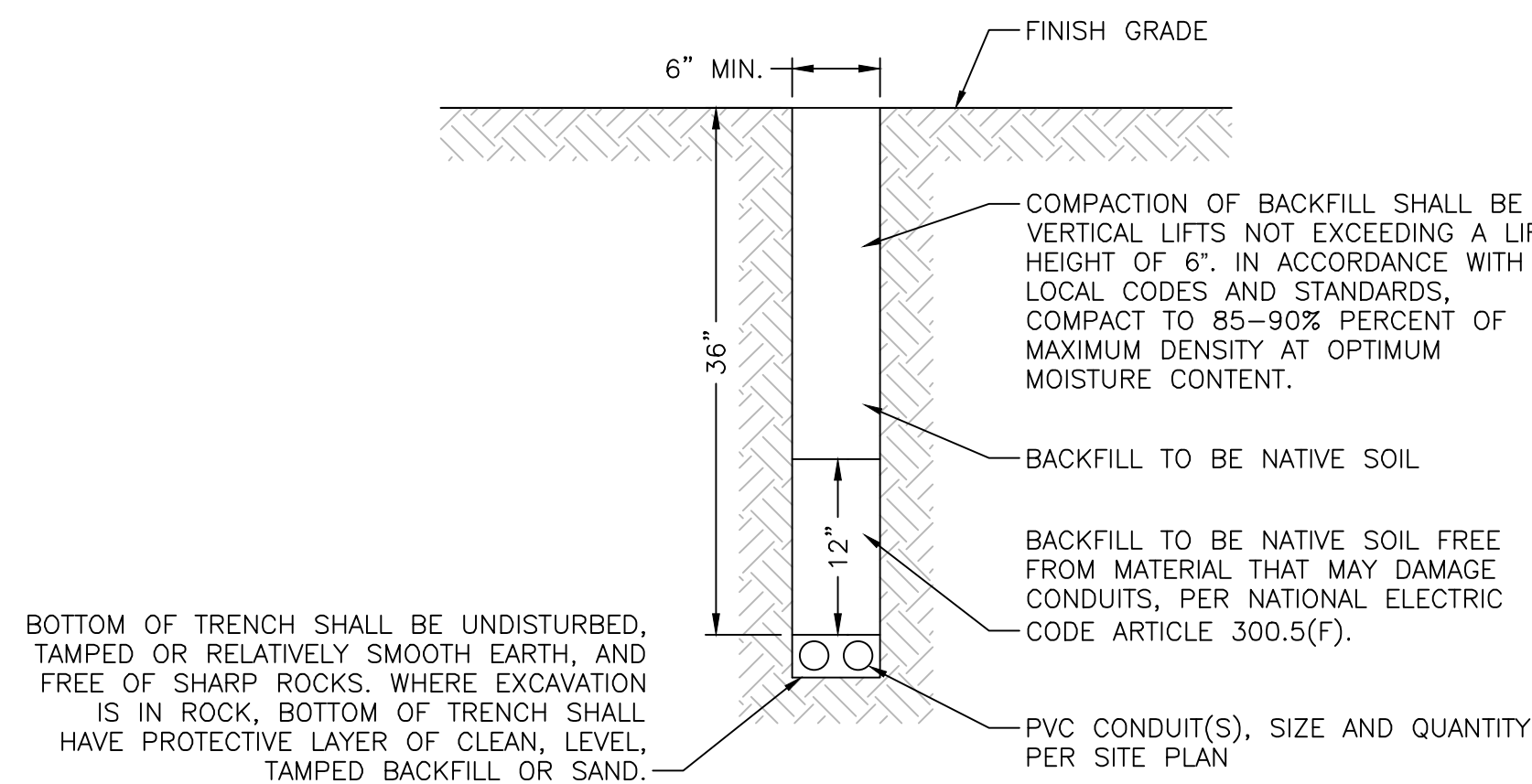
6 TYPICAL STANCHION MOUNTED JUNCTION BOX DETAIL
NO SCALE



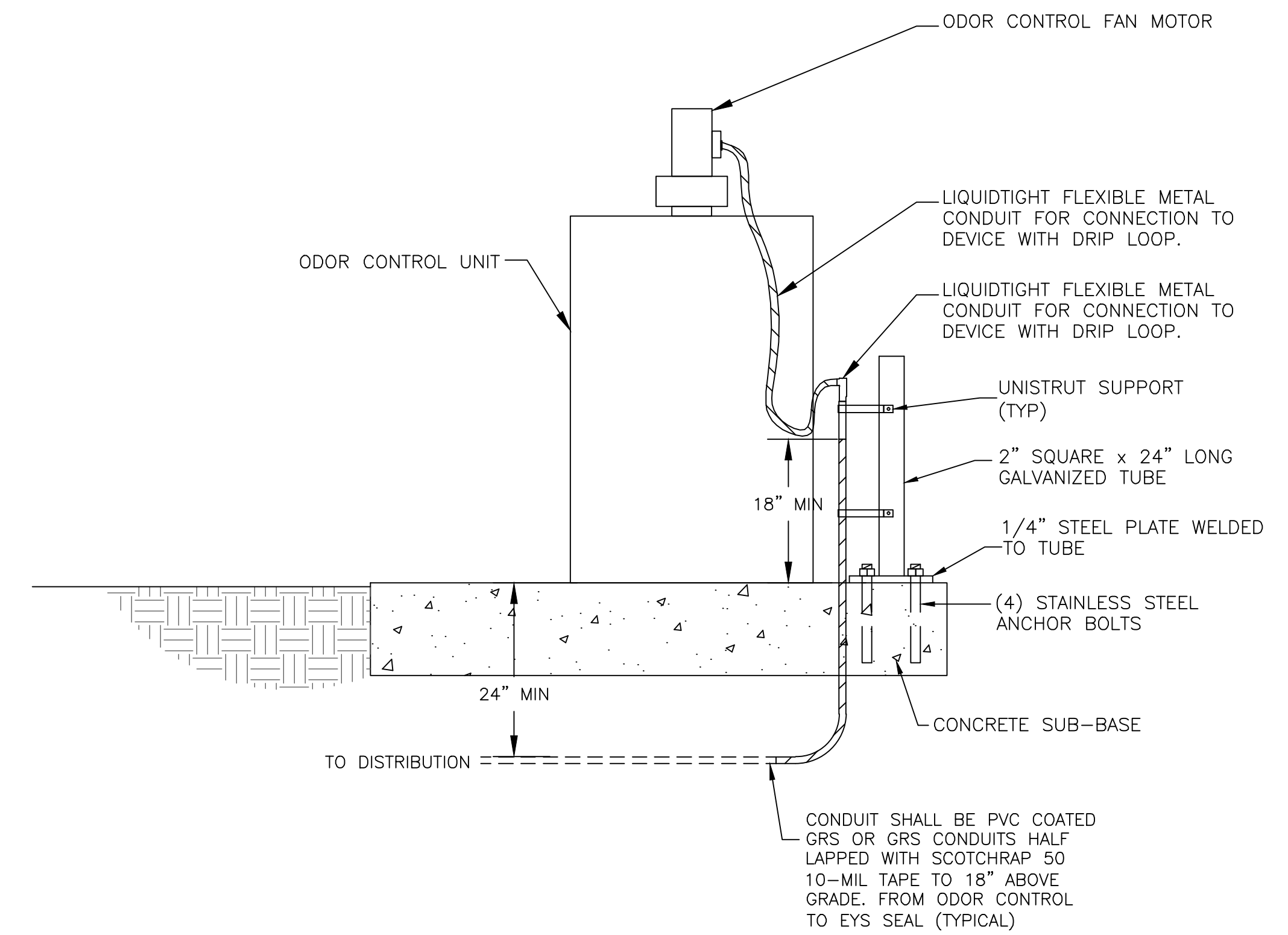
7 GROUND J-BOX DETAIL
NO SCALE



8 TYPICAL 24\"/>



9 TYPICAL 36\"/>



10 ODOR CONTROL CONNECTION DETAIL
NO SCALE

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PHASE 4 SEWER PLANS**
ELECTRICAL DETAILS

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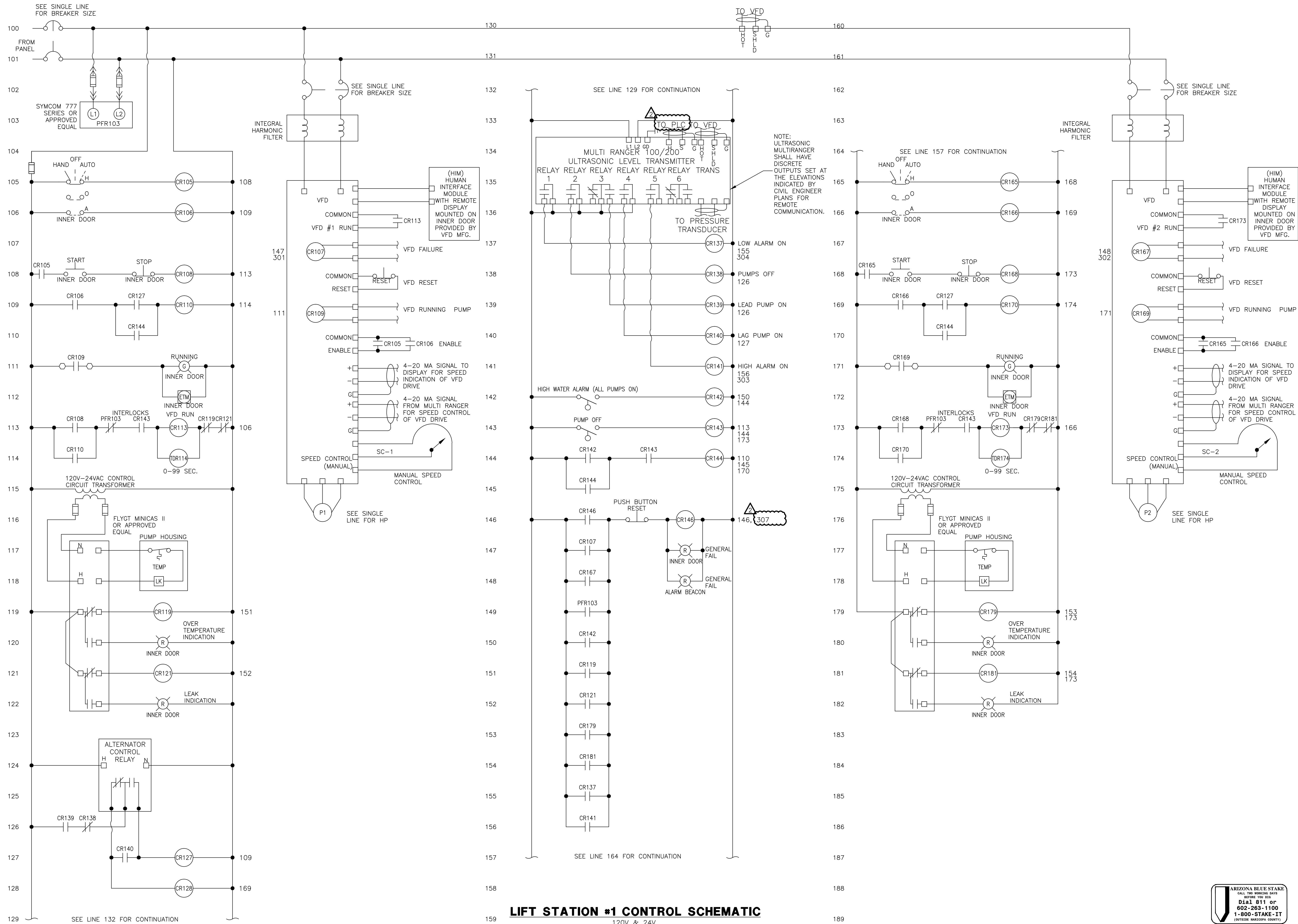
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LIFT STATION #1 CONTROL SCHEMATIC
120V & 24V

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ELECTRICAL SCHEMATICS LS#1

NO. DATE SUBMITTALS/REVISIONS (DESCRIPTIONS)

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5	MAR 2016	1ST REVISION. WIKER CNTRL & OMINISITE ADDED
6	AUG 2016	2ND REVISION. VFD'S REMOVED SIGNALS ADDED.

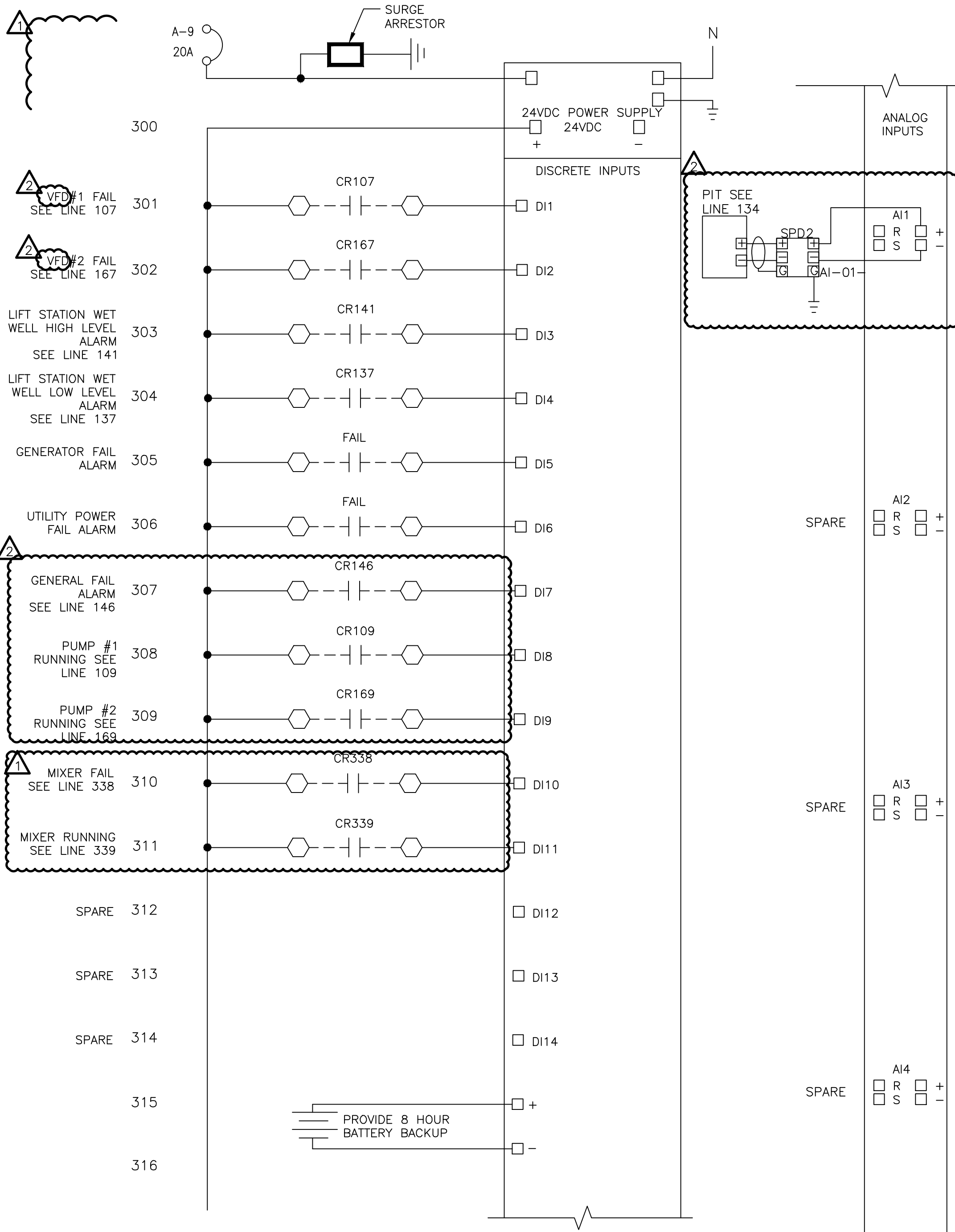
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35843
WASE
WILLIAMS
Expires 5-31-19

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602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

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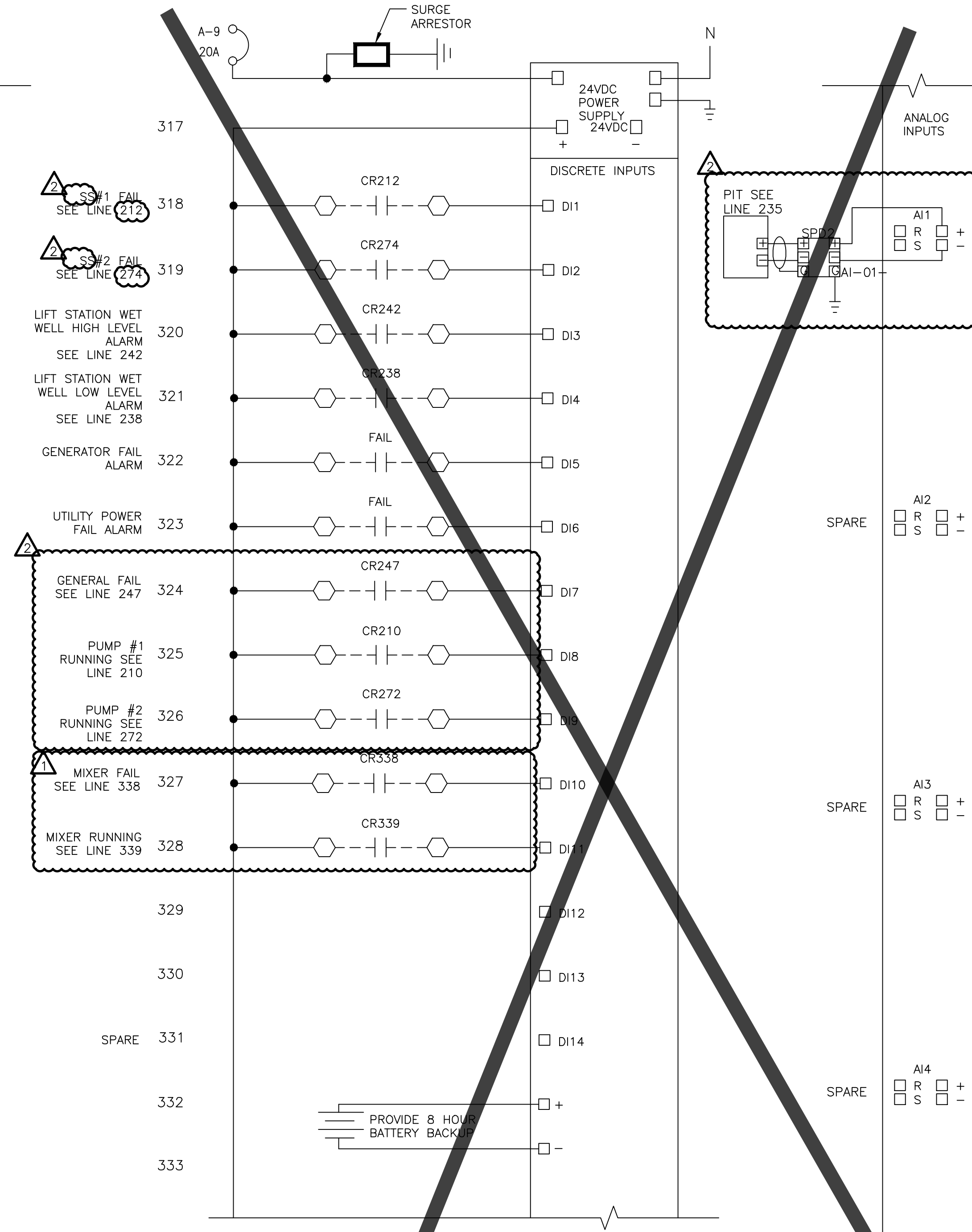
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- NOTES**
- CELLULAR SCADA MONITORING SYSTEM SHALL BE OMNI-SITE CAT# CRYSTAL BALL WITH 8 HOUR BATTERY BACKUP OR APPROVED EQUAL.
 - CELLULAR MONITORING SYSTEM SHALL BE EQUIPPED WITH AUTOMATIC POWER LOSS ALARM INDICATION.
 - EACH OF THESE MONITORING/CONTROL POINTS WILL NEED AN ADDITIONAL CONTACTOR INSTALLED TO FACILITATE THIS CELLULAR MODEM INSTALLATION.

THE REMOTE MONITORING SYSTEM SHALL BE THE OMNISITE CRYSTAL BALL REMOTE PUMP MONITORING AND CONTROL SYSTEM AS PROVIDED BY THE PUMP MANUFACTURER. THE OMNISITE SYSTEM SHALL BE SETUP TO REMOTELY MONITOR PUMP AMPERAGE ON EACH OF THE LIFT STATION PUMPS AND SHALL BE INTEGRATED INTO THE PUMP CONTROL PANEL BY THE PUMP MANUFACTURER. THE CONTRACTOR SHALL PROVIDE 12 MONTHS OF SERVICE ON THE REMOTE MONITORING SYSTEM ENDING NO SOONER THAN 360 DAYS AFTER THE STARTUP. THE TYPE OF CELL PHONE CARRIER THAT WILL OPERATE AT THE PROPOSED LOCATION SHALL BE PER THE PUMP MANUFACTURER'S RECOMMENDATIONS. THE PUMP MANUFACTURER'S REPRESENTATIVE WILL PROVIDE THE ACTIVATED LOGIN INFORMATION AND INSTRUCTION ON HOW TO USE THE SOFTWARE TO THE UTILITY AT THE STARTUP TRAINING.

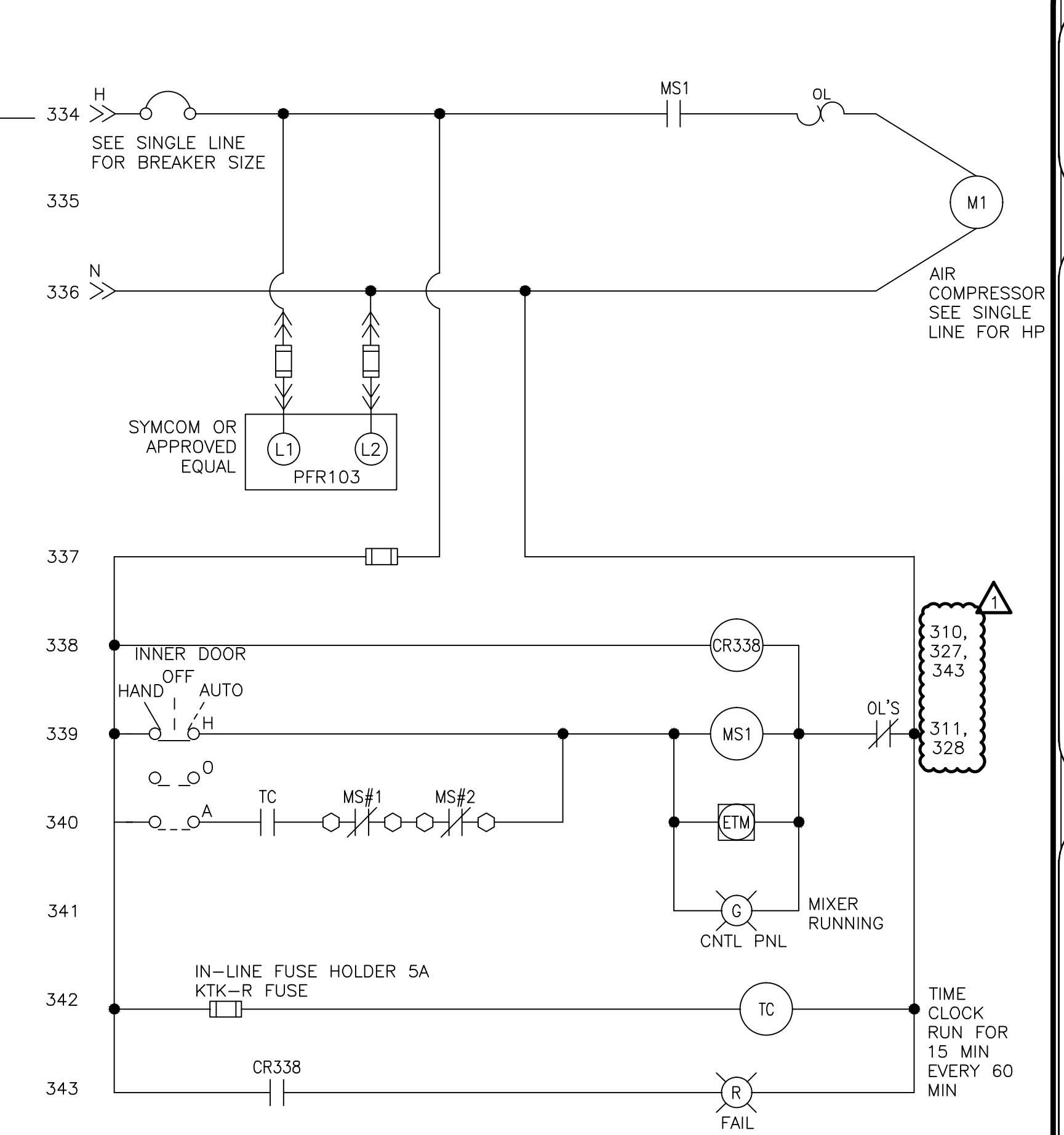
**CELLULAR SCADA CONTROL SCHEMATIC
LS#1**



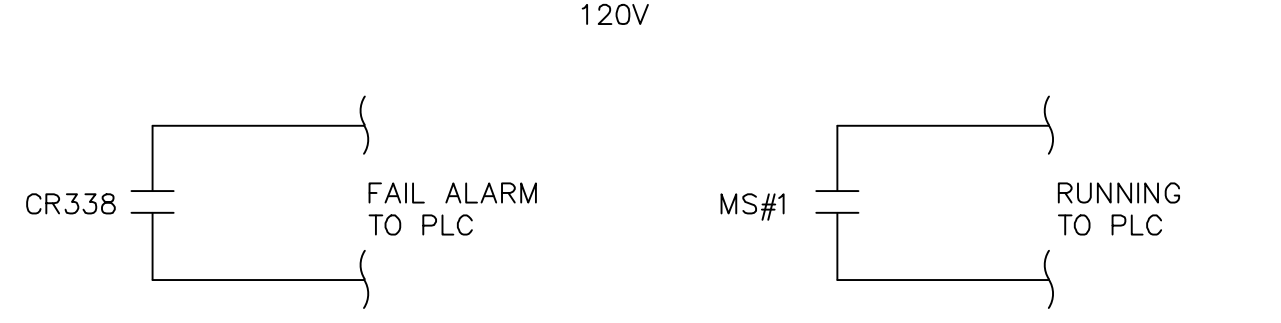
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**CELLULAR SCADA CONTROL SCHEMATIC
LS#2 & LS#3 (TYP)**



AIR COMPRESSOR FOR MIXER (TYPICAL)



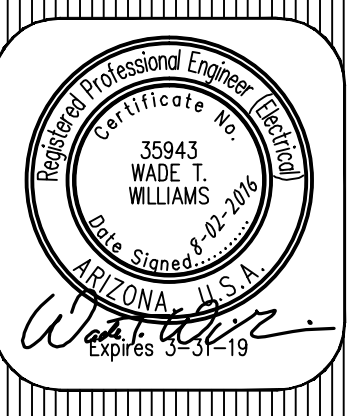
WRIGHT ENGINEERING
PROJECT NO:
12138
DESIGN BY: JHB
DRAWN BY: JHB
CHECKED BY: WTW

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Engineering Corporation
ELECTRICAL ENGINEERING AND DESIGN
165 EAST CHILTON DRIVE • CHANDLER, ARIZONA 85225
PHONE 480.497.5829 • FAX 480.497.5807
www.wrightengr.com

PROJECT: TITLE:

**PARKER, ARIZONA
BUCKSKIN SANITARY DISTRICT
PHASE 4 SEWER PLANS
ELECTRICAL SCHEMATICS**

NO.	DATE	SUBMITTALS/REVISIONS (DESCRIPTIONS)
1	AUG 2012	1ST TOWN SUBMITTAL
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5	MAR 2016	1ST REVISION: MIXER CONTR. & OMNISITE ADDED
6	AUG 2016	2ND REVISION: VFD'S REMOVED SIGNALS ADDED.



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BUCKSKIN SANITARY DISTRICT

PHASE 4 SEWER PLANS

PROCESS AND INSTRUMENTATION DIAGRAM

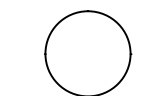
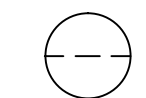
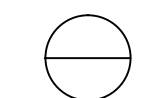
P&ID LEGEND

INSTRUMENT INDICATION

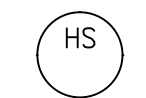


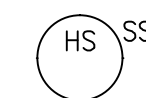
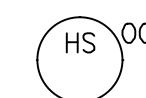
INSTRUMENT TYPE

 FIRST LETTER(S)
 SUCCEEDING LETTERS

INSTRUMENT LOCATION CODE

 FIELD MOUNTED INSTRUMENT
 REAR-OF PANEL MOUNTED INSTRUMENT
 PANEL MOUNTED INSTRUMENT

SPECIAL CASES


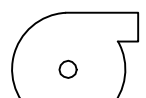
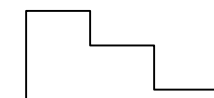

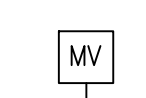

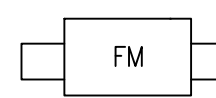
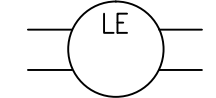
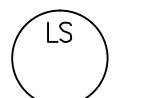
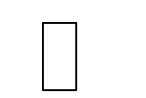
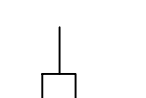
 ILLUMINATED HAND SWITCH
 FUNCTION SYMBOL ON AND OFF EVENT LIGHTS
 OPEN AND CLOSE POSITION SWITCHES
 STOP-START HAND SWITCH. MOMENTARY CONTACT SWITCHES (CONTROLLED DEVICE WILL NOT RESTART ON RETURN OF POWER AFTER POWER FAILURE).
 OFF-ON HAND SWITCH. MAINTAIN CONTACT SWITCHES (CONTROLLED DEVICE WILL RESTART ON RETURN OF POWER AFTER POWER FAILURE).

H = HAND
 H-H = HIGH-HIGH
 HOA = HAND-OFF-AUTO
 HOAR = HAND-OFF-AUTO-REMOTE
 HOR = HAND-OFF-REMOTE
 L = LOW
 L-L = LOW-LOW
 LOS = LOCK-OFF-STOP
 MC = MOTORIZED VALVE CONTROL
 OL = OVERLOAD
 OO = ON-OFF
 RS = RESET
 SP = SET POINT
 SS = START/STOP
 SSR = SET START TIMER
 SST = SET STOP TIMER
 VFD = VARIABLE FREQUENCY DRIVE
 GF = GENERAL FAIL
 SC = SPEED CONTROL
 ETM = ELAPSE TIME METER
 SSS = SOLID STATE STARTER

LETTER	LETTER SYMBOLS				
	FIRST LETTER(S)		SUCCEEDING LETTERS		
	PROCESS OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS (*)		ALARM		
B	BURNER FLAME				
C	CONDUCTIVITY			CONTROL	
D	DENSITY (S.G.)	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT		
F	FLOW RATE	RATIO			
G	GAUGE		GLASS	GATE	
H	HAND (MANUAL)				HIGH
I	CURRENT		INDICATE		
J	POWER	SCAN			
K	TIME OR SCHEDULE		CONTROL STATION		
L	LEVEL		LIGHT		LOW
M	MOTION OR MOISTURE				MIDDLE
N	STROKE				NORMAL
O	LOOP VEH. DETECTOR		ORIFICE		
P	PRESSURE (OR VACUUM)		POINT (TEST CONNECTION)		
Q	QUALITY OR EVENT		INTEGRATE		
R	RATION		RECORD OF PRINT		
S	SPEED OR FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE (*)		MULTIFUNCTION (#)		
V	TURBIDITY			VALVE	
W	WEIGHT OR FORCE		WELL		
X	PARTICLE COUNT				
Y	PHOTO CELL		LIGHT SOURCE	RELAY OR COMPUTE (*)	
Z	POSITION			DRIVE, ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT	

* WHEN USED EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL.

EQUIPMENT SYMBOLS

 MOTOR (DRIVE)
 PUMP
 METERING PUMP
 BLOWER
 MOTORIZED VALVE(S)
 SOLENOID OPERATED VALVE
 FLOW METER
 CONDUCTIVITY LEVEL PROBE
 LEVEL SWITCH
 ULTRASONIC LEVEL SENSOR
 SUBMERSIBLE PRESSURE TRANSDUCER

SIGNAL SYMBOLS

--- ELECTRICAL SIGNAL
 -.-.- ETHERNET OR RADIO COMMUNICATION
 Δ ANALOG SIGNAL
 ▲ DISCRETE SIGNAL
 < DIRECTION OF SIGNAL
 ■ TERMINAL
 ◊ INTERLOCK KEY OPERATION VIA LOGIC OR HARDWARE
 INTERLOCK KEY
 I# - EQUIPMENT DESCRIPTION-INSTRUMENT DESCRIPTION-CONTROL DESCRIPTION

PROCESS SYMBOLS

→ PROCESS FLOW
 — A — A — AIR FEED LINE
 — C — C — CHEMICAL FEED LINE
 I101 → SEE SHEET I101 FOR CONTINUATION
 M-100101 → EQUIPMENT IDENTIFICATION

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WRIGHT ENGINEERING
 PROJECT NO:
12138
 DESIGN BY: JHB
 DRAWN BY: JHB
 CHECKED BY: WTW

WRIGHT
 engineering corporation
 ELECTRICAL ENGINEERING AND DESIGN
 165 EAST CHILTON DRIVE • CHANDLER, ARIZONA 85225
 PHONE 480.497.5829 • FAX 480.497.5807
 www.wrightengr.com

PROJECT: TITLE:

PARKER, ARIZONA
BUCKSKIN SANITARY DISTRICT
PHASE 4 SEWER PLANS
ELECTRICAL P&ID COVER

NO.	DATE	SUBMITTALS/REVISIONS (DESCRIPTIONS)
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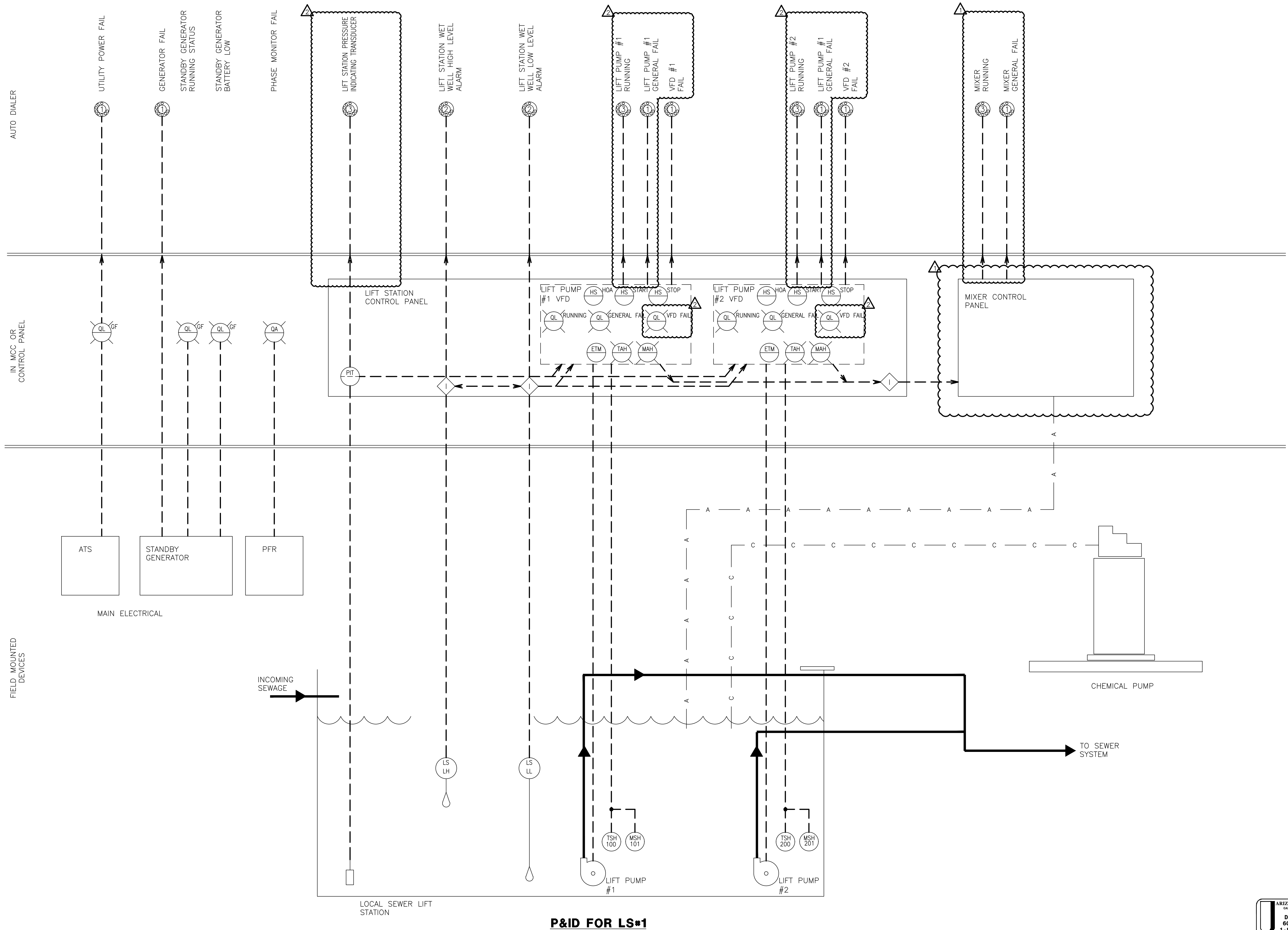
Professional Engineer
 Certificate No. 35843
 WALTER A. WILLIAMS
 State of Arizona
 Expires 5-31-19

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P&ID FOR LS#1

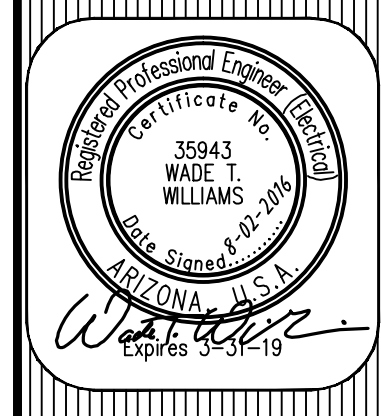


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CHECKED BY: WTW



PROJECT: TITLE:
**BUCKSKIN SANITARY DISTRICT
PHASE 4 SEWER PLANS
ELECTRICAL P&ID**

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