3. ROOF SNOW LOAD A. GROUND SNOW LOAD, Pg

BUILDING CODE

**RISK CATEGORY** 

LOCAL AMENDMENTS

4. WIND DESIGN DATA A. BASIC WIND SPEED (3 SECOND GUST), Vult / Vasd 120 MPH / 93 MPH B. WIND EXPOSURE CATEGORY C. INTERNAL PRESSURE COEFFICIENT, GCpi +/- 0.18 D. DESIGN WIND PRESSURE ON ELECTRICAL BUILDING COMPONENTS AND CLADDING 1.) WALLS, ASD (50 SQUARE FEET EFFECTIVE WIND AREA) 22.6 PSF **END ZONES** INTERIOR ZONES 19.6 PSF 2.) OVERHANGS, ASD (10 SQUARE FEET EFFECTIVE WIND AREA)

END ZONES 33.8 PSF INTERIOR ZONES 33.8 PSF 3.) ROOF, ASD (NET UPLIFT) **CORNER ZONES** 18.4 PSF 18.4 PSF END ZONES INTERIOR ZONES 15 PSF E. WIDTH OF ELECTRICAL BUILDING END ZONE 3.4 FT F. DESIGN WIND PRESSURE ON CONCRETE PUMP STATION AND 1.) WALLS, ASD (100 SQUARE FEET EFFECTIVE WIND AREA) ALL 19.8 PSF 2.) ROOF, ASD (NET UPLIFT), ALL ZONES N/A

3.) PUMP STATION WET WELL SCREEN WALLS 33.3 PSF G. DESIGN WIND PRESSURE ON CRANE STRUCTURE 1.) WALLS, ASD, ALL ZONES 35 PSF 2.) ROOF, ASD, ALL ZONES 40 PSF EARTHQUAKE DESIGN DATA A. SEISMIC IMPORTANCE FACTOR, le 1.5

0.192g B. MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETER, SS C. MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETER, S1 0.091g D. SITE CLASS E. DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETER, Sds 0.205g F. DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETER, Sd1 0.146g H. STRUCTURAL SYSTEM - ELECTRICAL BUILDING 1.) BASIC SEISMIC FORCE-RESISTING SYSTEM TYPE BEARING WALL SYSTEMS 1. SPECIAL REINFORCED MASONRY 2.) VERTICAL ELEMENT TYPE **SHEARWALLS** 

3.) DESIGN BASE SHEAR, LRFD 0.061 W 4.) SEISMIC RESPONSE COEFFICIENT, Cs 0.061 5.) RESPONSE MODIFICATION FACTOR, R 6.) SEISMIC DESIGN CATEGORY I. STRUCTURAL SYSTEM - CONCRETE STRUCTURES 1.) BASIC SEISMIC FORCE-RESISTING SYSTEM TYPE BEARING WALL SYSTEMS 2.) VERTICAL ELEMENT TYPE ORDINARY REINFORCED CONCRETE SHEARWALLS 3.) DESIGN BASE SHEAR, LRFD 0.077 W

4.) SEISMIC RESPONSE COEFFICIENT, Cs 0.077 5.) RESPONSE MODIFICATION FACTOR, R 6.) SEISMIC DESIGN CATEGORY J. STRUCTURAL SYSTEM - CRANE FACILITY 1.) BASIC SEISMIC FORCE-RESISTING SYSTEM TYPE CANTILEVERED COLUMN SYSTEM 2.) VERTICAL ELEMENT TYPE SPECIAL REINFORCING CONCRETE MOMENT FRAME 3.) DESIGN BASE SHEAR, LRFD 0.123 W 4.) SEISMIC RESPONSE COEFFICIENT, Cs 0.123

5.) RESPONSE MODIFICATION FACTOR, R 2.5 6.) SEISMIC DESIGN CATEGORY EQUIVALENT LATERAL FORCE K. ANALYSIS PROCEDURE

## **GENERAL NOTES**

## GENERAL

1. STRUCTURAL ELEMENTS ARE NON-SELF SUPPORTING AND REQUIRE INTERACTION WITH OTHER ELEMENTS FOR STABILITY AND RESISTANCE TO LATERAL FORCES. FRAMING AND WALLS SHALL BE TEMPORARILY BRACED BY THE CONTRACTOR UNTIL PERMANENT BRACING, FLOOR AND ROOF DECKS, AND WALLS HAVE BEEN INSTALLED AND CONNECTIONS BETWEEN THESE ELEMENTS HAVE BEEN MADE

2. THE CONTRACTOR SHALL NOT BACKFILL UNDERGROUND STRUCTURES UNTIL TOP SLAB AND WALLS HAVE REACHED 80% OF DESIGN STRENGTH. BACKFILL AT UNDERGROUND STRUCTURES SHALL BE PLACED AT A UNIFORM RATE VERTICALLY AROUND THE ENTIRE PERIMETER OF EACH STRUCTURE TO PREVENT UNEVEN LATERAL LOADING ON THE STRUCTURE

3. IT IS ANTICIPATED THAT DEWATERING MAY BE REQUIRED TO CONTROL GROUND WATER INFLOW AT THE PUMP STATION EXCAVATION. SEE THE GEOTECHNICAL MEMORANDUM FOR MORE

4. SHORING OF THE DEEP STRUCTURAL EXCAVATIONS AT THE SITE IS ANTICIPATED. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL SHORING DESIGN, INSTALLATION AND MAINTENANCE REQUIRED TO STABILIZE ALL EXCAVATIONS FOR THE DURATION REQUIRED TO COMPLETE THE CONSTRUCTION OF EACH STRUCTURE.

5. THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION, UNLESS NOTED OTHERWISE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND OPERATION OF CONSTRUCTION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO.

THE SIZE AND LOCATION OF EQUIPMENT PADS AND PENETRATIONS THROUGH THE STRUCTURE FOR MECHANICAL, ELECTRICAL, AND PLUMBING WORK SHALL BE VERIFIED BY THE CONTRACTOR. PENETRATIONS SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER-OF-RECORD. REFER TO MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR OPENING LOCATIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS.

## **GENERAL NOTES**

USE ONLY DIMENSIONS INDICATED IN THE CONTRACT DOCUMENTS. DO NOT SCALE CONTRACT DOCUMENTS OR USE ANY DIMENSIONS TAKEN FROM ELECTRONIC DRAWING FILES.

ASSUME EQUAL SPACING IF NOT INDICATED IN CONTRACT DOCUMENTS

THE SPECIFICATIONS ARE AN INTEGRAL PART OF THE CONTRACT DOCUMENTS AND SHALL BE USED IN CONJUCTION WITH THE CONTRACT DRAWINGS. WHERE REQUIREMENTS INDICATED ON THE CONTRACT DRAWINGS DIFFER FROM THE SPECIFICATIONS, NOTIFY THE ARCHITECT AND THE ENGINEER-OF-RECORD.

10. ARCHITECTURAL, MECHANICAL AND ELECTRICAL COMPONENTS AND SYSTEMS SHALL BE DESIGNED AND CONSTRUCTED TO RESIST SEISMIC FORCES AS DETERMINED IN CHAPTER 13 OF ASCE 7.

#### **FOUNDATIONS**

20 PSF / 300 LB

100 PSF / 300 LB

100 PSF / 300 LB

FOUNDATION DESIGNS, SUBGRADE PREPARATION NOTES, AND STRUCTURAL EARTH MOVING SPECIFICATION ARE BASED ON THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL EXPLORATION AND RECOMMENDATIONS, PROJECT NUMBER 71.4265, BY: WILLMER ENGINEERING INC. DATED: APRIL 23, 2018 (REVISED): AND THE GEOTECHNICAL RECOMMENDATIONS FOR VALVE VAULT, PROJECT NUMBER 71.4265, BY WILLMER ENGINEERING INC. DATED FEBRUARY 14, 2018.

FOOTING DESIGNS FOR EACH STRUCTURE ARE AS FOLLOWS: A. PUMP STATION FOOTING DESIGNS ARE BASED ON A NET ALLOWABLE SOIL BEARING PRESSURE OF 20,000 PSF. FOOTINGS SHALL BEAR ON A 6" LAYER OF COMPACTED GRADED AGGREGATE BASE (GAB) OVER EXISTING ROCK AS NOTED IN THE GEOTECHNICAL MEMORANDUM. B. THE CRANE COLUMN FOUNDATIONS WILL BE SUPPORTED ON MICROPILES, DESIGNED, SPECIFIED, DETAILED AND CONSTRUCTED BY A SPECIALTY CONTRACTOR. DESIGN FOR THE COLUMN LOADS PROVIDED IN THE DRAWINGS.

C. THE SITE RETAINING WALL FOUNDATIONS DESIGN CRITERIA CAN BE FOUND IN THE CIVIL ENGINEERING DRAWINGS.

D. METER VAULT FOOTING DESIGNS ARE BASED ON A NET ALLOWABLE SOIL BEARING PRESSURE OF 20,000 PSF. FOOTINGS SHALL BEAR ON A 6" LAYER OF COMPACTED GRADED AGGREGATE BASE (GAB) OVER EXISTING ROCK AS RECOMMENDED IN THE GEOTECHNICAL MEMORANDUM. E. THE ELECTRICAL BUILDING FOOTING DESIGNS ARE BASED ON A NET ALLOWABLE SOIL BEARING PRESSURE OF 2,000 PSF. FOOTINGS SHALL BEAR ON EXISTING SUBGRADE MATERIALS OR COMPACTED NO. 57 STRUCTURAL FILL, AS RECOMMENDED IN THE GEOTECHNICAL MEMORANDUM.

F. THE TUNNEL SHAFT TRANSITION BOX FOOTING DESIGNS ARE BASED ON A NET ALLOWABLE SOIL BEARING PRESSURE OF 3,000 PSF. FOOTINGS SHALL BEAR ON A 6" LAYER OF COMPACTED GRADED AGGREGATE BASE (GAB) OVER EXISTING SAND MATERIALS AS RECOMMENDED IN THE GEOTECHNICAL MEMORANDUM

G. THE VALVE VAULT FOOTING DESIGNS ARE BASED ON A NET ALLOWABLE SOIL BEARING PRESSURE OF 3,000 PSF. FOOTINGS SHALL BEAR ON A LAYER OF COMPACTED GRADED AGGREGATE BASE (GAB) OVER EXISTING SUBGRADE MATERIALS THAT HAVE BEEN COMPACTED IN ACCORDANCE WITH THE GEOTECHNICAL MEMORANDUM.

CONTRACTOR AND TESTING LABORATORY REPRESENTATIVE SHALL READ THE GEOTECHNICAL MEMORANDUMS AND BECOME THOROUGHLY FAMILIAR WITH SITE AND SUBGRADE INFORMATION GIVEN THEREIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT QUANTITIES OF CUT AND FILL FOR ESTIMATING AND CONSTRUCTION. SUBGRADE SHALL BE PREPARED AS NOTED IN THE STRUCTURAL EARTH MOVING SPECIFICATION AS APPLICABLE

A QUALIFIED AND REGISTERED GEOTECHNICAL ENGINEER, LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED AND WORKING FOR THE TESTING LABORATORY, SHALL DETERMINE CONFORMANCE OF THE FOUNDATION BEARING STRATA WITH THE FOUNDATION DESIGN CRITERIA ABOVE, AND ALL OTHER CONTRACT DOCUMENTS. TESTING LABORATORY SHALL NOTIFY CONTRACTOR, ARCHITECT AND ENGINEER-OF-RECORD OF ANY CONDITIONS NOT IN ACCORDANCE WITH FOUNDATION DESIGN CRITERIA OR CONTRACT DOCUMENTS

USE ONLY STRUCTURAL FILL MATERIAL AS NOTED IN SPECIFICATION SECTION 2200 FOR FILL BELOW BUILDING AND FIVE FEET BEYOND THE EDGES OF THE BUILDING.

FOUNDATION WALLS SHALL HAVE ADEQUATE TEMPORARY BRACING INSTALLED BY THE CONTRACTOR BEFORE BACKFILL IS PLACED AGAINST THEM. TEMPORARY BRACING SHALL NOT BE REMOVED UNTIL WALL IS PERMANENTLY BRACED.

7. FOOTINGS SHALL BE POURED AGAINST UNDISTURBED SOIL, UNLESS NOTED OTHERWISE IN CONTRACT DOCUMENTS

AVOID DAMAGE TO UNDERGROUND UTILITIES INCLUDING, BUT NOT LIMITED TO, WATER MAINS, SANITARY SEWERS AND BURIED CABLES WHICH MIGHT EXTEND ACROSS OR ADJOIN SITE.

## CONCRETE

MINIMUM COMPRESSIVE STRENGTH (f'c) AT THE END OF 28 DAYS SHALL BE AS FOLLOWS: A. CLASS A - PUMP STATION (ALL SLABS AND WALLS) 5000 PS B. CLASS E - CRANE PILE CAPS AND COLUMNS 5000 PSI C. CLASS A - TUNNEL SHAFT TRANSITION BOX (ALL SLABS AND WALLS) 5000 PSI D. CLASS E - METER VAULT (ALL SLABS AND WALLS) 5000 PSI E. CLASS E - VALVE VAULT (ALL SLABS AND WALLS) 5000 PSI F. CLASS D - ELECTRICAL BUILDING FOOTINGS 3000 PSI G. CLASS D - ELECTRICAL BUILDING SLABS-ON-GRADE 3000 PSI H. CLASS D - PIPELINE THRUST ANCHORS 3000 PSI J. CLASS B - EXTERIOR STRUCTURAL CONCRETE 4500 PSI K. CLASS C - SIDEWALKS 3500 PSI

REFER TO SPECIFICATIONS FOR MAXIMUM WATER/CEMENT RATIOS, MINIMUM CEMENT CONTENTS AND OTHER MIX DESIGN REQUIREMENTS. CONCRETE SHALL BE NORMAL WEIGHT (145 PCF), UNLESS NOTED OTHERWISE,

2. EXTERIOR CONCRETE AND CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL BE AIR-ENTRAINED. REFER TO CAST-IN-PLACE CONCRETE SPECIFICATION FOR AIR CONTENT.

MATERIALS OR ADMIXTURES SHALL NOT CONTAIN ANY CALCIUM CHLORIDE. 4. ALL PUMP STATION SLABS AND WALLS 36 INCHES OR GREATER IN THICKNESS ARE DESIGNATED "MASS CONCRETE" ELEMENTS. REQUIRING THERMAL CONTROL MEASURES. THE MAXIMUM TEMPERATURE DIFFERENTIAL SHALL BE LIMITED TO 35 DEGREES FAHRENHEIT. THE MAXIMUM ALLOWABLE CONCRETE TEMPERATURE SHALL BE LIMITED TO A MAXIMUM 158 DEGREES FAHRENHEIT. SUBMIT A THERMAL CONTROL PLAN. INCLUDE A HEAT DISSIPATION STUDY (REFERENCE ACI 207 OR THERMAL MODELING SOFTWARE) AND PROVIDE A PLAN PROVIDING THE MEASURES AND PROCEDURES INTENDED TO SATISFY THE TEMPERATURE CONTROL REQUIREMENTS, INCLUDE IN THE PLAN THE INSTRUMENTATION AND MONITORING

REQUIREMENTS INTENDED TO BE USED DURING THE THERMAL CONTROL PERIOD. REINFORCING STEEL SHALL MEET THE FOLLOWING: A. DEFORMED BARS

ASTM A615, GRADE 60 B. WELDABLE DEFORMED BARS ASTM A706, GRADE 60 C. WELDED WIRE FABRIC **ASTM A1064** 6. WHERE DOWELS ARE INDICATED BUT NOT SIZED, PROVIDE DOWELS THAT MATCH SIZE AND

LOCATION OF MAIN REINFORCING STEEL AND LAP SPLICE WITH THE MAIN REINFORCING STEEL REINFORCING BARS SHALL BE SPLICED AS NOTED IN THE REINFORCING LAP SCHEDULE.

REFER TO ACI 318 LATEST EDITION FOR CONCRETE COVER, ACI 315 LATEST EDITION FOR DETAILING PRACTICES AND FABRICATION, AND ACI 301 LATEST EDITION FOR STANDARD PRACTICE FOR MIXING AND PLACING CONCRETE.

8. "C.J." INDICATES SAW CUT CONTRACTION JOINT OR DOWELED CONSTRUCTION JOINT IN SLAB-ON-GRADE. REFERENCE CAST-IN-PLACE CONCRETE SPECIFICATION FOR ACCEPTED SAW CUT METHODS. SLAB POURS SHALL BE SEPARATED BY A DOWELED CONSTRUCTION JOINT. CONTRACTION/CONSTRUCTION JOINTS SHALL BE LOCATED AS SHOWN ON PLANS OR AS

9. PROVIDE CORNER BARS THAT MATCH AND LAP CONTINUOUS REINFORCEMENT SIZE AND QUANTITY AT INTERSECTIONS AND CORNERS OF WALLS AND FOUNDATIONS.

## GENERAL NOTES

10. PROVIDE #3 Z-BAR SPACERS AT 24 INCHES ON CENTER EACH WAY FOR CONCRETE WALLS HAVING REINFORCING STEEL IN BOTH FACES.

11. ANCHORS INSTALLED IN HARDENED CONCRETE SHALL ONLY BE USED WHERE SPECIFIED ON THE CONTRACT DRAWING. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER-OF-RECORD PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REINFORCING. HOLES SHALL BE DRILLED, DRY AND CLEANED AND ANCHORS INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED WRITTEN INSTRUCTIONS AND APPLICABLE ESR REPORT. REFERENCE DETAILS FOR ANCHOR SIZE AND EMBEDMENT. SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE SPECIFIED ON THE CONTRACT DRAWINGS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER-OF-RECORD ALONG WITH CALCULATIONS THAT ARE SIGNED AND SEALED BY THE PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION AND LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED.

11. PRECAST CONCRETE SHALL HAVE MINIMUM 28 DAY STRENGTH OF f'c = 5000 PSI.

12. ALL PRECAST PANELS AND COLUMNS AND ALL PRECAST CONNECTIONS SHALL BE DESIGNED AND DETAILED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED, EMPLOYED OR RETAINED BY THE PRECAST MANUFACTURER.

## **MASONRY**

CONCRETE MASONRY UNITS SHALL MEET ASTM SPECIFICATION C90, WITH A MINIMUM UNIT COMPRESSIVE STRENGTH = 1900 PSI. THE SPECIFIED DESIGN COMPRESSIVE STRENGTH OF THE CONCRETE MASONRY ASSEMBLY (f'm) SHALL BE 1500 PSI.

2. MORTAR SHALL MEET ASTM SPECIFICATION C270 FOR TYPE "S" MORTAR.

3. GROUT SHALL MEET ASTM SPECIFICTION C476 AND HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2000 PSI.

4. GROUT PLACED BY THE LOW LIFT GROUTING METHOD SHALL BE MECHANICALLY CONSOLIDATED USING A VIBRATOR WITH A MAXIMUM 3/4 INCH DIAMETER HEAD. REFERENCE THE CONCRETE UNIT MASONRY SPECIFICATION FOR HIGH LIFT GROUTING PROCEDURES.

5. HORIZONTAL JOINT REINFORCEMENT SHALL BE LADDER TYPE (REFERENCE THE CONCRETE UNIT MASONRY SPECIFICATION). JOINT REINFORCEMENT SHALL BE SPACED AT 8 INCHES ON CENTER BELOW FINISHED FLOOR AND IN PARAPETS, AND 16 INCHES ON CENTER ABOVE FINISHED FLOOR.

6. CONCRETE MASONRY SHALL BE LAID IN RUNNING BOND. CONCRETE MASONRY BELOW FINISHED FLOOR SHALL BE NORMAL WEIGHT UNITS AND SHALL HAVE ALL THE CELLS FULLY GROUTED. CONCRETE MASONRY ABOVE FINISHED FLOOR SHALL BE MEDIUM WEIGHT OR LIGHT WEIGHT AND IS TO BE GROUTED ONLY AT REINFORCED CELLS AND BOND BEAMS. ALL CELLS WITH REINFORCING SHALL BE GROUTED SOLID.

8. REFER TO WALL SECTIONS AND DETAILS FOR MISCELLANEOUS BOND BEAM LOCATIONS AND EMBEDDED ITEMS. USE OPEN KNOCK OUT BOND BEAM BLOCK, DO NOT USE TROUGH TYPE BLOCKS FOR BOND BEAMS. DO NOT CONTINUE BOND BEAM REINFORCING THROUGH CONTROL

REINFORCING STEEL SHALL MEET ASTM SPECIFICATION A615, GRADE 60.

10. ANCHORS INSTALLED IN GROUT FILLED CONCRETE MASONRY UNITS SHALL ONLY BE USED WHERE SPECIFIED IN THE CONTRACT DOCUMENTS . ANCHORS MUST BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS, USE HILTI HIT-HY 150 MAX ADHESIVE ANCHORING SYSTEM (OR HILTI HIT ICE ADHESIVE ANCHORING SYSTEM OR HILTI KWIK BOLT 3 EXPANSION ANCHOR). REFERENCE CONTRACT DOCUMENTS FOR ANCHOR SIZE AND EMBEDMENT. SUBSTITUTIONS TO THE SPECIFIED ANCHORS MUST BE APPROVED BY THE ENGINEER-OF-RECORD.

11. CONSTRUCTION BRACING FOR MASONRY WALLS SHALL BE DESIGNED AND DETAILED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED. MASONRY SUBMITTALS SHALL CONTAIN A LETTER, SEALED BY THE PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION, STATING DESIGN LOADS AND CRITERIA WHICH WERE USED IN BRACING DESIGN. THE BRACING DESIGN DRAWINGS SHALL BE SIGNED AND SEALED BY THE PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION AND SHALL BE ISSUED TO THE OWNER AFTER SUBMITTAL REVIEW AND PRIOR TO STARTING MASONRY CONSTRUCTION

12. THE SIZE AND LOCATION OF PENETRATIONS THROUGH MASONRY WALLS FOR MECHANICAL ELECTRICAL, PLUMBING, AND OTHER MISC. WORK SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO INITIATION OF WORK. PENETRATIONS SHALL NOT BE INSTALLED WITHOUT WRITTEN APPROVAL BY THE ENGINEER-OF-RECORD.

13. THE SIZE AND LOCATION OF EMBEDDED ITEMS, INCLUDING ELECTRICAL BOXES, IN MASONRY WALLS FOR MECHANICAL, ELECTRICAL, PLUMBING, AND OTHER MISC. WORK SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO INITIATION OF WORK. EMBEDDED ITEMS SHALL NOT BE INSTALLED WITHOUT WRITTEN APPROVAL BY THE ENGINEER-OF-RECORD.

## STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL MEET THE FOLLOWING MINIMUM YIELD STRESS (Fy):

A. W, WT SHAPES: 50 KSI A992 B. BARS, PLATES, CHANNELS, ANGLES: 36 KSI A36 C. SQUARE, RECTANGULAR HSS: 46 KSI A500, GRADE B D. ROUND HSS: 42 KSI A500, GRADE B E. STRUCTURAL STEEL PIPE: 35 KSI A53, GRADE B F. ANCHOR RODS 36 KSI F1554 G. ALL-THREAD RODS: 36 KSI A36 H. HEADED STUD ANCHORS: 65 KSI TENSILE STRESS A108, GRADES 1010-1020 J. CRANE RAIL

BOLTS FOR STEEL BEAM AND COLUMN CONNECTIONS SHALL BE 3/4-INCH DIAMETER ASTM A325-N HIGH-STRENGTH BOLTS UNLESS NOTED OTHERWISE IN CONTRACT DOCUMENTS. ALL BOLTED CONNECTIONS ARE BEARING TYPE UNLESS NOTED OTHERWISE IN CONTRACT DOCUMENTS. ALL BOLTS SHALL BE TIGHTENED SNUG TIGHT UNLESS NOTED OTHERWISE IN CONTRACT DOCUMENTS . FOR PRETENSIONED OR SLIP-CRITICAL JOINTS, THE METHOD OF INSTALLATION SHALL BE TURN-OF-NUT WITH MATCH MARKING, TWIST-OFF-TYPE TENSION CONTROL BOLT ASSEMBLIES (ASTM F1852), OR DIRECT TENSION INDICATORS (ASTM F959).

3. WELDING SHALL MEET ANSI / AWS D1.1, STRUCTURAL WELDING CODE LATEST REVISION. ELECTRODES SHALL BE 70 KSI, LOW HYDROGEN.

4. PROVIDE DOUBLE NUTS AND DOUBLE WASHERS FOR STEEL COLUMN ANCHOR BOLTS TO ALLOW FOR ADJUSTMENT IN BASE PLATE ELEVATION. PROVIDE 1 1/2 INCH NON-SHRINK GROUT UNDER BASE PLATE AFTER ERECTION. USE 2 1/2 INCH NON-SHRINK GROUT WHEN COLUMN ANCHOR BOLTS ARE 1 1/4 INCH DIAMETER OR LARGER. NON-SHRINK GROUT SHALL BE NON-METALLIC WITH A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI AT 28 DAYS.

5. ALL CONNECTIONS NOT FULLY DETAILED IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED AND DETAILED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED, EMPLOYED OR RETAINED BY THE STEEL FABRICATOR. THE DESIGN AND DETAILING SHALL COMPLY WITH ALL APPLICABLE CODES AND SPECIFICATION SECTIONS

6. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR INCLUDING THE COSTS FOR ALL MISCELLANEOUS STEEL SHOWN IN THE CONTRACT DOCUMENTS. THESE COSTS SHALL INCLUDE, BUT ARE NOT LIMITED TO, MISCELLANEOUS STEEL ITEMS SHOWN ON THE STRUCTURAL, ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS.

## STEEL DECK

ROOF DECK

A. ROOF DECK SHALL BE GALVANIZED TYPE "B". DEPTH SHALL BE AS SHOWN IN THE CONTRACT DOCUMENTS. B. ROOF DECK IS REQUIRED TO ACT AS A DIAPHRAGM. CONNECTIONS SHALL BE IN

ACCORDANCE WITH STEEL DECK INSTITUTE SPECIFICATIONS. REFER TO THE ROOF DIAPHRAGM CONNECTION DIAGRAM FOR ATTACHMENT

### **GENERAL NOTES**

C. DECKING SHALL BE CONTINUOUS OVER A MINIMUM OF (3) SPANS UNLESS NOTED

OTHERWISE IN THE CONTRACT DOCUMENTS. D. NO HANGING LOADS SHALL BE ATTACHED TO ROOF DECK.

### COLD FORMED METAL FRAMING

1. ALL COLD FORMED METAL FRAMING SHALL HAVE A MINIMUM THICKNESS OF 33 MILS (20 GA) AND SHALL BE SPACED AT A MAXIMUM OF 16 INCHES ON CENTER UNLESS NOTED OTHERWISE IN CONTRACT DOCUMENTS AND SHALL MEET THE MINIMUM STRUCTURAL PROPERTIES FROM THE AMERICAN IRON AND STEEL INSTITUTE - NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL FRAMING LATEST EDITION. MINIMUM FLANGE WIDTH OF FRAMING MEMBERS SHALL BE 1 5/8 INCH AND THE LIP LENGTH OF THE C-SHAPE PORTION SHALL BE A MINIMUM OF 1/2 INCH.

2. WALL STUDS AS BACKING TO MASONRY VENEER SHALL SHALL HAVE A MINIMUM THICKNESS OF 43 MILS (18 GA).

3. METAL FRAMING SHALL BE IN ACCORDANCE WITH THE FOLLOWING, UNLESS NOTED OTHERWISE A. 54 MILS (16 GA) AND HEAVIER ASTM A1003, GRADE 50 TYPE H (ST50H) ASTM A1003, GRADE 33 TYPE H (ST33H) B. 43 MILS (18 GA) AND LIGHTER C. ACCESSORIES, TRACK AND OTHER MEMBERS ASTM A1003, GRADE 33 TYPE H (ST33H)

4. DO NOT WELD 33 MILS (20 GA) AND LIGHTER FRAMING, UNLESS SPECIFICALLY NOTED IN THE CONTRACT DOCUMENTS.

METAL FRAMING SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN RECOMMENDATIONS. HORIZONTAL BRACING FOR WALL STUDS SHALL BE PLACED AT 48 INCHES ON CENTER OR AS PER MANUFACTURER'S WRITTEN RECOMMENDATIONS IF LESS THAN 48 INCHES ON CENTER. HORIZONTAL BRIDGING FOR JOISTS SHALL BE PLACED AT 8'-0" ON CENTER OR AS PER MANUFACTURER'S WRITTEN RECOMMENDATIONS IF LESS THAN 8'-0" ON CENTER. APPLIED FINISH MATERIALS SHALL NOT BE CONSIDERED BRIDGING OR FLANGE BRACING UNLESS NOTED OTHERWISE IN THE CONTRACT DOCUMENTS.

6. ALL AXIALLY LOADED WALL STUDS SHALL HAVE FULL FLANGE BEARING AGAINST UPPER AND LOWER TRACK WEB PRIOR TO ATTACHMENT TO TRACK. SPLICES IN AXIALLY LOADED WALL STUDS ARE NOT ALLOWED

7. WELDS SHALL BE PERFORMED BY OPERATORS QUALIFIED IN ACCORDANCE WITH SECTION 6.0 OF AWS D1.3, SHEET METAL.

COLD FORMED METAL FRAMING AND THE CONNECTIONS TO THE STRUCTURE SHALL BE DESIGNED AND DETAILED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED. THE DESIGN AND DETAILING SHALL COMPLY WITH ALL APPLICABLE CODES AND SPECIFICATION SECTIONS.

#### PRE-FABRICATED COLD FORMED STEEL TRUSS

RE: 5/S-004 FOR PRE-FABRICATED COLD FORMED STEEL TRUSS LOADING DIAGRAM.

2. SPACE TRUSSES/RAFTERS AT 72" ON CENTER MAXIMUM

3. PROVIDE TEMPORARY AND PERMANENT PRIMARY AND SECONDARY BRACING FOR TRUSSES TO ENSURE THE STABILITY OF THE TRUSSES AND THEIR COMPONENTS. REFER TO ARCHITECTURAL DRAWINGS FOR ROOF SLOPE AND DIMENSIONS OF ROOF.

REFER TO MECHANICAL DRAWINGS FOR EQUIPMENT LOCATED IN ATTIC. PROVIDE OPEN AREAS TO ACCOMODATE REQUIRED CLEARANCES AROUND EQUIPMENT

COORDINATE WITH MECHANICAL CONTRACTOR TO PROVIDE CLEARANCE FOR DUCT WORK TRUSS COMPONENTS (CHORDS AND WEBS) SHALL BE 18 GAGE METAL MINIMUM.

WELDING OF LIGHT GAGE MATERIAL SHALL BE IN CONFORMANCE WITH AWS D1.3. 9. ATTACHMENT OF TRUSS TO BEARING WALLS OR HEADERS BELOW IS BY THE TRUSS

MANUFACTURER.

10. TRUSS MANUFACTURER SHALL DETERMINE ALL HORIZONTAL AND VERTICAL LOAD REACTIONS ON SUPPORT STRUCTURE AND DESIGN AND SPECIFY ALL ATTACHMENTS TO THE STRUCTURE.

### DEFERRED STRUCTURAL SUBMITTALS (IBC 2012 SECTION 107.3.4.1)

I. THE FOLLOWING STRUCTURAL COMPONENTS SHALL BE DESIGNED AND SUBMITTED BY OTHERS FOR APPROVAL IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

A. STRUCTURAL STEEL CONNECTIONS OF FRAMING AND BRACING ELEMENTS.

 B. STEEL, SELF-SUPPORTING STAIRS. C. COLD FORMED METAL TRUSSES AND ATTACHMENTS TO STRUCTURE

D. PRECAST CONCRETE COLUMNS AND PANELS.

E. METAL GRATING

F. METAL ROOF HATCH G. METAL GATES, GATE OPERATORS, AND ASSOCIATED HARDWARE

H. METAL RAKE SCREENS AND ASSOCIATED HARDWAR

APPROVED BY THE BUILDING OFFICIAL

J. MICROPILES AT CRANE FOUNDATIONS 2. DOCUMENTS FOR DEFERRED STRUCTURAL SUBMITTAL ITEMS SHALL BE DESIGNED, SEALED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED. THE DEFERRED SUBMITTAL DOCUMENTS SHALL BE SUBMITTED TO THE ARCHITECT OR ENGINEER-OF-RECORD WHO SHALL REVIEW THEM AND FORWARD THEM TO THE BUILDING OFFICIAL AS REQUESTED WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED FOR DESIGN LOADS AND BEEN FOUND TO BE IN GENERAL CONFORMANCE TO THE DESIGN CRITERIA OF THE BUILDING. THE DEFERRED SUBMITTAL ITEMS

SHALL NOT BE INSTALLED UNTIL THE DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN

## STRUCTURAL OBSERVATION REQUIREMENTS (IBC 2012 SECTION 1704.5)

1. A REPRESENTATIVE OF THE ENGINEER OF RECORD WILL PERFORM THE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL SYSTEM. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR THE INSPECTION REQUIRED OF THE BUILDING OFFICIAL OR THE SPECIAL

A PRE-CONSTRUCTION MEETING SHALL BE HELD AND ATTENDED BY THE ARCHITECT, ENGINEER OF RECORD, GENERAL CONTRACTOR, SUBCONTRACTORS, AND SPECIAL INSPECTORS. 3. THE GENERAL CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD AT LEAST 48 HOURS

PRIOR TO COMPLETING CONSTRUCTION OPERATIONS THAT REQUIRE STRUCTURAL OBSERVATION BY CALLING (404) 815-4282 TO SCHEDULE A SITE VISIT 4. AT A MINIMUM, THE FOLLOWING SIGNIFICANT CONSTRUCTION STAGES REQUIRE A SITE VISIT

AND AN OBSERVATION REPORT FROM THE STRUCTURAL OBSERVER: A. AFTER INSTALLATION OF FIRST FOUNDATION REINFORCING AND BEFORE CONCRETE

B. AFTER INSTALLATION OF CONCRETE WALL REINFORCING AND BEFORE CONCRETE C. AFTER ERECTION OF FIRST LIFT OF CMU WALL AND BEFORE GROUT PLACEMENT. D. AFTER INSTALLATION OF CONCRETE FLOOR AND ROOF REINFORCING AND BEFORE

CONCRETE PLACEMENT. E. AFTER INSTALLATION OF THE FASTENERS AND ANCHORS OF THE PRE-FABRICATED COLD FORMED STEEL TRUSSES TO THE BUILDING STRUCTURE

F. AFTER INSTALLATION AND FASTENING OF METAL DECK AND BEFORE PLACING INSULATION. 5. AT THE CONCLUSION OF THE WORK INCLUDED IN THE PERMIT, THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE BUILDING OFFICIAL A WRITTEN STATEMENT THAT THE SITE VISITS HAVE BEEN MADE AND IDENTIFY ANY REPORTED DEFICIENCIES THAT, TO THE BEST OF THE STRUCTURAL OBSERVER'S KNOWLEDGE, HAVE NOT BEEN RESOLVED.

## **ABBREVIATIONS**

ANCHOR BOLTS A.F.F. ABOVE FINISHED FLOOR AMERICAN CONCRETE INSTITUTE ARCHITECTURALLY EXPOSED AESS STRUCTURAL STEEL ARCH. ARCHITECTURAL B.L. BLOCK LINTEL B.O. BOTTOM OF B.O.D. BOTTOM OF DECK BALANCE BAL. BLDG. BUILDING BRG. BEARING CONTRACTION JOINT C.J. C.L. CENTER LINE CLR. CLEAR CMU CONCRETE MASONRY UNIT COL. COLUMN CONC. CONCRETE CONST. CONSTRUCTION CONTINUOUS CONT. D.B.A. DEFORMED BAR ANCHOR D.B.E. DECK BEARING ELEVATION DIAMETER DIA. DWG. DRAWING E.F. EACH FACE E.J. **EXPANSION JOINT** E.O.D. EDGE OF DECK E.O.S. EDGE OF SLAB E.W. **EACH WAY** ELEVATION EQ. EQUAL EXIST. EXISTING F.F.E. FINISHED FLOOR ELEVATION F.S. FAR SIDE FDN. FOUNDATION FTG. FOOTING G.B. GRADE BEAM GAGE GA. GALV. GALVANIZED HEADED STUD ANCHOR H.S.A. HORIZ. HORIZONTAL INTERNATIONAL BUILDING CODE INFORMATION J.B.E. JOIST BEARING ELEVATION JT. JOINT UNIT OF 1,000 POUNDS (KIP) KSI KIPS PER SQUARE INCH LBS. POUNDS LONG LEG HORIZONTAL LLV LONG LEG VERTICAL LONG. LONGITUDINAL MAXIMUM MAX MECH. MECHANICAL MFR. MANUFACTURER MIN. MINIMUM MISC. MISCELLANEOUS N.I.C. NOT IN CONTRACT **NEAR SIDE** N.T.S. NOT TO SCALE NO. NUMBER O.C. ON CENTER OUTSIDE DIAMETER OPPOSITE HAND P.A.F. POWER ACTUATED FASTENER P.C. PILE CAP P.M.E.J PREMOLDED EXPANSION JOINT POUNDS PER CUBIC FOOT POUNDS PER LINEAR FOOT POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH QTY. QUANTITY

STL. STEEL TOP AND BOTTOM T&B T.O. TOP OF

SCHED. SCHEDULE

R.O.

REINF.

REQD.

STD.

T.O.C. TOP OF CONCRETE T.O.P. TOP OF PIER T.O.P.C. TOP OF PILE CAP T.O.S. TOP OF STEEL T.O.W. TOP OF WALL

TRANS. TRANSVERSE TYPICAL UNLESS NOTED OTHERWISE

ROUGH OPENING

REINFORCING

ROOF TOP UNIT

S.D.S. SELF-DRILLING SCREWS

REQUIRED

**SIMILAR** 

SPECS. SPECIFICATIONS

STANDARD

REFER

TYP. U.N.O. VERT. VERTICAL

W.P. WORK POINT W.W.F. WELDED WIRE FABRIC

WT. WEIGHT

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT

**S-001** 

DRAWING NO.

GENERAL NOTES AND ABBREVIATIONS

WATER SUPPLY PROGRAM - Phase 1

RIVER INTAKE PUMP STATION



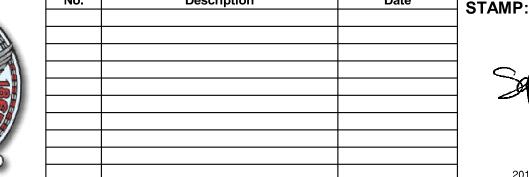
**Wallace Engineering** Structural Consultants, Inc Structural and Civil Consultants

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DIRECTED BY THE ENGINEER-OF-RECORD.





Description



**6 CONCOURSE PARKWAY SUITE 1600** ATLANTA, GA 30328 (707) 569-7038 x101 FAX: (707) 993-5082

BGR2-JV

ADDRESS:

PROJECT NO: 1790066 **DESIGNED BY:** JJM **DRAWN BY: CHECKED BY:** DATE: 11/22/2019 SCALE:

## **SPECIAL INSPECTION**

SPECIAL INSPECTIONS

- 1. THE OWNER SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS PER SECTION 1704 OF THE IBC. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION. THESE INSPECTIONS ARE IN ADDITION TO THE INSPECTIONS SPECIFIED IN THE PROJECT
- 2. SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS DONE IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO COMPLETION OF THAT PHASE OF WORK. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED AT A POINT IN TIME AGREED UPON BY THE PERMIT APPLICANT AND THE BUILDING OFFICIAL PRIOR TO THE START OF WORK.
- 3. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE SPECIAL INSPECTOR REGARDING INDIVIDUAL INSPECTION FOR ITEMS LISTED ON THE STATEMENT OF SPECIAL INSPECTIONS AND AS NOTED ON THE BUILDING DEPARTMENT APPROVED PLANS. ADEQUATE NOTICE AND ACCESS TO APPROVED PLANS SHALL BE PROVIDED SO THAT THE SPECIAL INSPECTOR HAS TIME TO BECOME FAMILIAR WITH THE PROJECT.
- 4. FABRICATORS OF STRUCTURAL LOAD-BEARING MEMBERS AND ASSEMBLIES SHALL CONFORM TO THE REQUIREMENTS OF SECTION 1704.2.5 OF THE IBC.
- 5. SPECIAL INSPECTION REPORTS AND A FINAL REPORT IN ACCORDANCE WITH SECTION 1704.2.4 SHALL BE SUBMITTED TO THE BUILDING OFFICIAL PRIOR TO THE TIME THAT PHASE OF WORK IS APPROVED FOR OCCUPANCY.

 	IBC 2012 REQUIRED SPECIAL INSPECTIONS		
		CONTINUOUS	PERIOD
STE	EL CONSTRUCTION OTHER THAN STRUCTURAL STEEL (IBC TABLE 1705.2.2)		
	MATERIAL VERIFICATION OF COLD FORMED STEEL DECK:		
Α.	IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION		X
	DOCUMENTS.		
В.	MANUFACTURER'S CERTIFIED TEST REPORTS.		X
<del> </del> А.	INSPECTION OF WELDING:  COLD-FORMED STEEL DECK:		
1	1) FLOOR AND ROOF DECK WELDS.		Х
B.	REINFORCING STEEL:		
	1) VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706 2) REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES,	X	X
	AND BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE AND SHEAR REINFORCEMENT.  3) SHEAR REINFORCEMENT	X	
	4) OTHER REINFORCING STEEL.		Х
COI	NCRETE CONSTRUCTION (IBC TABLE 1705.3)	Г Г	
	INSPECTION OF REINFORCING STEEL AND PLACEMENT.		Х
	INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1705.2.2 ITEM 2B.		
	INSPECTION OF ANCHORS CAST IN CONCRETE.		Х
	INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.		X
	VERIFYING USE OF REQUIRED DESIGN MIX.  AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP	X	X
	AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.		
	INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	Х	
	INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.  ERECTION OF PRECAST CONCRETE MEMBERS.		X
	VERIFICATION OF FRECAST CONCRETE MEMBERS.  VERIFICATION OF IN-SITU CONCRETE STRENGTH PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND		X
	STRUCTURAL SLABS. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.		X
so	ILS (IBC TABLE 1705.6)  VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.		X
	VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.		X
	PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.		Х
	VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	
	PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.		X
DRI	VEN DEEP FOUNDATION ELEMENTS (TABLE 1705.7)	r	
	VERIFY ELEMENT MATERIALS, SIZES AND LENGTHS COMPLY WITH THE REQUIREMENTS.	X	
	DETERMINE CAPACITIES OF TEST ELEMENTS AND CONDUCT ADDITIONAL LOAD TESTS, AS REQUIRED.	X	
	OBSERVE DRIVING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT.	Х	
	VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM TYPE AND SIZE OF HAMMER, RECORD NUMBER OF BLOWS PER FOOT OF PENETRATION, DETERMINE REQUIRED PENETRATIONS TO ACHIEVE DESIGN CAPACITY, RECORD TIP AND BUTT ELEVATIONS AND DOCUMENT ANY DAMAGE TO FOUNDATION ELEMENT.	X	
	FOR STEEL ELEMENTS, PERFORM ADDITIONAL INSPECTIONS IN ACCORDANCE WITH SECTION 1705.2.		
	FOR CONCRETE ELEMENTS AND CONCRETE-FILLED ELEMENTS, PERFORM ADDITIONAL INSPECTIONS IN ACCORDANCE WITH REQUIREMENTS FOR CONCRETE CONSTRUCTION.		
	FOR SPECIALTY ELEMENTS, PERFORM ADDITIONAL INSPECTIONS AS DETERMINED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.		
CAS	ST-IN-PLACE DEEP FOUNDATION ELEMENTS (TABLE 1705.8)		
+	OBSERVE DRILLING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT.	X	
	VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM ELEMENT DIAMETERS, BELL DIAMETERS (IF	X	
	APPLICABLE), LENGTHS, EMBEDMENT INTO BEDROCK (IF APPLICABLE) AND ADEQUATE END BEARING STRATA CAPACITY. RECORD CONCRETE OR GROUT VOLUMES.	,	
	FOR CONCRETE ELEMENTS, PERFORM ADDITIONAL INSPECTIONS IN ACCORDANCE WITH REQUIREMENTS FOR CONCRETE CONSTRUCTION.		
 *	CONTINUOUS SPECIAL INSPECTION: SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS PRESENT WHEN AND		
<u> </u>	WHERE THE WORK TO BE INSPECTED IS BEING PREFORMED.		
1.^	PERIODIC SPECIAL INSPECTION: SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS INTERMITTENTLY		

			CONTINUOUS	PERIODIO
	T	SONRY CONSTRUCTION - LEVEL B (ACI 530 TABLE 1.19.2)		
1.		VERIFICATION OF SLUMP FLOW AND VSI AS DELIVERED TO THE PROJECT SITE IN ACCORDANCE WITH SPECIFICATION ARTICLE 1.5B.1.b.3 FOR SELF-CONSOLIDATING GROUT.		
2.		VERIFICATION OF I'm IN ACCORDANCE WITH SPECIFICATION ARTICLE 1.4B PRIOR TO CONSTRUCTION, EXCEPT WHERE SPECIFICALLY EXEMPTED BY THIS CODE.		
3.		VERIFY COMPLIANCE WITH THE APPROVED SUBMITTALS.		Х
ļ.		AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:		
	A.	PROPORTIONS OF SITE-PREPARED MORTAR.		Χ
	B.	CONSTRUCTION OF MORTAR JOINTS.		Χ
	C.	LOCATION OF REINFORCEMENT AND CONNECTORS.		Χ
		PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:		
	A.	GROUT SPACE		Χ
	B.	GRADE TYPE AND SIZE OF REINFORCEMENT AND ANCHOR BOLTS.		Χ
	C.	PLACEMENT OF REINFORCEMENT AND CONNECTORS.		Χ
	D.	PROPORTIONS OF SITE-PREPARED GROUT.		Χ
	E.	CONSTRUCTION OF MORTAR JOINTS.		Х
		VERIFY DURING CONSTRUCTION:		
	A.	SIZE AND LOCATION OF STRUCTURAL ELEMENTS.		Χ
	B.	TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION.		Х
	C.	WELDING OF REINFORCEMENT.	X	
	D.	PREPARATION, CONSTRUCTION AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40 DEG. F) OR HOT WEATHER (TEMPERATURE ABOVE 90 DEG. F.)		Х
	E.	PLACEMENT OF GROUT IS IN COMPLIANCE.	X	
		OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS.		Х

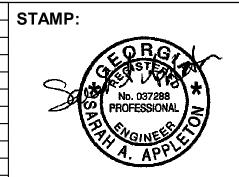




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## ADDRESS:

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PROJECT NO:	1790066
DESIGNED BY:	MIN
DRAWN BY:	JJM
CHECKED BY:	SAA
DATE:	11/22/2019
SCALE:	

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT **WATER SUPPLY PROGRAM - Phase 1** 

RIVER INTAKE PUMP STATION

SPECIAL INSPECTIONS

DRAWING NO. RI-PS

**S-002** SHEET OF

## STRUCTURAL STEEL SPECIAL INSPECTIONS (AISC 360-10, SPECIFICATION CHAPTER N)

QUALITY CONTROL (QC) SHALL BE PROVIDED BY THE FABRICATOR AND ERECTOR

- 1. THE FABRICATOR'S QUALITY CONTROL INSPECTOR (QCI) SHALL INSPECT THE FOLLOWING: A. SHOP WELDING, HIGH-STRENGTH BOLTING, AND DETAILS PER SECTION N5. B. SHOP CUT AND FINISHED SURFACES PER SECTION M2.
- C. SHOP HEATING FOR STRAIGHTENING, CAMBERING AND CURVING PER SECTION M2.1. D. TOLERANCES FOR SHOP FABRICATION PER SECTION 6 OF THE CODE OF STANDARD PRACTICE.
- 2. THE ERECTOR'S QUALITY CONTROL INSPECTOR (QCI) SHALL INSPECT THE FOLLOWING: A. FIELD WELDING, HIGH-STRENGTH BOLTING, AND DETAILS PER SECTION N5.
- B. STEEL DECK AND HEADED STEEL STUD ANCHOR PLACEMENT AND ATTACHMENT PER SECTION N6.
- C. FIELD CUT SURFACES PER SECTION M2.2.
- D. FIELD HEATING FOR STRAIGHTENING PER SECTION M2.1.
- E. TOLERANCES FOR FIELD ERECTION PER SECTION 7.13 OF THE CODE OF STANDARD PRACTICE.

QUALITY ASSURANCE (QA) SHALL BE PROVIDED BY OTHERS. NONDESTRUCTIVE TESTING (NDT) SHALL BE PERFORMED BY THE AGENCY OR FIRM RESPONSIBLE FOR QUALITY ASSURANCE.

- . QUALITY ASSURANCE (QA) INSPECTION OF FABRICATED ITEMS SHALL BE MADE AT THE FABRICATOR'S PLANT. QA INSPECTION OF THE ERECTED STEEL SYSTEM SHALL BE MADE AT THE PROJECT SITE.
- A. QA INSPECTIONS, EXCEPT NDT, MAY BE WAIVED WHEN THE WORK IS PERFORMED IN A FABRICATING SHOP OR BY AN ERECTOR APPROVED BY THE AUTHORITY HAVING JURISDICTION (AHJ) TO PERFORM THE WORK WITHOUT QA. B. NDT OF WELDS COMPLETED IN AN APPROVED FABRICATOR'S SHOP MAY BE PERFORMED BY THAT FABRICATOR WHEN APPROVED BY THE AHJ. WHEN THE FABRICATOR PERFORMS THE NDT, THE QA AGENCY SHALL REVIEW THE FABRICATOR'S NDT REPORTS.
- C. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE AHJ STATING THAT THE MATERIALS SUPPLIED AND WORK PERFORMED BY THE FARICATOR ARE IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS. D. AT COMPLETION OF ERECTION, THE APPROVED ERECTOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE AHJ STATING THAT THE MATERIALS SUPPLIED AND WORK PERFORMED BY THE ERECTOR ARE IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS. E. THE QUALITY ASSURANCE INSPECTOR (QAI) SHALL REVIEW MATERIAL TEST REPORTS AND CERTIFICATIONS AS LISTED IN SECTION N3.2 FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS.

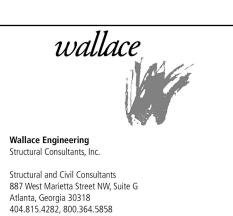
INSPECTION TASKS LISTED IN THE FOLLOWING TABLES SHALL BE PERFORMED BY BOTH THE FABRICATOR'S/ ERECTOR'S QUALITY CONTROL INSPECTOR (QCI) AND THE QUALITY ASSURANCE INSPECTOR (QAI) UNLESS NOTED OTHERWISE:

	C 360-10, CHAPTER N SPECIAL INSPECTION REQUIRE		AE INIODEOTIO
		FREQUENCY C	OBSERVE
II N5.4 - INSPECTION OF	WELDING	I LIN ONW	OBOLITVE
AISC 360-10, TA	BLE N5.4-1 - INSPECTION TASKS PRIOR TO WELDING		
	CEDURE SPECIFICATIONS (WPSs) AVAILABLE	X	
	ER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	X	
	NTIFICATION (TYPE/GRADE) TIFICATION SYSTEM (a)		X
	DOVE WELDS (INCLUDING JOINT GEOMETRY)		
A. JOINT PREPAR	,		X
	ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL)		X
	(CONDITION OF STEEL SURFACES)		Х
D. TACKING (TAC	K WELD QUALITY AND LOCATION)		Х
	AND FIT (IF APPLICABLE)		Х
	ON AND FINISH OF ACCESS HOLES		X
. FIT-UP OF FILI			
	ALIGNMENT, GAPS AT ROOT)		X
	(CONDITION OF STEEL SURFACES)		X
C. TACKING (TAC	K WELD QUALITY AND LOCATION)		X
			<u> </u>
AISC 360-10, TA	BLE N5.4-2 - INSPECTIONS DURING WELDING		
	FIED WELDERS		X
	HANDLING OF WELDING CONSUMABLES		
A. PACKAGING			X
B. EXPOSURE CO	OVER CRACKED TACK WELDS		X
	TAL CONDITIONS	_ <del></del>	
A. WIND SPEED			X
	N AND TEMPERATURE		X
	CEDURE SPECIFICATION (WPS) FOLLOWED		
	WELDING EQUIPMENT		Х
B. TRAVEL SPEE			Х
C. SELECTED WE	LDING MATERIALS		Х
	S TYPE / FLOW RATE		X
E. PREHEAT APF			X
	MPERTURE MAINTAINED (MIN./MAX.)		X
G. PROPER POS			X
. WELDING TEC	HNIQUES ID FINAL CLEANING		X
	ITHIN PROFILE LIMITATIONS		X
	EETS QUALITY REQUIREMENTS		X
0. E/(01117(00 W	LETO GOVERN REGISTRATO		
		•	!
AISC 360-10, TA	BLE N5.4-3 - INSPECTIONS AFTER WELDING	T	1
. WELDS CLEAN	ED.		X
	AND LOCATION OF WELDS	X	
	VISUAL ACCEPTANCE CRITERIA	^	
A. CRACK PROH		Х	
B. WELD/BASE-M		X	
C. CRATER CROS	S SECTION	Х	
D. WELD PROFIL	ES	Х	
E. WELD SIZE		X	
F. UNDERCUT		X	
G. POROSITY		Х	
. ARC STRIKES		X	
k-AREA (b)	OVED AND WELD TARO DEMOVED (IE DEOLUDED)	X	
BACKING REM REPAIR ACTIV	OVED AND WELD TABS REMOVED (IF REQUIRED)	X	
	CCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	X	
	ESTING (UT) ON ALL CJP GROOVE WELDS IN BUTT, T- AND CORNER JOINTS, IN MATERIALS 5/16 INCH	X	
THICK OR GRE			
	UT SURFACES OF ACCESS HOLES SHALL BE TESTED USING MAGNETIC PARTICLE TESTING (MT) OR	Х	
	ESTING (PT), WHEN FLANGE THICKNESS EXCEEDS 2 INCHES FOR ROLLED SHAPES, OR WHEN THE WEB		
	(CEEDS 2 INCHES FOR BUILT-UP SHAPES (c)		
	OR OR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED		
	EMBER CAN BE IDENTIFIED. STAMPS, IF USED, SHALL BE THE LOW STRESS TYPE.		
(b) WHEN WELDII	IG OF DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE k-AREA,		
	PECT THE WEB k-AREA FOR CRACKS WITHIN 3 INCHES OF THE WELD.		<u> </u>
(c) THIS INSPECT	ON TASK IS THE SOLE RESPONSIBILITY OF THE QUALITY ASSURANCE INSPECTOR (QAI).		
		1	
11 BEDECE	PERFORM THESE TASKS FOR EACH WELDED JOINT OR MEMBER.		

I		FREQUENCY	OF INSPECTION
		PERFORM	OBSERV
	** OBSERVE - OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDIN INSPECTIONS.	IG THESE	
N5.6	.6 - INSPECTION OF HIGH-STRENGTH BOLTS AISC 360-10, TABLE N5.6-1 - INSPECTION TASKS PRIOR TO BOLTING		
_	MANUEA OTUDEDIO DEDTIFICATIONO AVAILABLE FOD FACTENED MATERIALO	)/ (OAI)	) / (OO)
1.	MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	X (QAI)	X (QCI)
2.	FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS		X
3.	PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH)		X
4.	PROPER BOLTING PROCEDURES SELECTED FOR JOINT DETAIL		X
5.	CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPAR SPECIFIED, MEET APPLICABLE REQUIREMENTS	RATION, IF	Х
3.	PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FASTENER ASSEMBLIES AND METHODS USED (a)	FOR X	X
7.	PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS		X
$\neg$	AISC 360-10, TABLE N5.6-2 - INSPECTIONS DURING BOLTING	-	
1.	FATENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) AR	EE	X
1.	FATENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) AR POSITIONED AS REQUIRED	E	X
1.	FATENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) AR POSITIONED AS REQUIRED  JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION		X
	FATENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) AR POSITIONED AS REQUIRED		
-	FATENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) AR POSITIONED AS REQUIRED  JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION  FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING (b)  FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATION OF THE PROGRESSING SYSTEMATICAL OF THE PROGRESSING SYST		X
	FATENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) AR POSITIONED AS REQUIRED  JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION  FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING (b)  FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTE FROM THE MOST RIGID POINT TOWARD THE FREE EDGES (b)		X
3. 4.	FATENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) AR POSITIONED AS REQUIRED  JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION  FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING (b)  FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTE FROM THE MOST RIGID POINT TOWARD THE FREE EDGES (b)  AISC 360-10, TABLE N5.6-3 - INSPECTIONS AFTER BOLTING  DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	EMATICALLY	X
1.	FATENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) AR POSITIONED AS REQUIRED  JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION  FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING (b)  FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTE FROM THE MOST RIGID POINT TOWARD THE FREE EDGES (b)  AISC 360-10, TABLE N5.6-3 - INSPECTIONS AFTER BOLTING  DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS  (a) NOT APPLICABLE FOR SNUG TIGHT JOINTS.	EMATICALLY	X
3. 4.	FATENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) AR POSITIONED AS REQUIRED  JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION  FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING (b)  FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTE FROM THE MOST RIGID POINT TOWARD THE FREE EDGES (b)  AISC 360-10, TABLE N5.6-3 - INSPECTIONS AFTER BOLTING  DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	EMATICALLY  X  JT METHOD ETENSION	X
3. 1.	FATENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) AR POSITIONED AS REQUIRED  JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION  FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING (b)  FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTE FROM THE MOST RIGID POINT TOWARD THE FREE EDGES (b)  AISC 360-10, TABLE N5.6-3 - INSPECTIONS AFTER BOLTING  DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS  (a) NOT APPLICABLE FOR SNUG TIGHT JOINTS.  (b) FOR PRETENSIONED JOINTS AND SLIP-CRITICAL JOINTS, WHEN THE INSTALLER IS USING THE TURN-OF-NU WITH MATCHMARKING TECHNIQUES, THE DIRECT-TENSION-INDICATOR METHOD, OR THE TWIST-OFF-TYPE	EMATICALLY  X  JT METHOD ETENSION	X

	AISC 360-10, CHAPTER N SPECIAL INSPECTION REQUIRE	EMENTS	
		FREQUENCY O	F INSPECTION
		PERFORM	OBSERVE
	** OBSERVE - OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.		
N5.	7 - OTHER INSPECTION TASKS		
			T
1.	INSPECT THE STEEL TO VERIFY COMPLIANCE WITH THE DETAILS SUCH AS BRACES, STIFFENERS, MEMBER LOCATIONS AND PROPER APPLICATION OF JOINT DETAILS AT EACH CONNECTION	X	
1.	INSPECT THE STEEL TO VERIFY COMPLIANCE WITH THE DETAILS SUCH AS BRACES, STIFFENERS, MEMBER LOCATIONS	X X	
1. 2.	INSPECT THE STEEL TO VERIFY COMPLIANCE WITH THE DETAILS SUCH AS BRACES, STIFFENERS, MEMBER LOCATIONS AND PROPER APPLICATION OF JOINT DETAILS AT EACH CONNECTION  INSPECT THE PLACEMENT OF ANCHOR RODS AND OTHER EMBEDMENTS SUPPORTING STRUCTURAL STEEL FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS. THE DIAMETER, GRADE, TYPE AND LENGTH OF THE ANCHOR ROD OR EMBEDDED ITEM, AND THE EXTENT OR DEPTH OF EMBEDMENT INTO THE CONCRETE, SHALL BE VERIFIED	,	







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## ADDRESS:

BGR2-JV 6 CONCOURSE PARKWAY SUITE 1600 ATLANTA, GA 30328 (707) 569-7038 x101 FAX: (707) 993-5082

PROJECT NO:	1790066
DESIGNED BY:	MIN
DRAWN BY:	JJM
CHECKED BY:	SAA
DATE:	11/22/2019
SCALE:	1/4" = 1'-0"

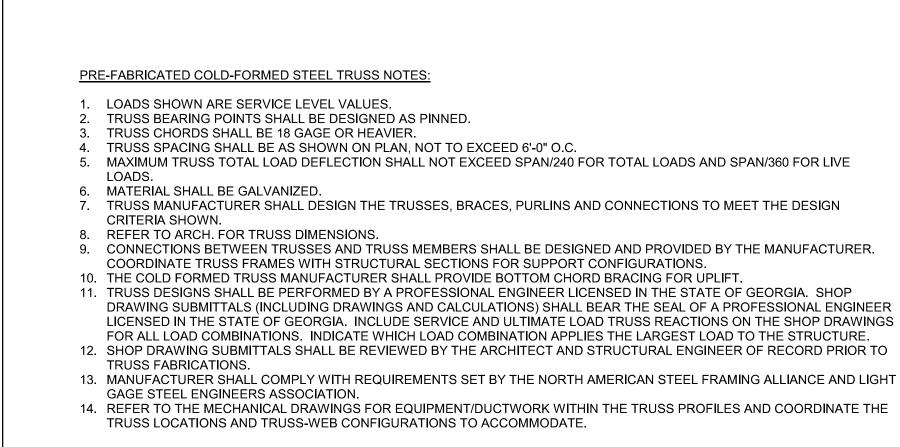
CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT **WATER SUPPLY PROGRAM - Phase 1** 

**RIVER INTAKE PUMP STATION** 

RI-PS

DRAWING NO.

SPECIAL INSPECTIONS



ADDITIONAL 30 PLF RAIN LOAD TYP. AT PERIMETER GUTTERS

<u>LOADS:</u>
MAX. TOP CHORD DEAD LOAD = 18.0 PSF (USE: 5 PSF MIN. IN ADDITION TO SELF WEIGHT FOR UPLIFT CASES)

MAX. BOTTOM CHORD DEAD LOAD = 8.0 PSF (USE: 0 PSF MIN. IN ADDITION TO SELF WEIGHT FOR UPLIFT CASES)

ROOF LIVE LOAD= 20.0 PSF SNOW LOAD = 5.5 PSF

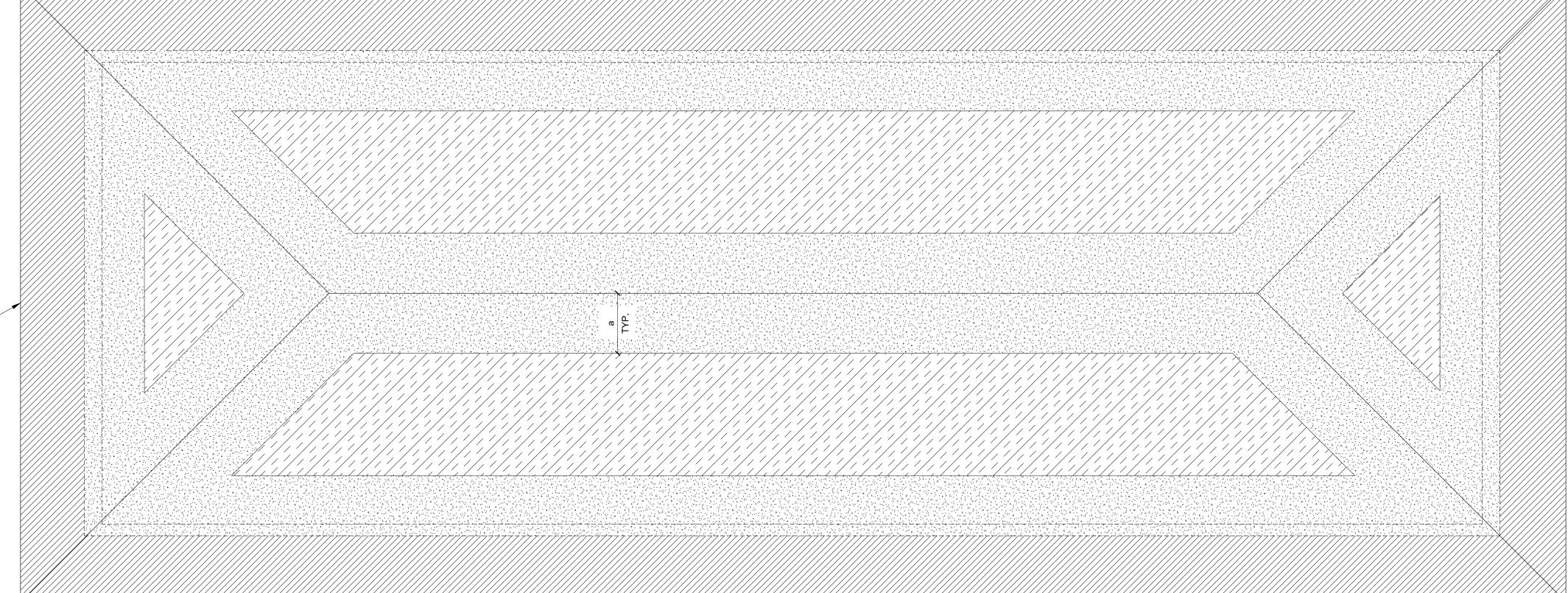
ZONE 1 (200 SF AREA), ASD = 16.6 PSF ZONE 1 (50 SF AREA), ASD = 17.6 PSF

ZONE 2&3 (200 SF AREA), ASD = 16.6 PSF

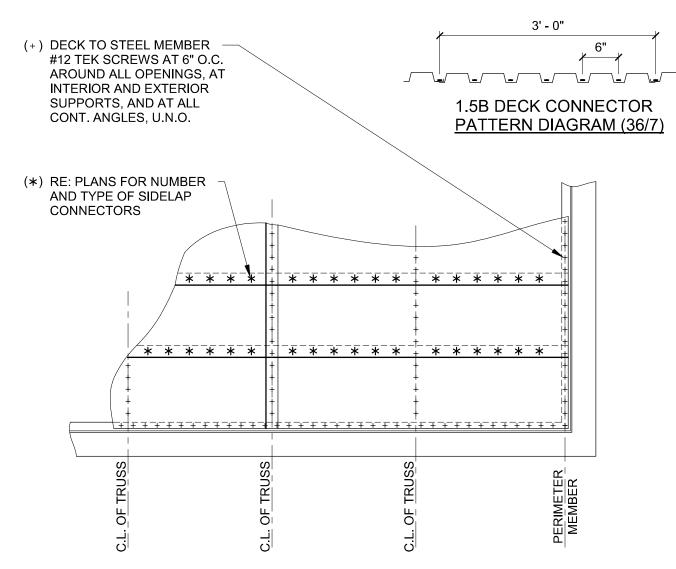
20.0 PSF UPLIFT ZONE 2&3 (50 SF AREA), ASD = 21.0 PSF UPLIFT

OVERHANG UPLIFT, ASD =

3.4 FT



# 5 PREFABRICATED COLD FORMED TRUSS LOADING DIAGRAMS



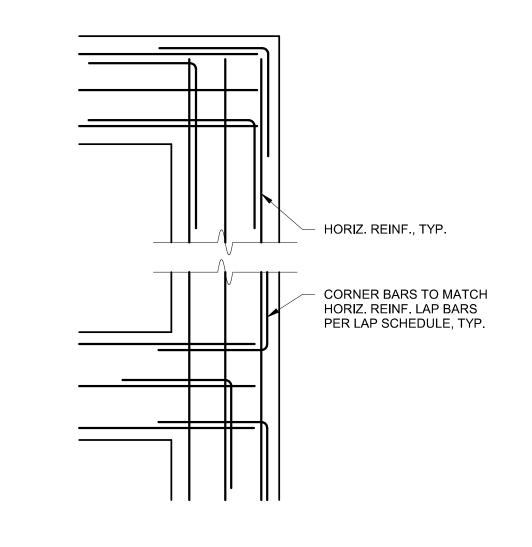
2012 IBC CONCRETE REINFORCING LAP SCHEDULE				
BAR	LAP LENGTH (fo	c=3000psi)		
SIZE	TOP BARS (NOTE 1)	OTHER		
#3	28"	22"		
#4	38"	29"		
#5	47"	36"		
#6	56"	43"		
#7	81"	63"		
#8	93"	72"		
#9	105"	81"		
#10	118"	91"		

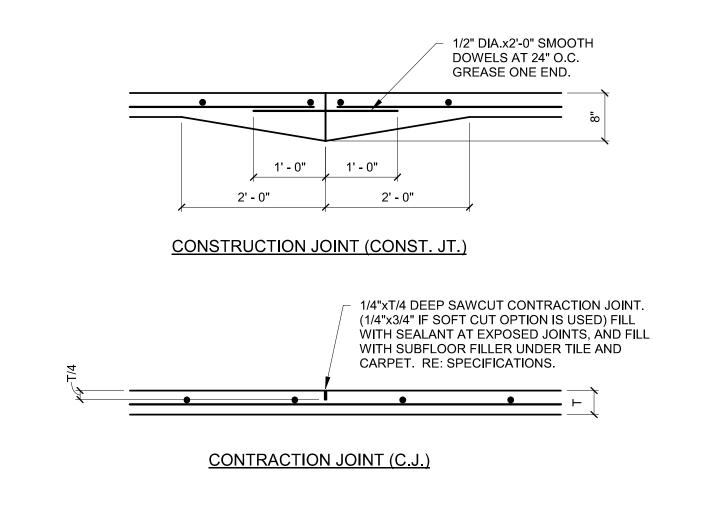
TES "TOP BARS" IS WHERE HORIZONTAL REINFORCEMENT IS PLACED SUCH THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST BELOW
FRESH CONCRETE IS CAST BELOW
THE OF LIOE.

2012 IBC CONCRETE REINFORCING LAP SCHEDULE					
BAR	LAP LENGTH (fo	c=5000psi)			
SIZE	TOP BARS (NOTE 1)	OTHER			
#3	22"	17"			
#4	29"	23"			
#5	36"	28"			
#6	44"	34"			
#7	63"	49"			
#8	72"	56"			
#9	81"	63"			
#10	92"	71"			

NOTES

1. "TOP BARS" IS WHERE HORIZONTAL REINFORCEMENT IS PLACED SUCH THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST BELOW THE SPLICE.





4 ROOF DECK DIAPHRAGM CONNECTION DIAGRAM

3/4" = 1'-0"

3 CONCRETE REINFORCING LAP SCHEDULE

2 CORNER BAR DETAIL

3/4" = 1'-0"

ADDRESS:

1 SLAB JOINT DETAILS



wallace
ace Engineering tural Consultants, Inc.
tural and Civil Consultants West Marietta Street NW Suite G

Atlanta, Georgia 30318

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BGR2-JV
6 CONCOURSE PARKWAY
SUITE 1600
ATLANTA, GA 30328
(707) 569-7038 x101
FAX: (707) 993-5082

PROJECT NO:	1790066
DESIGNED BY:	MIN
DRAWN BY:	JJM
CHECKED BY:	SAA
DATE:	11/22/2019
SCALE:	As indicated

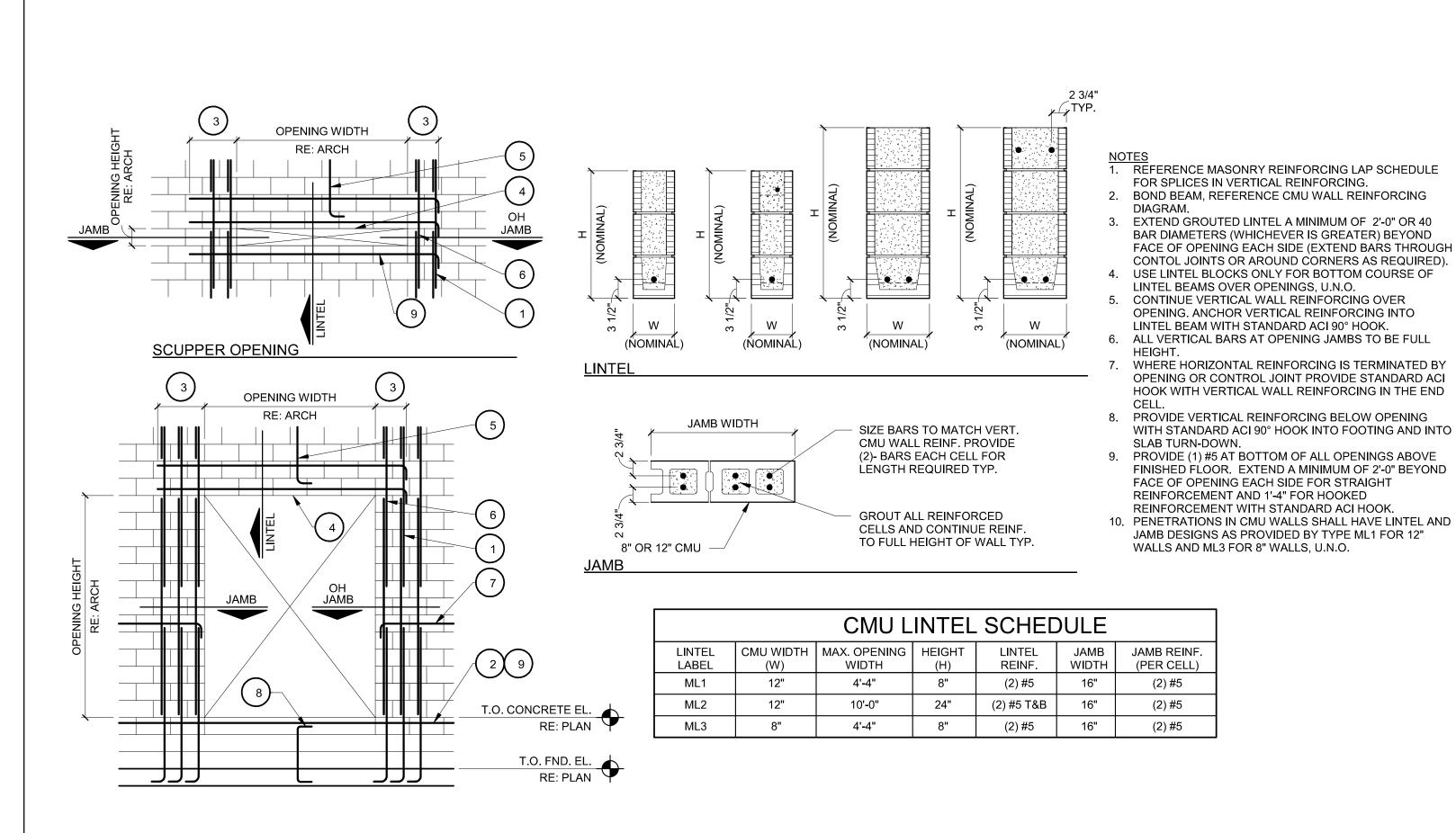
CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT **WATER SUPPLY PROGRAM - Phase 1 RIVER INTAKE PUMP STATION** 

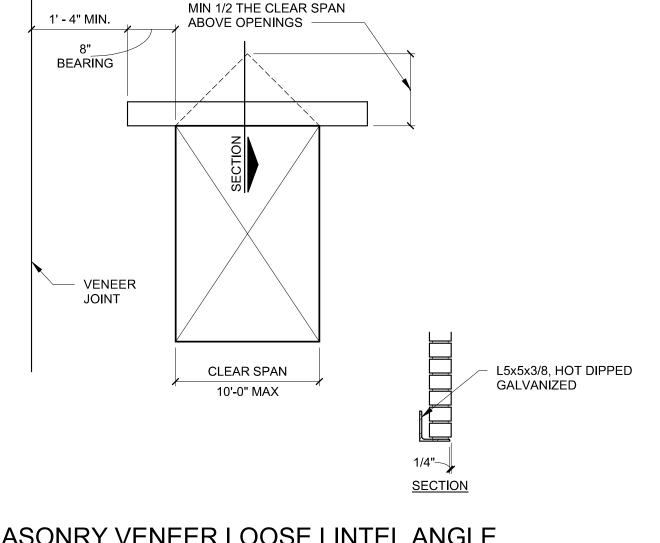
TYPICAL DETAILS

DRAWING NO. **RI-PS S-004** SHEET OF

THE SIZE AND LOCATION OF PENETRATIONS THROUGH MASONRY WALLS NOT INDICATED ON THE STRUCTURAL CONTRACT DOCUMENTS FOR MECHANICAL, ELECTRICAL, PLUMBING, AND OTHER MISC. WORK SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO INITIATION OF WORK. PENETRATIONS SHALL NOT BE INSTALLED WITHOUT WRITTEN APPROVAL BY THE ENGINEER-OF-RECORD. DO NOT CUT BOND BEAMS WITHOUT WRITTEN APPROVAL APPROVAL BY THE ENGINEER-OF-RECORD

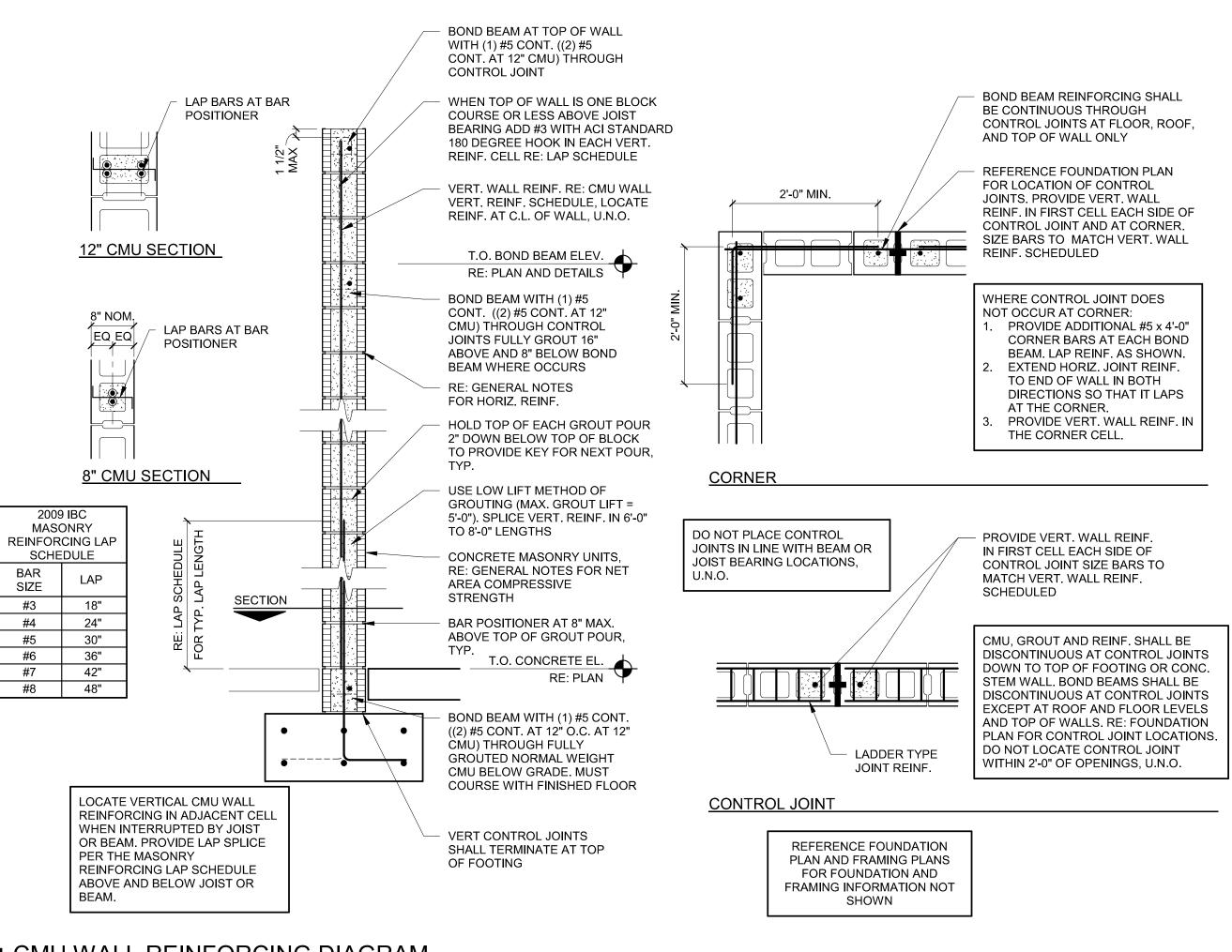
THE SIZE AND LOCATION OF EMBEDDED ITEMS, INCLUDING ELECTRICAL BOXES, IN MASONRY WALLS FOR MECHANICAL, ELECTRICAL, PLUMBING, AND OTHER MISC. WORK SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO INITIATION OF WORK. EMBEDDED ITEMS SHALL NOT BE INSTALLED WITHOUT WRITTEN APPROVAL BY THE ENGINEER-OF-RECORD.





VENEER SHALL EXTEND





1 CMU WALL REINFORCING DIAGRAM

3/4" = 1'-0"

ADDRESS:

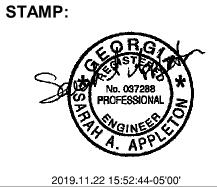
2 TYPICAL MASONRY WALL OPENING DIAGRAM AND SCHEDULE
3/4" = 1'-0"



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BGR2-JV **6 CONCOURSE PARKWAY** SUITE 1600 ATLANTA, GA 30328 (707) 569-7038 x101 FAX: (707) 993-5082

**PROJECT NO:** 1790066 **DESIGNED BY:** JJM **DRAWN BY: CHECKED BY:** SAA DATE: 11/22/2019 3/4" = 1'-0" SCALE:

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT **WATER SUPPLY PROGRAM - Phase 1** 

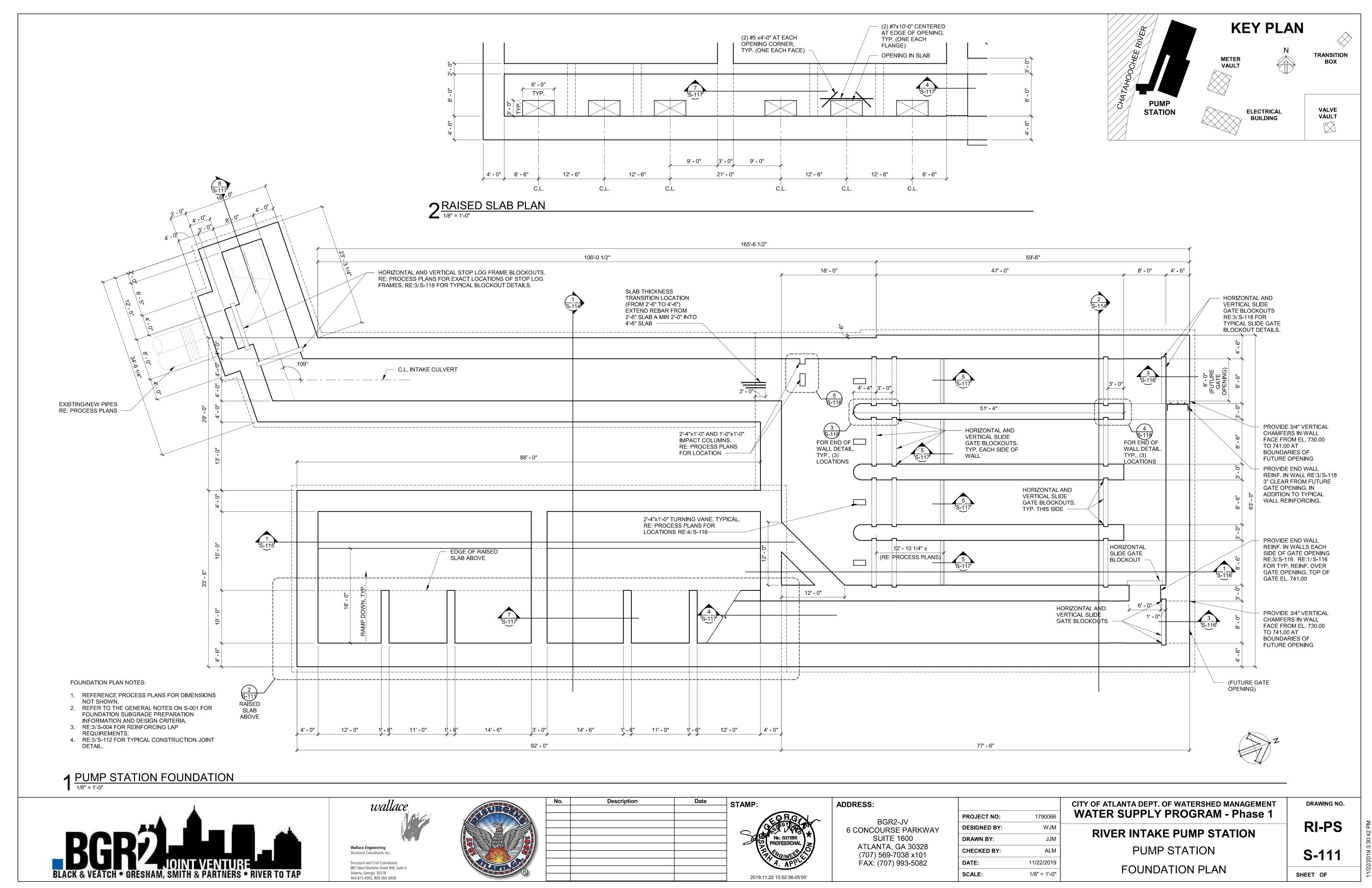
**RIVER INTAKE PUMP STATION** 

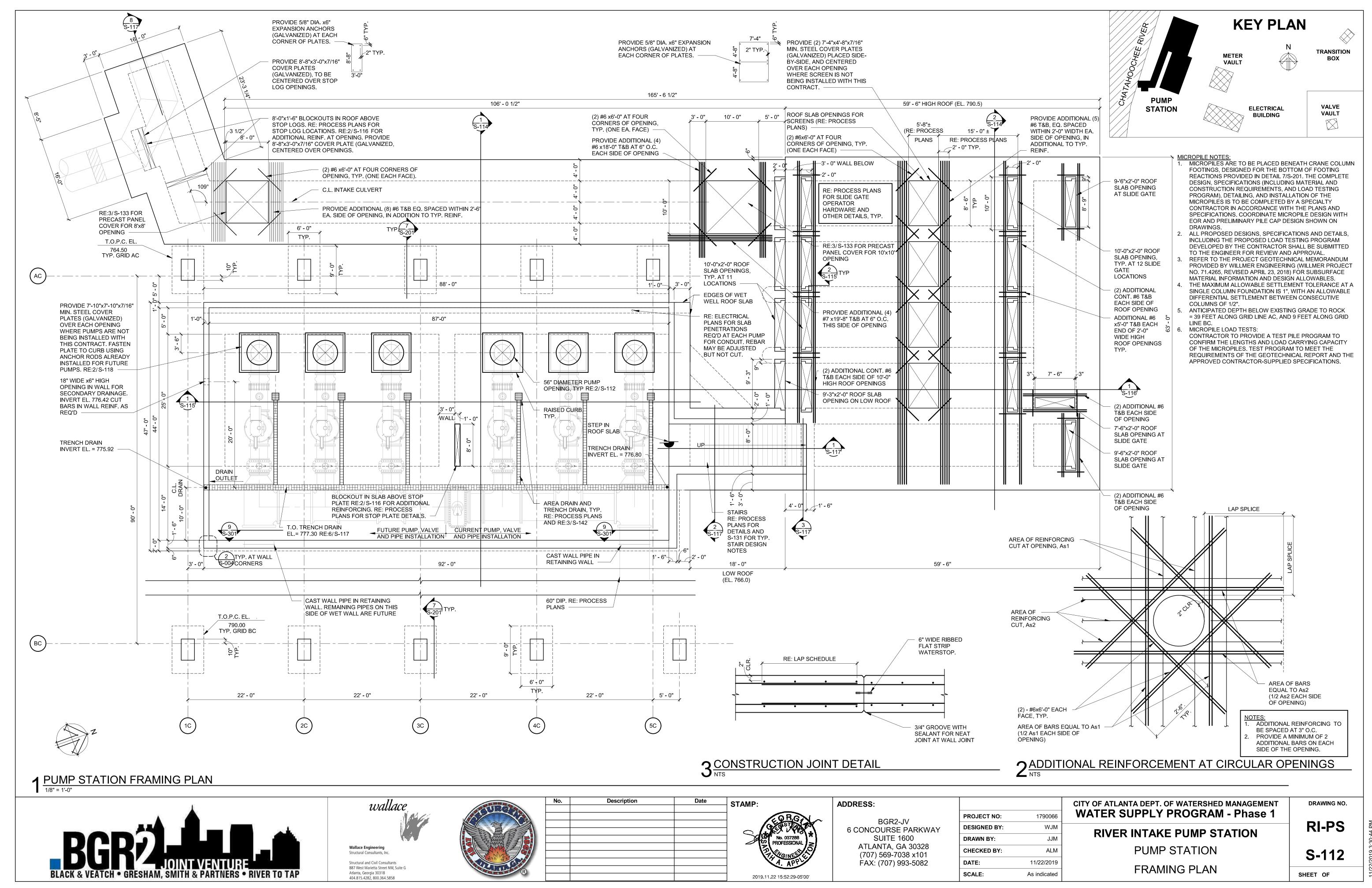
TYPICAL DETAILS SHEET OF

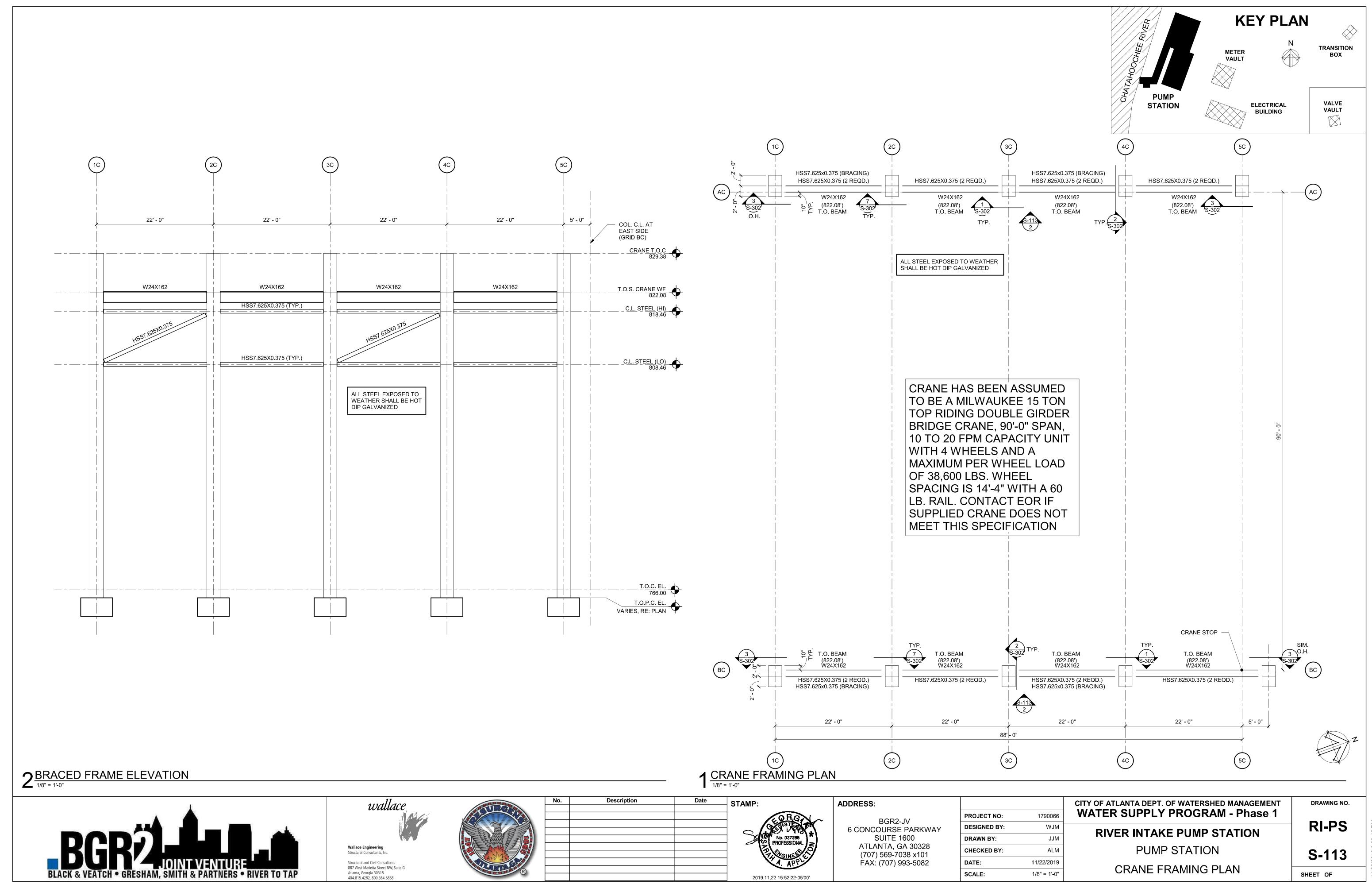
**RI-PS** S-005

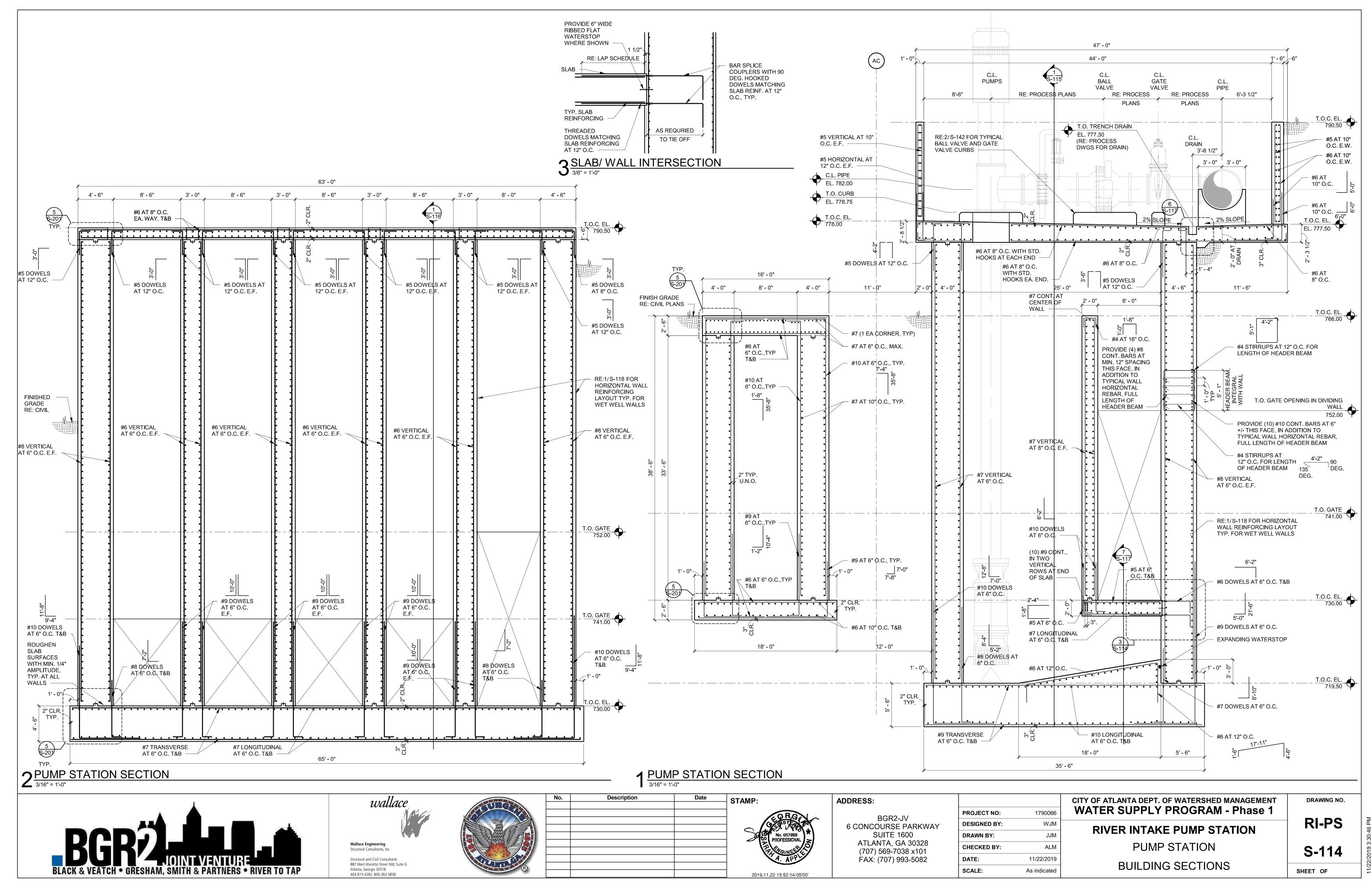
DRAWING NO.

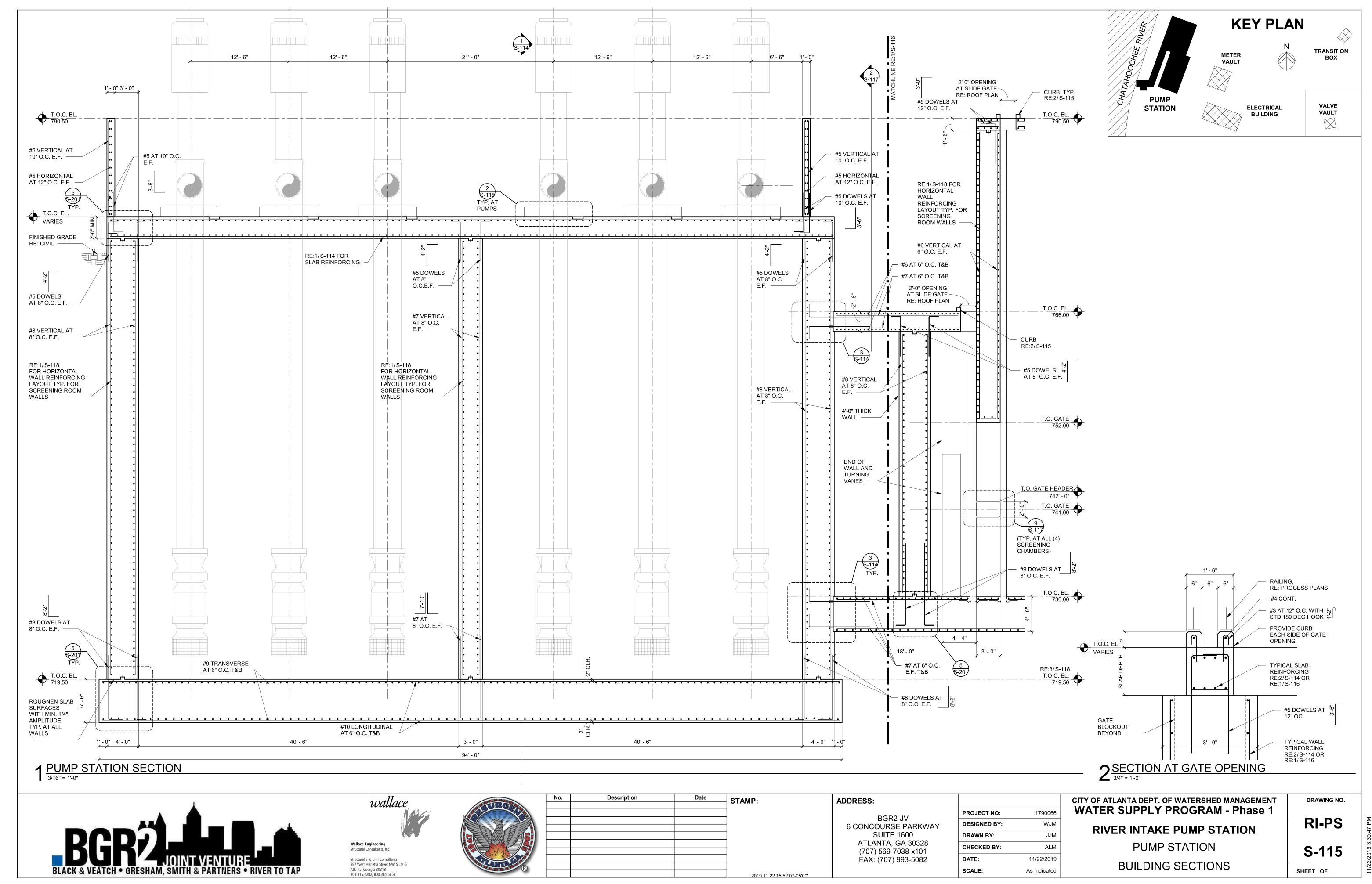
**ISSUED FOR BIDDING** 

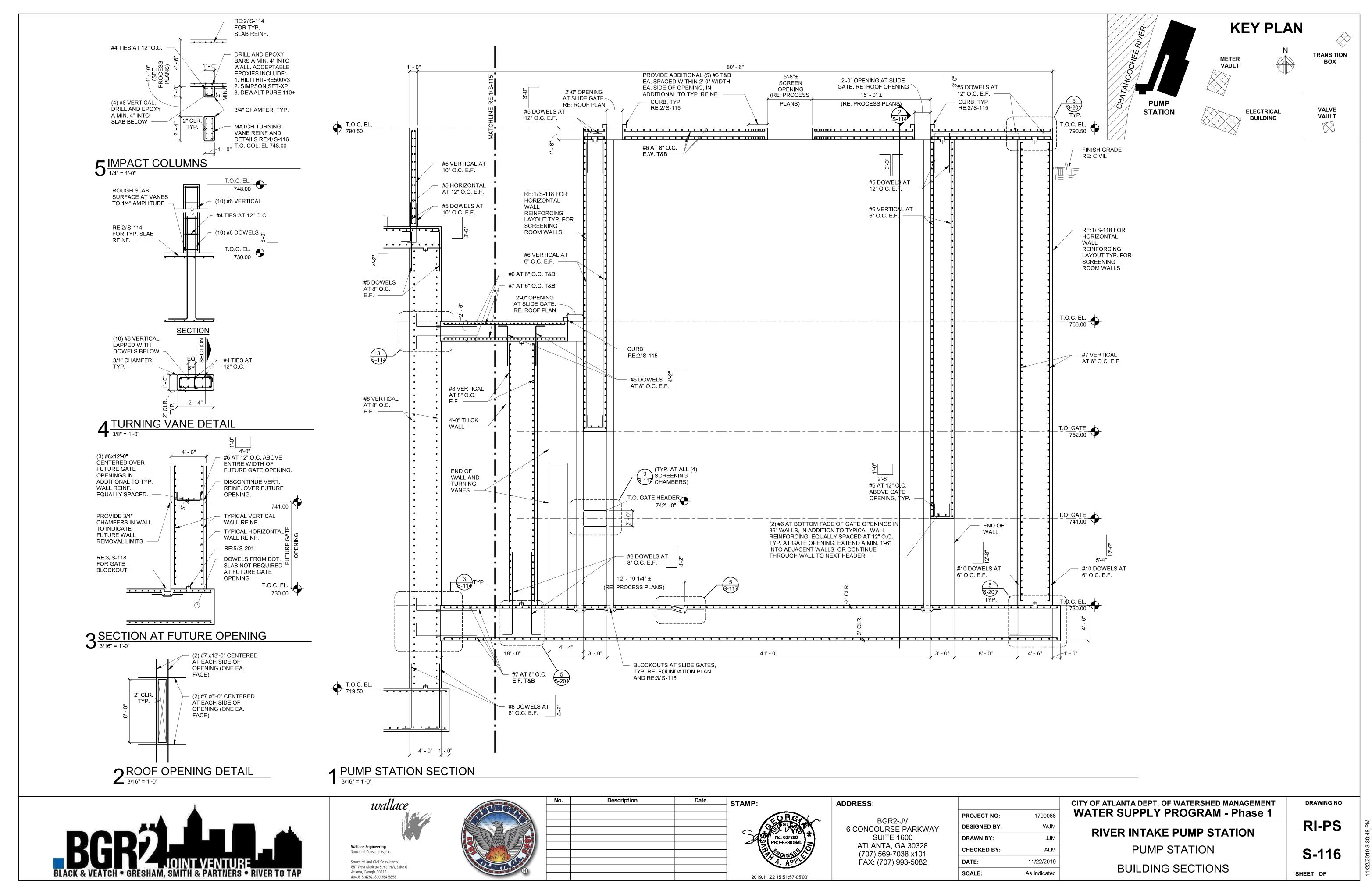


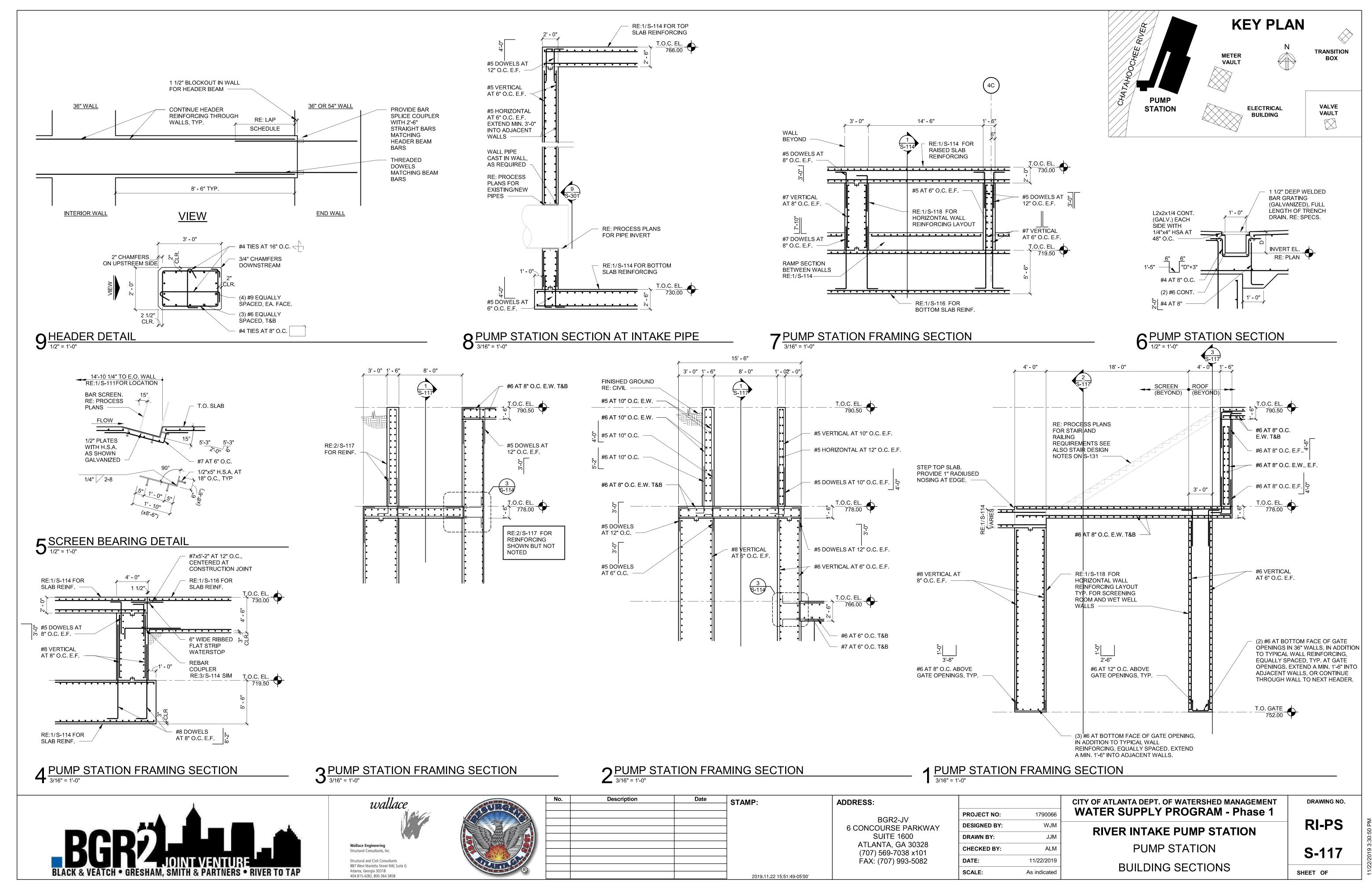


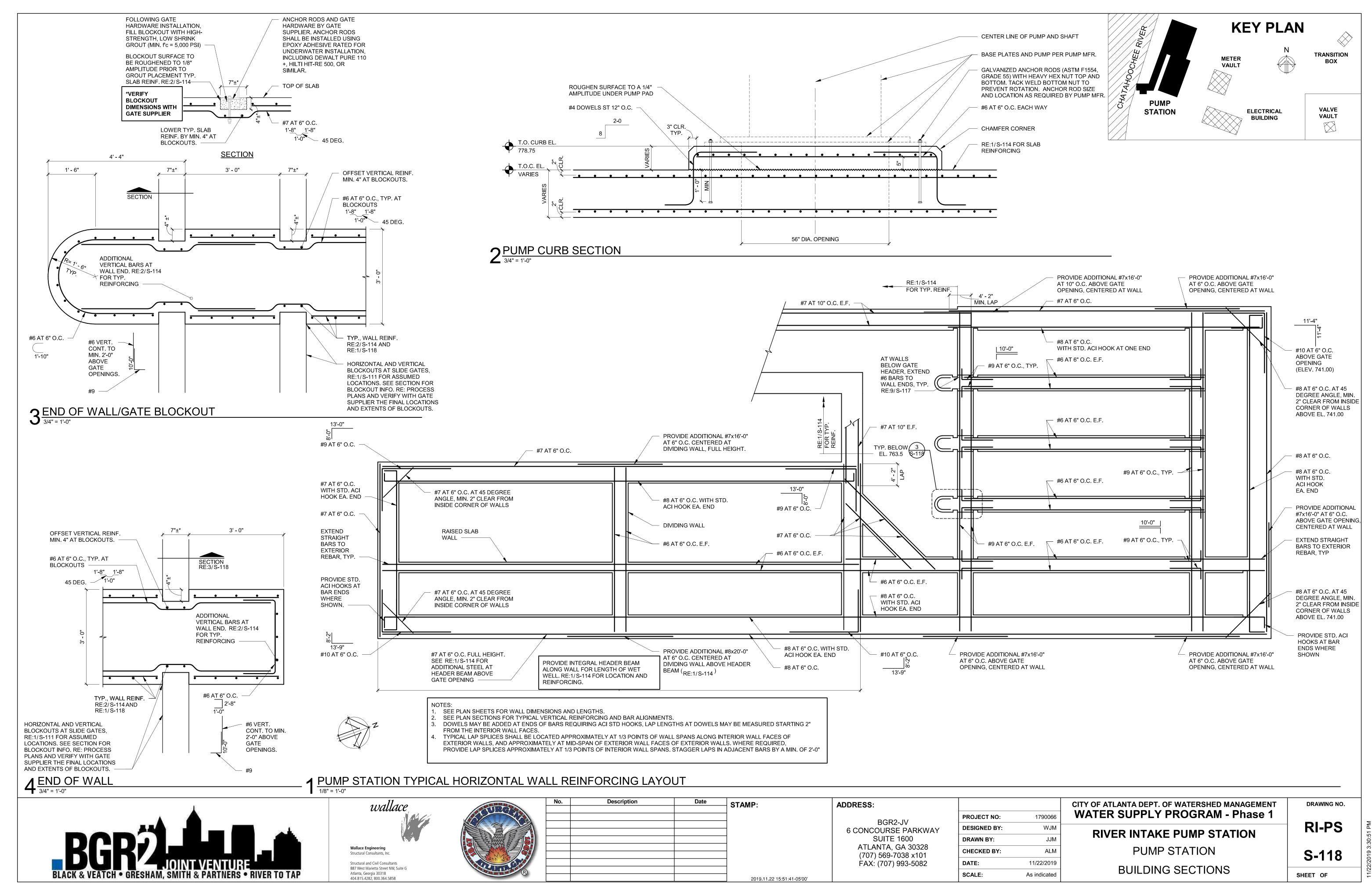


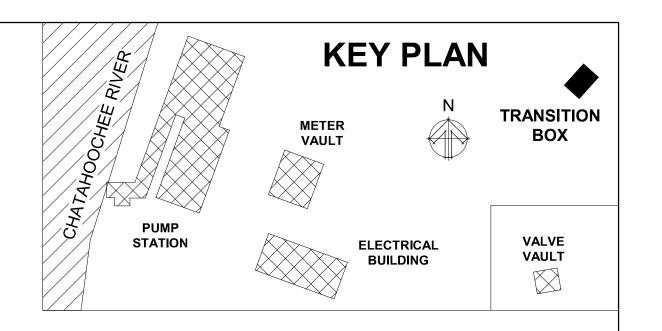


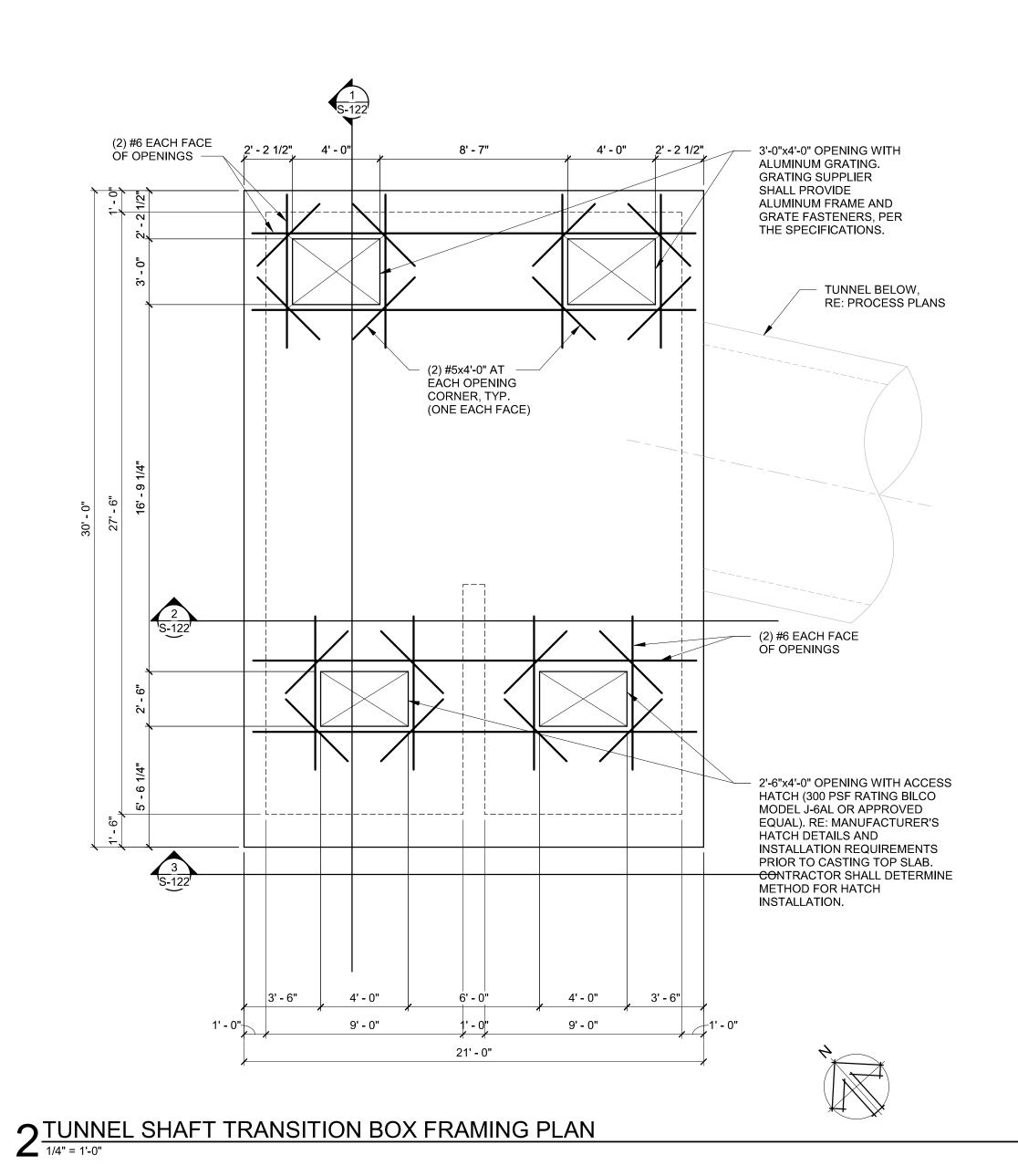


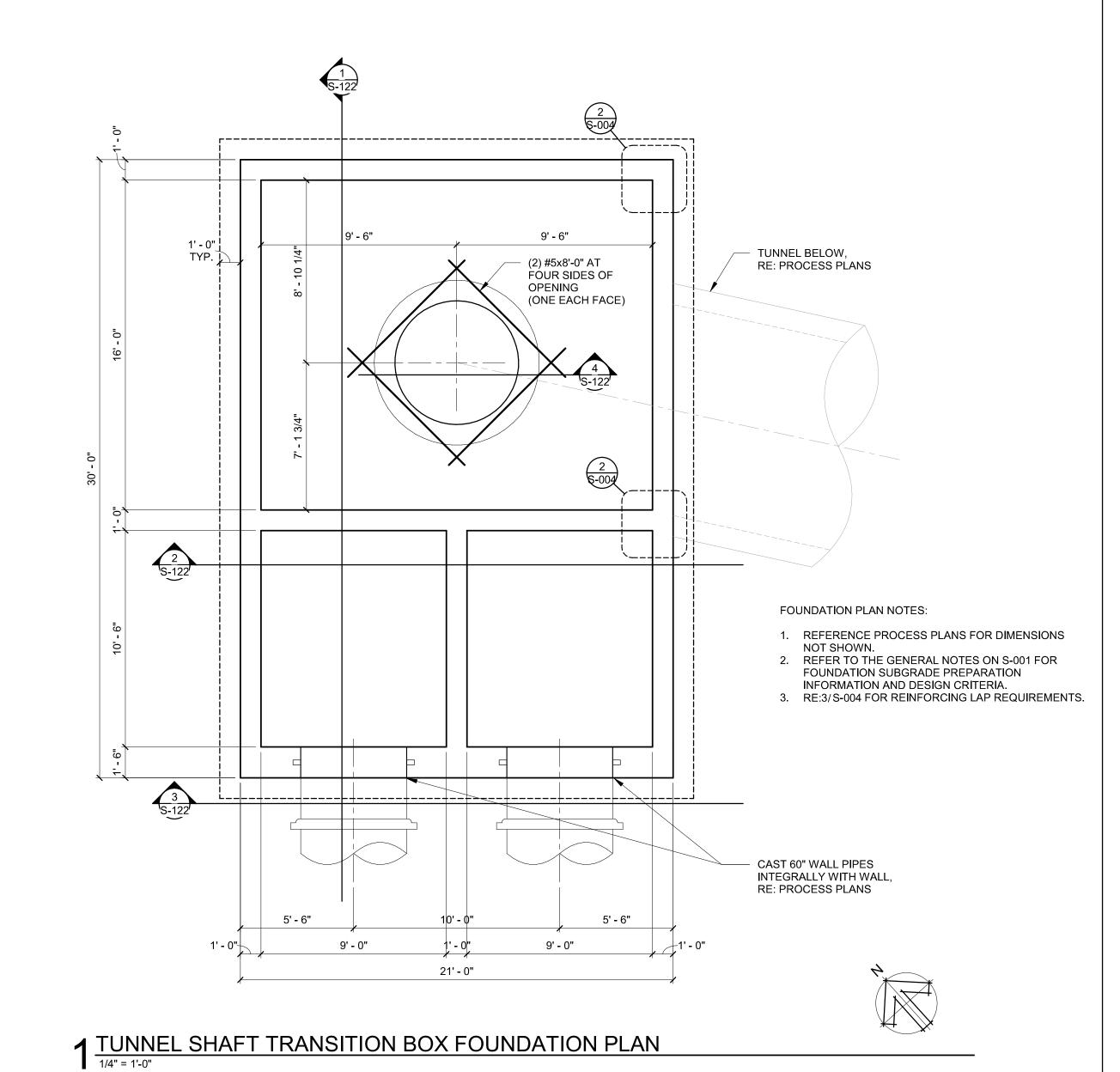


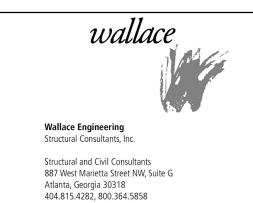






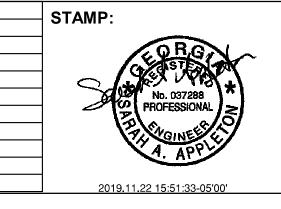








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ADDRESS: BGR2-JV 6 CONCOURSE PARKWAY SUITE 1600 ATLANTA, GA 30328 (707) 569-7038 x101 FAX: (707) 993-5082

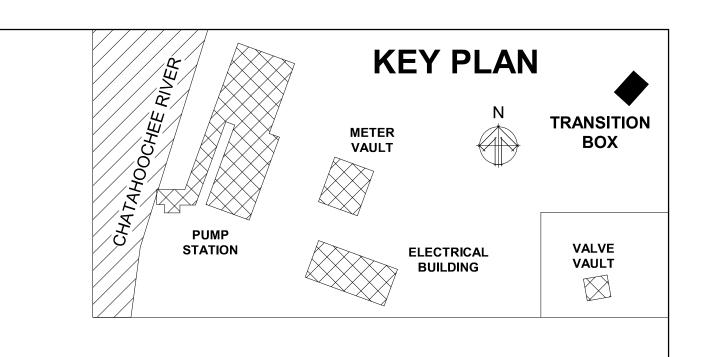
PROJECT NO: 1790066 **DESIGNED BY:** ALM DRAWN BY: LRA **CHECKED BY:** WJM DATE: 11/22/2019 SCALE: 1/4" = 1'-0"

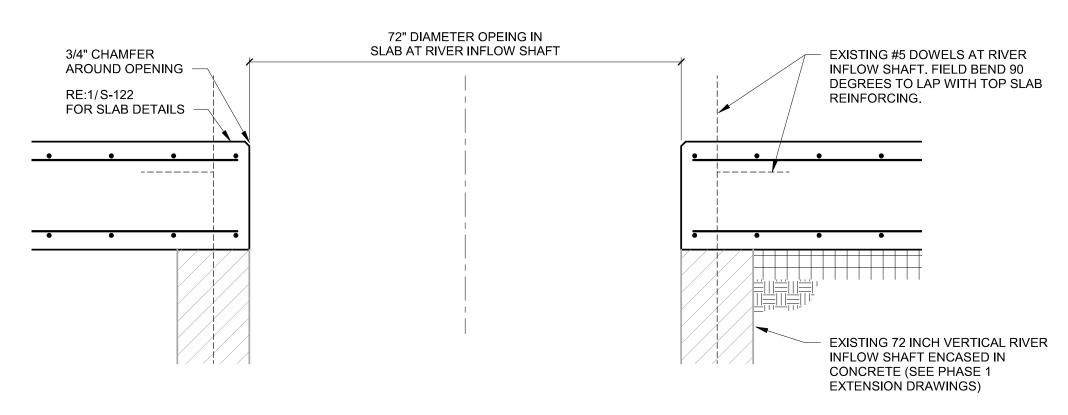
CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT **WATER SUPPLY PROGRAM - Phase 1** 

RIVER INTAKE PUMP STATION TUNNEL SHAFT TRANSITION BOX FOUNDATION AND FRAMING PLANS

DRAWING NO. RI-PS

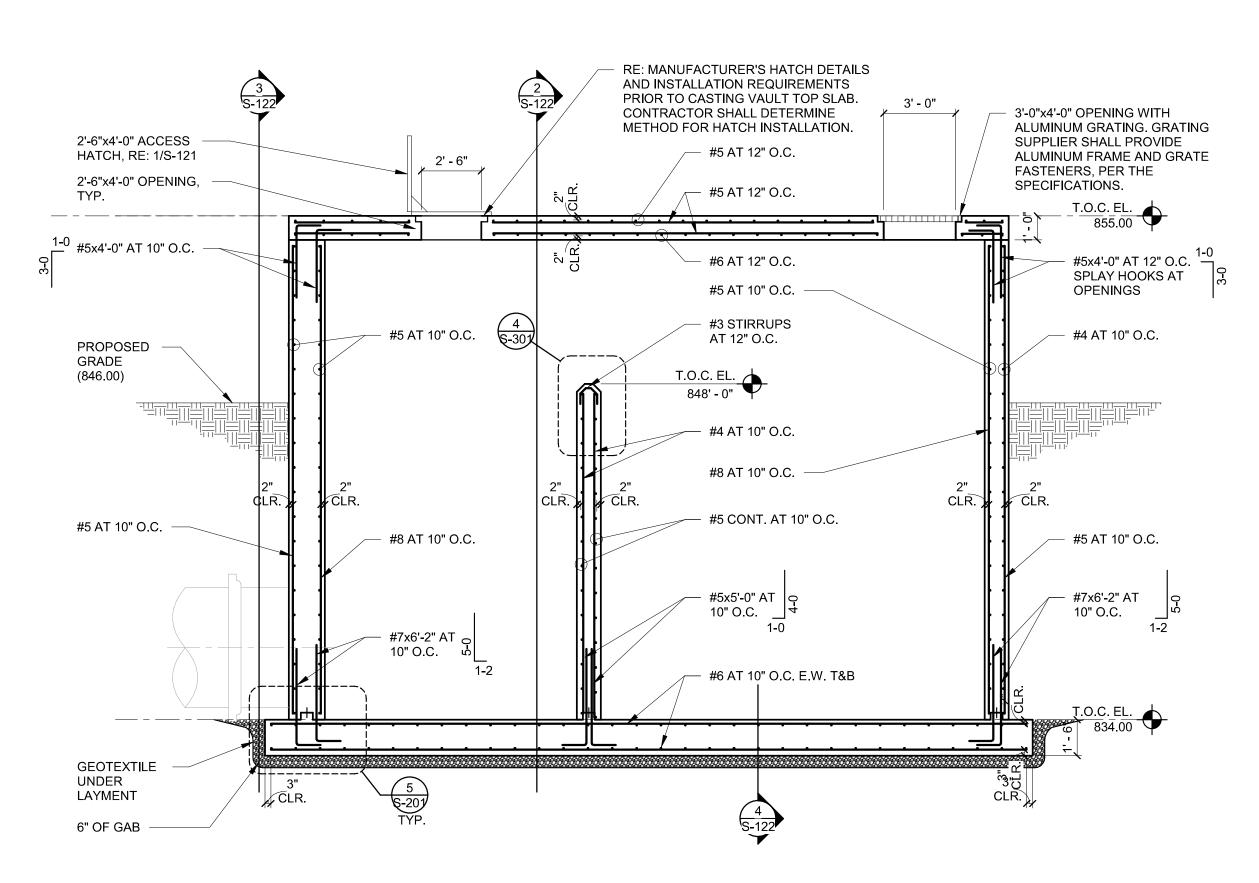
S-121 SHEET OF

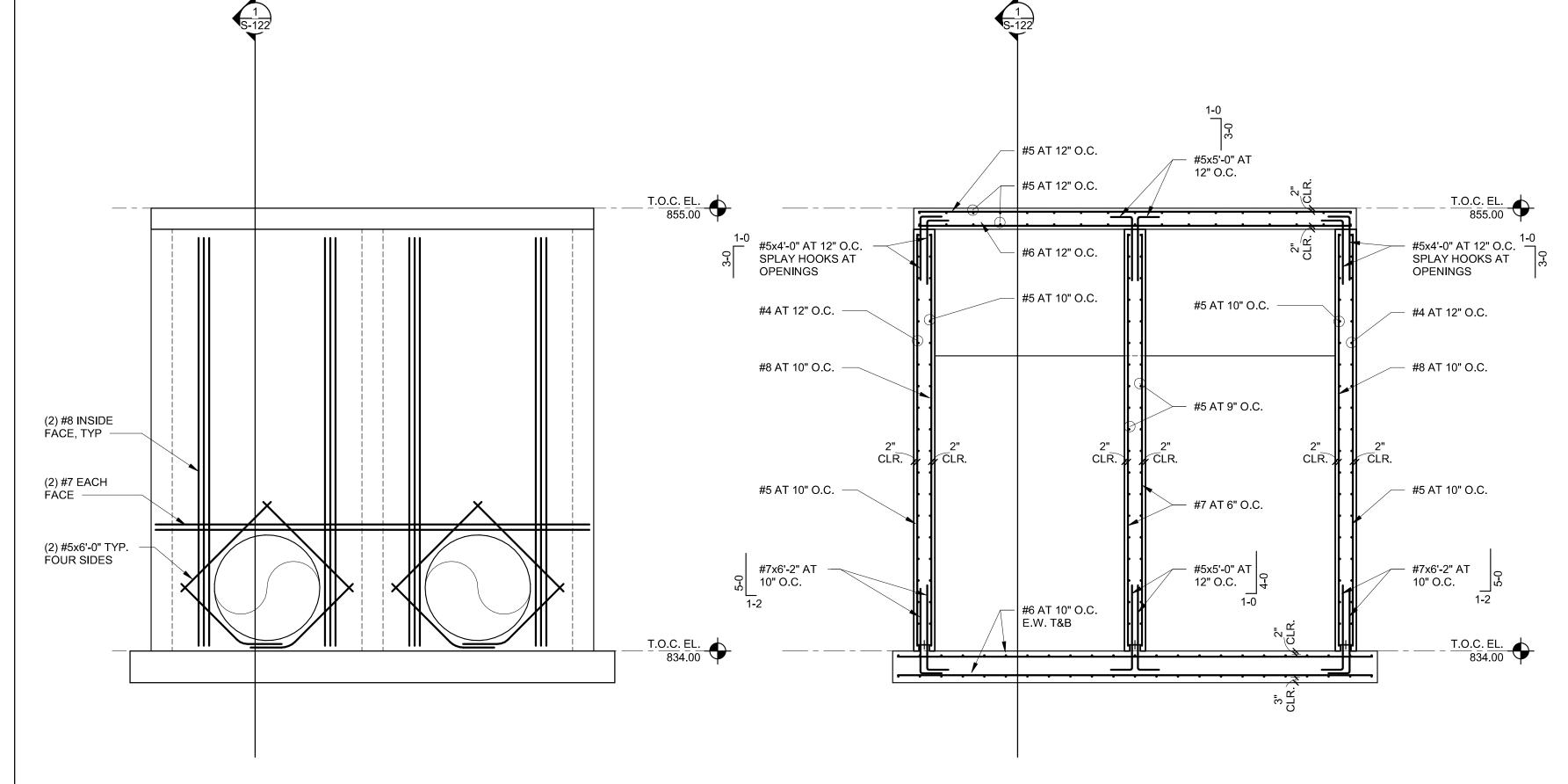




4 SECTION AT TUNNEL SHAFT

3/4" = 1'-0"





3 TRANSITION BOX WALL ELEVATION

2 TRANSITION BOX SECTION

1/4" = 1'-0"

1 TUNNEL SHAFT TRANSITION BOX SECTION

1/4" = 1'-0"



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Wallace Engineering Structural Consultants, Inc.	
Structural and Civil Consultants 887 West Marietta Street NW, Suite G Atlanta, Georgia 30318 404.815.4282, 800.364.5858	

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ADDRESS:
BGR2-JV 6 CONCOURSE PARKWAY SUITE 1600 ATLANTA, GA 30328 (707) 569-7038 x101 FAX: (707) 993-5082

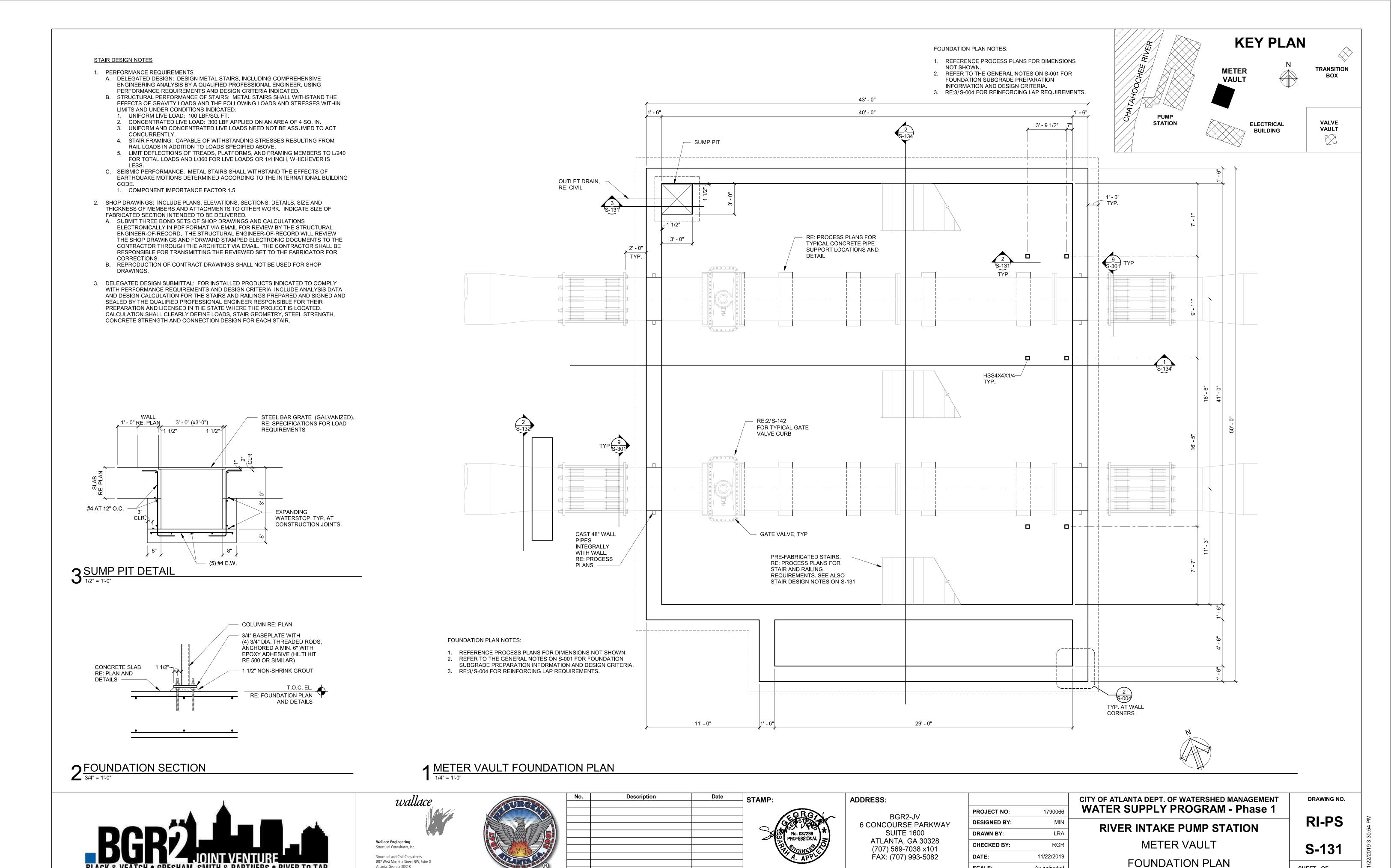
PROJECT NO:	1790066	
DESIGNED BY:	ALM	
DRAWN BY:	LRA	
CHECKED BY:	RGR	
DATE:	11/22/2019	
SCALE:	As indicated	

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT WATER SUPPLY PROGRAM - Phase 1

RIVER INTAKE PUMP STATION

RIVER INTAKE PUMP STATION
TUNNEL SHAFT TRANSITION BOX
BUILDING SECTIONS

RI-PS
S-122
SHEET OF



887 West Marietta Street NW, Suite G Atlanta, Georgia 30318

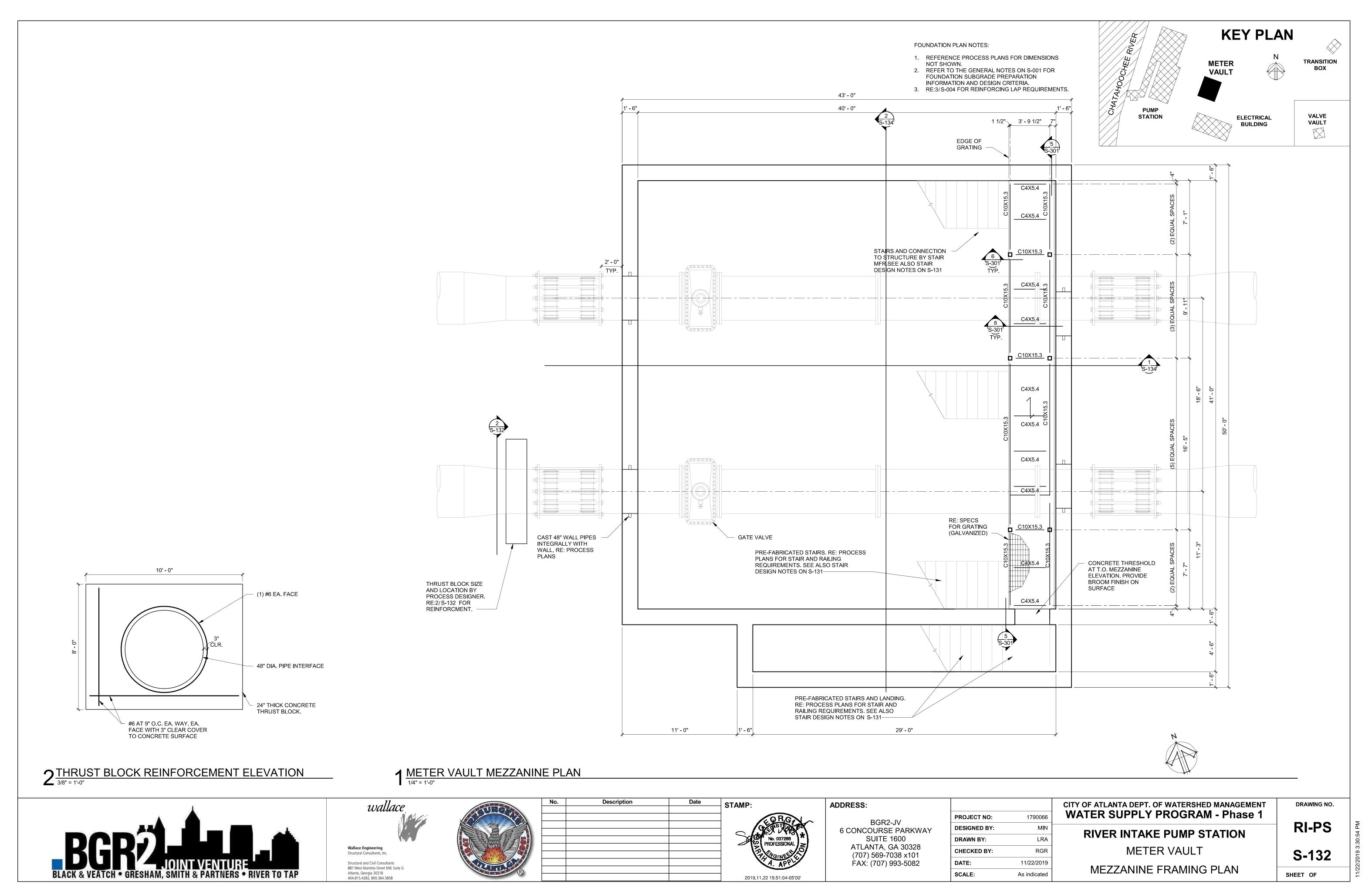
404.815.4282, 800.364.5858

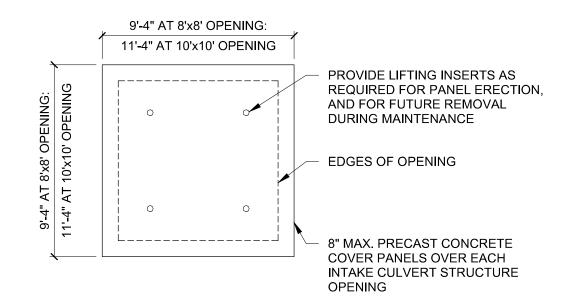
**ISSUED FOR BIDDING** 

SHEET OF

SCALE:

As indicated

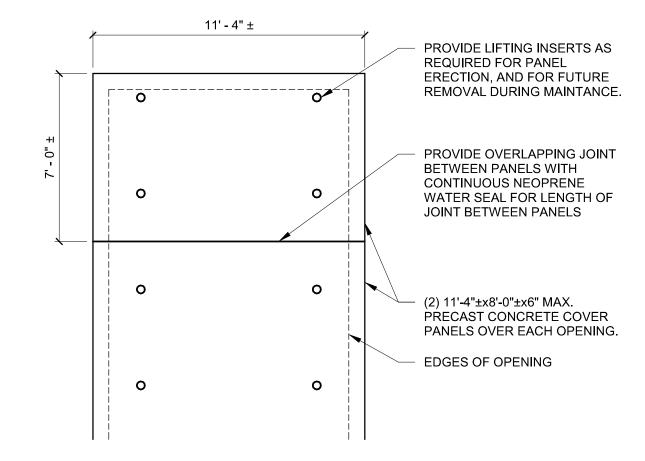




- PRECAST CONCRETE PANEL NOTES:

  1. REFER TO SPECIFICATION SECTION 03420 STRUCTURAL PRECAST CONCRETE
- FOR PANEL FABRICATION REQUIREMENTS. 2. PANELS SHALL BE DESIGNED TO ACCOMMODATE A MINIMUM 100 PSF OUT-OF-
- PLANE LIVE LOAD AND 450 PSF OUT-OF-PLANE FLUID LOAD (FROM FLOOD EVENT) ON THE SURFACE OF THE INSTALLED PANEL, THE PANEL SELF WEIGHT, AND ANTICIPATED LIFTING LOADS AT ERECTION AND FOR FUTURE MAINTENANCE.
- 3. THE PRECAST PANEL SUPPLIER SHALL PROVIDE A CONTINUOUS ELASTOMERIC BEARING PAD TO BEAR THE PANELS ON THE CONCRETE CURB INDICATED IN THE PLANS. THE WIDTH, THICKNESS, AND HARDNESS OF THE PAD SHALL BE SPECIFIED BY THE PANEL SUPPLIER. THE ELASTOMERIC PAD SHALL BE INSTALLED TO ADHERE TO THE TOP OF CURB WITH AN ADHESIVE PRODUCT
- SPECIFIED BY THE PRECAST PANEL SUPPLIER. 4. AN OVERLAPPING JOINT WITH ELASOMERIC MATERIAL PROVIDING A WATERTIGHT SEAL BETWEEN THE PANELS SHALL BE PROVIDED BY THE PANEL SUPPLIER. THE JOINT MATERIAL SHALL BE FASTENED TO ONE PANEL AS SPECIFIED BY THE
- 5. PANEL LIFTING INSERTS SHALL BE PROVIDED AT EACH CORNER OF EACH PANEL, AS REQUIRED FOR PANEL INSTALLATION AND FOR FUTURE MAINTENANCE ACTIVITIES. VERIFY INSERT REQUIREMENTS WITH THE OWNER FOR COMPATIBILITY WITH AVAILABLE MAINTENANCE LIFTING EQUIPMENT.

## ? PRECAST COVERS AT INTAKE CULVERT



## PRECAST CONCRETE PANEL NOTES

- I. REFER TO SPECIFICATION SECTION 03420 STRUCTURAL PRECAST CONCRETE
- FOR PANEL FABRICATION REQUIREMENTS. 2. PANELS SHALL BE DESIGNED TO ACCOMMODATE A MINIMUM 100 PSF OUT-OF-

2 PRECAST COVER AT VAULT OPENING

1/4" = 1'-0"

- PLANE LIVE LOAD ON THE SURFACE OF THE INSTALLED PANEL, THE PANEL SELF WEIGHT, AND ANTICIPATED LIFTING LOADS AT ERECTION AND FOR FUTURE
- 3. THE PRECAST PANEL SUPPLIER SHALL PROVIDE A CONTINUOUS ELASTOMERIC BEARING PAD TO BEAR THE PANELS ON THE CONCRETE CURB INDICATED IN THE PLANS. THE WIDTH, THICKNESS, AND HARDNESS OF THE PAD SHALL BE SPECIFIED BY THE PANEL SUPPLIER. THE ELASTOMERIC PAD SHALL BE INSTALLED TO ADHERE TO THE TOP OF CURB WITH AN ADHESIVE PRODUCT SPECIFIED BY THE PRECAST PANEL SUPPLIER.
- 4. AN OVERLAPPING JOINT WITH ELASOMERIC MATERIAL PROVIDING A WATERTIGHT SEAL BETWEEN THE PANELS SHALL BE PROVIDED BY THE PANEL SUPPLIER. THE JOINT MATERIAL SHALL BE FASTENED TO ONE PANEL AS SPECIFIED BY THE
- 5. PANEL LIFTING INSERTS SHALL BE PROVIDED AT EACH CORNER OF EACH PANEL, AS REQUIRED FOR PANEL INSTALLATION AND FOR FUTURE MAINTENANCE ACTIVITIES. VERIFY INSERT REQUIREMENTS WITH THE OWNER FOR COMPATIBILITY WITH AVAILABLE MAINTENANCE LIFTING EQUIPMENT.

# 1 METER VAULT ROOF FRAMING PLAN 1/4" = 1'-0"





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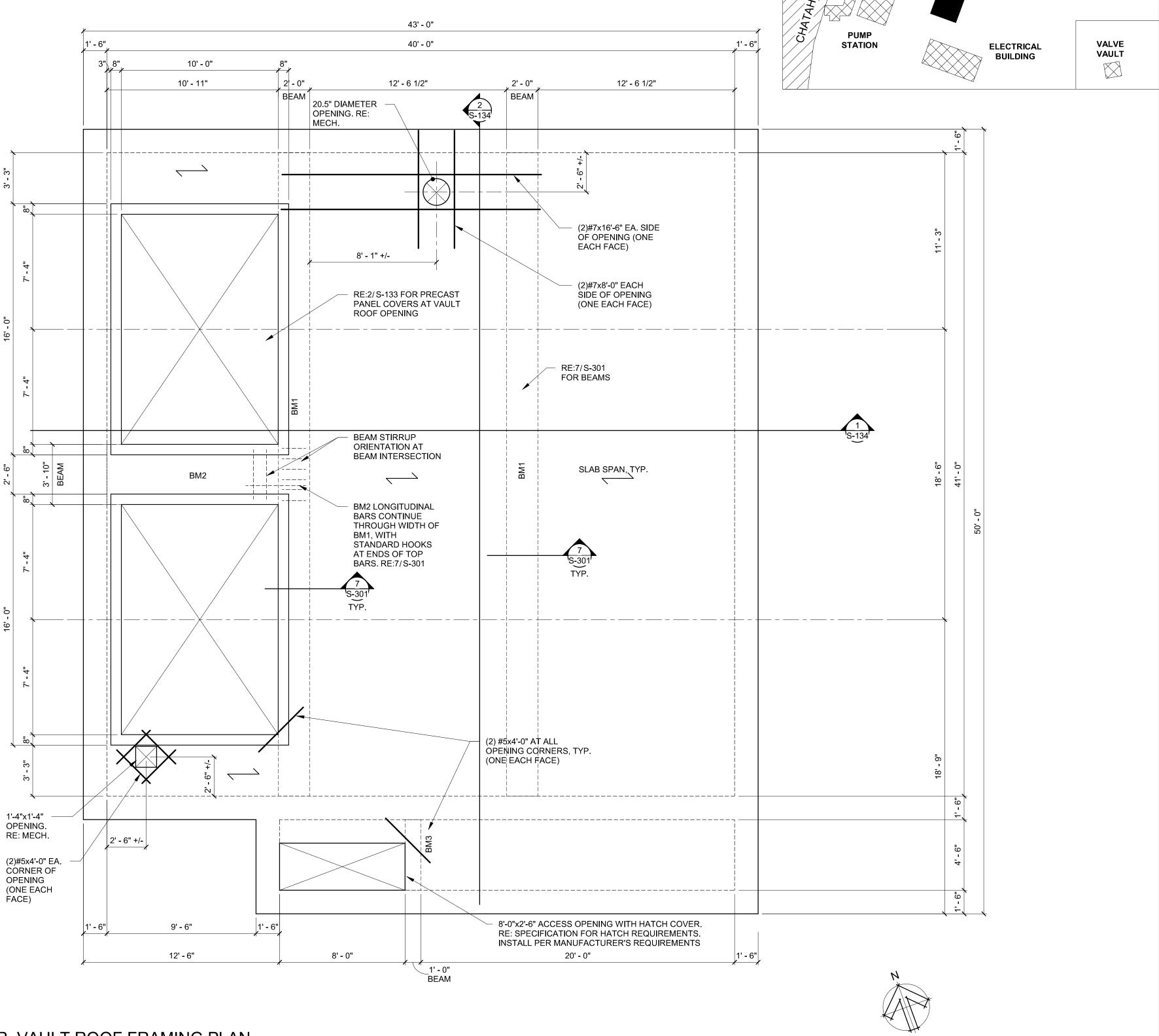
## ADDRESS: BGR2-JV 6 CONCOURSE PARKWAY SUITE 1600 ATLANTA, GA 30328 (707) 569-7038 x101

PROJECT NO:	1790066	
DESIGNED BY:	MIN	
DRAWN BY:	LRA	
CHECKED BY:	RGR	
DATE:	11/22/2019	
SCALE:	1/4" = 1'-0"	

## CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT **WATER SUPPLY PROGRAM - Phase 1**

**RIVER INTAKE PUMP STATION METER VAULT** 

DRAWING NO. RI-PS S-133



FOUNDATION PLAN NOTES:

NOT SHOWN.

1. REFERENCE PROCESS PLANS FOR DIMENSIONS

2. REFER TO THE GENERAL NOTES ON S-001 FOR

3. RE:3/S-004 FOR REINFORCING LAP REQUIREMENTS.

FOUNDATION SUBGRADE PREPARATION

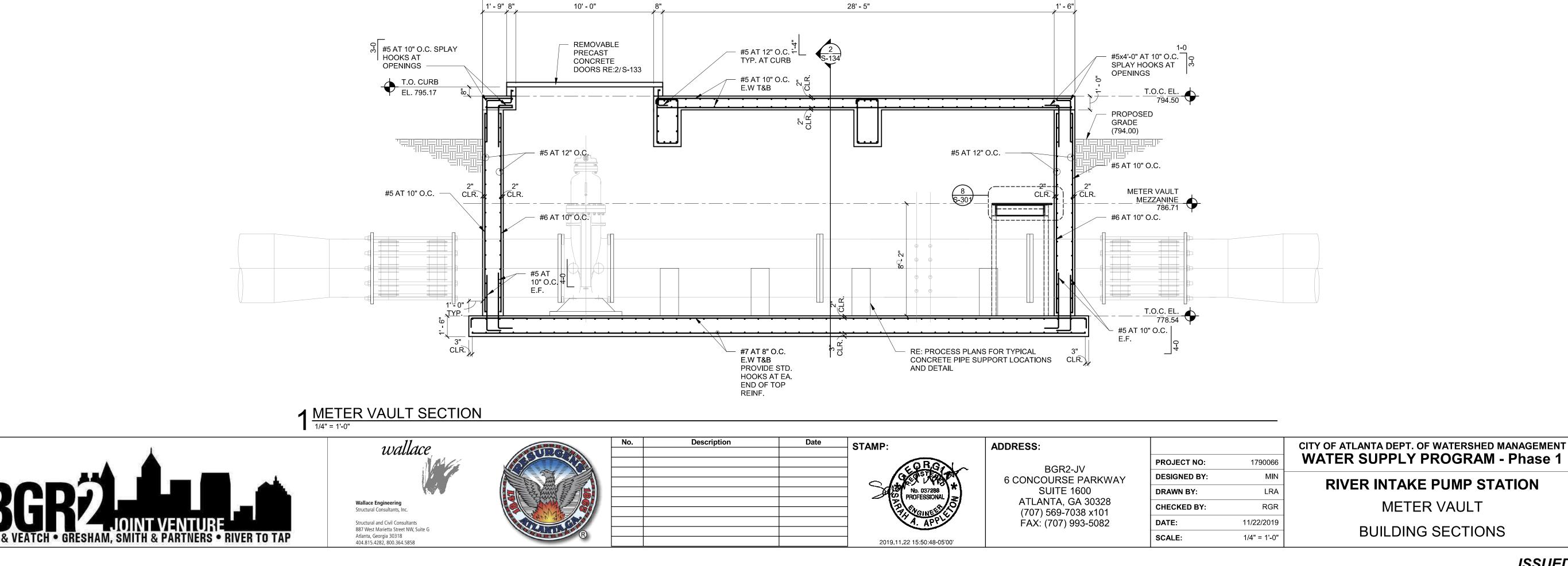
INFORMATION AND DESIGN CRITERIA.

**KEY PLAN** 

**METER** 

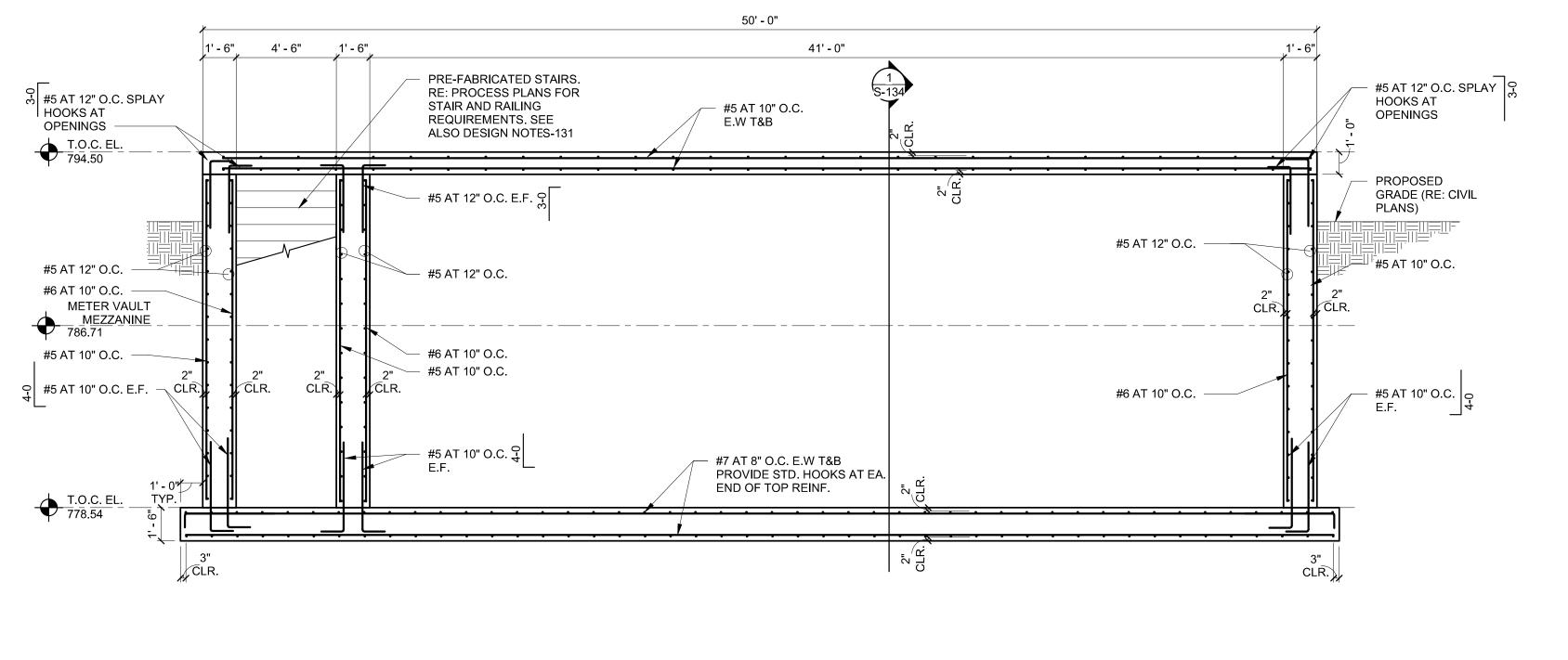
**VAULT** 

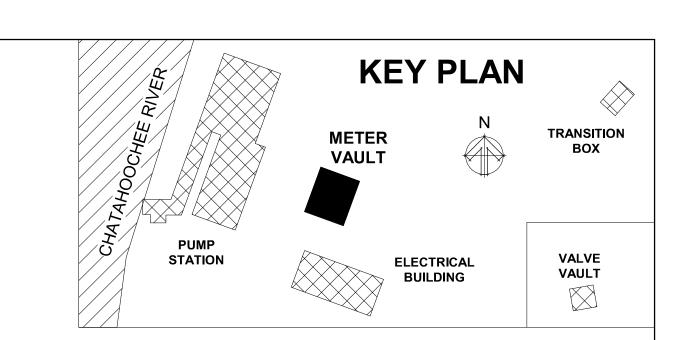
**TRANSITION** 



43' - 0"





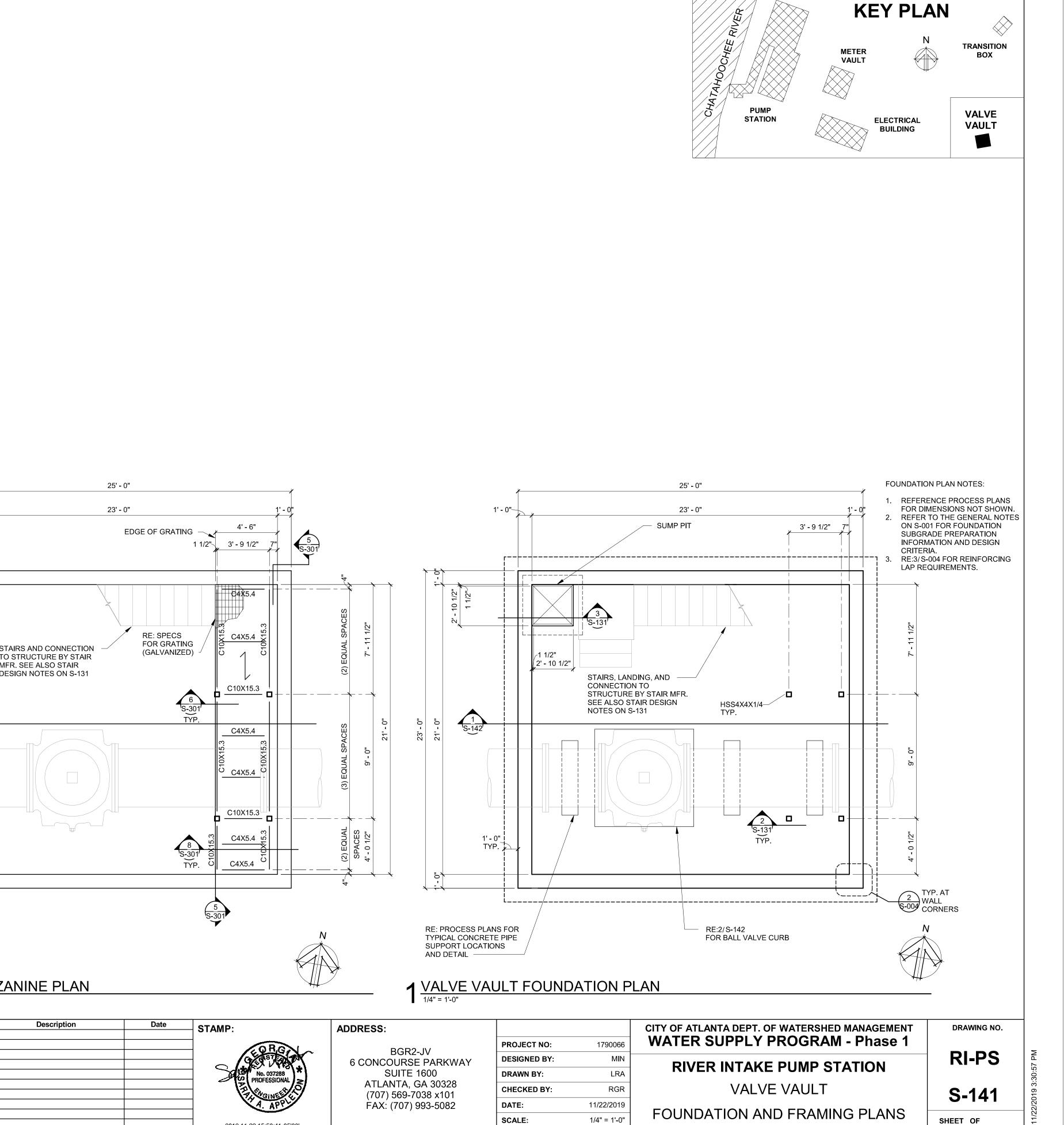


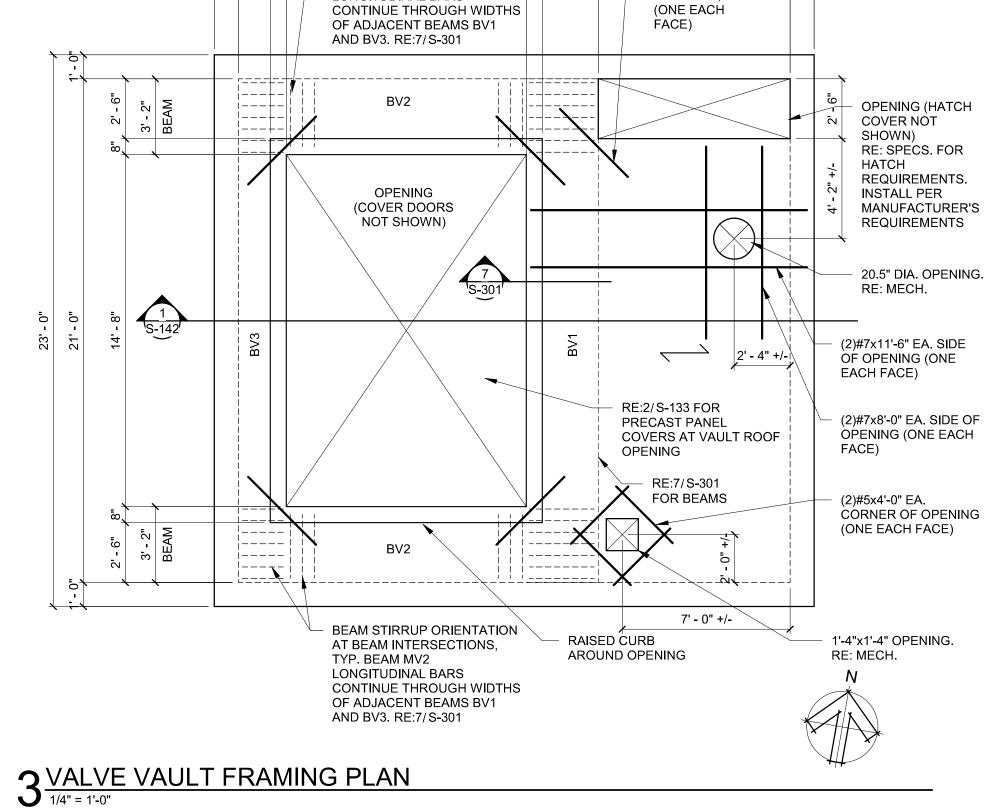
DRAWING NO.

RI-PS

S-134

SHEET OF





25' - 0"

23' - 0"

BEAM STIRRUP ORIENTATION 3' - 0"

AT BEAM INTERSECTIONS,

TYP. BEAM MV2

LONGITUDINAL BARS

8' - 0"

(2) #5x4'-0" AT

ÀĹL OPENING

CORNERS, TYP.

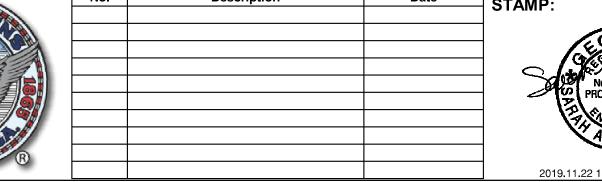
STAIRS AND CONNECTION TO STRUCTURE BY STAIR MFR. SEE ALSO STAIR DESIGN NOTES ON S-131

2 VALVE VAULT MEZZANINE PLAN

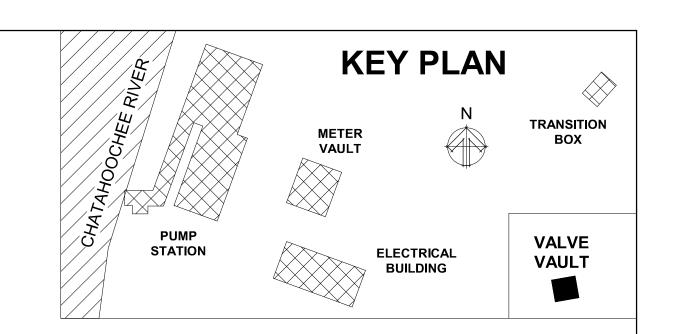
1/4" = 1'-0"

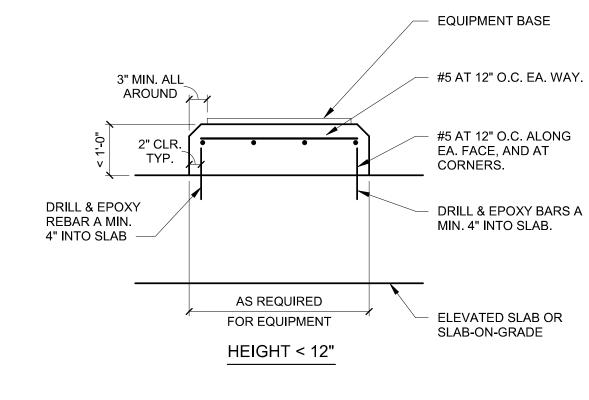
wallace, Wallace Engineering Structural Consultants, Inc. Structural and Civil Consultants 887 West Marietta Street NW, Suite G Atlanta, Georgia 30318 404.815.4282, 800.364.5858

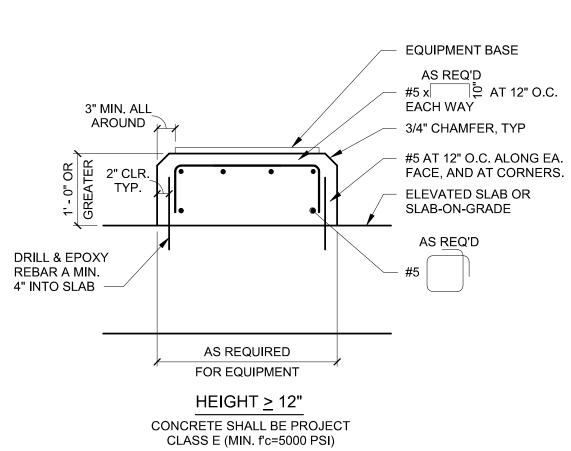


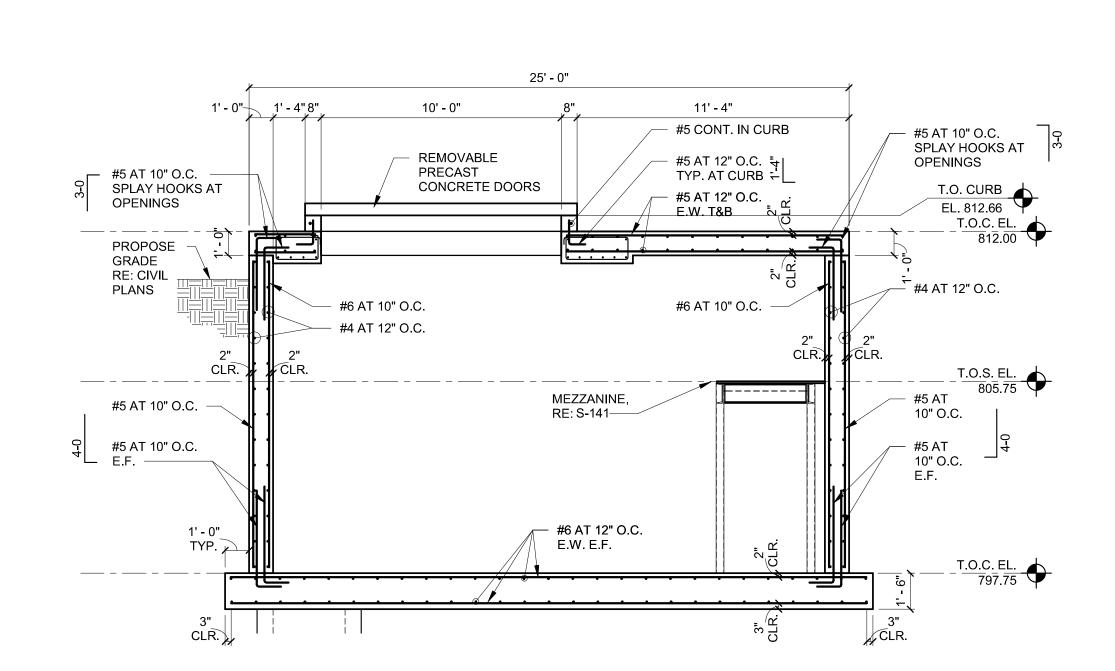


SCALE: 1/4" = 1'-0"









4" TRENCH OR 12"x12" L2x2x1/4 CONT. (GALV.) EA. SIDE WITH 1/4"x4" HSA AT 48" O.C. - ADJUST REINF. SPACING TRENCH INTERRUPT TRANSVERSE #6x5'-0" CENTERED AT DRAIN, LAPPED WITH TRANSVERSE BARS.

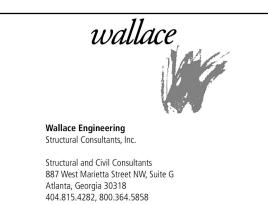
3 TRENCH DRAIN
1 1/2" = 1'-0"

2 TYP. EQUIPMENT BASE DETAILS.

1 VALVE VAULT SECTION

1/4" = 1'-0"

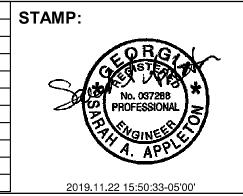






1 1/2" DEEP WELDED BAR GRATING

No.	Description	Date	— STAN
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<u> </u>	•	•	



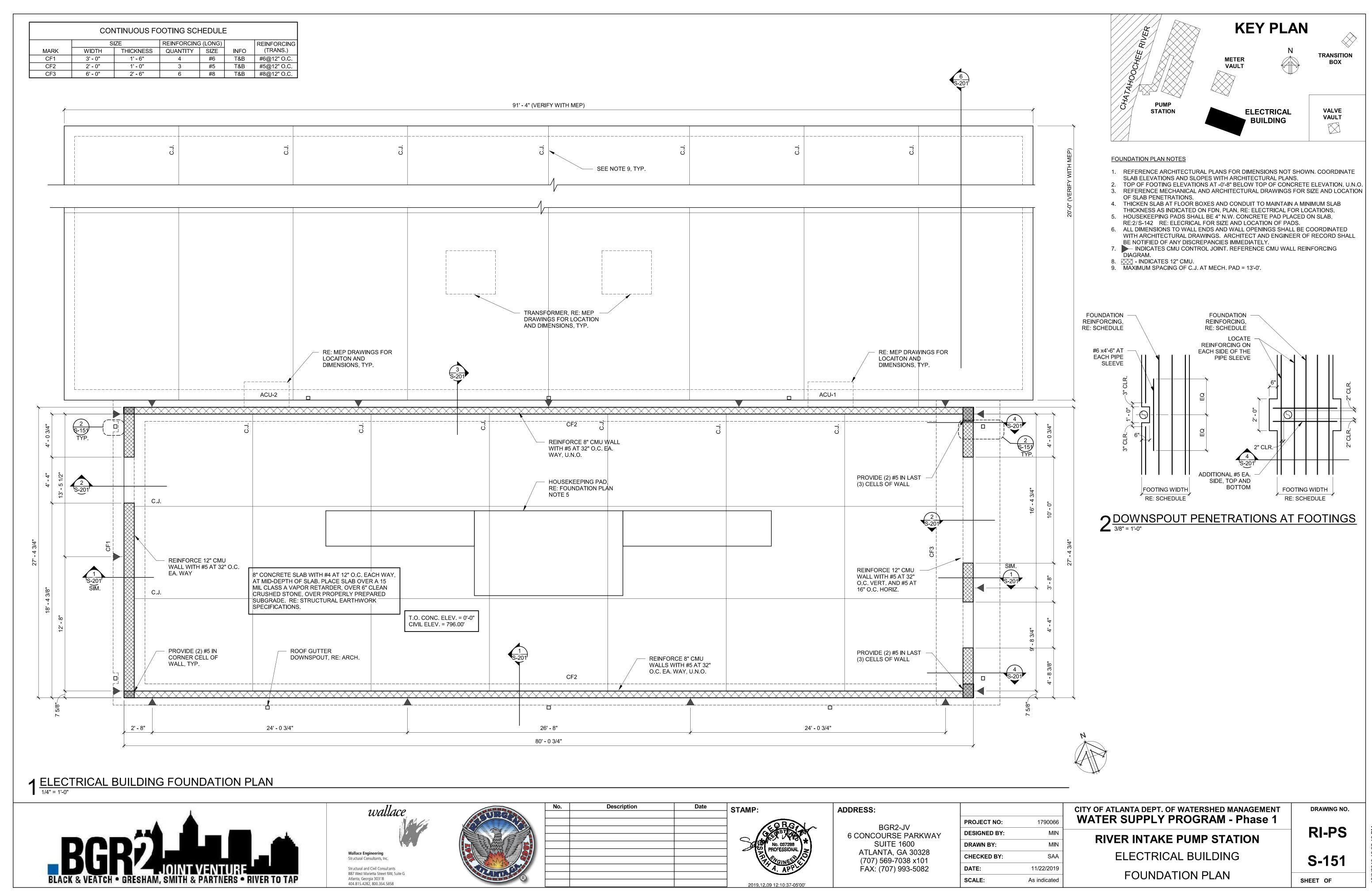
ADDRESS:
BGR2-JV 6 CONCOURSE PARKWAY SUITE 1600 ATLANTA, GA 30328 (707) 569-7038 x101 FAX: (707) 993-5082

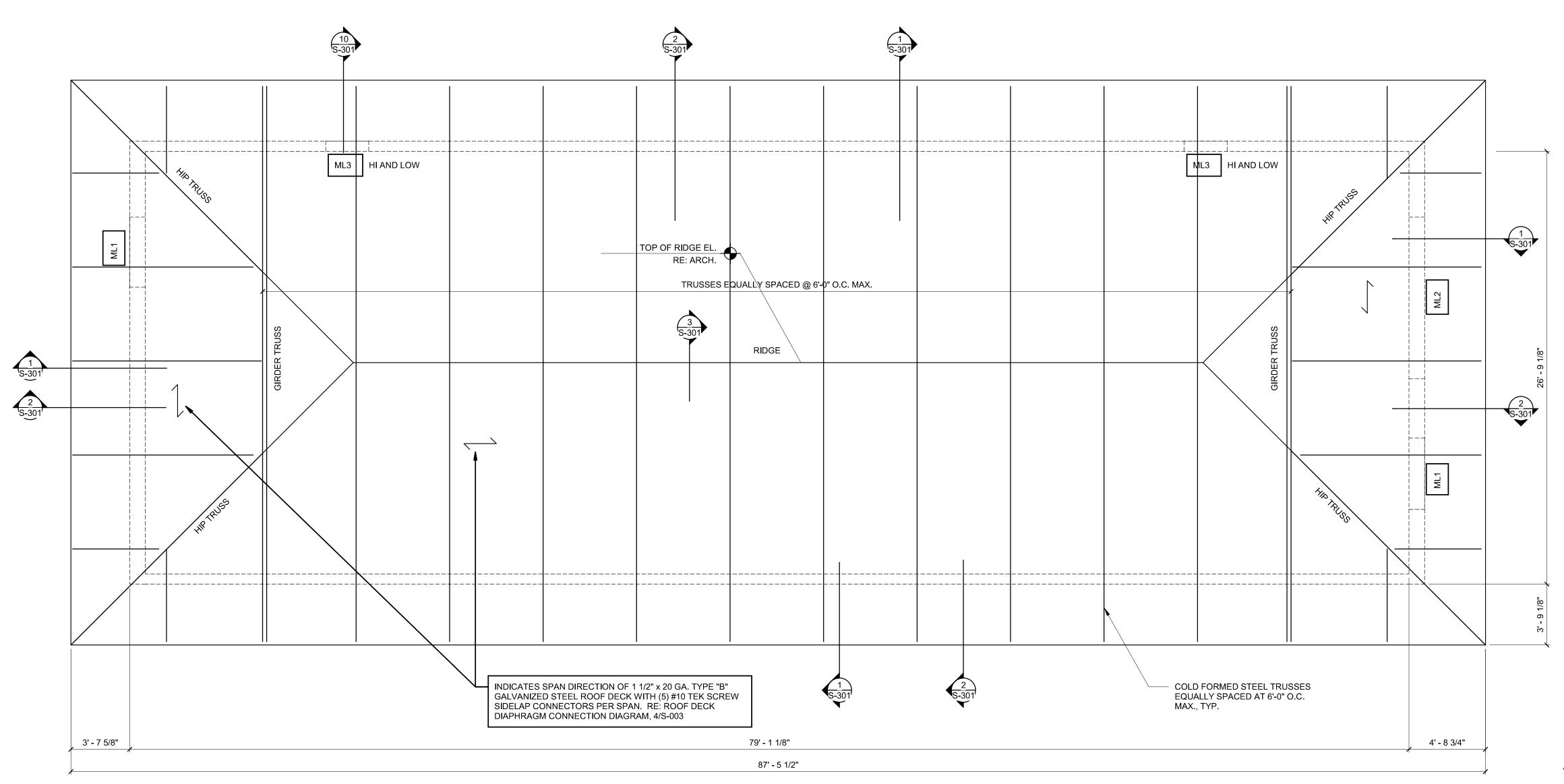
PROJECT NO:	1790066
DESIGNED BY:	MIN
DRAWN BY:	LRA
CHECKED BY:	RGR
DATE:	11/22/2019
SCALE:	As indicated

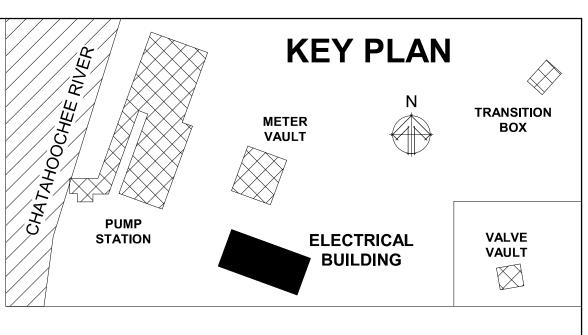
	CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
3	WATER SUPPLY PROGRAM - Phase 1
1	RIVER INTAKE PUMP STATION

VALVE VAULT **BUILDING SECTIONS** 

DRAWING NO. RI-PS S-142 SHEET OF





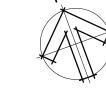


#### **ROOF FRAMING PLAN NOTES**

- 1. RE: 5/S-004 FOR PRE-FABRICATED COLD FORMED STEEL TRUSS LOADING DIAGRAMS. TRUSS BEARING POINTS SHALL BE DESIGNED AS PINNED.
- 3. TRUSS CHORDS SHALL BE 18 GAGE OR HEAVIER.
- 4. TRUSS SPACING SHALL BE AS SHOWN ON PLAN, NOT TO EXCEED 72" O.C.
- MAXIMUM TRUSS TOTAL LOAD DEFLECTION SHALL NOT EXCEED SPAN/240 FOR TOTAL LOADS AND SPAN/360 FOR LIVE LOADS.
- MATERIAL SHALL BE GALVANIZED.
- PROVIDE TEMPORARY AND PERMANENT, PRIMARY AND SECONDARY BRACING FOR TRUSSES TO ENSURE THE STABILITY OF THE TRUSSES AND THEIR COMPONENTS. 8. TRUSS MANUFACTURER SHALL DESIGN THE TRUSSES, BRACES, PURLINS AND
- CONNECTIONS TO MEET THE DESIGN CRITERIA SHOWN.
- 9. THE COLD FORMED TRUSS MANUFACTURER SHALL PROVIDE BOTTOM CHORD
- 10. REFER TO THE ARCHITECTURAL DRAWINGS FOR ROOF SLOPES AND DIMENSIONS OF
- 11. WELDING OF COLD FORMED METAL SHALL BE IN ACCORDANCE WITH AWS D1.3.
- 12. TRUSS DESIGNS SHALL BE PERFORMED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF GEORGIA. SHOP DRAWINGS SUBMITTALS (INCLUDING DRAWINGS AND CALCULATIONS) SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF GEORGIA. INCLUDE SERVICE AND ULTIMATE LOAD TRUSS REACTIONS ON THE SHOP DRAWINGS FOR ALL LOAD COMBINATIONS. INDICATE WHICH LOAD
- 13. SHOP DRAWINGS SHALL BE REVIEWED BY THE ARCHITECT AND STRUCTURAL ENGINEER OF RECORD PRIOR TO TRUSS FABRICATION.

COMBINATION APPLIES THE LARGEST LOAD TO THE STRUCTURE.

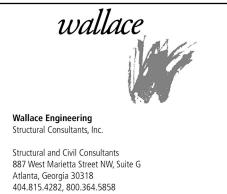
- 14. REFER TO THE MECHANICAL DRAWINGS FOR EQUIPMENT/DUCTWORK WITHIN THE TRUSS PROFILES AND COORDINATE THE TRUSS LOCATIONS AND TRUSS-WEB CONFIGURATIONS TO ACCOMMODATE.
- 15. NO HANGING LOADS SHALL BE APPLIED TO ROOF DECK.
- 16. ATTACH ROOF DECK TO SUPPORTS PER THE ROOF DECK DIAPHRAGM CONNECTION
- 17. REFERENCE MECHANICAL AND ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION OF DECK PENETRATIONS.
- 18. ML# INDICATES MASONRY LINTEL, RE: 2/S-005. 19. TRUSS BEARING ELEVATION = 14'-8"



1 ELECTRICAL BUILDING ROOF FRAMING PLAN

1/4" = 1'-0"







	NO.	
JURG		
CS		



BGR2-JV 6 CONCOURSE PARKWAY SUITE 1600 ATLANTA, GA 30328 (707) 569-7038 x101 FAX: (707) 993-5082

ADDRESS:

PROJECT NO:	1790066
DESIGNED BY:	MIN
DRAWN BY:	MIN
CHECKED BY:	SAA
DATE:	11/22/2019
SCALE:	1/4" = 1'-0"

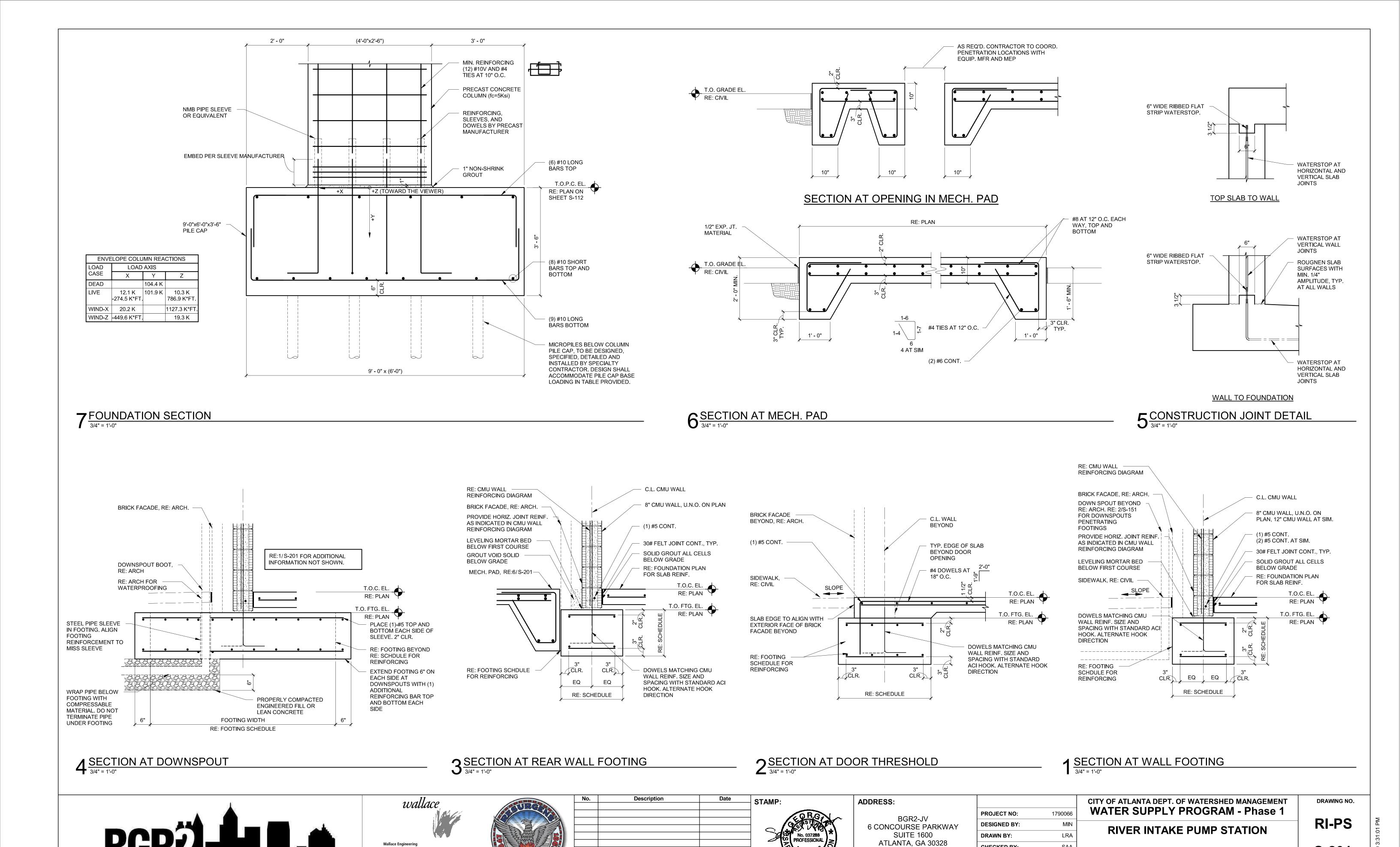
CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT **WATER SUPPLY PROGRAM - Phase 1** 

> **RIVER INTAKE PUMP STATION** ELECTRICAL BUILDING

ROOF FRAMING PLAN

DRAWING NO. RI-PS S-152

SHEET OF



Structural Consultants, Inc.

Structural and Civil Consultants

404.815.4282, 800.364.5858

887 West Marietta Street NW, Suite G Atlanta, Georgia 30318

**S-201** 

SHEET OF

**CHECKED BY:** 

DATE:

SCALE:

(707) 569-7038 x101 FAX: (707) 993-5082

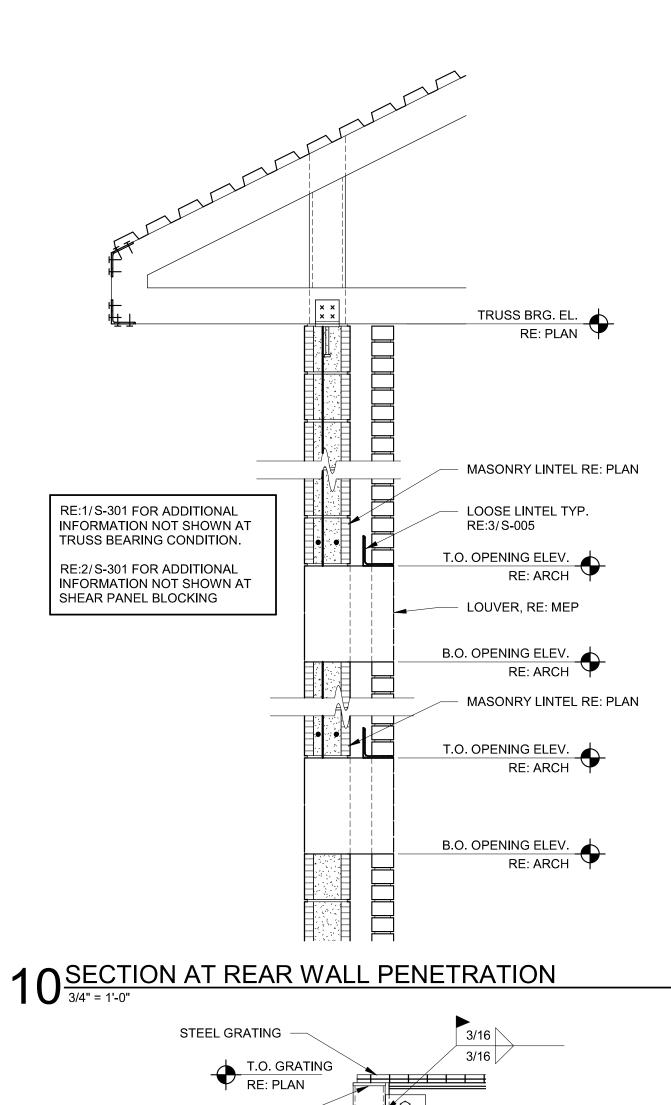
2019.11.22 15:50:05-05'00'

SAA

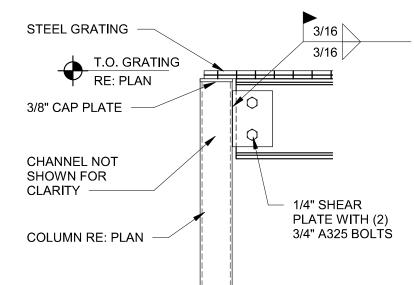
FOUNDATION DETAILS

11/22/2019

3/4" = 1'-0"

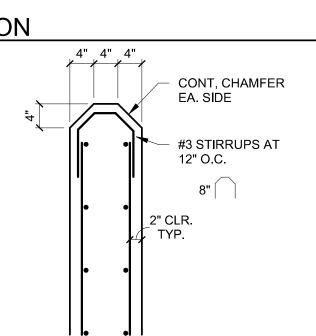






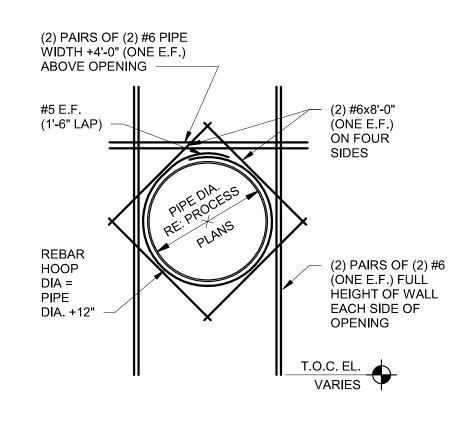
6 FRAMING SECTION

1" = 1'-0"

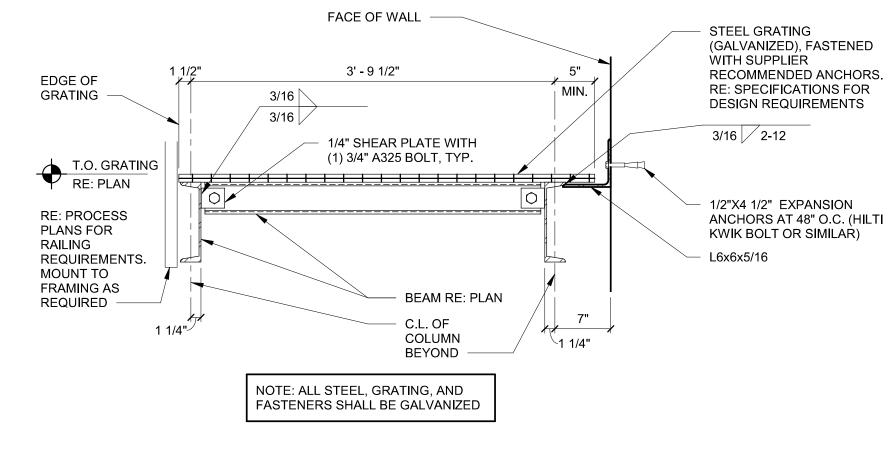


4 WEIR PLATE CONNECTION DETAIL

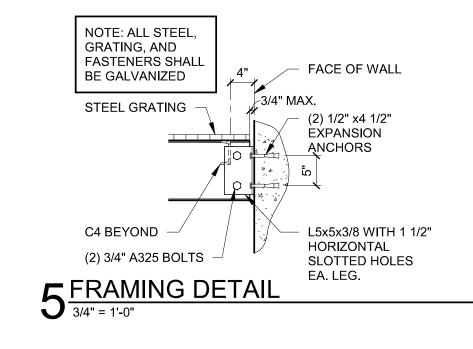
3/4" = 1'-0"

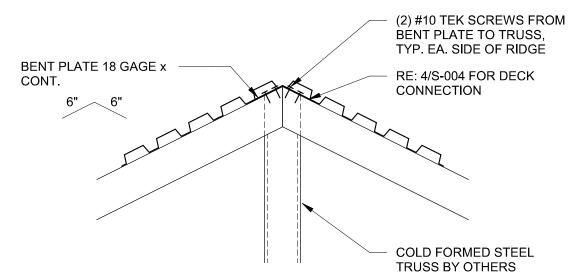


## $9^{\frac{\text{OPENING SECTION}}{3/16" = 1'-0"}}$



## 8 FRAMING SECTION 1" = 1'-0"





RIDGE / HIP DETAIL

## V=50 PLF SOUTH WALL TRUSS BLOCKING SHEAR PANEL

# 7 ROOF BEAM SCHEDULE AND DETAILS 3/4" = 1'-0"

LAYER REINF.

N.A. (7) #9 N.A.

MARK SIZE BOTTOM 2ND BOT. TOP (WxD) REINF. LAYER REINF.

TYP. ROOF SLAB

<u>DETAIL</u>

**ROOF BEAM SCHEDULE** 

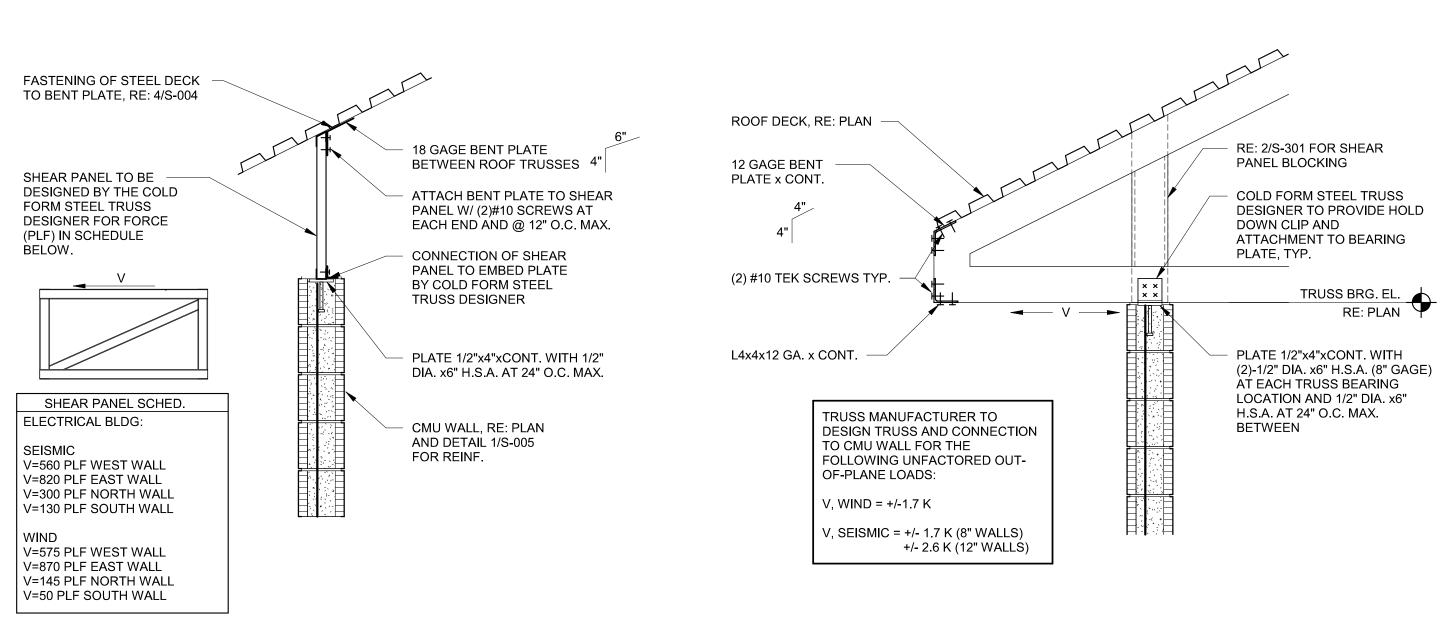
(6) #5 #4 (3) #5 #4 (4) #5 #4 (8) #5 #4

RE: SCHEDULE

FOR BEAM SIZE AND REINF.

#4 AT 12" CONT. E.F. U.N.O. —

BV3 24x16 BM1 24x32 BM2 46x24



EXTEND REINF. THROUGH BEAM AND PROVIDE STD. ACI

HOOK REINF. AS SHOWN.

NOTE: CONSTRUCT BEAM

) AT 3" EA. END, BALANCE AT 4" O.C

(1) AT 3" EA. END, BALANCE AT 6" O.C (1) AT 3" EA. END, BALANCE AT 8" O.C

MONOLITHICALLY WITH TOP SLAB

2ND LAYER
(WHEN REQUIRED)

CONTINUE THROUGH BEAM WHEN SLAB IS ON BOTH SIDES

T.O. ROOF SLAB

T.O. WALL BEYOND

T.O. RECESS
B.O. BEAM

TYP. BEAM REINF.

TYP. BEAM STIRRUPS RE: VAULT FRAMING

PLANS FOR STIRRUP

ALIGNMENT AT BEAM

INTERSECTIONS

T.O. ROOF SLAB

TYP. SLAB

PROVIDE

RECESS IN

WALL FOR FULL BEAM

SECTION

REINF.







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ADDRESS:

PROJECT NO:	1790066	
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DRAWN BY:	JJM	
CHECKED BY:	RGR/SAA	
DATE:	11/22/2019	
SCALE:	As indicated	

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT **WATER SUPPLY PROGRAM - Phase 1** 

1 SECTION AT TRUSS BEARING
3/4" = 1'-0"

**RIVER INTAKE PUMP STATION** FRAMING DETAILS

DRAWING NO. RI-PS **S-301** SHEET OF

TYP. SLAB

PROVIDE HOOKS

AT END OF BEAM

INTERSECTIONS,

ON PLANS.

- TYP. WALL

CONC. WALL

WALL FACE

REINF.

**BEAM END CONDITION** 

**SECTION** 

TOP BARS AT BEAM

WHERE INDICATED

REINF.



