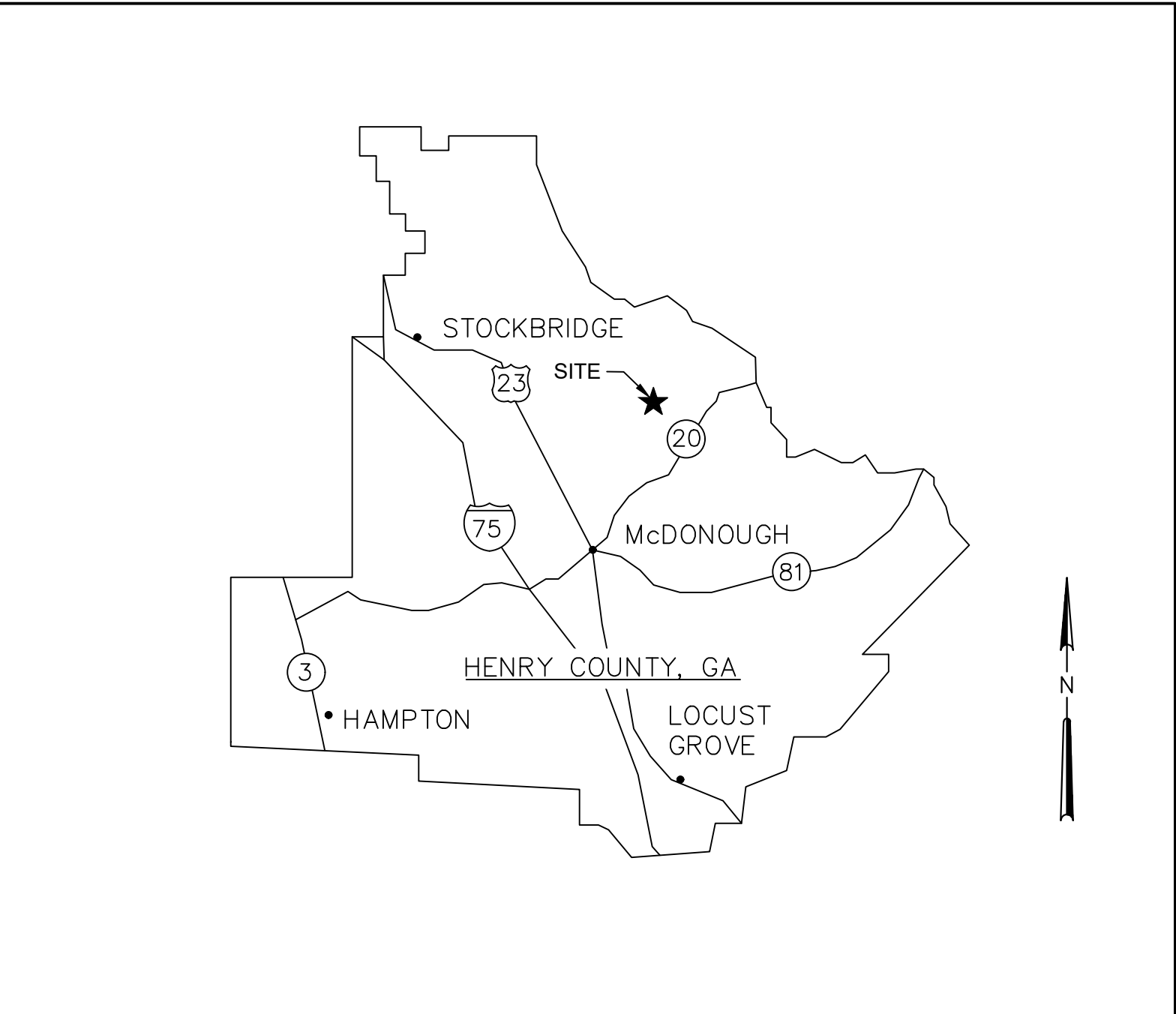
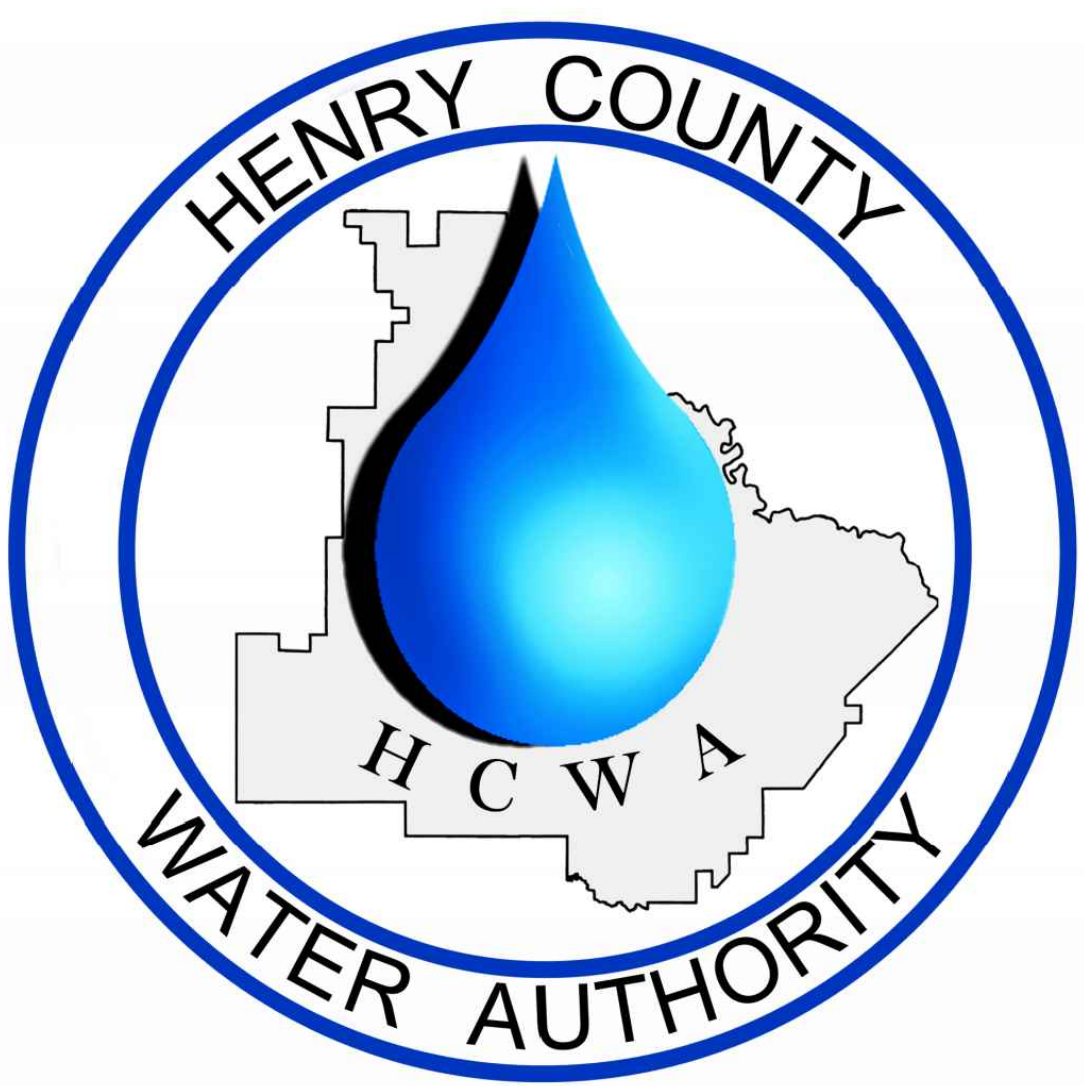


HENRY COUNTY WATER AUTHORITY

EAST LAKE BPS REPLACEMENT



VICINITY MAP



HENRY COUNTY, GEORGIA

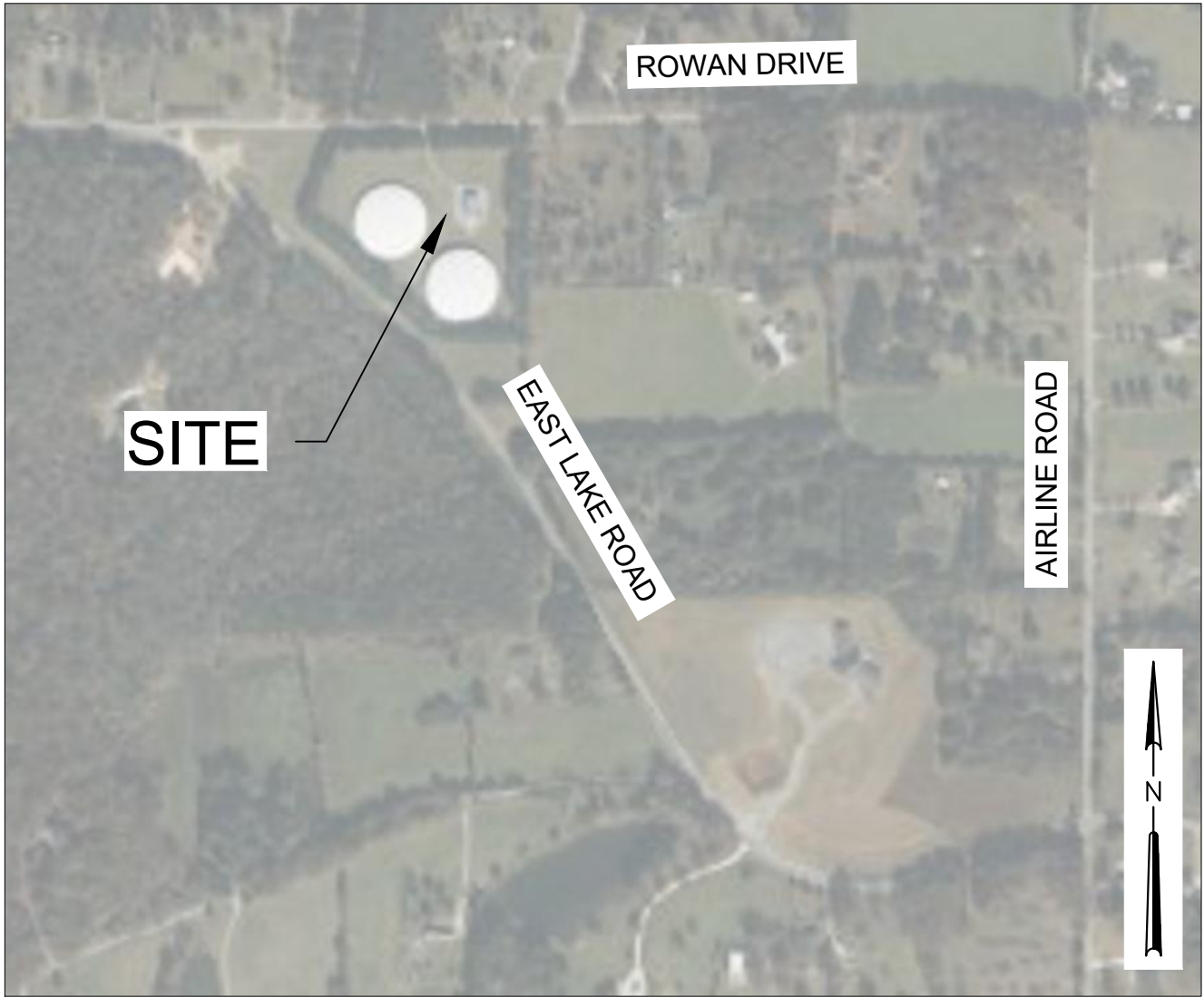


1201 Front Avenue // Suite F // Columbus, GA 31901
PHONE (706) 321-4590

JULY 2026

PRELIMINARY DESIGN

(30%) SUBMITTAL FOR GMP



LOCATION MAP

USER:MSDWARDS
FILE:C:\Users\MSDwards\Documents\Barge Design Solutions\HCWA East Lake BPS - 3606832\Project Files\01_DESIGN\1300_PROJ\05_PLOTS\3606832_COVER.dwg
SAVED 7/31/2026
PLOTTED 7/31/2026

COA NAME: BARGE DESIGN SOLUTIONS, INC.
COA AUTHORIZATION NO: PER000054
COA EXPIRATION DATE: 06/30/2026



1201 Front Avenue // Suite F // Columbus, GA 31901
PHONE (706) 321-4590

HENRY COUNTY WATER AUTHORITY
EAST LAKE BPS REPLACEMENT

BOARD MEMBERS

WARREN HOLDER - CHAIR
MYRA LOTT - VICE CHAIR
RICHARD J. SYLVIA, JR. - SECRETARY/TREASURER
LINDSEY MCGARITY - BOARD MEMBER
JOHN BLOUNT - BOARD MEMBER
FRED MAYS - MEMBER-AT-LARGE

GENERAL MANAGER

TONY CARNELL

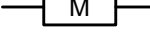
24 - HOUR CONTACT

MICHAEL LUNSFORD
PHONE: (470) 590-0630

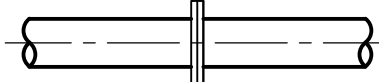
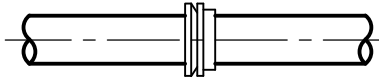
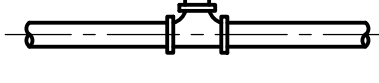
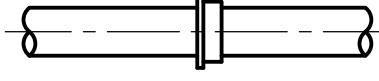
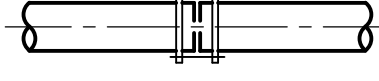
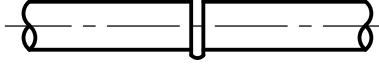
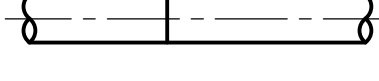
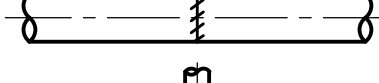
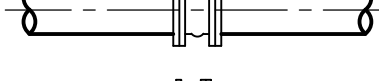
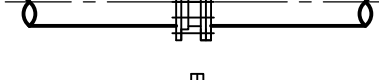
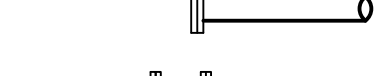
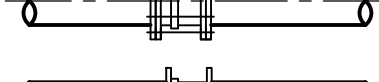


VALVE DESIGNATIONS

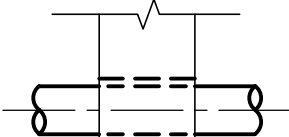
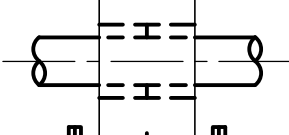
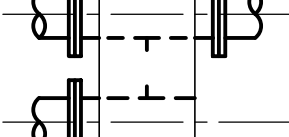
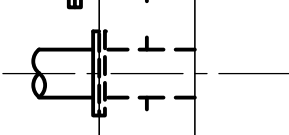
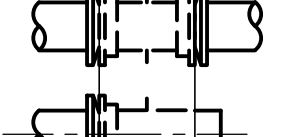
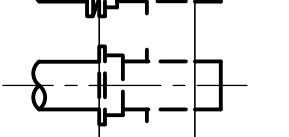
SYMBOL LEGEND

DOUBLE LINE	SINGLE LINE	
		90° FLANGE BEND
		FLANGE TEE
		REDUCER CONCENTRIC
		FLOW METER
		FLEXIBLE CONNECTION
		PRESSURE INDICATOR
		SOLENOID OPERATED
		MOTOR OPERATED
		QUICK CONNECT COUPLING

JOINT DESIGNATIONS

SYMBOL	TYPE
	FLANGED JOINT
	MECHANICAL JOINT
	THREADED JOINT
	PUSH ON JOINT
	BOLTED FLEXIBLE COUPLING
	GROOVED COUPLING
	SHOP WELDED JOINT (STEEL PIPE)
	FIELD WELDED JOINT (STEEL PIPE)
	SOCKET TYPE JOINT (FRP OR PVC PIPE)
	EXPANSION JOINT
	RESTRAINED FLANGE ADAPTOR
	BLIND FLANGE
	DISMANTLING JOINT
	FLANGE ADAPTER COUPLING

PIPE DESIGNATIONS

SYMBOL	TYPE
	CORED HOLE IN EXISTING WALL
	WALL SLEEVE W/ WATER COLLAR (STANDARD)
	FLANGE X FLANGE WALL PIPE
	FLANGE X PLAIN END WALL PIPE
	FLANGE X PLAIN END WALL PIPE (TAPPED FOR STUDS)
	MECHANICAL JOINT X MECHANICAL JOINT WALL PIPE (TAPPED FOR STUDS)
	MECHANICAL JOINT X PLAIN END WALL PIPE (TAPPED FOR STUDS)
	PUSH ON BELL JOINT X PLAIN END WALL PIPE

PIPING AND VALVES GENERAL NOTES

1. INSTALL ALL PIPING SUPPORTS AND PIPING IN ACCORDANCE WITH THE LATEST EDITION OF THE ASME ANSI POWER PIPING CODE B 31.1.
2. LOCATE PRESSURE TAPS ON THE TOP OF PROCESS PIPES, UNLESS OTHERWISE INDICATED ON DWGS.
3. LOCATE SAMPLE TAPS ON THE SIDE OF PROCESS PIPES.
4. LOCATE DRAIN TAPS ON THE BOTTOM OF PROCESS PIPES.
5. UNLESS OTHERWISE NOTED, PIPE ELEVATIONS SHOWN ON PIPING DRAWINGS REFER TO CENTERLINE OF THE PIPE.
6. ALL GROUND BURIED PIPING TO HAVE A MINIMUM OF 36" OF EARTH COVER OR AS DETAILED ON THE DRAWINGS. MAINTAIN MINIMUM CLEARANCE BETWEEN PIPES OF 6".
7. INSTALL ALL PLUG, BUTTERFLY AND BALL VALVES WITH THE SHAFT IN THE HORIZONTAL POSITION, UNLESS OTHERWISE DIRECTED.

COA NAME: BARGE DESIGN SOLUTIONS, INC.
COA AUTHORIZATION NO: PEF000054
COA EXPIRATION DATE: 06/30/2026

BARGE
DESIGN SOLUTIONS®

615 3RD AVENUE SOUTH // SUITE 700 // NASHVILLE, TN 37210
PHONE: (615) 254-1500

PRELIMINARY
NOT FOR
CONSTRUCTION

GENERAL LEGEND

HENRY COUNTY WATER AUTHORITY
EAST LAKE BPS REPLACEMENT
HENRY COUNTY, GEORGIA

00-G002

FILE NO. 36068-32

GENERAL NOTES

1. NOT ALL OFFSETS AND FITTINGS ARE SHOWN. PROVIDE OFFSETS AND FITTINGS AS REQUIRED BY FIELD CONDITIONS AS PART OF THE WORK.

2. THE CONTRACTOR IS ISSUED A COMPLETE SET OF CONTRACT DRAWINGS. WHILE EFFORT HAS BEEN MADE TO CONCENTRATE THE WORK OF TRADES ON SPECIFIC SHEETS AND LABELED ACCORDINGLY, THERE ARE NECESSARY INSTANCES WHERE WORK IS SHOWN ON, OR CROSS-REFERENCED TO, OTHER DRAWINGS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL DRAWINGS AND COORDINATE THE WORK.

3. THE EXISTENCE AND LOCATION OF SITE IMPROVEMENTS, UTILITIES, MECHANICAL SYSTEMS, ELECTRICAL SYSTEMS, AND OTHER CONSTRUCTION INDICATED AS EXISTING ARE NOT GUARANTEED. BEFORE BEGINNING WORK, INVESTIGATE AND VERIFY THE EXISTENCE AND LOCATION OF MECHANICAL AND ELECTRICAL SYSTEMS AND OTHER CONSTRUCTION AFFECTING THE WORK..

4. THE CONTRACTOR SHALL USE PROPER BARRICADING TO PROVIDE FOR THE SAFE PASSAGE OF PEDESTRIAN AND VEHICULAR TRAFFIC DURING UTILITY CONSTRUCTION.

5. THESE PLANS DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES, AGENTS, OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE REGISTERED ENGINEER(S) HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS.

6. THE CONTRACTOR IS TO LOCATE, PROTECT, AND MAINTAIN BENCHMARKS, MONUMENTS, CONTROL POINTS AND PROJECT ENGINEERING REFERENCE POINTS, REESTABLISH DISTURBED OR DESTROYED ITEMS BY SURVEYOR REGISTERED IN THE STATE OF GEORGIA AT NO ADDITIONAL COST TO OWNER.

7. LEGEND REPRESENTS STANDARD LINE TYPES AND HATCHING UNLESS INDICATED ON SPECIFIC DRAWINGS.

8. THE CONTRACTOR IS TO COORDINATE STAGING AREAS WITH OWNER.

9. WHILE EFFORT HAS BEEN MADE TO IDENTIFY THE ITEMS TO BE DEMOLISHED, IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE SCOPE OF WORK IN THE FIELD, REVIEW THESE CONTRACT DRAWINGS, ALL PREVIOUS PLANT CONSTRUCTION DRAWINGS AND DOCUMENTS, DEMOLITION SPECIFICATIONS, AND EXISTING FACILITY PLANS, AND TO DEMOLISH ALL ITEMS NECESSARY TO ACCOMMODATE THE PROPOSED WORK. ALSO THE CONTRACTOR SHALL REPAIR ALL SURFACES AND PLUG ABANDONED PENETRATIONS UPON REMOVAL OF THE DEMOLISHED ITEMS PER THE SPECIFICATION.

10. THE CONTRACTOR SHALL VISIT THE SITE OF THE WORK AND EXAMINE LOCAL CONDITIONS TO BE ENCOUNTERED, IMPROVEMENTS TO BE PROTECTED, PERMITS AND FEES REQUIRED, AND OTHER RESEARCH NECESSARY TO ASSURE THAT THE PROJECT IS THOROUGHLY UNDERSTOOD AND IS FULLY AWARE OF ALL CONDITIONS AND CONSTRAINTS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF CONSTRUCTION.

11. THE CONTRACTOR'S OPERATIONS SHALL CONFORM TO THE RULES AND REGULATIONS OF THE STATE CONSTRUCTION SAFETY ORDERS PERTAINING TO EXCAVATION AND TRENCHING.

12. LEGEND SYMBOLS MAY VARY BY DISCIPLINE. LEGENDS ARE SHOWN ON THE DISCIPLINE NOTES AND LEGEND SHEETS (E.G. TYPICAL ELECTRICAL LEGEND SHEET, 00-E001).

13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ALL AREAS DISTURBED BY CONSTRUCTION TO A CONDITION EQUAL TO OR BETTER THAN THAT EXISTING PRIOR TO CONSTRUCTION. RESTORATION SHALL INCLUDE SOD, IRRIGATION SYSTEMS, LANDSCAPING, FENCES, CONCRETE ISLANDS, CONCRETE DRIVEWAYS, ROAD SURFACES, SUBSURFACES, AND ANY OTHER DAMAGED IMPROVEMENTS WITHIN OR ADJACENT TO THE WORK AREA, WHETHER SHOWN ON THE PLANS OR NOT. ANY DAMAGE CAUSED DIRECTLY OR INDIRECTLY BY CONSTRUCTION ACTIVITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE AND SHALL MEET ALL APPLICABLE CITY TESTING REQUIREMENTS AND SPECIFICATIONS. NO SEPARATE PAYMENT SHALL BE MADE FOR THIS WORK .

14. THE CONTRACTOR SHALL PROVIDE FITTINGS, PLUGS, AND OTHER SERVICES REQUIRED FOR FILLING, FLUSHING, TESTING, ETC. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK.

15. ALL OPEN EXCAVATION LEFT OVERNIGHT SHALL BE ENCLOSED WITH ORANGE SAFETY FENCE.

16. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL FURNISH THE ENGINEER WITH A SIGNED SET OF PLANS WITH ALL THE FINAL MEASUREMENTS AND AS-BUILT INFORMATION FOR PREPARATION OF RECORD DOCUMENTS.

17. DISPOSAL AREAS, STOCKPILES, AND HAUL ROADS SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE AND CONTROL THE AMOUNT OF SEDIMENT WHICH MAY ENTER RECEIVING WATERS. DISPOSAL AREAS SHALL NOT BE LOCATED ON ANY WETLANDS, WATER BODY, OR STREAM BED. THE CONTRACTOR STAGING AREAS AND VEHICLE MAINTENANCE AND PARKING AREAS SHALL BE MAINTAINED IN A MANNER TO MINIMIZE POLLUTANT RUNOFF AND IN ACCORDANCE WITH DALTON UTILITIES REQUIREMENTS.

18. THE CONTRACTOR SHALL MAINTAIN SITE SECURITY AT ALL TIMES AND SHALL MAINTAIN ACCESS FOR THE OWNER TO ALL PARTS OF THE PROJECT THAT ARE CURRENTLY IN OPERATION. DETOUR ROUTING AROUND WORK ACTIVITIES, MAINTENANCE OF DETOUR SIGNS, AND FLAGMEN ARE THE CONTRACTOR'S RESPONSIBILITY. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK.
19. THE CONTRACTOR IS RESPONSIBLE FOR SEQUENCING HIS WORK SO AS NOT TO DISRUPT OPERATIONS. CLOSE COORDINATION BETWEEN THE CONTRACTOR, ENGINEER, AND HCWA PERSONNEL IS REQUIRED. CONTRACTOR IS RESPONSIBLE FOR PROVIDING MATERIALS, LABOR, ETC. FOR TEMPORARY CONNECTIONS DURING ALL REMOVAL AND REPLACEMENT CONDITIONS. ALL CONSTRUCTION & MATERIALS USED SHALL BE IN ACCORDANCE WITH HCWA STANDARDS, SPECIFICATIONS, AND RISK MANAGEMENT REQUIREMENTS. ALL MATERIALS TAKEN FOR DISPOSAL MUST BE DISPOSED OF AT A PERMITTED LANDFILL SITE. CONTRACTOR SHALL PROVIDE ENGINEER WITH THE HAULING MANIFESTS TO DOCUMENT PROPER DISPOSAL.

20. IN THE EVENT THAT UNDERGROUND FACILITIES NOT SHOWN ON THE DRAWINGS ARE ENCOUNTERED, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONSTRUCT THE WORK INTENDED, AT NO INCREASE IN THE CONTRACT PRICE.

21. CONTRACTOR SHALL MAINTAIN THE JOB SITE IN A SAFE, NEAT, AND WORKMANLIKE MANNER AT ALL TIMES. JOB SITE SAFETY SHALL NOT BE COMPROMISED.

22. ALL LOOSE MATERIAL SHALL BE COMPLETELY REMOVED FROM ROADWAY SURFACES. LOOSE AND SURPLUS AGGREGATE SHALL BE BROOMED OFF THE SURFACE AS DIRECTED BY THE ENGINEER. BROOMING WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED SUBSIDIARY. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK.

23. "SCREENED" (LIGHT) DELINEATION INDICATED ON THE DRAWINGS DENOTES EXISTING FACILITIES. "SCREENED" INFORMATION WAS TAKEN FROM EXISTING CONSTRUCTION DRAWINGS AND DATA, IS FOR REFERENCE ONLY, AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE ORDERING OF MATERIALS AND BEGINNING OF CONSTRUCTION. "BOLD" DELINEATION IS NEW WORK TO BE CONSTRUCTED.

24. CONTRACTOR SHALL COMPLY WITH THE GOVERNING AGENCY NPDES CONSTRUCTION REQUIREMENTS AND SHALL PROVIDE APPROPRIATE MITIGATION OR PROTECTION AND RESTORATION AT ALL LOCATIONS AS REQUIRED BY THEIR OPERATIONS AND AS DIRECTED BY ENGINEER. SPECIAL CONSTRUCTION REQUIREMENTS, TEMPORARY PROTECTIVE FENCING OR BARRICADES, SHEETING, SHORING, EROSION PROTECTION, AND SURFACE RESTORATION AT CERTAIN LOCATIONS ARE INDICATED ON THE DRAWINGS TO BRING CONTRACTOR'S ATTENTION TO SENSITIVE AREAS.

CIVIL/SITE DEVELOPMENT NOTES

1. PROVIDE MAINTENANCE ON COMPLETED CONSTRUCTION AS FREQUENTLY AS NECESSARY THROUGH THE CONSTRUCTION PERIOD. ADJUST AND LUBRICATE OPERABLE COMPONENTS TO ENSURE OPERABILITY WITHOUT DAMAGING EFFECTS.

2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY INTERFERENCE WITH EXISTING UTILITIES AND ANY FACILITIES BEING INSTALLED IN THIS PROJECT.

3. LOCATION OF NEW INSTRUMENTATION IS APPROXIMATE. THE CONTRACTOR SHALL COORDINATE FINAL INSTRUMENTATION LOCATION WITH THE ENGINEER.

4. THE CONTRACTOR IS TO VERIFY AND COORDINATE ALL EXISTING STRUCTURES, PIPING, ELEVATIONS, LOCATIONS, SIZE, AND TYPE OF MATERIAL WITH NEW PIPING PRIOR TO CONSTRUCTION. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK. IF DISCREPANCIES ARISE BETWEEN THESE CONTRACT DRAWINGS AND ACTUAL FIELD CONDITION, THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY IN WRITING.

5. THE CONTRACTOR IS TO PROVIDE ALL ADAPTERS FOR TRANSITIONS BETWEEN DIFFERENT PIPE MATERIALS.

6. THE CONTRACTOR IS TO PROVIDE POSITIVE SITE DRAINAGE DURING CONSTRUCTION OPERATIONS. ALL FINAL LINES AND GRADES SHALL BE CONSTRUCTED TO MAINTAIN POSITIVE SITE DRAINAGE TO EXISTING DRAINAGE STRUCTURES.

7. BEFORE CONSTRUCTION IS STARTED, THE CONTRACTOR SHALL COORDINATE WITH THE OWNER OF EACH UTILITY AND DEFINE THE REQUIREMENTS AND METHODS TO ACCOMMODATE THE PROTECTION, TEMPORARY SUPPORT, ADJUSTMENT, OR RELOCATION OF ANY UTILITIES AFFECTED BY THE PROPOSED NEW WORK. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK.

8. FOR ALL SITE GRADING, SMOOTH PARABOLIC TRANSITIONS SHALL BE MADE BETWEEN CHANGES IN SLOPE. PARABOLIC ROUNDING SHALL APPLY TO ALL CUT AND FILL SECTIONS.

9. THE CONTRACTOR SHALL HAND COMPACT OR PROVIDE CONTROLLED LOW-STRENGTH MATERIAL BACKFILL AS REQUIRED TO ENSURE COMPACTION BENEATH EXISTING UTILITIES. TYPICAL ALL LOCATIONS. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK.

10. CLEAN AND PROTECT CONSTRUCTION IN PROGRESS AND ADJOINING MATERIALS ALREADY IN PLACE. APPLY PROTECTIVE COVERING WHERE REQUIRED TO ENSURE PROTECTION FROM DAMAGE OR DETERIORATION. DAMAGED EQUIPMENT OR MATERIALS SHALL BE REMOVED FROM THE PROJECT SITE AND REPLACED AT NO COST TO THE OWNER.

11. NO ADDITIONAL PAYMENT WILL BE MADE FOR WATER, SAND, GRAVEL, OR OTHER UNSTABLE CONDITIONS ENCOUNTERED IN THE EXCAVATION.

12. THE CONTRACTOR IS TO CONTACT THE UTILITY COMPANY LOCATOR FORTY- EIGHT (48) HOURS PRIOR TO EXCAVATION. THE CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT ALL UTILITY LINES DURING CONSTRUCTION. CONTRACTOR ASSUMES ALL LIABILITY IF HE FAILS TO CARRY OUT THIS RESPONSIBILITY.

13. ALL EXISTING UTILITY MANHOLES, METER BOXES, PULL BOXES, WATER VALVE BOXES, ETC. LOCATED WITHIN THE CONSTRUCTION AREAS SHALL BE ADJUSTED TO FINISH PAVEMENT ELEVATIONS AND IF NOT WITHIN PAVEMENT, 3 INCHES ABOVE FINISH GROUND ELEVATION, OR AS DIRECTED BY THE CONTRACT DOCUMENTS.

SURVEYORS NOTES

1. THE BASIS FOR BEARING USED FOR THIS SURVEY IS BASED ON AND RELATIVE TO GRID NORTH GA WEST ZONE NAD83 (2011) VIA RTK OBSERVATIONS (GPS DATE).

2. THE NORTH ARROW AND COORDINATES SHOWN HEREON ARE BASED ON THE STATE PLANE COORDINATES SYSTEM, GEORGIA WEST ZONE, NAD 1983 (2011) AS DETERMINED BY GPS OBSERVATIONS AND ALL MEASUREMENTS ARE CONSISTENT WITH THE US SURVEY FOOT UNIT OF MEASUREMENT. THE VERTICAL ELEVATIONS SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88) AND BASED ON GNSS/GPS OBSERVATIONS REFERENCED TO GEOID18.

3. ALL DISTANCES SHOWN ARE GROUND DISTANCES AND HAVE BEEN CONVERTED OVER FROM GRID USING A COMBINED SCALE FACTOR OF 1.0001325923 CENTERED ABOUT THE COORDINATES AS FOLLOWS: N 1274475.205, E 2315743.300, (IF APPLICABLE)

4. ABOVE GRADE AND UNDERGROUND UTILITIES SHOWN HEREON WERE TAKEN FROM FIELD LOCATED VISIBLE APPURTENANCES AND ANY PROVIDED MAPS OR DRAWINGS. ADDITIONAL MAPS OR DRAWINGS MAY BE AVAILABLE FROM MUNICIPALITIES OR UTILITY COMPANIES. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES STATE THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION CONSULTED. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. AVAILABILITY AND COST OF SERVICE SHOULD BE CONFIRMED WITH THE APPROPRIATE UTILITY COMPANY. TO AVOID ANY POSSIBLE HAZARD OR CONFLICT, IT IS A REQUIREMENT BY LAW, EVERYONE MUST CONTACT GEORGIA 811 BY VISITING MY.GEORGIA811.COM OR BY DIALING 811 OR 1-800-282-7411 AT LEAST 48 HOURS BEFORE BEGINNING ANY MECHANIZED DIGGING ON THE PROPERTY.

SURVEYORS DATA

THE FIELD DATA UPON WHICH THIS MAP OR PLAT IS BASED WAS ADJUSTED USING THE LEAST SQUARES ADJUSTMENT AND HAS A POSITIONAL ACCURACY GREATER THAN 0.07 FT PER POINT PAIR.

A TRIMBLE (GPS) GNSS RECEIVER WAS USED TO ESTABLISHED HORIZONTAL CONTROL FOR THIS SURVEY.

A TRIMBLE S7 WAS USED TO OBTAIN THE LINEAR AND ANGULAR MEASUREMENTS USED IN THE PREPARATION OF THIS MAP OR PLAT. THE LAST DAY OF FIELD WORK FOR THIS SURVEY WAS PERFORMED ON 07/17/2026.

WATERLINES NOTES

1. WHERE A NEW WATER LINE CROSSES WITHIN 18 INCHES UNDER A SANITARY SEWER OR STORM DRAIN, ONE (1) FULL LENGTH OF WATER LINE SHALL BE LOCATED SO THAT BOTH PIPE JOINTS WILL BE AS FAR FROM THE SANITARY SEWER LINE OR STORM DRAIN AS POSSIBLE.

2. ALL VALVES SHALL REMAIN CLOSED UNTIL MAINS HAVE BEEN DISINFECTED, FLUSHED, AND RELEASED BY CONTRACTOR FOR PUBLIC USE BY HCWA. AFTER RELEASE CONTRACTOR SHALL TIE IN EXISTING MAIN TO THE NEW MAIN. NO SEPARATE PAY ITEM.

3. THE CONTRACTOR SHALL SUPPLY ALL BENDS REQUIRED TO MAINTAIN SMOOTH FLOW LINES AND SHALL USE 45° BENDS TO MEET ALL TRANSITIONS AND CHANGES IN ELEVATION, UNLESS INDICATED OTHERWISE OR APPROVED BY THE ENGINEER.

PIPING AND VALVES GENERAL NOTES

1. INSTALL ALL PIPING SUPPORTS AND PIPING IN ACCORDANCE WITH THE LATEST EDITION OF THE ASME ANSI POWER PIPING CODE B 31.1.

2. LOCATE PRESSURE TAPS ON THE TOP OF PROCESS PIPES, UNLESS OTHERWISE INDICATED ON DWGS.

3. LOCATE SAMPLE TAPS ON THE SIDE OF PROCESS PIPES.

4. LOCATE DRAIN TAPS ON THE BOTTOM OF PROCESS PIPES.

5. UNLESS OTHERWISE NOTED, PIPE ELEVATIONS SHOWN ON PIPING DRAWINGS REFER TO CENTERLINE OF THE PIPE.

6. ALL GROUND BURIED PIPING TO HAVE A MINIMUM OF 36" OF EARTH COVER OR AS DETAILED ON THE DRAWINGS. MAINTAIN MINIMUM CLEARANCE OF 6" BETWEEN PIPES.

7. INSTALL ALL PLUG AND BALL VALVES WITH THE SHAFT IN THE HORIZONTAL POSITION, UNLESS OTHERWISE DIRECTED.

8. ALL PIPING IS TO BE RESTRAINED JOINT DUCTILE IRON PIPE, UNLESS OTHERWISE NOTED.

REVISION INFORMATION		DATE		BY		DESCRIPTION	
REV.	DS	CHK.	DATE	DATE	DATE	DATE	DATE
1	DS	CHK.	DATE	DATE	DATE	DATE	DATE
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GENERAL ABBREVIATIONS

AB	ANCHOR BOLTS
ABAN	ABANDON
ABC	AGGREGATE BASE COURSE
ABS	ACRYLONITRILE BUTADIENE STYRENE
AC	ASBESTOS CEMENT
ACST	ACOSTIC
ADDL	ADDITIONAL
ADJ	ADJUSTABLE
ADPT	ADAPTER
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
ALUM	ALUMINUM
APPROX	APPROXIMATE
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASPH	ASPHALT
ASSY	ASSEMBLY
AUTO	AUTOMATIC
AUX	AUXILIARY
AVE	AVENUE
AVG	AVERAGE
BACK	BACK OF CURB
BKGD	BACKGROUND
BLT	BUILT
BM	BENCHMARK
BO	BLOWOFF
BP	BOOSTER PUMP
BOT	BOTTOM
BTWN	BETWEEN
BYP	BY PASS
C&G	CURB AND GUTTER
CAP	CAPACITY
CAT	CATALOG
CB	CATCH BASIN
CCW	COUNTER CLOCKWISE
CER	CERAMIC
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CHKR	CHECKER
CJ	CONSTRUCTION JOINT
CL	CENTER LINE
CL2	CHLORINE
CLG	CLEARING
CLR	CLEAR
CM	CONCRETE MONUMENT
CMU	CONCRETE MASONRY UNIT
CNT	CONTAINMENT
CO	CLEAN OUT
COL	COLUMN
COM	COMMON
CONC	CONCRETE
CONC FLR	CONCRETE FLOOR
CONN	CONNECT
CONSTR	CONSTRUCT
CONT	CONTINUOUS
CP	CONTROL PANEL
CPLG	COUPLING
CTR	CENTER
CU	COPPER
CU FT	CUBIC FEET
CU IN	CUBIC INCHES
CU YD	CUBIC YARD
QW	CLOCKWISE
DECBEL	DECIBEL
dBa	UNIT OF SOUND LEVEL
DBL	DOUBLE
DEG	DEGREE
DEMO	DEMOLITION
DHW	DESIGN HIGH WATER
DIA	DIAMETER
DIAG	DIAGONAL
DI CPLG	DUCTILE IRON COUPLING
DIM	DIMENSION
DISC	DISCONNECT
DISCH	DISCHARGE
DIST	DISTANCE
DN	DOWN
DW	DOUBLE WALL
DWG	DRAWING
E	EAST
EA	EACH
ECC	ECCENTRIC
ECC RDCR	ECCENTRIC REDUCER
EQ	EQUIPMENT DRAIN
EF	EACH FACE
EFF	EFFLUENT
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRIC
ELEC DR OP	ELECTRIC DOOR OPENER
EMER SHR	EMERGENCY SHOWER
ENCL	ENCLOSURE
EP	EDGE OF PAVEMENT (PAVING)
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ESMT	EASEMENT
ET	ELAPSED TIME
EW	EACH WAY
EXP	EXPANSION
EXST	EXISTING
EXST GR	EXISTING GRADE
EXT	EXTERNAL
F	FAHRENHEIT
FB	FLAT BAR
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER
FE FL	FINISHED FLOOR ELEVATION
FI	FIRE HYDRANT
FIG	FIGURE
FIN FLR	FINISH FLOOR
FIN GR	FINISH GRADE
FLEX	FLEXIBLE
FLS	FLOW LINE
FLR	FLOOR
FOT	FLAT ON TOP
FN	FENCE
FRP	FIBER REINFORCED PLASTIC
FT	FEET
FT	FOOT
FTG	FOOTING
G	NATURAL GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GBT	GRAVITY BELT THICKENER
GEN	GENERAL

GL	GLASS
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GRTG	GRATING
GSKT	GASKET
H	HIGH
HB	HOSE BIBB
HGR	HANGER
HOA	HAND-OFF-AUTOMATIC
HORIZ	HORIZONTAL
HP	HIGH POINT
HS	HIGH SERVICE
HT	HEIGHT
HWA	HIGH WATER ALARM
HWL	HIGH WATER LEVEL
HWY	HIGHWAY
HYD	HYDRANT OR HYDRAULIC
HZ	HERTZ
ID	INSIDE DIAMETER
IN	INCH
IND	INDICATOR
INF	INFLEUNT
INFO	INFORMATION
INSTR	INSTRUMENT
INSUL	INSULATION
INV	INVERT
IN EL	INVERT ELEVATION
IP	IRON PIPE
IR	IRON ROD
JCT	JUNCTION
JO	JOINT
KWY	KEY WAY
L	LABORATORY
LAB	LABORATORY
LAT	LATITUDE
LATL	LATERAL
LBS	POUND
LF	LINEAR FEET (FOOT)
LH	LEFT HAND
LIM SW	LIMIT SWITCH
LIN	LINEAR
LIQ	LIQUID
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LNG	LONGITUDE
LOC	LOCATION
LOG	LOGARITHM
LONG	LONGITUDINAL
L	LIGHT POLE
LT	LIGHT
LVR	LOUVER
LW	LOW WATER
LWA	LOW WATER ALARM
LWL	LOW WATER LEVEL
M	METER
MACH	MACHINE
MAINT	MAINTENANCE
MAN	MANUAL
MATL	MATERIAL
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MEAS	MEASURE
MECH	MECHANICAL
MED	MEDIUM
MFD	MANUFACTURED
MFG	MANUFACTURING
MFR	MANUFACTURER
MFR REC	MANUFACTURER'S RECOMMENDATION
MGD	MILLION GALLONS PER DAY
MGL	MILLIGRAMS PER LITER
MID	MIDDLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MON	MONUMENT
MOT	MOTOR
MSL	MEAN SEA LEVEL
MTD	MOUNTED
MTL	METAL
NA	NORTH
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NO	NUMBER
NOM	NOMINAL
NORM	NORMAL
NTS	NOT TO SCALE
NUM	NUMERAL
OA	OVERALL
OC	ON CENTER
OC EW	ON CENTER EACH WAY
OE	OUTSIDE DIAMETER
O/E	OR EQUAL
OH	OVERHEAD
OHE	OVERHEAD ELECTRIC
OL	OVERLOAD
OPNG	OPENING
OPP	OPPOSITE
OPT	OPTIONAL
ORIG	ORIGINAL
OVFL	OVERFLOW
PC	POINT OF CURVE
PERF	PERFORATED
PERIM	PERIMETER
PERM	PERMANENT
PERP	PERPENDICULAR
PH	ACID/ALKALINE SCALE
PI	POINT OF INTERSECTION
PKG	PACKAGE
PL	PROPERTY LINE OR PLATE
PLAT	PLATFORM
POS	POSITIVE
PPM	PARTS PER MILLION
PR	PAIR
PRESS	PRESSURE
PREV	PREVIOUS
PRI	PRIMARY
PRKG	PARKING
PS	PIPE SUPPORT
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH, GAUGE
PSL	PIPE SLEEVE
PT	POINT OF TANGENCY
PVG	PAVING

PWR	POWER
Q	RATE OF FLOW
QTR	QUARTER
QTY	QUANTITY
R	RADIUS
RD	ROAD
RECD	RECEIVED
RECOM	RECOMMENDATION
RED	REDUCER
REF	REFRIGERATOR OR REFERENCE
REINF	REINFORCE
REM	REMOVABLE
REP	REPAIR
REPL	REPLACE
REQD	REQUIRED
RESIL	RESILIENT
RJ	RESTRAINED JOINT
RM	ROOM
RND	ROUND
ROW	RIGHT OF WAY
RPM	REVOLUTIONS PER MINUTE
RPZ	REDUCED PRESSURE ZONE
RR	RAILROAD
S	SOUTH
S/S	START/STOP
SALV	SALVAGE
SAN	SANITARY
SCFM	STANDARD CUBIC FEET PER MINUTE
SCHD	SCHEDULE
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SECT	SECTION
SEG	SEGMENT
SF	SCALF FOOT (FEET)
SGL	SINGLE
SHLDR	SHOULDER
SHV	SHELVING
SIM	SIMILAR
SLF	SLEEVE
SLDR	SOLDER
SLNT	SEALANT
SLV	SLEEVE
SOLN	SOLUTION
SOLV	SOLVENT VALVE
SP	SUMP PUMP
SPEC	SPECIFICATION
SQ	SQUARE
SO IN	SQUARE INCH
SO YD	SQUARE YARD
SST	STAINLESS STEEL
STA	STATION
STD	STANDARD
STIF	STIFFENER
STK	STOCK
STRUCT	STRUCTURAL
SWD	SIDE WATER DEPTH
SWR	SEWER
SYM	SYMBOL
SYMM	SYMMETRICAL
T	TOP AND BOTTOM
TAN	TANGENT
TBM	TEMPORARY BENCHMARK
TDH	TOTAL DYNAMIC HEAD
TECH	TECHNICAL
TEL	TELEPHONE
TEMP	TEMPERATURE
TEMP	TEMPORARY
THK	THICKNESS
TOS	TOP OF BERM
TOS	TOP OF SLAB
TOW	TOP OF WALL
TYP	TYPICAL
UGND	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
UV	ULTRAVIOLET
V	VENT
VA	VOLT AMPERE
VAC	VACUUM
VAR	VARIABLE
VB	VACUUM BREAKER
VB	VALVE BOX
VERT	VERTICAL
VOC	VOLATILE ORGANIC COMPOUND
VOL	VOLUME
VTR	VENT THROUGH ROOF
W	WEST
W	WITH
W/O	WITHOUT
WAS	WASTE ACTIVATED SLUDGE
WD	WOOD
WHTR	WATER HEATER
WL	WATER LINE
WLD	WELDED
WM	WATER METER
WSFT	WATER SOFTENER
WT	WATER TABLE
WW	WASTE WATER
XFER	TRANSFER
XFMR	TRANSFORMER
YD	YARD DRAIN
YH	YARD HYDRANT
YI	YARD INLET
YR	YEAR

PIPE MATERIALS

ABS	ACRYLONITRILE BUTADIENE STYRENE PIPE
ACP	ASBESTOS CEMENT PIPE
BSP	BLACK STEEL PIPE
CIP	CAST IRON PIPE
CISP	CAST IRON SOIL PIPE
CMP	CORRUGATED METAL PIPE
CP	CONCRETE PIPE
CPP	CONCRETE PRESSURE PIPE
CPVC	CHLORINATED POLYVINYL CHLORIDE PIPE
CU P	COPPER PIPE/TUBING
DIP	DUCTILE IRON PIPE
FT	FLEXIBLE TUBING
FRP	FIBERGLASS REINFORCED PLASTIC PIPE
GSP	GALVANIZED STEEL PIPE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
PE	POLYETHYLENE (PLASTIC) PIPE
PVC	POLYVINYL CHLORIDE (PLASTIC) PIPE
PVF	POLYVINYL FLUORIDE (PLASTIC) PIPE
ROCP	REINFORCED CONCRETE CYLINDER PIPE
RCP	REINFORCED CONCRETE PIPE
SSTL	STAINLESS STEEL PIPE
STL	STEEL PIPE
VCP	VITRIFIED CLAY PIPE

VALVES AND JOINTS

AC CHKV	AIR CUSHION CHECK VALVE
ARV	AIR RELEASE VALVE
B CHKV	BALL CHECK VALVE
BF	BLIND FLANGE
BFP	BACKFLOW PREVENTER
BFV	BUTTERFLY VALVE
BO	BURIED GEAR OPERATOR
BV	BALL VALVE
C	COMPRESSION JOINT
C CHKV	CUSHION CHECK VALVE
CHKV	CHECK VALVE
CV	CHECK VALVE
DC	DOUBLE CONTAINED PIPE
DMJ	DISMANTLING JOINT
EJ	EXPANSION JOINT
EL VA	ELECTRIC VALVE ACTUATOR
FCA	FLANGED COUPLING ADAPTER
FH	FIRE HYDRANT
FL	FLANGED
GR	GROOVED END
GV	GATE VALVE
HU	HUB AND SPIGOT
K GV	KNIFE GATE VALVE
L	LONG RADIUS
MJ	MECHANICAL JOINT
NV	NEEDLE VALVE
OC CHKV	OIL CUSHIONED CHECK VALVE
P CHKV	PRESSURE CHECK VALVE
PE	PLAIN END
PHV	PINCH VALVE
PNEU VA	PNEUMATIC VALVE ACTUATOR
PNV	PUSH ON JOINT
PRV	PRESSURE REGULATING VALVE
PV	PLUG VALVE
RMJ	RESTRAINED MECHANICAL JOINT
RJ	RESTRAINED JOINT
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RS GTV	RESILIENT SEAT GATE VALVE
S	SOLDERED JOINT
SAV	SURGE ANTICIPATOR VALVE
SOLV	SOLENOID VALVE
SW	SOLVENT WELDED
THD	THREADED
TS&V	TAPPING SLEEVE AND VALVE
W	WELDED
WSLV	WALL SLEEVE

PROCESS FLUIDS

ACS	CARBON SLURRY
AER	AERATION
AHP	HIGH PRESSURE AIR
ALP	LOW PRESSURE AIR
ALUM	ALUM
ANE	ANAEROBIC EFFLUENT
ANI	ANAEROBIC INFLEUNT
ANOX	ANOXIC RECYCLE
ARE	AERATION EFFLUENT
ARI	AERATION INFLEUNT
ASH	INCINERATOR ASH
ASR	AERATED SUPERNATANT RETURN
AWR	ACID WASH RETURN
AWS	ACID WASH SUPPLY
AXE	ANOXIC EFFLUENT
AXI	ANOXIC INFLEUNT
BISULFITE	SODIUM BISULFITE
BISULFITE SOL	SODIUM BISULFITE SOLUTION
BWS	BACKWASH
BWW	BACKWASH WASTE
CCK	CENTRIFUGE BIOSOLIDS CAKE
CEN	CENTRATE
CFS	CENTRIFUGE FEED SOLIDS
CIP	CLEAN-IN PIPE
CL2	CHLORINE GAS
CLO2	CHLORINE DIOXIDE
CLS	CHLORINE SOLUTION
CN SCUM	CONCENTRATED SCUM
CNFS	CONDITIONING TANK FEED SOLIDS
CON	CONCENTRATE
CORH	CORROSION INHIBITOR
CRW	CLARIFIED RAW WATER
CS	CONDITIONED SLUDGE
CTE	DISINFECTION CONTACT TANK EFFLUENT
CTS	CENTRIFUGE THICKENED BIOSOLIDS
CW	COLD WATER (POTABLE)
CYCL INF	CYCLONE INFLEUNT
CYCL RCY	CYCLONE RECYCLE
D AL	DISSOLVED ALUM
DA	POLYMER DRY AIR
DEC	DECANT
DF	DIESEL FUEL
DFR	DIESEL FUEL RETURN
DFS	DIESEL FUEL SUPPLY
DGAS	DIGESTER GAS
DGR	DEWATERED GRIT
DPOLY	DRY POLYMER
DPSD	DRAINAGE PUMP STATION DISCHARGE
DR	DRAIN
DRS	DIGESTER RECIRCULATION SOLIDS
DS	DIGESTED SLUDGE
DSR	DECANT SUPERNATANT RETURN
DW FL	DEWATERING FLOCCULATION
DWS	DEWATERED SLUDGE
EI	EQUALIZATION INFLEUNT
ER	EQUALIZATION RETURN
F	FILTRATE
FD	FLOOR DRAIN
FD SCUM	FEED SCUM
FE	FINAL EFFLUENT
FECL	FERRIC CHLORIDE
FES	FERROUS SULFATE
FIRE	FIRE PROTECTION
FL	HYDROFLUOROSILICIC ACID
FLS	FOREIGN BIOSOLIDS LOADING
FLW	FILTERED WATER
FO	FUEL OIL
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FOV	FUEL OIL VENT
FSB	FLOTATION THICKENER SUBNATANT
FTFS	FLOTATION THICKENER FEED SOLIDS
FTRCY	FLOTATION THICKENER RECYCLE
FTS	FLOTATION THICKENED SOLIDS
FUS	FOREIGN BIOSOLIDS UNLOADING
FW	FINISHED WATER
GBFL	GRAVITY BELT THICKENER FILTRATE
GBFS	GRAVITY BELT THICKENER FEED SOLIDS
GBTS	GRAVITY BELT THICKENED SOLIDS
GRIT	GRIT
GSP	GRAVITY THICKENER OVERFLOW/SUPERNATANT
GTFS	GRAVITY THICKENER FEED SOLIDS
GTS	GRAVITY THICKENED SOLIDS
H2O2	PEROXIDE
HCL	HYDROCHLORIC ACID
HDO	HYDRAULIC OIL
HPSA	SERVICE AIR (HIGH PRESSURE)
HPW	HOT POTABLE WATER
HTFS	HOLDING TANK FEED SOLIDS
HVAC	HVAC
HW	HOT WATER (POTABLE)
HW REV RET	HOT WATER REVERSE RETURN
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HYPO	SODIUM HYPOCHLORITE
HYPO SOL	SODIUM HYPOCHLORITE SOLUTION
ICE	INTERMEDIATE CLARIFIER EFFLUENT
ICI	INTERMEDIATE CLARIFIER INFLEUNT
IFC	INCINERATOR FEED CAKE
INS	INTERMEDIATE BIOSOLIDS
ISE	INCINERATOR SCRUBBER WATER EFFLUENT
LO	LUBE OIL
LP	PROPANE
LPOLY	LIQUID POLYMER
LPSA	SERVICE AIR (LOW PRESSURE)
LS	LIME SLURRY
MIT	MEMBRANE INTEGRITY TEST AIR
ML	MIXED LIQUOR
NAOCL	SODIUM HYPOCHLORITE

NAOH	CAUSTIC
NAOH SOL	CAUSTIC SOLUTION
NAT GAS	NATURAL GAS
NG	NATURAL GAS
NH4	AMMONIA
NPW	NON POTABLE WATER
NPWW	NOT POTABLE WELL WATER
NRCY	NITRIFIED RECYCLE
O3	OZONE
OA	ODOROUS AIR
OTE	OXIDATION TOWER EFFLUENT
OTI	OXIDATION TOWER INFLEUNT
PA	PROCESS AIR
PACL	POLYALUMINUM CHLORIDE
PCE	PRIMARY CLARIFIER EFFLUENT
PCI	PRIMARY CLARIFIER INFLEUNT
PCS	PRIMARY CLARIFIER SOLIDS
PERM	PERMEATE
PDFS	PRIMARY DIGESTER FEED SOLIDS
PDS	PRIMARY DIGESTED SOLIDS
PDSP	PRIMARY DIGESTER SUPERNATANT
PDXS	PRIMARY DIGESTER TRANSFER SOLIDS
P04	PHOSPHATE COMPOUNDS
POLY SOL	POLYMER SOLUTION
PP	POTASSIUM PERMANGANATE
PW	POTABLE WATER
RAS	RETURN ACTIVATED SLUDGE
RCYW	RECYCLE WATER
RD	ROOF DRAIN
REJ	REJECT
RW	RAW WATER
RWW	RAW WASTEWATER INFLEUNT
SAMP	SAMPLE
SBD	SCRUBBER BLOWDOWN
SCB	SCUM CONCENTRATOR SUBNATANT
SCE	SECONDARY CLARIFIER EFFLUENT
SCF	SCRUBBER CHEMICAL FEED
SCI	SECONDARY CLARIFIER INFLEUNT
SCRUB EXH	SCRUBBER EXHAUST
SCRUB INTK	SCRUBBER INTAKE
SCUM	SCUM
SD	STORM DRAIN
SDS	SECONDARY DIGESTED SOLIDS
SDSP	SECONDARY DIGESTER SUPERNATANT
SE	SCREENED EFFLUENT
SE	SCRUBBER EXHAUST
SEPT UNLDG	SEPTIC TANK UNLOADING
SO	SULFUR DIOXIDE
SOA	SULFURIC ACID
SP	SODIUM PERMANGANATE
SPD	SUMP PUMP DISCHARGE
SPRAY	SPRAY WATER
SRC	SCRUBBER RECIRCULATION CLEANING
SRD	SCRUBBER RECIRCULATION DISCHARGE
SRS	SCRUBBER RECIRCULATION SUCTION
SS	SANITARY SEWER
SSFM	SANITARY SEWER FORCE MAIN
STM	STEAM
STORM	STORM DRAIN
SW	SETTLED WATER
TMP	TRANS MEMBRANE PRESSURE
TW	TREATED WATER
V	VENT
VAC	VACUUM
WAS	WASTE ACTIVATED SLUDGE

COA NAME: BARGE DESIGN SOLUTIONS, INC.

CODES AND STANDARDS

THE FOLLOWING CODES AND STANDARDS HAVE BEEN USED AS THE BASIS FOR DESIGN AND/OR SHALL BE UTILIZED BY THE CONTRACTOR TO ESTABLISH MINIMUM LEVELS OF QUALITY AND CONSTRUCTION TECHNIQUES.

1. GENERAL

A. 2024 INTERNATIONAL BUILDING CODE, WITH GEORGIA AMENDMENTS.

B. AMERICAN SOCIETY OF CIVIL ENGINEERS, "MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES," (ASCE 7-22).
2. CONCRETE

A. AMERICAN CONCRETE INSTITUTE, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318-25).

B. AMERICAN CONCRETE INSTITUTE, "SPECIFICATIONS FOR CONCRETE CONSTRUCTION," (ACI 301-20).

C. AMERICAN CONCRETE INSTITUTE, "GUIDE TO CONCRETE FLOOR AND SLAB CONSTRUCTION" (ACI 302.1R-15).

D. AMERICAN CONCRETE INSTITUTE, "CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES" (ACI 350-20).
3. MASONRY

A. THE MASONRY SOCIETY, "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES," (TMS 402-22).

B. THE MASONRY SOCIETY, "SPECIFICATION FOR MASONRY STRUCTURES," (TMS 602-22).
4. COLD-FORMED STEEL

A. AMERICAN IRON AND STEEL INSTITUTE, "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS," (AISI S100-16).

B. AMERICAN IRON AND STEEL INSTITUTE, "CODE OF STANDARD PRACTICE FOR COLD-FORMED STEEL FRAMING," (AISI S202-20).

C. AMERICAN IRON AND STEEL INSTITUTE, "NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL STRUCTURAL FRAMING," (AISI S240-20).
5. STEEL DECK

A. STEEL DECK INSTITUTE, "DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS, AND ROOF DECKS"

B. STEEL DECK INSTITUTE, "STANDARD FOR STEEL ROOF DECK," (SDI RD-2017).

FOUNDATIONS

1. SHALLOW FOUNDATION DESIGN IS BASED ON THE RECOMMENDATIONS REPORTED IN THE SITE SPECIFIC GEOTECHNICAL EXPLORATION REPORT PREPARED BY BUILDING AND EARTH SCIENCES, LLC APRIL 3, 2026. THE CONTRACTOR SHALL OBTAIN A COPY OF THE RPERT FOR REFERENCE.
2. THE FOUNDATIONS WERE DESIGNED BASED ON THE FOLLOWING NET ALLOWABLE SOIL BEARING PRESSURES:

A. ISOLATED SPREAD FOUNDATIONS 2,000 PSF

B. CONTINUOUS FOUNDATIONS 2,000 PSF
3. ALLOWABLE BEARING PRESSURES ARE BASED ON BEARING AGAINST FIRM, UNDISTURBED SOIL AND OR ENGINEERED BACKFILL. WHERE UNACCEPTABLE MATERIAL OCCURS, EXCAVATE AND REPLACE WITH ENGINEERED FILL AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
4. ALL FOUNDATION BEARING SURFACES SHALL BE REVIEWED BY THE GEOTECHNICAL ENGINEER PRIOR TO STEEL OR CONCRETE PLACEMENT TO ENSURE THAT THE BEARING SURFACES ARE CONSISTENT WITH THE ALLOWABLE BEARING PRESSURES NOTED.
5. CONTRACTOR SHALL KEEP ALL FREE STANDING WATER OUT OF EXCAVATION. CONTRACTOR SHALL PROVIDE DEWATERING MEASURES AS NECESSARY PRIOR TO PLACING CONCRETE.
6. EXISTING SOIL, WHICH IS DEEMED NON-USABLE BY THE GEOTECHNICAL ENGINEER DUE TO FAILURE OF THE CONTRACTOR TO PROMPTLY DE-WATER THE SITE SHALL BE REMOVED AND REPLACED WITH SUITABLE FILL AT THE CONTRACTOR'S EXPENSE.
7. DESIGN OF TEMPORARY AND PERMANENT SHORING FOR EXCAVATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. FOR WALLS OR GRADE WALLS HAVING FILL ON EACH SIDE, PROCEED WITH BACKFILLING OPERATIONS SIMULTANEOUSLY IN UNIFORM LIFTS. DIFFERENTIAL ELEVATION OF TOP OF LIFTS BETWEEN EACH SIDE SHALL NOT EXCEED 18 INCHES.
9. COMPACT A MINIMUM OF 2FT OF DEPTH OF NATIVE SOIL BENEATH EXCAVATIONS FOR FOUNDATIONS AND ASSOCIATED COMPACTED CRUSHED STONE TO A MINIMUM OF 95 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY.
10. COMPACTED CRUSHED STONE SHALL CONSIST OF ASTM D448 NO. 57 OR NO. 67 AGGREGATE, COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY PER FOOT OF DEPTH.

CONCRETE

1. MINIMUM 28 DAY CONCRETE COMPRESSIVE STRENGTH SHALL BE AS FOLLOWS:

A. SPREAD & CONTINUOUS FOOTINGS 4,000 PSI

B. FOUNDATION WALLS 4,000 PSI

C. FLOOR SLABS 4,000 PSI
2. CONCRETE SHALL BE PROPORTIONED, BATCHED, MIXED, PLACED, CONSOLIDATED, AND CURED IN ACCORDANCE WITH ACI 301, 304, 308, 309 AND 318.
3. CONCRETE STRENGTH SHALL MEET OR EXCEED 100% OF THE SPECIFIED DESIGN COMPRESSIVE STRENGTH PRIOR TO APPLYING ANY LOAD TO THE MEMBER.
4. ALL CONSTRUCTION JOINTS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE INCORPORATED INTO THE STRUCTURE. ADDITIONAL CONSTRUCTION JOINTS TO FACILITATE CONSTRUCTION SHALL BE LOCATED AND DETAILED ON THE SHOP DRAWINGS FOR REVIEW AND APPROVAL BY THE ENGINEER.
5. HORIZONTAL CONSTRUCTION JOINTS SHALL NOT BE PERMITTED IN WALLS AND BEAMS, UNLESS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED IN WRITING BY THE ENGINEER.
6. TREMIES ARE REQUIRED ON ALL POURS HIGHER THAN 10-FEET.
7. ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 3/4-INCH.
8. WALKWAYS AND SIDEWALKS SHALL BE POURED WITH SLIGHT SLOPE AND NO LOW SPOTS SO THEY WILL DRAIN FREE. ALL SLOPES SHALL COMPLY WITH ADA REQUIREMENTS.

SLAB ON GRADE

1. THE GEOTECHNICAL ENGINEER SHALL REVIEW THE AGGREGATE BASE AND VERIFY A MINIMUM MODULUS OF SUBGRADE REACTION OF 150 PSI HAS BEEN ACHIEVED.
2. EXCAVATED / STRIPPED AREAS SHALL BE PROOF-ROLLED WITH APPROPRIATE EQUIPMENT AS APPROVED BY THE GEOTECHNICAL ENGINEER. SOFT AREAS SHALL BE REMOVED AND REPLACED WITH APPROVED BACKFILL AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
3. SAWED CONTROL JOINTS SHALL BE CUT AS SOON AS SLAB CAN BE WALKED ON, BUT STARTED NO LATER THAN 8 HOURS AFTER POURING. CONTROL JOINTS SHALL BE COMPLETED NO LATER THAN 16 HOURS AFTER POURING. THESE TIME LIMITS SHALL APPLY REGARDLESS OF THE TIME OF DAY. AN EARLY ENTRY DRY CUT SAW SUCH AS THE SOFF-CUT SYSTEM SHALL BE USED.
4. PROVIDE DIAGONAL BARS IN SLABS AT ALL RE-ENTRANT CORNERS. SEE DETAIL 5/99-S501.
5. ADEQUATE MEASURE TO PREVENT PLASTIC SHRINKAGE OF SLAB SHALL BE TAKEN BY THE CONTRACTOR AS OUTLINED IN ACI 302.1R.

DESIGN CRITERIA

THE STRUCTURE HAS BEEN DESIGNED FOR THE FOLLOWING LOADS.

1. DEAD LOADS: ACTUAL WEIGHTS OF BUILDING MATERIALS, STRUCTURAL COMPONENTS, AND EQUIPMENT

A. ROOF DEAD LOADS

1. FRAMING

2. METAL DECK, INSULATION

3. STANDING SEAM PANELS

4. MPE

B. PUMP STATION DEAD LOADS

1. FRAMING AND SLAB
2. LIVE LOADS

A. ROOF LIVE LOADS (REDUCIBLE)

B. FLOOR LIVE LOADS

1. EQUIPMENT AREAS

2. ELECTRICAL ROOMS

3. SLAB-ON-GRADE UNIFORM LOAD

4. AREAS W/UNRESTRICTED VEHICLE ACCESS

C. MISCELLANEOUS LIVE LOADS

1. GUARDRAILS/HANDRAILS

a. 50 PLF FOR AREAS W/OCCUPANT LOAD GREATER THAN OR EQUAL TO 50.

b. OR 200 PLF FOR AREAS W/OCCUPANT LOAD LESS THAN 50.

c. OR 200 LB CONCENTRATED LOAD APPLIED IN ANY DIRECTION AT ANY POINT.

2. LADDERS (FIXED): 300 LB CONCENTRATED LOAD FOR EVERY 10 FT OF HEIGHT.
3. SNOW LOADS

A. GROUND SNOW LOAD (P_g)
4. WIND LOADS

A. BUILDING

1. ULTIMATE DESIGN WIND SPEED (V_{ult})

2. ALLOWABLE STRESS DESIGN WIND SPEED (V_{asd})

3. RISK CATEGORY

4. EXPOSURE CATEGORY

5. INTERNAL PRESSURE COEFF. (GC_p)

6. C & G WIND PRESSURES

5. SEISMIC LOADS

A. GENERAL CRITERIA

1. RISK CATEGORY

2. SEISMIC IMPORTANCE FACTOR (I_b)

3. 0.2 SEC MAPPED SPECTRAL ACCELERATION (S_s)

4. 1.0 SEC MAPPED SPECTRAL ACCELERATION (S₁)

5. SITE CLASS

6. 0.2 SEC DESIGN SPECTRAL ACCELERATION (S_{ds})

7. 1.0 SEC DESIGN SPECTRAL ACCELERATION (S_{dl})

8. SEISMIC DESIGN CATEGORY

9. ANALYSIS PROCEDURE USED (UNO)

10. BASIC SEISMIC FORCE RESISTING SYSTEM

11. DESIGN BASE SHEAR

12. SEISMIC RESPONSE COEFFICIENT (C_s)

13. RESPONSE MODIFICATION COEFFICIENT (R)

6. TORNADO LOADS

1. RISK CATEGORY

2. EFFECTIVE PLAN AREA

3. TORNADO WINDSPEED
- REINFORCING STEEL FOR CONCRETE
1. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60 (DEFORMED) UNO. REINFORCING STEEL SHALL CONFORM TO ASTM A706, GR 60 (DEFORMED) WHERE NOTED ON PLANS.

2. WELDED WIRE REINFORCEMENT (WWR) SHALL CONFORM TO ASTM A1064 AND SHALL BE PROVIDED IN FLAT SHEETS ONLY. FABRIC SHALL LAP TWO FULL MESHES AND BE SECURELY FASTENED AT EACH SIDE AND EACH END.

3. DETAILING, FABRICATION, AND ERECTION OF REINFORCING STEEL, UNLESS OTHERWISE NOTED, SHALL CONFORM TO ACI MNL-66, THE CRSI, "MANUAL OF STANDARD PRACTICE," AND ACI 318.

4. REINFORCING STEEL SHALL BE CONTINUOUS ACROSS ALL CONSTRUCTION JOINTS UNO.

5. REINFORCING STEEL SHALL NOT BE HEATED OR WELDED AND MUST BE DRY AND FREE OF CONTAMINANTS SUCH AS RUST, DIRT, GREASE, AND PROTECTIVE COATINGS.

6. ALL BAR SPLICES SHALL BE CLASS B TENSION SPLICES IN ACCORDANCE WITH ACI 318.
- ANCHOR RODS
1. ANCHOR RODS SHALL CONFORM TO ASTM F1554 GRADE 36, UNO.

2. COLUMN ANCHOR BOLT HOLES SHALL BE OVERSIZED IN ACCORDANCE WITH AISC "STEEL CONSTRUCTION MANUAL"

3. ANCHOR RODS SHALL BE FULLY THREADED, BE FREE OF CUTTING OILS, GREASE AND OTHER CONTAMINANTS.

4. ALL ANCHOR RODS SHALL INCLUDE ONE HEAVY HEX NUT (ASTM A563) AND A PLATE WASHER PER AISC "STEEL CONSTRUCTION MANUAL".

5. ANCHOR RODS MUST BE LOCATED BY MEANS OF A TEMPLATE AND BE SECURED PRIOR TO CONCRETE PLACEMENT.

6. DO NOT HAND SET OR WET STICK ANCHOR RODS. ANCHOR ROD LAYOUT, QUANTITY, DIAMETER, EMBEDMENT, AND MINIMUM PROJECTION SHALL BE AS SHOWN.
- REINFORCED MASONRY
1. CONCRETE MASONRY UNITS (CMU) SHALL CONFORM TO ASTM C90 NORMAL WEIGHT HOLLOW LOAD BEARING BLOCK UNITS. FIRE-RATED CMU SHALL BE PROVIDED WHERE NOTED ON THE ARCHITECTURAL DRAWINGS.

2. MORTAR SHALL CONFORM TO ASTM C270, TYPE S.

3. HORIZONTAL JOINT REINFORCING SHALL BE W1.7 (9 GAGE), GALVANIZED, LADDER TYPE SPACED AT 16" OC, PROVIDE MIN 8" LAP AT ALL SPLICE LOCATIONS.

4. COMPRESSIVE STRENGTH OF CONCRETE MASONRY AS DEFINED IN THE TMS 602. SPECIFICATION SHALL BE f_m = 2,000 PSI MINIMUM AT 28 DAYS.

5. ALL CORES CONTAINING REINFORCING SHALL BE FULLY GROUTED.

6. GROUT SHALL HAVE A SLUMP OF 8" TO 10".

7. PROVIDE TWO GROUTED CORES ON EACH SIDE OF ALL DOOR AND WINDOW OPENINGS. PROVIDE TWO GROUTED CORES ON EACH SIDE OF ALL CORNERS AND AT EACH END CORE. REINFORCE EACH CORE WITH ONE-BAR OF SIZE MATCHING WALL REINFORCING, UNO.

8. PROVIDE AN 8" BOND BEAM AT THE TOP OF ALL CMU WALLS AND REINFORCE WITH TWO #5 CONTINUOUS REINFORCING BARS, UNO.
- STEEL DECK
1. STEEL DECK SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS OF THE STEEL DECK INSTITUTE (SDI).

2. PROVIDE 1 1/2" MINIMUM DECK END BEARING.

3. METAL DECK SHALL BE FASTENED TO ALL SUPPORTING STEEL AND INTERMEDIATE SUPPORTS USING HILTI X-ENP-19L15 FASTENERS FOR SUPPORT STEEL THICKNESS >= 3/8" AND HILTI X-HSN-24 FASTENERS FOR SUPPORT STEEL THICKNESS < 3/8". FASTENER PATTERN SHALL BE AS NOTED ON PLANS.

4. SIDELAP FASTENERS SHALL BE HILTI S-SLC 01 M HWH SELF DRILLING SCREWS SPACED AS SHOWN ON PLANS.
- CONCRETE/CMU ANCHORS
1. REFER TO SPEC SECTION 05 50 00 METAL FABICATIONS FOR ADDITIONAL REQUIREMENTS AND MATERIAL TYPE.

2. SUBSTITUTION OF EXPANSION OR DRILLED AND GROUTED-IN ANCHORS FOR EMBEDDED ANCHORS SHOWN ON THE DRAWINGS WILL NOT BE PERMITTED UNLESS APPROVED BY THE ENGINEER.

3. CARE SHALL BE TAKEN WHEN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH REINFORCING WHERE POSSIBLE. HOLES SHALL BE DRY, HAMMER DRILLED AND CLEANED PER THE MANUFACTURER'S INSTRUCTIONS. ALTERNATIVE DRILLING METHODS AND INSTALLATION CONDITIONS MAY BE ACCEPTABLE PROVIDED INSTALLER HAS RECEIVED WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER OF RECORD.

4. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AT NOT LESS THAN MINIMUM EDGE DISTANCES AND/OR SPACINGS INDICATED IN THE MANUFACTURER'S LITERATURE.

5. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL ARRANGE FOR A MANUFACTURER'S FIELD REPRESENTATIVE TO PROVIDE INSTALLATION TRAINING FOR ALL PRODUCTS TO BE USED. ONLY TRAINED INSTALLERS SHALL PERFORM POST INSTALLED ANCHOR INSTALLATION. A RECORD OF TRAINING SHALL BE KEPT ON SITE AND BE MADE AVAILABLE TO THE EOR AS REQUESTED.

6. EXCEPT WHERE INDICATED ON THE DRAWINGS, POST-INSTALLED ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHOR TYPES AS PROVIDED BY HILTI, INC.

A. ANCHORAGE TO CONCRETE

a. ADHESIVE (EPOXY) ANCHORS FOR CRACKED AND UNCRACKED CONCRETE USE:

1. HILTI HIT-HY 200 V3 SAFE SET SYSTEM WITH HILTI HIT-Z-R 316 SS ROD.

2. HILTI HIT-HY 200 V3 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT SYSTEM WITH HAS-316 SS THREADED ROD PER ICC ESR-4868.

b. MECHANICAL (EXPANSION) ANCHORS FOR CRACKED AND UNCRACKED CONCRETE

1. HILTI KWIK BOLT-TZ2 SS 316 EXPANSION ANCHORS PER ICC ESR-4266

B. REBAR DOWELING INTO CONCRETE

a. ADHESIVE FOR CRACKED AND UNCRACKED CONCRETE USE:

1. HILTI HIT-HY 200 V3 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT SYSTEM.

C. ANCHORAGE TO SOLID GROUTED MASONRY

a. ADHESIVE (EPOXY) ANCHORS USE:

1. HILTI HIT-HY 270 MASONRY ADHESIVE ANCHORING SYSTEM WITH HAS 316 SS THREADED ROD.

2. MECHANICAL (EXPANSION) ANCHORS USE:

1. HILTI KWIK BOLT-TZ2 SS 316 EXPANSION ANCHORS PER ICC ESR-4561

2. HILTI KWIK HUS-EZ SS 316 SCREW ANCHORS PER ICC ESR-3056

D. ANCHORAGE TO HOLLOW / MULTI-WYTHE MASONRY

a. ADHESIVE ANCHORS USE:

1. HILTI HIT-HY 270 MASONRY ADHESIVE ANCHORING SYSTEM WITH HAS 316 SS THREADED ROD.

2. THE APPROPRIATE SIZE SCREEN TUBE SHALL BE USED PER ADHESIVE MANUFACTURER'S RECOMMENDATION.

7. ANCHOR CAPACITY USED IN DESIGN SHALL BE BASED ON THE TECHNICAL DATA PUBLISHED BY HILTI OR OTHER SUCH METHOD AS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD. REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS THAT HAVE BEEN SEALED BY ANOTHER LICENSED ENGINEER DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF MEETING THE PERFORMANCE OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR SEISMIC USES, LOAD RESISTANCE, INSTALLATION CATEGORY, AND AVAILABLE SUBSTITUTION INSTALLATION INSTRUCTIONS. ADHESIVE/ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE, INSTALLATION TEMPERATURE, MOISTURE CONDITION OF CONCRETE, AND DRILLING METHODS.

MISCELLANEOUS

1. GENERAL NOTES AND TYPICAL DETAILS DESCRIBE GENERAL CRITERIA APPLICABLE TO ALL SIMILAR CONDITIONS THROUGHOUT THE PROJECT, REGARDLESS OF WHETHER OR NOT THEY ARE SPECIFICALLY REFERENCED IN THE PLANS OR DETAILS.

2. DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM THE STRUCTURAL ENGINEER BEFORE CONTINUING WITH CONSTRUCTION.

3. CONTRACTOR SHALL COORDINATE THE STRUCTURAL DOCUMENTS WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION AND CIVIL DOCUMENTS. ARCHITECT/STRUCTURAL ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY.

4. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS, FOR DIMENSIONS TO BE CONFIRMED AT THE JOBSITE, FOR FABRICATION PROCESSES, AND FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION.

5. NO SUBSTITUTIONS OF MATERIAL WILL BE ALLOWED WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.

6. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, MILL CERTIFICATES, AND PRODUCT DATA FOR ALL MATERIALS AND PRODUCTS SHOWN IN THE CONSTRUCTION DOCUMENTS, INCLUDING BUT NOT LIMITED TO, CONCRETE MIX DESIGNS, STEEL REINFORCEMENT, STRUCTURAL STEEL, AND CAST-IN-PLACE AND POST-INSTALLED ANCHORS. THE SHOP DRAWINGS SHALL INCLUDE BOTH FABRICATION AND ERECTION DRAWINGS AND SHALL CONTAIN PLANS, ELEVATIONS, AND DETAILS. REPRODUCTION OF THE CONSTRUCTION DRAWINGS IS NOT AN ACCEPTABLE SHOP DRAWING SUBMITTAL.

7. SHOP DRAWINGS SHALL NOT BE REVIEWED FOR APPROVAL UNLESS CHECKED BY THE FABRICATOR AND APPROVED BY THE CONTRACTOR. REVIEW OF THE SHOP DRAWINGS BY THE ENGINEER DOES NOT ELIMINATE THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH ALL REQUIREMENTS SET FORTH IN THE CONSTRUCTION DOCUMENTS.

8. CONTRACTOR SHALL COMPLY WITH LOCAL, STATE, FEDERAL AND OWNERS SAFETY REGULATIONS WHILE WORKING. STRUCTURAL ENGINEER DOES NOT ASSUME ANY RESPONSIBILITY FOR CONSTRUCTION SITE SAFETY.

9. CONTRACTOR SHALL REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

10. VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, AND ELEVATIONS BEFORE STARTING WORK. NOTIFY STRUCTURAL ENGINEER OF ANY DISCREPANCY. NOTIFY STRUCTURAL ENGINEER IN WRITING OF CONDITIONS ENCOUNTERED IN THE FIELD CONTRADICTORY TO THOSE SHOWN ON THE STRUCTURAL CONTRACT DOCUMENTS.

LIGHT GAUGE TRUSSES

1. ROOF TRUSSES SHALL BE DESIGNED TO SUPPORT THE FOLLOWING GRAVITY LOADS:

A. TOP CHORD

9 PSF DEAD LOAD (3 PSF MIN DL FOR WIND UPLIFT)

20 PSF LIVE LOAD

B. BOTTOM CHORD

10 PSF DEAD LOAD (0 PSF MIN DL FOR WIND UPLIFT)

10 PSF LIVE LOAD

2. NOTE: BOTTOM CHORD LIVE LOAD IS NON-CONCURRENT w/OTHER LIVE LOADS.

3. DEFLECTION LIMITS FOR ROOF TRUSSES SHALL BE AS FOLLOWS:

A. LIVE LOAD 1/360

B. TOTAL LOAD 1/240

4. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION REGARDING TRUSS CONFIGURATIONS AND DIMENSIONS OF TRUSSES NOT SHOWN ON STRUCTURAL DRAWINGS.

5. ALL TRUSS-TO-TRUSS CONNECTIONS AND UPLIFT/ANCHORAGE CONNECTIONS SHALL BE MADE USING GALVANIZED METAL PLATE CONNECTORS UNLESS OTHERWISE NOTED.

6. THE DESIGN OF THE TRUSSES IS THE SOLE RESPONSIBILITY OF THE MANUFACTURER. THE DESIGN OF THE LIGHT GAUGE TRUSSES SHALL INCLUDE ALL PERMANENT AND TEMPORARY BRACING REQUIRED BY DESIGN. ALL TRUSS-TO-TRUSS CONNECTIONS NOT SPECIFIED ON THE DRAWINGS. A PROFESSIONAL ENGINEER LICENSED IN THE PROJECT STATE SHALL DESIGN THE TRUSSES.

7. SHOP DRAWINGS SHALL INCLUDE THE TRUSS DESIGNS, CONNECTION DESIGNS, PERMANENT AND TEMPORARY BRACING DESIGNS, AND A DIMENSIONED PLAN LAYOUT SHEET, WITH ALL DOCUMENTS SEALED BY A QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION, AND UNDER THAT ENGINEER'S DIRECT SUPERVISION. INCOMPLETE SUBMITTALS WILL BE RETURNED WITHOUT BEING REVIEWED.

ULTIMATE COMPONENTS AND CLADDING WIND PRESSURES								
EFFECTIVE WIND AREA	ROOF ZONE					WALL ZONE		
	1	2	2'	3	3'	4	5	
≤10 SF	.	.	.	.	.	.	.	.
50 SF	.	.	.	.	.	.	.	.
100 SF	.	.	.	.	.	.	.	.
>500 SF	.	.	.	.	.	.	.	.
a = 3.0' MEAN ROOF HEIGHT, h = 15' LEAST HORIZONTAL DIMENSION: 20'-0"								
NOTES: 1. PRESSURES ARE IN PSF. 2. SEE SKETCHES THIS SHEET FOR DESCRIPTION OF ZONES. 3. PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE EXTERIOR SURFACES, RESPECTIVELY. 4. EACH COMPONENT SHALL BE DESIGNED FOR MAXIMUM POSITIVE AND NEGATIVE PRESSURES IN ACCORDANCE WITH ASCE 7. 5. PRESSURES ARE BASED ON ULTIMATE WIND SPEED (3-SEC GUST). 6. JOIST NET UPLIFT COMBINATION IS 0.6D + 0.6W, "D" = 6 PSF								

STRUCTURAL NOTES

HENRY COUNTY WATER AUTHORITY

EAST LAKE BPS REPLACEMENT

HENRY COUNTY, GEORGIA

REVISION INFORMATION		DESCRIPTION:	
REV	CHK	DATE	DESCRIPTION
1	DR	07/30/2026	PRELIMINARY DESIGN (50%) SUBMITTAL FOR GMP
2	DR		
3	DR		
4	DR		
5	DR		
6	DR		
7	DR		
8	DR		
9	DR		
10	DR		
11	DR		
12	DR		
13	DR		
14	DR		
15	DR		
16	DR		
17	DR		
18	DR		
19	DR		
20	DR		

00-S001
FILE NO: 3606832

PRELIMINARY
NOT FOR
CONSTRUCTION

7/31/2026 9:17:29 AM
DATE

BARGE
DESIGN SOLUTIONS®

615.850 AVENUE SOUTH / SUITE 700 / NASHVILLE, TN 37203
PHONE: (615) 284-1600

STATEMENT OF SPECIAL INSPECTIONS

THE OWNER SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PERFORM INSPECTIONS DURING CONSTRUCTION IN ACCORDANCE WITH THE REQUIREMENTS GIVEN IN CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE AND THE FOLLOWING TABLES. 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.

CONTRACTOR RESPONSIBILITIES

THE CONTRACTOR SHALL SUBMIT TO THE BUILDING OFFICIAL AND THE ARCHITECT A WRITTEN STATEMENT OF RESPONSIBILITY THAT CONTAINS THE FOLLOWING:

- 1. ACKNOWLEDGMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED WITHIN THIS STRUCTURAL QUALITY ASSURANCE PLAN.
- 2. ACKNOWLEDGEMENT THAT CONTROL SHALL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL.
- 3. PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING, AND THE DISTRIBUTION OF REPORTS.
- 4. IDENTIFICATION AND QUALIFICATIONS OF THE PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATION.
- 5. A LIST OF THE INDIVIDUALS, APPROVED AGENCIES, OR FIRMS INTENDED TO BE RETAINED FOR CONDUCTING THE SPECIAL INSPECTIONS.

THE STRUCTURAL TESTING/INSPECTION AGENCY THAT IS TO ACT AS THE SPECIAL INSPECTOR WILL BE HIRED BY THE OWNER.

CONTRACTOR SHALL PAY FOR ANY ADDITIONAL STRUCTURAL TESTING/INSPECTION REQUIRED FOR WORK OR MATERIALS NOT COMPLYING WITH THE CONSTRUCTION DOCUMENTS DUE TO NEGLIGENCE OR NONCONFORMANCE AND SHALL PAY FOR ANY ADDITIONAL STRUCTURAL TESTING/INSPECTION REQUIRED FOR HIS CONVENIENCE.

CONTRACTOR IS RESPONSIBLE TO ENSURE THAT THE SPECIAL INSPECTOR IS PRESENT FOR ALL WORK REQUIRING SPECIAL INSPECTION. ANY WORK THAT REQUIRES SPECIAL INSPECTION AND IS PERFORMED WITHOUT THE SPECIAL INSPECTOR BEING PRESENT IS SUBJECT TO BEING DEMOLISHED AND RECONSTRUCTED.

CONTRACTOR HAS THE FOLLOWING RESPONSIBILITIES TO THE SPECIAL INSPECTOR:

- 1. PROVIDE COPY OF CONSTRUCTION DOCUMENTS TO THE SPECIAL INSPECTOR.
- 2. NOTIFY THE SPECIAL INSPECTOR SUFFICIENTLY IN ADVANCE OF OPERATIONS TO ALLOW ASSIGNMENT OF PERSONNEL AND SCHEDULING OF TESTS.
- 3. COOPERATE WITH SPECIAL INSPECTOR AND PROVIDE ACCESS TO WORK.
- 4. PROVIDE SAMPLES OF MATERIALS TO BE TESTED IN REQUIRED QUANTITIES.
- 5. PROVIDE STORAGE SPACE FOR THE SPECIAL INSPECTOR'S EXCLUSIVE USE, SUCH AS FOR STORING AND CURING CONCRETE TESTING SAMPLES.
- 6. PROVIDE LABOR TO ASSIST THE SPECIAL INSPECTOR IN PERFORMING TESTS/INSPECTIONS.

SPECIAL INSPECTOR RESPONSIBILITIES

SPECIAL INSPECTOR SHALL MAINTAIN RECORDS OF INSPECTIONS IN ACCORDANCE WITH CHAPTER 17 OF THE BUILDING CODE AND SHALL DISTRIBUTE THESE RECORDS TO THE BUILDING OFFICIAL, ARCHITECT, AND STRUCTURAL ENGINEER ON A WEEKLY BASIS. 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. AT THE CONCLUSION OF THE PROJECT THE SPECIAL INSPECTOR SHALL SUBMIT A WRITTEN STATEMENT THAT THE SPECIAL INSPECTIONS DURING CONSTRUCTION HAVE COMPLIED WITH THIS STRUCTURAL QUALITY ASSURANCE PLAN AND THAT ANY DISCREPANCIES NOTED DURING CONSTRUCTION HAVE BEEN CORRECTED.

STEEL DECK INSPECTION NOTES

- 1. QUALITY CONTROL (QC) AS SPECIFIED SHALL BE PROVIDED BY THE INSTALLER. QUALITY ASSURANCE (QA) SHALL BE PROVIDED BY OTHERS.
- 2. "OBSERVE" SHALL MEAN TO INSPECT THESE ITEMS ON AN INTERMITTENT BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS. FREQUENCY OF OBSERVATIONS SHALL BE ADEQUATE TO CONFIRM THAT THE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE APPLICABLE DOCUMENTS. IN THE EVENT THAT OBSERVATIONS DETERMINE THAT THE MATERIALS AND/OR WORKMANSHIP ARE NOT IN CONFORMANCE WITH THE APPLICABLE DOCUMENTS, ADDITIONAL INSPECTIONS SHALL BE PERFORMED TO DETERMINE THE EXTENT OF NON-CONFORMANCE.
- 3. "PERFORM" SHALL MEAN TO PERFORM THESE TASKS PRIOR TO FINAL ACCEPTANCE FOR EACH ITEM OR ELEMENT.
- 4. WITHIN THE LISTED TASKS, "DOCUMENT" SHALL MEAN THE INSPECTOR SHALL PREPARE REPORTS OR OTHER APPROPRIATE WRITTEN DOCUMENTATION INDICATING THAT THE WORK HAS OR HAS NOT BEEN PERFORMED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.

SDI TABLE 1.1
INSPECTION OR EXECUTION TASKS PRIOR TO DECK PLACEMENT

	TASK	QC	QA
A	VERIFY COMPLIANCE OF MATERIALS (DECK AND ALL DECK ACCESSORIES) WITH CONSTRUCTION DOCUMENTS, INCLUDING PROFILES, MATERIAL PROPERTIES, AND BASE METAL THICKNESS.	PERFORM	PERFORM
B	DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACCESSORIES.	PERFORM	PERFORM

SDI TABLE 1.2
INSPECTION OR EXECUTION TASKS AFTER DECK PLACEMENT

	TASK	QC	QA
A	VERIFY COMPLIANCE OF DECK AND ALL DECK ACCESSORIES INSTALLATION WITH CONSTRUCTION DOCUMENTS.	PERFORM	PERFORM
B	VERIFY DECK MATERIALS ARE REPRESENTED BY THE MILL CERTIFICATIONS THAT COMPLY WITH THE CONSTRUCTION DOCUMENTS.	N/A	PERFORM
C	DOCUMENT ACCEPTANCE OR REJECTION OF INSTALLATION OF DECK AND DECK ACCESSORIES.	PERFORM	PERFORM

SDI TABLE 1.3
INSPECTION OR EXECUTION TASKS PRIOR TO WELDING

	TASK	QC	QA
A	WELDING PROCEDURE SPECIFICATIONS (WPS) AVAILABLE.	OBSERVE	OBSERVE
B	MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE.	OBSERVE	OBSERVE
C	MATERIAL IDENTIFICATION (TYPE/GRADE).	OBSERVE	OBSERVE
D	CHECK WELDING EQUIPMENT.	OBSERVE	OBSERVE

SDI TABLE 1.4
INSPECTION OR EXECUTION TASKS DURING WELDING

	TASK	QC	QA
A	USE OF QUALIFIED WELDERS.	OBSERVE	OBSERVE
B	CONTROL AND HANDLING OF WELDING CONSUMABLES.	OBSERVE	OBSERVE
C	ENVIRONMENTAL CONDITIONS (WIND SPEED, MOISTURE, TEMPERATURE).	OBSERVE	OBSERVE
D	WPS FOLLOWED.	OBSERVE	OBSERVE

SDI TABLE 1.5
INSPECTION OR EXECUTION TASKS AFTER WELDING

	TASK	QC	QA
A	VERIFY SIZE AND LOCATION OF WELDS, INCLUDING SUPPORT, SIDELAP, AND PERIMETER WELDS.	PERFORM	PERFORM
B	WELDS MEET VISUAL ACCEPTANCE CRITERIA.	PERFORM	PERFORM
C	VERIFY REPAIR ACTIVITIES.	PERFORM	PERFORM
D	DOCUMENT ACCEPTANCE OR REJECTION OF WELDS.	PERFORM	PERFORM

SDI TABLE 1.6
INSPECTION OR EXECUTION TASKS PRIOR TO MECHANICAL FASTENING

	TASK	QC	QA
A	MANUFACTURER INSTALLATION INSTRUCTIONS AVAILABLE FOR MECHANICAL FASTENERS	OBSERVE	OBSERVE
B	PROPER TOOLS AVAILABLE FOR FASTENER INSTALLATION.	OBSERVE	OBSERVE
C	PROPER STORAGE FOR MECHANICAL FASTENERS.	OBSERVE	OBSERVE

SDI TABLE 1.7
INSPECTION OR EXECUTION TASKS DURING MECHANICAL FASTENING

	TASK	QC	QA
A	FASTENERS ARE POSITIONED AS REQUIRED.	OBSERVE	OBSERVE
B	FASTENERS ARE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.	OBSERVE	OBSERVE

SDI TABLE 1.8
INSPECTION OR EXECUTION TASKS AFTER MECHANICAL FASTENING

	TASK	QC	QA
A	CHECK SPACING, TYPE, AND INSTALLATION OF SUPPORT FASTENERS	PERFORM	PERFORM
B	CHECK SPACING, TYPE, AND INSTALLATION OF SIDELAP FASTENERS	OBSERVE	OBSERVE
C	CHECK SPACING, TYPE, AND INSTALLATION OF PERIMETER FASTENERS	PERFORM	PERFORM
D	VERIFY REPAIR ACTIVITIES	PERFORM	PERFORM
E	DOCUMENT ACCEPTANCE OR REJECTION OF MECHANICAL FASTENERS	PERFORM	PERFORM

TABLE 1705.6
REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODICALLY SPECIAL INSPECTION
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	-	X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	-	X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	-	X
4. DURING FILL PLACEMENT, VERIFY USE OF PROPER MATERIALS AND PROCEDURES IN ACCORDANCE WITH THE PROVISIONS OF THE APPROVED GEOTECHNICAL REPORT. VERIFY DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	-
5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	-	X

ABBREVIATIONS

AB	ANCHOR BOLT	FIN FLR	FINISHED FLOOR	PL	PLATE
ADDL	ADDITIONAL	FS	FAR SIDE	PREFAB	PREFABRICATED
AFF	ABOVE FINISH FLOOR	FTG	FOOTING	PSF	POUNDS PER SQUARE FOOT
ALT	ALTERNATE	GA	GAUGE	PSI	POUNDS PER SQUARE INCH
APPROX	APPROXIMATE, APPROXIMATELY	GALV	GALVANIZE, GALVANIZED	PSL	PARALLEL STRAND LUMBER
ARCH	ARCHITECT, ARCHITECTURAL	GR	GRADE	PT	PRESERVATIVE TREATED
B/	BOTTOM OF	HDD	HEADED	RD	ROOF DRAIN
BLDG	BUILDING	HDG	HOT DIPPED GALVANIZED	REF	REFER, REFERENCE
BM	BEAM	HORIZ	HORIZONTAL	REINF	REINFORCING
BO	BOTTOM OF	HP	HIGH POINT	REM	REMAINDER
BOD	BASIS OF DESIGN	IJ	ISOLATION JOINT	REQD	REQUIRED
BOT	BOTTOM	INT	INTERIOR	RET	RETAINING
BP	BASEPLATE	INTER	INTERMEDIATE	RTU	ROOF TOP UNIT
BRG	BEARING	JT	JOINT	SCHED	SCHEDULE
C/C	CENTER TO CENTER	K	KIPS	SECT	SECTION
CJ	CONTROL JOINT, CONSTRUCTION JOINT	KB	KICKER BRACE	SIM	SIMILAR
CL	CENTER LINE	KSF	KIPS PER SQUARE FOOT	SLV	SHORT LEG VERTICAL
CLR	CLEAR	KSI	KIPS PER SQUARE INCH	SOG	SLAB-ON-GRADE
CMU	CONCRETE MASONRY UNIT	L	ANGLE	SPA	SPACES
COL	COLUMN	LG	LONG	SPEC	SPECIFICATIONS
CONC	CONCRETE	LL	LIVE LOAD	STIFF	STIFFENER
CONT	CONTINUOUS	LLV	LONG LEG VERTICAL	SQ	SQUARE
CP	COMPLETE PENETRATION	LONG	LONGITUDINAL	SS	STAINLESS STEEL
DIA	DIAMETER	LP	LOW POINT	STD	STANDARD
DIAG	DIAGONAL	LVL	LEVEL	STL	STEEL
DL	DEAD LOAD	LW	LIGHT-WEIGHT	SYM	SYMMETRICAL
DO	DITTO	MANUF	MANUFACTURER	T&B	TOP AND BOTTOM
DT	DOUBLE TEE	MAS	MASONRY	T&G	TONGUE AND GROOVE
DWG	DRAWING	MATL	MATERIAL	T/	TOP OF
DWL	DOWEL	MAX	MAXIMUM	THDD	THREADED
DWLS	DOWELS	MIN	MINIMUM	TO	TOP OF
EOS	EDGE OF SLAB	MTL	METAL	TRANS	TRANSVERSE
EA	EACH	NIC	NOT IN CONTRACT	TYP	TYPICAL
EE	EACH END	NS	NEAR SIDE	UNO	UNLESS NOTED OTHERWISE
EF	EACH FACE	NTS	NOT TO SCALE	VIF	VERIFY IN FIELD
EL	ELEVATION	NW	NORMAL-WEIGHT	VERT	VERTICAL
EOR	ENGINEER OF RECORD	OC	ON CENTER	W/	WITH
EW	EACH WAY	OPNG	OPENING	W/O	WITHOUT
EXIST	EXISTING	OPP	OPPOSITE	WCJ	WALL CONTROL JOINT
EXP	EXPANSION	PAF	POWDER ACTUATED FASTENER	WP	WORKING POINT
EXT	EXTERIOR	PC	PRECAST CONCRETE	WS	WATER STOP
FD	FLOOR DRAIN	PEJF	PRE-MOLDED EXPANSION JOINT FILLER	WT	WEIGHT
FDN	FOUNDATION	PEMB	PRE-ENGINEERED METAL BUILDING	WWR	WELDED WIRE REINFORCING



615.890 AVENUE SOUTH / SUITE 601 / NASHVILLE, TN 37203
PHONE: (615) 284-1600

PRELIMINARY
NOT FOR
CONSTRUCTION

7/31/2026 9:17:30 AM
DATE

SPECIAL INSPECTIONS

HENRY COUNTY WATER AUTHORITY

EAST LAKE BPS REPLACEMENT

HENRY COUNTY, GEORGIA

REVISION INFORMATION
DESCRIPTION:
DATE: 07/30/2026
GMP

CHK SDC
DR MRO
REV A

SHEET

00-S002

FILE NO: 3606832

TABLE 1705.3 REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION				
TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD ^a	IBC REFERENCE
1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT.	-	X	ACI 318: Ch.20, 25.2, 25.3, 26.6.1-26.6.3	-
2. REINFORCING BAR WELDING: A. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706; B. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16", AND C. INSPECT ALL OTHER WELDS.	-	X	AWS D1.4 ACI 318: 26.6.4	-
	-	X		
	X	-		
3. INSPECT ANCHORS CAST IN CONCRETE.	-	X	ACI 318: 17.8.2	-
4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS ^b . A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS. B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A.	X	-	ACI 318: 17.8.2.4	-
	-	X	ACI 318: 17.8.2	
5. VERIFY USE OF REQUIRED DESIGN MIX.	-	X	ACI 318: Ch. 19, 26.4.3, 26.4.4	1904.1, 1904.2
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	-	ASTM C31 ASTM C172 ACI 318: 26.5, 26.12	-
7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-	ACI 318: 26.5	-
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X	ACI 318: 26.5.3-26.5.5	-
9. INSPECT PRESTRESSED CONCRETE FOR: A. APPLICATION OF PRESTRESSING FORCES; AND B. GROUTING OF BONDED PRESTRESSING TENDONS.	X	-	ACI 318: 26.10	-
	X	-		
10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS	-	X	ACI 318: 26.9	-
11. FOR PRECAST CONCRETE DIAPHRAGM CONNECTIONS OR REINFORCEMENT AT JOINTS CLASSIFIED AS MODERATE OR HIGH DEFORMABILITY ELEMENTS (MDE OR HDE) IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY C, D, E OR F, INSPECT SUCH CONNECTIONS AND REINFORCEMENT IN THE FIELD FOR: a. INSTALLATION OF THE EMBEDDED PARTS b. COMPLETION OF THE CONTINUITY OF REINFORCEMENT ACROSS JOINTS. c. COMPLETION OF CONNECTIONS IN THE FIELD.			ACI 318: 26.13.1.3	-
	X	-		
	X	-		
	X	-		
12. INSPECT INSTALLATION TOLERANCES OF PRECAST CONCRETE DIAPHRAGM CONNECTIONS FOR COMPLIANCE WITH ACI 550.5.	-	X	ACI 318: 26.13.1.3	-
13. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	-	X	ACI 318: 26.11.2	-
14. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	-	X	ACI 318: 26.11.1.2(b)	-
a. WHERE APPLICABLE, SEE SECTION 1705.13. b. SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH 17.8.2 IN ACI 318, OR OTHER QUALIFICATION PROCEDURES. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, SPECIAL INSPECTION REQUIREMENTS SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL AND SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO THE COMMENCEMENT OF THE WORK.				

MINIMUM VERIFICATION	REQUIRED FOR QUALITY ASSURANCE ^(a)			REFERENCE FOR CRITERIA
	LEVEL 1	LEVEL 2	LEVEL 3	TMS 602
PRIOR TO CONSTRUCTION, VERIFICATION OF COMPLIANCE OF SUBMITTALS.	NR	R	R	ART. 1.5
PRIOR TO CONSTRUCTION, VERIFICATION OF f_m AND f_{AAC} , EXCEPT WHERE SPECIFICALLY EXEMPTED BY THIS CODE.	NR	R	R	ART. 1.4 B
DURING CONSTRUCTION, VERIFICATION OF SUMP FLOW AND VISUAL STABILITY INDEX (VSI) WHEN SELF-CONSOLIDATING GROUT IS DELIVERED TO THE PROJECT SITE.	NR	R	R	ART. 1.5 & 1.6.3
DURING CONSTRUCTION, VERIFICATION OF f_m , f'_{ms} AND f_{AAC} FOR EVERY 5,000 SQ. FT. (465 SQ M).	NR	NR	R	ART. 1.4 B
DURING CONSTRUCTION, VERIFICATION OF PROPORTIONS OF MATERIALS AS DELIVERED TO THE PROJECT SITE FOR PREMIXED OR PREBLENDED MORTAR, PRESTRESSING GROUT, AND GROUT OTHER THAN SELF-CONSOLIDATING GROUT.	NR	NR	R	ART. 1.4 B

(a) R= REQUIRED, NR= NOT REQUIRED

INSPECTION TASK	FREQUENCY ^(a)			REFERENCE FOR CRITERIA	
	LEVEL 1	LEVEL 2	LEVEL 3	TMS 402	TMS 602
1. AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:					
a. PROPORTIONS OF SITE-PREPARED MORTAR	NR	P	P		ART 2.1, 2.6 A & C
b. GRADE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGES	NR	P	P		ART 2.4 B, M, N
c. GRADE, TYPE AND SIZE OF REINFORCEMENT, CONNECTORS, AND ANCHOR BOLTS	NR	P	P		ART 3.4 A, D, E, F, G, H, I, J, K, & L
d. PRESTRESSING TECHNIQUE	NR	P	P		ART 3.6 B
e. PROPERTIES OF THIN-BED MORTAR FOR AAC MASONRY	NR	C ^{(b)/P^(c)}	C		ART 2.1 DC.1
f. SAMPLE PANEL CONSTRUCTION	NR	P	C		ART 1.6 D
2. PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:					
a. GROUT SPACE	NR	P	C		ART 3.2 D & 3.2 F
b. PLACEMENT OF PRESTRESSING TENDONS AND ANCHORAGES	NR	P	P	SEC 10.8 & 10.9	ART 3.6
c. PLACEMENT OF REINFORCEMENT, CONNECTORS, AND ANCHOR BOLTS	NR	P	C	SEC 6.1, 6.3.1, 6.3.6 & 6.3.7	ART 3.2 E & 3.4
d. PROPORTIONS OF SITE-PREPARED GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS	NR	P	P		ART 2.6 B & 2.4 M.1b
3. VERIFY COMPLIANCE OF THE FOLLOWING DURING CONSTRUCTION:					
a. MATERIALS AND PROCEDURES WITH THE APPROVED SUBMITTALS	NR	P	P		ART 1.5
b. PLACEMENT OF MASONRY UNITS AND MORTAR JOINT CONSTRUCTION	NR	P	P		ART 3.3 B
c. SIZE AND LOCATION OF STRUCTURAL MEMBERS	NR	P	P		ART 3.3 G
d. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION	NR	P	C	SEC 1.2.1(e), 6.2.1 & 6.3.1	
e. TYPE, SIZE AND LOCATION OF VENEER TIES AND MOVEMENT JOINTS	P ^d	P ^d	--	SEC 13.2	ART 3.4 D
f. INSTALLATION OF ADHERED VENEER	P ^d	P ^d	--	SEC 13.3	ART 3.3 D
g. WELDING OF REINFORCEMENT	NR	C	C	SEC 6.1.7.3	
h. PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F (4.4°C)) OR HOT WEATHER (TEMPERATURE ABOVE 90°F (32.2°C))	NR	P	P		ART 1.8 C & D
i. APPLICATION AND MEASUREMENT OF PRESTRESSING FORCE	NR	C	C		ART 3.6 B
j. PLACEMENT OF GROUT	NR	C	C		ART 3.5
k. PLACEMENT OF PRESTRESSING GROUT FOR BONDED TENDONS	NR	C	C		ART 3.6 C
l. PLACEMENT OF AAC MASONRY UNITS AND CONSTRUCTION OF THIN-BED MORTAR JOINTS	NR	C ^{(b)/P^(c)}	C		ART 3.3 B.8 & 3.3 G.1.b
4. OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS	NR	P	C		ART 1.4 B.2.a.3, B.2.b.3, B.2.c.3, B.3, & B.4

(a) FREQUENCY REFERS TO THE FREQUENCY OF INSPECTION, WHICH MAY BE CONTINUOUS DURING THE LISTED TASK OR PERIODICALLY DURING THE LISTED TASK, AS DEFINED IN THE TABLE. NR=NOT REQUIRED, P=PERIODIC, C=CONTINUOUS

(b) REQUIRED FOR THE FIRST 5000 SQUARE FEET (465 SQUARE METERS) OF AAC MASONRY.

(c) REQUIRED AFTER THE FIRST 5000 SQUARE FEET (465 SQUARE METERS) OF AAC MASONRY.

(d) PERIODIC INSPECTION OF VENEERS IS REQUIRED WHEN THE HEIGHT OF THE VENEER EXCEEDS 60 FT (18.3 M) ABOVE GRADE PLANE.

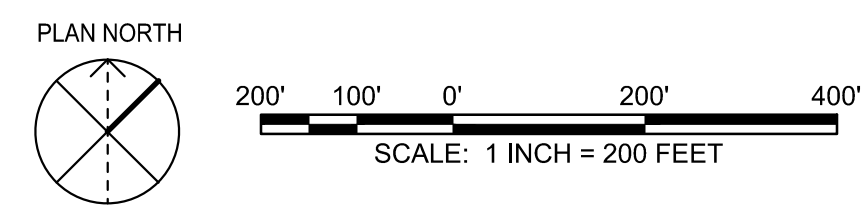
REVISION INFORMATION		DESCRIPTION:	
REV	CHK	DATE	DESCRIPTION
A	SDC	07/30/2026	PRELIMINARY DESIGN (50%) SUBMITTAL FOR GMP

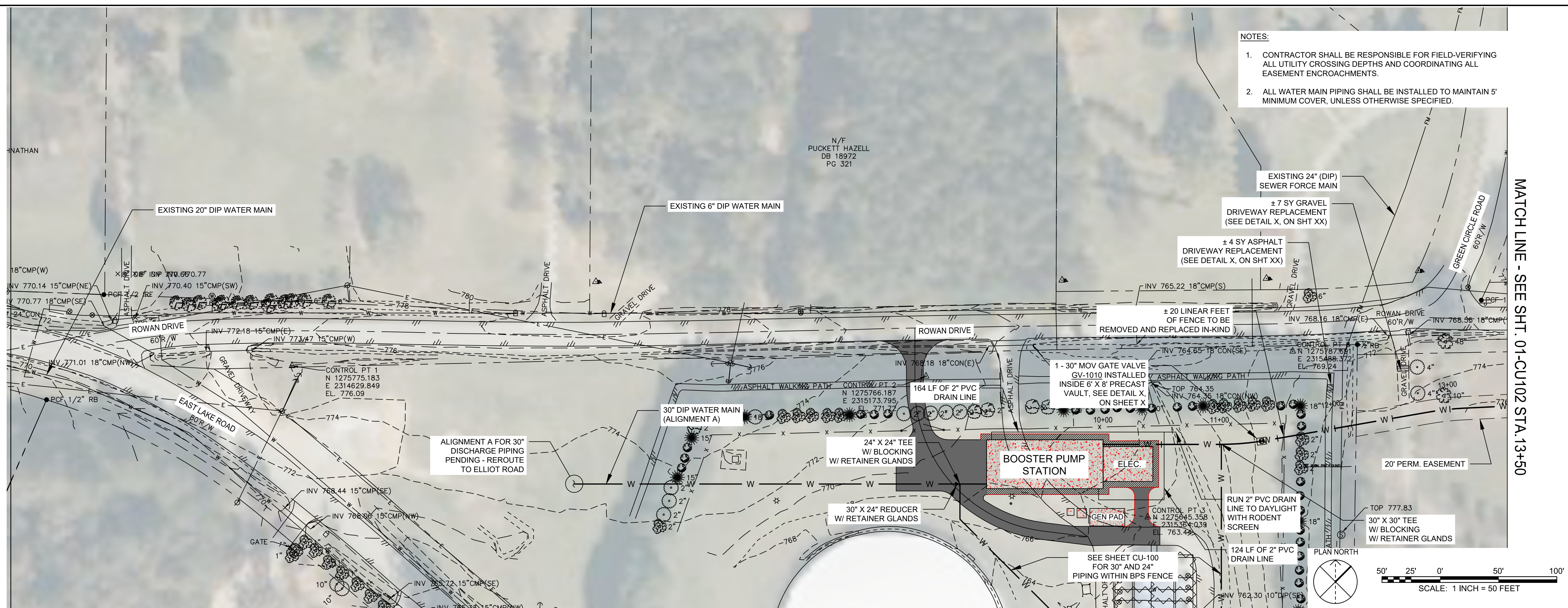
LEGEND

EXISTING	NEW
	PLUG
	SANITARY SEWER MANHOLE
	CLEANOUT
	YARD HYDRANT
	FIRE HYDRANT
	WATER METER
	REDUCER
	SOLID SLEEVE OR HDPE MJ ADAPTER
	WATER VALVE
	WATER METER VAULT
	AIR VALVE MH OR LINE STOP VALVE
	TELEPHONE MANHOLE
	FORCE MAIN
	GAS LINE
	STORM SEWER LINE
	SANITARY SEWER LINE
	WATER MAIN
	EDGE OF PAVEMENT
	CONTOUR
	FENCE
	UNDERGROUND TELEPHONE
	CABLE
	POWER
	OVERHEAD TELEPHONE
	POLE GUY WIRE
	CONCRETE PAVEMENT
	ASPHALT PAVEMENT
	25' STREAM BUFFERS
	WETLAND AREA
	100 YEAR FLOOD ZONE
	TO BE DEMOLISHED
	PROPERTY BOUNDARY LINE/ RIGHT-OF-WAY
	PERMANENT EASEMENT
	TEMPORARY CONSTRUCTION EASEMENT
	WATER STOP COLLAR
	STEEL CASING
	ABANDON OR DECOMMISSION EX. WATER MAIN
	TREE LINE
	TREE
	EXISTING POWER/TELEPHONE POLE
	SPOT ELEVATION

ABBREVIATIONS

AFU	DIAMETER
ALUM.	ABOVE FINISHED FLOOR
BCB	ALUMINUM
BOC	BOTTOM CATCH BASIN
BFP	BACK OF CURB
BMP	BACKFLOW PREVENTOR
BFV	BEST MANAGEMENT PRACTICE
CB	BUTTERFLY VALVE
CCTV CI	CATCH BASIN
CIPP	CLOSED CIRCUIT TELEVISION
CMP	CAST IRON
CO	CURB-IN-PLACE PIPE
CONC	CORRUGATED METAL PIPE
CONN	CLEAN OUT
CONST.	CONCRETE
CPGL.	CONNECT
CS	COUPLING
CU	COMBINED SEWER
CV	COPPER
DB	CHECK VALVE
DI	DEED BOOK
DIP	DROP INLET
DIST.	DUCTILE IRON PIPE
DWCB	DISTANCE
D/W	DOUBLE WING CATCH BASIN
EX.	DRIVEWAY
ELEC	EXISTING
EL	ELECTRICAL SERVICE
EOL	ELEVATION
EOP	END OF INFORMATION OR UNKNOWN TERMINATION POINT
FIP	EDGE OF PAVEMENT
FFE	FEMALE IRON PIPE
FM	FINISHED FLOOR ELEVATION
FS	FIRE HYDRANT
GM	FORCE MAIN
GV	GALVANIZED STEEL PIPE
HDPE	GATE VALVE
HORZ	HIGH DENSITY POLYETHYLENE
HWH	HORIZONTAL
ID	HWY
IE	INSIDE DIAMETER
INV	INVERT ELEVATION
LF	INVERT
MIN	LINEAR FEET
MIP	MINIMUM
MJ	MALE IRON PIPE
MM	MECHANICAL JOINT
MNP	MANHOLE
MON	MALE NATIONAL PIPE THREAD
N/F	MONUMENT
NPW	NOW OR FORMERLY
NTS	NON POTABLE WATER
OD	NOT TO SCALE
PG	OUTSIDE DIAMETER
PP	PAGE
PR	POWER POLE
PSI	POINT REPAIR
PT	POINT PER SQUARE INCH
PV	PIED
PVC	PLUG VALVE
PW	POLYVINYL CHLORIDE
PWF	POTABLE WATER
RCP	POT WATER FAUCET
RET	REINFORCED CONCRETE PIPE
RJ	ROAD
R/W	RETAINER
SD	RESTRAINED JOINT
SDR	RIGHT-OF-WAY
SHT	STORM DRAIN
SP	STANDARD DIMENSION RATIO
SPD	SHEET
SR	SIGNAL POLE
SS	STANDARD PROCTOR DENSITY
SSMH	STATE ROUTE
SSTL	SANITARY SEWER
STA	SANITARY SEWER MANHOLE
SWCB	STAINLESS STEEL
SY	STATION
TELECOM	SINGLE WING CATCH BASIN
TSB	SQUARE YARD
TSB	TELECOMMUNICATION CONDUIT
TSB	TRAFFIC SIGNAL
TSB	TRAFFIC SIGNAL BOX
TSB	TRAFFIC SIGNAL AND VALVE
TSB	TRAFFIC SIGNAL COMM WIRE
TSB	TYPICAL
TSB	UNKNOWN
TSB	VITRIFIED CLAY PIPE
TSB	VERTICAL
TSB	WATER METER
TSB	WATER
TSB	WITH
TSB	FEET
TSB	INCHES





AREA FOR PIPING PROFILE, TO BE PROVIDED LATER

COA NAME: BARGE DESIGN SOLUTIONS, INC.
COA AUTHORIZATION NO: PEF000054
COA EXPIRATION DATE: 06/30/2026

BARGE
DESIGN SOLUTIONS®

615 3RD AVENUE SOUTH // SUITE 700 // NASHVILLE, TN 37210
PHONE: (615) 254-1500

PRELIMINARY
NOT FOR
CONSTRUCTION

WATER MAIN PLAN
ALIGNMENT A, STA. 10+00 TO TBD
ALIGNMENT B, STA. 10+00 TO 13+50

HENRY COUNTY WATER AUTHORITY

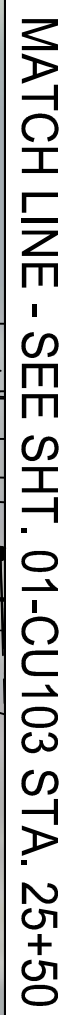
EAST LAKE BPS REPLACEMENT

HENRY COUNTY, GEORGIA

[illegible]

01-CU101

FILE NO. 36068-32



1. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD-VERIFYING ALL UTILITY CROSSING DEPTHS AND COORDINATING ALL EASEMENT ENCROACHMENTS.
2. ALL WATER MAIN PIPING SHALL BE INSTALLED TO MAINTAIN 5' MINIMUM COVER, UNLESS OTHERWISE SPECIFIED.

COA NAME: B

615 3RD AVENUE SOUTH // SUITE 700 // NASHVILLE, TN 37210
PHONE: (615) 254-1500

DATE _____

HENRY COUNTY WATER AUTHORITY
EAST LAKE BPS REPLACEMENT
HENRY COUNTY, GEORGIA

REVISION INFORMATION			
REV.	DR.	CHK.	DATE
A	LAC	MSE	07/30/2026
PRELIMINARY DESIGN (30%) SUBMITTAL FOR GMP			

FILE NO. 36068-32

100 LF OF 42" STEEL CASING
(88 LF OF JACK & BORE
12 LF INSTALLED VIA OPEN CUT)

1 - 30' 45" BEND STA 47+61.96

1 - 30' 22.5" BEND STA 47+02.58

1 - 30' 22.5" BEND STA 45+94.42

1 - 30' 45" BEND STA 45+81.65

80 LF OF 42" STEEL CASING
(75 LF INSTALLED VIA JACK & BORE
5 LF INSTALLED VIA OPEN CUT)

CONNECT TO EX 6" PVC
WATER MAIN
W/ 1 - 8" TEE
W/ RETAINER GLANDS
W/ BLOCKING

28 LF OF 6" DIP WATER MAIN

CONTROL PT 12
N 1274219.493
E 2317115.214
EL. 767.7

1 - 6" WELDED-ON MJ OUTLET

1 - 30' 90" BEND STA. 44+48.50

CUT AND CAP EX 6"
PVC WATER MAIN AND
ABANDON IN-PLACE W/
6" BLOCKING.
SEE NOTE 3

20' PERM. EASEMENT

20' PERM. EASEMENT

± 8 SY ASPHALT
DRIVEWAY REPLACEMENT
(SEE DETAIL X ON SHT XX)

± 7 SY ASPHALT
DRIVEWAY REPLACEMENT
(SEE DETAIL X ON SHT XX)

EXISTING 6" WATER MAIN

EXISTING 24" DIP FORCE MAIN

EXISTING 24" DIP
WATER MAIN

EXISTING 20" DIP
WATER MAIN

EX 24" DIP FM

NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UTILITY CROSSING DEPTHS AND COORDINATE WITH ALL AFFECTED UTILITIES TO AVOID ENCROACHMENTS.
2. ALL WATER MAIN PIPING SHALL BE INSTALLED WITH MINIMUM COVER, UNLESS OTHERWISE SPECIFIED.
3. CONTRACTOR SHALL COORDINATE WITH ALL AFFECTED UTILITIES TO AVOID TEMPORARY SHUT DOWN OF 6" PVC WATER MAIN. ABANDONMENT OF 6" WATER MAIN SHALL BE IN SERVICE UNTIL BPS IN SERVICE.

CONNECT TO EX 24" DIP WATER
MAIN W/ 1 - 30" X 24" TS&V
W/ RETAINER GLANDS
W/ BLOCKING

PLAN NORTH

50' 25' 0'
SCALE

N/F
WILLIAMS, JAMES BRIAN
& LILLIAN
DB 1775
PG 234

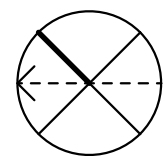
N/F
WILLIAMS, JAMES BRIAN
& LILLIAN
DB 1775
PG 234

1. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD-VERIFYING ALL UTILITY CROSSING DEPTHS AND COORDINATING ALL EASEMENT ENCROACHMENTS.
2. ALL WATER MAIN PIPING SHALL BE INSTALLED TO MAINTAIN 5' MINIMUM COVER, UNLESS OTHERWISE SPECIFIED.
3. CONTRACTOR SHALL COORDINATE WITH HCWA PRIOR TO TEMPORARY SHUT DOWN OF 6" PVC WATER MAIN. ABANDONMENT OF 6" WATER MAIN SHALL NOT BE COMPLETED UNTIL BPS IN SERVICE

CONNECT TO EX 24" DIP WATER
MAIN W/ 1 - 30" X 24" TS&V
W/ RETAINER GLANDS
W/ BLOCKING

EXISTING 24" DIP
WATER MAIN

PLAN NORTH



COA NAME: BARGE DESIGN SOLUTIONS, INC.
COA AUTHORIZATION NO: PEF000054
COA EXPIRATION DATE: 06/30/2026

BARGE
DESIGN SOLUTIONS®

615 3RD AVENUE SOUTH // SUITE 700 // NASHVILLE, TN 37210
PHONE: (615) 254-1500

PRELIMINARY
NOT FOR
CONSTRUCTION

WATER MAIN PLAN
STA. 37+50 TO END

HENRY COUNTY WATER AUTHORITY EAST LAKE BPS REPLACEMENT

HENRY COUNTY, GEORGIA

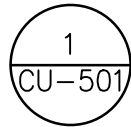
REVISION INFORMATION

REV.	DR.	CHK.	DATE	DESCRIPTION
A	LAC	MSE	07/30/2026	PRELIMINARY DESIGN (30%) SUBMITTAL FOR GMP

01-CU104

FILE NO. 36068-32

AREA FOR PIPING PROFILE, TO BE PROVIDED LATER



NTS
*HCWA DETAIL - MODIFIED BY BARGE

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DESIGN SOLUTIONS.

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PHONE: (615) 254-1500

HENRY COUNTY WATER AUTHORITY
EAST LAKE BPS REPLACEMENT
HENRY COUNTY, GEORGIA

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REV.	DR.	CHK.	DATE	DESCRIPTION
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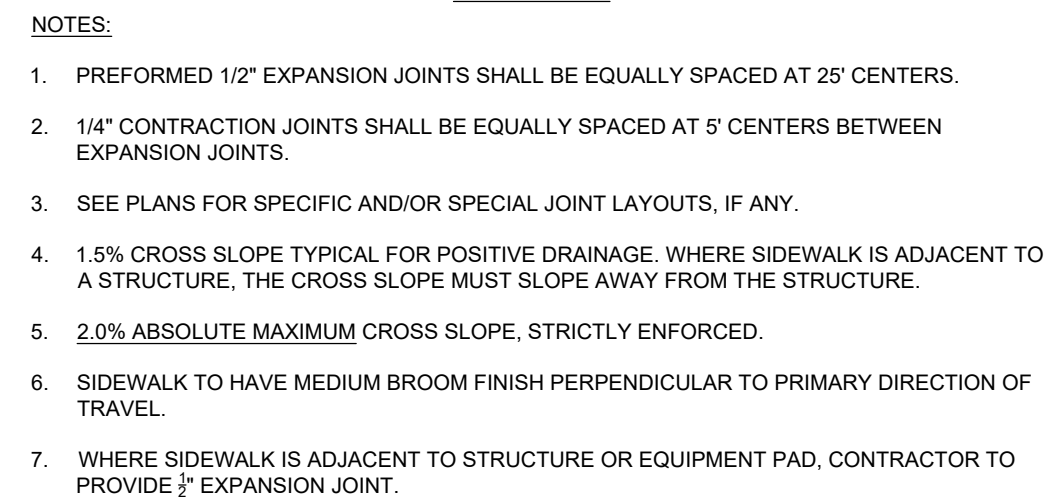
FILE NO. 36068-32

- THE FOLLOWING NOTES ARE APPLICABLE TO ALL CIVIL DOCUMENTS.
2. THE CONTRACTOR SHALL USE MATERIALS AND EMPLOY CONSTRUCTION METHODS IN ORDER TO COMPLY WITH THE DRAWINGS AND SPECIFICATIONS. WHERE A CONFLICT OCCURS, THE STRICTEST DESIGN SHALL GOVERN. ENGINEER'S REVIEW OF SHOP DRAWINGS, PRODUCT DATA, ETC. DOES NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL INFORM THE OWNER AND ENGINEER IN WRITING OF ANY SPECIFIC DEVIATIONS AND OBTAIN OWNER'S AND ENGINEER'S WRITTEN APPROVAL OF THE SPECIFIC DEVIATION.
3. THE CONTRACTOR SHALL CONFORM TO ALL LOCAL CODES AND OBTAIN ALL PERMITS AND BOND, IF REQUIRED, PRIOR TO BEGINNING WORK.
4. ALL RADII SHALL BE 5' UNLESS OTHERWISE NOTED. DIMENSIONS ARE TO THE FACE OF CURBS, EDGE OF CONCRETE, OR TO FACE OF BUILDING, UNLESS OTHERWISE NOTED.
5. THE SITE LAYOUT IS BASED ON THE CONTROL POINTS AS NOTED.
6. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE STARTING ANY WORK. DAMAGES TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE REPAIRED ACCORDING TO LOCAL STANDARDS AND SPECIFICATIONS AT THE CONTRACTOR'S EXPENSE. COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY.
7. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFICATIONS AND LIAISON WITH UTILITY COMPANIES IN THE PROCESS OF LOCATING, RELOCATION AND TIE-IN TO PUBLIC UTILITIES. ALSO, CONTRACTOR IS RESPONSIBLE FOR NOTIFYING ALL INSPECTORS A MINIMUM 48 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITIES, VERIFY WITH GOVERNING AGENCY
8. PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING PAVEMENT AND NEW PAVEMENT. FIELD ADJUSTMENT OF FINAL GRADES MAY BE NECESSARY. INSTALL ALL UTILITIES PRIOR TO INSTALLATION OF PAVEMENT.
9. ALL DAMAGE TO EXISTING ASPHALT PAVEMENT TO REMAIN, WHICH RESULTS FROM NEW CONSTRUCTION, SHALL BE REPLACED WITH LIKE MATERIALS AT CONTRACTOR'S EXPENSE.
10. IN EASEMENTS AND RIGHTS-OF-WAY, CONTRACTOR SHALL PROTECT AND RESTORE SAID PROPERTY TO A CONDITION SIMILAR OR EQUAL TO THAT EXISTING AT THE COMMENCEMENT OF CONSTRUCTION EXCEPT AS NOTED.
11. THESE PLANS, PREPARED BY BARGE DESIGN SOLUTIONS INC., DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF BARGE DESIGN SOLUTIONS REGISTERED PROFESSIONAL ENGINEER HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND /OR LOCAL REGULATIONS.
12. ON-SITE PAVING SHALL BE CONSTRUCTED IN ACCORDANCE WITH PLANS AND THE GEOTECHNICAL ENGINEERING REPORT. ALL PAVING WORK WITHIN PUBLIC RIGHT-OF-WAYS MUST MEET THE MATERIALS, EQUIPMENT, AND CONSTRUCTION, AND TESTING REQUIREMENTS OF THE GOVERNING MUNICIPALITY'S STANDARDS & SPECIFICATIONS.
13. THE CONTRACTOR SHALL PROTECT ALL MONUMENTS, IRON PINS, AND PROPERTY CORNERS DURING CONSTRUCTION.
14. UNLESS NOTED, SUBMIT SHOP DRAWINGS OF ALL FABRICATED MATERIALS FOR REVIEW. DESIGN DRAWINGS SHALL NOT BE REPRODUCED FOR USE AS SHOP DRAWINGS.
15. ALL REQUIRED TESTING REPORTS SHALL BE AVAILABLE AT THE JOB SITE.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING AND MAINTAINING AS-BUILT INFORMATION WHICH SHALL BE RECORDED AS CONSTRUCTION PROGRESSES OR AT THE COMPLETION OF APPROPRIATE CONSTRUCTION INTERVALS AND SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT DRAWINGS TO THE OWNER FOR THE PURPOSE OF CERTIFICATION TO JURISDICTIONAL AGENCIES AS REQUIRED. ALL AS-BUILT DATA SHALL BE COLLECTED BY A STATE OF GA PROFESSIONAL LAND SURVEYOR WHOSE SERVICES ARE ENGAGED AND PAID FOR BY THE CONTRACTOR.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO EXISTING VEGETATION DURING CONSTRUCTION. THE COST TO REPLACE OR RESTORE VEGETATION SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
18. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES ON COPY OF THE CURRENT CONSTRUCTION DOCUMENTS INCLUDING PLANS, SPECIFICATIONS, SPECIAL CONDITIONS AND COPIES OF ANY REQUIRED PERMITS.
19. ALL PAVING, CONSTRUCTION, MATERIALS AND WORKMANSHIP WITHIN THE HENRY COUNTY RIGHT-OF-WAY (ROW) SHALL BE IN ACCORDANCE WITH THE COUNTY'S CODE OF ORDINANCES, LAND DEVELOPMENT CODE AND STANDARD SPECIFICATIONS (LATEST EDITION).

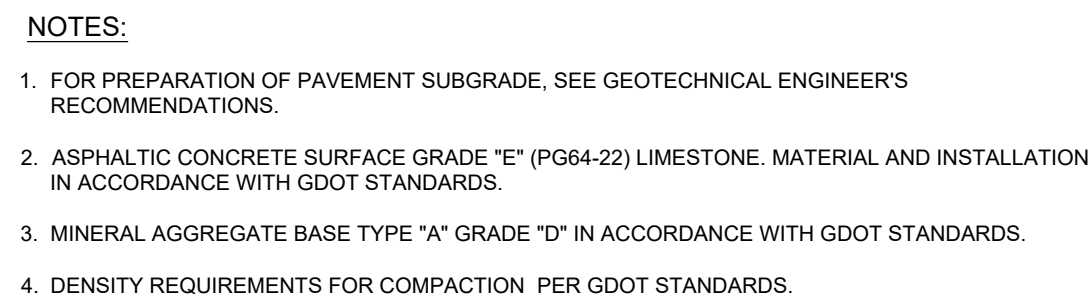
3. ALL STORMWATER PIPES, STRUCTURES, AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH HENRY COUNTY ENGINEERING DEPARTMENT STANDARD SPECIFICATIONS AND DETAILS.
2. NO TREES ARE TO BE REMOVED AND/OR VEGETATION DISTURBED EXCEPT AS SHOWN ON PLANS. REMOVAL OF ADDITIONAL TREES OR VEGETATION MUST BE APPROVED IN WRITING BY OWNER AND ENGINEER.
3. ALL TOPSOIL, FILL MATERIAL, EXISTING FOUNDATIONS, UTILITIES, UNDER GROUND TANKS, PAVEMENT, BASE AND ANY OTHER DELETERIOUS MATERIALS SHALL BE COMPLETELY REMOVED FROM WITHIN THE BEARING ZONE BELOW THE STRUCTURE.
4. ADJUST FINAL GRADES TO EXISTING PAVEMENTS TO ASSURE A SMOOTH TRANSITION.
5. PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS. SUBGRADE SOFTENED BY PERCHED WATER IN FOUNDATIONS AND PAVEMENT AREAS MUST BE UNDERCUT AND RE-COMPACTED WITH SUITABLE FILL MATERIAL AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
6. IN NO CASE SHALL SLOPE HEIGHT, SLOPE INCLINATION, OR EXCAVATION DEPTH, INCLUDING TRENCH CONSTRUCTION, EXCEED THOSE SPECIFIED IN LOCAL, STATE AND FEDERAL REGULATIONS, SPECIFICALLY THE CURRENT OSHA HEALTH AND SAFETY STANDARDS FOR EXCAVATIONS (29 CRF PART 1926) SHALL BE FOLLOWED
7. MINIMUM SLOPE ON ASPHALT OR CONCRETE PAVING SHALL BE 1.0%.
8. ALL GRADED AREAS, INCLUDING SLOPES, ARE TO BE MULCHED AND SEEDDED AS SOON AS POSSIBLE AFTER GRADING IS COMPLETED.
9. CONSTRUCT EROSION CONTROL AS SHOWN ON DRAWINGS PRIOR TO BEGINNING GRADING OPERATIONS.
10. ALL NEW STRUCTURES AND EXISTING STRUCTURES SHALL HAVE SEDIMENT REMOVED PRIOR TO ACCEPTANCE.
11. SILT BARRIERS SHALL BE CLEANED OF ACCUMULATED SEDIMENT WHEN APPROXIMATELY 50% FILLED WITH SUCH SEDIMENT.
12. REPLACE SILT BARRIERS WHEN CONDITIONS WARRANT AND AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
13. CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS PRIOR TO BEGINNING WORK.
14. CONTOUR LINES AND SPOT ELEVATIONS ARE THE RESULT OF A DETAILED ENGINEERING GRADING DESIGN AND REFLECT A PLANNED INTENT WITH REGARD TO DRAINAGE AND MOVEMENT OF MATERIALS. CONTOUR LINES AND SPOT ELEVATIONS ARE BASED ON ESTABLISHED PROJECT BENCHMARK, WHICH THE CONTRACTOR SHALL VERIFY WITH TOPOGRAPHY SURVEY. SHOULD THE CONTRACTOR HAVE ANY QUESTION OF THE INTENT OR ANY PROBLEMS WITH CONTINUITY OF GRADES, THE ENGINEER SHOULD BE CONTACTED IMMEDIATELY PRIOR TO BEGINNING WORK.
15. PROVIDE TEMPORARY CONSTRUCTION ACCESS(ES) AT THE POINT(S) WHERE CONSTRUCTION VEHICLES EXIT THE CONSTRUCTION AREA. ANY MUD/CONSTRUCTION DEBRIS THAT MAY BE TRANSPORTED ONTO SURROUNDING ROADS OR PARKING AREAS SHALL BE SWEEPED AND CLEANED IMMEDIATELY.
16. ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.
17. CONSTRUCTION ENTRANCE SHALL BE IN PLACE PRIOR TO ANY COMBUSTIBLES, I.E. CONSTRUCTION TRAILER, LUMBER, ETC. BEING PRESENT ON JOB SITE. IN ADDITION TO THE CONSTRUCTION ENTRANCE, AN ALL WEATHER DRIVE MUST BE IN PLACE AND ACCESSIBLE TO ALL AREAS OF THE CONSTRUCTION SITE THAT WILL CONTAIN COMBUSTIBLES THROUGHOUT ALL PHASES OF THE CONSTRUCTION PROCESS. THE ALL WEATHER DRIVE SHALL BE NO LESS THAN 20 FEET OF UNOBSTRUCTED WIDTH WITH ADEQUATE TURNING RADIUS CAPABLE OF SUPPORTING THE IMPOSED LOADS OF THE FIRE DEPARTMENT PROCESS.
18. THE CONTRACTOR SHALL ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN THE GENERAL N.P.D.E.S. PERMIT FOR STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
19. EXISTING AND PROPOSED GRADE CONTOUR INTERVALS SHOWN AT 2 FOOT.
20. THIS GRADING AND DRAINAGE PLAN IS NOT A DETERMINATION OR GUARANTEE OF THE SUITABILITY OF SURFACE CONDITIONS FOR THE WORK INDICATED. DETERMINATION OF THE SUBSURFACE CONDITIONS FOR THE WORK INDICATED IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
21. TOP OF GRATE ELEVATIONS AND LOCATION OF COORDINATES FOR DRAINAGE STRUCTURES SHALL BE SHOWN ON THE PLAN UNLESS OTHERWISE NOTED. THE GRATES SHALL SLOPE LONGITUDINALLY WITH THE PAVEMENT GRADES.

- NO VEGETATION IS TO BE DISTURBED EXCEPT AS NECESSARY FOR GRADING PURPOSES.
2. TOPSOIL AND OTHER DELETERIOUS MATERIALS ARE TO BE STRIPPED FROM ALL CUT AND FILL AREAS, AND STOCKPILE AS REQUIRED TO ACCOMPLISH GRADING AS INDICATED ON THE PLANS. REDISTRIBUTE TOPSOIL OVER GRADED AND GREEN SPACE AREA(S) TO A MINIMUM DEPTH OF 6". TOPSOIL TO BE STOCKPILED IN THE LOCATION/S INDICATED IN THE PLANS, OR AS DESIGNATED BY THE OWNER'S REPRESENTATIVE.
3. ALL UN-SURFACED AREA DISTURBED BY GRADING OPERATIONS SHALL RECEIVE 6 INCHES OF TOPSOIL. ALL GRADED SLOPES 3:1 OR STEEPER SHALL BE STABILIZED WITH EROSION CONTROL MATTING WITHIN 7 DAYS OF FINAL GRADING, AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. ANY AREAS LEFT UNDISTURBED FOR 7 DAYS SHALL HAVE ADEQUATE STABILIZATION. CONTRACTOR TO MAINTAIN DISTURBED AREAS UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED.
4. ALL DIMENSIONS AND LOCATIONS OF TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL DEVICES SHALL BE SUBJECT TO ADJUSTMENT AS DESIGNATED BY THE ENGINEER AND/OR OWNER'S REPRESENTATIVE.
5. WHEN THE TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL DEVICES ARE NO LONGER REQUIRED FOR THE INTENDED PURPOSE, IN THE OPINION OF THE ENGINEER, AND/OR THE OWNER'S REPRESENTATIVE, THEY SHALL BE REMOVED.
6. INSTALL SILT FENCE AROUND THE BASE OF ANY STOCK PILES.
7. CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA, THE EQUIPMENT MAINTENANCE AND CLEANING AREA, CONTRACTOR'S EMPLOYEE PARKING AREA, AND AREA FOR LOCATING PORTABLE FACILITIES, CONCRETE TRUCK WASHOUT AREA, OFFICE TRAILERS, AND TOILET FACILITIES. CONTRACTOR TO COORDINATE EXACT LOCATION WITH PROJECT ENGINEER AND OWNER'S REPRESENTATIVE DURING PRE-CONSTRUCTION MEETING.
8. ALL UNDISTURBED AREAS INCLUDING WETLAND/STREAM BUFFERS, SHALL BE FIELD MARKED AND KEPT FREE OF CONSTRUCTION EQUIPMENT.
9. CURRENT VERSIONS OF THE STORM WATER POLLUTION PREVENTION PLAN, NOTICE OF INTENT, AND NOTICE OF COVERAGE SHALL BE KEPT ON SITE AND IS TO BE ACCESSIBLE FOR THE DURATION OF THE PROJECT.
10. APPLY PERMANENT SEEDING WHENEVER GRADING OPERATIONS ARE COMPLETED AND ALL CONSTRUCTION OPERATIONS WILL NOT IMPACT THE DISTURBED AREA. APPLY PERMANENT SEEDING TO ALL NON-CONSTRUCTION AREAS THAT SHOW SIGNS OF EXCESSIVE EROSION.
11. MULCH WITH STRAW AT A RATE OF 100 LBS/1000 S.F. OVER THE SEEDED AREAS.
12. EROSION CONTROL DEVICES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE CURRENT PUBLICATION ENTITLED "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" AND GEORGIA EPD CONSTRUCTION ACTIVITY PERMIT REQUIREMENTS. THE DEVICES SHOWN ON THE DRAWINGS ARE THE MINIMUM REQUIRED. THE CONTRACTOR SHALL PROVIDE ADDITIONAL EROSION CONTROL DEVICES AS NEEDED.
13. CONTRACTOR TO PROVIDE AN AREA FOR CONCRETE WASH DOWN AND EQUIPMENT FUELING IN ACCORDANCE WITH GSWCC'S EROSION AND SEDIMENT CONTROL HANDBOOK, RESPECTIVELY. CONTRACTOR TO COORDINATE EXACT LOCATION WITH NPDES DEPARTMENT DURING PRECONSTRUCTION MEETING. CONTROL OF OTHER SITE WASTES SUCH AS DISCARDED BUILDING MATERIALS, CHEMICALS, LITTER, AND SANITARY WASTES THAT MAY CAUSE ADVERSE IMPACTS TO WATER QUALITY IS ALSO REQUIRED BY THE GRADING PERMITTEE. LOCATION OF AND/OR NOTES REFERRING TO THESE BMP'S SHALL BE SHOWN ON THE EPSC PLAN.
14. THE SITE SHALL BE STABILIZED WITHIN 14 DAYS AFTER CONSTRUCTION HAS TEMPORARILY/PERMANENTLY CEASED.
15. VEGETATION AND EROSION PREVENTION AND SEDIMENT CONTROL MEASURES THAT ARE AFFECTED BY CONSTRUCTION SHALL BE REPAIRED OR REPLACED WITHIN 7 DAYS.

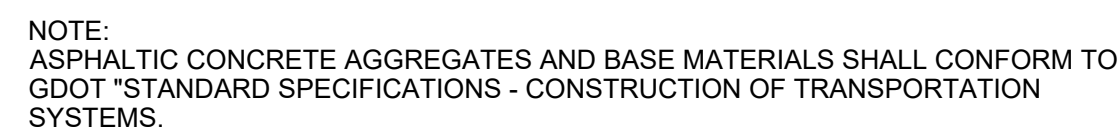
1. ALL WATER AND SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH SPECIFICATIONS OF HENRY COUNTY WATER AUTHORITY (HCWA).
2. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND INVERTS OF ALL EXISTING UTILITY LINES AND STRUCTURES (INCLUDING STORM DRAINAGE PIPES OR STRUCTURES) BEFORE THE COMMENCEMENT OF CONSTRUCTION.
3. SEWER SERVICE LINE CLEAN-OUT ASSEMBLY SHALL BE INSTALLED ACCORDING TO THE SPECIFICATIONS OF LOCAL UTILITY COMPANY PROVIDER.
4. CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES, OBTAIN ALL PERMITS, AND PAY ANY APPLICABLE FEES.
5. IN THE EVENT OF ANY DISCREPANCIES AND/OR ERRORS FOUND IN THE DRAWINGS, OR IF PROBLEMS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL BE REQUIRED TO NOTIFY THE ENGINEER BEFORE PROCEEDING WITH THE WORK. IF ENGINEER IS NOT NOTIFIED, THE CONTRACTOR SHALL TAKE RESPONSIBILITY FOR THE COST OF ANY REVISION.
6. THE CONTRACTOR IS TO VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES, TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN, REPAIR ANY DAMAGE ACCORDING TO LOCAL STANDARDS AND AT THE CONTRACTOR'S EXPENSE, AND COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY.
7. CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD AND UNDERGROUND ELECTRICAL WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK THE CONTRACTOR MUST WORK IN THE CLOSE PROXIMITY OF THE ABOVE NOTED WIRES, THE ELECTRIC COMPANY SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES IN THE PROJECT AREA SHOULD BE MADE BY THE CONTRACTOR PRIOR TO THE INITIATION OF CONSTRUCTION.
8. THE OWNER AND ENGINEER DO NOT ASSUME RESPONSIBILITY FOR THE POSSIBILITY THAT, DURING CONSTRUCTION, UTILITIES OTHER THAN THOSE SHOWN MAY BE ENCOUNTERED OR THAT ACTUAL LOCATION OF THOSE SHOWN MAY BE DIFFERENT FROM LOCATIONS DESIGNATED ON THE CONTRACT DRAWINGS. IN AREAS WHERE IT IS NECESSARY THAT EXACT LOCATIONS BE KNOWN OF UNDERGROUND UTILITIES, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, FURNISH ALL LABOR AND TOOLS NECESSARY TO EITHER VERIFY AND SUBSTANTIATE OR DEFINITELY ESTABLISH THE POSITION OF UNDERGROUND UTILITY LINES.
9. MAINTAIN A MINIMUM OF 18" VERTICAL CLEARANCE BETWEEN ALL SANITARY SEWER AND WATERLINE CROSSINGS, UNLESS LOCAL UTILITY JURISDICTION SPECS STATES OTHERWISE.



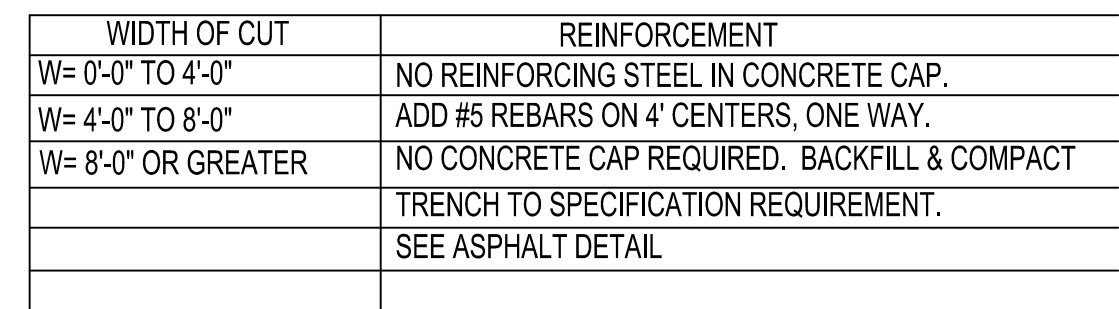
D CONCRETE SIDEWALK
C501 SCALE: NTS



C ASPHALT WALKING TRAIL
C501 SCALE: NTS



B HEAVY DUTY ASPHALT PAVEMENT
C501 SCALE: NTS



E ASPHALT REPLACEMENT DETAIL
C501 SCALE: NTS

TABLE NO. 1 ROUND PIPE - CONCRETE - CORRUGATED STEEL - CORRUGATED ALUMINUM MINIMUM CLASS OF CONCRETE OR MINIMUM THICKNESS OF STEEL AND ALUMINUM															
PIPE DIAMETER (INCHES)	TYPE	MINIMUM COVER (INCHES)	1 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 50	50 - 60	60 - 70	70 - 80	80 - 90	PIPE DIAMETER (INCHES)
12	CONCRETE	12	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	12
	STEEL	12	1	1	1	1	1	1	1	1	1	1	1	1	
	ALUM	12	1	1	1	1	1	1	1	1	1	1	1	1	
15	CONCRETE	12	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	15
	STEEL	12	1	1	1	1	1	1	1	1	1	1	1	1	
	ALUM	12	1	1	1	1	1	1	1	1	1	1	1	1	
18	CONCRETE	12	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	18
	STEEL	12	1	1	1	1	1	1	1	1	1	1	1	1	
	ALUM	12	1	1	1	1	1	1	1	1	1	1	1	1	
24	CONCRETE	12	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	24
	STEEL	12	1	1	1	1	1	1	1	1	1	1	1	1	
	ALUM	12	1	1	1	1	1	1	1	1	1	1	1	1	
30	CONCRETE	12	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	30
	STEEL	12	1	1	1	1	1	1	1	1	1	1	1	1	
	ALUM	12	1	1	1	1	1	1	1	1	1	1	1	1	
36	CONCRETE	12	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	36
	STEEL	12	1	1	1	1	1	1	1	1	1	1	1	1	
	ALUM	12	1	1	1	1	1	1	1	1	1	1	1	1	
42	CONCRETE	12	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	42
	STEEL	12	1	1	1	1	1	1	1	1	1	1	1	1	
	ALUM	12	1	1	1	1	1	1	1	1	1	1	1	1	
48	CONCRETE	12	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	48
	STEEL	12	1	1	1	1	1	1	1	1	1	1	1	1	
	ALUM	12	1	1	1	1	1	1	1	1	1	1	1	1	
54	CONCRETE	12	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	54
	STEEL	12	1	1	1	1	1	1	1	1	1	1	1	1	
	ALUM	12	1	1	1	1	1	1	1	1	1	1	1	1	
60	CONCRETE	12	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	60
	STEEL	12	1	1	1	1	1	1	1	1	1	1	1	1	
	ALUM	12	1	1	1	1	1	1	1	1	1	1	1	1	
66	CONCRETE	12	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	66
	STEEL	12	1	1	1	1	1	1	1	1	1	1	1	1	
	ALUM	12	1	1	1	1	1	1	1	1	1	1	1	1	
72	CONCRETE	12	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	72
	STEEL	12	1	1	1	1	1	1	1	1	1	1	1	1	
	ALUM	12	1	1	1	1	1	1	1	1	1	1	1	1	
78	CONCRETE	12	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	78
	STEEL	12	1	1	1	1	1	1	1	1	1	1	1	1	
	ALUM	12	1	1	1	1	1	1	1	1	1	1	1	1	
84	CONCRETE	12	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	84
	STEEL	12	1	1	1	1	1	1	1	1	1	1	1	1	
	ALUM	12	1	1	1	1	1	1	1	1	1	1	1	1	
90	CONCRETE	12	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	90
	STEEL	12	1	1	1	1	1	1	1	1	1	1	1	1	
	ALUM	12	1	1	1	1	1	1	1	1	1	1	1	1	
96	CONCRETE	12	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	96
	STEEL	12	1	1	1	1	1	1	1	1	1	1	1	1	
	ALUM	12	1	1	1	1	1	1	1	1	1	1	1	1	
102	CONCRETE	12	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	102
	STEEL	12	1	1	1	1	1	1	1	1	1	1	1	1	
	ALUM	12	1	1	1	1	1	1	1	1	1	1	1	1	
108	CONCRETE	12	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	108
	STEEL	12	1	1	1	1	1	1	1	1	1	1	1	1	
	ALUM	12	1	1	1	1	1	1	1	1	1	1	1	1	
114	CONCRETE	12	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	114
	STEEL	12	1	1	1	1	1	1	1	1	1	1	1	1	
	ALUM	12	1	1	1	1	1	1	1	1	1	1	1	1	
120	CONCRETE	12	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV	120
	STEEL	12	1	1	1	1	1	1	1	1	1	1	1	1	
	ALUM	12	1	1	1	1	1	1	1	1	1	1	1	1	

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
STANDARD
CONCRETE & METAL PIPE CULVERTS
SHEET 2 OF 3
(FILL HEIGHTS FOR CONCRETE & CORRUGATED METAL PIPE)

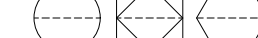
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DESIGNED: OCTOBER 21, 1998
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APPROVED: *[Signature]*
NUMBER
10300

TABLE NO. 1 R ROUND PIPE - SPIRAL RIB STEEL - SPIRAL RIB ALUMINUM MINIMUM THICKNESS OF STEEL AND ALUMINUM HEIGHT OF FILL IN FEET ABOVE TOP OF PIPE														
PIPE DIAMETER (INCHES)	TYPE	1 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 50	50 - 60	60 - 70	70 - 80	80 - 90	PIPE DIAMETER (INCHES)
12	STEEL R	12	12	12	12	12	12	12	12	12	12	12	12	12
	ALUM R	12	12	12	12	12	12	12	12	12	12	12	12	
15	STEEL R	12	12	12	12	12	12	12	12	12	12	12	12	15
	ALUM R	12	12	12	12	12	12	12	12	12	12	12	12	
18	STEEL R	12	12	12	12	12	12	12	12	12	12	12	12	18
	ALUM R	12	12	12	12	12	12	12	12	12	12	12	12	
24	STEEL R	12	12	12	12	12	12	12	12	12	12	12	12	24
	ALUM R	12	12	12	12	12	12	12	12	12	12	12	12	
30	STEEL R	12	12	12	12	12	12	12	12	12	12	12	12	30
	ALUM R	12	12	12	12	12	12	12	12	12	12	12	12	
36	STEEL R	12	12	12	12	12	12	12	12	12	12	12	12	36
	ALUM R	12	12	12	12	12	12	12	12	12	12	12	12	
42	STEEL R	12	12	12	12	12	12	12	12	12	12	12	12	42
	ALUM R	12	12	12	12	12	12	12	12	12	12	12	12	
48	STEEL R	12	12	12	12	12	12	12	12	12	12	12	12	48
	ALUM R	12	12	12	12	12	12	12	12	12	12	12	12	
54	STEEL R	12	12	12	12	12	12	12	12	12	12	12	12	54
	ALUM R	12	12	12	12	12	12	12	12	12	12	12	12	
60	STEEL R	12	12	12	12	12	12	12	12	12	12	12	12	60
	ALUM R	12	12	12	12	12	12	12	12	12	12	12	12	
66	STEEL R	12	12	12	12	12	12	12	12	12	12	12	12	66
	ALUM R	12	12	12	12	12	12	12	12	12	12	12	12	
72	STEEL R	12	12	12	12	12	12	12	12	12	12	12	12	72
	ALUM R	12	12	12	12	12	12	12	12	12	12	12	12	
78	STEEL R	12	12	12	12	12	12	12	12	12	12	12	12	78
	ALUM R	12	12	12	12	12	12	12	12	12	12	12	12	
84	STEEL R	12	12	12	12	12	12	12	12	12	12	12	12	84
	ALUM R	12	12	12	12	12	12	12	12	12	12	12	12	
90	STEEL R	12	12	12	12	12	12	12	12	12	12	12	12	90
	ALUM R	12	12	12	12	12	12	12	12	12	12	12	12	
96	STEEL R	12	12	12	12	12	12	12	12	12	12	12	12	96
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	ALUM R	12	12	12	12	12	12	12	12	12	12	12	12	
108	STEEL R	12	12	12	12	12	12	12	12	12	12	12	12	108
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114	STEEL R	12	12	12	12	12	12	12	12	12	12	12	12	114
	ALUM R	12	12	12	12	12	12	12	12	12	12	12	12	
120	STEEL R	12	12	12	12	12	12	12	12	12	12	12	12	120
	ALUM R	12	12	12	12	12	12	12	12	12	12	12	12	

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
STANDARD
CONCRETE & METAL PIPE CULVERTS
SHEET 3 OF 3
(FILL HEIGHTS FOR SPIRAL RIB METAL PIPE & FOR PIPE ARCH)

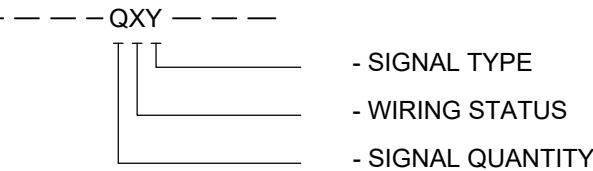
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CHECKED: *[Signature]*
APPROVED: *[Signature]*
NUMBER
10300

NOTES

1. NORMALLY INACCESSIBLE TO BEHIND-THE-PANEL DEVICES OR FUNCTIONS ARE DEPICTED BY USING THE SAME SYMBOLS BUT WITH DASHED HORIZONTAL BARS, I.E.:

2. SUPERScript DENOTES ADDITIONAL FUNCTIONAL DESCRIPTION OF INSTRUMENT. SEE INSTRUMENT DESIGNATIONS FOR DEFINITIONS.
3. SUBScript DENOTES PANEL OR CABINET I.D.
4. SUPERScript REFERS TO INTERLOCK SPECIFICATION.

INSTRUMENT DESIGNATIONS

CL2	CHLORINE RESIDUAL
CO2	CARBON DIOXIDE
DO	DISSOLVED OXYGEN
EOT	END OF TRAVEL
LEL	LOWER EXPLOSIVE LIMIT
LOR	LOCAL - OFF - REMOTE
LORA	LOCAL - OFF - REMOTE - AUTOMATIC
MCC	MOTOR CONTROL CENTER
MLSS	MIXED LIQUOR SUSPENDED SOLIDS
O2	OXYGEN (PURITY)
ORP	OXIDATION REDUCTION POTENTIAL
OVLD	OVERLOAD
pH	pH CELL
RM	REVERSE MOTION
SD	SLUDGE DENSITY
TURB	TURBIDITY
UV	UV TRANSMITTANCE



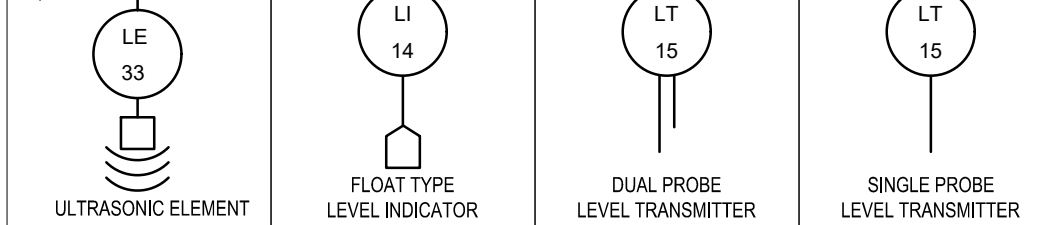
ELECTRICAL LINE FUNCTIONS

WIRING STATUS

- - CONDUIT AND CONDUCTORS BY CONTRACTOR
E - EXISTING CONDUCTORS IN EXISTING CONDUIT
F - CONDUIT BY CONTRACTOR, CONDUCTORS FURNISHED WITH EQUIPMENT
S - CONDUIT AND CONDUCTORS FURNISHED WITH EQUIPMENT

SIGNAL TYPE

- | | |
|------|--|
| A | - ANALOG - #16 TWISTED SHIELDED PAIR |
| AI | - ANALOG - #16 3 CONDUCTOR TWISTED SHIELDED TRIAD |
| AS | - ANALOG - SPECIAL (EIA-432, EIA-485...) |
| D | - #14 2 CONDUCTOR |
| DS | - DISCRETE - SPECIAL (24 VOLT ...) |
| M | - WIRING BY MANUFACTURER |
| P | - POWER - NUMBER OF CONDUCTORS AND SIZE BY ELECTRICAL |
| C6 | - COMMUNICATIONS - CAT 6 ETHERNET |
| P(V) | - POWER & SHIELDED VFD CABLE - NUMBER OF CONDUCTORS AND SIZE BY ELECTRICAL |



B	BURNER		USER'S CHOICE	USER'S CHOICE
C	CONDUCTIVITY			CONTROL
D	DENSITY	DIFFERENTIAL		
E	VOLTAGE		SENSOR PRIMARY ELEMENT	
F	FLOW RATE	RATIO		

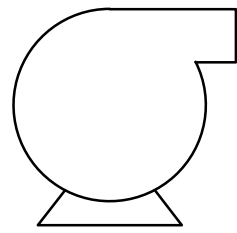
B	BURNER		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	CONDUCTIVITY			CONTROL	CLOSED
D	DENSITY	DIFFERENTIAL			
E	VOLTAGE		SENSOR PRIMARY ELEMENT		
F	FLOW RATE	RATIO			
G	USER'S CHOICE		GLASS		
H	HAND (MANUAL)				HIGH
I	CURRENT		INDICATE		
J	POWER	SCAN			
K	TIME / SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	MOISTURE	MOMENTARY			MIDDLE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE (RESTRICTION)		OPEN
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	TOTALIZE			
R	RADIATION		RECORD		
S	SPEED / FREQ.	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER	
W	WEIGHT / FORCE		WELL		
X	UNCLASSIFIED	X-AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE PREFERENCE	Y-AXIS		RELAY/COMPUTER	
Z	POSITION	Z-AXIS		DRIVER/ACTUATOR	

[illegible]

03-DI002

FILE NO. 36068-32

EQUIPMENT IDENTIFICATION DESCRIPTION



SSS-FFF-####

SEQUENCE CODE - SEQUENTIAL NUMBER
SEQUENCE CODE - SEQUENTIAL NUMBER
SEQUENCE CODE - STRUCTURE IDENTIFIER
FUNCTION CODE - DENOTES ASSOCIATED EQUIPMENT ABBREVIATION
SERVICE CODE - DENOTES ASSOCIATED SERVICE ABBREVIATION
(SEE NOTE 1)

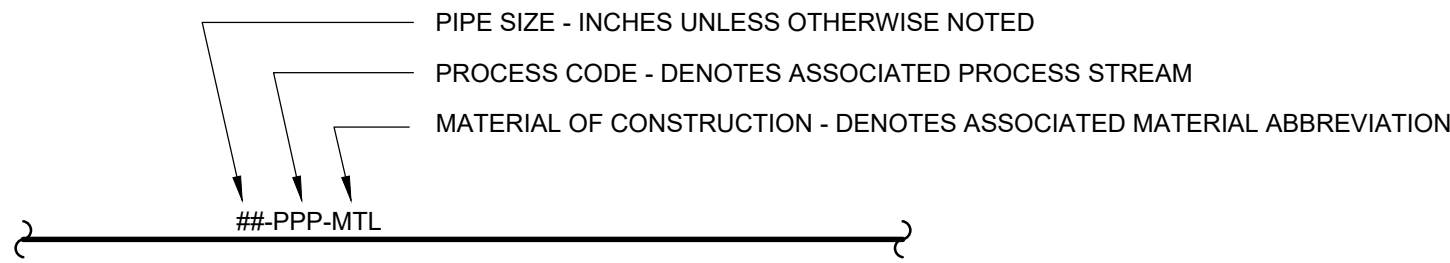
GENERAL NOTES:

1. THIS TAG CODE MAY NOT BE USED WITH EVERY EQUIPMENT OR VALVE.

EQUIPMENT ABBREVIATIONS

ASP	AERATOR / AERATION
ASR	SURFACE ASPIRATOR
BCONV	BELT CONVEYOR
BLR	BLOWER
BSN	BASIN
CLF	CLARIFIER
CLS	CLASSIFIER
CMP	COMPRESSOR
CNV	CONVEYOR
CRN	CRANE
DEC	DECANTER
DIF	DIFFUSER
DWB	DEWATERING BOX
EDC	EDUCTOR
EJ	INJECTOR
FE	FLOW ELEMENT
FIL	FILTER
FLOC	FLOCCULATOR
GF	GAS FEEDER
GNDR	GRINDER
GRT	GRIT
HST	HOIST
MXR	MIXER
P	PUMP
PI	PRESSURE INDICATOR
PMX	PULVERIZER MIX SKID
RP	ROTARY PRESS
SAMP	SAMPLE PUMP
SB	SPLITTER BOX
SC	SCUM COLLECTOR
SCL	SCALE
SCONV	SCREW CONVEYOR
SCR	SCREEN
SG	SLIDE GATE
SL	SLUDGE
SCLC	SLUDGE COLLECTOR
SRS	SEPTAGE RECEIVING STATION
T	TANK
UV	ULTRAVIOLET
V	VALVE
WCMP	WASHER/COMPACTOR
WG	WEIR GATE

PIPELINE IDENTIFICATION DESCRIPTION



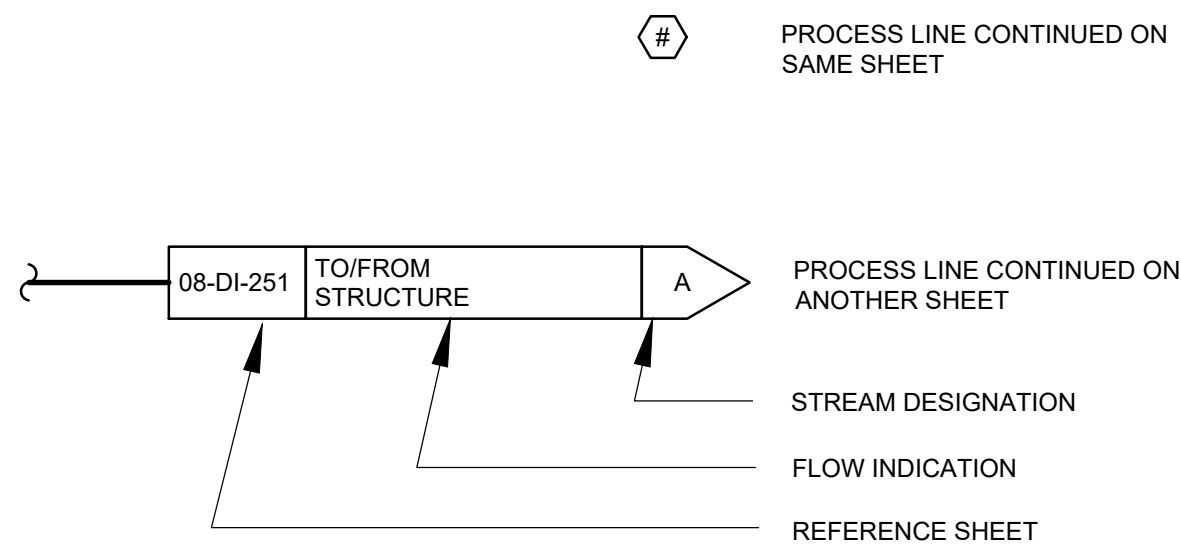
PROCESS FLUID ABBREVIATIONS

ACS	CARBON SLURRY
AER	AERATION
AHP	HIGH PRESSURE AIR
ALP	LOW PRESSURE AIR
ALUM	ALUM
ANE	ANAEROBIC EFFLUENT
ANI	ANAEROBIC INFLUENT
ARCY	ANOXIC RECYCLE
ARE	AERATION EFFLUENT
ARI	AERATION INFLUENT
ASH	INCINERATOR ASH
ASR	AERATED SUPERNATANT RETURN
AWR	ACID WASH RETURN
AWS	ACID WASH SUPPLY
AXE	ANOXIC EFFLUENT
AXI	ANOXIC INFLUENT
BISULFITE	SODIUM BISULFITE
BISULFITE SOL	SODIUM BISULFITE SOLUTION
BWS	BACKWASH
BWW	BACKWASH WASTE
CA	COMPRESSED AIR
CAUS	CAUSTIC
CKK	CENTRIFUGE BIOSOLIDS CAKE
CEN	CENTRATE
CFS	CENTRIFUGE FEED SOLIDS
CIP	CLEAN-IN PIPE
CIT	CITRIC ACID
CL2	CHLORINE GAS
CLO2	CHLORINE DIOXIDE
CLN	CHLORINE SOLUTION
CN SCUM	CONCENTRATED SCUM
CNFS	CONDITIONING TANK FEED SOLIDS
CNT	CONTAINMENT PIPE
CQN	CONCENTRATE
CRW	CLARIFIED RAW WATER
CS	CONDITIONED SLUDGE
CTE	DISINFECTION CONTACT TANK EFFLUENT
CTS	CENTRIFUGE THICKENED BIOSOLIDS
CWL	COLD WATER (POTABLE)
CYCL INF	CYCLONE INFLUENT
CYCL RCY	CYCLONE RECYCLE
D AL	DISSOLVED ALUM
DA	DAMPEN DRY AIR
DEC	DECANT
DF	DIESEL FUEL
DFR	DIESEL FUEL RETURN
DFS	DIESEL FUEL SUPPLY
DG	DIGESTER GAS
DGR	DEWATERED GRIT
DHW	DOMESTIC HOT WATER
DHWR	DOMESTIC HOT WATER RECIRCULATION
DPOLY	DRY POLYMER
DPSD	DRAINAGE PUMP STATION DISCHARGE
DR	DRAIN
DRS	DIGESTER RECIRCULATION SOLIDS
DS	DIGESTED SLUDGE
DSR	DECANT SUPERNATANT RETURN
DW	DOMESTIC WATER
DW FL	DEWATERING FLOCCULATION
DWS	DEWATERED SLUDGE
EFF	EFFLUENT
EI	EQUALIZATION INFLUENT
ER	EQUALIZATION RETURN
F	FILTRATE
FD	FLOOR DRAIN
FD SCUM	FEED SCUM
FE	FINAL EFFLUENT
FEC	FERRIC CHLORIDE
FES	FERROUS SULFATE
FIRE	FIRE PROTECTION
FLS	FOREIGN BIOSOLIDS LOADING
FM	FORCE MAIN
FO	FUEL OIL
FOGS	FATS, OILS, GREASE AND SEPTAGE
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FOV	FUEL OIL VENT
FSB	FLOTATION THICKENER SUBNATANT
FTFS	FLOTATION THICKENER FEED SOLIDS
FTRCY	FLOTATION THICKENER RECYCLE
FUS	FLOTATION THICKENED SOLIDS
FTS	FOREIGN BIOSOLIDS LOADING
FW	FINISHED WATER
GBFL	GRAVITY BELT THICKENER FILTRATE
GBFS	GRAVITY BELT THICKENER FEED SOLIDS
GBTS	GRAVITY BELT THICKENED SOLIDS
GRT	GRIT
GSP	GRAVITY THICKENER OVERFLOW/SUPERFLO
GTF5	GRAVITY THICKENER FEED SOLIDS
GTS	GRAVITY THICKENED SOLIDS
H2O2	PEROXIDE
HCL	HYDROCHLORIC ACID
HDO	HYDRAULIC OIL
HF	FLUORIDE
HPSA	SERVICE AIR (HIGH PRESSURE)

PIPE MATERIAL ABBREVIATIONS

ACP	ASBESTOS CEMENT PIPE
BSP	BLACK STEEL PIPE
CIP	CAST IRON
CISP	CAST IRON SOIL PIPE
CMP	CORRUGATED METAL PIPE
CPP	CONCRETE PRESSURE PIPE
CPVC	CHLORINATED POLY (VINYL CHLORIDE) PIPE
CU	COPPER PIPE
DI	DUCTILE IRON PIPE
DW	DOUBLE WALL
FRH	FLEXIBLE RUBBER HOSE
FRP	FIBERGLASS REINFORCED PIPE
FT	FLEXIBLE TUBING
GSP	GALVANIZED STEEL PIPE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
PE	POLYETHYLENE
PP	POLYPROPYLENE
PVC	POLY (VINYL CHLORIDE) PIPE
RCP	REINFORCED CONCRETE PIPE
STL	STEEL PIPE
SST	STAINLESS STEEL PIPE
VCP	VITRIFIED CLAY PIPE

SHEET CONTINUATION DESCRIPTION



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COA AUTHORIZATION NO: PEF000054
COA EXPIRATION DATE: 06/30/2026

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PHONE: (615) 254-1500

PRELIMINARY
NOT FOR
CONSTRUCTION

DATE _____

P&ID - ABBREVIATIONS

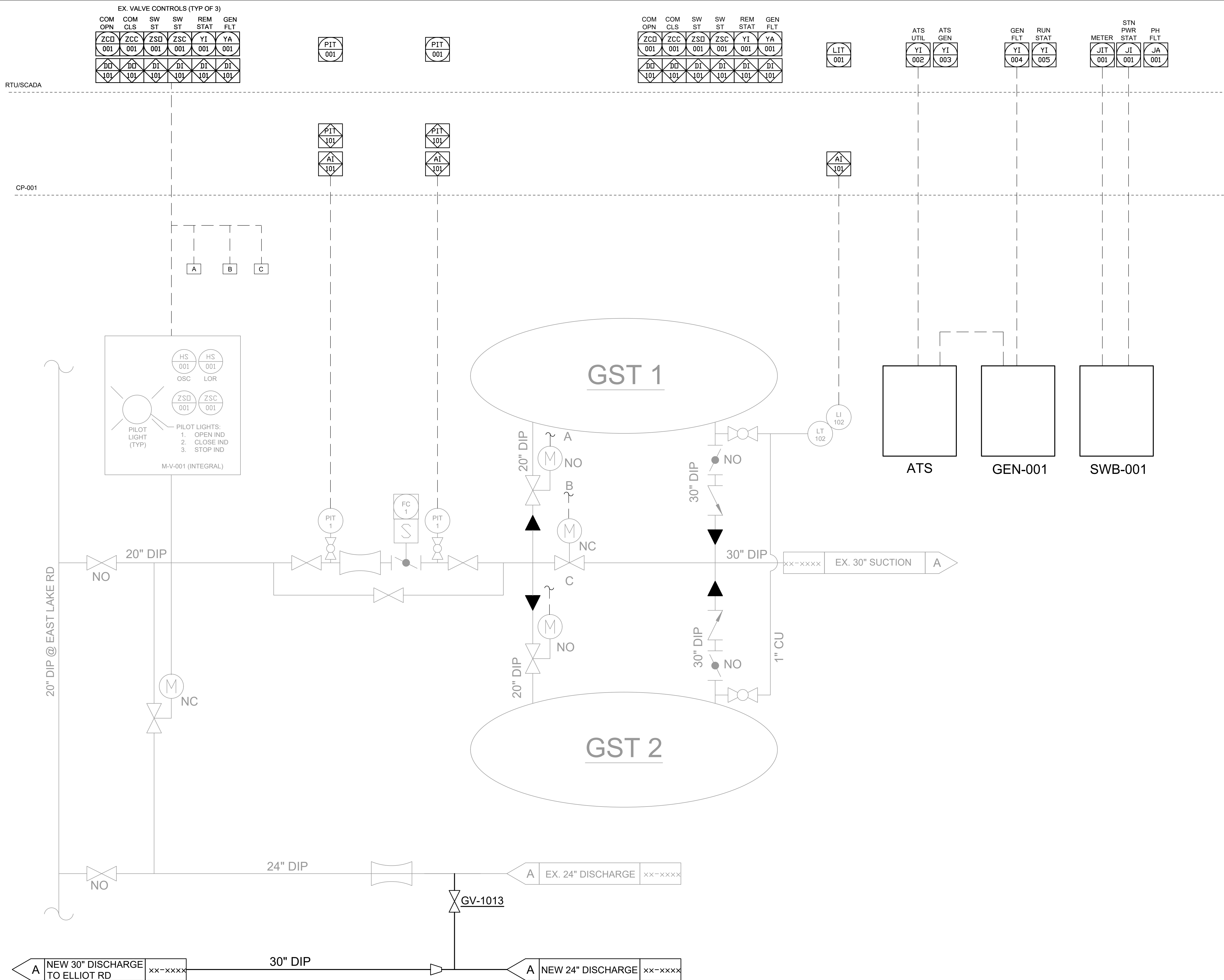
HENRY COUNTY WATER AUTHORITY EAST LAKE BPS REPLACEMENT

HENRY COUNTY, GEORGIA

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03-DI003

FILE NO. 36068-32



COA NAME: BARGE DESIGN SOLUTIONS, INC.
COA AUTHORIZATION NO: PEF000054
COA EXPIRATION DATE: 06/30/2026

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P&D

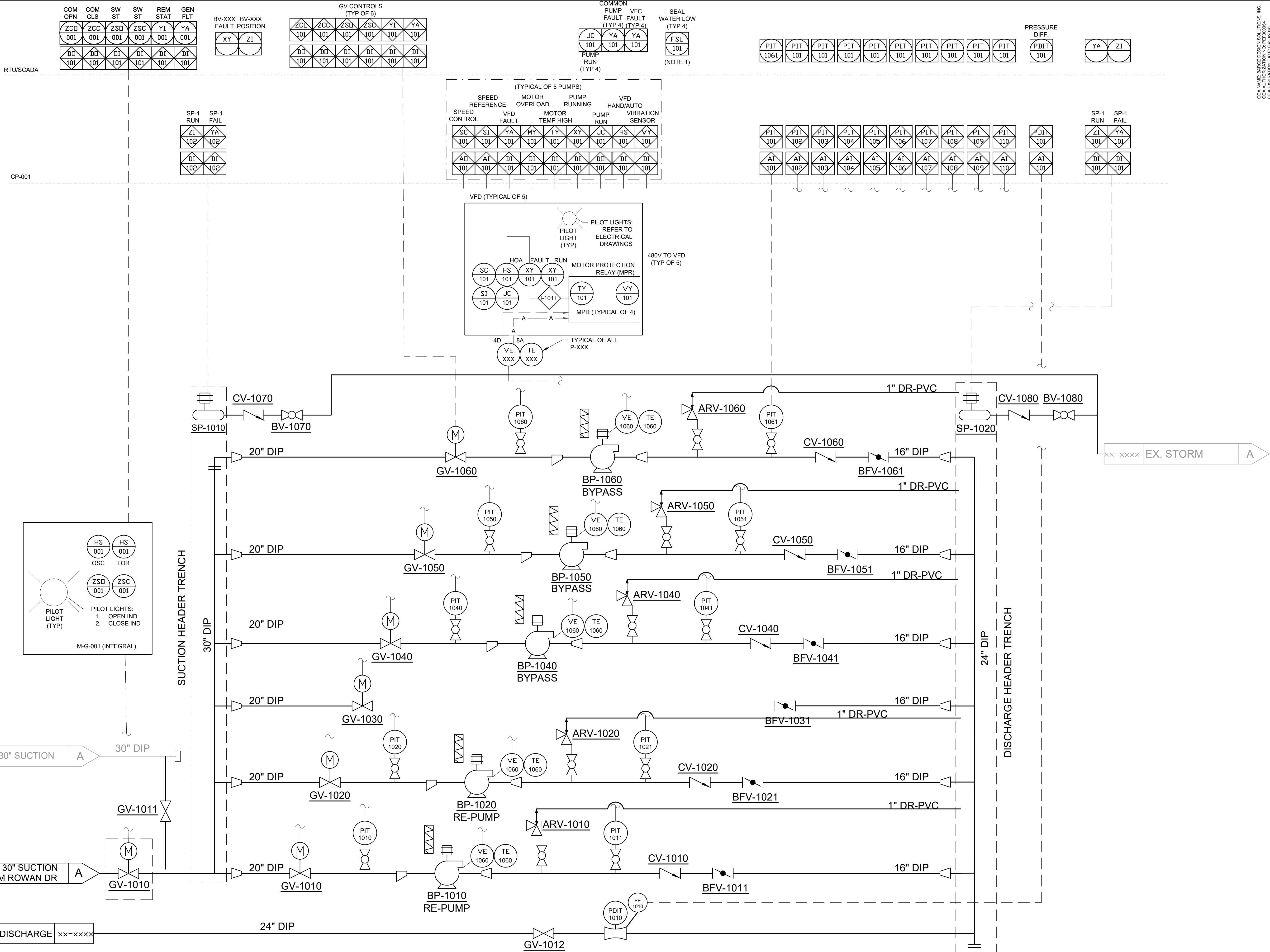
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PLOTTED:7/30/2026



COA NAME: BARGE DESIGN SOLUTIONS, INC.
COA AUTHORIZATION NO: PFD00004
COA EXPIRATION DATE: 06/30/2026

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DATE

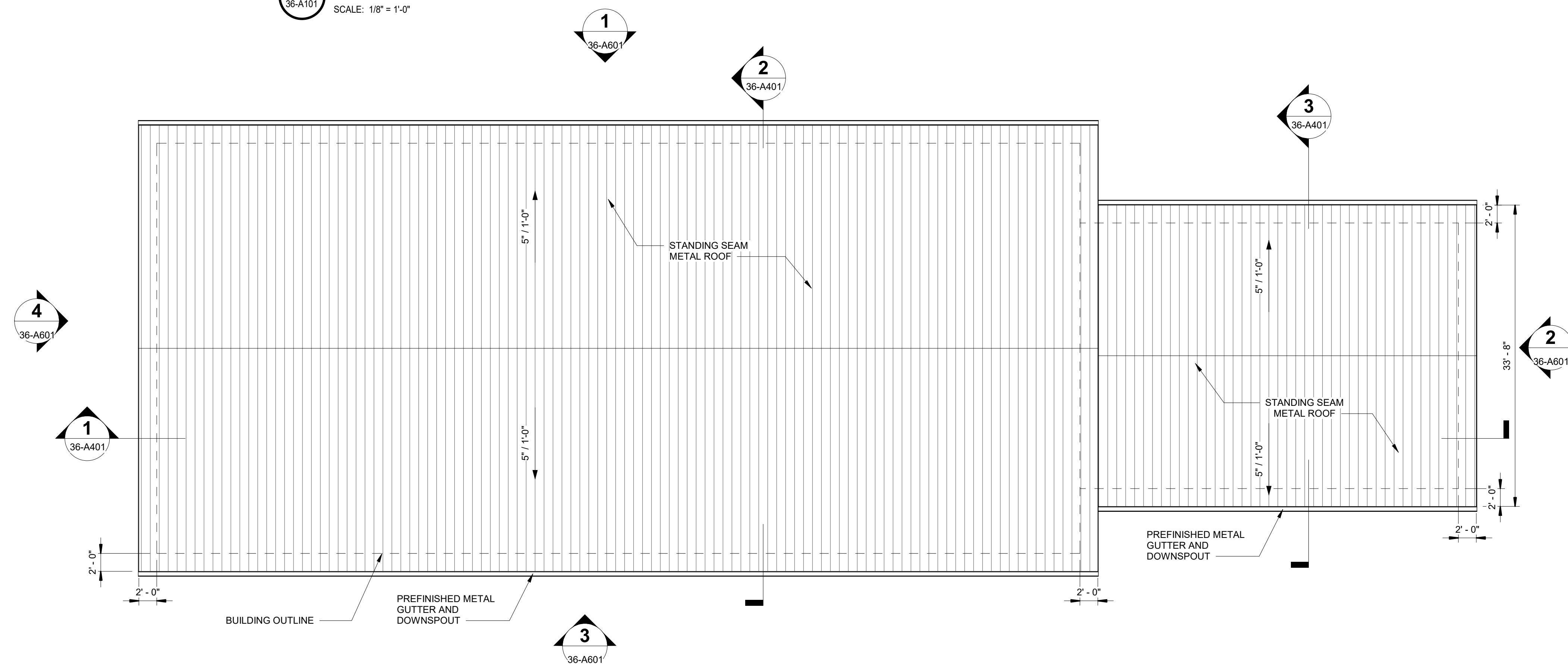
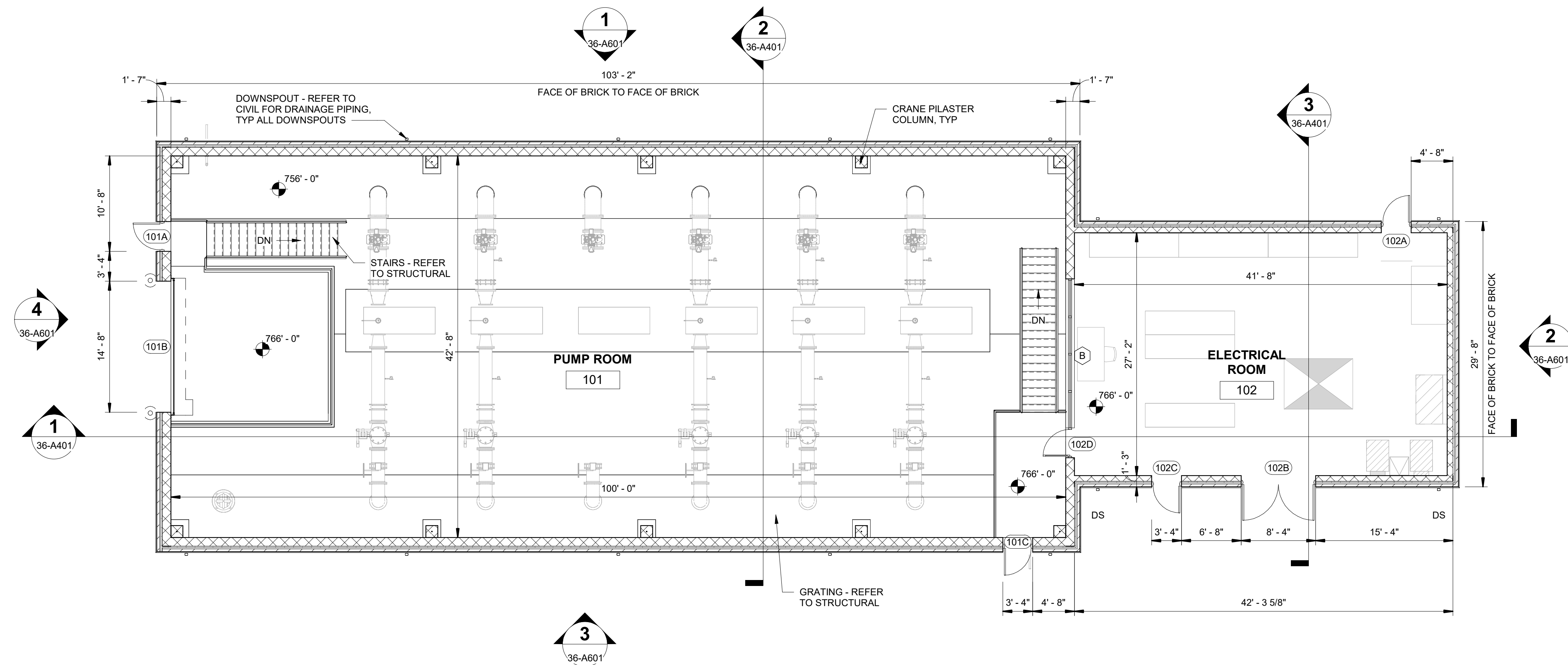
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HENRY COUNTY WATER AUTHORITY
EAST LAKE BPS REPLACEMENT
HENRY COUNTY, GEORGIA

REVISION INFORMATION			
REV.	DR.	CHK.	DATE
1	LAC	MSE	07/30/2026
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03-DI3602

FILE NO. 36068-32



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36-A102

FILE NO: 6900.800

BOOSTER PUMP STATION PLANS

HENRY COUNTY WATER AUTHORITY

EAST LAKE BPS REPLACEMENT

HENRY COUNTY, GEORGIA

PRELIMINARY
NOT FOR
CONSTRUCTION

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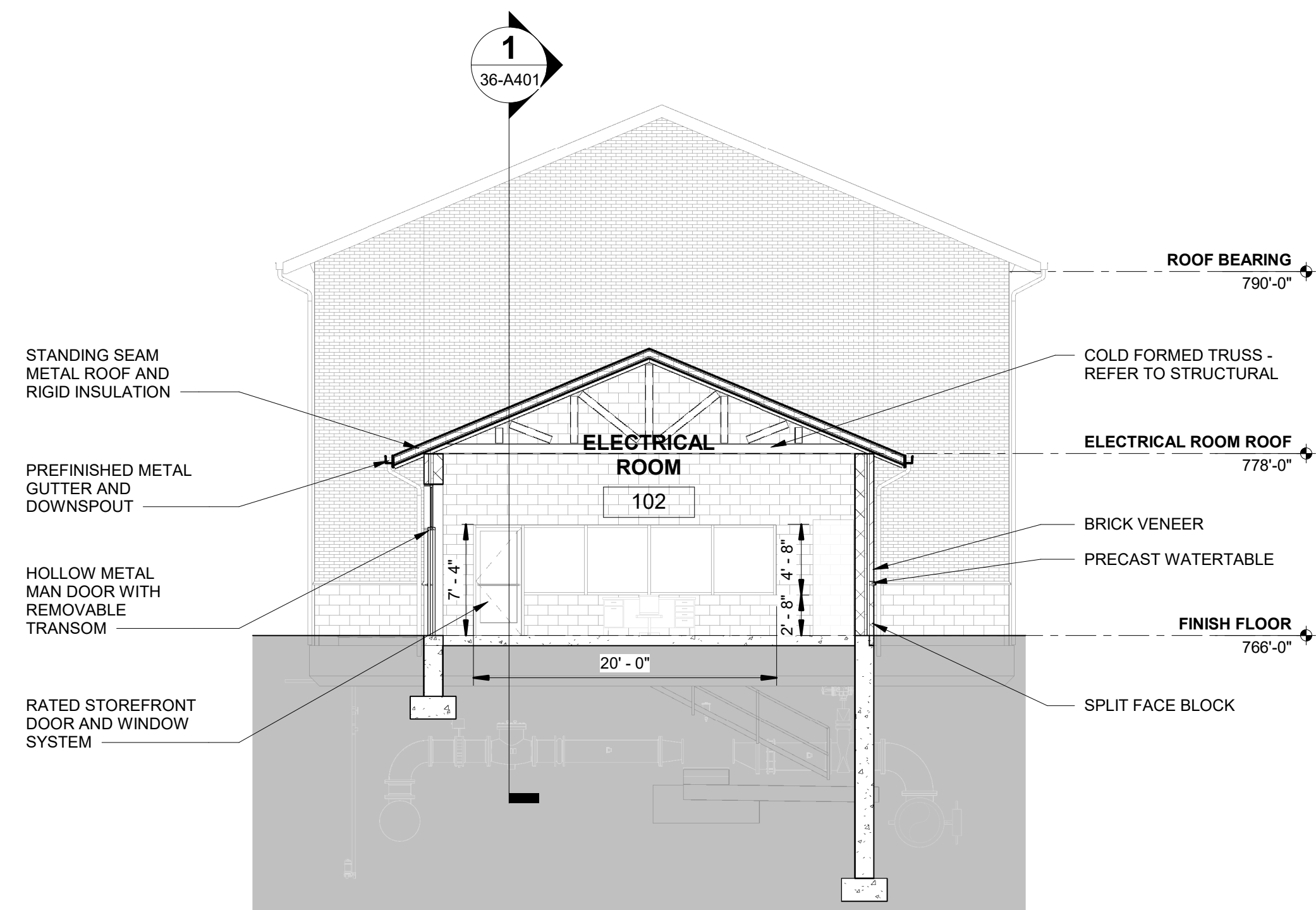
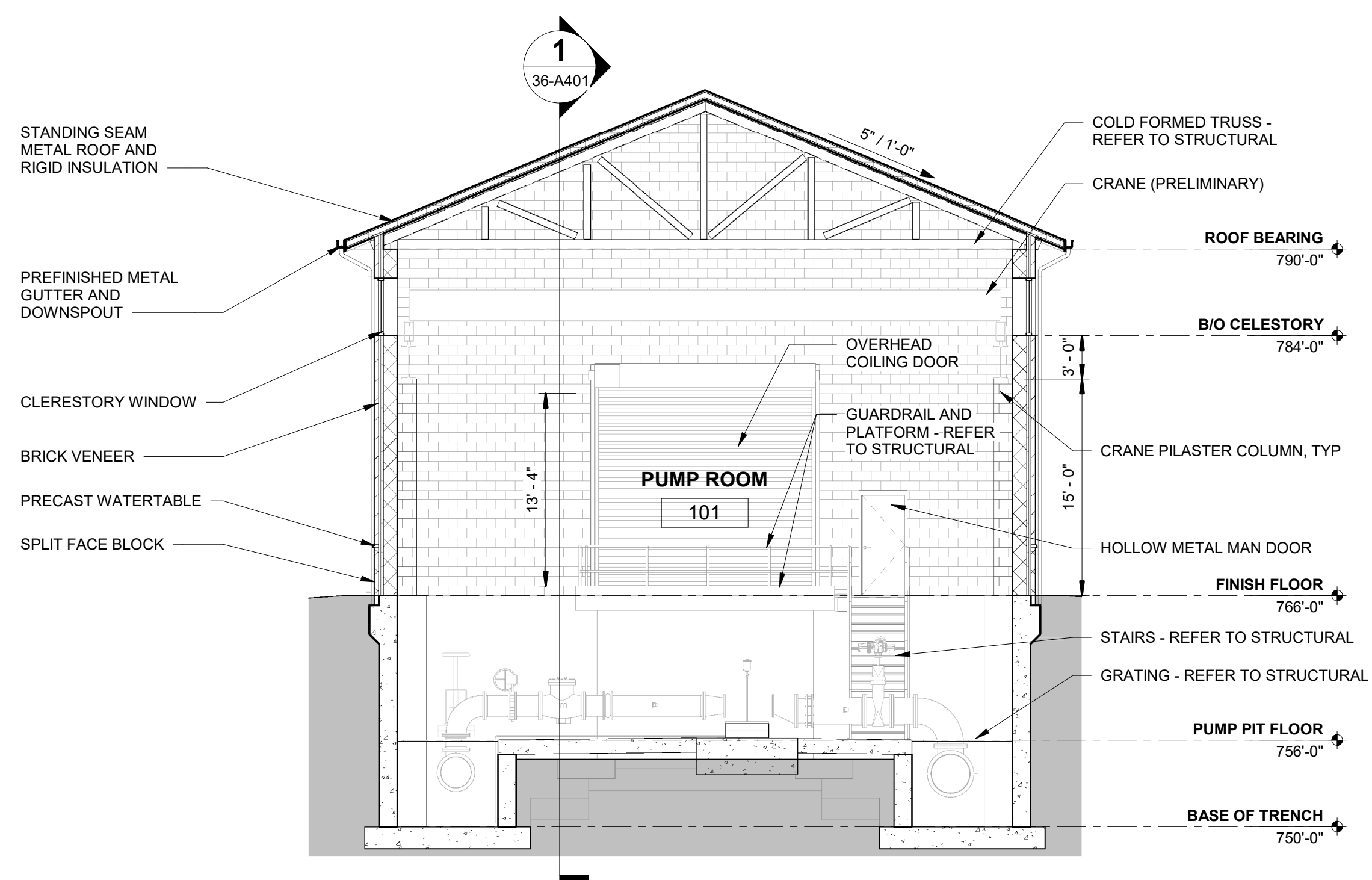
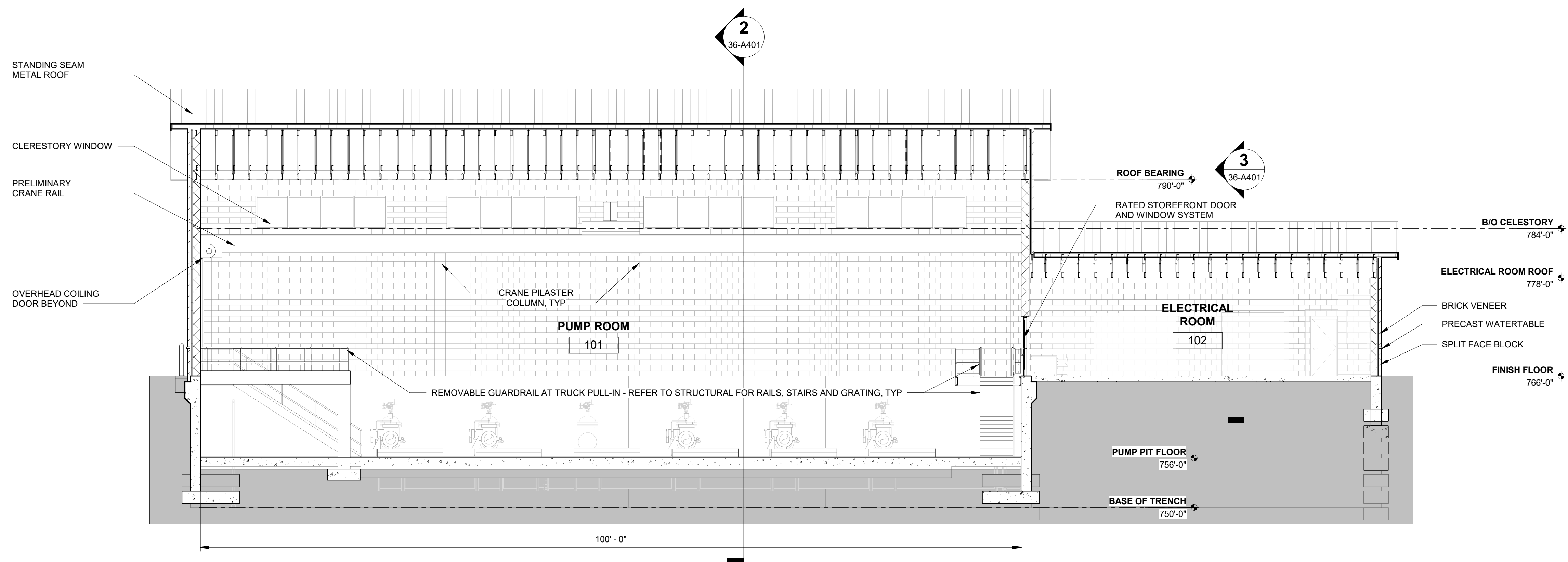
BARGE
DESIGN SOLUTIONS®

115 3RD AVENUE SOUTH // SUITE 700 // NASHVILLE, TN 37210
PHONE: (615) 254-1500

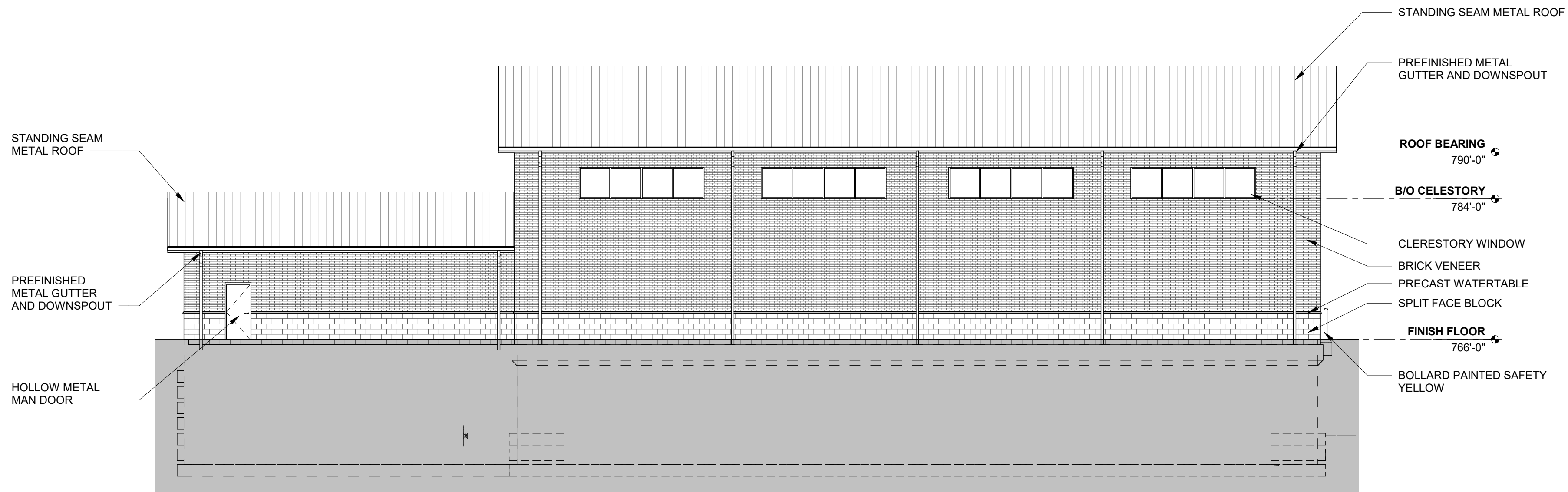
SOUTH OF SUITE 700 // NAS
 PHONE: (615) 254-1500

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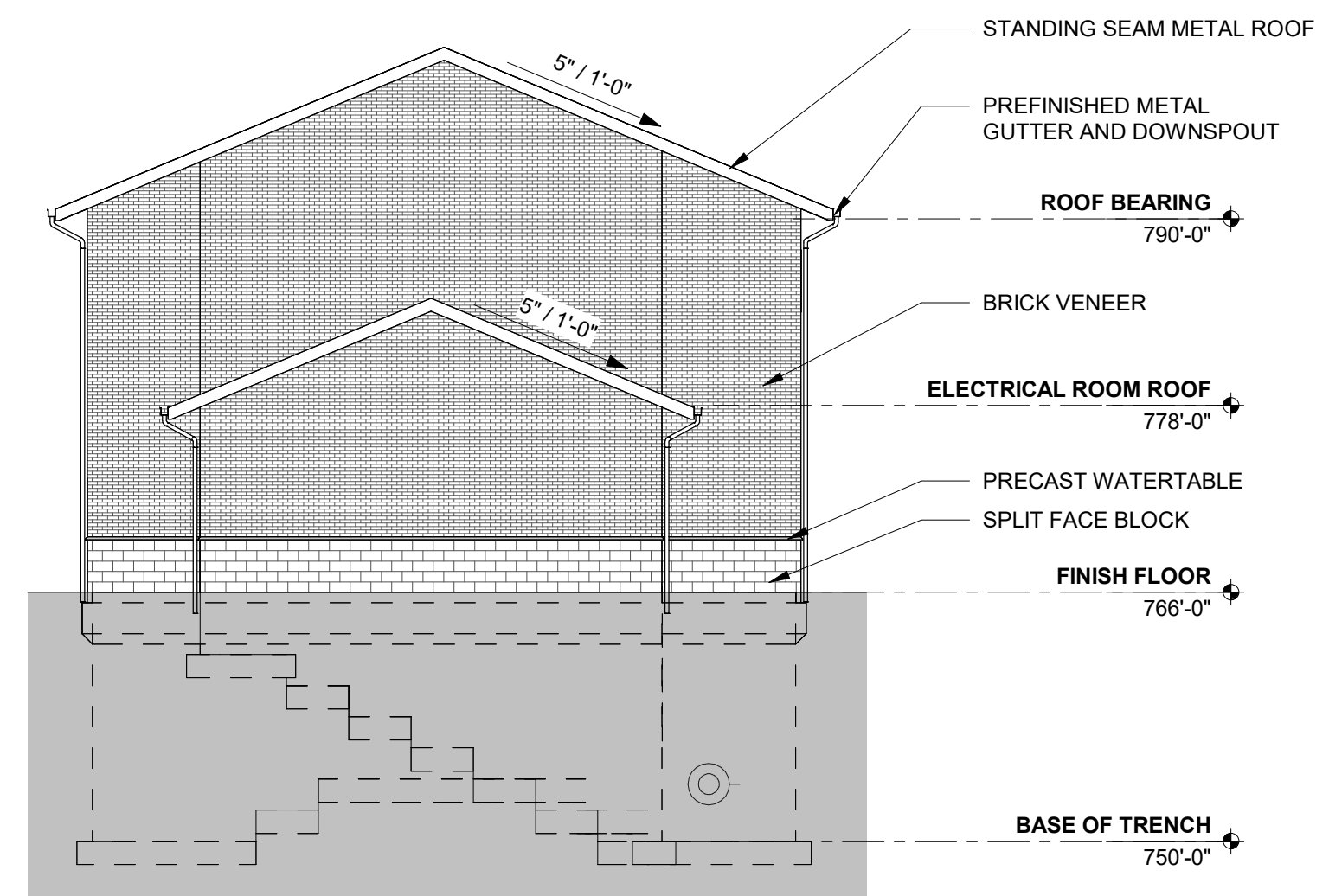
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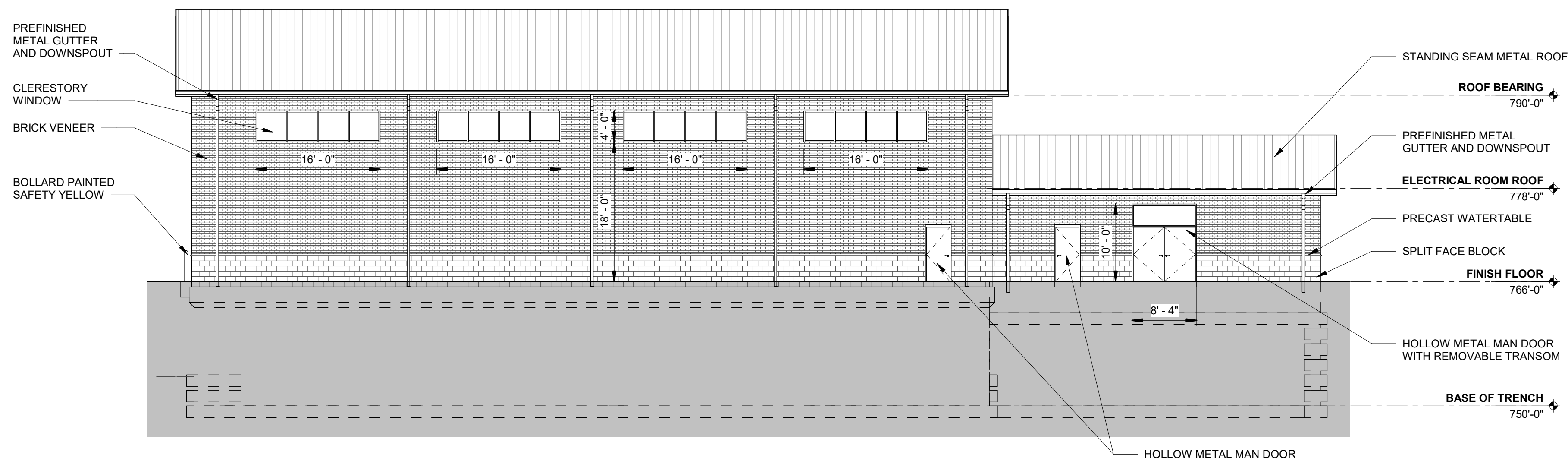
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36-A601 BOOSTER PUMP STATION ELEVATIONS
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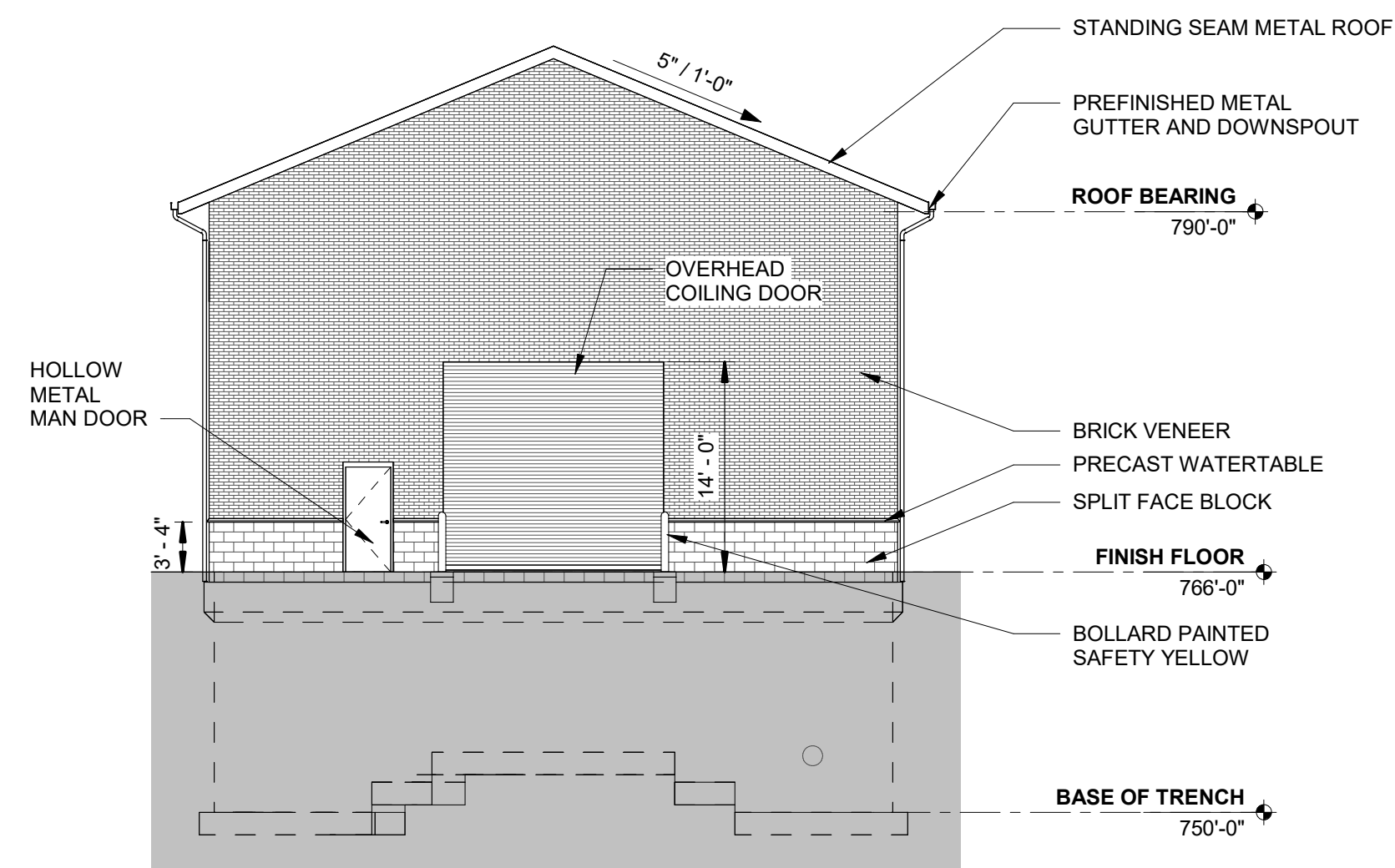
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36-A601 SCALE: 3/32" = 1'-0"



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36-A601 SCALE: 3/32" = 1'-0"

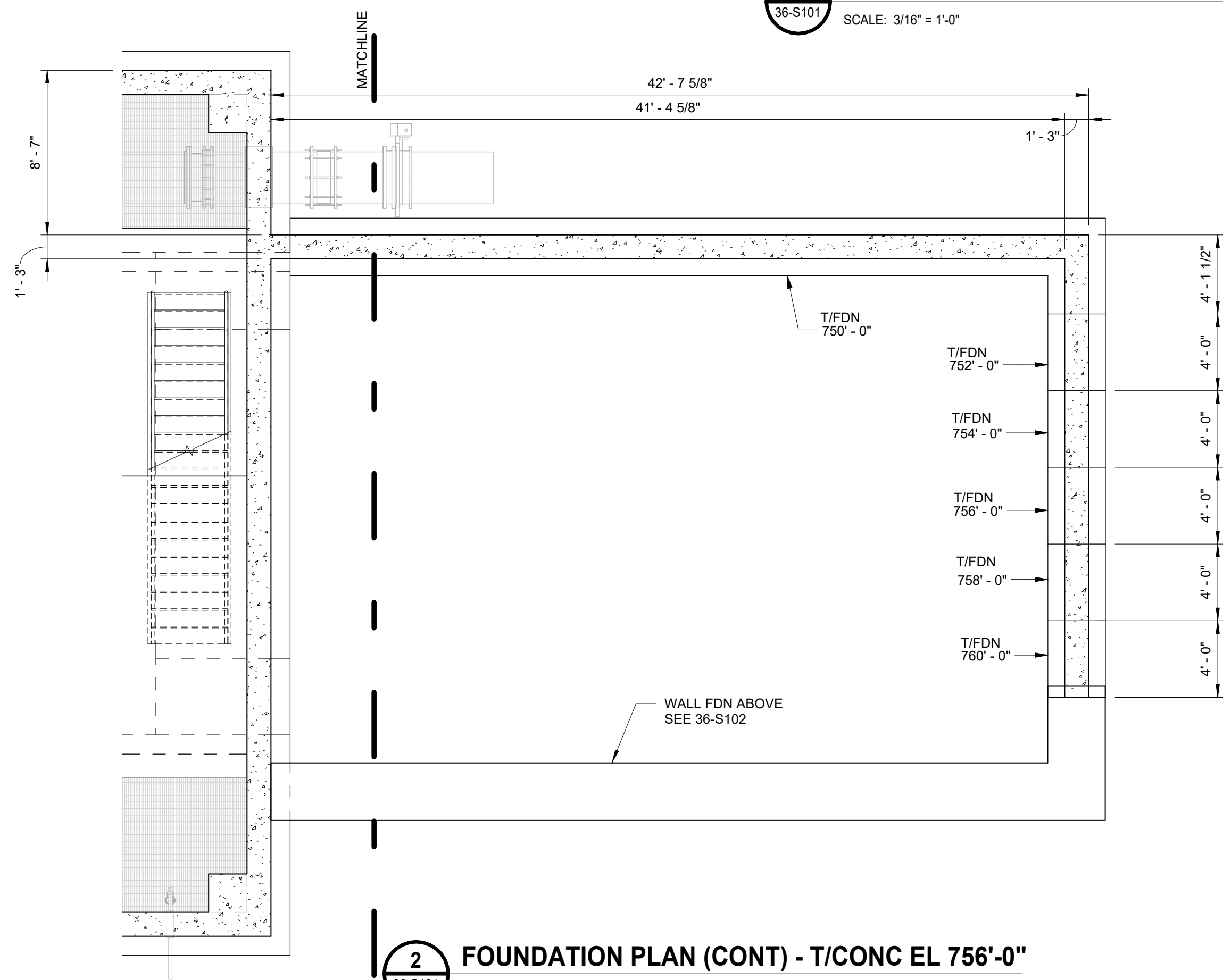


3 SOUTH BUILDING ELEVATION
36-A601 SCALE: 3/32" = 1'-0"



4 WEST BUILDING ELEVATION
36-A601 SCALE: 3/32" = 1'-0"

REVISION INFORMATION		DESCRIPTION
REV	DATE	DESCRIPTION
A	07/30/2026	PRELIMINARY DESIGN (00%) SUBMITTAL FOR GMP



2 FOUNDATION PLAN (CONT) - T/CONC EL 756'-0"
36-S101 SCALE: 3/16" = 1'-0"



SLOPE DN 1/8"/FT	SLOPE DN 1/8"/FT
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MATCHLINE

HENRY COUNTY, GEORGIA

DATE 7/31/2026 9:17:34 AM

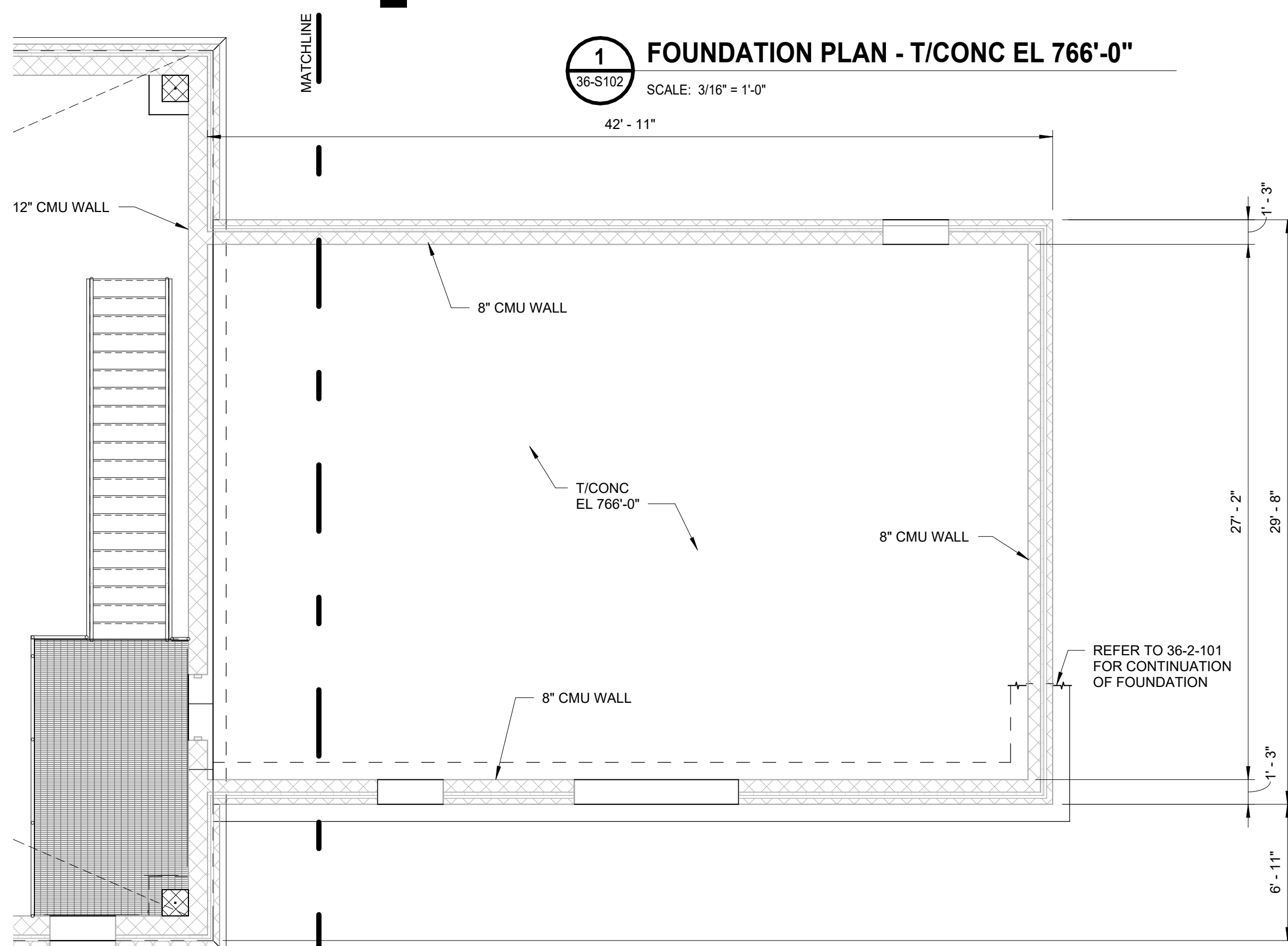
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[illegible]

36-S101

FILE NO: 3606832

Discipline Sort: 36-S101 FOUNDATION PLAN
Drawing Autodesk Docs\HCWA East Lake BPS - 3606832\3606832_ELBPS_S_R26.m
File: 7/31/2026 9:17:34 AM
Time / Date:



1 FOUNDATION PLAN - T/CONC EL 766'-0"
36-S102 SCALE: 3/16" = 1'-0"

[illegible]

FOUNDATION PLAN

HENRY COUNTY WATER AUTHORITY

EAST LAKE BPS REPLACEMENT

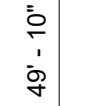
HENRY COUNTY, GEORGIA

PRELIMINARY
NOT FOR
CONSTRUCTION

7/31/2026 9:17:35 AM

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DESIGN SOLUTIONS®

615 3RD AVENUE SOUTH // SUITE 700 // NASHVILLE, TN 37210
PHONE: (615) 254-1500



36-S103

2
36 6403

SCALE: 3/16" = 1'-0'

8" CMU BRG WALL
(BELOW, TYP)

LIGHT GAUGE METAL TRUSSES @ 2'-0" OC

LIGHT GAUGE METAL TRUSSES @ 2'-0" OC

12" CMU BRG WALL
(BELOW, TYP)

MATCHLINE

ROOF FRAMING PLAN

HENRY COUNTY WATER AUTHORITY

EAST LAKE BPS REPLACEMENT

HENRY COUNTY, GEORGIA

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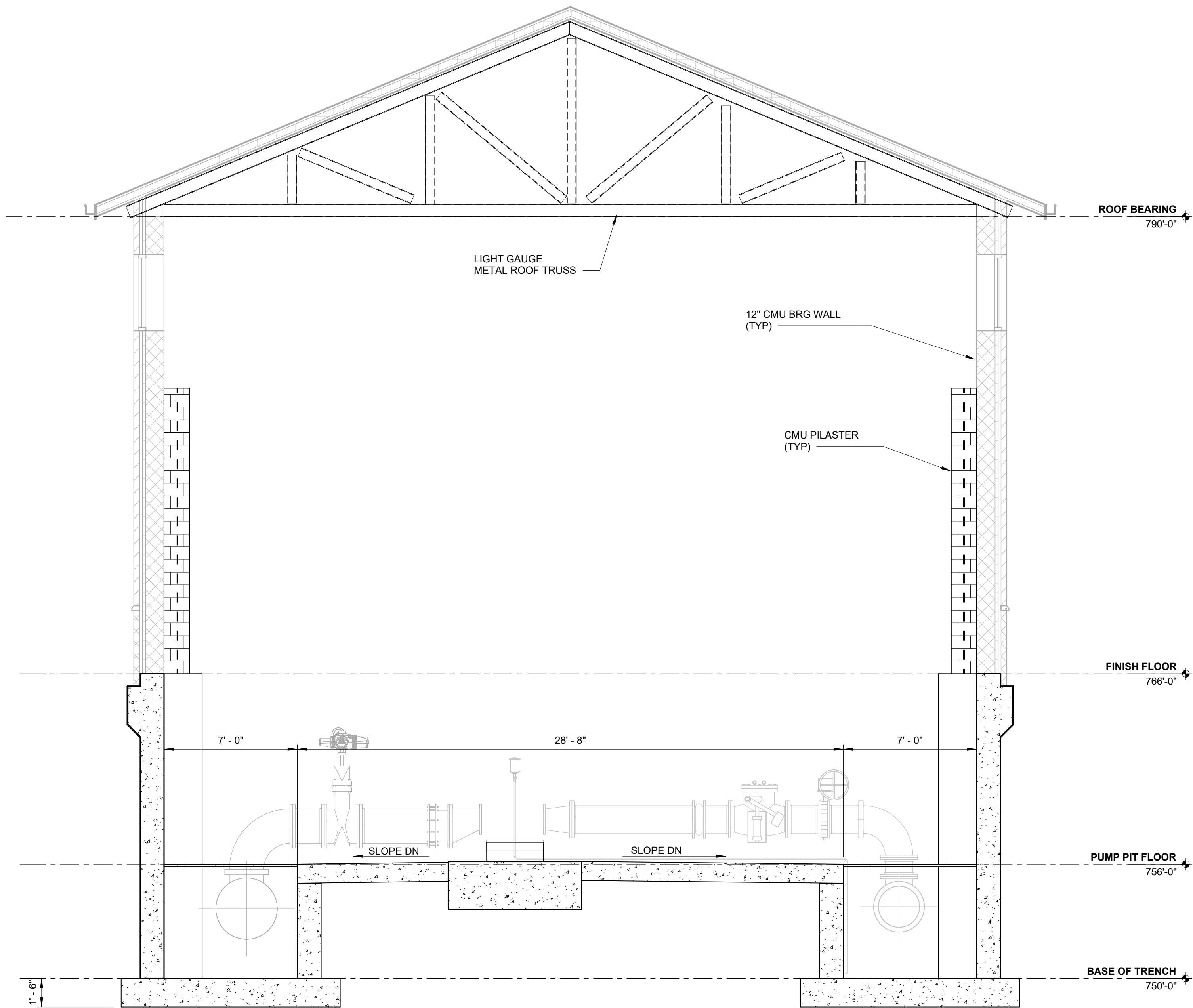
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REVISION INFORMATION			
REV	DR	CHK	DATE: DESCRIPTION:
A	MRD	SDC	07/30/2026 PRELIMINARY DESIGN (30%) SUBMITTAL FOR GMP

36-S103

FILE NO: 3606832

Design Set: 36-S104 - SECTIONS AND DETAILS
File Path: AutoCAD Document\H20WA East Lake BPS - 3606832\060602_ELBPS_S_R06.rvt
Time/Date: 7/31/2026 9:17:51 AM



1 SECTION
36-S104 SCALE: 1/4" = 1'-0"

SECTIONS AND DETAILS

HENRY COUNTY WATER AUTHORITY

EAST LAKE BPS REPLACEMENT

HENRY COUNTY, GEORGIA

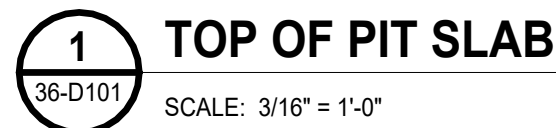
REVISION INFORMATION		DESCRIPTION	
REV	CHK	DATE	DESCRIPTION
A	SDC	07/30/2026	PRELIMINARY DESIGN (50%) SUBMITTAL FOR GMP

DATE 7/30/2026 1:06:25 PM

HENRY COUNTY WATER AUTHORITY

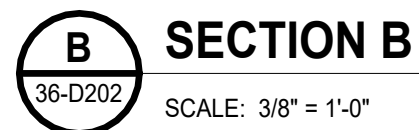
HENRY COUNTY, GEORGIA

FILE NO: 3606832



SCALE: 3/16" = 1'-0"

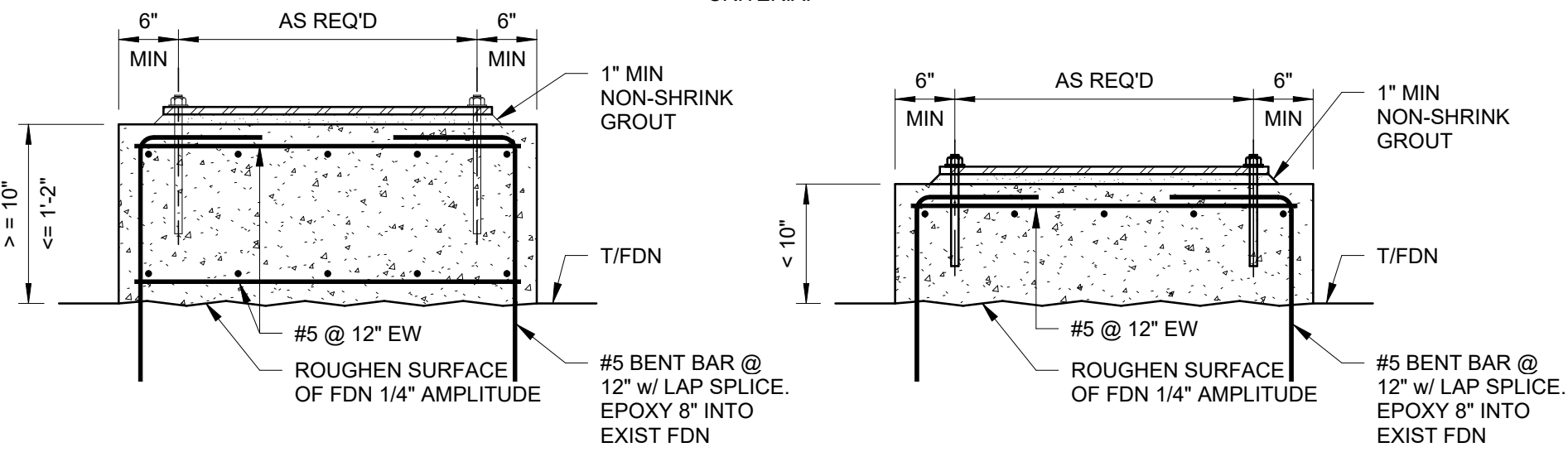
Discipline Sort: 36-D101 TOP OF PIT SLAB - PLAN
Drawing: Autodesk Docs:\HCWA East Lake BPS - 3606832\3606832_ELBPS_D_R26.rvt
File: 7/30/2026 1:06:25 PM
Time / Date:



FILE NO: 3606832

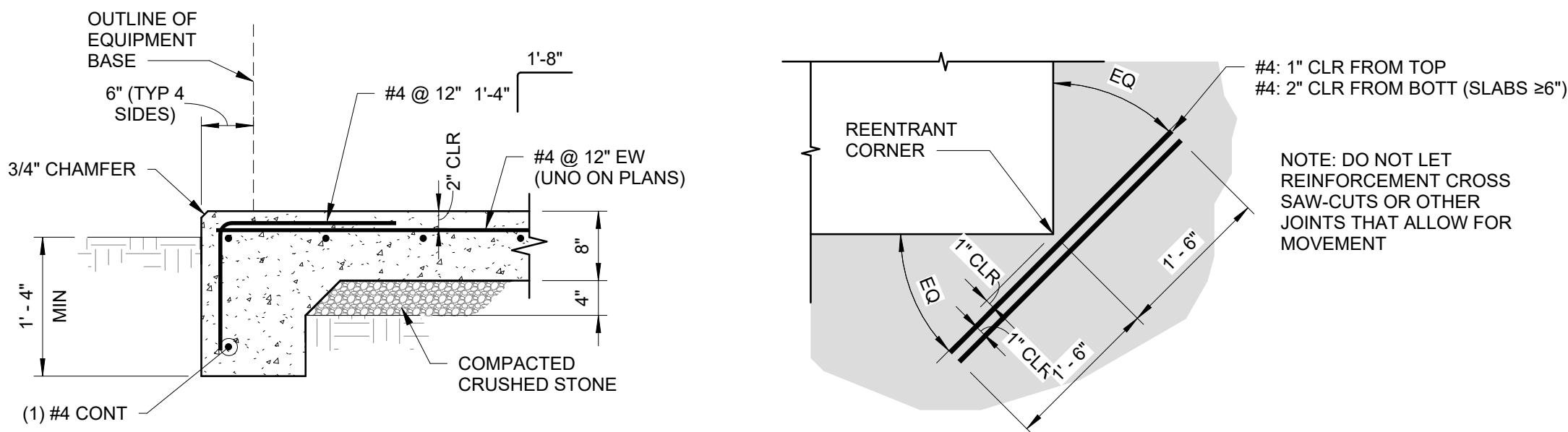
DESIGN NOTES:

- PAD HEIGHT SHALL BE AS REQUIRED. COORDINATE SIZE AND LOCATION OF PAD WITH EQUIPMENT REQUIREMENTS.
- PAD HEIGHTS EXCEEDING 1'-2" SHALL BE SPECIFICALLY DESIGNED AND DETAILED FOR THE EQUIPMENT BEING SUPPORTED.
- EQUIPMENT ANCHORAGE SHALL BE DESIGNED BY OTHERS. UNO.
- SEE SPECS FOR ADDITIONAL EQUIPMENT ANCHORAGE CRITERIA.



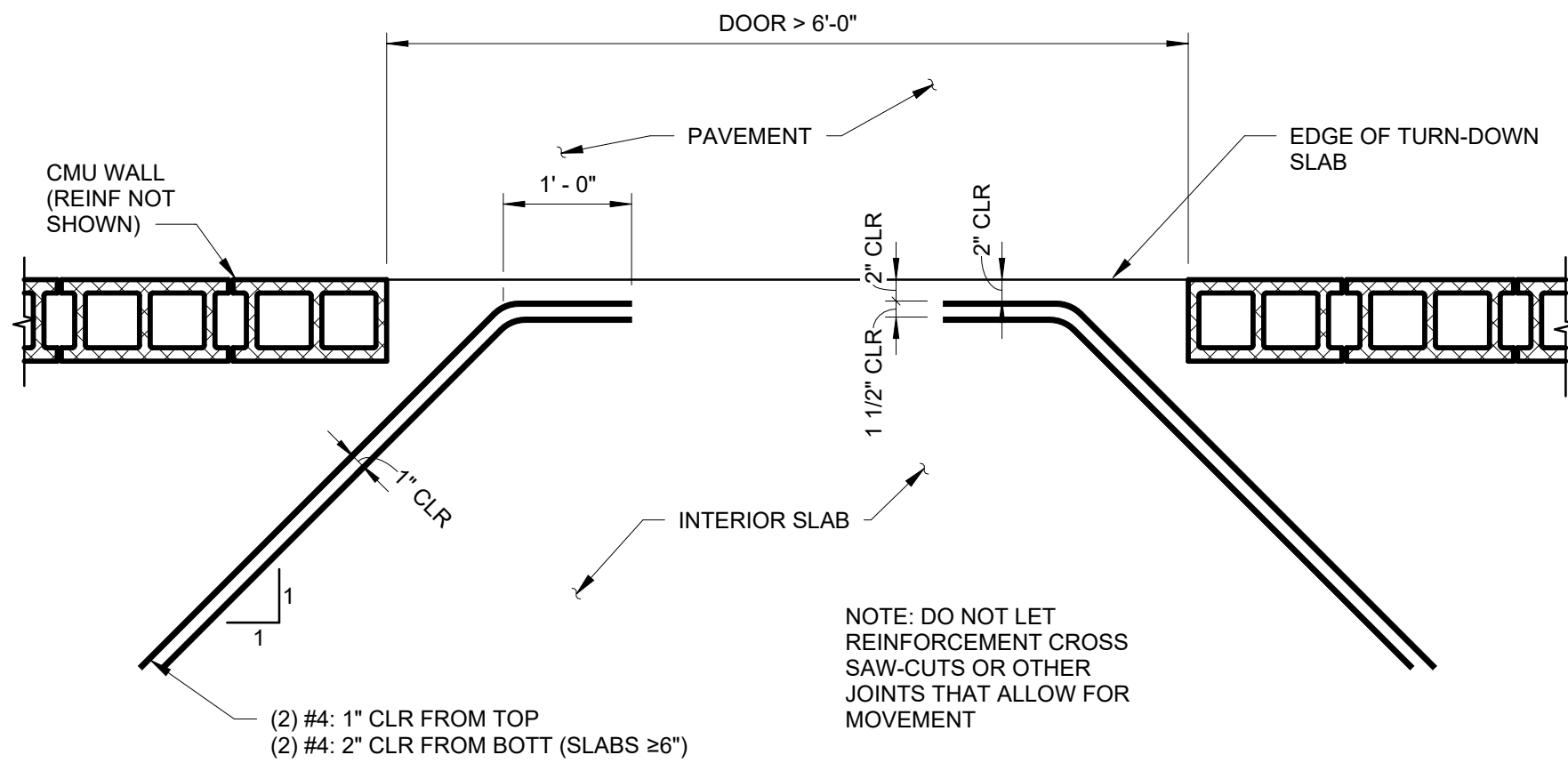
1 EQUIPMENT PEDESTAL

99-S501 SCALE: 3/4" = 1'-0"



2 REINFORCING AT DOORS >6'-0"

99-S501 NTS

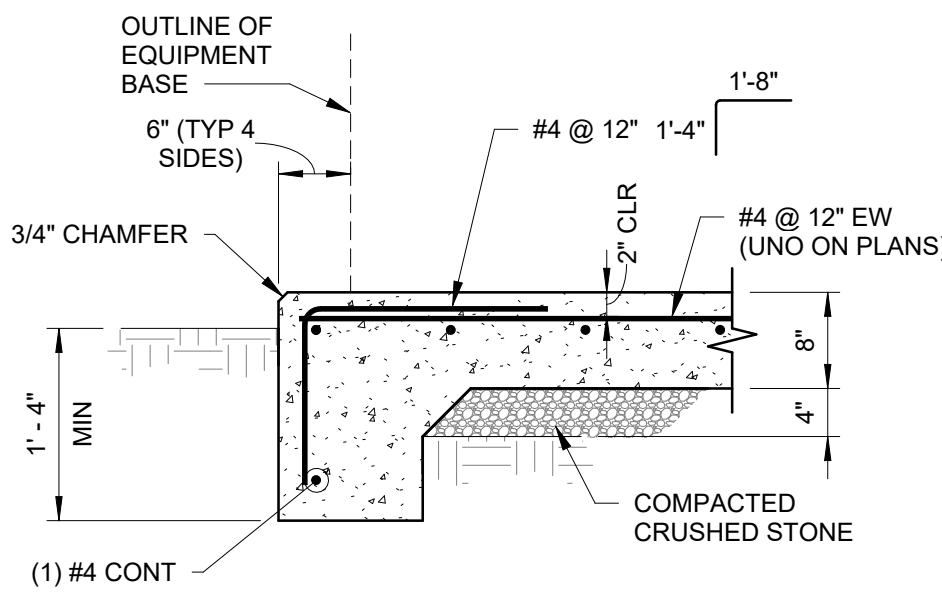


3 CONCRETE STOOP

99-S501 NTS

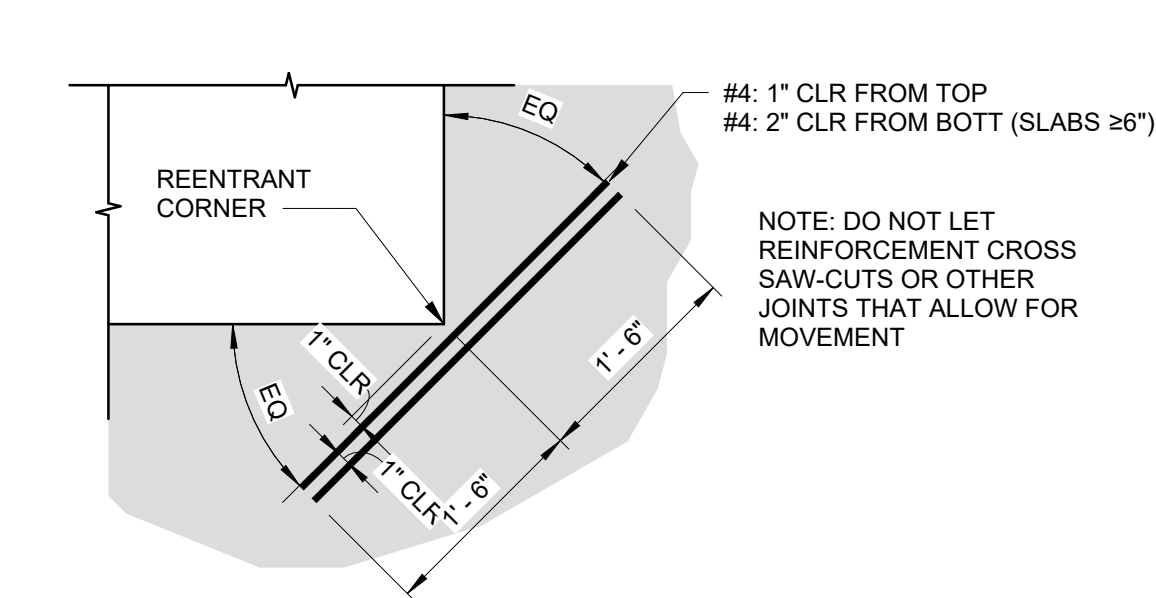
4 EXTERIOR EQUIPMENT PAD (EDGE)

99-S501 NTS



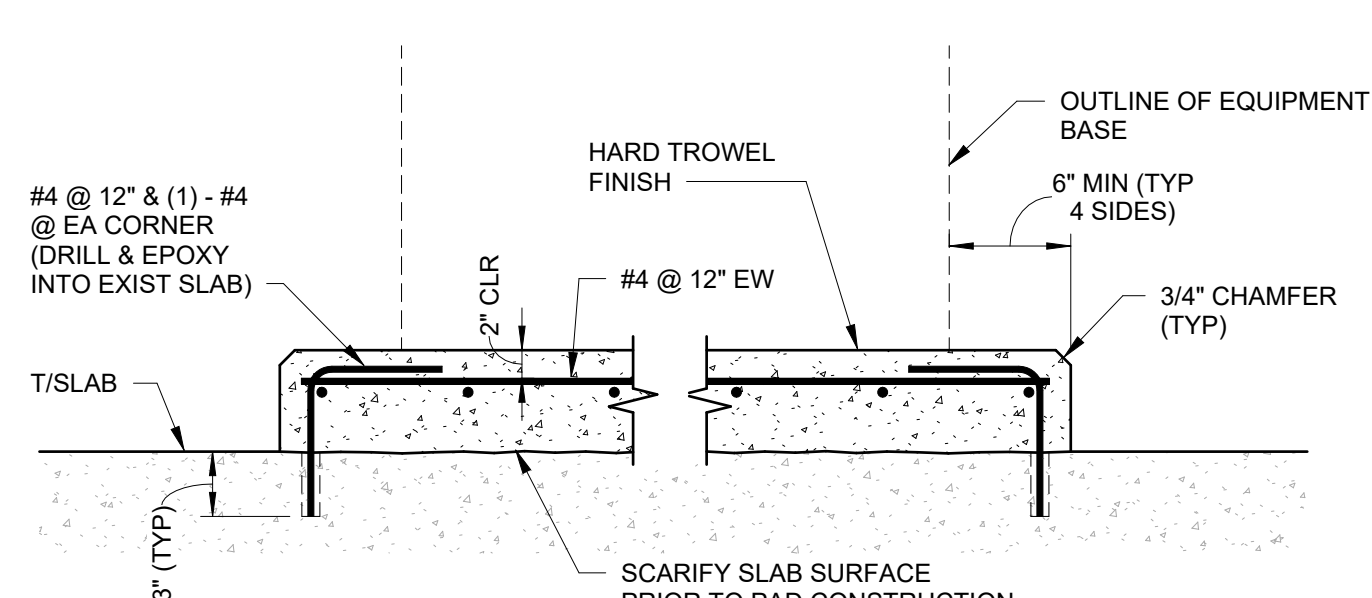
5 REENTRANT CORNER REINFORCING

99-S501 NTS



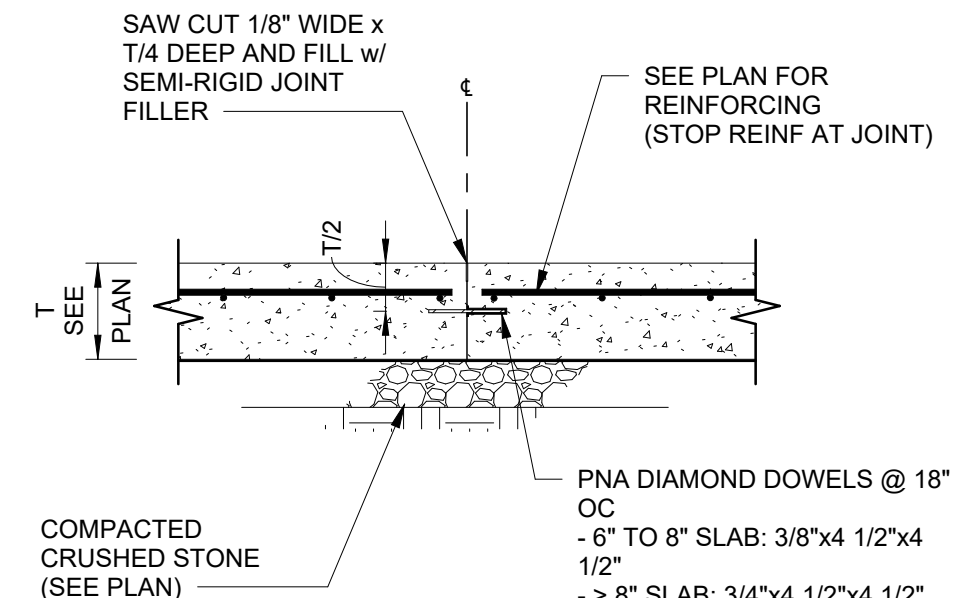
6 HOUSEKEEPING PAD

99-S501 NTS



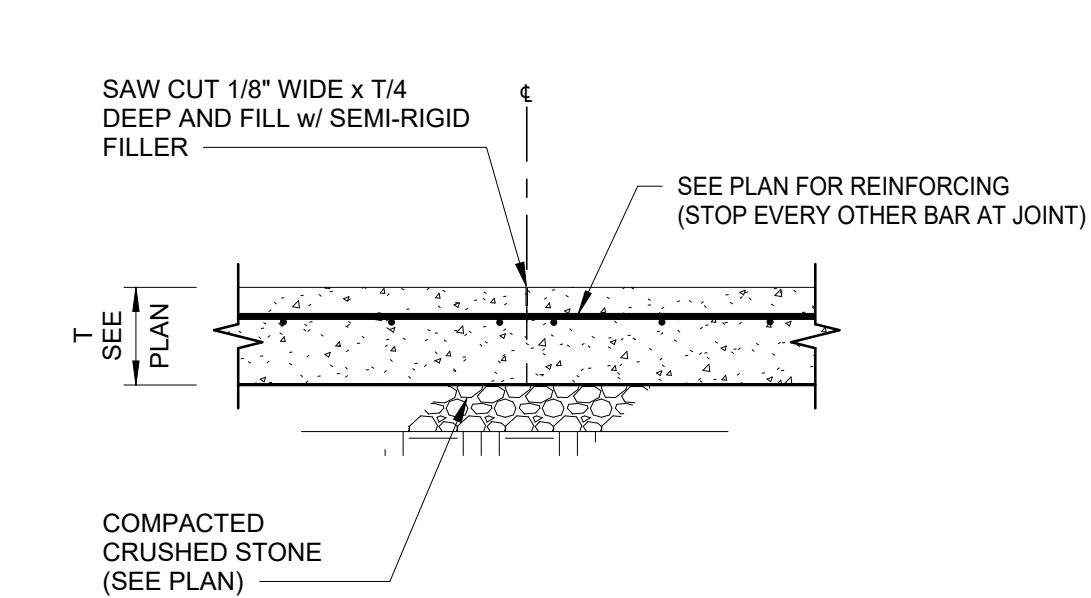
7 SLAB CONSTRUCTION JT

99-S501 NTS



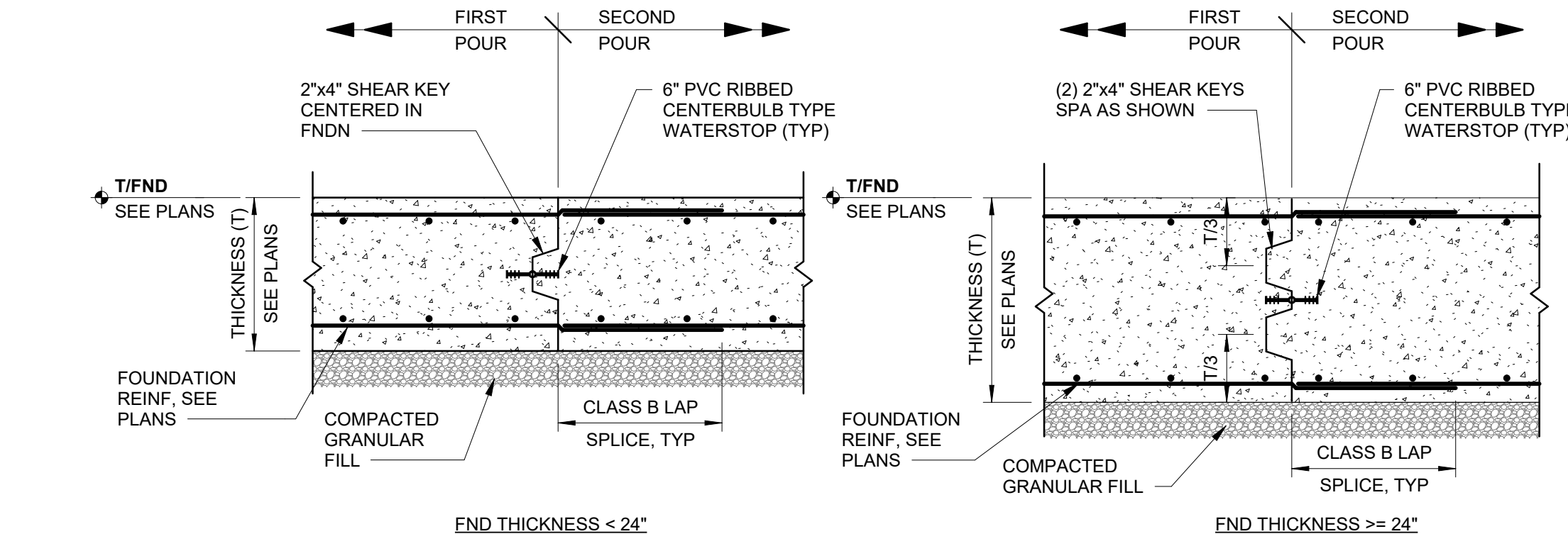
8 SLAB CONTROL JT

99-S501 NTS



9 FOUNDATION CONSTRUCTION JOINT

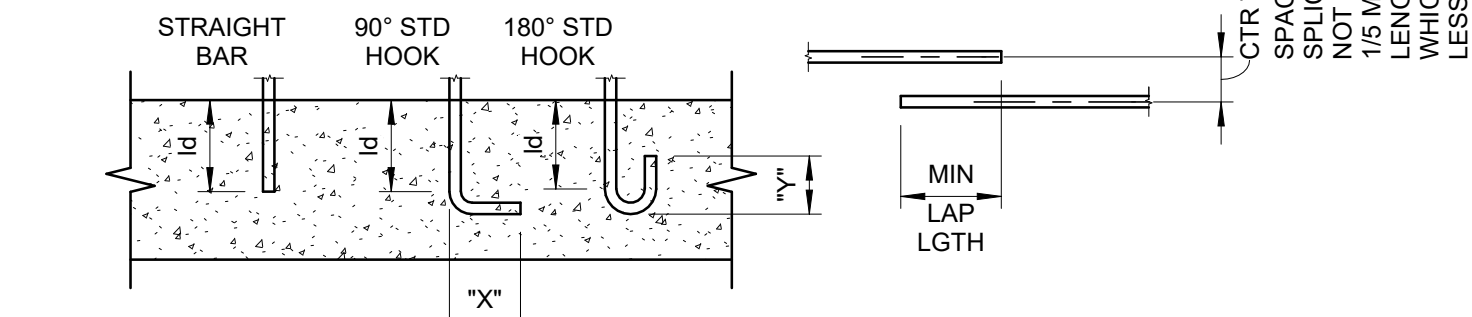
99-S501 SCALE: 3/4" = 1'-0"



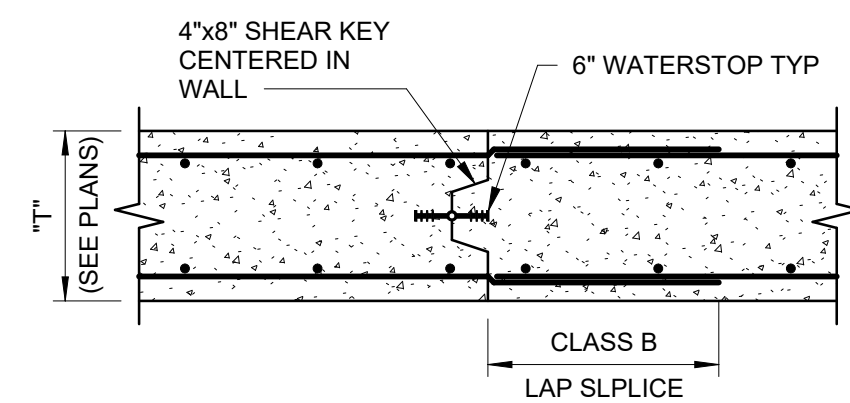
10 STANDARD HOOK & REINFORCING LAP SPLICES (4,500 PSI CONC)

99-S501 SCALE: 3/4" = 1'-0"

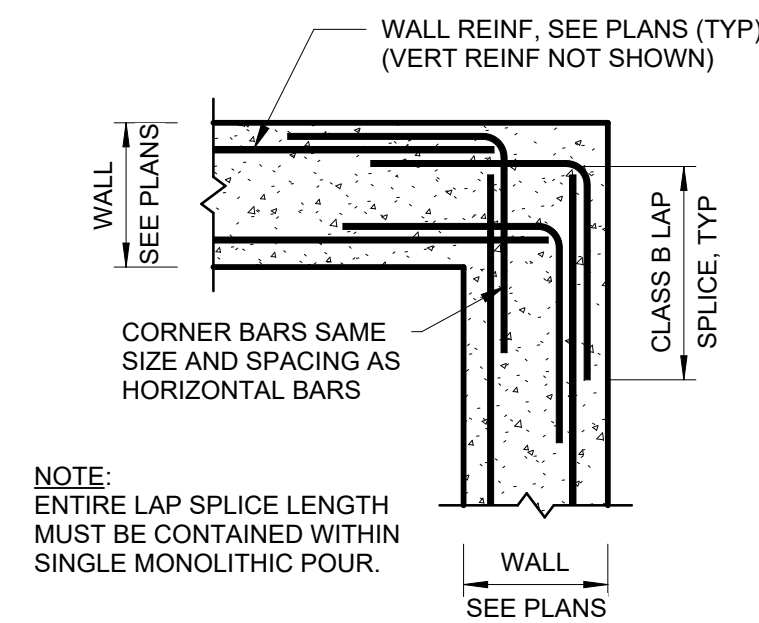
FOR CLEAR COVER OF 2", f _c = 4,500 PSI, & GRADE 60 STEEL										
BAR SIZE	DIAMETER (db) (INCHES)	DEVELOPMENT LENGTH (ld) (INCHES)		CLASS A LAP SPLICE (INCHES)		CLASS B LAP SPLICE (INCHES)		90° STD. HOOK (INCHES)		180° STD. HOOK "Y"
		"TOP" BARS	OTHER	"TOP" BARS	OTHER	"TOP" BARS	OTHER	HOOK	ldh	
		REINFORCING BARS IN TENSION								
#3	0.375	12	9	12	9	15	12	6	7	6
#4	0.5	15	12	15	12	20	15	8	10	6
#5	0.625	19	15	19	15	24	19	10	12	6
#6	0.75	23	17	23	17	30	23	12	14	6
#7	0.875	33	25	33	25	42	33	14	17	7
#8	1.0	37	29	37	29	48	37	16	19	8
#9	1.128	46	36	46	36	60	46	20	22	11
#10	1.27	57	44	57	44	74	57	22	24	12
#11	1.41	68	53	68	53	90	68	24	27	13
REINFORCING BARS IN COMPRESSION										
#3	0.375	8		12		HOOKED BARS SHALL NOT BE USED IN COMPRESSION				
#4	0.5	10		15						
#5	0.625	12		19						
#6	0.75	14		23						
#7	0.875	17		26						
#8	1.0	19		30						
#9	1.128	22		34						
#10	1.27	24		38						
#11	1.41	27		42						



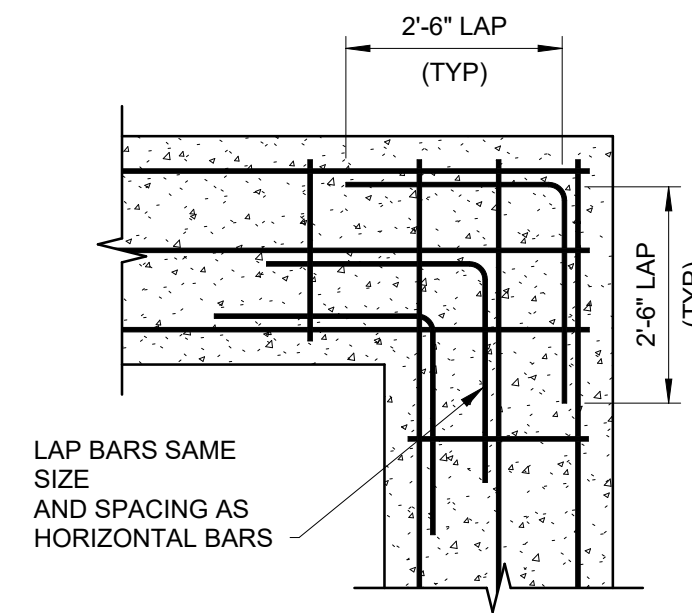
- NOTES:
- "TOP" BARS SHALL BE HORIZONTAL REINFORCEMENT PLACED SO THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPLICE.
 - CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED SHALL:
 - NOT BE LESS THAN d, HAVE CLEAR COVER NOT LESS THAN d, AND STIRRUPS OR
 - CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN 2d AND CLEAR COVER NOT LESS THAN dWHERE d = DIAMETER OF REINFORCING BAR AND l = DEVELOPMENT LENGTH.
 - ALL LAP SPLICES SHALL BE CLASS B UNO.
 - ALL LAP SPLICES SHALL BE CLASS B UNO.



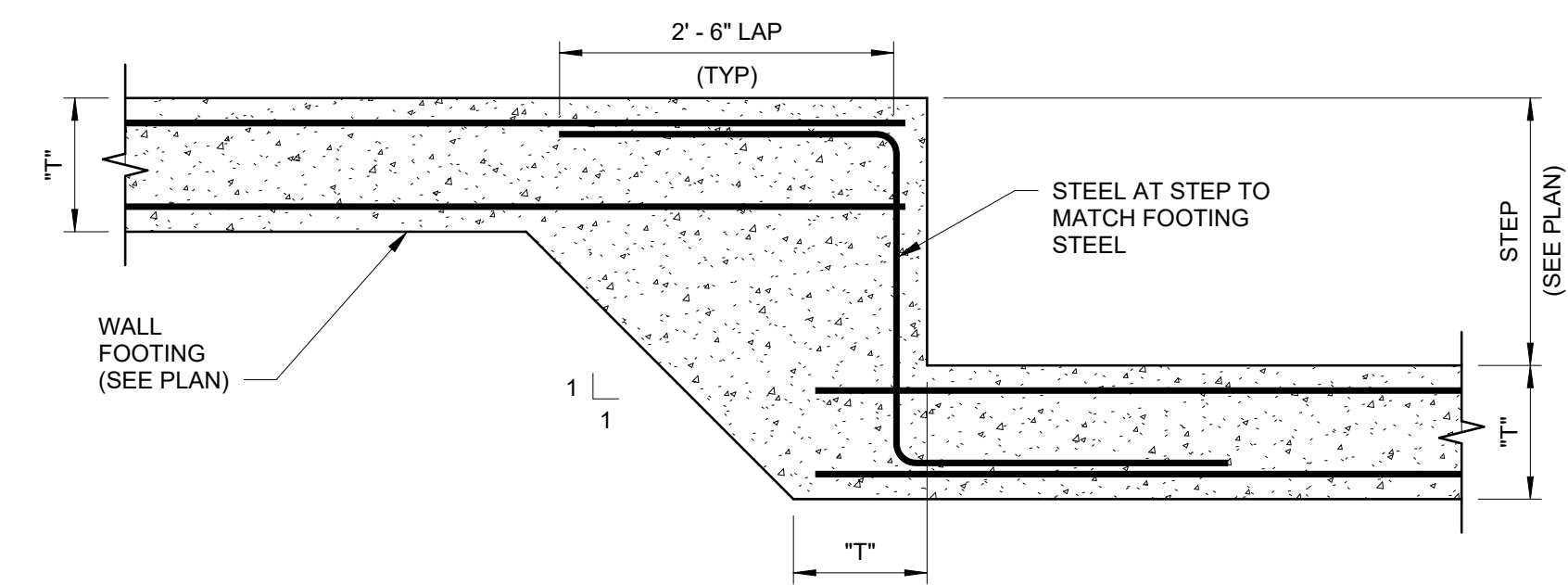
1 WALL CONSTRUCTION JOINT



2 WALL CORNER
99-S502 NTS



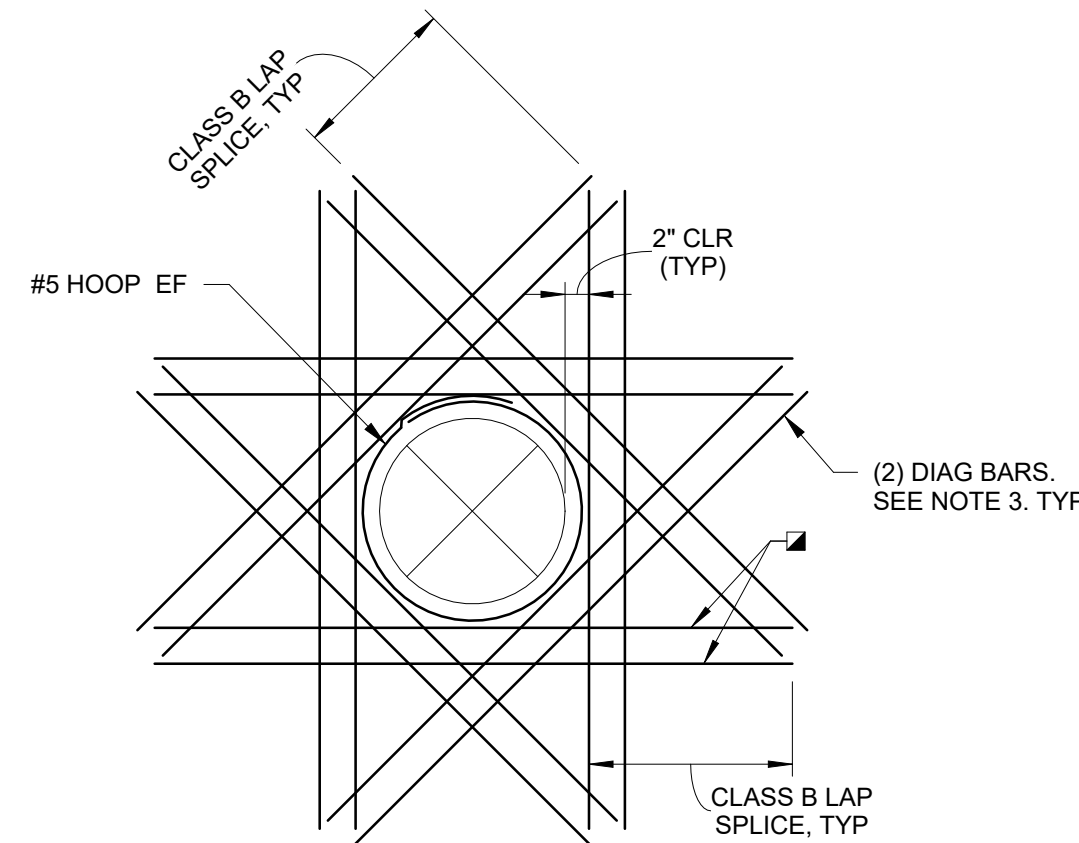
3 WALL/FOOTING CORNER



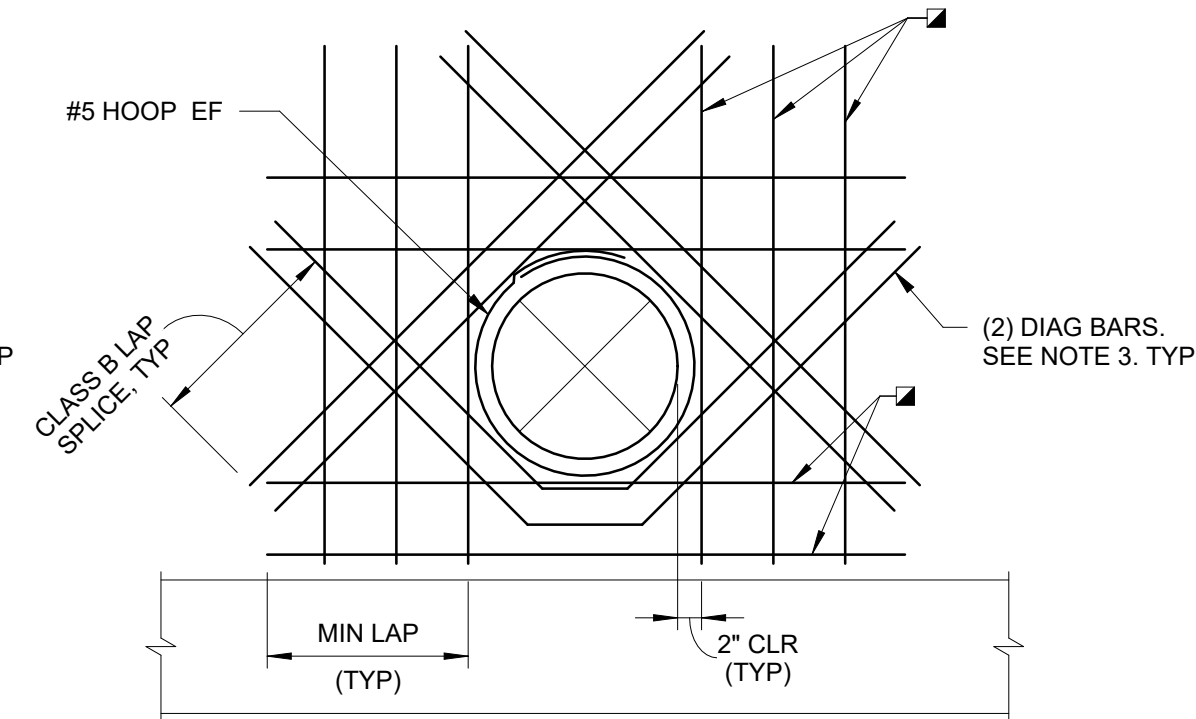
4 FOOTING STEP



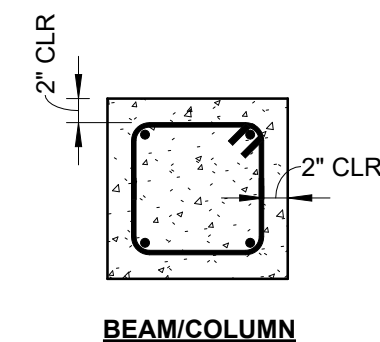
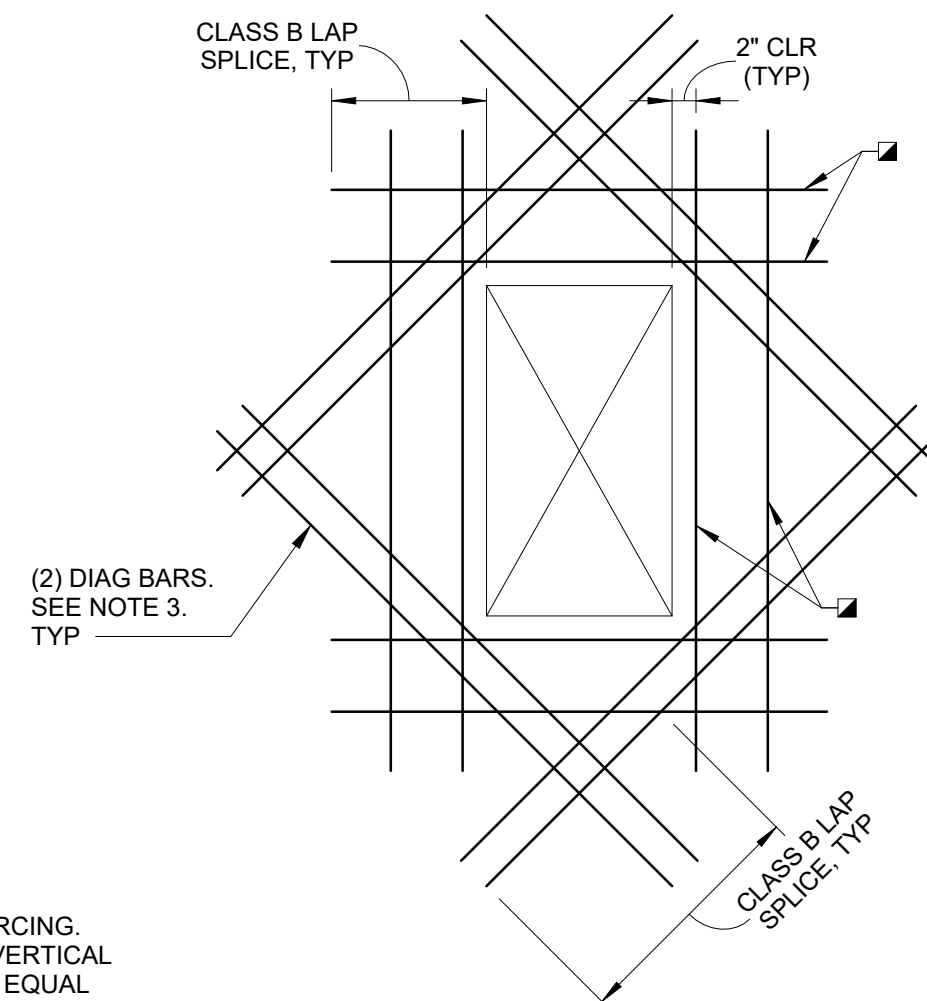
5 REINFORCING LAPS



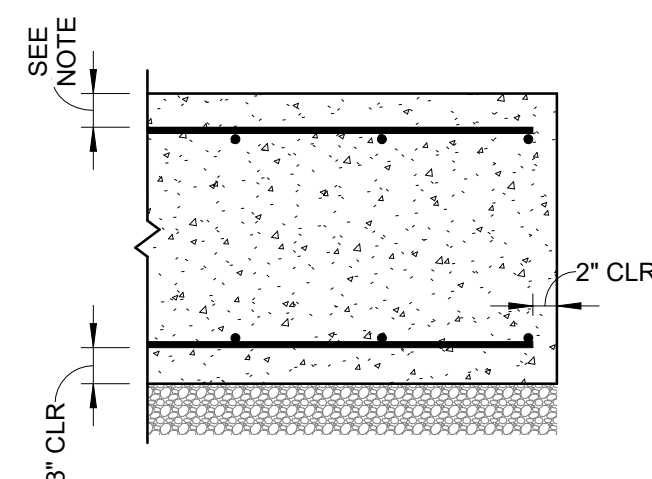
3 WALL/FOOTING CORNER



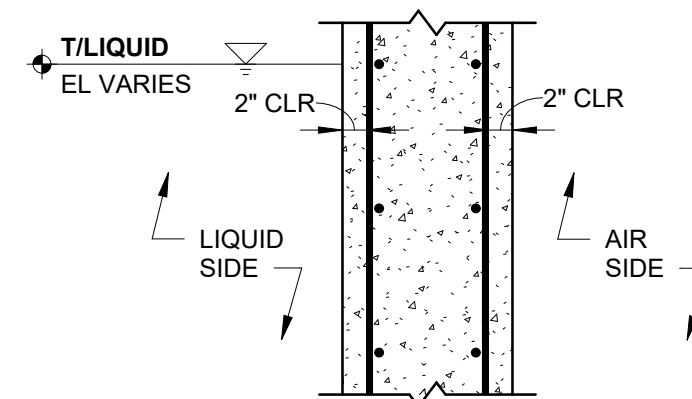
6 ADDITIONAL REINFORCING AT OPENINGS



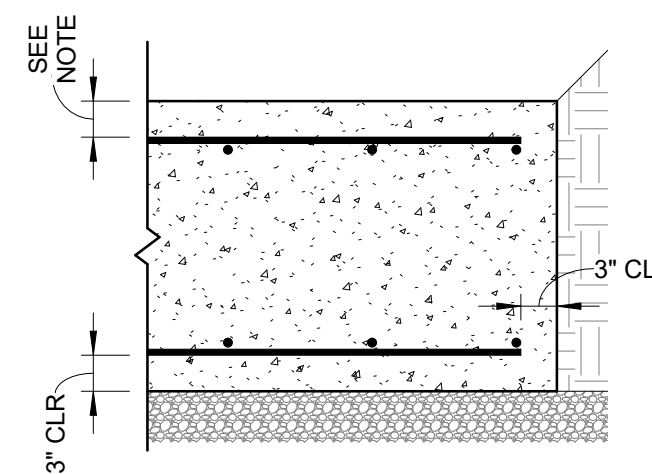
BEAM/COLUMN



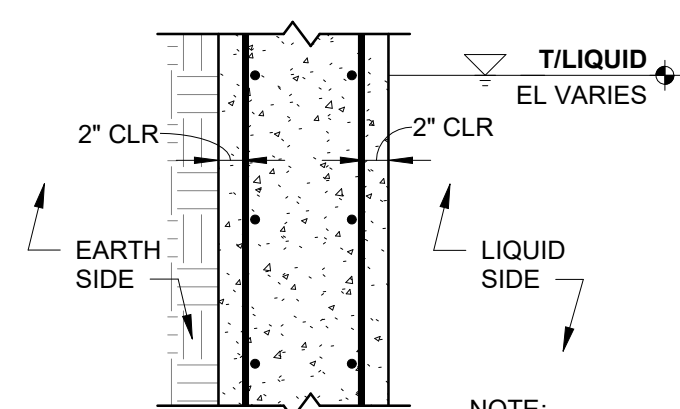
BASE SLAB & FOOTINGS WITH FORMED EDGES



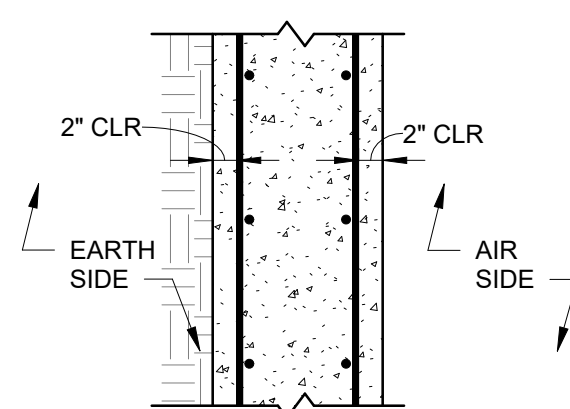
ABOVE GRADE
CONCRETE WALLS



BASE SLAB & FOOTINGS
POURED AGAINST EARTH

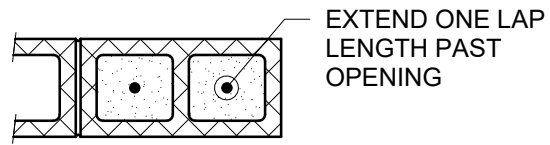


BELOW GRADE WALLS
LIQUID RETAINING

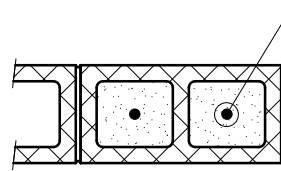


BELOW GRADE WALLS
NON-LIQUID RETAINING

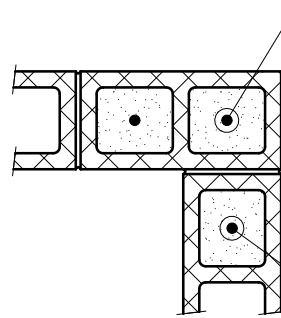
7 BAR CLEARANCES
99-S502 NTS



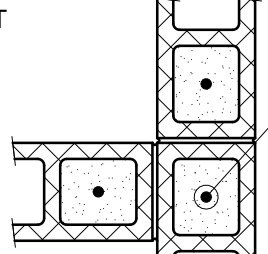
DOOR JAMBS



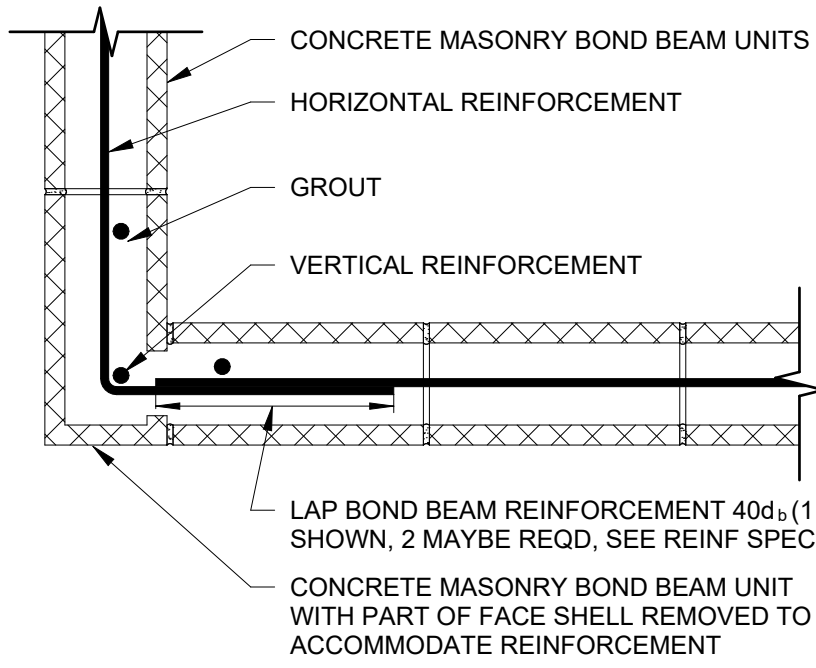
WALL ENDS



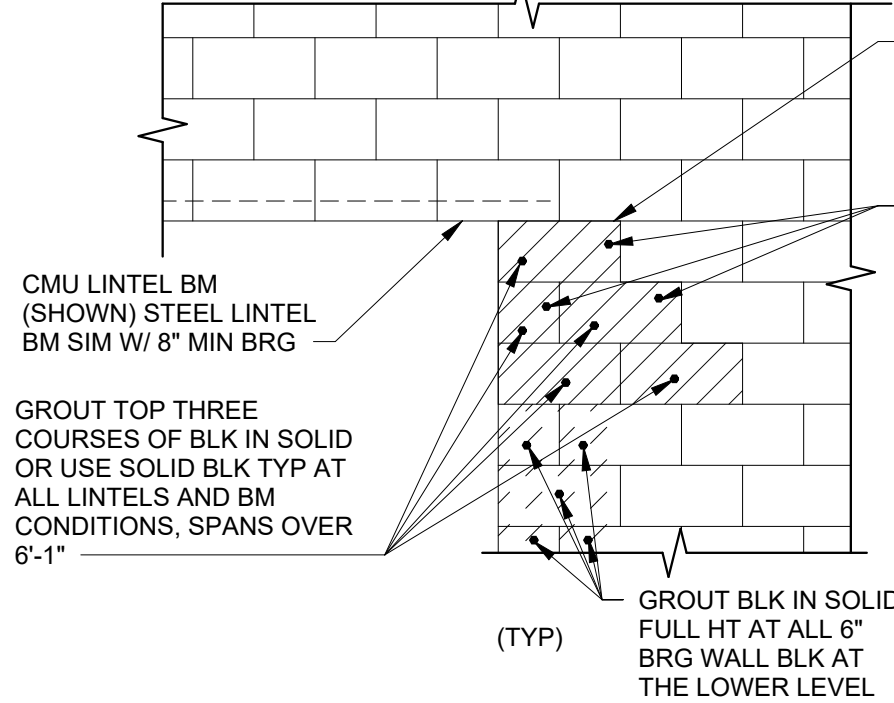
CORNERS



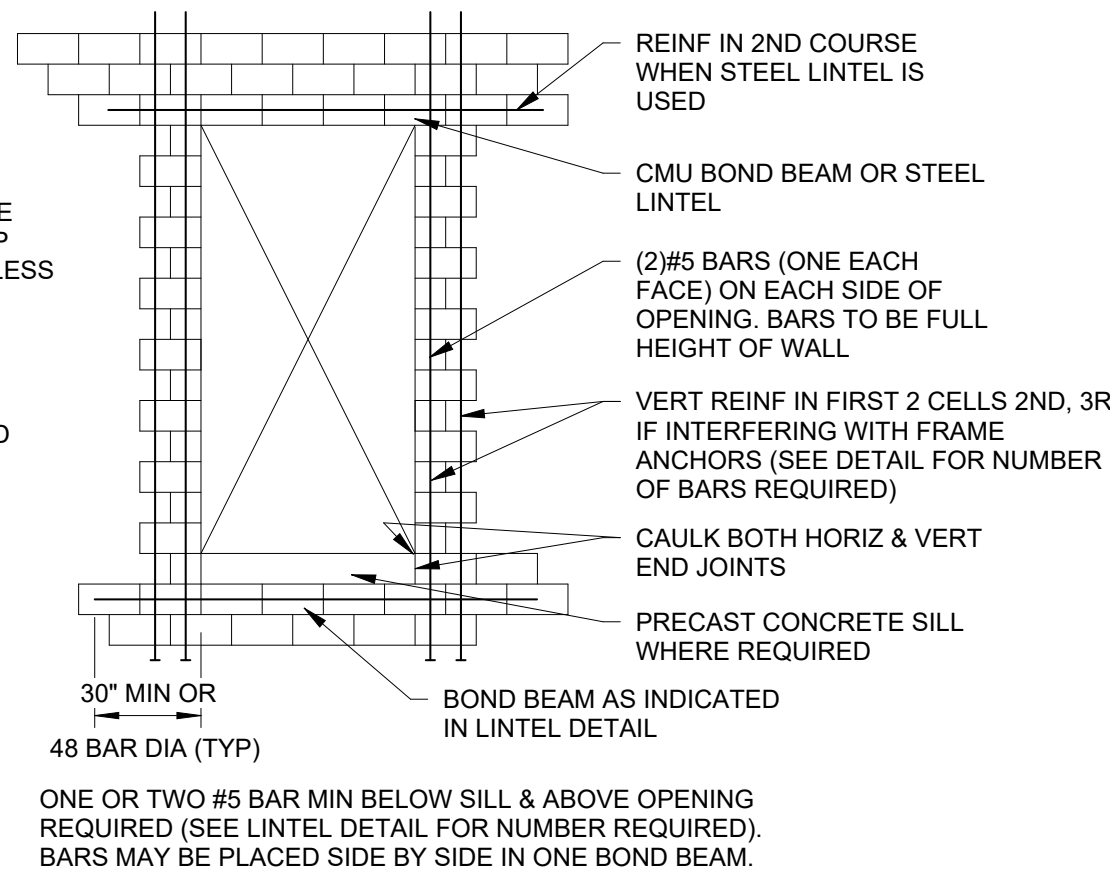
INTERSECTIONS



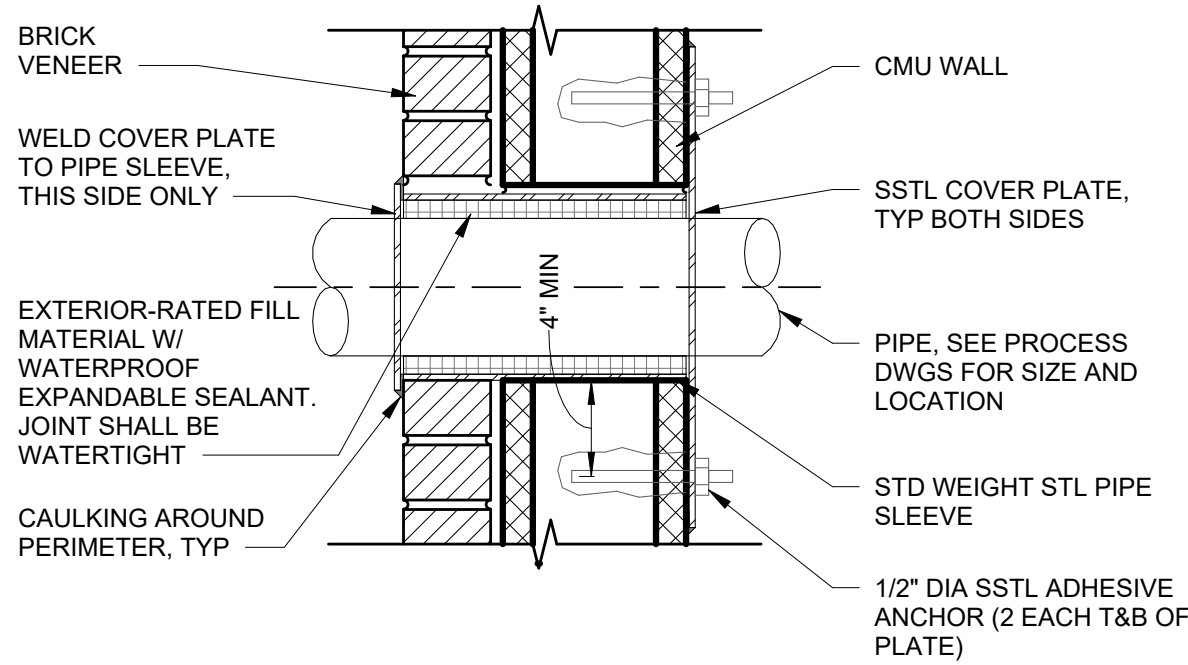
CONCRETE MASONRY BOND BEAM UNITS



CMU LINTEL BEARING



REINFORCING AT MASONRY OPENINGS



CMU WALL PENETRATION

1 ADDITIONAL VERT WALL REINFORCING

99-S503

NTS

2 BOND BEAM CORNER REINFORCING

99-S503

NTS

3 CMU LINTEL BEARING

99-S503

NTS

4 REINFORCING AT MASONRY OPENINGS

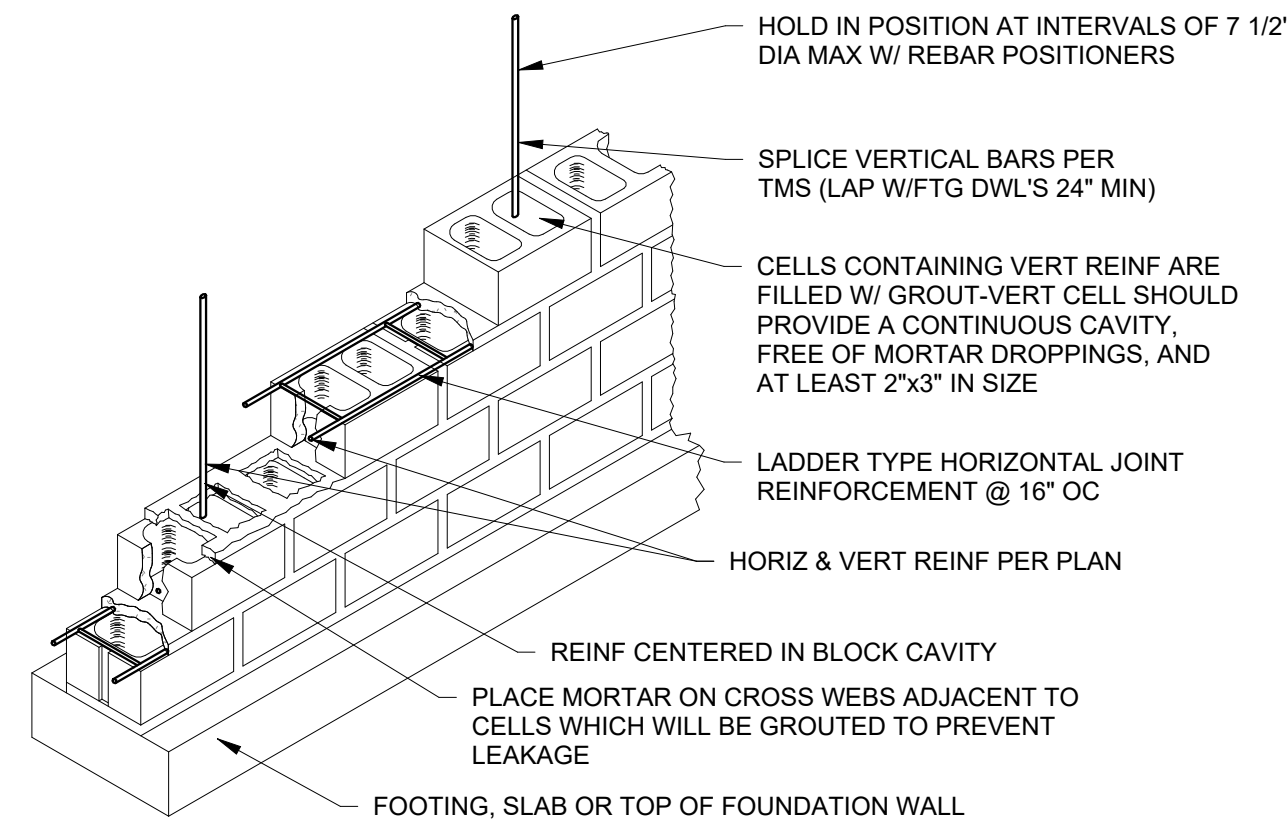
99-S503

NTS

5 CMU WALL PENETRATION

99-S503

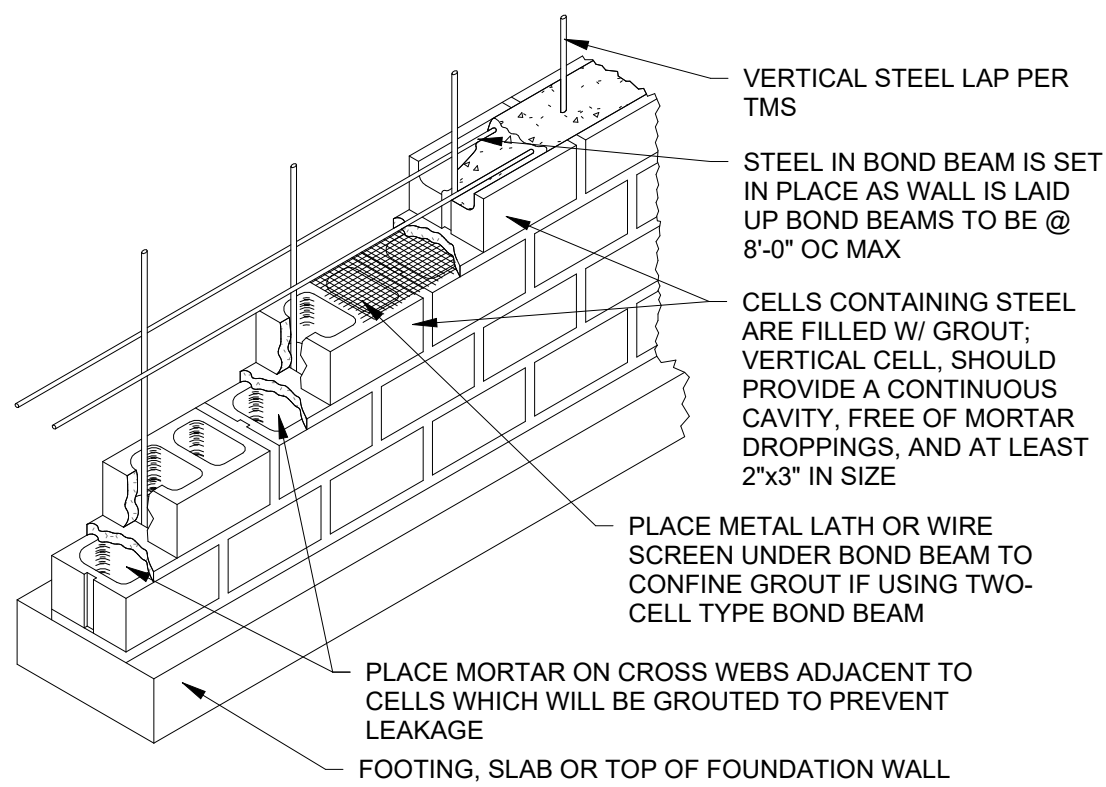
NTS



6 MASONRY VERTICAL REINFORCING

99-S503

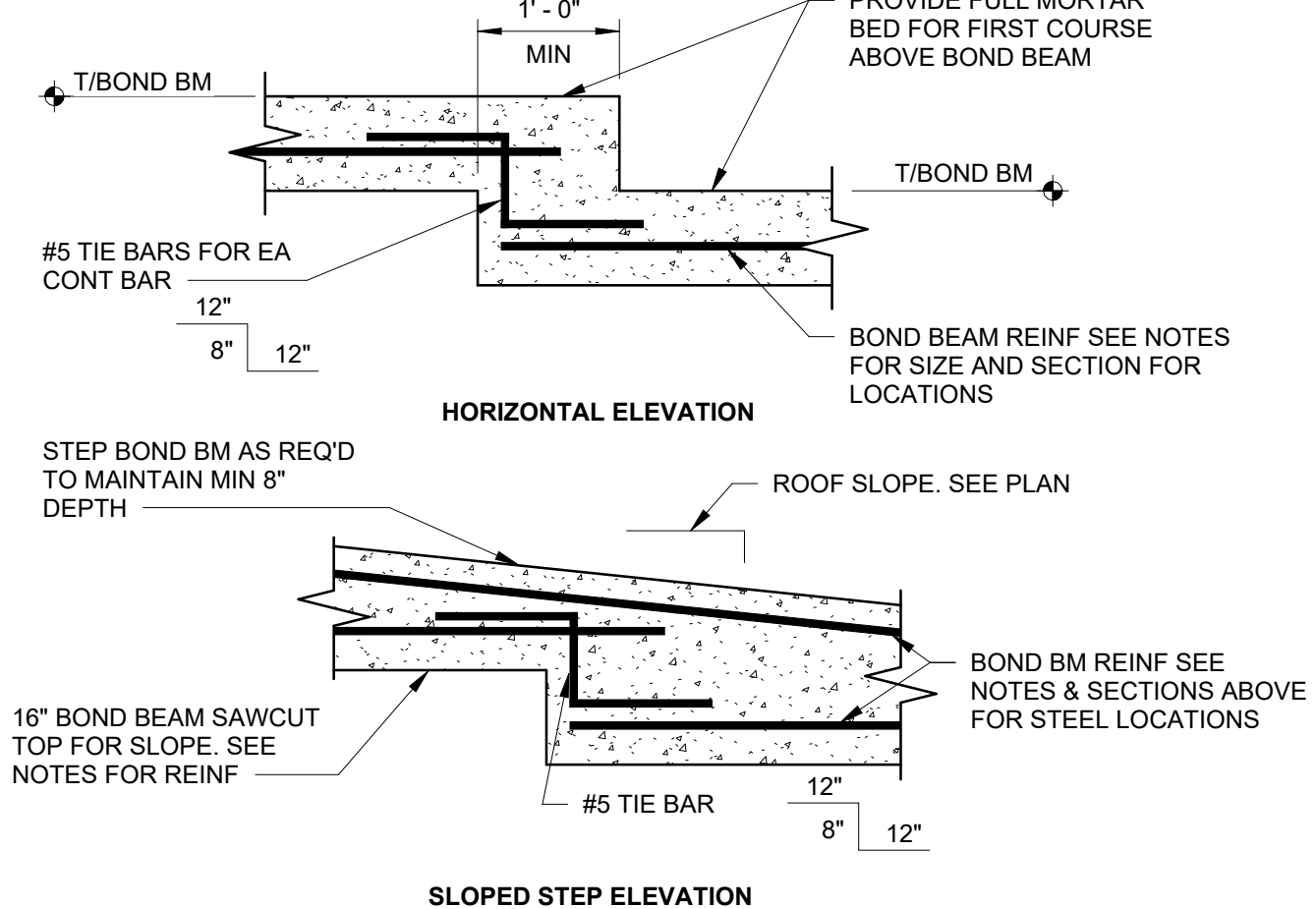
NTS



7 MASONRY HORIZONTAL REINFORCING

99-S503

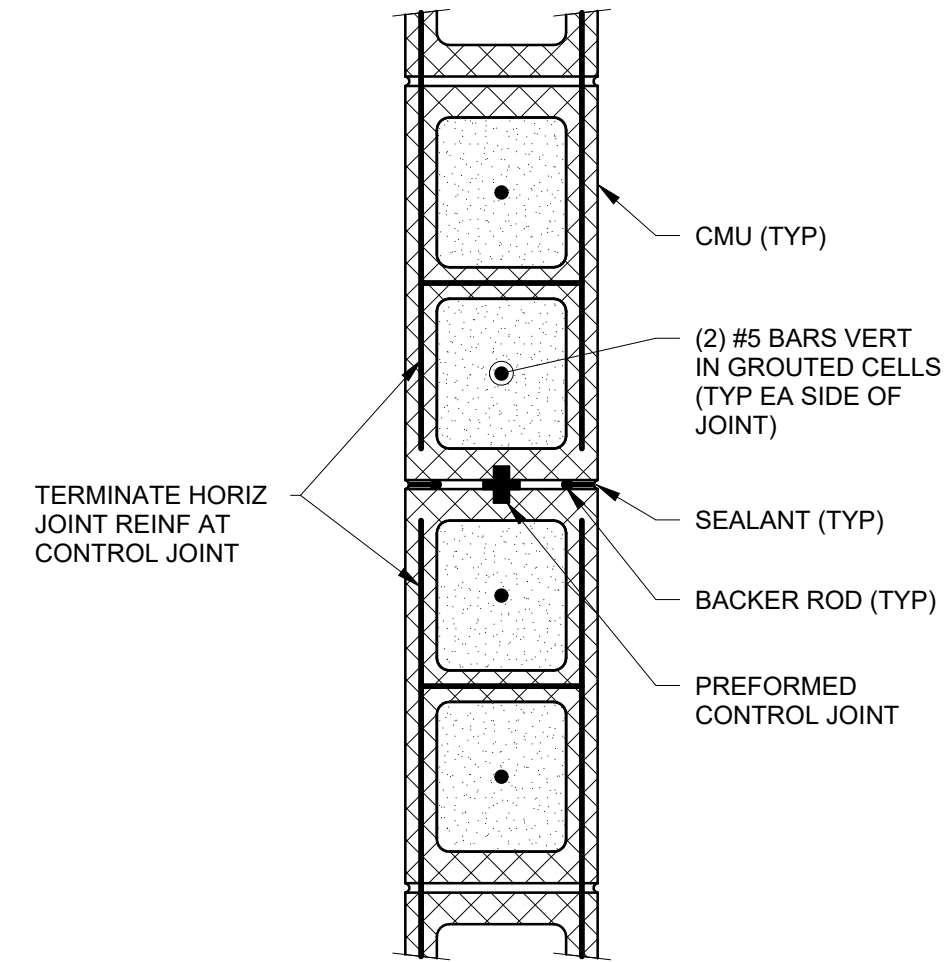
NTS



8 BOND BEAM

99-S503

NTS



9 CONTROL JOINT IN CMU WALL

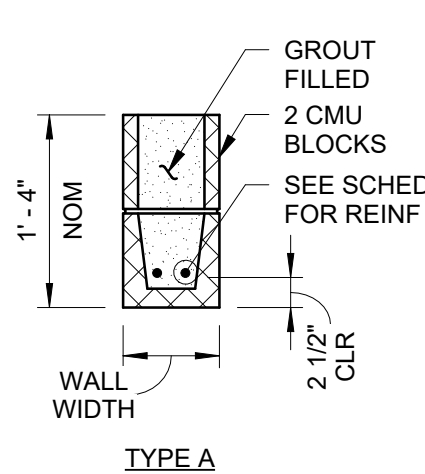
99-S503

NTS

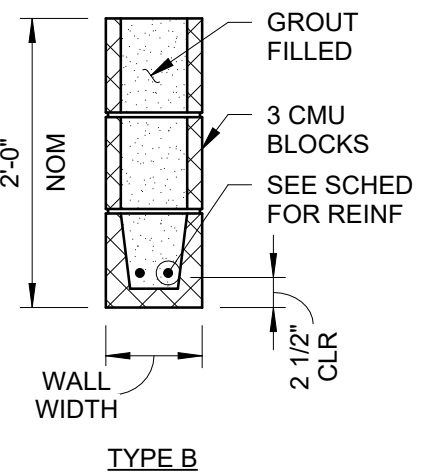
LINTEL NOTES:

1. ALL BOND BEAM LINTELS SHALL BE CAST IN PLACE.
2. CMU LINTELS TO HAVE 16" MINIMUM BEARING EACH END. LOOSE BRICK STEEL LINTELS SHALL HAVE 6" MINIMUM BEARING EACH END.
3. VERTICAL WALL REINFORCEMENT SHALL BE CONTINUOUS THROUGH LINTEL.
4. CONTROL JOINT SHALL NOT BE LOCATED WITHIN BEARING.
5. WHEN THE DISTANCE BETWEEN TWO ADJACENT OPENINGS IS LESS THAN THE WIDTH OF EITHER OPENING, THE LINTEL INDICATED SHALL BE CONTINUOUS OVER BOTH OPENINGS.
6. SEE ARCHITECTURAL FOR HEIGHT AND WIDTH OF MASONRY OPENINGS.
7. * ALTERNATE STIRRUPS

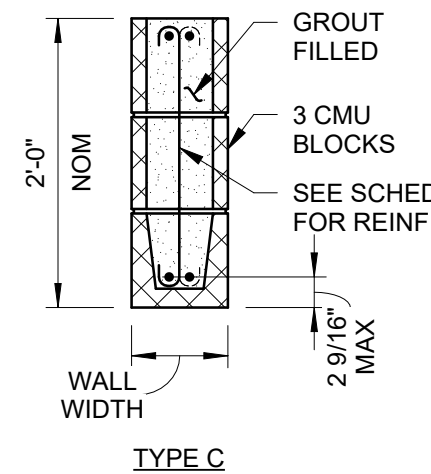
LINTEL SCHEDULE					
WIDTH OF OPENING	CMU SIZE	TYPE	TOP REINFORCING	BOTTOM REINFORCING	STIRRUPS
≤4'-0"	8" or 12"	A	—	(2) #5	
>4'-0" ≤7'-0"	8" or 12"	B	—	(2) #5	
>7'-0" ≤10'-0"	8" or 12"	C	(2) #5	(2) #5	#4 @ 8" *



TYPE A



TYPE B



TYPE C

10 CMU LINTEL SCHEDULE

99-S503

NTS

11 LOOSE BRICK LINTEL SCHEDULE

99-S503

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

LOOSE BRICK LINTEL SCHEDULE		
OPENING WIDTH	ANGLE SIZE	REMARKS
0'-0" TO 4'-0"	L3 1/2x3 1/2x1/4	
4'-1" TO 8'-0"	L5x3 1/2x1/4 (LLV)	
8'-1" TO 10'-8"	L6x4x3/8 (LLV)	
10'-8" TO 15'-0"	L6x6x5/8	

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PHONE: (615) 284-1500

PRELIMINARY
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CONSTRUCTION

7/31/2026 9:17:55 AM
DATE

TYPICAL MASONRY DETAILS

HENRY COUNTY WATER AUTHORITY

EAST LAKE BPS REPLACEMENT

HENRY COUNTY, GEORGIA

REVISION INFORMATION
DATE: 07/30/2026
DESCRIPTION: PRELIMINARY DESIGN (50%) SUBMITTAL FOR GMP

CHK
SDC

DR
MRD

REV
A

SHEET

99-S503

FILE NO: 3606832