

EFFINGHAM COUNTY BOOSTER PUMP STATION

CHATHAM COUNTY, GA

PREPARED FOR:

EFFINGHAM COUNTY BOARD OF

COMMISSIONERS

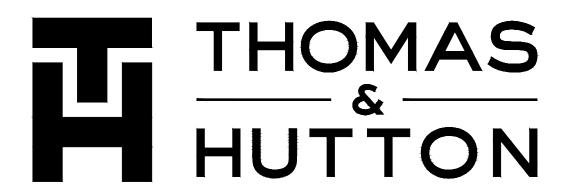
601 NORTH LAUREL STREET SPRINGFIELD, GA 31329

TM# 7-0976-01-047

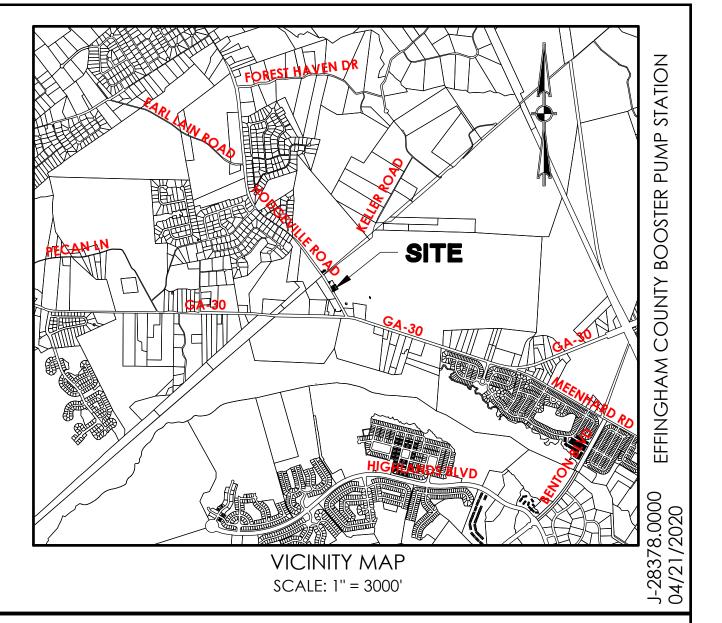
FEBRUARY 2021

J-28378.0000

PREPARED BY:







Sheet List Table						
Sheet Number Sheet Title						
CO.1	COVER SHEET					
G0.1	GENERAL NOTES & INDEX					
V0.1	SURVEY CONTROL					
EC1.1	ES&PC NOTES AND DETAILS					
EC1.2	ES&PC NOTES AND DETAILS					
EC1.3	ES&PC NOTES AND DETAILS					
EC2.1	ES&PC PLANS					
C2.1	BOOSTER STATION SITE LAYOUT					
C2.2	BOOSTER PUMP PAVING, GRADING, AND DRAINAGE PLAN					
C2.3	BOOSTER STATION PIPING PLAN					
C2.4	BOOSTER STATION SECTION VIEW					
C2.5	BOOSTER STATION DETAILS					
C2.6	BOOSTER STATION DETAILS					
C2.7	BOOSTER STATION DETAILS					
SO.1	GENERAL NOTES & TYPICAL DETAILS					
\$1.1	FLOOR PLAN & BUILDING SECTION					
\$1.2	BUILDING ELEVATIONS					
\$1.3	DOOR SCHEDULE					
\$1.4	FOUNDATION AND ROOF FRAMING PLANS					
\$1.5	FOUNDATION & MASONRY DETAILS					
\$1.6	ROOF FRAMING DETAILS					
L1.1	PLANTING PLAN					
L2.1	PLANTING DETAILS					
L2.2	LANDSCAPING SPECIFICATIONS					
E1.1	BOOSTER STATION SITE LAYOUT					
E1.2	BUILDING LAYOUT & ONE-LINE DIAGRAM					

REVISION HISTORY					
REV. NO.	REVISION	BY	DATE		

SUBMITTAL HISTORY	
SUBMITTED TO	DATE
30DWITTED TO	DATE





1501 Main Street • Suite 760 Columbia, SC 29201 p.803.451.6789

BID SET - NOT FOR CONSTRUCTION

	<u>ABBREVIATIONS</u>						
DBL	DOUBLE	FM	FORCE MAIN (SANITARY SEWER)	PC	POINT OF CURVE	тс	TOP OF CURB
вот	воттом	FP	FINISH PAD	РН	POST HYDRANT	ТН	THROAT ELEVATION
СВ	CATCH BASIN	FR	FRAME	PT	POINT OF TANGENT	TG	TOP OF GUTTER
СІ	CURB INLET	GI	GRATE INLET	PVC	POLYVINYL CHLORIDE	TP	TOP OF PAVEMENT
со	CLEAN OUT	GV	GATE VALVE	RCP	REINFORCED CONCRETE PIPE	TW	TOP OF WALK
СРР	CORRUGATED PLASTIC PIPE	HDPE	HIGH DENSITY POLYETHYLENE	RC	ROLL CURB INLET	TYP	TYPICAL
DBL	DOUBLE	н	HOODED INLET	RCP	REINFORCED CONCRETE PIPE	VI	VALLEY INLET
DI	DITCH INLET	INV	INVERT ELEVATION	RI	ROOF INLET	w	WATER
DIP	DUCTILE IRON PIPE	JB	JUNCTION BOX	RJP	RESTRAINED JOINT PIPE	W/	WITH
EL	ELEVATION	LF	LINEAR FEET	R/W	RIGHT-OF-WAY	wv	WATER VALVE
ES	END SECTION	MAX	MAXIMUM	SD	STORM DRAINAGE	YI	YARD INLET
FES	FLARED END SECTION	MIN	MINIMUM	SDMH	STORM DRAINAGE MANHOLE	YI	YARD INLET
FG	FINISH GRADE	МН	MANHOLE	SF	SQUARE FEET		
FH	FIRE HYDRANT	ос	ON CENTER	ss	SANITARY SEWER		

DRAINAGE LEGEND						
DESCRIPTION EXISTING PROPOSED						
PIPE						
DITCH						
CURB INLET (CI) CATCH BASIN (CB)	0	•				
CURB INLET - RIGHT (CI) OR CATCH BASIN - RIGHT (CB)	OR OR	OR OR				
CURB INLET - LEFT (CI) OR CATCH BASIN - LEFT (CB)	OR O	OR •				
CURB INLET - BOTH (CI) OR CATCH BASIN - LEFT (CB)	OR O	OR •				
CONTROL STRUCTURE (CS)						
DITCH INLET (DI)	Ħ	■				
GRATE INLET (GI)	E	I				
HOODED INLET (HI)	OR 🔚	OR				
JUNCTION BOX (JB)						
MANHOLE (SDMH)	0	•				
ROLL CURB INLET (RC)						
ROOF INLET (RI)		•				
YARD INLET (YI)	®	®				
FLARED END SECTION (FES)	Ы					

OTHER UTILITIES LEGEND						
DESCRIPTION	EXISTING					
NATURAL GAS	——————————————————————————————————————					
TELEPHONE	——— ОНТ ——— ОНТ ———					
UNDERGROUND TELEPHONE	UTL UTL					
ELECTRICITY	——————————————————————————————————————					
UNDERGROUND ELECTRICITY	——————————————————————————————————————					

WATER LEGEND				
DESCRIPTION	EXISTING	PROPOSED		
WATER MAIN	10"W	10"W		
SINGLE SERVICE LATERAL				
DOUBLE SERVICE LATERAL	<u> </u>	>		
VALVE AND BOX	\otimes	•		
FIRE HYDRANT W/VALVE & BOX	\otimes - φ -	€-		
POST HYDRANT) H)		
REDUCER		4		
BACKFLOW PREVENTOR				
CROSS	I_I	1_1		
TEE	<u> </u>	1-1		
90° BEND - HORIZONTAL	_	_		
45° BEND - HORIZONTAL	/	/1		
22-1/2° BEND - HORIZONTAL	/	/		
II-¼° BEND - HORIZONTAL	f	1		
BEND - VERTICAL		1.1		
CAP				

SEWER LEGEND				
DESCRIPTION	EXISTING	PROPOSED		
GRAVITY PIPE -	ss			
SINGLE SERVICE LATERAL				
DOUBLE SERVICE LATERAL		—		
MANHOLE				
CLEANOUT	OH	● H		
FORCEMAIN	IO"FM IO"FM	IO"FM IO"FM -		
VALVE AND BOX	\otimes	€		
FLUSH HYDRANT) H)		
REDUCER		4		
BACKFLOW PREVENTOR				
CROSS	_	I_I		
TEE	<u> </u>	1-1		
90° BEND - HORIZONTAL	_	_		
45° BEND - HORIZONTAL	/	/		
22-½° BEND - HORIZONTAL	/	/		
II-¼° BEND - HORIZONTAL	1	1		
BEND - VERTICAL		11		
PLUG \ CAP				

GENERAL NOTES

- I. CONTRACTOR SHALL COORDINATE TIE-IN OF NEW WATER WITH EFFINGHAM COUNTY.
- 2. CONTRACTOR SHALL MAINTAIN MINIMUM COVER OVER THE WATER MAIN PIPE BARREL OF 4'-0" UNLESS OTHERWISE INDICATED. IN NO CASE SHALL THE WATER MAIN BE INSTALLED AT A LOWER ELEVATION THAN
- 3. SHOULD PIPE, FITTINGS, AND OTHER MATERIALS BE NEEDED IN ADDITION TO THAT SHOWN ON THE DRAWINGS BECAUSE PIPELINE WAS NOT INSTALLED TO THE ALIGNMENT AND PROFILE SHOWN, THEN THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THOSE NECESSARY MATERIALS AND PROVIDING THE EQUIPMENT AND LABOR TO INSTALL THEM TO MEET THE DESIGN INTENT OF THE WATER MAIN AT NO ADDITIONAL COST TO THE
- 4. THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ENGINEER 72 HOURS IN ADVANCE OF ALL REQUIRED
- 5. THE CONTRACTOR WILL NOTIFY THE ENGINEER IF UNSUITABLE MATERIAL IS DISCOVERED PRIOR TO BEGINNING ANY REMOVAL OPERATION.

6. ALL WATER MAINS SHALL BE DUCTILE IRON CL 350 (DIP CL350) UNLESS OTHERWISE INDICATED.

- 7. ALL GRAVITY SEWER MAIN SHALL BE POLYVINYL CHLORIDE (PVC SDR35) UNLESS OTHERWISE INDICATED.
- 8. SURVEYING AND BOUNDARY INFORMATION BY THOMAS AND HUTTON
- 9. ALL ELEVATIONS SHOWN ARE BASED ON NAVD86.
- IO. TOPOGRAPHIC SURVEY BY THOMAS AND HUTTON.
- II. CONTRACTOR IS TO VERIFY ACCURACY OF ANY TEMPORARY BENCHMARKS SHOWN PRIOR TO UTILIZING THEM
- 12. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES OTHER THAN THOSE SHOWN ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY AND TAKE STEPS TO PROTECT THE LINE(S) AND ENSURE CONTINUED SERVICE. DAMAGE CAUSED TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR. ADDITIONALLY, THE CONTRACTOR SHALL CONFIRM THE CONNECTION POINTS OF NEW UTILITIES TO EXISTING UTILITIES PRIOR TO BEGINNING NEW CONSTRUCTION.
- 13. IF WORK IS SUSPENDED OR DELAYED FOR 14 DAYS, THE CONTRACTOR SHALL TEMPORARILY STABILIZE THE DISTURBED AREA AT NO ADDITIONAL COST TO THE OWNER.
- 14. THE CONTRACTOR SHALL INSTALL ANY BARRICADES PRIOR TO BEGINNING CONSTRUCTION
- 15. ANY DAMAGE TO EXISTING PAVEMENT MUST BE REPAIRED AT CONTRACTORS EXPENSE AND TO THE SATISFACTION OF THE COUNTY ENGINEER AND THE PROJECT ENGINEER.
- I6. ALL RIGHT-OF-WAY AND DRAINAGE EASEMENT CONSTRUCTION SHALL MEET GDOT STANDARD SPECIFICATIONS UNLESS SPECIFIED ELSEWHERE AND APPROVED IN WRITING BY THE COUNTY ENGINEER.
- 17. WHERE FIELD INSPECTIONS ARE REQUIRED BY THE COUNTY, THE CONTRACTOR SHALL NOTIFY THE EFFINGHAM COUNTY BOARD OF COMMISSIONERS (ERIC LARSON, 912-754-4157) A MINIMUM OF 72 HOURS IN ADVANCE TO SCHEDULE SUCH INSPECTIONS.
- IB. A COMPLETE SET OF APPROVED DRAWINGS AND SPECIFICATIONS MUST BE MAINTAINED ON SITE AT ALL TIMES THAT THE CONTRACTOR IS PERFORMING WORK. THESE DRAWINGS SHALL BE MADE AVAILABLE UPON REQUEST.
- 19. THE CONTRACTOR SHALL INSTALL ALL EROSION CONTROL AND PREVENTION STRUCTURES SHOWN ON THE PLANS. BOTH MUST BE APPROVED BY CHATHAM COUNTY PRIOR TO BEGINNING ANY LAND DISTURBING
- 20. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF UNSUITABLE MATERIAL IS DISCOVERED PRIOR TO BEGINNING ANY REMOVAL OPERATION.
- 21. ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN
- 22. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED, UNLESS ACTIVITY IN THAT PORTION OF THE SITE WILL RESUME WITHIN 14 DAYS.
- 23. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE CONSTRUCTED SIMULTANEOUSLY WITH THE DISTURBANCE OF THE LAND AND SHALL REMAIN FUNCTIONAL UNTIL THE CONTRIBUTING DISTURBED AREAS ARE STABILIZED. SILT BARRIERS WILL BE INSTALLED AS NECESSARY TO PREVENT EXCESSIVE SEDIMENTATION OF DOWNSTREAM AREAS. CONTRACTOR SHALL GRADE AREAS TO DRAIN FOR POSITIVE FLOW PRIOR TO FINAL APPROVAL.
- 24. ALL AREAS DISTURBED WILL BE GRASSED IMMEDIATELY AFTER THE INSTALLATION. PAYMENT SHALL BE AS SHOWN IN THE BID FORM AND SHALL BE COMPENSATION FOR ALL NECESSARY WORK AND MATERIALS TO COMPLETE THE SEEDING IN ACCORDANCE WITH THESE SPECIFICATIONS.
- 25. ALL DRAINAGE WILL BE MADE FUNCTIONAL DAILY AS WORK PROGRESSES.
- 26. EACH EXISTING ROAD WILL BE CLEANED UP AND RESTORED DAILY.
- 27. NEW PAYEMENT TO BE FLUSH WITH EDGE OF EXISTING PAYEMENT.
- 28. ALL STORM DRAIN PIPE INVERTS IN AND OUT ARE THE SAME AS THE BOX INVERT UNLESS OTHERWISE NOTED ON THE PLAN SHEETS AND/OR PROFILES.
- 29. ALL WATER VALVES SHALL COMPLY WITH SECTION 02700 OF THE EFFINGHAM COUNTY STANDARDS AND
- SPECIFICATIONS.
- 30. THE DESIGN OF THE PAVEMENT AND EARTHWORK MATERIALS, PROCEDURES AND METHODS SPECIFIED ARE BASED ON THE CRITERIA AND RECOMMENDATIONS ESTABLISHED IN THE GEOTECHNICAL INVESTIGATION REPORT PREPARED BY TERRACON, DATED JUNE 12, 2020 AND SUBSEQUENT ADDENDUMS.
- 31. CONTRACTOR RESPONSIBLE FOR OBTAINING BUILDING PERMIT AND ANY OTHER NECESSARY PERMITS PRIOR TO BEGINNING CONSTRUCTION.

GENERAL INFORMATION

COUNTY TOWN

CHATHAM COUNTY OWNER:

RESIDENTIAL -AGRICULTURE EFFINGHAM COUNTY BOARD OF COMMISSIONERS 60I NORTH LAUREL STREET SPRINGFIELD, GA 31329

ENGINEER: THOMAS & HUTTON 50 PARK OF COMMERCE WAY SAVANNAH, GA 31405 (912) 234-5300

SURVEYOR: THOMAS & HUTTON 50 PARK OF COMMERCE WAY SAVANNAH, GA 31405 (912) 234-5300

PREPARED FOR:

EFFINGHAM COUNTY BOARD OF COMMISSIONERS

601 NORTH LAUREL STREET SPRINGFIELD, GA 31329



1 1					
					NO.
					REVISIONS
					ВҮ
					DATE

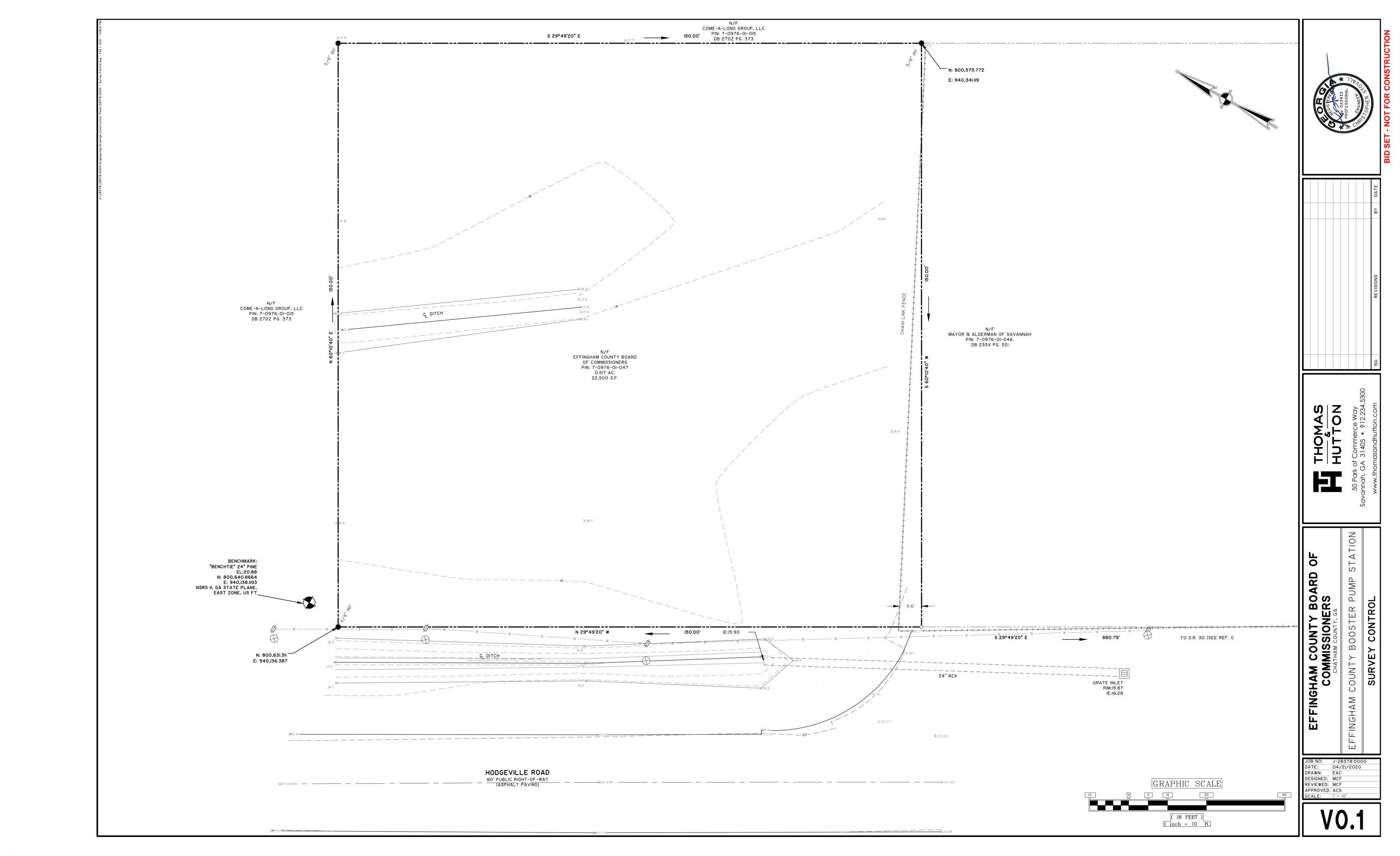
い フ E

 \triangleleft S r BOARD IERS UMP

DESIGNED: MCF REVIEWED: MCF

APPROVED: ACS

SCALE: N/A



- THIS PLAN WAS PREPARED AS REQUIRED BY NPDES GENERAL PERMIT No. 100002. THESE PLAN SHEETS AND ALL REQUIREMENTS OF THE GENERAL
- PERMIT AS WELL AS LOCAL. STATE AND FEDERAL REGULATIONS OR LAWS APPLY REGARDLESS OF SPECIFIC INCLUSIONS IN THIS PLAN. 2. THE CONTRACTOR SHALL VERIFY THE SIZE AND LOCATION OF ALL EXISTING UTILITIES. EXISTING UTILITIES ARE ALL UTILITIES ON THE PROJECT IN AN ORIGINAL, RELOCATED OR NEWLY INSTALLED POSITION. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THE COST OF REPAIRS TO DAMAGED UNDERGROUND OR OVERHEAD FACILITIES, EVEN IF THE UTILITY IS NOT SHOWN ON THE SITE DEVELOPMENT PLANS. THE CONTRACTOR SHALL CONTACT THE UTILITIES PROTECTION CENTER AT I-800-282-7411 TO COORDINATE THE MARKING OF EXISTING UTILITY LINES A MAXIMUM OF 72 HOURS PRIOR TO COMMENCEMENT OF ANY WORK.
- 3. CONTRACTOR SHALL FLUSH ALL INLETS AND PIPE AT THE COMPLETION OF CONSTRUCTION TO REMOVE SILT AND DEBRIS. THE CLEANING AND FLUSHING OF INLETS AND PIPE (EXISTING AND PROPOSED) SHALL BE CONSIDERED PART OF THE COST FOR PIPE ON THE PROJECT. SCHEDULE CONSTRUCTION ACTIVITIES TO MINIMIZE THE EXPOSED AREA AND DURATION OF EXPOSURE. IN SCHEDULING, TAKE INTO ACCOUNT THE SEASON AND THE WEATHER
- 4. EROSION CONTROL MEASURES ARE THE MINIMUM REQUIRED. THE CONTRACTOR SHALL PROVIDE ADDITIONAL CONTROL MEASURES AS DICTATED BY ACTUAL FIELD CONDITIONS AT THE TIME OF CONSTRUCTION IN ORDER TO PREVENT EROSION AND CONTROL SEDIMENT. THE CONTRACTOR SHALL BE FAMILIAR WITH THE "NARRATIVE DESCRIPTION: LAND DISTURBING ACTIVITIES" REPORT THAT ACCOMPANIES THIS PROJECT, AND HAVE A CLEAR UNDERSTANDING OF THE CONCEPTS, APPLICATIONS, STANDARDS AND SPECIFICATIONS OF THE BEST MANAGEMENT PRACTICES LISTED IN SAID DOCUMENT, EROSION AND SEDIMENT CONTROL MEASURES WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE ENTIRE PROJECT IS TERMINATED OR
- SUSPENDED FOR AN INDEFINITE LENGTH OF TIME, ALL DISTURBED AREAS SHALL BE PLANTED WITH PERMANENT VEGETATION. 5. THE DATA, TOGETHER WITH ALL OTHER INFORMATION SHOWN ON THESE PLANS, OR IN ANY WAY INDICATED THEREBY, WHETHER BY DRAWINGS OR NOTES, OR IN ANY OTHER MANNER, IS BASED UPON FIELD INVESTIGATIONS AND IS BELIEVED TO BE INDICATIVE OF ACTUAL CONDITIONS. HOWEVER, THE SAME IS SHOWN AS INFORMATION ONLY, IS NOT GUARANTEED AND DOES NOT BIND THOMAS & HUTTON, OR THE OWNER IN ANY WAY.
- 6. CONTRACTOR SHALL MAINTAIN SITE ON A DAILY BASIS TO PROVIDE FOR POSITIVE DRAINAGE. CONTRACTOR, AT HIS COST, SHALL GRADE SITE AND PROVIDE NECESSARY TEMPORARY DRAINAGE SWALES TO INSURE STORM WATER DOES NOT POND ON SITE.
- 7. SITE DRAINAGE SHALL BE ESTABLISHED TO PREVENT ANY PONDED WATER CONDITIONS WITHIN THE CONSTRUCTION AREA AND TO FACILITATE THE RAPID RUN-OFF OF STORM WATER.
- 8. NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION OR WITHIN 25-FEET OF THE COASTAL MARSHLAND BUFFER AS MEASURED FROM THE JURISDICTIONAL DETERMINATION LINE WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.
- 9. ANY CONSTRUCTION ACTIVITY WHICH DISCHARGES STORM WATER INTO AN IMPAIRED STREAM SEGMENT, OR WITHIN I LINEAR MILE UPSTREAM OF AND WITHIN THE SAME WATERSHED AS, ANY PORTION OF AN BIOTA IMPAIRED STREAM SEGMENT MUST COMPLY WITH PART III. C. OF THE PERMIT.
- IO. IF A TMDL IMPLEMENTATION PLAN FOR SEDIMENT HAS BEEN FINALIZED FOR THE IMPAIRED STREAM SEGMENT (IDENTIFIED IN ITEM II ABOVE) AT LEAST SIX MONTHS PRIOR TO SUBMITTAL OF NOI, THE ES&PC PLAN MUST ADDRESS ANY SITE-SPECIFIC CONDITIONS OR REQUIREMENTS INCLUDED IN THE TMDL IMPLEMENTATION PLAN.
- II. EXCEPT AS REQUIRED TO INSTALL THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPS AS DESCRIBED IN PART IV.D.3., THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPS MUST BE INSTALLED AND IMPLEMENTED PRIOR TO CONDUCTING ANY OTHER CONSTRUCTION ACTIVITIES (E.G., CLEARING, GRUBBING AND GRADING) WITHIN THE CONSTRUCTION SITE OR WHEN APPLICABLE, WITHIN PHASED SUB-PARTS OR SEGMENTS OF THE CONSTRUCTION SITE. FAILURE TO COMPLY SHALL CONSTITUTE A VIOLATION OF THIS PERMIT FOR EACH DAY ON WHICH CONSTRUCTION ACTIVITIES OCCUR. THE DESIGN PROFESSIONAL WHO PREPARED THE PLAN MUST INSPECT THE INITIAL SEDIMENT STORAGE
- REQUIREMENTS AND PERIMETER CONTROL BMPS IN ACCORDANCE WITH PART IV.A.5. WITHIN SEVEN (7) DAYS AFTER INSTALLATION. #19 12. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO LAND DISTURBING ACTIVITIES.
- #20 13. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.
- I4. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING. |#16| is. There will be no buffer encroachment and no buffer variance is required for this project.
- 16. AMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPS WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
- #18 17. WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.

#4 DEVELOPER/OWNER CHARLES GEORGE, P.E. DIRECTOR OF DEVELOPMENT SERVICES/COUNTY ENGINEER EFFINGHAM COUNTY BOARD OF COMMISSIONERS 601 NORTH LAUREL STREET SPRINGFIELD, GA 31329 EMAIL: cgeorge@effinghamcounty.org

PHONE: 912-754-8000 ext 4850

#3 24 HOUR CONTACT PERSON RESPONSIBLE FOR EROSION, SEDIMENTATION AND POLLUTION CONTROLS MR. KEITH STRONG THOMAS & HUTTON 30 PARK OF COMMERCE WAY SAVANNAH, GA 31405 DAY: 912-721-4103 NIGHT: 912-667-9793

EROSION, SEDIMENTATION AND POLLUTION CONTROL PRACTICES

STRUCTURAL PRACTICES

CONSTRUCTION EXIT - A STONE STABILIZED PAD LOCATED AT ANY POINT WHERE TRAFFIC WILL BE LEAVING A CONSTRUCTION SITE TO A PUBLIC RIGHT-OF-WAY, STREET, ALLEY, SIDEWALK, OR PARKING AREA, THE PURPOSE OF THE MEASURE IS TO REDUCE OR ELIMINATE THE TRANSPORT OF MUD FROM THE CONSTRUCTION AREA BY MOTOR VEHICLES OR BY RUNOFF.

SEDIMENT BARRIER - TEMPORARY STRUCTURES TYPICALLY CONSTRUCTED OF SILT FENCE SUPPORTED BY STEEL OR WOOD POSTS. OTHER TYPES OF BARRIERS MAY INCLUDE SANDBAGS, STRAW BALES, BRUSH PILES AND OTHER FILTERING MATERIAL. THE PURPOSE OF THE MEASURE IS TO PREVENT SEDIMENT CARRIED BY SHEET FLOW FROM LEAVING THE SITE AND ENTERING NATURAL DRAINAGE WAYS OR STORM DRAINAGE SYSTEMS BY SLOWING STORM WATER RUNOFF AND CAUSING THE DEPOSITION AT THE STRUCTURE.

VEGETATIVE MEASURES

TREE PROTECTION - TREE PROTECTION ZONES SHALL BE ESTABLISHED AND MAINTAINED FOR EACH TREE PRESERVED ON THE SITE. THE MINIMUM TREE PROTECTION ZONE, EXCEPT FOR PALM-TYPE TREES, SHALL BE AN AREA CENTERED ON EACH TREE WITH A RADIUS IN FEET EQUIVALENT TO THE TREE DIAMETER IN INCHES MEASURED AT BREAST HEIGHT. PALM-TYPE TREES SHALL HAVE A MINIMUM TREE PROTECTION ZONE DIAMETER EQUAL TO THE DIAMETER OF THE LEAF CROWN. THE MINIMUM TREE PROTECTION DEVICE SHALL BE A FENCE CONSTRUCTED AT, AND AROUND, THE PERIMETER OF THE TREE PROTECTION ZONE AND CONSTRUCTED OF 2"X4"X6'O" POSTS WITH ONE 2"X4"X12'-O" RAIL NAILED TO THE TOP OF EACH ADJACENT POST. THE MINIMUM RAIL HEIGHT SHALL BE FOUR (4) FEET. PREFABRICATED, REUSABLE FENCING MATERIALS MAY BE USED UPON APPROVAL OF THE CITY OF SAVANNAH. TREE PROTECTION SHALL BEGIN AT THE START OF CONSTRUCTION AND AS ENCOUNTERED DURING THE CLEARING PROCESS AND SHALL REMAIN UNTIL FINAL INSPECTION OF THE CLEARING HAS BEEN SUCCESSFULLY COMPLETED, BROKEN OR DISLODGED TREE PROTECTION DEVICES SHALL BE IMMEDIATELY REPAIRED. NO VEHICLES SHALL BE PARKED, OR CONSTRUCTION MATERIAL STORED, OR SUBSTANCES SPILLED OR DISPOSED OF OR PLACED WITHIN THE TREE PROTECTION ZONE AT ANY TIME.

SMALLER TREES SHALL BE REMOVED FIRST TO ALLOW THE LARGER TREES TO BE FELLED WITH MORE CARE. TREES ARE TO BE FELLED IN A DIRECTION AWAY FROM TREES WHICH ARE TO REMAIN. CONSTRUCTION OPERATIONS SHALL BE CONDUCTED SO AS TO PREVENT DAMAGE BY FALLING TREES TO OTHER TREES, FOLIAGE, AND PLANT MATERIAL LEFT STANDING, TO EXISTING STRUCTURES AND INSTALLATIONS, AND TO THOSE UNDER CONSTRUCTION, TO PROPERTY EXISTING OUTSIDE THE AREAS TO BE CLEARED, AND SO AS TO PROVIDE FOR THE SAFETY OF EMPLOYEES AND OTHERS. ALL STUMP HOLES MUST BE FILLED USING CLEAN FILL DIRT, PLACED IN ONE FOOT LIFTS AND ADEQUATELY COMPACTED.

TREES DESIGNATED TO BE LEFT STANDING WITHIN THE CLEARED AREAS SHALL BE TRIMMED OF DEAD BRANCHES I-1/2" OR MORE IN DIAMETER. LIMBS AND BRANCHES TO BE TRIMMED SHALL BE NEATLY CUT CLOSE TO THE TRUNK OF THE TREE OR MAIN BRANCHES. CUTS OF MORE THAN I-I/2" IN DIAMETER THUS MADE SHALL BE PAINTED WITH AN APPROVED TREE WOUND PAINT MANUFACTURED FOR THIS SPECIFIC PURPOSE. IN THE CASE OF IMPORTANT LARGE TREES WHERE A SMALL AMOUNT OF CAVITY WORK WOULD PROLONG THE LIFE OF THE TREE, SUCH WORK SHALL BE DONE. THE SERVICES OF A QUALIFIED TREE SURGEON ARE RECOMMENDED FOR THIS PROCEDURE.

ALL CLEARED MATERIAL SHALL BE REMOVED FROM THE SITE OR BURNED. DISPOSAL BY BURNING MAY ONLY BE DONE WHEN APPROVED BY THE CITY OF SAVANNAH. MATERIAL DISPOSED OF BY BURNING SHALL BE BURNED IN A MANNER THAT WILL AVOID ALL HAZARDS, SUCH AS DAMAGE TO EXISTING STRUCTURES, CONSTRUCTION IN PROGRESS, TREES TO BE PRESERVED, AND EXISTING VEGETATION.

DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDINGS)- ESTABLISHING TEMPORARY VEGETATIVE COVER WITH FAST GROWING SEEDINGS FOR SEASONAL PROTECTION ON DISTURBED OR DENUDED AREAS. THE PURPOSE OF THE MEASURE IS TO:

- REDUCE EROSION, SEDIMENT AND RUNOFF DAMAGES TO DOWNSTREAM RESOURCES
- IMPROVE WILDLIFE HABITAT
- IMPROVE AESTHETICS PROTECT SOIL SURFACE FROM EROSION
- IMPROVE TILTH AND ADD ORGANIC MATTER FOR PERMANENT PLANTINGS

DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)- PLANTING PERENNIAL VEGETATION, SUCH AS TREES, SHRUBS, VINES, GRASSES, OR LEGUMES, ON EXPOSED AREAS FOR FINAL PERMANENT STABILIZATION. THE PURPOSE IS TO STABILIZE THE SOIL, REDUCE DAMAGE FROM SEDIMENT AND RUNOFF TO DOWNSTREAM AREAS, AND IMPROVE WILDLIFE HABITAT AND VISUAL

TEMPORARY AND PERMANENT VEGETATIVE PRACTICE SHALL BE AS FOLLOWS:

SEED SPECIES	APPLICATION/ACRE	<u>PLANTING DATE</u>
(PERMANENT) BERMUDA (HULLED)	IO LBS/AC	3/I - 9/I
(TEMPORARY) BERMUDA (UNHULLED) ABRUZZI RYE	IO LBS/AC 50 LBS/AC	9/I - 3/I

FERTILIZER SHALL BE APPLIED AT A RATE OF 1,500 LBS/AC. LIME SHALL BE APPLIED AT A RATE OF 1,500 LBS/AC. MULCHING SHALL BE SPREAD AT A RATE OF 2.0 TONS/AC. WEEKLY INSPECTION OF THE GRASS COVER SHALL BE PERFORMED TO IDENTIFY AREAS REQUIRING REESTABLISHMENT OF GRASS. DUST CONTROL ON DISTURBED AREAS - CONTROLLING SURFACE AND AIR MOVEMENT OF DUST ON CONSTRUCTION SITE AND HAUL ROUTES. THE PURPOSE OF THE MEASURE IS TO REDUCE THE PRESENCE OF AIRBORNE SUBSTANCES, WHICH MAY BE HARMFUL OR INJURIOUS TO HUMAN HEALTH, WELFARE OR SAFETY, OR TO ANIMALS OR PLANT LIFE.

EFFINGHAM COUNTY BOOSTER PUMP STATION PORT WENTWORTH, GEORGIA PROJECT #J-28378.0000

DATE: 06/19/2020 TOTAL PROJECT ACREAGE: 0.6± TOTAL DISTURBED ACREAGE: 0.6±

PROJECT DESCRIPTION - EFFINGHAM COUNTY BOOSTER PUMP STATION

#8 THE PROJECT CONSISTS OF THE CONSTRUCTION OF A PROPOSED BOOSTER PUMP STATION, (2) CONNECTIONS TO THE EXISTING 36-INCH DUCTILE IRON WATER MAIN WITHIN HODGEVILLE ROAD R/W, INSTALLATION OF A 20' ACCESS ROAD AND A CHAIN LINK FENCE ALONG THE EDGE OF PROPERTY.

POST DEVELOPMENT RUNOFF FROM THE SITE WILL BE SIGHTLY INCREASED FROM PRE-DEVELOPMENT BUT WILL NOT AFFECT NEIGHBORING AREAS. THERE WILL BE SLIGHT INCREASE IN IMPERVIOUS AREAS. THE RUNOFF COEFFICIENT PRIOR] TO CONSTRUCTION IS 84 AND AFTER CONSTRUCTION WILL BE APPROXIMATELY 87. SURFACE RUNOFF FROM THE SITE DRAINS INITIALLY INTO SURROUNDING DRAINAGE DITCHES/INLETS, BLACK CREEK, AND ULTIMATELY TO THE SAVANNAH

ELEVATIONS ON THE SITE RANGE FROM ±18' TO ±19' (NAVD88 DATUM).

ACCORDING TO THE FLOOD INSURANCE RATE MAP PANEL I305IC4I55, EFFECTIVE 8/I6/20I8, THE PROJECT AREA IS WITHIN FLOOD HAZARD ZONE X.

SOILS WITHIN THE PROJECT AREA CONSISTS OF THE FOLLOWING SERIES BASED ON USGS SOILS SURVEY DATA FOR #47 CHATHAM COUNTY, GA: Mn Mascotte Sand

CONSTRUCTION

CONSTRUCTION ACTIVITIES WILL INVOLVE NORMAL CONSTRUCTION ACTIVITIES ASSOCIATED WITH WATER MAIN UTILITY INSTALLATION. IT IS ANTICIPATED THAT CONSTRUCTION ACTIVITIES WILL BEGIN ON OR ABOUT OCTOBER 2020, AND BE COMPLETED ON OR ABOUT OCTOBER 2021. THE INSTALLATION OF EROSION CONTROL MEASURES AND PRACTICES SHALL BE INSTALLED PRIOR TO OR CONCURRENT WITH LAND DISTURBING ACTIVITIES.

PROCESSES AND PRINCIPLES OF EROSION, SEDIMENTATION AND POLLUTION

WHEN LAND IS DISTURBED AT A CONSTRUCTION SITE, THE EROSION RATE ACCELERATES DRAMATICALLY. SINCE GROUND COVER ON AN UNDISTURBED SITE PROTECTS THE SURFACE, REMOVAL OF THAT COVER INCREASES THE SITE'S SUSCEPTIBILITY TO EROSION. DISTURBED LAND MAY HAVE AN EROSION RATE 1,000 TIMES GREATER THAN THE PRE-CONSTRUCTION RATE. EVEN THOUGH CONSTRUCTION REQUIRES THAT LAND BE DISTURBED AND BE LEFT BARE FOR PERIODS OF TIME, PROPER PLANNING AND USE OF CONTROL MEASURES CAN REDUCE THE IMPACT OF MAN-INDUCED ACCELERATED EROSION.

EFFECTIVE EROSION, SEDIMENTATION AND POLLUTION CONTROL REQUIRES FIRST THAT THE SOIL SURFACE BE PROTECTED FROM THE EROSIVE FORCES OF WIND, RAIN, AND RUNOFF, AND SECOND THAT ERODED SOIL CAN BE CAPTURED ON-SITE.

INITIAL DATE: JUNE 19, 2020 #7

LAND DISTURBING ACTIVITIES PLAN

GENERAL DESIGN PRINCIPLES

FOR AN EROSION, SEDIMENTATION AND POLLUTION CONTROL PROGRAM TO BE EFFECTIVE, IT IS IMPERATIVE THAT PROVISIONS FOR SEDIMENT CONTROL MEASURES BE MADE IN THE PLANNING STAGE. THESE PLANNED MEASURES WHEN CONSCIENTIOUSLY AND EXPEDITIOUSLY APPLIED DURING CONSTRUCTION, WILL RESULT IN ORDERLY DEVELOPMENT WITHOUT ADVERSE ENVIRONMENTAL DEGRADATION. THE FOLLOWING KEY PRINCIPALS SHALL BE UTILIZED, TO THE MAXIMUM EXTENT POSSIBLE, IN ALL PLANNING.

- I. FIT THE ACTIVITY TO THE TOPOGRAPHY AND SOILS. DETAILED PLANNING SHOULD BE EMPLOYED TO ASSURE THE ROADWAYS, BUILDINGS AND OTHER PERMANENT FEATURES OF THE ACTIVITY CONFORM TO THE NATURAL CHARACTERISTICS OF THE SITE. LARGE GRADED AREAS SHOULD BE LOCATED ON THE MOST LEVEL PORTION OF THE SITE. AREAS SUBJECT TO FLOODING SHOULD BE AVOIDED. AREAS OF STEEP SLOPES, ERODIBLE SOILS, AND SOILS WITH SEVERE LIMITATIONS FOR THE INTENDED USES SHOULD NOT BE UTILIZED WITHOUT OVERCOMING THE LIMITATIONS THROUGH SOUND ENGINEERING PRACTICES. EROSION
- CONTROL, DEVELOPMENT AND MAINTENANCE COSTS CAN BE MINIMIZED IF A SITE IS SELECTED FOR A SPECIFIC ACTIVITY. 2. THE DISTURBED AREA AND DURATION OF EXPOSURE TO EROSION ELEMENTS SHOULD BE MINIMIZED. CLEARING OF NATURAL VEGETATION SHOULD BE LIMITED TO ONLY THOSE AREAS OF THE SITE TO BE DEVELOPED AT A GIVEN TIME. NATURAL VEGETATION SHOULD BE RETAINED, PROTECTED AND SUPPLEMENTED WITH CONSTRUCTION SCHEDULING EMPLOYED TO LIMIT THE DURATION OF SOIL EXPOSURE.
- 3. STABILIZE DISTURBED AREAS IMMEDIATELY. PERMANENT STRUCTURES, TEMPORARY OR PERMANENT VEGETATION, AND MULCH, OR A COMBINATION OF THSES MEASURES, SHOULD BE EMPLOYED AS QUICKLY AS POSSIBLE AFTER THE LAND IS DISTURBED. TEMPORARY VEGETATION AND MULCHES CAN BE MOST EFFECTIVE ON AREAS WHERE IT IS NOT PRACTICAL TO ESTABLISH PERMANENT VEGETATION. THESE TEMPORARY MEASURES SHOULD BE EMPLOYED IMMEDIATELY AFTER ROUGH GRADING IS COMPLETED IF A DELAY IS ANTICIPATED ON OBTAINING FINISHED GRADE. THE FINISHED SLOPE OF A CUT OR FILL SHOULD BE STABLE AND EASE OF MAINTENANCE CONSIDERED IN THE DESIGN. STABILIZE ALL ROADWAYS, PARKING AREAS, AND PAVED AREAS WITH THE GRAVEL SUBBASE, TEMPORARY VEGETATION OR MULCH.
- 4. RETAIN OR ACCOMMODATE RUNOFF. RUNOFF FROM THE DEVOLOPMENT SHOULD BE SAFELY CONVEYED TO A STABLE OUTLET USING STORM DRAINS, DIVERSIONS, STABLE WATERWAYS OR SIMILAR CONSERVATION MEASURES. CONSIDERATION SHOULD ALSO BE GIVEN TO THE INSTALLATION OF STORM WATER RETENTION STRUCTURES TO PREVENT FLOODING AND DAMAGE TO DOWNSTREAM FACILITIES RESULTING FROM INCREASED RUNOFF FROM THE SITE. TEMPORARY OR PERMANENT FACILITIES FOR CONVEYANCE OF STORM WATER SHOULD BE DESIGNED TO WITHSTAND THE VELOCITIES OF PROJECTED PEAK DISCHARGES. THESE FACILITIES SHOULD BE IN OPERATION AS SOON AS POSSIBLE AFTER THE START OF CONSTRUCTION.
- 5. RETAIN SEDIMENT. SEDIMENT BASINS, SEDIMENT BARRIERS AND RELATED STRUCTURES SHOULD BE INSTALLED TO FILTER OR TRAP SEDIMENT ON THE SITE TO BE DISTURBED. THE MOST EFFECTIVE METHOD OF CONTROLLING SEDIMENT, HOWEVER, IS TO CONTROL EROSION AT ITS SOURCE. SEDIMENT RETENTION STRUCTURES SHOULD BE PLANNED TO RETAIN SEDIMENT WHEN EROSION CONTROL METHODS ARE NOT PRACTICAL, ARE INSUFFICIENT, OR IN THE PROCESS OF BEING INSTALLED, OR HAVE FAILED DUE TO SOME UNFORESEEN FACTOR.
- 6. DO NOT ENCROACH UPON WATERCOURSES PERMANENT BUILDINGS SHOULD NOT BE SUBJECTED TO FLOODING, SEDIMENT DAMAGE OR EROSION HAZARDS. EARTH FILLS SHOULD NOT BE CONSTRUCTED IN FLOOD-PRONE AREAS SO AS TO ADVERSELY OBSTRUCT WATER FLOWS. WHEN IT IS NECESSARY TO SPAN A FLOOD PRONE AREA OR WATERCOURSE, BRIDGE OR CULVERT OPENINGS SHOULD BE SIZED TO PERMIT PASSAGE OF PEAK DISCHARGES WITHOUT CAUSING UNDUE RESTRICTIONS IN WATER FLOWS OR WITHOUT CREATING EXCESSIVE DOWNSTREAM VELOCITIES. USES OF FLOOD PRONE AREAS SHOULD BE LIMITED TO ACTIVITIES WHICH WOULD NOT SUFFER EXCESSIVE DAMAGES FROM FLOODING, SCOUR, AND SEDIMENT DAMAGES. TEMPORARY BRIDGES OR CULVERTS SHOULD BE EMPLOYED WHEN CONSTRUCTION EQUIPMENT IS REQUIRED TO CROSS NATURAL OR CONSTRUCTED CHANNELS.

STANDARDS AND SPECIFICATIONS

ALL DESIGNS WILL CONFORM TO AND WORK WILL BE PERFORMED IN ACCORDANCE WITH THE PUBLICATION ENTITLED " MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA", ISSUED 2016 AND THE ATTACHED DETAILS.

MAINTENANCE PROGRAM

EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE. ALL DRAINAGE SWALES, POCKETS, DEPRESSIONS, FLOW LINES, AND OUTLET DITCHES SHALL DRAIN EFFECTIVELY AT ALL TIMES. SETTLEMENT OR WASHING THAT MAY OCCUR SHALL BE REPAIRED BY THE CONTRACTOR. SEDIMENT SHALL BE REMOVED ONCE IT HAS ACCUMULATED TO ONE-HALF THE ORIGINAL HEIGHT OF THE BARRIER. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN AN EFFECTIVE BARRIER. MAINTAIN THE CONSTRUCTION EXIT IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE SITE. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH 2-INCH STONE. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS. RESEED AND MULCH AREAS WHERE SEEDLING EMERGENCE IS POOR, OR WHERE EROSION OCCURS. PROTECT FROM TRAFFIC AS MUCH AS POSSIBLE. INSPECT ALL MULCHES PERIODICALLY, AND AFTER RAINSTORMS TO CHECK FOR RILL EROSION, DISLOCATION OR FAILURE. IF WASHOUT OCCURS REPAIR THE SLOPE GRADE, RESEED AND REINSTALL MULCH. INSPECT RIPRAP OUTLET STRUCTURES AFTER HEAVY RAINS ANY EROSION IN AND AROUND THE RIPRAP HAS TAKEN PLACE OR IF STONES HAVE BEEN DISLODGED. FOLLOW THE CONSTRUCTION SEQUENCE THROUGHOUT THE PROJECT DEVELOPMENT. WHEN CHANGES IN CONSTRUCTION ACTIVITIES ARE NEEDED, AMEND THE SEQUENCE SCHEDULE IN ADVANCE TO MAINTAIN MANAGEMENT CONTROL. ORDERLY MODIFICATION ASSURES COORDINATION OF CONSTRUCTION AND EROSION CONTROL PRACTICES TO MINIMIZE EROSION AND SEDIMENTATION PROBLEMS. IF MAJOR CHANGES ARE NECESSARY, SEND A COPY OF THE MODIFIED SCHEDULE TO THE LOCAL SEDIMENT CONTROL AGENCY. SEDIMENT AND EROSION CONTROL MEASURES WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE DISTURBED AREAS ARE STABILIZED

THERE ARE NO JURISDICTIONAL WETLANDS OR STATE WATERS WITHIN 200 FEET OF THE PROJECT AREA.

NOTE:

NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF 1 #1 WRESTED VEGETATION OR WITHIN 25-FEET OF THE COASTAL MARSHLAND BUFFER AS MEASURED FROM THE JURISDICTIONAL DETERMINATION LINE WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

67 CY SEDIMENT STORAGE PER DISTURBED ACRE REQUIREMENT

- TOTAL PROJECT ACREAGE = 0.60
- TOTAL DISTURBED ACREAGE = 0.60
- TOTAL REQUIRED SEDIMENT STORAGE: 0.60 AC. X 67 C.Y./AC. = 40.2 C.Y.

THIS PROJECT WILL UTILIZE SILT FENCE FOR THE SEDIMENT STORAGE REQUIREMENT. A SEDIMENT FING BASIN IS NOT PRACTICAL FOR THIS PROJECT. THE PROPOSED LAND DISTURBING ACTIVITIES FOR THIS PROJECT IS TO INSTALL AN EFFLUENT MAIN AND WE DO NOT WISH TO DISTURB MORE LAND THAN NECESSARY TO PERFORM THE DESIRED TASK. IN THIS PROJECT WE ARE PROPOSING A DOUBLE ROW SENSITIVE-TYPE SILT FENCE. DOUBLE ROW SENSITIVE-TYPE SILT FENCE WILL BE INSTALLED WHERE CONSTRUCTION ACTIVITIES ARE ADJACENT TO THE SAVANNAH RIVER. IN THE BELOW CALCULATIONS WE ARE ONLY CONSIDERING A DOUBLE ROW SILT FENCE FOR THE SEDIMENT STORAGE REQUIREMENT.

SILT FENCE : 610 L.F. SILT FENCE

- 610 x 1.5' (HEIGHT ACCUMULATION) x 4' (HORIZONTAL ACCUMULATION) x 1/2 = 1830 C.F., 1650/27 = 67.8 C.Y.
- 67.8 CY EXCEEDS THE REQUIRED 40.2 CY OF SEDIMENT STORAGE

NOTE: THE MAXIMUM ALLOWABLE AREA TO CONTRIBUTE TO 100 LF OF SILT FENCE IS

り Z

OF

~

NNO SSIC \Box ŭ₹

⋖∥ш 9

DRAWN: EAC

DESIGNED: MCF REVIEWED: MCF APPROVED: ACS CALE: NONE

ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. THE DUMPSTER WILL MEET ALL SOLID WASTE MANAGEMENT REGULATIONS. SELECT A DESIGNATED WASTE COLLECTION AREA, WHEN POSSIBLE LOCATE CONTAINERS IN A COVERED

AREA. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN THE DUMPSTER. THE DUMPSTER WILL BE EMPTIED A MINIMUM OF ONCE PER WEEK OR MORE OFTEN IF NECESSARY AND TRASH WILL BE HAULED AS REQUIRED BY LOCAL REGULATIONS. NO CONSTRUCTION WASTE WILL BE BURIED ONSITE.

ALL PERSONNEL WILL BE INSTRUCTED ON PROPER PROCEDURES FOR WASTE DISPOSAL. A NOTICE STATING THESE PRACTICES WILL BE POSTED AT THE JOBSITE AND THE CONTRACTOR WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.

HAZARDOUS WASTES

ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL, STATE, AND/OR FEDERAL REGULATIONS AND BY THE MANUFACTURER OF SUCH PRODUCTS. THE JOB SITE SUPERINTENDENT, WHO WILL ALSO BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED, WILL INSTRUCT SITE PERSONNEL IN THESE PRACTICES. MATERIAL SAFETY DATA SHEETS (MSDS's) FOR EACH SUBSTANCE WITH HAZARDOUS PROPERTIES THAT IS USED ON THE JOB SITE WILL BE OBTAINED AND USED FOR THE PROPER MANAGEMENT OF POTENTIAL WASTES THAT MAY RESULT FROM THESE PRODUCTS. AN MSDS WILL BE POSTED IN THE IMMEDIATE AREA WHERE SUCH PRODUCT IS STORED AND/OR USED AND ANOTHER COPY OF EACH MSDS WILL BE MAINTAINED IN THE ESPCP FILE AT THE JOB SITE CONSTRUCTION TRAILER OFFICE. EACH EMPLOYEE WHO MUST HANDLE A SUBSTANCE WITH HAZARDOUS PROPERTIES WILL BE INSTRUCTED ON THE USE OF MSDS AND THE SPECIFIC INFORMATION IN THE APPLICABLE MSDS FOR THE PRODUCT HE/SHE IS USING, PARTICULARLY REGARDING SPILL CONTROL TECHNIQUES.

THE CONTRACTOR WILL IMPLEMENT THE SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) PLAN FOUND WITHIN THE ESPCP AND WILL TRAIN ALL PERSONNEL IN THE PROPER CLEANUP AND HANDLING OF SPILLED MATERIALS. NO SPILLED HAZARDOUS MATERIAL OR HAZARDOUS WASTES WILL BE ALLOWED TO COME IN CONTACT WITH STORM WATER DISCHARGES. IF SUCH CONTACT OCCURS, THE STORM WATER DISCHARGE WILL BE CONTAINED ON SITE UNTIL APPROPRIATE MEASURES IN COMPLIANCE WITH STATE AND FEDERAL REGULATIONS ARE TAKEN TO DISPOSE OF SUCH CONTAMINATED STORM WATER. IF SHALL BE THE RESPONSIBILITY OF THE JOB SITE SUPERINTENDENT TO PROPERLY TRAIN ALL PERSONNEL IN THE USE OF THE SPCC PLAN.

SANITARY WASTES

A MINIMUM OF ONE PORTABLE SANITARY UNIT WILL BE PROVIDED FOR EVERY TEN (IO) WORKERS ON THE SITE. ALL SANITARY WASTE WILL BE DISPOSED BY THE PORTABLE FACILITY PROVIDER IN COMPLETE COMPLIANCE WITH LOCAL AND STATE REGULATIONS. PROVIDE REGULAR SERVICING BY A QUALIFIED DOMESTIC WASTE HAULER TO PREVENT OVER-FILLING.

ALL SANITARY WASTE UNITS WILL BE LOCATED IN AN AREA WHERE THE LIKELIHOOD OF THE UNIT CONTRIBUTING TO STORM WATER DISCHARGE IS NEGLIGIBLE. PLACEMENT OF FACILITIES SHOULD BE OUT OF HIGH FLOW AREAS AND IN ACCORDANCE WITH ALL STATE AND LOCAL REGULATIONS. ADDITIONAL CONTAINMENT BMP'S MUST BE IMPLEMENTED, SUCH AS GRAVEL BAGS OR SPECIALLY DESIGNED PLASTIC SKID CONTAINERS AROUND THE BASE, TO PREVENT WASTES FROM CONTRIBUTING TO STORM WATER DISCHARGES. THE LOCATION OF SANITARY WASTE UNITS MUST BE IDENTIFIED ON THE EROSION CONTROL PHASE SHEETS BY THE CONTRACTOR ONCE THE LOCATIONS HAVE BEEN DETERMINED. REGULARLY INSPECT FOR CRACKS OR LEAKAGE IN CONTAINERS/TANKS.

SANITARY SEWER WILL BE PROVIDED BY MUNICIPAL AUTHORITY/SEPTIC SYSTEM AFTER COMPLETION OF THIS PROJECT.

OFFSITE VEHICLE TRACKING

A STABILIZED CONSTRUCTION EXIT HAS BEEN PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENT. SEE SHEET ECI.3 FOR CONSTRUCTION EXIT LOCATION AND SHEET EC2.I FOR DETAILS. THE PAVED STREET ADJACENT TO THE CONSTRUCTION SITE EXIT WILL BE KEPT CLEAN AT ALL TIMES. VEHICLES LEAVING THE SITE MUST TRAVERSE CONSTRUCTION EXITS TO REMOVE MUD FROM TIRES.

INVENTORY FOR POLLUTION PREVENTION PLAN THE FOLLOWING MATERIALS ARE EXPECTED ONSITE DURING CONSTRUCTION: PETROLEUM BASED FUELS AND LUBRICANTS FOR EQUIPMENT ADDITIVES FOR SOIL STABILIZATION, PESTICIDES, FERTILIZERS, HERBICIDES, CRUSHED STONE, CONCRETE PRODUCTS, ASPHALT, TAR, METAL BUILDING MATERIALS, LUMBER, SHEET ROCK, FLOOR COVERINGS, ELECTRICAL WIRE AND FIXTURES, PAINTS/STAINS/FINISHING TREATMENTS, SOAPS, PAINT SOLVENTS, CLEANING SOLVENTS, PLASTICS AND METAL PIPES.

SPILL PREVENTION

PRACTICES SUCH AS GOOD HOUSEKEEPING, PROPER HANDLING OF HAZARDOUS PRODUCTS AND PROPER SPILL CONTROL PRACTICES WILL BE FOLLOWED TO REDUCE THE RISK OF SPILLS FROM DISCHARGING INTO STORM WATER RUNOFF.

GOOD HOUSEKEEPING

- QUANTITIES ONSITE WILL BE LIMITED TO THE AMOUNT NEEDED FOR THE JOB. PRODUCTS AND MATERIALS WILL BE STORED IN A NEAT, ORDERLY MANNER IN
- APPROPRIATE CONTAINERS PROTECTED FROM RAINFALL, WHERE POSSIBLE. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH MANUFACTURER'S
- LABELS LEGIBLE AND VISIBLE.
- PRODUCT MIXING, DISPOSAL, AND DISPOSAL OF PRODUCT CONTAINERS WILL BE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
- 5. THE CONTRACTOR WILL INSPECT SUCH MATERIALS TO ENSURE PROPER USE, STORAGE AND DISPOSAL.
- 6. THIS PERMIT DOES NOT AUTHORIZE THE DISCHARGE OF SOAPS OR SOLVENTS USED IN
- VEHICLE AND EQUIPMENT WASHING.
- THIS PERMIT DOES NOT AUTHORIZE THE DISCHARGE OF WASTEWATER FROM WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTIONS MATERIALS.

PRODUCT SPECIFIC PRACTICES

PETROLEUM BASED PRODUCTS- CONTAINERS FOR PRODUCTS SUCH AS FUELS, LUBRICANTS AND TARS WILL BE INSPECTED DAILY FOR LEAKS AND SPILLS. THIS INCLUDES ON-SITE VEHICLE AND MACHINERY INSPECTIONS AND REGULAR PREVENTATIVE MAINTENANCE FOR SUCH EQUIPMENT. EQUIPMENT MAINTENANCE AREAS WILL BE LOCATED AWAY FROM STATE WATER, NATURAL DRAINS AND STORM WATER DRAINAGE INLETS. IN ADDITION, TEMPORARY FUELING TANKS SHALL HAVE A SECONDARY CONTAINMENT LINER TO PREVENT/MINIMIZE SITE CONTAMINATION. DISCHARGE OF OILS, FUELS AND LUBRICANTS IS PROHIBITED. PROPER DISPOSAL METHODS WILL INCLUDE COLLECTION IN A SUITABLE CONTAINER AND DISPOSAL AS REQUIRED BY LOCAL AND STATE REGULATIONS. HAVE EQUIPMENT TO CONTAIN AND CLEAN UP PETROLEUM SPILLS IN FUEL STORAGE AREAS OR ON MAINTENANCE AND FUELING VEHICLES. STORE IN COVERED AREAS PROTECTED WITH DIKES. REGULARLY INSPECT FOR CRACKS OR LEAKAGE IN CONTAINERS/TANKS.

FERTILIZER/HERBICIDES/PESTICIDES/DETERGENTS- THESE WILL BE APPLIED AT RATES THAT DO NOT EXCEED THE MANUFACTURER'S SPECIFICATIONS OR ABOVE THE GUIDELINES SET FORTH IN THE CROP ESTABLISHMENT OR IN THE GSWCC MANUAL FOR EROSION AND SEDIMENTATION CONTROL IN GEORGIA. ANY STORAGE OF THESE MATERIALS WILL BE UNDER ROOF IN SEALED CONTAINERS. DO NOT DISCHARGE WASH WATER INTO STORM WATER SYSTEM. INSTALL CURBS OR DIKES AROUND STORAGE AREA TO PROTECT AGAINST SPILLS. LIMIT USE OF DETERGENTS ON-SITE.

PAINTS/FINISHES/SOLVENTS- ALL PRODUCTS WILL BE STORED IN TIGHTLY SEALED ORIGINAL CONTAINERS WHEN NOT IN USE. EXCESS PRODUCT WILL NOT BE DISCHARGED TO THE STORM WATER COLLECTION SYSTEM. EXCESS PRODUCT, MATERIALS USED WITH THESE PRODUCTS AND PRODUCT CONTAINERS WILL BE DISPOSED OF ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

BUILDING MATERIALS- NO BUILDING OR CONSTRUCTION MATERIALS WILL BE BURIED OR DISPOSED OF ONSITE. ALL SUCH MATERIAL WILL BE DISPOSED OF IN PROPER WASTE DISPOSAL PROCEDURES.

SPILL CLEANUP AND CONTROL PRACTICES #25

- LOCAL, STATE AND MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND PROCEDURES WILL BE MADE AVAILABLE TO SITE PERSONNEL. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE
- MATERIAL STORAGE AREAS. TYPICAL MATERIALS AND EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO, BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, CAT LITTER, SAND, SAWDUST, AND PROPERLY LABELED PLASTIC AND MEAL WASTE CONTAINERS.
- SPILL PREVENTION PRACTICES AND PROCEDURES WILL BE REVIEWED AFTER A SPILL AND ADJUSTED AS NECESSARY TO PREVENT FUTURE SPILLS.
- FOR SPILLS THAT IMPACT SURFACE WATER (LEAVE A SHEEN ON SURFACE WATER), THE NATIONAL RESPONSE CENTER (NRC) WILL BE CONTACTED WITHIN 24 HOURS AT I-800-424-8802.
- FOR SPILLS OF AN UNKNOWN AMOUNT, THE NATIONAL CENTER (NRC) WILL BE CONTACTED WITHIN 24 HOURS
- FOR SPILLS GREATER THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE GEORGIA EPD WILL BE CONTACTED WITHIN 24 HOURS.
- FOR SPILLS LESS THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE SPILL WILL BE CLEANED UP AND LOCAL AGENCIES WILL BE CONTACTED AS REQUIRED.

COMPLIANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS

THE CONTRACTOR WILL OBTAIN COPIES OF ANY AND ALL LOCAL AND STATE REGULATIONS THAT ARE APPLICABLE TO STORM WATER MANAGEMENT, EROSION CONTROL, AND POLLUTION MINIMIZATION AT THIS JOB SITE AND WILL COMPLY FULLY WITH SUCH REGULATIONS. THE CONTRACTOR WILL SUBMIT WRITTEN EVIDENCE OF SUCH COMPLIANCE IF REQUESTED BY THE OWNER OR ANY AGENCY OF A REGULATORY BODY. THE CONTRACTOR WILL COMPLY WITH ALL CONDITIONS OF ANY AND ALL LOCAL, STATE AND FEDERAL AGENCIES THAT HAVE GOVERNING AUTHORITY, INCLUDING THE CONDITIONS RELATED TO MAINTAINING THE ESPCP AND EVIDENCE OF COMPLIANCE WITH THE ESPCP AT THE JOB SITE AND ALLOWING REGULATORY PERSONNEL ACCESS TO THE JOB SITE AND TO RECORDS IN ORDER TO DETERMINE COMPLIANCE.

LIME RATES AND ANALYSIS

* AGRICULTURAL LIME SHALL BE APPLIED AT THE RATE OF ONE TO TWO TONS PER ACRE UNLESS SOIL TESTS INDICATE OTHERWISE. GRADED AREAS REQUIRE LIME APPLICATION. IF LIME IS APPLIED WITHIN SIX MONTHS OF PLANTING PERMANENT PERENNIAL VEGETATION, ADDITIONAL LIME IS NOT REQUIRED. AGRICULTURAL LIME SHALL BE WITHIN THE SPECIFICATIONS OF THE GEORGIA DEPARTMENT OF AGRICULTURE.

MULCHING (MULCHING IS REQUIRED FOR ALL PERMANENT VEGETATION APPLICATIONS. MULCH APPLIED TO SEEDED AREAS SHALL ACHIEVE 75% SOIL COVER. SELECT THE MULCHING MATERIAL FROM THE FOLLOWING AND APPLY AS INDICATED:

* DRY STRAW OR DRY HAY OF GOOD QUALITY AND FREE OF WEED SEEDS CAN BE USED DRY STRAW SHALL BE APPLIED AT THE RATE OF TWO TONS PER ACRE. DRY HAY SHALL BE APPLIED AT THE RATE OF 2 1/2 TONS PER ACRE.

* WOOD CELLULOSE MULCH OR WOOD PULP FIBER SHALL BE USED WITH HYDRAULIC SEEDING. IT SHALL BE APPLIED AT A RATE OF 500 POUNDS PER ACRE. DRY STRAW OR DRY HAY SHALL BE APPLIED (AT THE RATE INDICATED BELOW) AFTER HYDRAULIC SEEDING. * ONE THOUSAND POUNDS OF WOOD CELLULOSE OR WOOD PULP FIBER, WHICH INCLUDES TACKIFIER, SHALL BE USED WITH HYDRAULIC SEEDING ON SLOPES 4:1 OR STEEPER. * SERICEA LESPEDEZA HAY CONTAINING MATURE SEED SHALL BE APPLIED AT A RATE OF

3 TONS PER ACRE. * PINE STRAW OR PINE BARK SHALL BE APPLIED AT A THICKNESS OF 3 INCHES FOR BEDDING PURPOSES. OTHER SUITABLE MATERIALS IN SUFFICIENT QUANTITY MAY BE USED WHERE ORNAMENTALS OR OTHER GROUND COVERS ARE PLANTED. THIS IS NOT APPROPRIATE FOR SEEDED AREAS.

* WHEN USING TEMPORARY EROSION CONTROL BLANKETS OR BLACK SOD, MULCH IS NO REQUIRED.

OWNER/OPERATOR'S CERTIFICATION:

I CERTIFY THAT THE RECEIVING WATER(S) OR THE OUTFALL(S) OR A COMBINATION OF RECEIVING WATER(S) AND OUTFALL(S) WILL BE MONITORED IN ACCORDANCE WITH THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN.

2. I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THAT THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN (PLAN) WAS PREPARED BY A DESIGN PROFESSIONAL, AS DEFINED BY THIS PERMIT, THAT HAS COMPLETED THE APPROPRIATE CERTIFICATION COURSE APPROVED BY THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION IN ACCORDANCE WITH THE PROVISIONS OF O.C.G.A. 12-7-19 AND THAT I WILL ADHERE TO THE PLAN AND COMPLY WITH ALL PERMIT REQUIREMENTS.

OWNERS PRINTED NAME	TITLE	

DATE**SIGNATURE**

DESIGN PROFESSIONAL CERTIFICATION:

||f| 1. "I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATIONS DESCRIBED HEREIN BY MYSELF OR MY AUTHORIZED AGENT, UNDER MY SUPERVISION."

GSWCC LEVEL II DESIGN PROFESSIONAL- FRED SORORIAN, PE

INITIAL DATE: JUNE 19, 2020 | #7 |

0000012474

01/20/2022

CERTIFICATION # EXPIRATION DATE

#2

ENGINEER'S NAME (PRINTED): FRED SORORIAN, PE

GA PE NUMBER: 26741

GSWCC LEVEL II CERTIFICATION NUMBER: 0000012474 CERTIFICATION NUMBER EXPIRATION DATE: 01/20/2022

THESE DEFICIENCIES MUST BE ADDRESSED IMMEDIATELY AND A RE-INSPECTION SCHEDULED. WORK SHALL NOT PROCEED ON THE SITE UNTIL DESIGN PROFESSIONAL CERTIFICATION IS OBTAINED.

SECONDARY PERMITTEES

SECONDARY PERMITTEES SIGN WHEN RECEIVING PLANS. ALL SECONDARY PERMITTEES MUST SUBMIT SECONDARY NOI AT

SIGNATURE

SIGNATURE

SIGNATURE

SIGNATURE

CERTIFICATION #

NOTE: THIS MASTER LIST TO BE COMPLETED AND SIGNED AND KEPT IN THE "ON-SITE" CONSTRUCTION TRAILER.

PHONE:

PHONE:

PHONE:

FAX:

FAX:

I CERTIFY THE INITIAL SEDIMENT STORAGE AND PERIMETER CONTROL BMPS HAVE BEEN INSTALLED AND ARE BEING

DESIGN PROFESSIONAL 7-DAY VISIT CERTIFICATION

INSPECTION REVEALED THE FOLLOWING DISCREPANCIES FROM THE ES&PC PLAN

MAINTAINED AS DESIGNED AS OF 7 DAYS AFTER INSTALLATION.

FAX:

FAX:

LEAST 14 DAYS PRIOR TO BEGINNEING CONSTRUCTION ACTIVITY.

NAME

COMPANY

ADDRESS

ADDRESS

COMPANY

ADDRESS

ADDRESS

NAME

COMPANY

ADDRESS

ADDRESS

NAME

COMPANY

ADDRESS

ADDRESS

DATE OF INSPECTION

GSWCC LEVEL IA CERTIFICATION NO.

GSWCC LEVEL II DESIGN PROFESSIONAL

LIME RATES AND ANALYSIS

* AGRICULTURAL LIME SHALL BE APPLIED AT THE RATE OF ONE TO TWO TONS PER ACRE UNLESS SOIL TESTS INDICATE OTHERWISE. GRADED AREAS REQUIRE LIME APPLICATION. IF LIME IS APPLIED WITHIN SIX MONTHS OF PLANTING PERMANENT PERENNIAL VEGETATION, ADDITIONAL LIME IS NOT REQUIRED. AGRICULTURAL LIME SHALL BE WITHIN THE SPECIFICATIONS OF THE GEORGIA DEPARTMENT OF AGRICULTURE.

MULCHING (MULCHING IS REQUIRED FOR ALL PERMANENT VEGETATION APPLICATIONS. MULCH APPLIED TO SEEDED AREAS SHALL ACHIEVE 75% SOIL COVER. SELECT THE MULCHING MATERIAL FROM THE FOLLOWING AND APPLY AS INDICATED:

* DRY STRAW OR DRY HAY OF GOOD QUALITY AND FREE OF WEED SEEDS CAN BE USED DRY STRAW SHALL BE APPLIED AT THE RATE OF TWO TONS PER ACRE. DRY HAY SHALL BE APPLIED AT THE RATE OF 2 1/2 TONS PER ACRE.

* WOOD CELLULOSE MULCH OR WOOD PULP FIBER SHALL BE USED WITH HYDRAULIC SEEDING. IT SHALL BE APPLIED AT A RATE OF 500 POUNDS PER ACRE. DRY STRAW OR DRY HAY SHALL BE APPLIED (AT THE RATE INDICATED BELOW) AFTER HYDRAULIC SEEDING.

* ONE THOUSAND POUNDS OF WOOD CELLULOSE OR WOOD PULP FIBER, WHICH INCLUDES TACKIFIER, SHALL BE USED WITH HYDRAULIC SEEDING ON SLOPES 4:1 OR STEEPER. * SERICEA LESPEDEZA HAY CONTAINING MATURE SEED SHALL BE APPLIED AT A RATE OF 3

TONS PER ACRE. * PINE STRAW OR PINE BARK SHALL BE APPLIED AT A THICKNESS OF 3 INCHES FOR BEDDING PURPOSES. OTHER SUITABLE MATERIALS IN SUFFICIENT QUANTITY MAY BE USED WHERE ORNAMENTALS OR OTHER GROUND COVERS ARE PLANTED. THIS IS NOT APPROPRIATE

* WHEN USING TEMPORARY EROSION CONTROL BLANKETS OR BLACK SOD, MULCH IS NO REQUIRED.

FERTILIZER REQUIREMENTS #52

TYPE OF SPECIES	YEAR	ANALYSIS OR EQUIVALENT N-P-K	RATE	N TOP DRESSING RATE
I. COOL SEASON GRASSES	FIRST SECOND MAINTENANCE	6-12-12 6-12-12 10-10-10	1500lbs./ac. 1000lbs./ac. 400 lbs./ac.	50-100 lbs./ac. - 30 * 182
2. COOL SEASON GRASSES AND LEGUMES	FIRST SECOND MAINTENANCE	6-I2-I2 0-I0-I0 0-I0-I0	1500lbs./ac. 1000lbs./ac. 400 lbs./ac.	50-100 lbs./ac. * I - -
3. GROUND COVERS	FIRST SECOND MAINTENANCE	10-10-10 10-10-10 10-10-10	300 bs./ac. * 3 300 bs./ac. * 3 100 bs./ac.	- - -
4. PINE SEEDLINGS	FIRST	20-10-5	ONE 21-GRAM PELLET PER SEEDLING PLACED IN THE CLOSING HOLE	-
5. SHRUB LESPEDEZA	FIRST MAINTENANCE	0-10-10 0-10-10	700lbs./ac. 700lbs./ac. * 4	-
6. TEMPORARY COVER CROPS SEEDED ALONE	FIRST	10-10-10	500lbs./ac.	30 lbs./ac. * 5
7. WARM SEASON GRASSES	FIRST SECOND MAINTENANCE	6-12-12 6-12-12 10-10-10	1500lbs./ac. 800lbs./ac. 400 lbs./ac.	50-100 lbs./ac. * 286 50-100 lbs./ac. 30 lbs./ac. * 2
8. WARM SEASON GRASSES AND LEGUMES	FIRST SECOND MAINTENANCE	6-I2-I2 0-I0-I0 0-I0-I0	1500lbs./ac. 1000lbs./ac. 400 lbs./ac.	50-100 lbs./ac. * 6

- * 1 APPLY IN SPRING FOLLOWING SEEDING.
- * 2 APPLY IN SPLIT APPLICATIONS WHEN HIGH RATES ARE USED.
- * 3 APPLY IN 3 SPLIT APPLICATIONS.
- * 4 APPLY WHEN PLANTS ARE PRUNED. * 5APPLY TO GRASS SPECIES ONLY.
- * 6 APPLY WHEN PLANTS GROW TO A HEIGHT OF 2 TO 4 INCHES.

Z

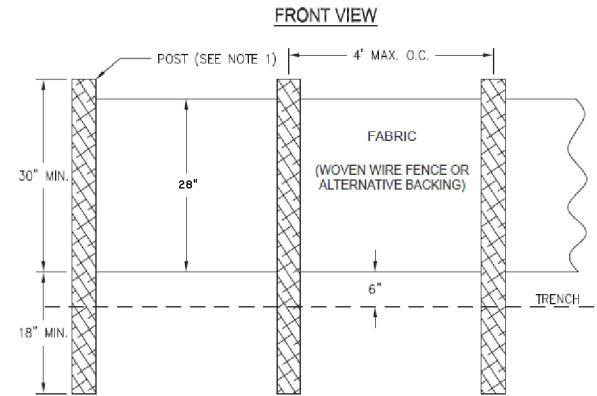
 \triangleleft S 0 0 8 NNO SSIC

FING

DRAWN: DESIGNED: MCF

REVIEWED: MCF

APPROVED: ACS

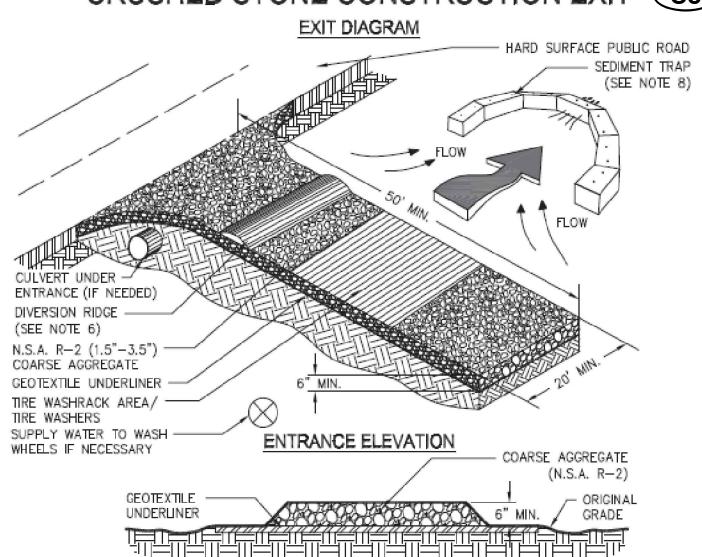


1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION,

AND POLLUTION CONTROL PLAN.

2. HEIGHT (*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

CRUSHED STONE CONSTRUCTION EXIT (Co)



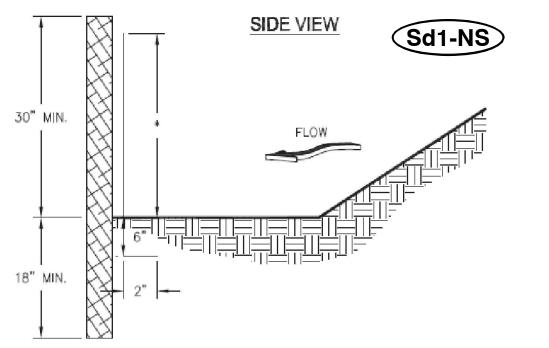
NOTES:

- AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
 REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
- AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
 GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6".
- PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
 A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PAVED AREA IS GREATER THAN 2%.
- 7. INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES.

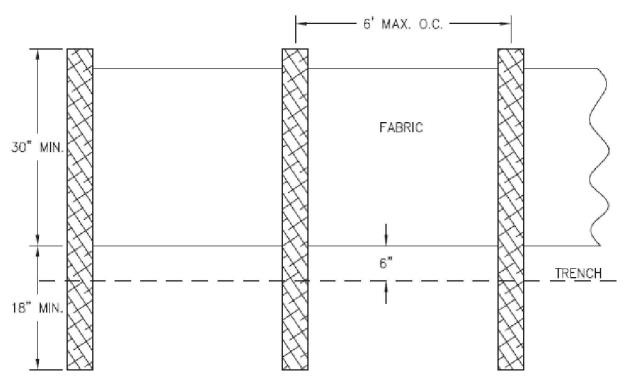
 8. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN (DIVERT ALL SURFACE RUNOFF AND
- DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE).

 9. WASHRACKS AND/OR TIRE WASHERS MAY BE REQUIRED DEPENDING ON SCALE AND CIRCUMSTANCE. IF NECESSARY, WASHRACK DESIGN MAY CONSIST OF ANY MATERIAL SUITABLE FOR TRUCK TRAFFIC THAT REMOVE MUD AND DIRT.
- 10. MAINTAIN AREA IN A WAY THAT PREVENTS TRACKING AND/OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

SILT FENCE - TYPE NON-SENSITIVE



FRONT VIEW



NOTES:

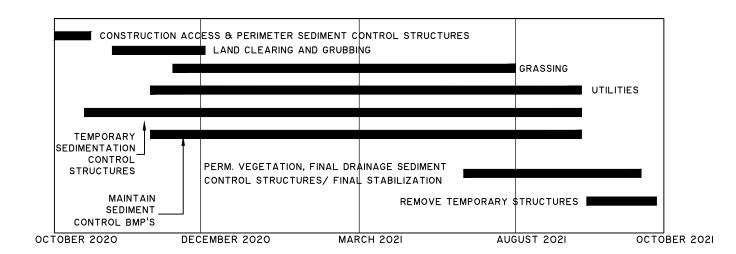
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

HEIGHT (*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

TYPICAL STRAW BALE CHECK DAM PLAN SEE DETAIL FOR PLACEMENT OF BALE R.CW SECTION A-A SECTION A-A SECTION B-B NOTES: 1. BRIES SHOULD BE BOUND WITH WIRF OR NYLON STRING AND SHOULD BE PLACED IN ROWS WITH BALE ENDS TIGHLY ABUTING HE ADJACENT BALES. 2. SELECTION B-B SHOULD BLANTS HE ADJACENT BALES. 3. POINT C OF SECTION B-B SHOULD ALVANTS BE HIGHER THAN POINT D.

INITIAL DATE: JUNE 19, 2020

#7



#29

CONSIDERATIONS FOR CONSTRUCTION SCHEDULING

A SPECIFIED WORK SCHEDULE IS NEEDED TO COORDINATE THE TIMING OF LAND DISTURBING ACTIVITIES WITH THE INSTALLATION OF EROSION AND SEDIMENTATION CONTROL MEASURES.

THE PURPOSE OF THE SCHEDULE IS TO REDUCE ON-SITE EROSION AND OFF-SITE SEDIMENTATION BY PERFORMING LAND DISTURBING ACTIVITIES AND INSTALLING EROSION AND SEDIMENTATION CONTROL PRACTICES IN ACCORDANCE WITH A PLANNED SCHEDULE.

IN PLANNING CONSTRUCTION WORK, IT MAY BE HELPFUL TO OUTLINE ALL LAND DISTURBING ACTIVITIES NECESSARY TO COMPLETE THE PROPOSED PROJECT. THEN LIST ALL PRACTICES NEEDED TO CONTROL EROSION AND SEDIMENTATION ON THE SITE. THESE TWO LISTS CAN THEN BE COMBINED IN LOGICAL ORDER TO PROVIDE A PRACTICAL AND EFFECTIVE CONSTRUCTION SEQUENCE SCHEDULE THAT BECOMES PART OF THE EROSION AND SEDIMENTATION CONTROL PLAN.

CONSTRUCTION ACTIVITY	SCHEDULE CONSIDERATION
I. OBTAIN ALL PLAN APPROVALS AND OTHER APPLICABLE PERMITS.	
2. FLAG THE WORK LIMITS AND MARK THE TREES AND BUFFER AREAS FOR PROTECTION.	
3. HOLD PRE CONSTRUCTION CONFERENCE AT LEAST ONE WEEK PRIOR TO STARTING CONSTRUCTION.	
4. CONSTRUCTION ACCESS - CONSTRUCTION ENTRANCE, CONSTRUCTION ROUTES, EQUIPMENT PARKING AREAS.	FIRST LAND DISTURBING ACTIVITY STABILIZE BARE AREAS IMMEDIATELY WITH GRAVEL AND TEMPORARY VEGETATION AS CONSTRUCTION TAKES PLACE.
5. SEDIMENT TRAPS AND BARRIERS - BASIN TRAPS, SEDIMENT FENCES, AND OUTLET PROTECTION.	INSTALL PRINCIPAL BASINS AFTER CONSTRUCTION SITE IS ACCESSED. INSTALL ADDITIONAL TRAPS AND BARRIERS AS NEEDED DURING GRADING.
6. RUNOFF CONTROL - DIVERSIONS, PERIMETER DIKES, WATER BARS, AND OUTLET PROTECTION.	INSTALL KEY PRACTICES AFTER PRINCIPAL SEDIMENT TRAPS AND BEFORE LAND GRADING. INSTALL ADDITIONAL RUNOFF-CONTROL MEASURES DURING GRADING.
7. RUNOFF CONVEYANCE SYSTEM- STABILIZE STREAM BANKS, STORM DRAINS, CHANNELS, INLET AND OUTLET PROTECTION, SLOPE DRAINS.	WHERE NECESSARY, STABILIZE STREAM BANKS AS EARLY AS POSSIBLE. INSTALL PRINCIPAL RUNOFF CONVEYANCE SYSTEM WITH RUNOFF- CONTROL MEASURES. INSTALL REMAINDER OF SYSTEM AFTER GRADING.
8. LAND CLEARING AND GRADING-SITE PREPARATION CUTTING, FILLING AND GRADING, SEDIMENTATION TRAPS, BARRIERS, DIVERSIONS, DRAINS, SURFACE ROUGHENING.	BEGIN MAJOR CLEARING AND GRADING AFTER PRINCIPAL SEDIMENT AND KEY RUNOFF-CONTROL MEASURES ARE INSTALLED. CLEAR BORROW AND DISPOSAL AREAS ONLY AS NEEDED. INSTALL ADDITIONAL CONTROL MEASURES AS GRADING PROGRESSES. MARK TREES AND BUFFER AREAS FOR PRESERVATION.
9. SURFACE STABILIZATION-TEMPORARY AND PERMANENT SEEDING, MULCHING, SODDING, RIPRAP.	APPLY TEMPORARY OR PERMANENT STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS WHERE WORK IS DELAYED OR COMPLETE.
IO. BUILDING CONSTRUCTION- BUILDINGS UTILITIES, PAVING.	INSTALL NECESSARY EROSION AND SEDIMENTATION CONTROL PRACTICES AS WORK TAKES PLACE.
II. LANDSCAPING AND FINAL STABILIZATION - TOPSOILING, TREES AND SHRUBS, PERMANENT SEEDING, MULCHING, SODDING RIPRAP.	LAST CONSTRUCTION PHASESTABILIZE ALL OPEN AREAS, INCLUDING BORROW AND SPOIL AREAS. REMOVE AND STABILIZE ALL TEMPORARY CONTROL MEASURES.

PROFESSIONAL

ACTOR OF STERRY

ACTOR OF

FRED SORORIAN
GSWCC LEVEL II
PLAN REVIEWER
CERTIFICATION #
0000012474

O. REVISIONS BY DAT

HUTTONark of Commerce Way

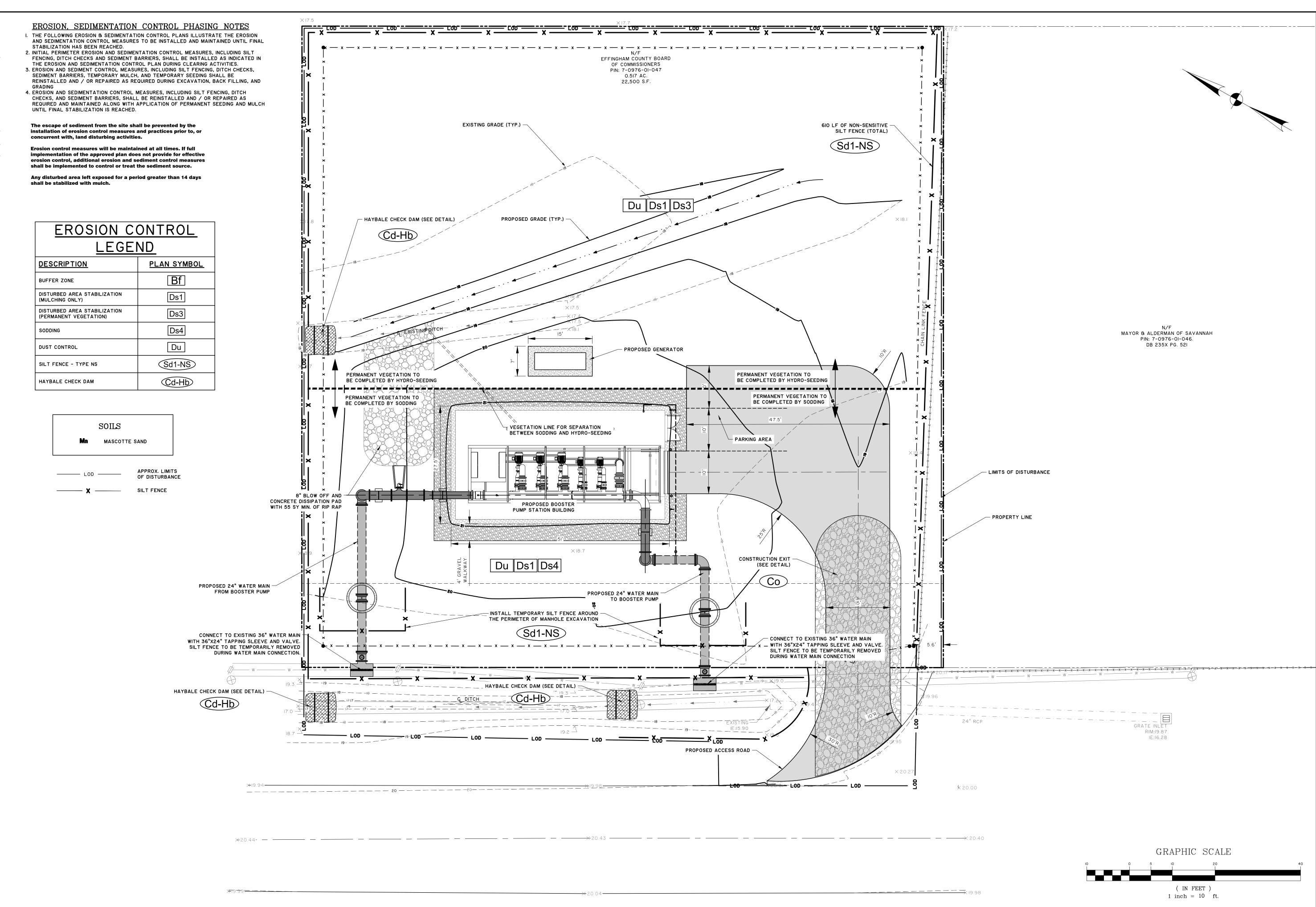
STER PUMP STAT

COMMISSIONERS
CHATHAM COUNTY, GA

EFFINGH/

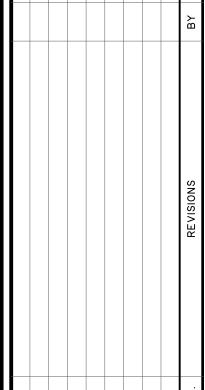
JOB NO: J-28378.00
DATE: 04/21/2020
DRAWN: EAC
DESIGNED: MCF
REVIEWED: MCF
APPROVED: ACS

FC1.3



GEORGI GEORSTERES PROFESSIONAL PROFESSIONAL PROFESSIONAL PROFESSIONAL PROFESSIONAL PROFESSIONAL





THOMAS THOTTON HUTTON

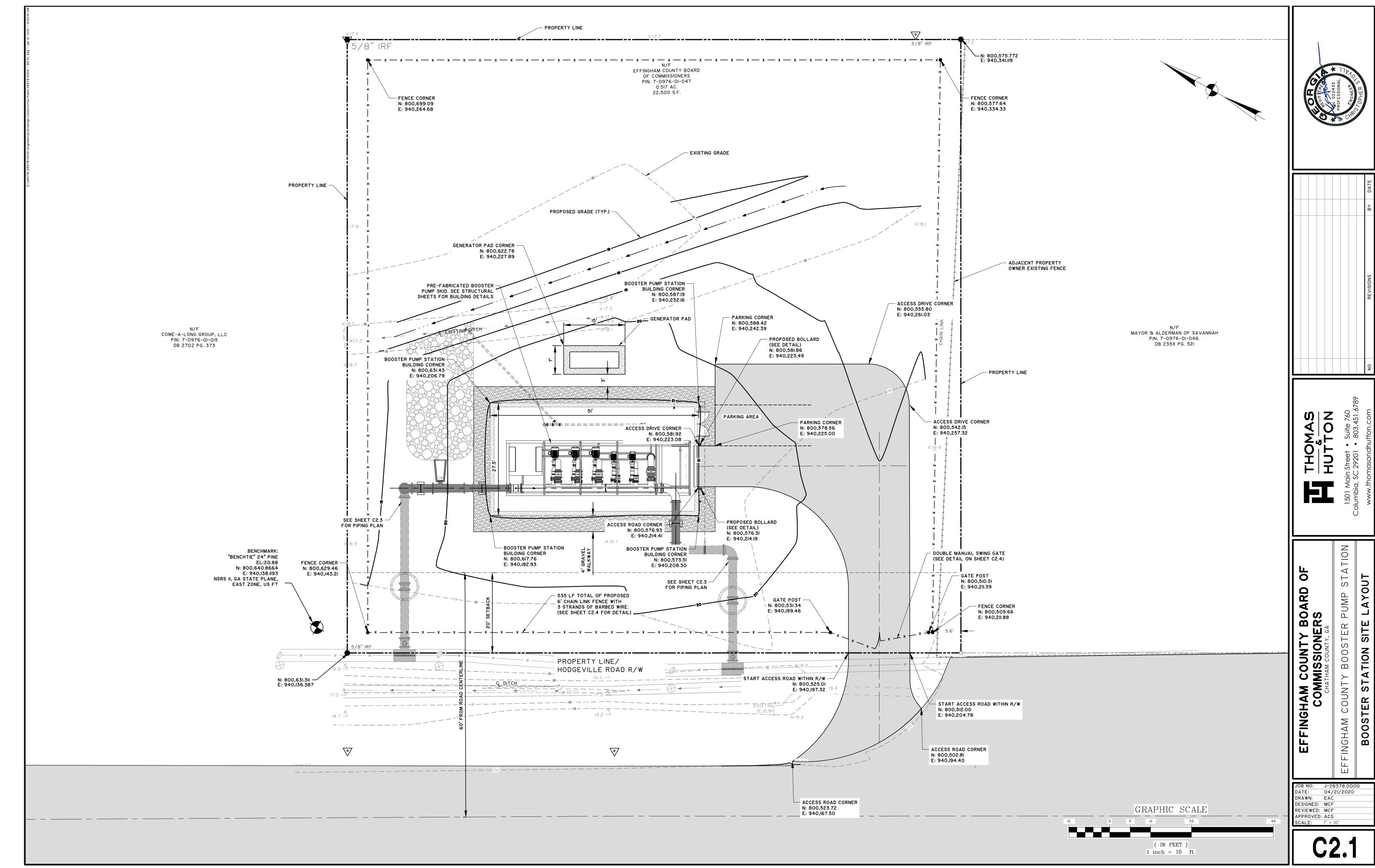
50 Park of Commer Savannah, GA 31405

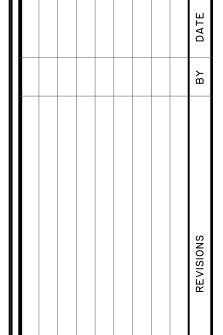
COUNTY BOARD OF
IMISSIONERS
ATHAM COUNTY, GA
TY BOOSTER PUMP STATIO

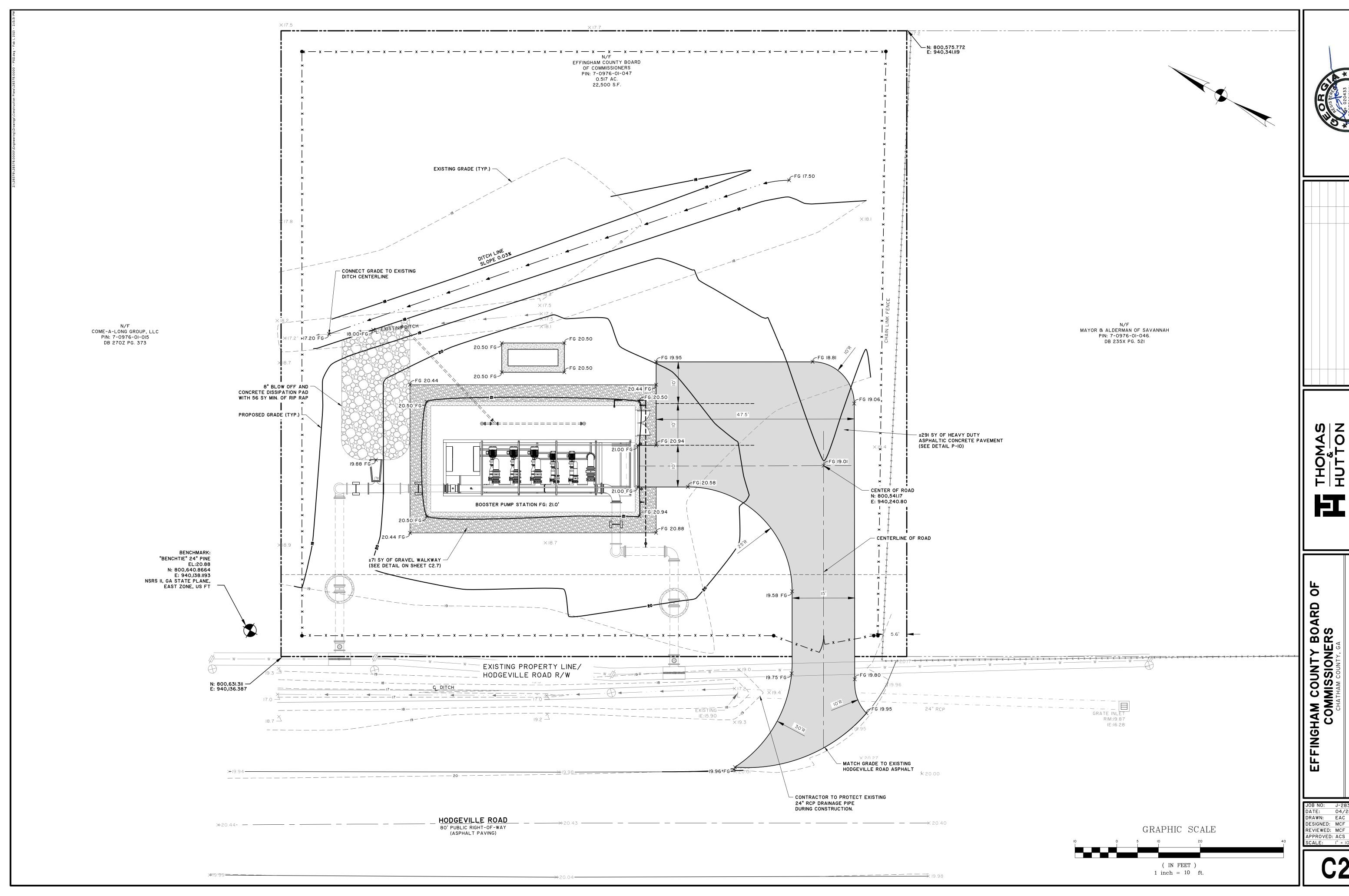
COMMISSIC CHATHAM COUNTY BODS

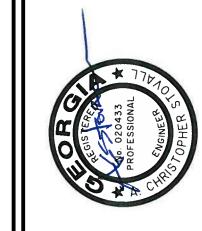
JOB NO: J-28378.00
DATE: 04/21/2020
DRAWN: EAC
DESIGNED: MCF
REVIEWED: MCF
APPROVED: ACS

EC2.1

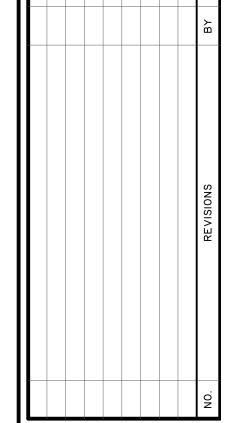




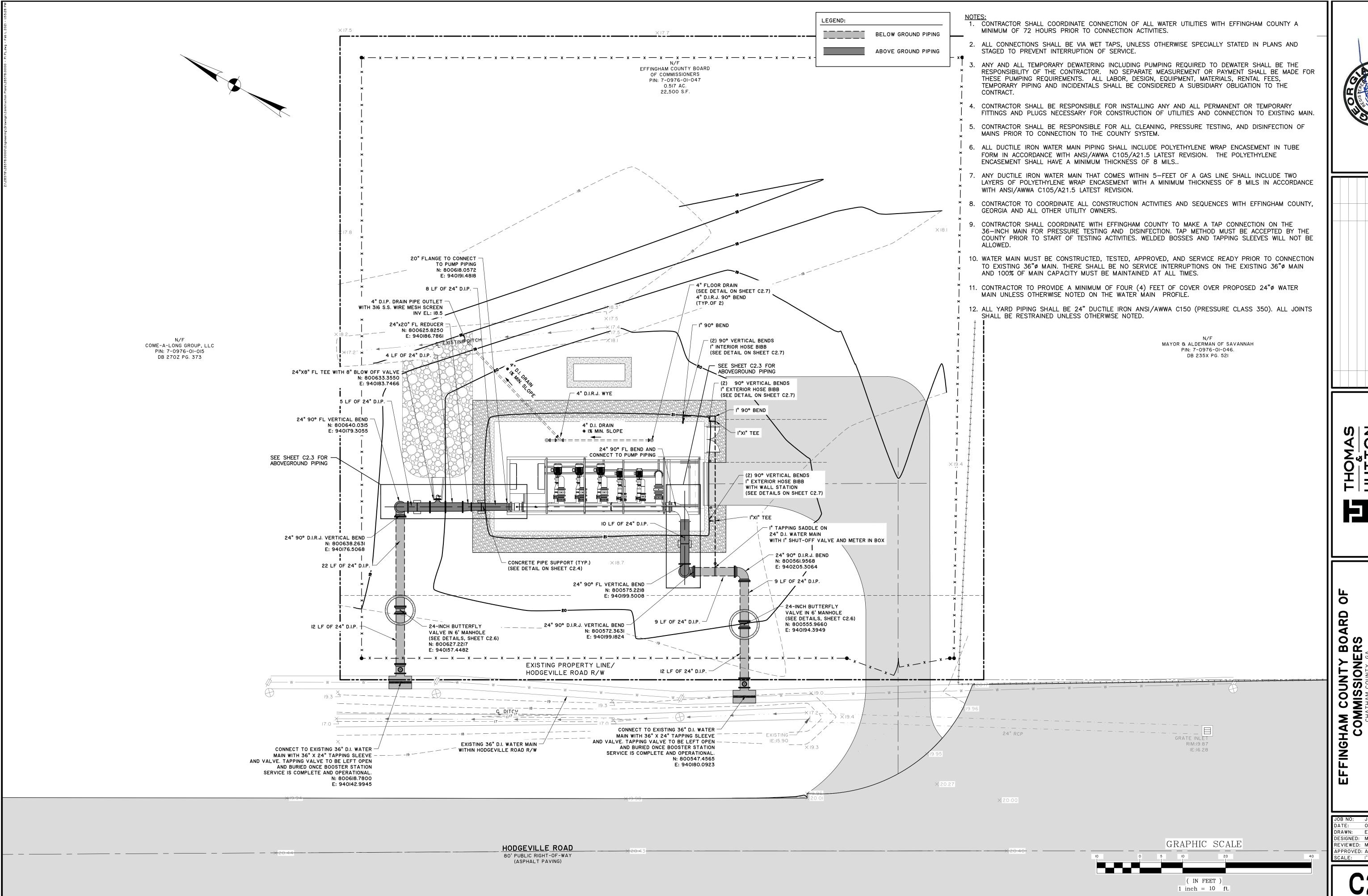








APPROVED: ACS



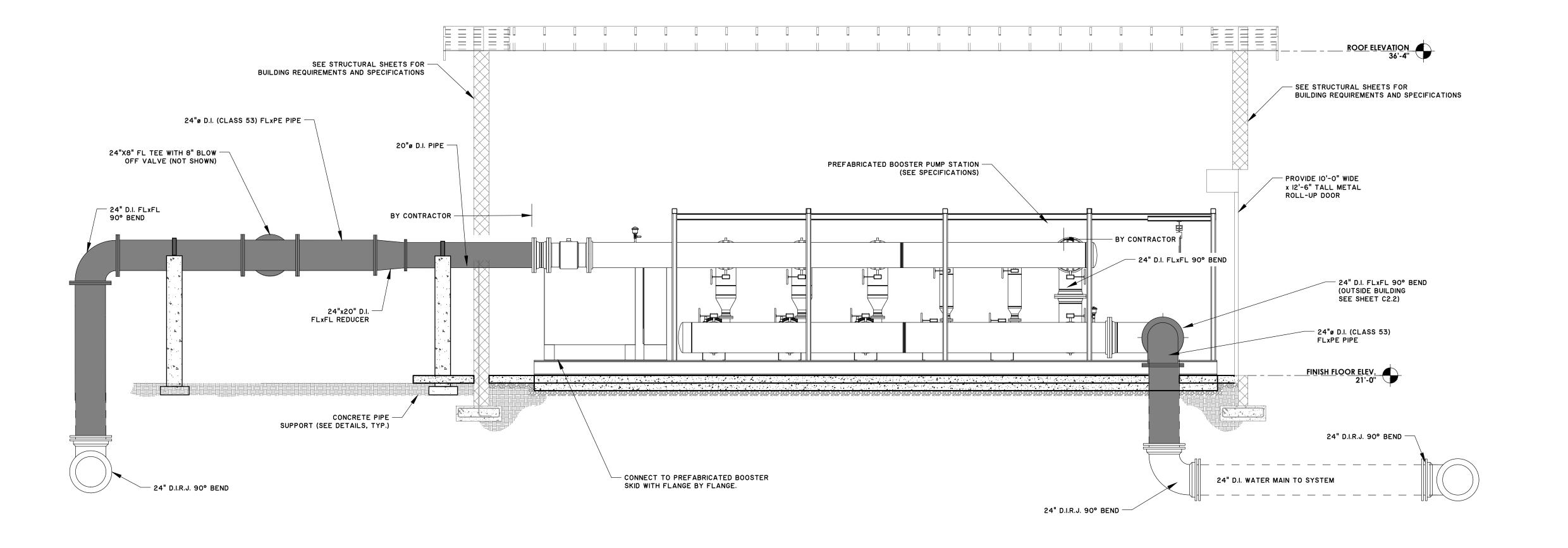


Z

S

ER S

DRAWN: EAC DESIGNED: MCF REVIEWED: MCF APPROVED: ACS



BOOSTER PUMP STATION SECTION VIEW

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

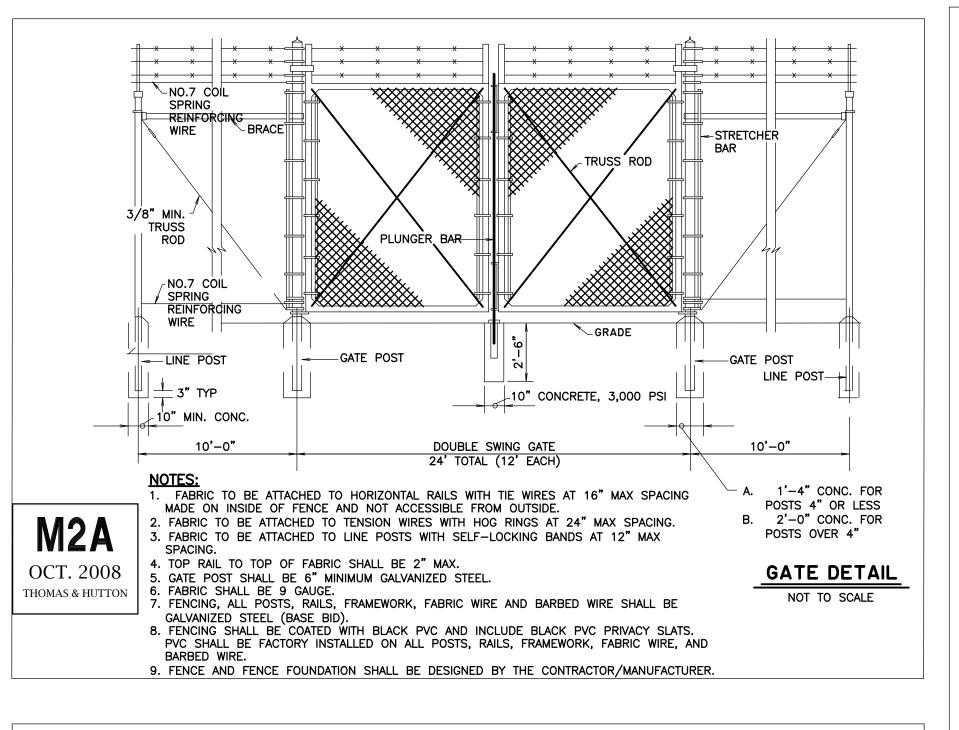
THOMAS HUTTON

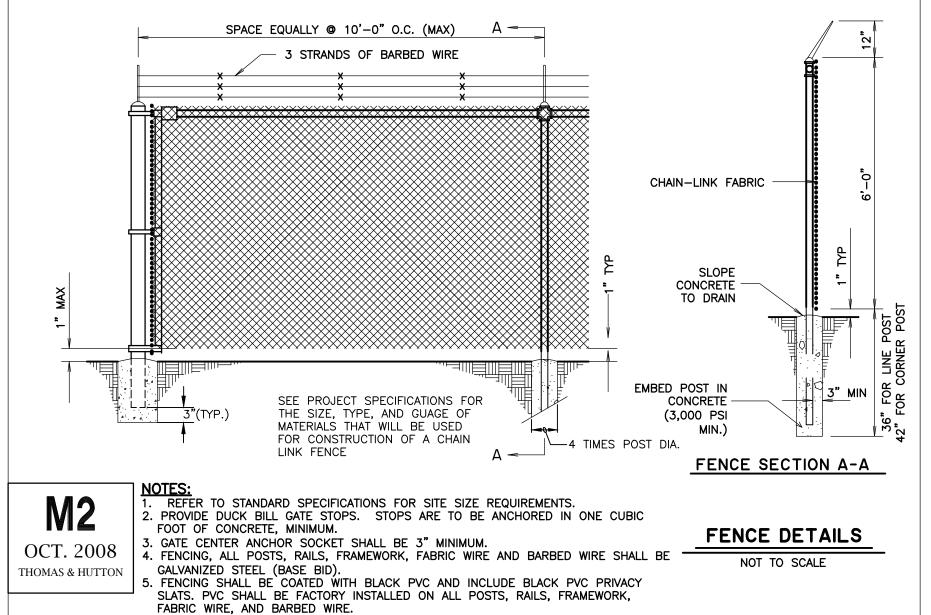
EFFINGHAM COUNTY BOOSTER PUMP STATION

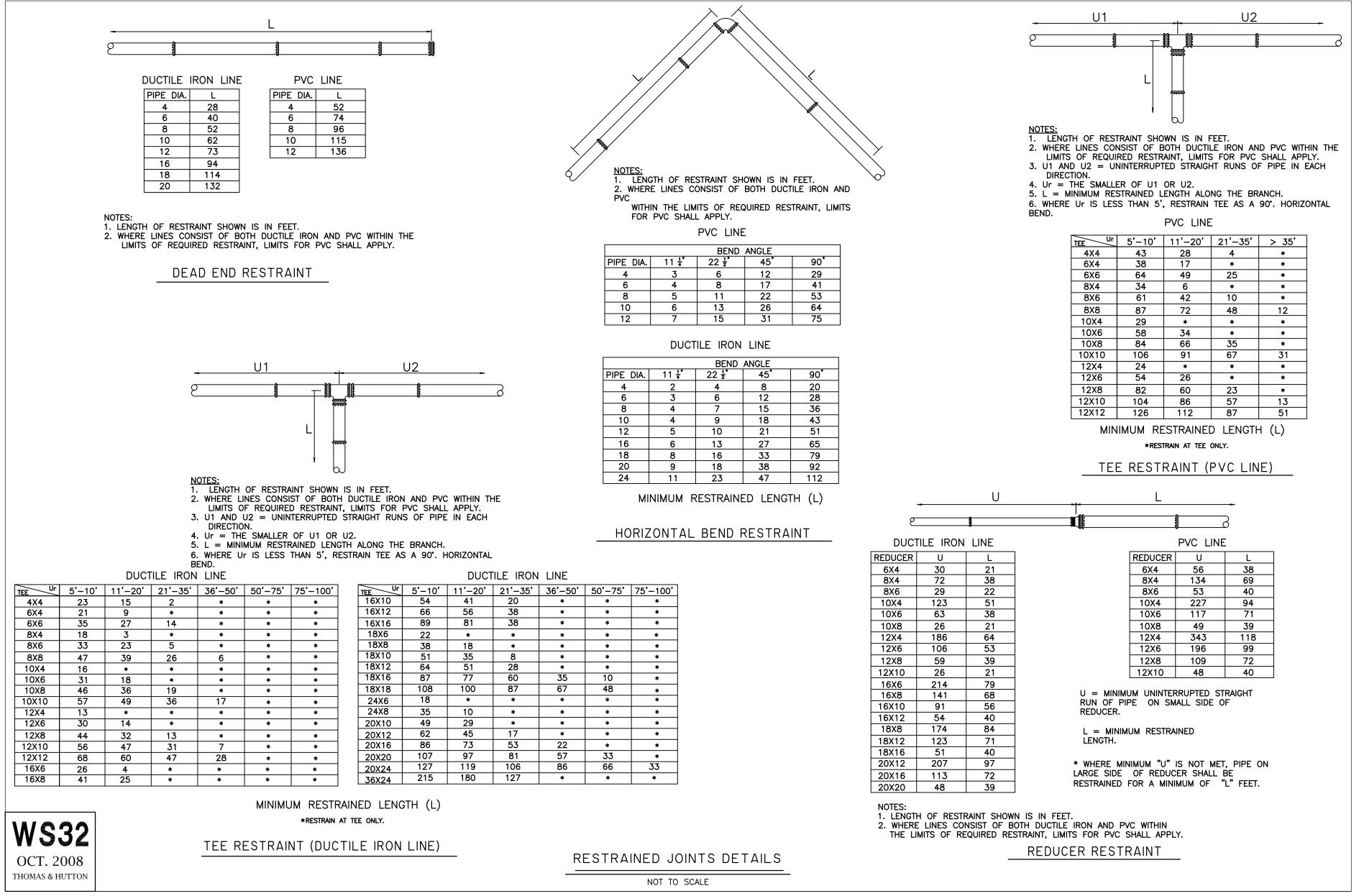
BOOSTER STATION SECTION VIEW

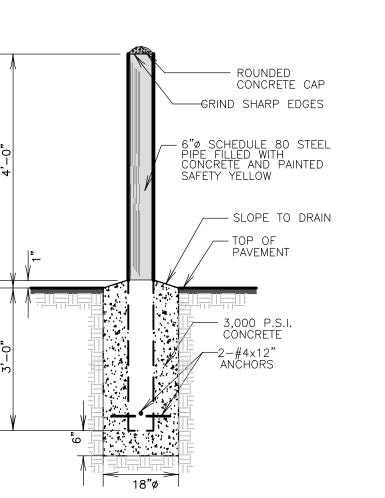
EFFINGHAM COUNTY BOARD OF COMMISSIONERS
CHATHAM COUNTY, GA

JOB NO: J-28378.0000
DATE: 04/21/2020
DRAWN: EAC
DESIGNED: MCF
REVIEWED: MCF
APPROVED: ACS
SCALE: 1/4" = 1'-0"

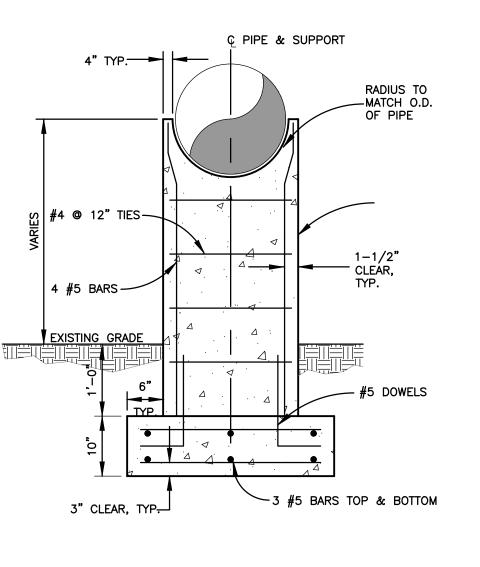




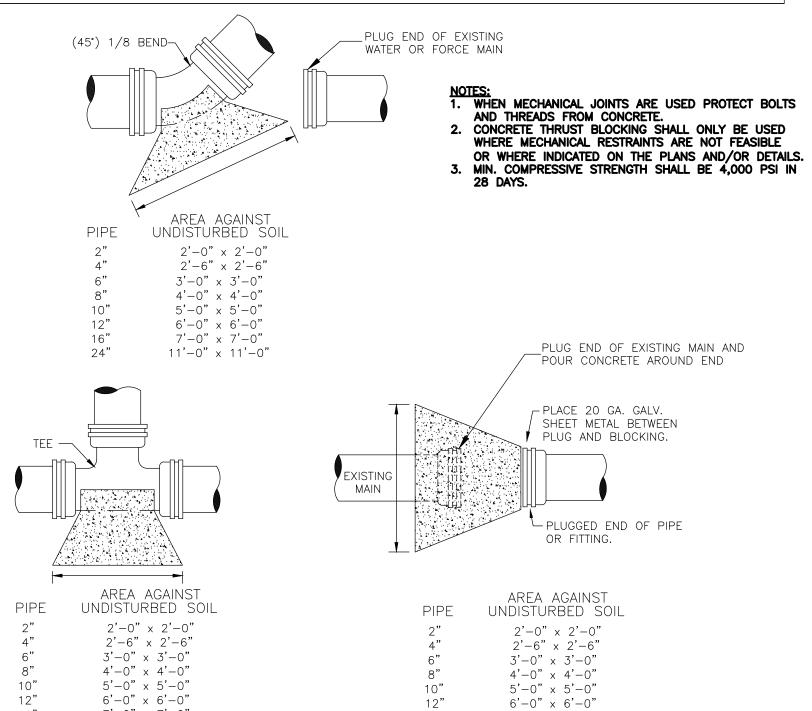








EXTERIOR PIER DETAIL



 $7'-0" \times 7'-0"$

 $11'-0" \times 11'-0"$

 $7'-0" \times 7'-0"$

 $11'-0" \times 11'-0"$

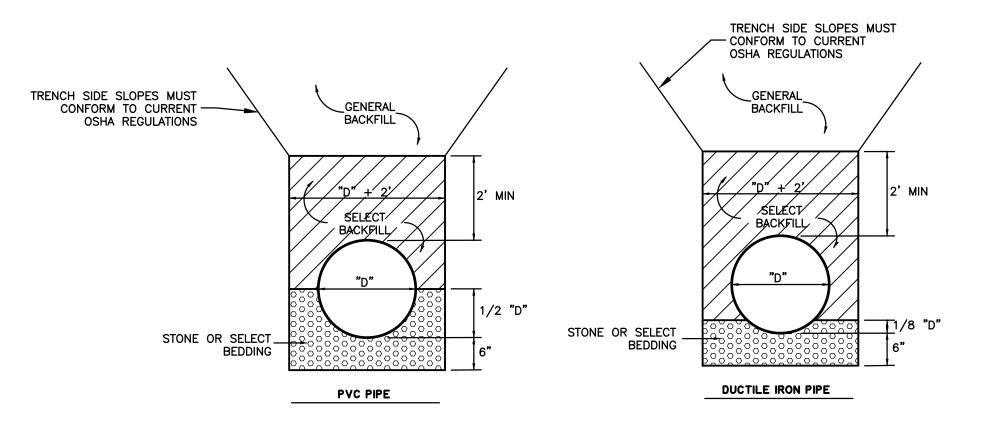


 $\mathbf{0} \mid \mathbf{Z}$ Ξ

 \triangleleft S PUMP BO, ERS \Box

FINGHAM COUNTY
COMMISSIONE
CHATHAM COUNTY, 6. DUNT \circ ВОС Ž

DRAWN: EAC DESIGNED: MCF REVIEWED: MCF APPROVED: ACS SCALE: N.T.S.

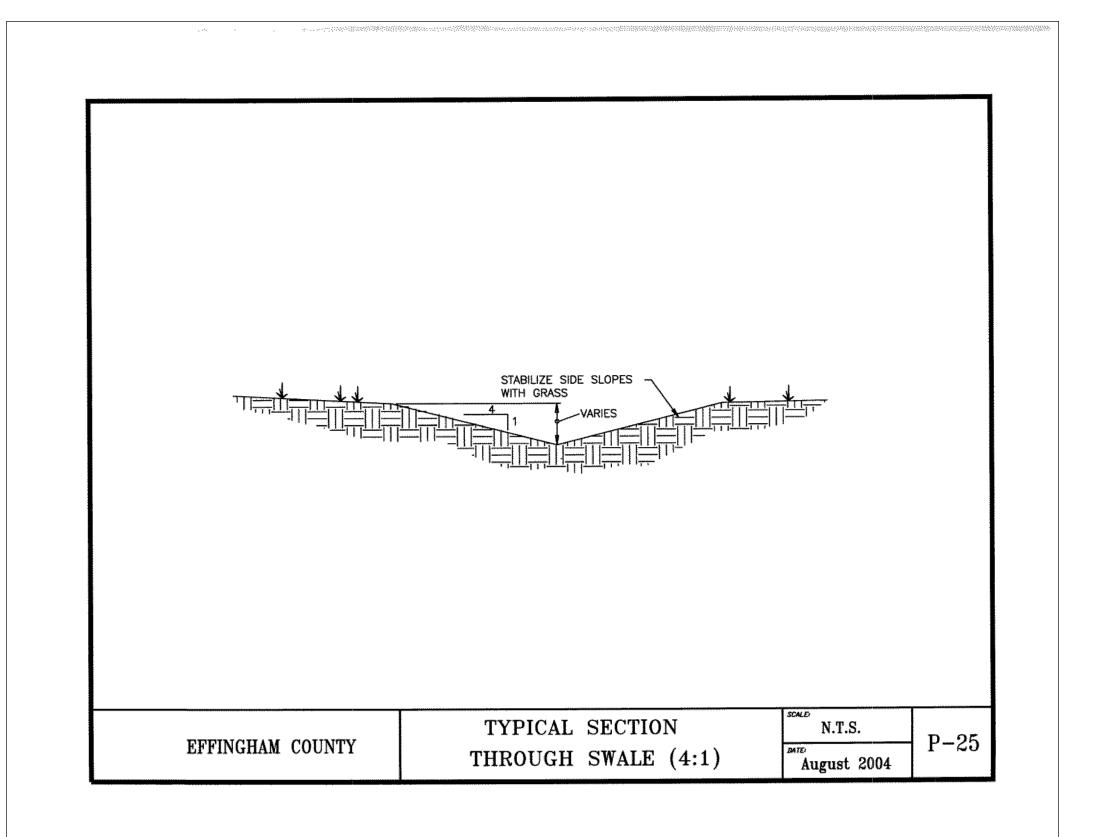


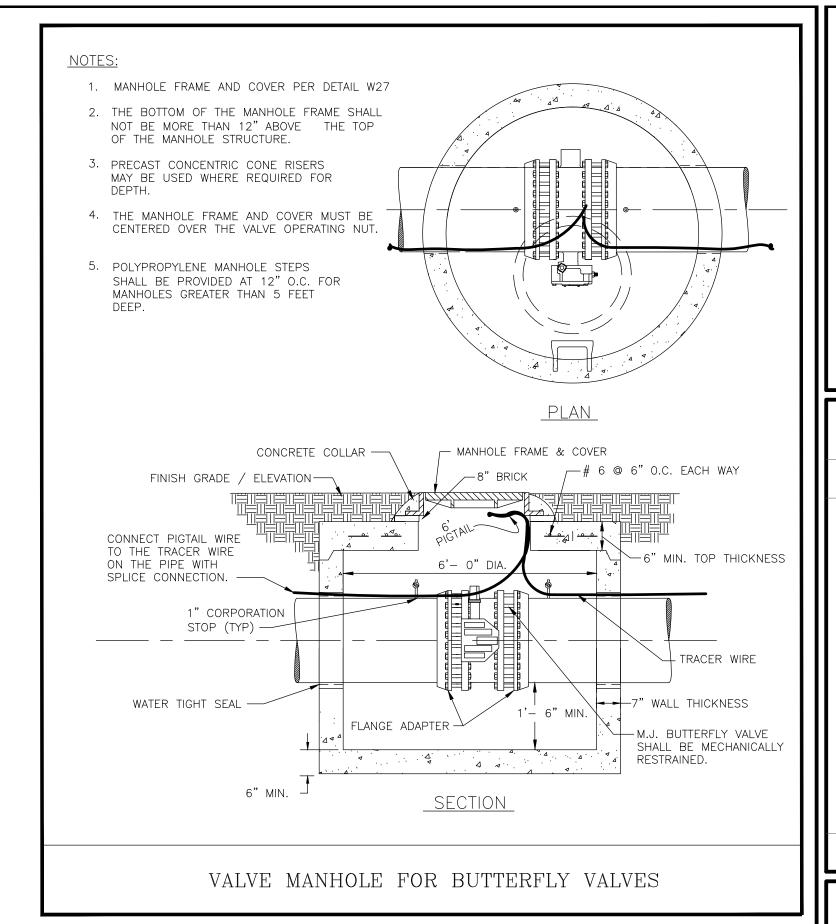
NOTES:

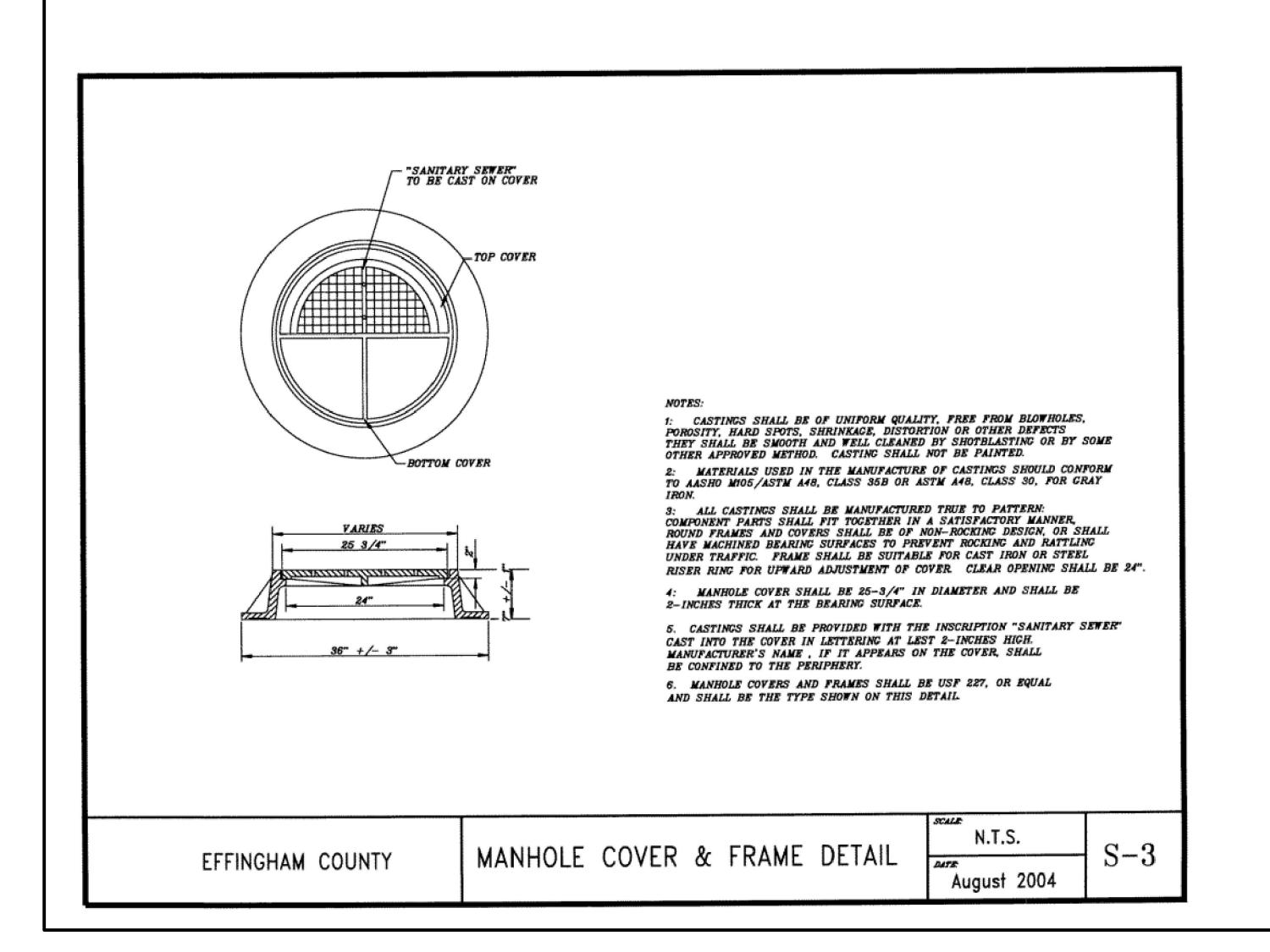
- 1. NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE FOR THE MINIMUM STONE AND SAND BEDDING AS SHOWN ON THE DETAILS. PAYMENT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR INSTALLING THE PIPING ASSOCIATED WITH THE BEDDING.
- 2. WHERE THE ENGINEER DETERMINES ADDITIONAL UNDERCUTTING AND STONE BACKFILL IS REQUIRED TO PROVIDE A STABLE SUBGRADE, IT SHALL BE PAID FOR AT THE COST OF REMOVING THE ADDITIONAL UNSUITABLE MATERIAL, BEYOND THAT SHOWN ON THE DETAILS, AND FURNISHING
- AND INSTALLING ADDITIONAL STONE BACKFILL.

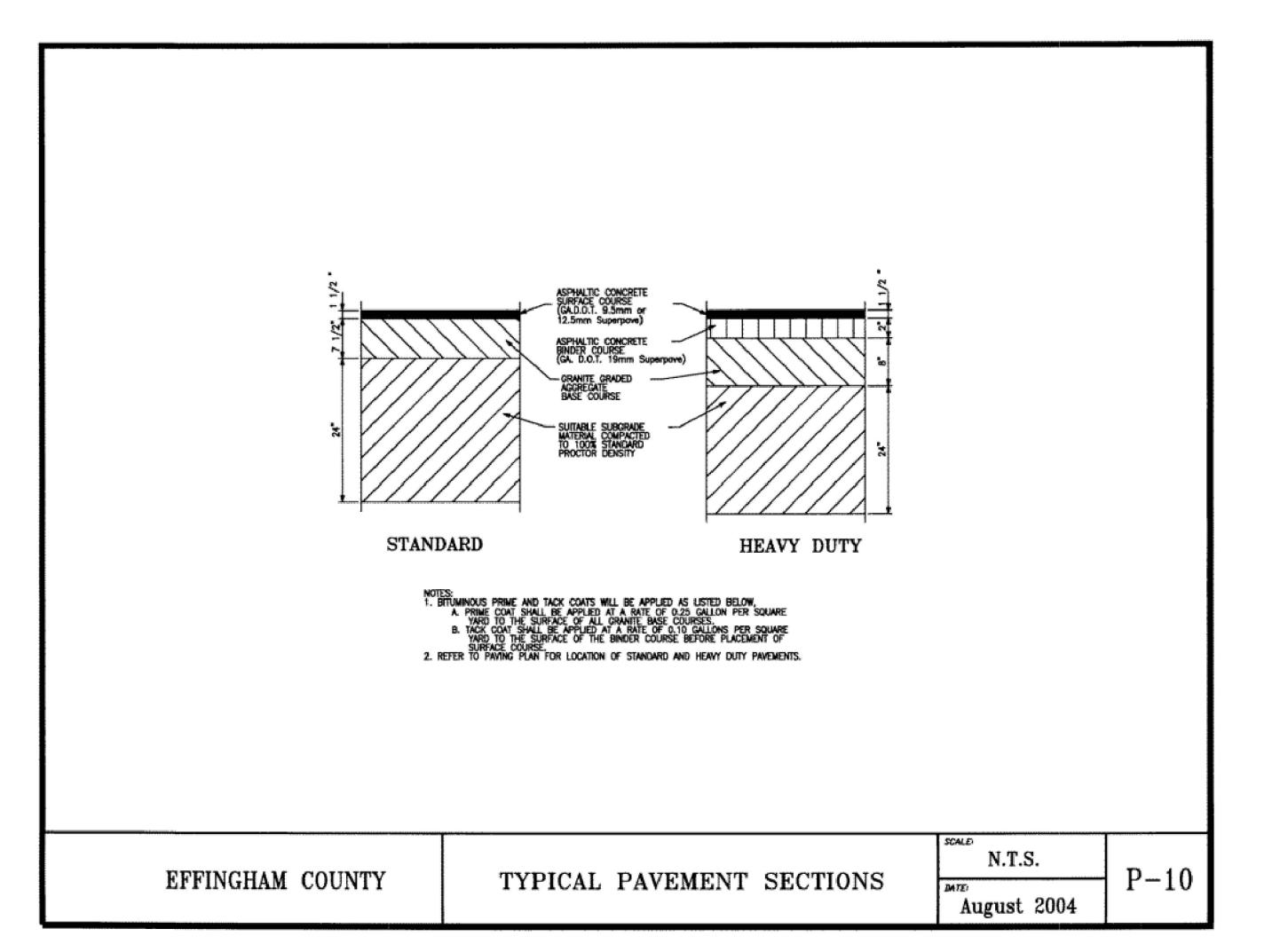
 3. BECAUSE THE AMOUNT OF ADDITIONAL UNDERCUTTING STONE BEDDING REQUIRED IN AREAS OF WEAK AND UNSTABLE SUBGRADEIS UNKNOWN, THE BID FORM INCLUDES 200 CUBIC YARDS (CY) OF STONE BEDDING, AND 200 CUBIC YARDS OF SAND BACKFILL IN ORDER TO ESTABLISH A UNIT PRICE FOR THESE ITEMS. NO PAYMENT FOR ADDITIONAL STONE OR SAND BACKFILL BEYOND THE QUANTITY SHOWN ON THE DETAILS SHALL BE PAID WITHOUT PRIOR WRITTEN APPROVAL OF LOCATION, QUANTITY, AND OVERALL PRICE BY ENGINEER.
- 4. NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE FOR THE EXCAVATION, REMOVAL, AND DISPOSAL OF MATERIAL DEEMED UNSUITABLE FOR GENERAL BACKFILL, AND SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR INSTALLING THE PIPING ASSOCIATED WITH THE BACKFILL OPERATION.

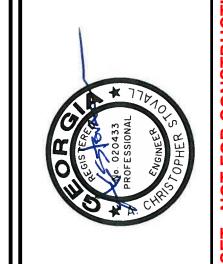
PIPE BEDDING DETAIL

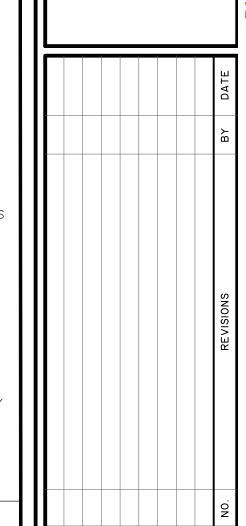












THOMAS THUTTON Main Street • Suite 760

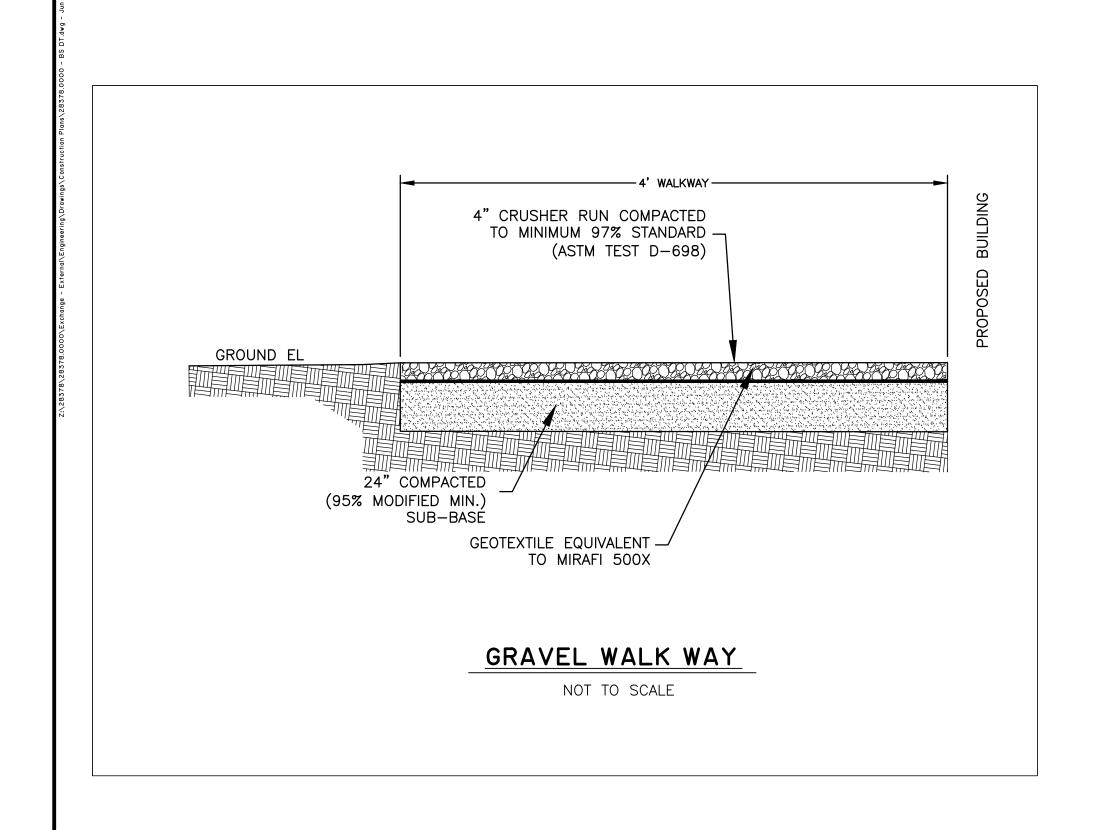
STATION Columbic

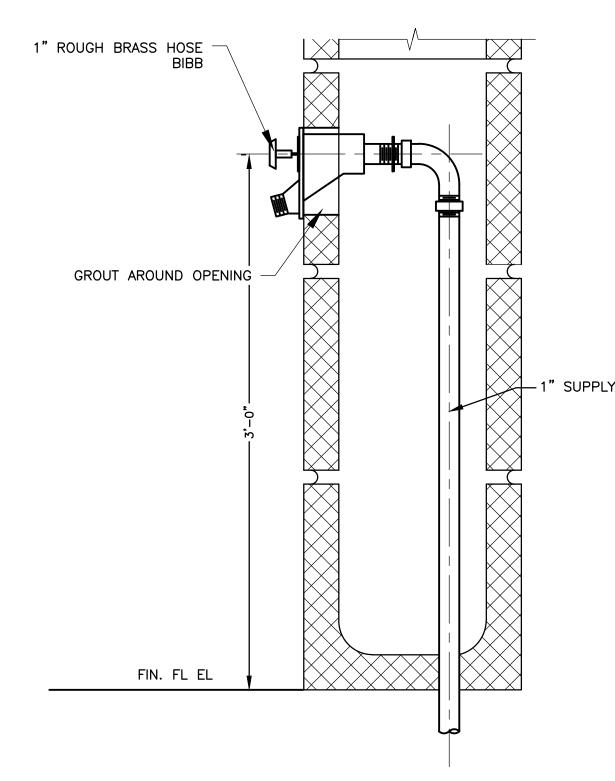
SHAM COUNTY BOARD OF
COMMISSIONERS
CHATHAM COUNTY, GA
COUNTY BOOSTER PUMP STA

J-28378.0000 04/21/2020

DATE: 04/21/202
DRAWN: EAC
DESIGNED: MCF
REVIEWED: MCF
APPROVED: ACS
SCALE: N.T.S.

C2.6



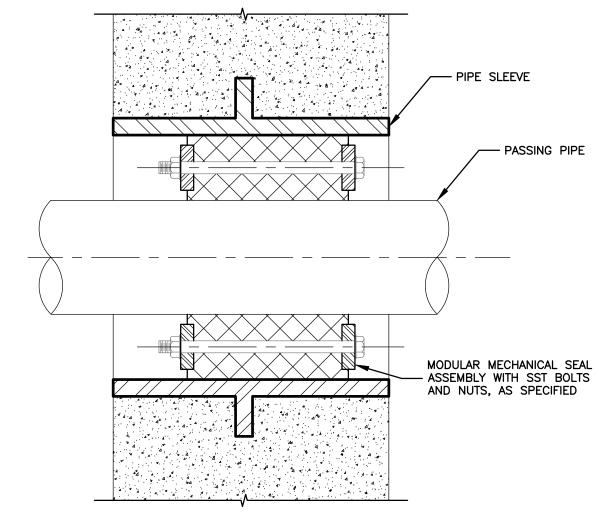


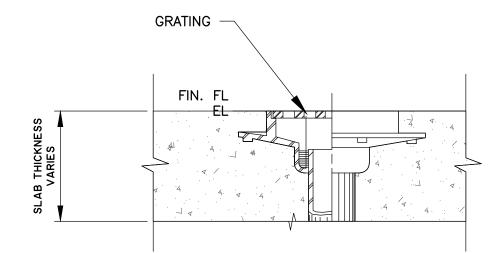
TYP INTERIOR FLOOR DRAIN SCALE: NTS

2'-0" DIAMETER DEPRESSION

SLOPE (TYP.)

SET FLOOR DRAIN RIM I/2" LOWER THAN ADJACENT SLAB ELEVATION

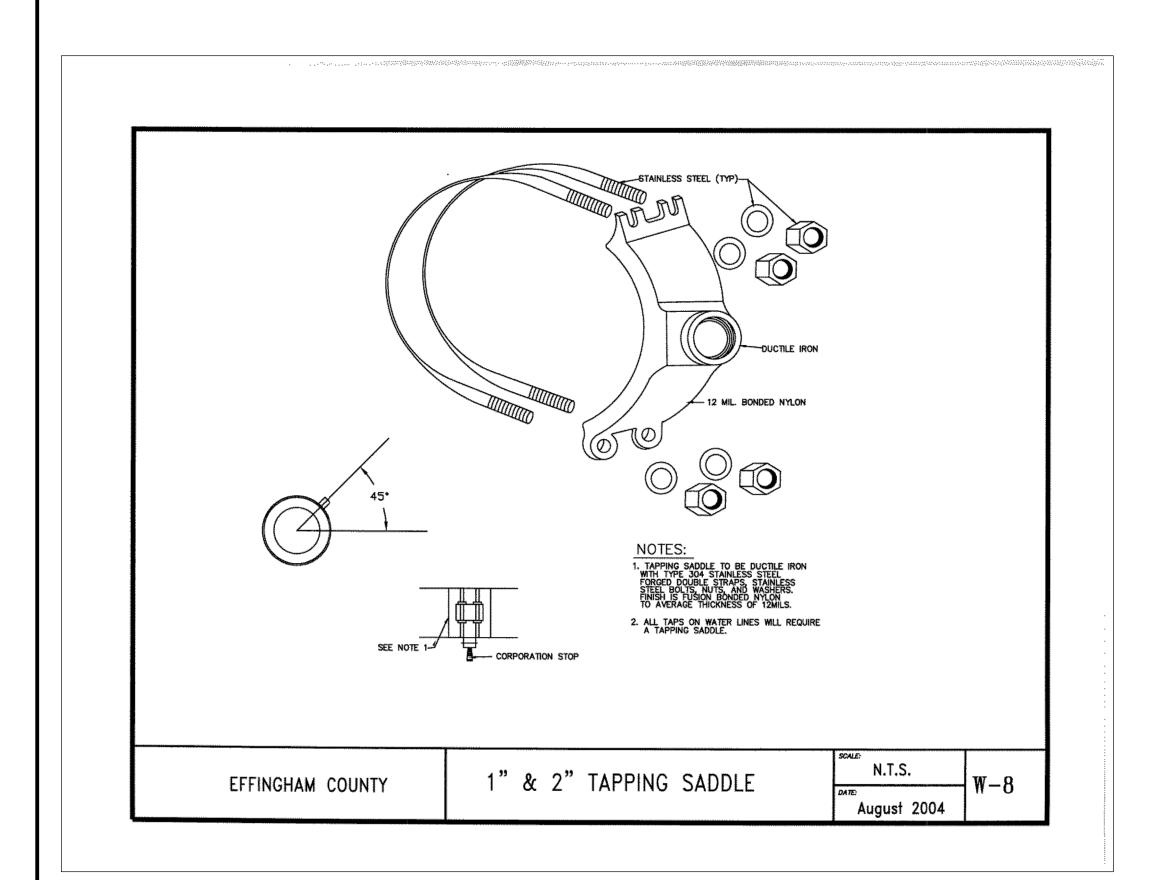


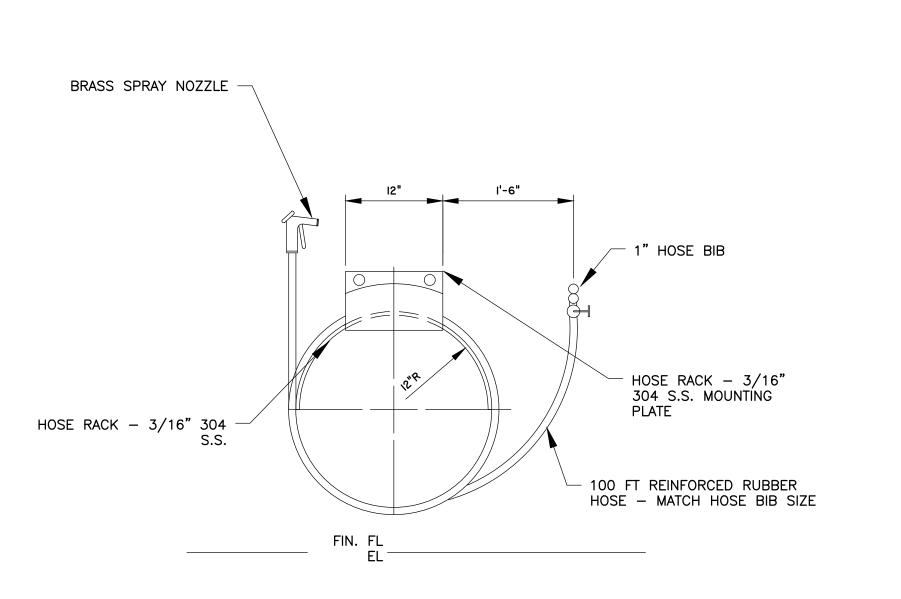


WALL PIPE PENETRATION SEAL SCALE: N.T.S.

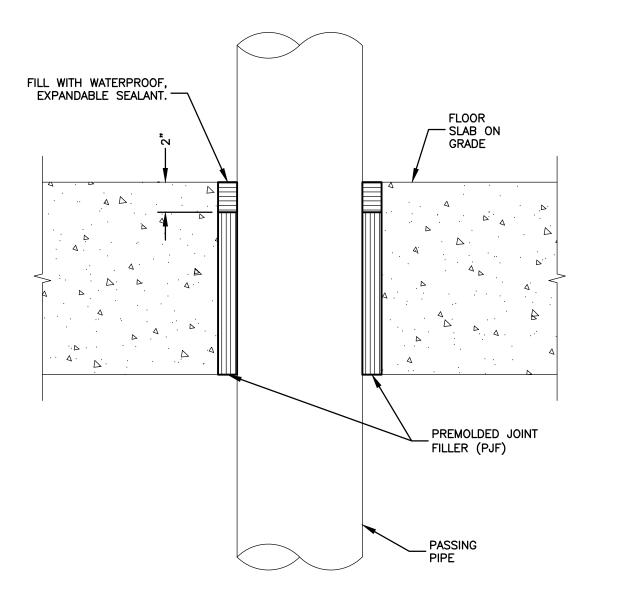








HOSE STATION WALL DETAIL SCALE: N.T.S.



SLAB ON GRADE PIPE PENETRATION SCALE: N.T.S.



PUMP STATION OF

EFFINGHAM COUNTY BOARD
COMMISSIONERS EFFINGHAM COUNTY
BOOSTER 8

JOB NO: J-28378.0000
DATE: 04/21/2020
DRAWN: EAC
DESIGNED: MCF
REVIEWED: MCF APPROVED: ACS

GENERAL NOTES

- THE GENERAL STRUCTURAL NOTES ARE INTENDED TO AUGMENT THE DRAWINGS AND SPECIFICATIONS. SHOULD CONFLICTS EXIST BETWEEN THE DRAWINGS, SPECIFICATIONS, AND GENERAL STRUCTURAL NOTES, THE STRICTEST PROVISION SHALL GOVERN.
- CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES, PROCEDURES AND SAFETY ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR IS RESPONSIBLE FOR SHORING AND BRACING OF ALL ELEMENTS UNTIL THE STRUCTURE IS COMPLETE.
- STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH, AND COORDINATED WITH CIVIL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION AND OTHER CONTRACT DOCUMENTS.
- 4. THE CONTRACTOR SHALL COORDINATE THE LOCATION AND SIZES OF ALL OPENINGS AND PENETRATIONS IN THE STRUCTURAL MEMBERS WITH THE APPLICABLE DISCIPLINES.
- CONTRACTOR SHALL REVIEW AND CHECK SHOP DRAWINGS BEFORE SUBMITTAL TO ENGINEER. CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, AND DIMENSIONS SPECIFIED IN THE CONTRACT DOCUMENTS.
- 5. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO BEGINNING CONSTRUCTION.

<u>DESIGN INFORMATION</u>

- STRUCTURAL DESIGN CONFORMS TO THE REQUIREMENTS OF THE IBC 2018 AND ASCE 7-16.
- 2. DESIGN LOADS AND PARAMETERS ARE AS FOLLOWS:
- A. DEAD LOADS: ACTUAL WEIGHT OF MATERIALS AND EQUIPMENT

В.	LIVE LOADS: ROOF	20 psf
C.	RISK CATEGORY & IMPORTANCE FACTORS RISK CATEGORY SEISMIC IMPORTANCE FACTOR	III 1.25
D.	WIND LOAD: BASIC WIND SPEED (3 SEC GUST) WIND EXPOSURE CATEGORY INTERNAL PRESSURE COEFFICIENT (Gcpi)	143 MPH B ±0.18

E. SEISMIC DESIGN DATA: SPECTRAL RESPONSE COEFFICIENT Sds SPECTRAL RESPONSE COEFFICIENT Sd1 SITE CLASS BASIC STRUCTURAL SYSTEM SEISMIC DESIGN CATEGORY SEISMIC RESISTING SYSTEM

ATTACHING TO THE STRUCTURAL BUILDING ELEMENTS.

0.316 g 0.177 g

BEARING WALLS INTERMEDIATE R/F MASONRY

SHEARWALLS

0.113*W

ANALYSIS PROCEDURE ELFA COMPONENTS & CLADDING AND MECHANICAL ATTACHMENT LOADS SHALL BE CALCULATED USING ASCE 7-16 AND INCORPORATED BY APPLICABLE TRADES. ENGINEER SHALL BE CONTACTED IF MANUFACTURER HAS QUESTIONS ABOUT

EXCAVATION FOR STRUCTURAL ITEMS

SEISMIC BASE SHEAR

- THE CONTRACTOR SHALL PROVIDE ALL WORK NECESSARY TO PROTECT EXISTING STRUCTURES AND UTILITIES. ANY DAMAGE TO EXISTING STRUCTURES OR UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR, TO THE SATISFACTION OF THE OWNER, AT NO COST TO THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BRACING & SUPPORTS NECESSARY FOR EXCAVATION AND CONSTRUCTION AND ALL EXCAVATIONS SHALL COMPLY WITH APPLICABLE OSHA REGULATIONS.

FOUNDATIONS

- FOUNDATION DESIGN IS BASED ON A SUBSURFACE INVESTIGATION BY TERRACON, PROJECT NO. ES205101, DATED JUNE 12, 2020.
- CONTRACTOR SHALL READ GEOTECHNICAL REPORT AND ADDENDUMS PRIOR TO COMMENCEMENT OF WORK AND SHALL FOLLOW RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER FOR PREPARATION OF THE SUBGRADE AND EXCAVATIONS.
- WHERE APPLICABLE, ALL EXCAVATIONS, COMPACTED FILL, AND SUBGRADES SHALL BE OBSERVED AND TESTED BY A GEOTECHNICAL ENGINEER REGISTERED IN THE STATE OF SOUTH CAROLINA TO VERIFY SPECIFIED GEOTECHNICAL CONFORMANCE REQUIREMENTS.
- WHERE APPLICABLE, COMPACT SOIL MATERIALS TO NOT LESS THAN 98% OF MODIFIED PROCTOR DENSITY OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D 1557.
- 5. DO NOT PLACE BACKFILL OR FILL SOIL MATERIAL ON SURFACES THAT ARE MUDDY, FROZEN, OR CONTAIN FROST OR ICE.

MASONRY

- CONCRETE MASONRY DESIGN AND CONSTRUCTION SHALL CONFORM TO THE LATEST EDITIONS OF THE FOLLOWING: BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES, ACI 530 /ASTM 5/ TMS 402 AND SPECIFICATIONS FOR MASONRY STRUCTURES, ACI 530.1 / ASTM 6 / TMS 602.
- . UNLESS NOTED OTHERWISE, PROVIDE HOLLOW, LIGHTWEIGHT, LOAD BEARING CONCRETE MASONRY UNITS (CMU) CONFORMING TO ASTM C90, TYPE 1, WITH A DENSITY LESS THAN 105 pcf.
- PROVIDE CONCRETE MASONRY WITH A MINIMUM COMPRESSIVE STRENGTH, I'm = 1,900
- PROVIDE TYPE "S" MORTAR IN ACCORDANCE WITH ASTM C270 WITH A COMPRESSIVE STRENGTH OF 2,000 psi, UNLESS NOTED OTHERWISE.
- PROVIDE GROUT FOR REINFORCED MASONRY IN ACCORDANCE WITH ASTM C476 WITH A MINIMUM COMPRESSIVE STRENGTH OF 3,000 psi UNLESS NOTED OTHERWISE. GROUT SOLID ALL CELLS CONTAINING REINFORCING.
- LAP SPLICES SHALL BE AS SHOWN IN THE TABLE PROVIDED IN THESE NOTES AND SHALL CONFORM TO ACI 530 UNLESS NOTED OTHERWISE IN THE CONSTRUCTION DRAWINGS. SHOULD CONFLICTS EXIST, THE STRICTEST PROVISION SHALL APPLY:

СМО	R/F LA	AP SPLICE, HOOK	DEVELOPMENT &	LENGTH
BAR Ø	BAR SIZE	SPLICE/LAP LENGTH	HOOK DEVELOPMENT	HOOK LENGTH
.500 in.	#4	17 in.	7 in.	6 in.
.625 in.	#5	27 in.	9 in.	8 in.
.750 in.	#6	50 in.	10 in.	9 in.
.875 in.	#7	67 in.	12 in.	11 in.

PROVIDE 9 GAGE TRUSS OR LADDER TYPE HORIZONTAL JOINT REINFORCEMENT, COMPLYING WITH ASTM A82, AT 16"O.C. VERTICALLY AND ZINC COATED.

- 8. LAY MASONRY UNITS IN RUNNING BOND PATTERN.
- 9. BOND BEAMS, CMU LINTELS, MASONRY BENEATH STEEL BEAM AND JOIST BEARINGS, AND OTHER STRUCTURAL ELEMENTS SHALL EXTEND UNINTERRUPTED ACROSS CONTROL JOINTS. PROVIDE RAKED JOINTS IN THESE ELEMENTS TO MATCH THE CONTROL JOINT.
- 10. INSTALL MASONRY WALLS IN 4'-0" MAXIMUM LIFTS.

REINFORCED CONCRETE

- 1. UNLESS NOTED OTHERWISE, ALL CONCRETE WORK, DETAILING, FABRICATION, AND PLACING, INCLUDING MINIMUM COVER REQUIREMENTS OF REINFORCING BARS (EXCEPT AS NOTED HEREIN) AND CONCRETE SHALL BE GOVERNED BY THE LATEST REVISIONS
- ACI 301, ACI 315, AND ACI 318
- CRSI RECOMMENDED PRACTICE OF PLACING REINFORCING BARS ACI 306 AND ACI 305 FOR COLD AND HOT WEATHER CONCRETING, RESPECTIVELY
- 2. ALL CONCRETE SHALL BE NORMAL WEIGHT (N.W.) WITH A MAXIMUM UNIT WEIGHT OF 150 pcf. CONCRETE FOR SLABS ON GRADE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 psi. CONCRETE FOR FOOTINGS SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3,000 psi.
- 3. CONCRETE MIX DESIGNS, IN ACCORDANCE WITH ACI RECOMMENDATIONS, SHALL BE SUBMITTED TO THE ENGINEER AND TESTING AGENCY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE REQUIRED CONCRETE DESIGN STRENGTH.
- 4. USE OF CALCIUM CHLORIDE, CHLORIDE IONS, OR OTHER SALTS IN CONCRETE IS NOT PERMITTED.
- 5. THE AIR CONTENT IN ALL CONCRETE EXPOSED TO WEATHER SHALL BE BETWEEN 2% AND 5%.
- 6. THE TESTING AGENCY SHALL SAMPLE AND TEST EACH 50 CU. YARDS OR FRACTION THEREOF OF EACH CLASS OF CONCRETE PLACED EACH DAY. SAMPLE CONCRETE IN ACCORDANCE WITH ASTM C172. PERFORM THE FOLLOWING TESTS IN ACCORDANCE WITH THE INDICATED STANDARD:
- A. SLUMP: ASTM C143 AIR CONTENT: ASTM C173
- COMPRESSIVE STRENGTH: ASTM C39, WITH ONE CYLINDER AT 7 DAYS, 2
- CYLINDERS AT 28 DAYS, AND ONE SPECIMEN HELD IN RESERVE.
- 7. DETAIL CONCRETE REINFORCEMENT AND ACCESSORIES IN ACCORDANCE WITH ACI 315 "DETAILING MANUAL". SUBMIT SHOP DRAWINGS FOR ACCEPTANCE SHOWING ALL FABRICATION DIMENSIONS AND LOCATIONS FOR PLACING REINFORCING STEEL AND ACCESSORIES. DO NOT BEGIN FABRICATION UNTIL SHOP DRAWINGS ARE COMPLETED AND ACCEPTED.
- 8. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, AND SHALL BE GRADE 60 UNLESS OTHERWISE NOTED.
- 9. LAP SPLICES SHALL BE AS SHOWN IN THE TABLE PROVIDED IN THESE NOTES AND SHALL CONFORM TO ACI 318. SHOULD CONFLICTS EXIST, THE STRICTEST PROVISION SHALL APPLY.
- 10. REINFORCEMENT SHALL BE CONTINUOUS ACROSS CONSTRUCTION JOINTS.
- 11. WELDING OF REINFORCING STEEL IS NOT PERMITTED.
- 12. REINFORCING STEEL SHALL HAVE THE FOLLOWING CONCRETE COVER UNLESS NOTED OTHERWISE:
 - CONCRETE CAST AGAINST EARTH (NOT FORMED) CONCRETE EXPOSED TO EARTH OR WEATHER #5 & SMALLER

E. CONCRETE NOT EXPOSED TO EARTH OR WEATHER. BEAMS & COLUMNS

- CONCRETE EXPOSED TO EARTH OR WEATHER #6-18 CONCRETE NOT EXPOSED TO EARTH OR WEATHER, SLABS & WALLS <= #11 1"
- 13. CONCRETE SHALL BE DISCHARGED AT THE SITE WITHIN 90 MINUTES AFTER WATER HAS BEEN ADDED TO THE CEMENT AND AGGREGATES. ADDITION OF WATER TO THE MIX AT THE PROJECT SITE WILL NOT BE ALLOWED. ALL WATER MUST BE ADDED AT THE BATCH PLANT.
- 14. REINFORCEMENT SPLICE/LAP LENGTH, HOOK DEVELOPMENT AND HOOK LENGTH TABLE SHOWN BELOW IS BASED UPON A MINIMUM CONCRETE COMPRESSIVE STRENGTH OF 4,000 PSI AND 60,000 PSI REINFORCEMENT (WITH NO EPOXY COATING).
- 15. THE MINIMUM SPLICE/LAP LENGTH IS BASED UPON A 6" CENTER TO CENTER BAR SPACING AND A 2" BAR COVER. IF THE SPLICE/LAP CONDITION DOES NOT CONFORM TO THESE PARAMETERS, THE REQUIREMENTS OF ACI 318 SHALL BE CALCULATED (BY REINFORCING DESIGNER) FOR THE SPECIFIC CONDITION. THE STRICTER OF THE TWO (VALUES IN TABLE OR THOSE CALCULATED) SHALL CONTROL.
- 16. ALL LAP SPLICES SHALL BE CLASS B. IF SPLICES ARE INDICATED BETWEEN BARS OF DIFFERENT SIZES, THE SPLICE LENGTH SHALL BE BASED UPON THE SMALLER BAR SIZE. INCREASE BY 1.3 FOR TOP BARS WITH MORE THAN 12" OF CONCRETE BELOW.

REINFORCEMENT LAP SPLICE, HOOK DEVELOPMENT & LENGTH FOR REINFORCED CONCRETE								
BAR Ø	BAR SIZE	SPLICE/LAP LENGTH	HOOK DEVELOPMENT	HOOK LENGTH				
.375 in.	#3	19 in.	8 in.	5 in.				
.500 in.	#4	25 in.	10 in.	6 in.				
.625 in.	#5	31 in.	12 in.	8 in.				
.750 in.	#6	37 in.	15 in.	9 in.				
.875 in.	#7	54 in.	17 in.	11 in.				

WOOD CONSTRUCTION

- 1. ALL WOOD SHALL BE SOUTHERN PINE, NO. 2 DENSE GRADE, DRESSED, AND GRADED IN ACCORDANCE WITH SOUTHERN PINE INSPECTION BUREAU'S "GRADING RULES" AND WITH A MOISTURE CONTENT OF 19 PERCENT AT TIME OF DELIVERY TO THE PROJECT SITE.
- 2. UNLESS NOTED OTHERWISE, ALL LUMBER IN CONTACT WITH CONCRETE OR MASONRY AND ALL EXTERIOR LUMBER SHALL BE TREATED WITH ACQ RETENTION LEVEL 0.60.
- 3. ALL WOOD HARDWARE SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153. EXCEPT WHERE NOTED OTHERWISE. ALL FRAMING CLIPS AND TIE-DOWNS SHALL HAVE THE HIGHEST LEVEL OF GALVANIZATION AVAILABE.
- 4. ALL PLATE WASHERS SHALL CONFORM WITH ASTM A36.
- 5. ALL ANCHOR RODS SHALL CONFORM TO ASTM F1554 GR. 36. ALL WASHERS SHALL CONFORM WITH ASTM F844.

8. STORE WOOD UNDER COVER, ABOVE GROUND AND KEEP FREE FROM DIRT, GREASE OR

- 6. DRILL ALL HOLES STRAIGHT AND PERPENDICULAR TO THE BEARING SURFACE.
- 7. COAT END GRAIN OF ALL EXPOSED WOOD MEMBERS WITH PRESERVATIVE.

9. ROOF SHEATHING SHALL BE 18" APA-RATED STRUCTURAL I SHEATHING, 31/16 SPAN RATING, 48"X96" PANELS. ATTACH TO WOOD TRUSSES AS SHOWN ON DRAWINGS.

WOOD TRUSSES

1. ALL DESIGN, DETAILING, FABRICATION AND ERECTION OF PREFABRICATED DIMENSIONAL WOOD TRUSSES SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF:

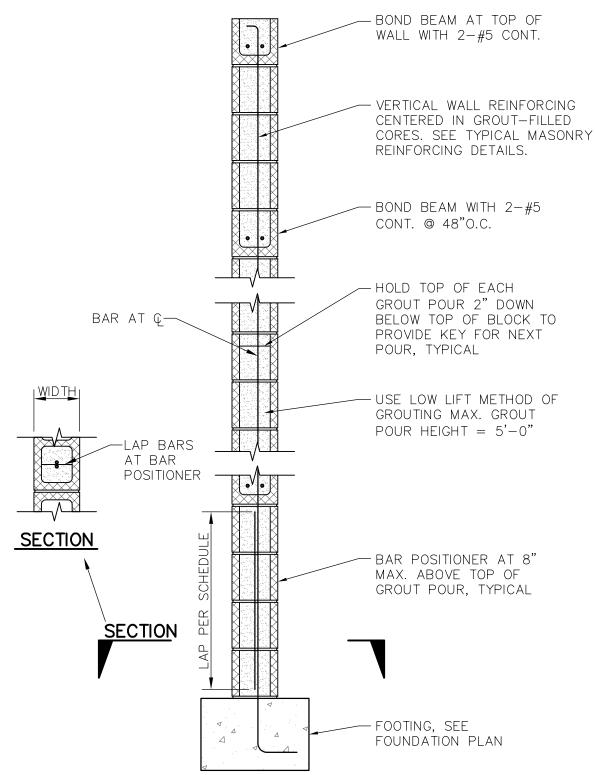
OTHER FOREIGN MATTER. STACK TIMBER IN A MANNER THAT WILL PREVENT LONG

TIMBERS FROM SAGGING OR BECOMING CROOKED.

- A. TRUSS PLATE INSTITUTE NATIONAL DESIGN STANDARD FOR METAL PLATE
- CONNECTED WOOD TRUSSES. TRUSS PLATE INSTITUTE — COMMENTARY AND RECOMMENDATIONS FOR HANDLING, INSTALLING, AND BRACING OF METAL PLATE CONNECTED WOOD TRUSSES.
- TRUSS PLATE INSTITUTE RECOMMENDED DESIGN SPECIFICATIONS FOR TEMPORARY BRACING OF METAL PLATE CONNECTED WOOD TRUSSES.
- 2. IN ADDITION TO SELF WEIGHT, WOOD TRUSSES SHALL BE DESIGNED FOR THE LOADS SPECIFIED IN THE GENERAL NOTES AS WELL AS AN ADDITIONAL DEAD LOAD OF 10 psf FOR TOP AND BOTTOM CHORDS IN ACCORDANCE WITH IBC 2018 SECTION 2303.4. THE MAXIMUM DEFLECTION UNDER DESIGN LOADS SHALL BE 1/180 OF THE SPAN.

3. SUBMITALLS:

- A. CALCULATIONS AND SHOP DRAWINGS SHALL BE STAMPED BY AN ENGINEER LICENSED IN THE STATE OF GEORGIA AND SHALL SUBMITTED TO THE ENGINEER OF RECORD PRIOR TO FABRICATION AND INSTALLATION OF TRUSSES. ALL LATERAL BRACING SHALL BE THE RESPONSIBILITY OF THE DESIGNER/SUPPLIER OF THE TRUSSES.
- 4. ALL WOOD TRUSS LUMBER SHALL BE SOUTHERN PINE, NO. 1 GRADE, DRESSED, AND GRADED IN ACCORDANCE WITH SOUTHERN PINE INSPECTION BUREAU'S "GRADING RULES" AND WITH A MOISTURE CONTENT OF 19 PERCENT AT TIME OF DELIVERY TO THE PROJECT SITE. WOOD TRUSS MEMBERS SHALL BE KILN DRIED AFTER TREATMENT
- 5. ALL WOOD SHALL BE PRESSURE TREATED AND SHALL COMPLY WITH THE FOLLOWING:
- A. ALL WOOD TRUSS LUMBER SHALL BE TREATED WITH ACQ RETENTION LEVEL 0.25 pcf, IN ACCORDANCE WITH AWPA STANDARD U1, COMMODITY SPECIFICATION A, TO THE REQUIREMENTS OF USE CATEGORY UC3B FOR EXTERIOR CONSTRUCTION NOT IN CONTACT WITH THE GROUND.
- B. KILN-DRY LUMBER AFTER TREATMENT TO A MAXIMUM MOISTURE CONTENT OF 19 PERCENT. DO NOT USE MATERIAL THAT IS WARPED OR DOES NOT COMPLY WITH
- REQUIREMENTS FOR UNTREATED MATERIAL. C. MARK LUMBER WITH TREATMENT QUALITY MARK OF AN INSPECTION AGENCY APPROVED BY THE ALSC BOARD OF REVIEW.
- 6. ALL WOOD SHALL BE FIRE-RETARDANT-TREATED AND SHALL COMPLY WITH THE
- A. PRODUCTS WITH A FLAME-SPREAD INDEX OF 25 OR LESS WHEN TESTED ACCORDING TO ASTM E84, WITH NO EVIDENCE OF SIGNIFICANT PROGRESSIVE COMBUSTION WHEN THE TEST IS EXTENDED AN ADDITIONAL 20 MINUTES, AND WITH THE FLAME FRONT NOT EXTENDING MORE THAN 10.5 FEET BEYOND THE CENTERLINE OF THE BURNERS AT ANY TIME DURING THE TEST
- TREATED MATERIALS SHALL COMPLY WITH REQUIREMENTS SPECIFIED ABOVE FOR FIRE-RETARDANT-TREATED LUMBER AND PLYWOOD BY PRESSURE PROCESS AFTER BEING SUBJECTED TO ACCELERATED WEATHERING ACCORDING TO ASTM D2898.
- USE TREATMENT THAT DOES NOT PROMOTE CORROSION OF METAL FASTENERS IDENTIFY FIRE-RETARDANT-TREATED WOOD WITH APPROPRIATE CLASSIFICATION MARKING OF TESTING AND INSPECTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING
- 7. ALL WOOD TRUSS CONNECTION HARDWARE SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153.



TYPICAL CMU WALL SECTION $\frac{3}{4}$ "=1'-0"

NOTES:

- 1. THE END OF EACH HORIZONTAL BAR SHALL BE ANCHORED TO VERTICAL BARS WITH LAP SPLICES AT CORNERS (SEE TYPICAL DETAIL) AND STD. 180° HOOKS AT JAMBS PER ACI.
- 2. REQUIREMENTS SHOWN IN THIS DETAIL ARE FOR 12" CMU WALLS. BOND BEAMS FOR INTERIOR 8" CMU WALLS SHALL HAVE 2-#4 CONT.

SPECIAL INSPECTIONS

- 1. THE OWNER SHALL EMPLOY SPECIAL INSPECTORS TO PROVIDE INSPECTIONS DURING CONSTRUCTION AS NOTED HEREIN.
- 2. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO DEMONSTRATES COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR THE INSPECTION
- OF THE ASSIGNED TYPE OF CONSTRUCTION OR OPERATION. 3. SPECIAL INSPECTION PROCEDURES SHALL BE COMPLETED IN ACCORDANCE WITH IBC 2018, CHAPTER 17. AT A MINIMUM, SPECIAL INSPECTIONS SHALL INCLUDE THE ITEMS LISTED BELOW. IF CONFLICTS EXIST BETWEEN THE CODE AND THE REQUIREMENTS

REINFORCING STEEL OTHER - PERIODIC STEEL:

STATED BELOW, THE STRICTEST PROVISION SHALL GOVERN.

USE OF REQUIRED MIX - PERIODIC SAMPLING FOR TESTING - CONTINUOUS PLACEMENT - CONTINUOUS CURING - PERIODIC FORMWORK - PERIODIC

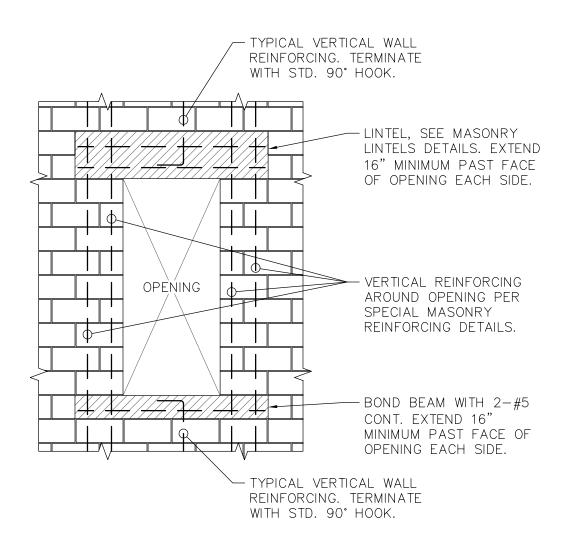
MASONRY: MORTAR & CONSTRUCTION OF MORTAR JOINTS - PERIODIC LOCATION & PLACEMENT OF R/F, CONNECTORS & ANCHORAGE -

CONTINUOUS SIZE & LOCATION OF STRUCTURAL ELEMENTS - PERIODIC SIZE, GRADE & TYPE OF REINFORCEMENT - CONTINUOUS PROTECTION OF UNITS DURING COLD/HOT WEATHER - PERIODIC PREPARATION OF GROUT SPACE - PERIODIC GROUT PLACEMENT - CONTINUOUS

PREPARATION OF GROUT & MORTAR SPECIMENS - CONTINUOUS VERIFICATION OF MASONRY & GROUT PROP PRIOR TO CONST- CONTINUOUS

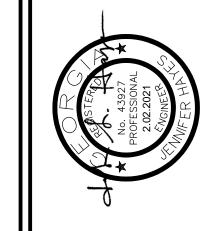
ALL AS NOTED IN TABLE 1705.6 COMPLIANCE WITH REQ'D INSPECTION PROVISIONS OF CONSTRUCTION GENERAL:

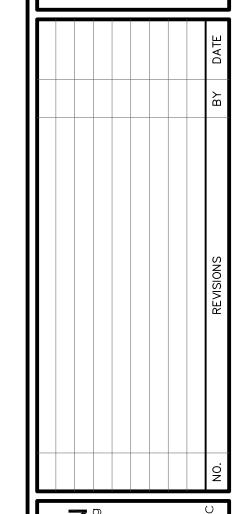
DOCUMENTS AND THE APPROVED SUBMITTALS AND VISUAL STRUCTURAL OBSERVATION OF STRUCTURAL SYSTEM(S) FOR CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF STRUCTURAL SYSTEM(S) - PERIODIC



TYPICAL REINFORCING AROUND MASONRY OPENING

 $\frac{3}{4}$ "=1'-0"

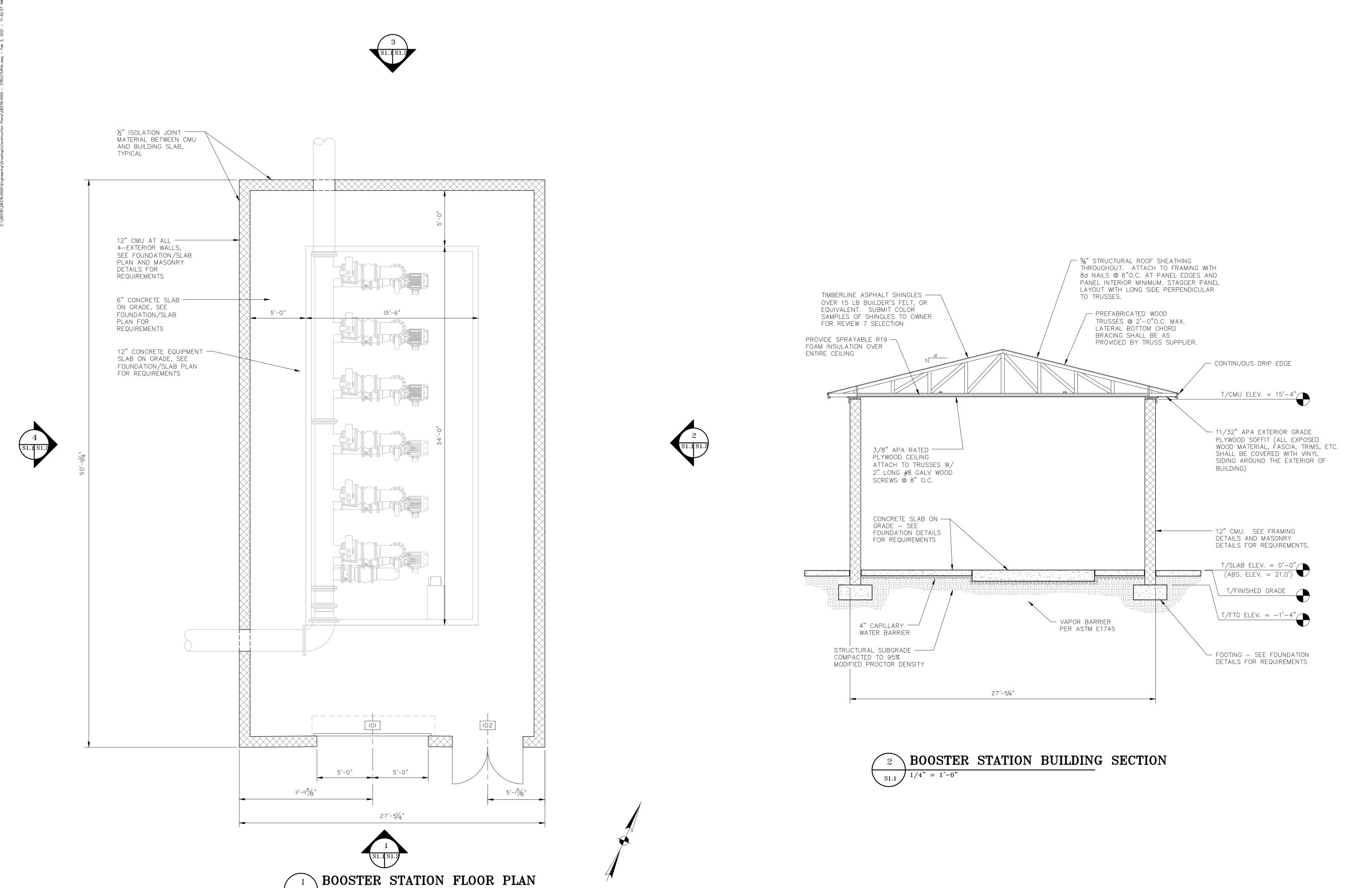




• •

ST DE Д સ્ર OT

02/02/2021 DRAWN: JEP DESIGNED: JEP REVIEWED: JAH APPROVED: JAH SCALE: AS NOTED



H

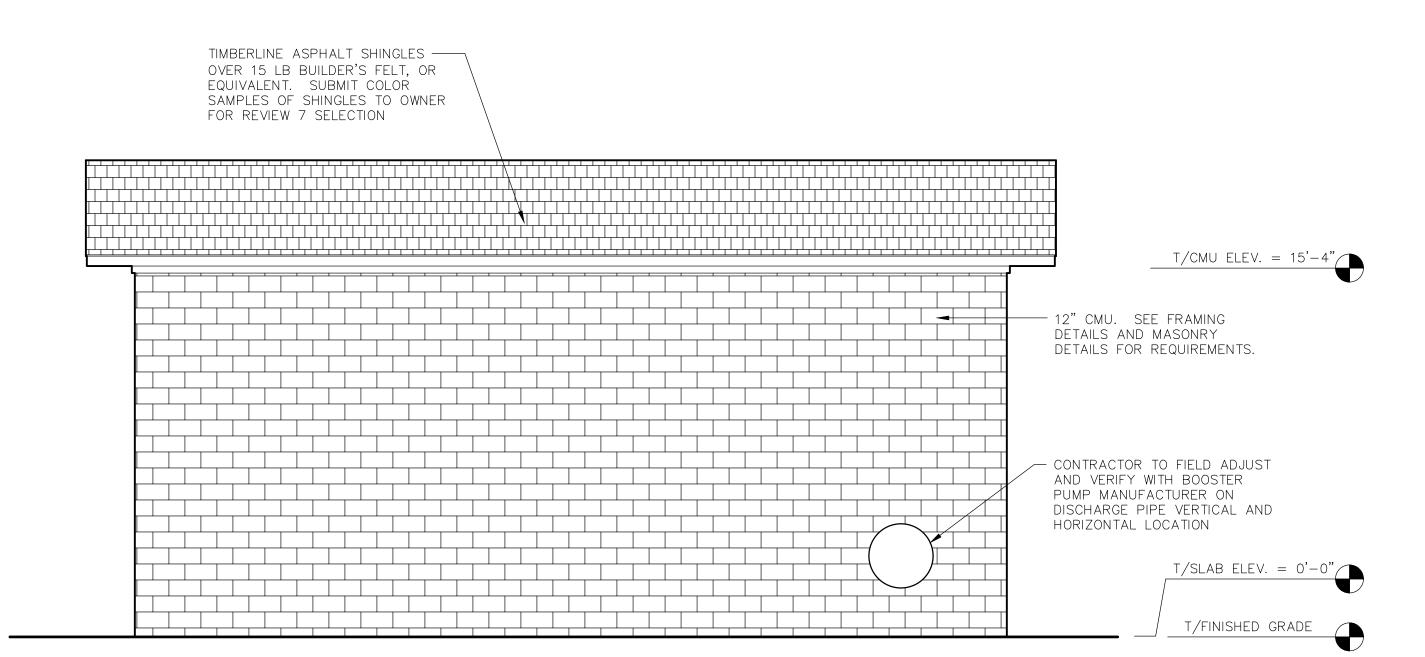
Y BOOSTER PUMP STATION AND BUILDING SECTION

PLAN EFFINGHAM FLOOR I

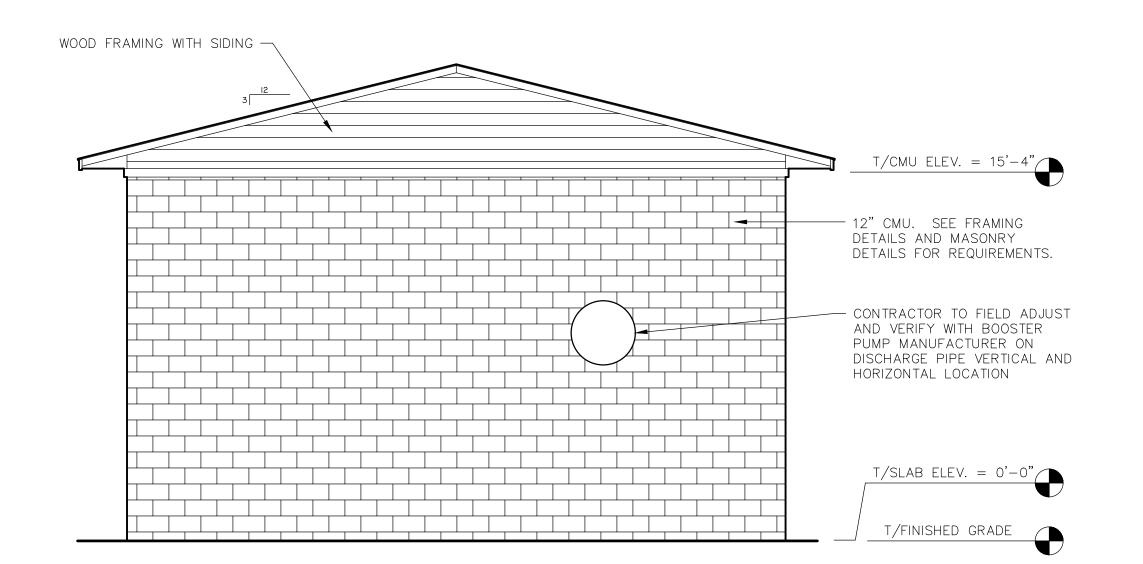
BOOSTER PUMP BUILDING: EAST ELEVATION

TIMBERLINE ASPHALT SHINGLES ----OVER 15 LB BUILDER'S FELT, OR EQUIVALENT. SUBMIT COLOR SAMPLES OF SHINGLES TO OWNER

FOR REVIEW 7 SELECTION

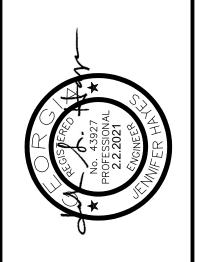


BOOSTER PUMP BUILDING: SOUTH ELEVATION $S1.2 \int 1/4" = 1'-0"$



BOOSTER PUMP BUILDING: NORTH ELEVATION $\int 1/4$ " = 1'-0"

BOOSTER PUMP BUILDING: WEST ELEVATION



T/CMU ELEV. = 15'-4"

T/SLAB ELEV. = 0'-0",

T/FINISHED GRADE

- 12" CMU. SEE FRAMING

DETAILS AND MASONRY

DETAILS FOR REQUIREMENTS.

STATION COUNTY BOOSTER PUMP
BUILDING ELEVATIONS

EFFINGHAM COUNTY BOARD COMMISSIONERS

EFFINGHAM

DATE: DRAWN: DESIGNED: JEP REVIEWED: JAH APPROVED: JAH
SCALE: AS SHOWN

				DOOR S	CHEDULE				
	DOOR		DIMENSIO	ONS	DOOF	2	FRAME		
	TYPE	WIDTH	HEIGHT	THICKNESS	MATERIAL	FINISH	MATERIAL	FINISH	
102	Α	6'-4"	7'-0"	1-3/4"	FIBERGLASS	PAINT	FIBERGLASS	PAINT	
101	NO. TYPE WIDTH HEIC				ALUMINUM	PAINT	ALUMINUM	PAINT	

NOTE:
ALL DOOR HARDWARE INCLUDING CLOSURES, DOOR
STOPS, HINGES, ETC. TO BE STAINLESS STEEL.

.*	2" 6'-4"	
4		
7,-0,,	102	
	A	

ROOM FINISH SCHEDULE								
DOON NAME	FLOO	R	WALI	S	CEIL	CEILING		
ROOM NAME	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	HEIGHT	
PUMP ROOM	CONCRETE	NOTE I	СМИ	NOTE 2	PLYWOOD	NOTE 3 & 4	10'-0"	

- - NOTES:

 1. CONCRETE FLOOR SHALL BE SEALED

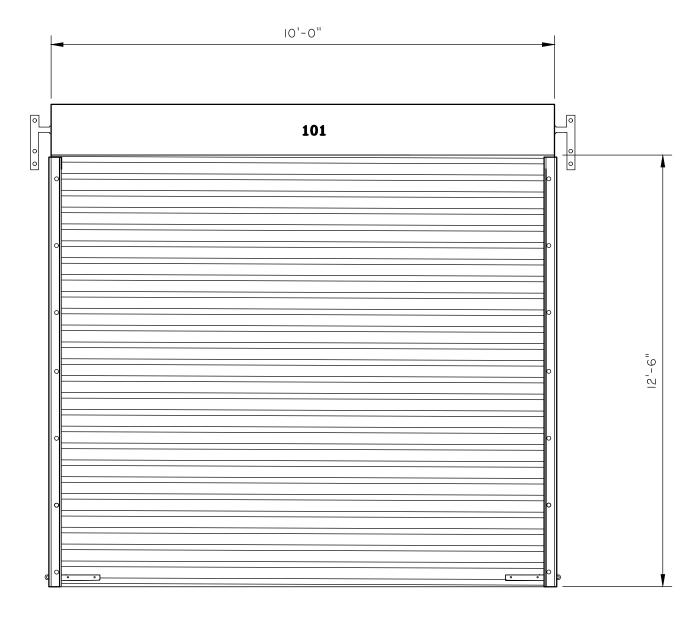
 2. CMU WALLS (INTERIOR AND EXTERIOR) SHALL RECEIVE FILLER COAT AND EPOXY PAINT

 3. PLYWOOD CEILING SHALL RECEIVE PRIMER COAT AND LATEX PAINT

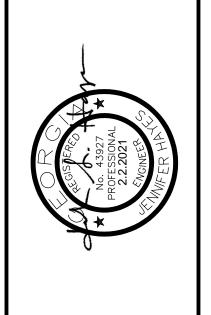
 4. APPLY SPRAYABLE FOAM INSULATION OVER THE ENTIRE CEILING.

 5. CONTRACTOR IS RESPONSIBLE FOR OBTAINING BUILDING PERMIT FROM THE LOCAL GOVERNMENT.

 6. CONTRACTOR TO COORDINATE WITH DOOR MANUFACTURER ON DESIGN AND LOCATION OF ROLL UP DOOR ANCHORAGE.





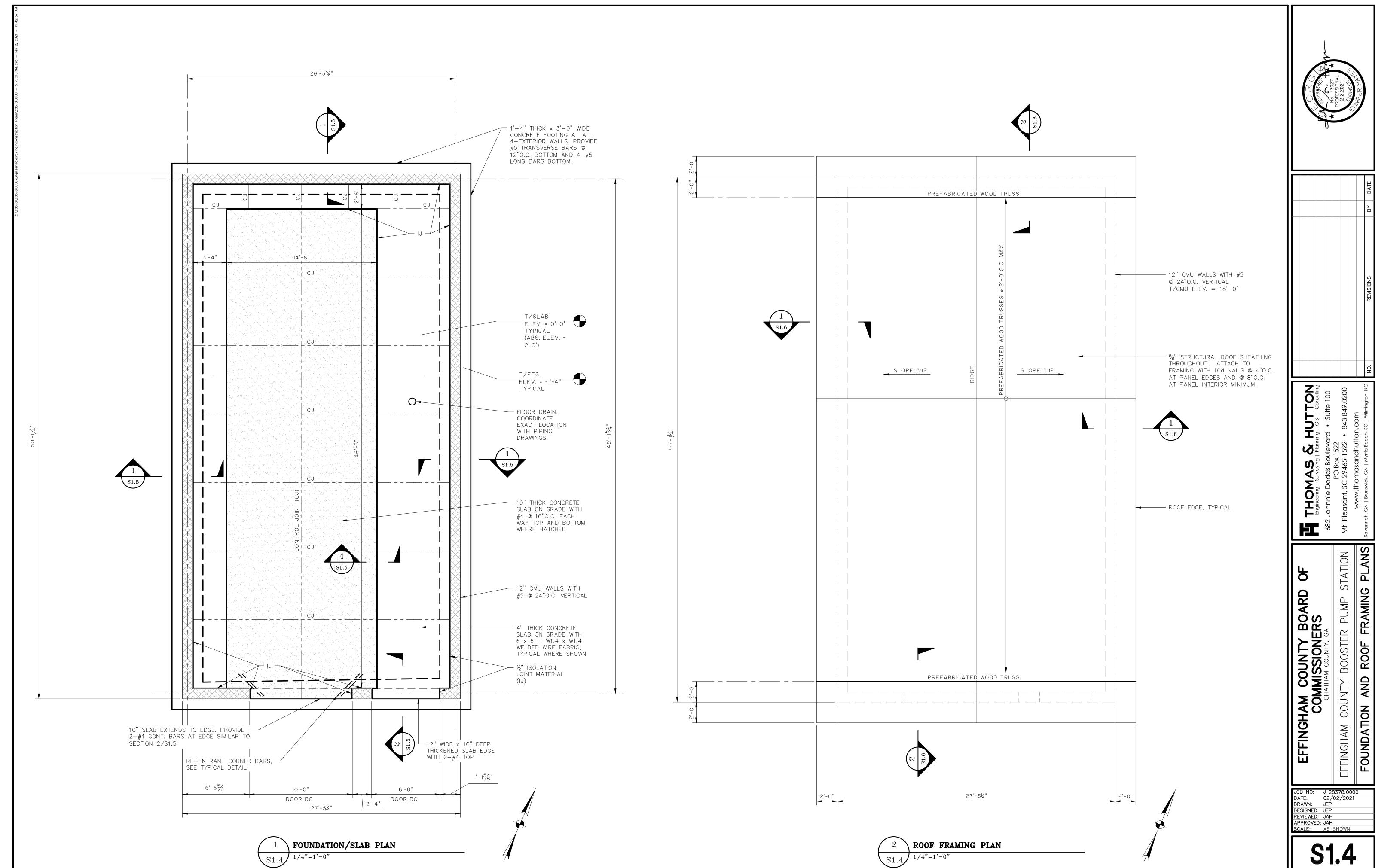


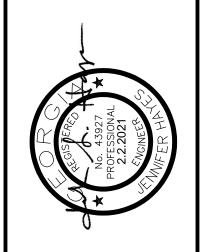
STATION

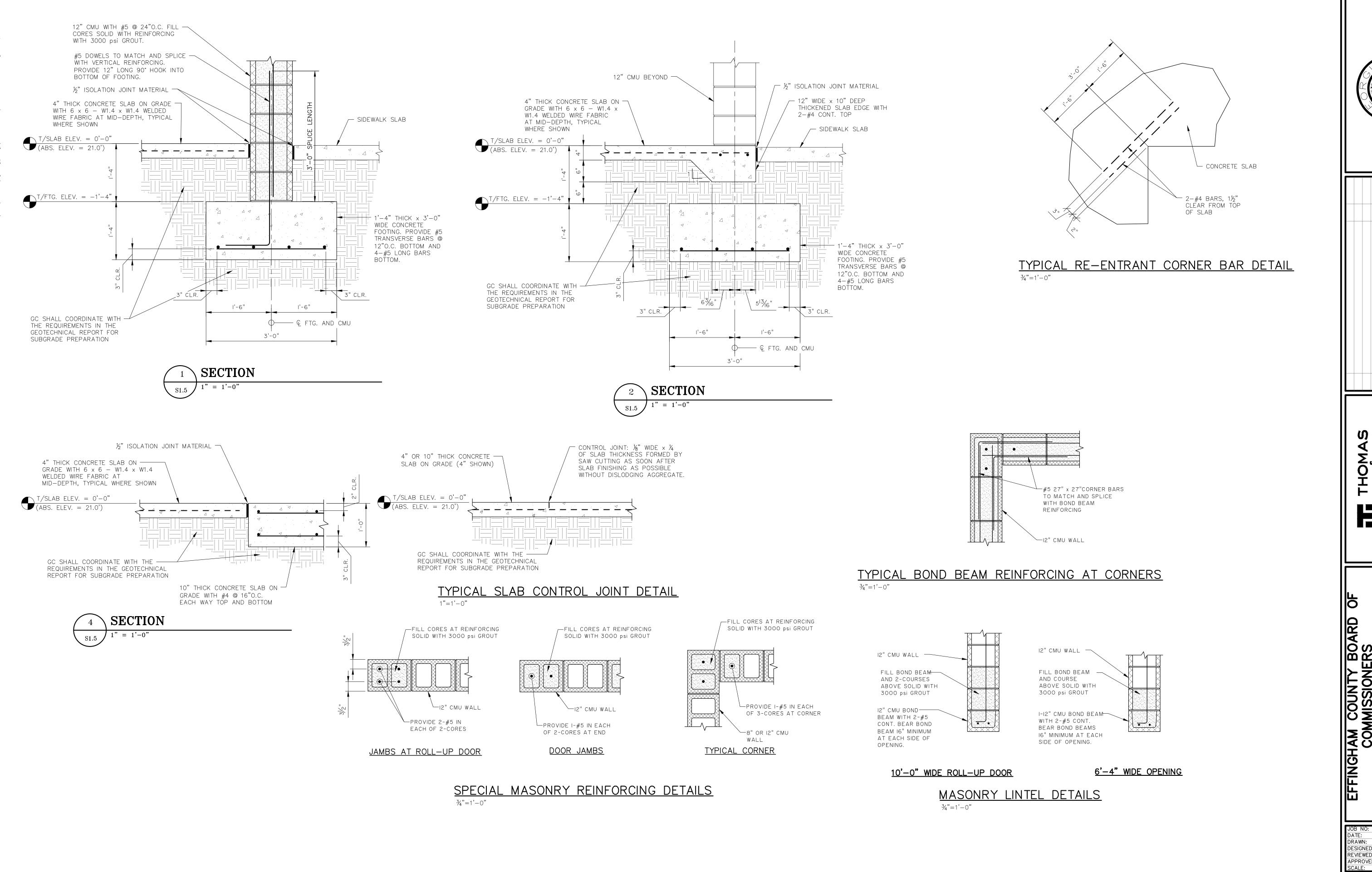
EFFINGHAM COUNTY BOARD COMMISSIONERS
CHATHAM COUNTY, GA EFFINGHAM COUNTY BOOSTER PUMP

DOOR SCHEDULE

JOB NO: J-28378.0000
DATE: 02/02/2021
DRAWN: JEP
DESIGNED: JEP
REVIEWED: JAH
APPROVED: JAH
SCALE: AS SHOWN





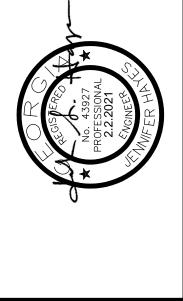


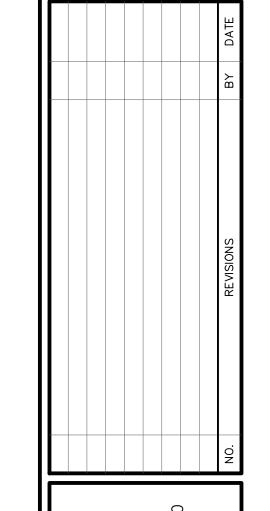
OOSTER PUMP STATION MASONRY DETAILS BOOSTER AND

EFFINGHAM

FOUNDATION

DATE: 02/0 DRAWN: JEP DESIGNED: JEP REVIEWED: JAH APPROVED: JAH
SCALE: AS SHOWN





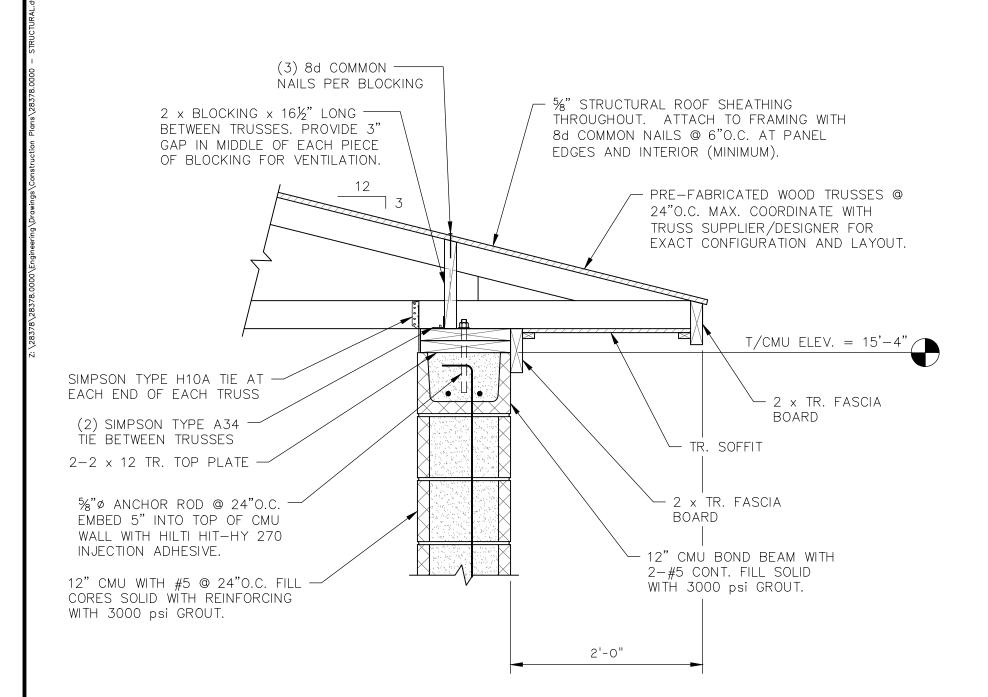
H

STATION EFFINGHAM COUNTY BOOSTER PUMP ROOF FRAMING DETAILS

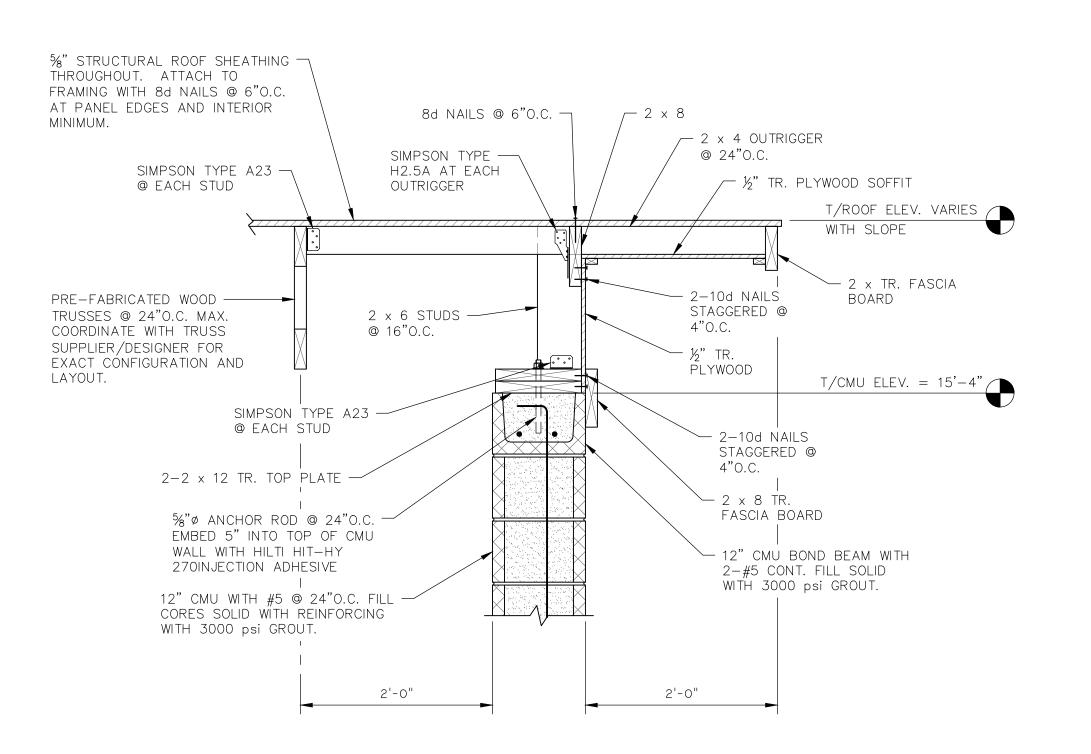
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

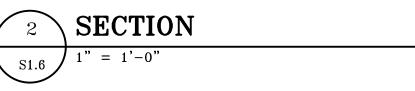
CHATHAM COUNTY, GA

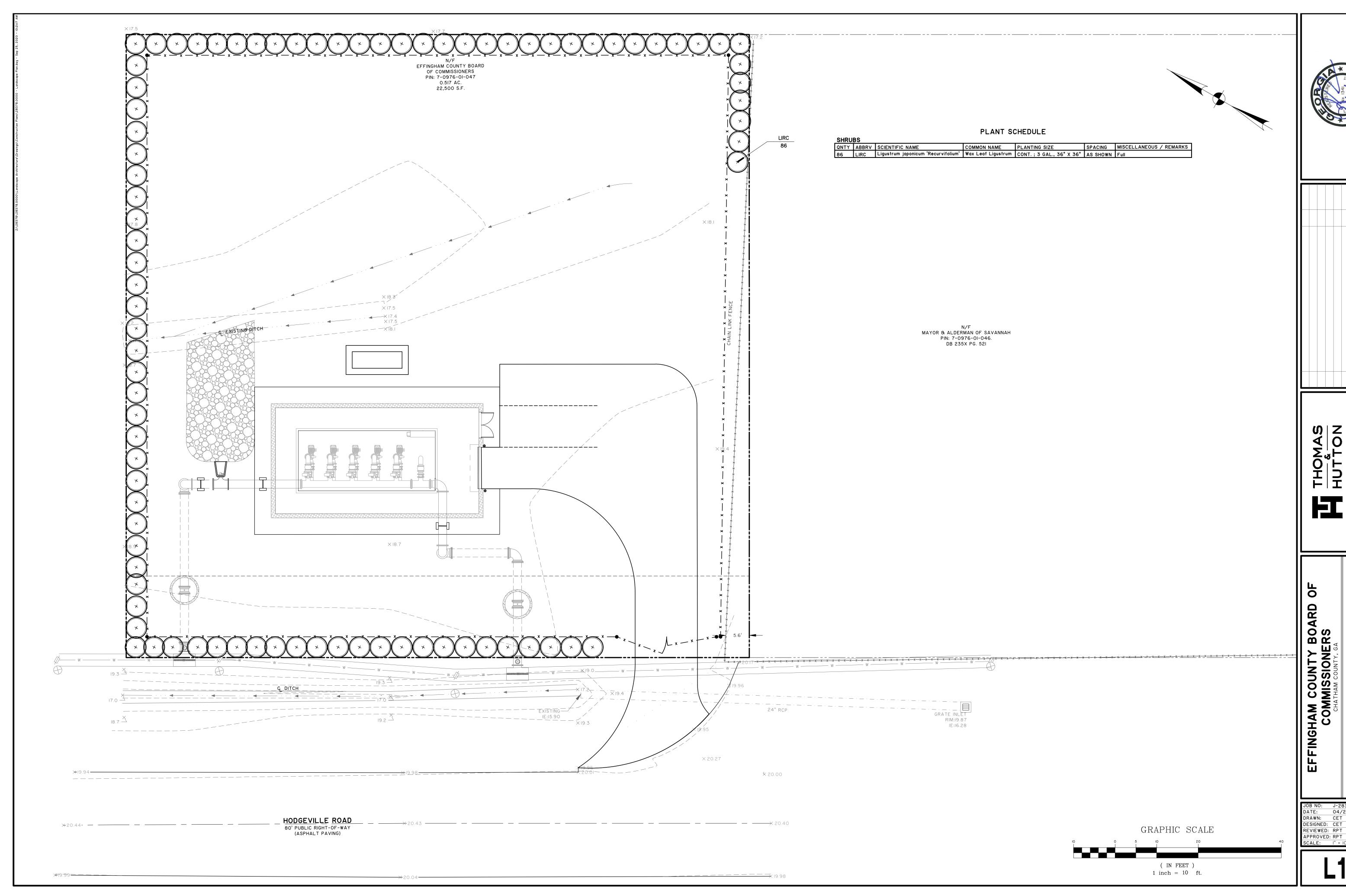
JOB NO: J-28378
DATE: 02/02/2
DRAWN: JEP
DESIGNED: JEP
REVIEWED: JAH
APPROVED: JAH
SCALE: AS SHOWN





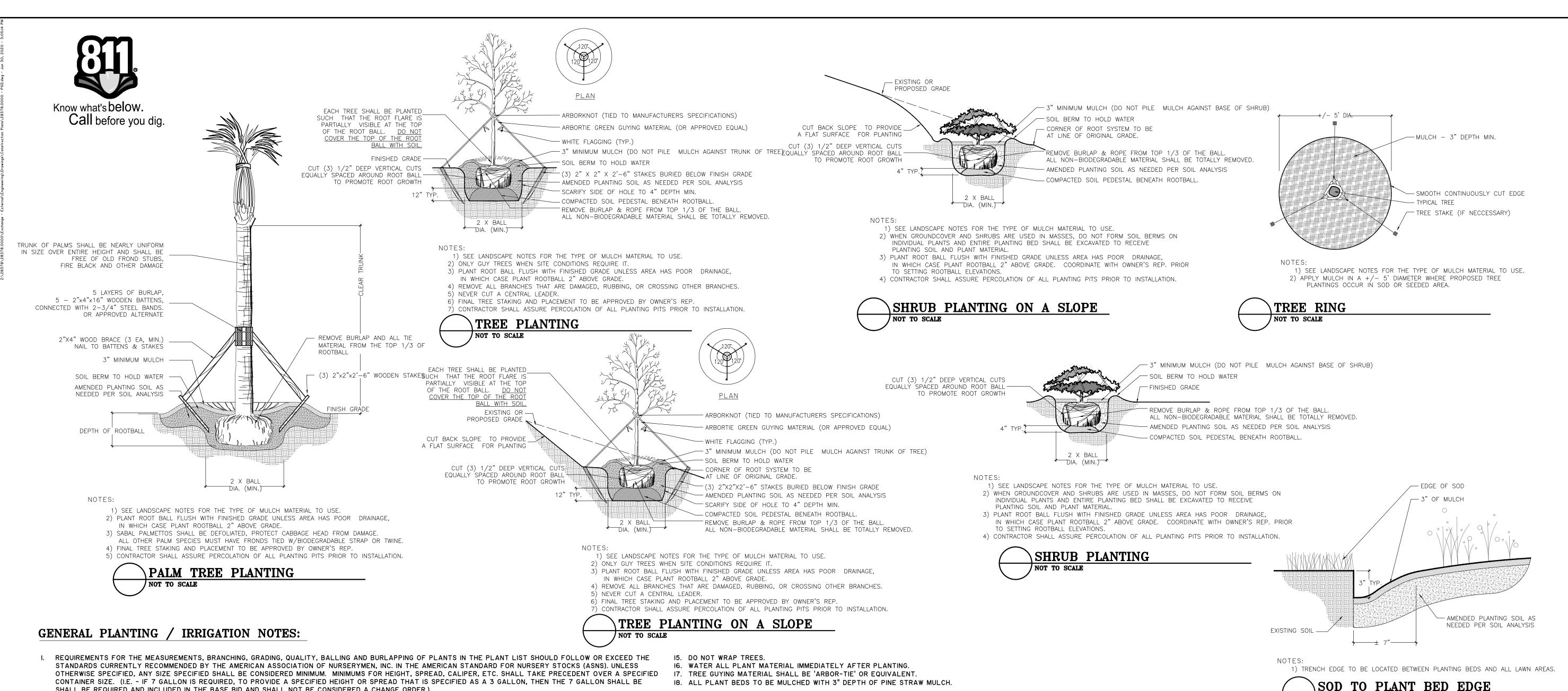






ST

DRAWN: CET
DESIGNED: CET
REVIEWED: RPT



- SHALL BE REQUIRED AND INCLUDED IN THE BASE BID AND SHALL NOT BE CONSIDERED A CHANGE ORDER.)
- 2. ALL PLANTS SHALL HAVE A WELL FORMED HEAD WITH MINIMUM CALIPER, HEIGHT AND SPREAD OF THE SIDE BRANCHES AS SHOWN ON THE PLANT LIST. TRUNKS SHALL BE UNDAMAGED AND SHAPE SHALL BE TYPICAL OF THE SPECIES.
- 3. MEASUREMENT OF CONIFER HEIGHT SHALL INCLUDE NOT MORE THAN FIFTY (50) PER CENT OF THIS YEARS' VERTICAL GROWTH (TOP CANDLE).
- 4. THE LANDSCAPE CONTRACTOR IS HEREBY NOTIFIED OF THE EXISTENCE OF UNDERGROUND UTILITIES WITHIN THE LIMITS OF THE PROJECT AREA. THE CONTRACTOR SHOULD VERIFY THE EXACT LOCATION OF ALL UTILITY LINES PRIOR TO COMMENCEMENT OF DIGGING OPERATIONS. CONTRACTOR RESPONSIBLE FOR LOCATING, PROTECTING, AND REPAIRING ALL DAMAGE TO BUILDINGS, UTILITIES, PAVEMENT, AND CURB & GUTTER. ANY REPAIRS SHALL BE DONE PROMPTLY AT CONTRACTOR'S
- THE CONTRACTOR WILL BE RESPONSIBLE FOR STAKING AND LAYOUT OF PLANTINGS ON THIS PROJECT. THE LANDSCAPE ARCHITECT OR OWNER SHALL BE ADVISED WHEN STAKES ARE READY FOR INSPECTION ON VARIOUS PLANTING AREAS. ALL LAYOUT WORK SHALL BE INSPECTED AND APPROVED BY THE LANDSCAPE ARCHITECT AND OWNER PRIOR TO OPENING ANY PLANTING PITS.
- 6. IT IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO VERIFY THAT EACH EXCAVATED TREE OR SHRUB PIT WILL PERCOLATE (DRAIN) PRIOR TO ADDING TOPSOIL AND INSTALLING TREES OR SHRUBS. THE CONTRACTOR SHALL FILL THE BOTTOM OF HOLES WITH SIX (6) INCHES OF WATER. THIS WATER SHOULD PERCOLATE WITHIN A TWENTY-FOUR (24) HOUR PERIOD. IF WATER DOESN'T PERC, CONTRACTOR SHALL NOTIFY THE OWNER'S REP PRIOR TO INSTALLING PLANTS.
- 7. SHOULD THE LANDSCAPE CONTRACTOR ENCOUNTER UNSATISFACTORY SURFACE OR SUBSURFACE DRAINAGE CONDITIONS, SOIL DEPTH, LATENT SOILS, HARD PANS, STEAM OR OTHER UTILITY LINES OR OTHER CONDITIONS THAT WILL JEOPARDIZE THE HEALTH AND VIGOR OF THE PLANTS, HE MUST ADVISE THE LANDSCAPE ARCHITECT IN WRITING OF THE CONDITIONS PRIOR TO INSTALLING THE PLANTS. OTHERWISE, THE LANDSCAPE CONTRACTOR WARRANTS THAT THE PLANTING AREAS ARE SUITABLE FOR PROPER GROWTH AND DEVELOPMENT OF THE PLANTS TO BE INSTALLED.
- 8. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING UP THE SITE AT THE COMPLETION OF THE PROJECT AND SHALL MAINTAIN THE SITE IN A REASONABLY NEAT AND CLEAN STATE THROUGHOUT THE INSTALLATION PROCESS. STREETS AND PAVED AREAS SHALL BE CLEANED REGULARLY TO REMOVE CONSTRUCTION MATERIALS AND OTHER DEBRIS RESULTING FROM WORK OF THE PROJECT.
- REPLACEMENTS OF DEAD OR UNSATISFACTORY MATERIAL SHALL BE MADE AS SPECIFIED IN THE PLANT LIST. THE OWNER OR LANDSCAPE ARCHITECT SHALL INSPECT REPLACED PLANTS WHEN ALL REPLACEMENTS HAVE BEEN MADE. REPLACEMENTS ARE TO BE ALIVE AND IN A HEALTHY CONDITION WHEN THE REPLACEMENTS ARE COMPLETE. REPLACEMENTS ARE NOT SUBJECT TO AN ADDITIONAL GUARANTEE, BUT THE LANDSCAPE CONTRACTOR SHALL CONSULT WITH THE LANDSCAPE ARCHITECT ON REASON FOR PLANT DECLINE/DEATH AND HOW TO AVOID FUTURE INSTANCES.
- IO. SHOULD THE CONTRACTOR NOT MAKE REPLACEMENTS IN A SATISFACTORY AND TIMELY FASHION IN ACCORD WITH THE PLANTING NOTES, THE OWNER, AFTER PROPER NOTIFICATION TO THE CONTRACTOR MAY UTILIZE THE FUNDS OF THE RETAINAGE TO HAVE THE REPLACEMENTS MADE IN ACCORDANCE WITH THE SPECIFICATIONS BY ANOTHER CONTRACTOR.
- II. NO EXCAVATION OR PLANTING PIT SHALL BE LEFT UNATTENDED OVERNIGHT.
- 12. PLANT MATERIAL QUANTITIES PROVIDED IN THE PLANT LIST ARE FOR REFERENCE ONLY AND THE CONTRACTOR IS RESPONSIBLE FOR THE ACTUAL PLANT MATERIAL COUNTS. DISCREPANCIES BETWEEN QUANTITIES SHOWN ON THE PLANTING PLAN AND THOSE IN THE PLANT LIST SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR CLARIFICATION. IF CLARIFICATION OF DISCREPANCIES FROM THE LANDSCAPE ARCHITECT IS NOT POSSIBLE, THEN QUANTITIES SHOWN ON THE PLANTING PLAN SHALL TAKE PRECEDENCE.
- 13. REMOVE BURLAP/STRAPPING AND WIRE BASKET FROM TOP 均 OF ROOT BALL ON TREES.
- 14. REMOVE PAPER, PLASTIC OR METAL AROUND ROOT BALLS OF SHRUBS.

- 19. ALL AREAS OF PLANTING, INCLUDING AREAS OF GRASS SEEDING AND SOD, SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE AND SHALL BE PROVIDED APPROPRIATE SOIL FOR THE PROPOSED PLANTINGS. THE LANDSCAPE CONTRACTOR SHALL ADJUST PH AND / OR SOIL FERTILITY BY UNIFORMLY INCORPORATING REQUIRED SOIL CONDITIONING MATERIALS AT THE RATE AND DEPTH DETERMINED BY THE ANALYSIS OF THE SOIL TEST (AS REQUIRED IN 3.02 AND 3.13 OF THE LANDSCAPING SPECIFICATIONS). EACH SOIL TEST SHALL BE SPECIFIC TO THE PROPOSED PLANT MATERIAL TO BE INSTALLED IN A GIVEN AREA.
- 20. ALL EXISTING VEGETATION WITHIN AREAS TO BE PLANTED / SODDED / SEEDED SHALL BE REMOVED PRIOR TO PLANTING / SODDING / SEEDING. ALL AREAS INDICATED TO BE GRASS SEED SHALL BE SEEDED PER GRASSING SPECIFICATIONS FOR PERMANENT STABILIZATION.
- 21. CONTRACTOR TO SUPPLY AUTOMATIC IRRIGATION SYSTEMS, COMPLETE AND INSTALLED. SYSTEM TO INCLUDE ALL VALVES, PIPES, HEADS, FITTINGS, RAIN SENSOR, AND CLOCK AND TO PROVIDE 100% COVERAGE OF ALL NEW SODDED AND IMPROVED EXISTING GRASS AREAS, TREES, SHRUBS AND PLANTING BEDS. COORDINATE IRRIGATION WITH OWNER'S REPRESENTATIVE. (CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF PROPOSED IRRIGATION SYSTEM FOR OWNER ACCEPTANCE)
- 22. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR AUTOMATIC IRRIGATION SYSTEMS. CONTRACTOR SHALL PROVIDE ELECTRIC METER AND SERVICE IN ACCORDANCE WITH STATE AND LOCAL CODES FOR IRRIGATION SYSTEM. LOCATION OF METERS AND CONTROL PANELS FOR IRRIGATION SHALL BE APPROVED BY OWNER'S REP. PRIOR TO INSTALLATION.
- 23. WHERE IRRIGATION SYSTEM WILL BE INSTALLED WITH ANY WATER SOURCE OTHER THAN DOMESTIC POTABLE WATER, LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR IRRIGATION WATER TESTING. IRRIGATION WATER SHALL BE TESTED FOR LEVELS OF pH, ALKALINITY AND SOLUBLE SALTS. SUBMIT TEST RESULTS TO OWNER'S REPRESENTATIVE FOR REVIEW PRIOR TO INSTALLATION OR ORDERING OF IRRIGATION EQUIPMENT, PUMPS OR WELL DIGGING.
- 24. ALL TREES SHALL BE INSTALLED PER THE REQUIREMENTS OF THE CITY OF MYRTLE BEACH, SOUTH CAROLINA APPLICABLE ORDINANCES.
- 25. ALL PLANT BEDS TO RECEIVE WEED INHIBITOR OF PREEN OR ACCEPTED ALTERNATE.
- 26. FOR SUMMERTIME PLANTINGS, CONTRACTOR TO USE EITHER CONTAINERIZED OR PRE-DUG B & B PLANT MATERIAL.
- 27. AS AN ADD ALTERNATE BID, THE CONTRACTOR SHALL PROVIDE "SOIL MOIST TRANSPLANT" (OR ACCEPTED EQUIVALENT) AT THE APPLICATION RATES SHOWN BELOW FOR

ALL NEWLY INSTALLED PLANTINGS.	
Container Size/Amount	Caliper Size/Amour
1 Gallon/.75 oz.	1"/3.0 oz.
2 Gallon/1.5 oz.	2" /6.0 oz.
3 Gallon/1.5 oz.	3" /9.0 oz.
5 Gallon/2.0 oz.	4" /12.0 oz.
7 Gallon/3.0 oz.	5" /15.0 oz
10 Gallon/3.0 oz.	6" /18.0 oz
15 Gallon/5.0 oz.	7" /21.0 oz
20 Gallon/7.0 oz.	8"/24.0 oz
Plant Height/Amount	Box Size/Amount
2'/1.5 oz.	16"/5.0 oz.
3'/2.0 oz.	20"/6.0 oz.
4'/3.0 oz.	24"/9.0 oz.
5'/4.0 oz.	30"/12.0 oz.
6'/5.0 oz.	36"/18.0 oz
7'/6.0 oz.	42"/27.0 oz
	60"/30.0 oz.

TYPICAL FDGF OF BUILDING, WALL, ETC. SPECIFIED O.C. SPACING OF PLANT BED 1/2 OF SPECIFIED O.C. SPACING -ATYPICAL SPACING IN SPECIFIED O.C. SPACING CURVILINEAR PLANT BEDS. OUTSIDE ROW TO FOLLOW CURVE

1) EXCAVATE ENTIRE BED SPECIFIED FOR GROUNDCOVER PLANTING TO A DEPTH OF 12".

AS SHOWN ON PLAN

PLANT SPACING DETAIL NOT TO SCALE

 \triangleleft S 00 Д B C \cong ш

 \Box \geq

04/21/2020 DRAWN: DESIGNED: CET REVIEWED: RPT APPROVED: RPT CALF: AS SHOWN

1.1 DESCRIPTION

A. The work covered in this section consists of soil preparation, fine grading, lawns, trees, shrubs and ground cover plantings, their protection and maintenance of planted areas until acceptance.

1.2 RELATED WORK

A. See Civil and Landscape plans and specifications.

1.3 QUALITY ASSURANCE

- A. Qualifications of Workmen: Contractor shall provide at least one person present at all times during execution of work that is thoroughly familiar with the type of materials being installed and proper equipment and methods for their installation and who shall direct all work performed under this section.
- B. Standards: All seed, sod, trees, shrubs, and ground covers shall meet or exceed the specifications of Federal, State, County and / or Municipality laws requiring inspection for disease and insect control.
- 1. Plants and planting methods shall conform to the latest edition of American Standard for Nursery Stock, American Nursery & Landscape Association, 1000 Vermont Avenue, NW, Suite 300, Washington, DC 20005
- 2. Plants shall be true and representative of their genus, species, cultivar, or variety. Nursery stock shipped in accordance with the required specifications shall be deemed to be acceptable within the terms of this section if it is typical in size and habit for the species in the region of the country in which it is grown unless the specifications include additional details.
- <u>Prior to ordering any plant material, representative photos of each species shall be provided for review and</u> acceptance.
- 4. One of each bundle or lot shall be tagged with name and size of the plant in accordance with American Nursery & Landscape Association standards. In all cases, botanical names shall take precedence over common names. Landscape Architect should be consulted in the event questions arise about nomenclature of plants to be used and their availability.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver grass seed in original containers showing analysis of seed mixture, percentage of pure seed, year of production, net weight, date of packaging and location of packaging. Damaged packages are not acceptable.
- B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.
- C. Deliver sod on pallets.
- D. Handling of plants shall be by lifting the root mass or container and not by lifting plant by trunk or branches. Handling of plants in an improper fashion shall be cause for rejection of plant materials. Care must be taken during all phases of the location and planting procedures not to damage root system, trunk or branches. All plant materials shall be planted as soon after arrival at the site as possible. Contractor is responsible for keeping plants safe from injury by the construction activity and watered to prevent drying out before planting. Balled and burlapped plants shall be "Healed-in" and protected with burlap or other accepted material if they cannot be planted upon delivery. Plants with broken major branches, badly bruised or damaged bark are not acceptable and will be rejected.

1.5 PLANTING DATES

- A. The planting season for trees, shrubs and groundcovers is between October 1st and June 1st of the following year. Do not plant if temperature is below freezing or above 90 degrees. Planting at any other time other than the planting season is the Contractor's option and full responsibility and without additional compensation. Planting may, at the option of the Contractor, be postponed into the following planting season but without additional compensation provided the Owner and local governing jurisdiction have
- C. Planting dates for sod, sprigging or seeding shall be per the grassing specification.

1.6 MEASUREMENT AND PAYMENT

- A. Measurement The items listed in the proposal shall be considered as sufficient to complete the work in accordance with the plans and specifications. Any portion of the work not listed in bid form, but required to complete the work, shall be deemed to be a part of the item with which it is associated and shall be included in the cost of the unit shown on the bid form.
- B. Payment Payment for the unit shown on the bid form shall be considered to cover the cost of all labor, material, equipment, and performing all operations necessary to complete the work in place. No payment will be made for any material wasted, used for the convenience of the Contractor, unused or rejected.
- 1. Trees, Shrubs, and Groundcovers Will be paid for at the contract unit price for planted/installed and accepted trees, shrubs, and groundcovers.
- 2. Payment for grassing will be made per the grassing specification.
- 3. Clearing Will be paid for at the lump sum price for clearing.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Contractor shall, at time of delivery, furnish Owner and / or Landscape Architect with invoices of all materials received; in order the quality and source of materials may be reviewed.

2.2 TOPSOIL

- A. TOPSOIL SHALL BE FERTILE, FRIABLE SOIL CONTAINING LESS THAN 5% TOTAL VOLUME OF THE COMBINATION OF SUBSOIL, REFUSE ROOTS LARGER THAN 1 INCH DIAMETER, HEAVY, STICKY OR STIFF CLAY, STONES LARGER THAN 2 INCHES IN DIAMETER, NOXIOUS SEEDS, STICKS, BRUSH, LITTER, OR ANY SUBSTANCES DELETERIOUS TO PLANT GROWTH. THE PERCENT (%) OF THE ABOVE OBJECTS SHALL BE CONTROLLED BY SOURCE SELECTION NOT BY SCREENING THE SOIL. TOPSOIL SHALL BE SUITABLE FOR THE GERMINATION OF SEEDS AND THE SUPPORT OF VEGETATIVE GROWTH. IMPORTED TOPSOIL SHALL NOT CONTAIN WEED SEEDS IN QUANTITIES THAT CAUSE NOTICEABLE WEED INFESTATIONS IN THE FINAL PLANTING BEDS. IMPORTED TOPSOIL SHALL MEET THE FOLLOWING PHYSICAL AND CHEMICAL CRITERIA:
- 1. SOIL TEXTURE: USDA LOAM, SANDY CLAY LOAM OR SANDY LOAM WITH CLAY CONTENT BETWEEN 15 AND 25%. AND A
- COMBINED CLAY/SILT CONTENT OF NO MORE THAN 55%. 2. PH VALUE SHALL BE BETWEEN 5.5 AND 7.0.
- PERCENT ORGANIC MATTER (OM): 2.0-5.0%, BY DRY WEIGHT.
- 4. SOLUBLE SALT LEVEL: LESS THAN 2 MMHO/CM.
- 5. SOIL CHEMISTRY SUITABLE FOR GROWING THE PLANTS SPECIFIED.
- B. IMPORTED TOPSOIL SHALL BE A HARVESTED SOIL FROM FIELDS OR DEVELOPMENT SITES. THE ORGANIC CONTENT AND PARTICLE SIZE DISTRIBUTION SHALL BE THE RESULT OF NATURAL SOIL FORMATION. MANUFACTURED SOILS WHERE COARSE SAND, COMPOSTED ORGANIC MATERIAL OR CHEMICAL ADDITIVES HAS BEEN ADDED TO THE SOIL TO MEET THE REQUIREMENTS OF THIS SPECIFICATION SECTION SHALL NOT BE ACCEPTABLE. RETAINED SOIL PEDS SHALL BE THE SAME COLOR ON THE INSIDE AS IS VISIBLE ON THE OUTSIDE.
- C. IMPORTED TOPSOIL FOR PLANTING SOIL SHALL NOT HAVE BEEN SCREENED AND SHALL RETAIN SOIL PEDS OR CLODS LARGER THAN 2 INCHES IN DIAMETER THROUGHOUT THE STOCKPILE AFTER HARVESTING.
- D. STOCKPILED EXISTING TOPSOIL AT THE SITE MEETING THE ABOVE CRITERIA MAY BE ACCEPTABLE.
- E. PROVIDE A ONE GALLON SAMPLE FROM EACH IMPORTED TOPSOIL SOURCE(S) WITH REQUIRED SOIL TESTING RESULTS OF ALL EXISTING TOPSOIL TO BE USED. THE SAMPLE SHALL BE A MIXTURE OF THE RANDOM SAMPLES TAKEN AROUND THE SOURCE STOCKPILE OR FIELD.

LANDSCAPING SPECIFICATION

2.3 SEED A. See grassing specification.

2.4 SPRIG See grassing specification.

2.5 SOD

A. See grassing specification. 2.6 PLANT MATERIALS

- A. Provide all plant materials as indicated on the plans. In the event of any discrepancies between quantities of plants indicated on the plant schedule and those indicated on the plan, plan quantities shall govern.
- B. Plants shall be sound, healthy and vigorous, well branched and densely foliated when in leaf. They shall be free of disease, insect pests, eggs or larvae, and shall have healthy, well developed root systems. Plants shall be from a nursery within 300 miles north or south of the project location and shall have been grown under climate conditions similar to those in the locality of project. Trees for planting in rows shall be uniform in size and shape.
- B. Plants shall possess a normal balance between height and width. Plants shall be measured when branches are in their normal position. Height and spread dimensions specified refer to the main body of plant and not from branch tip to tip. Plants larger in size than specified may be used with no change in contract price.
- C. Plants shall be dug with firm natural balls of earth, of diameter not less than recommended by American Standard for Nursery Stock and of sufficient depth to include fibrous and feeding roots. Plants will not be accepted if ball is cracked or broken before or during planting operations.
- D. Trees specified for Street Tree Grade shall conform to standards of the A.N.L.A.:
- 1. Suitable for planting as street trees.
- 2. Free of branches to approximately 50% of height from ground.
- 3. Crown of tree shall be in good balance with the trunk.

2.7 FERTILIZER

A. Commercial fertilizer shall be slow release 5-10-10 or 6-12-12 (or as recommended by soil test), uniform in composition, free flowing, and suitable for application with appropriate equipment. Deliver to site unopened in manufacturer's standard containers showing weight, analysis and name of manufacturer. If stored on site, protect from the elements.

2.8 PEAT MOSS

A. Peat moss shall be finely shredded, 90% organic moss peat, brown in color and suitable for horticultural purposes. Peat shall be measured in air dry condition, containing not more than 35% moisture by weight. Ash content shall not exceed 10%.

2.9 MULCH FOR TREES, SHRUBS, AND GROUND COVERS

- A. Mulch for non bio-retention areas shall be as shown on plans.
- B. Mulch for bio-retention areas shall be shredded hardwood.

2.10 STAKING EQUIPMENT

A. Trees and palms shall be staked as shown in landscape plans.

2.11 WATER

A. Contractor shall provide water to the project via the installation of a new irrigation system for the grea shown on the plans. For bidding purposes, the contractor shall assume drilling a new well with associated pumps and controls as needed for irrigation.

PART 3 - EXECUTION

3.1 FINE GRADING

- A. All areas within limits of construction shall be fine graded to the desired grades. All areas within limits of construction are to be fine graded, free of roots, debris and/or other objectionable material, before planting or grassing commence. Any additional fill material needed to fill low or uneven areas shall be provided by the Contractor. Positive drainage away from structures shall be provided in all plant beds so standing water does not occur. Planting beds shall be raised above adjacent lawn areas to provide good drainage conditions.
- B. Planting and grassed areas, if not loose, shall be loosened to a minimum depth of 3-inches before fertilizer, seed or sod is applied.

3.2 FERTILIZER AND SOIL AMENDMENTS

- A. Contractor shall provide Topsoil Analysis Tests that has been performed by a State Agricultural Experiment Station, Soil and Water Conservation District, State University, or other qualified private testing laboratory, as approved by
- B. Apply fertilizer and soil amendments after fine grading and mix thoroughly into upper 2 inches of soil.
- C. Fertilizer and other necessary soil amendments shall be applied at the rate recommended by Topsoil Analysis Test.

3.3 SODDING

A. See grassing specification.

3.4 SPRIGGING

A. See grassing specification

3.5 SEEDING

A. See grassing specification.

3.6 SEED PROTECTION

A. See grassing specification.

3.7 LAYOUT OF TREES, SHRUBS, AND GROUND COVERS

A. All plants shall be placed in the proper location as shown on construction plans, allowing Landscape Architect to review all plant locations prior to actual planting. Landscape Architect may make minor adjustments which shall not be cause for changes to the contract price.

3.8 OBSTRUCTIONS BELOW GROUND

- A. Prior to excavating planting holes, Contractor shall determine the exact location of electrical, phone, or television cables or conduits, water, drainage or sewer lines, and any other subsurface structures and take precautions to protect them. Any damage to underground utilities shall be repaired immediately at the Contractor's expense.
- B. In the event rock, underground construction work, or other obstructions are encountered in any plant hole excavation under this contract, alternate locations may be selected. Where locations cannot be changed, the obstructions shall be removed to a depth of not less than three (3) feet below grade and not less than six (6) inches below bottom of ball or roots when plant is properly set at the required grade. The Contractor shall be responsible for the removal of such rock or other underground obstructions encountered.

3.9 PLANTING HOLES

A. For trees, shrubs and ground covers the planting hole shall be as shown on planting details in the plans. Do not leave planting holes open overnight. In the event that plant holes are dug and not planted in a timely manner, install four (4) foot high orange safety fencing around all excavated areas.

3.10 PLANTING TREES AND SHRUBS

- A. Shall be same as grown in the nursery and/or container soil level. Adjust bottom soil mix to insure proper planting level with the proposed surrounding grades. Check plants to insure proper vertical alignment.
- B. Fill holes to proper height to receive plant, and thoroughly tamp before setting the plant. Set plant in upright position in the center of the hole, and compact the backfill mixture around the ball or roots. Add soil amendments as required to improve fertility of existing soil and plant growing conditions.
- 1. When balled or burlapped plants are set, compact topsoil around base of ball to fill all voids. All bindings shall be removed and the top half of burlap removed from around root ball. If burlap is made of natural fibers it can be laid back from the root mass or can be cut away. Remove all burlap if it is made of non-degradable material/fabric. All weeds growing on the root mass shall be removed prior to planting.
- 2. Containerized plants shall have the container removed prior to planting. Care shall be taken to protect root mass from injury and the root mass intact. If root mass shows evidence of being bound or matted, three vertical 1/2" deep cuts shall be made on alternate sides of the root mass and roots pulled away slightly. This is to untangle roots which have begun to "circle" the root mass and to encourage new root growth. All weeds growing in the root mass shall be removed prior to planting.
- 3. Roots of bare root plants shall be spread out and topsoil carefully worked in among them. Remove with a clean cut, any broken or frayed roots.

3.11 PLANTING GROUND COVERS

A. Planting beds shall be thoroughly worked to a depth of twelve (12) inches incorporating fertilizer and other soil improvements at the recommended rate suggest by the soils test. Rake prepared planting bed until level, smooth and free from all soil, lumps, rocks, sticks and other deleterious materials. Bed area should be neatly outlined. Space the plants evenly as indicated on the drawings. Plant only in soil that is moist and friable, and not wet or soggy. In the case of planting in the open on hot days, shorten the time between planting and watering.

3.12 WATERING

- A. Thoroughly water each plant when the hole is 1/3 full, again at 2/3 full and then complete backfilling. Once backfilling is complete, water again, then tamp the soil in place until the surface of the backfill is level with the surrounding area and the plant bears the same relation of finished grade as it bore to existing grade before being dug.
- B. Earth saucers shall be constructed around the perimeter of planting holes of all trees and all single planted shrubs. Earth saucers shall be minimum 3" high and compacted to retain water. Earth saucers shall not be installed in areas where the subsoil is very poorly drained or around mass shrub / groundcover plantings.
- C. All trees and shrubs to be hand watered on a regular basis as necessary during the warranty period.

3.13 SOIL MIX

A. Shall be per existing soils on site with recommended amendments from soils test.

3.14 STAKING OF TALL PLANTS

A. Shall be done only if site / environment conditions make if required. If required, trees and palms shall be staked as indicated on the plans.

3.15 MULCHING

A. All plants shall be mulched with an evenly thick layer of clean mulch immediately after planting. Mass plant beds shall be completely mulched to the limits of the bed as shown on the plans. Limit of mulching for individual trees and shrubs shall be slightly beyond the saucer berm. The areas mulched shall be tidy and clean in appearance.

3.16 PRUNING

A. Remove dead, broken or bruised branches after planting using clean, sharp tools.

3.17 WEEDING

A. All planted areas shall be kept free from weeds and undesirable grasses until final acceptance by the Owner. See General notes on plans for additional information.

3.18 INSECT AND DISEASE CONTROL

A. All plant materials shall be disease or insect free upon arrival to the site, however, should any plants show signs of insect or disease infestations, Contractor shall identify nature of infestation and submit to Landscape Architect a proposed method of control. Contractor shall treat all infested plants at its expense. Should the infestation be wide spread and uncontrollable, plants affected shall be removed from site, fresh plants brought in and all other plants treated to prevent infestation of remaining plants at Contractor's expense.

3.19 CLEAN UP

A. Contractor is responsible for removing all trash, debris, rubbish and all other materials associated with the construction from site on a daily basis. All tags, flags, and labels will be removed from plants and trees. The site shall be left broom clean and tidy. Clean up of the site is a prerequisite to final acceptance by the Owner.

PART 4 - MAINTENANCE AND WARRANTY

4.1 MAINTENANCE

- A. Protect all plantings (grass, plants and trees) until accepted by Owner. All damage, regardless of cause, shall be immediately repaired and plants replaced if necessary. Erect temporary fences, barricades, signs and other protection as needed to prevent trampling. Contractor is not responsible for replacement of damaged or missing plants and plant materials due to vandalism or other acts beyond the control of the Contractor if proper barriers or other safeguards have been maintained.
- B. Maintenance shall include but is not limited to watering, weeding, cultivating, removal of dead material, mulch reapplication, resetting plants to proper grades or upright position, lawn mowing, fertilizing, and other necessary operations.
- C. The Contractor shall repair immediately any areas damaged as a result of construction operations or erosion.
- E. The Contractor shall maintain all proposed plantings until final acceptance is issued by the Owner.
- F. At the end of the maintenance period, all plants shall be in a healthy growing condition. During the maintenance period, should the appearance of any plant indicate weakness and probability of dying, immediately replace without additional cost to the Owner. Replacements required because of vandalism or other causes beyond the control of the Contractor are not part of this contract.

4.2 WARRANTY

- A. All shrubs, ground cover, and trees shall be guaranteed by the Contractor to be alive and healthy for a one year period after substantial completion is issued by the Owner. A final inspection with the Owner shall be conducted at the end of the warranty period to determine if any plants will be required to be replaced.
- B. Any lawn, plant, or tree which is dead or not showing satisfactory growth shall be replaced at Contractor's expense at the end of warranty period. All replacements shall be of original quality and of a size equal to adjacent plants or trees of the same kind.





0 \triangleleft ST JMP 0 0 Ф **B C** \simeq Ш

RD

NG NG

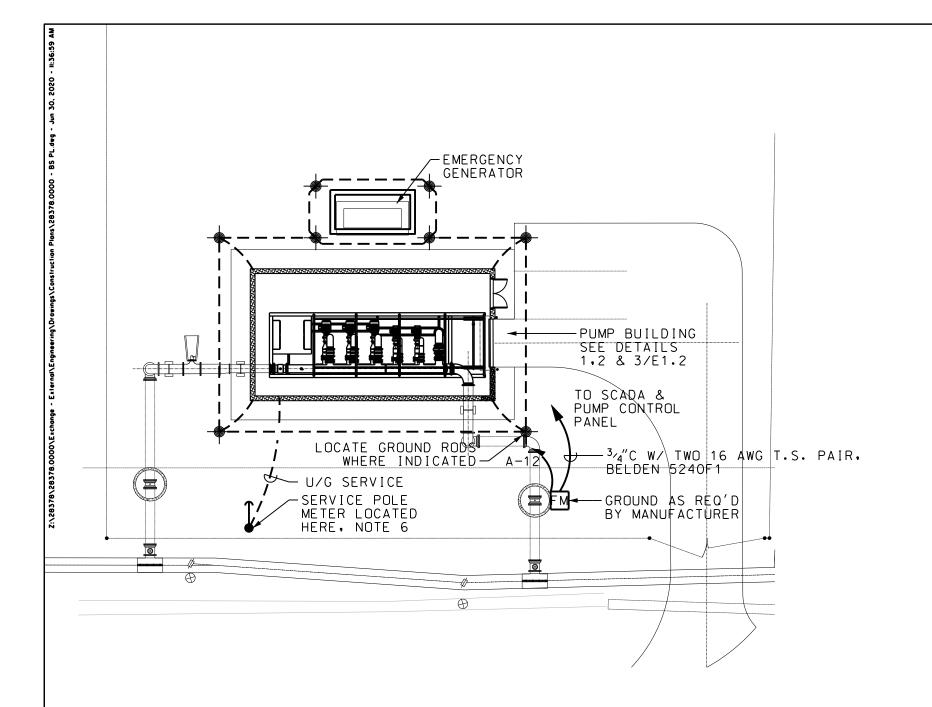
S UNT 00 \mathbf{m}

OUNT \circ \geq

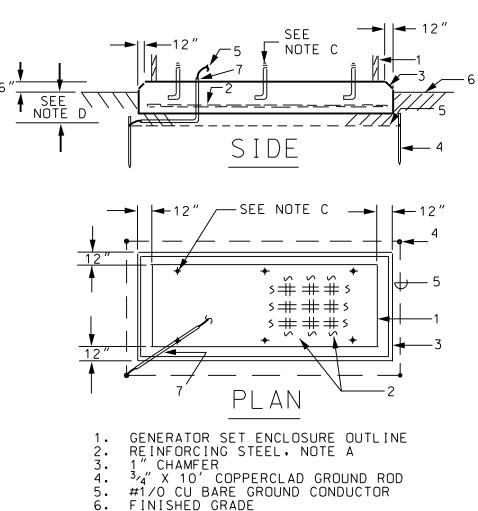
FINGH, 04/21/2020

DESIGNED: CET REVIEWED: RPT APPROVED: RPT CALE: NTS

DRAWN: CET



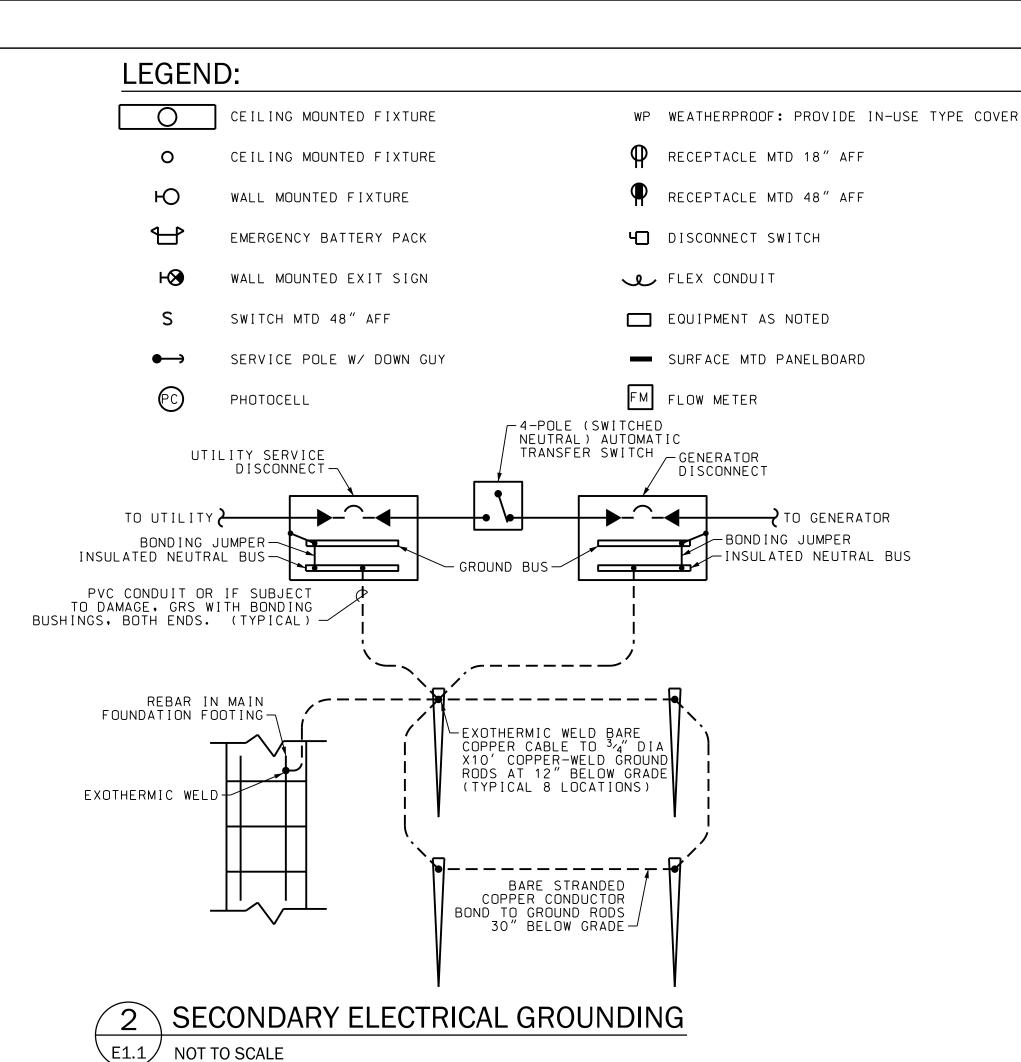


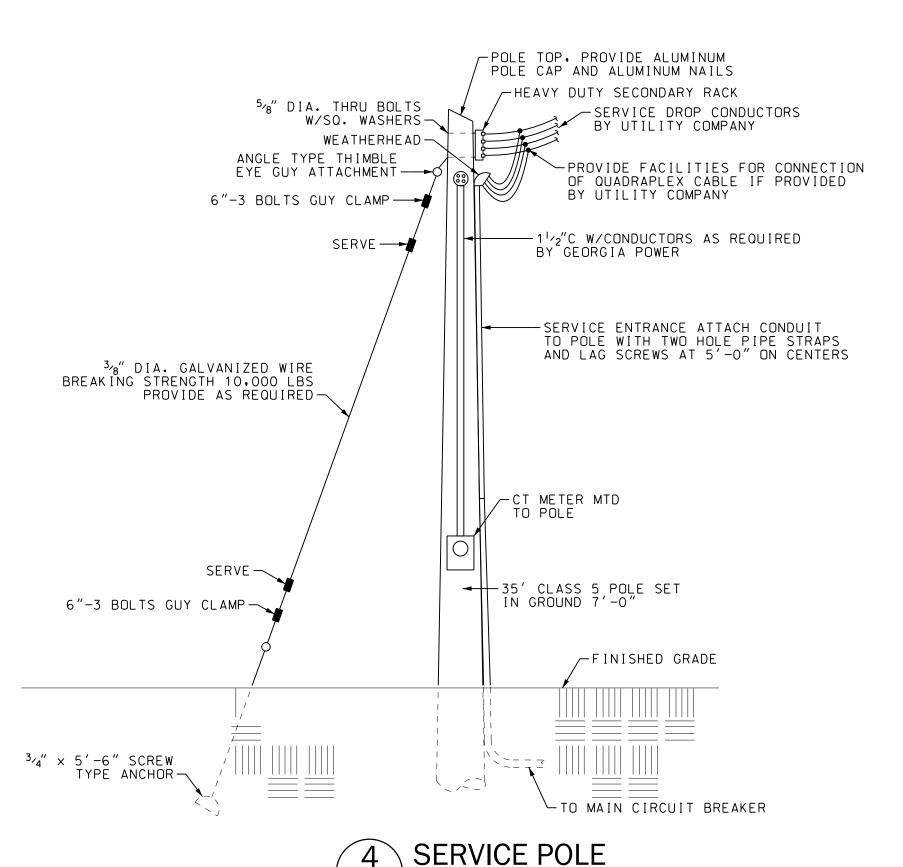


3/4" PVC. SEE NOTE B NOTES: EMERGENCY GENERATOR SET EXTERIOR FOUNDATION DETAIL

- #8 GA. STEEL WIRE MESH, 6" O.C. OR #6 REBAR, 12" O.C., HORIZONTALLY AND VERTICALLY.
- CONNECT TO GENERATOR GROUND CONNECTION LUG. VERIFY STUBUP LOCATION WITH MANUFACTURER'S SHOP DRAWINGS. WATER-PROOF CONDUIT END WITH SEALING COMPOUND.
- C. ANCHOR BOLTS FURNISHED WITH GENERATOR SET. PROVIDE SIX MINIMUM. TIE TO REINFORCING STEEL.
- DIMENSION SHALL BE 6" (12" OVERALL DEPTH) UP TO & INCLUDING 600 KW, 12" (18" OVERALL DEPTH) LARGER THAN 600 KW.

GENERATOR FOUNDATION DETAIL NOT TO SCALE





NOT TO SCALE

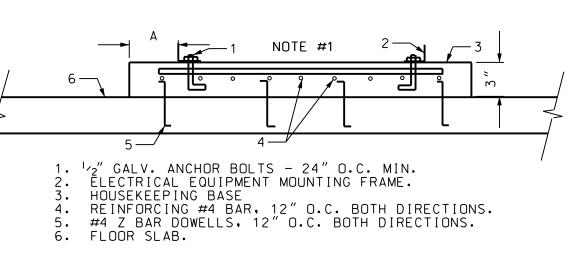
Grundfos SCADA Panel Pump System Control Panel NOTE 13



NOT TO SCALE

NOTES:

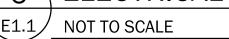
- 1. PROVIDE GREEN EQUIPMENT GROUNDING CONDUCTOR IN ALL RACEWAYS. SEE SPECIFICATIONS.
- 2. COORDINATE WORK WITH OTHER TRADES AND SITE CONDITIONS.
- 3. WHERE CONDUCTOR SIZE IS SHOWN FOR CIRCUIT, IT SHALL BE MAINTAINED FOR ENTIRE
- 4. ALL CONDUITS INSTALLED EXPOSED TO ATMOSPHERE SHALL BE RIGID ALUMINUM CONDUIT, ALL CONDUITS INSTALLED BELOW GRADE AND WHERE NOTED SHALL BE SCH.80 PVC. MINIMUM BURIAL DEPTH TO BE 24". PROVIDE DETECTABLE WARNING TAPE 12" BELOW FINISH GRADE, DIRECTLY ABOVE CONDUITS.
- 5. SEAL ALL CONDUITS ENTERING PANELS FROM BELOW GRADE WITH DUCT SEAL.
- THE EXACT LOCATION OF THE METER AND SERVICE SHALL BE COORDINATED IN THE FIELD WITH THE UTILITY COMPANY AND WITH OTHER WORK ON THE PROJECT SITE, CONTACT MIKE GRESHAM, DISTRIBUTION ENGINEER, GEORGIA POWER, 912-306-2758.
- CIRCUIT BREAKER AND SWITCH OPERATING HANDLES SHALL BE A MAXIMUM OF 66" ABOVE FINISHED GRADE. LOCATE METER AND SERVICE BREAKER WHERE INDICATED.
- 8. POSITION ELECTRICAL EQUIPMENT FOR BEST ACCESS TO ELECTRICAL EQUIPMENT.
- THE SURGE PROTECTION DEVICE (SPD) SHALL BE EXTERNALLY MOUNTED TO THE MAIN DISTRIBUTION PANEL, PROVIDE A CHASE NIPPLE THROUGH THE SIDE OF THE PANEL IMMEDIATELY ADJACENT TO THE BREAKER SERVING THE SPD. WIRE LENGTH FROM THE BREAKER LUGS TO THE SPD SHALL NOT EXCEED 18".
- 10. ENCLOSED CIRCUIT BREAKER SHALL BE U.L. APPROVED FOR USE AS SERVICE ENTRANCE EQUIPMENT, FURNISHED WITH INSULATED BONDED NEUTRAL, BONDING JUMPER AND MECHANICAL LUGS FOR ALL CONDUCTORS.
- 11. ALL ATTACHMENT HARDWARE SHALL BE STAINLESS STEEL. PROVIDE 304 STAINLESS STEEL 1/2"X 1/2" CHANNEL, CONDUIT CLAMPS NUTS, BOLTS AND WASHERS.
- 12. APPLY TWO COATS OF 3M SCOTCHRAP PIPE PRIMER AND TWO OVERLAPPING LAYERS OF 3M SCOTCHRAP 51 TAPE. APPLY FROM THE BOTTOM OF THE ALUMINUM CONDUIT OR ALUMINUM STRUCTURAL SUPPORT TO 6" ABOVE GRADE. APPLY TWO COATS OF 3M SCOTCHRAP PIPE PRIMER TO THE INTERIOR OF THE VERTICAL FRAME MEMBERS FOR 12" UP FROM THE BOTTOM.
- 13. COORDINATE ALL CONTROL WIRING AND INTERLOCKS WITH THE PUMP SYSTEM SUPPLIER AND GOFORTH WILLIAMSON/GRUNDFOS. PROVIDE A COMPLETE AND OPERATIONAL SYSTEM. TEST AND LABEL ALL CONDUCTORS.
- 14. THE BASIS OF DESIGN FOR THE STATION INCLUDES THE FOLLOWING SKID MOUNTED EQUIPMENT: TWO 60HP JOCKEY PUMPS
- THREE 125HP PUMPS
 TWO CONTROL PANELS WITH VFD'S AND PANEL MOUNTED AC UNITS. THE MAXIMUM MOTOR LOAD AT BUILDOUT WILL BE ONE 60HP AND THREE 125HP PUMPS ALL OPERATED ON VARIABLE FREQUENCY DRIVES.

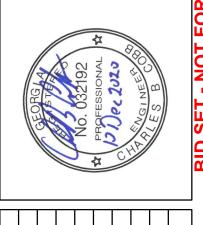


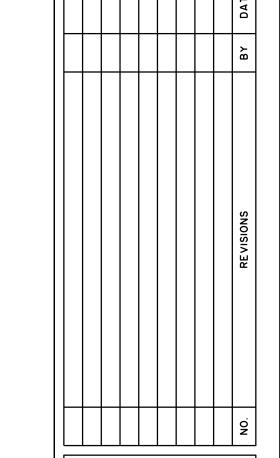
NOTES:

- 1. DIMENSION 'A' SHALL EXCEED DIMENSIONS OF EQUIPMENT BASE BY NOT LESS THAN THREE INCHES IN ALL DIRECTIONS.
- THIS DETAIL SHALL BE APPLICABLE TO FLOOR MOUNTED DRY TYPE TRANSFORMER, FLOOR MOUNTED AUTOMATIC TRANSFER SWITCH COMMUNICATION EQUIPMENT RACKS AND OTHER FLOOR MOUNTED ELECTRICAL EQUIPMENT EXCEEDING 200 LBS IN

ELECTRICAL EQUIPMENT HOUSEKEEPING BASE







N 0 \triangleleft S

SION

INGHAM CO

 \propto

 \circ

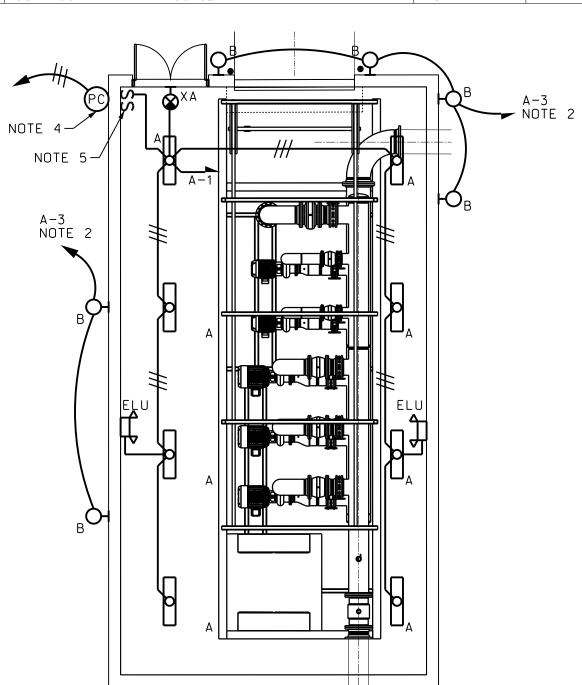
BOOSTER OUNT \circ INGHAM || ഗ

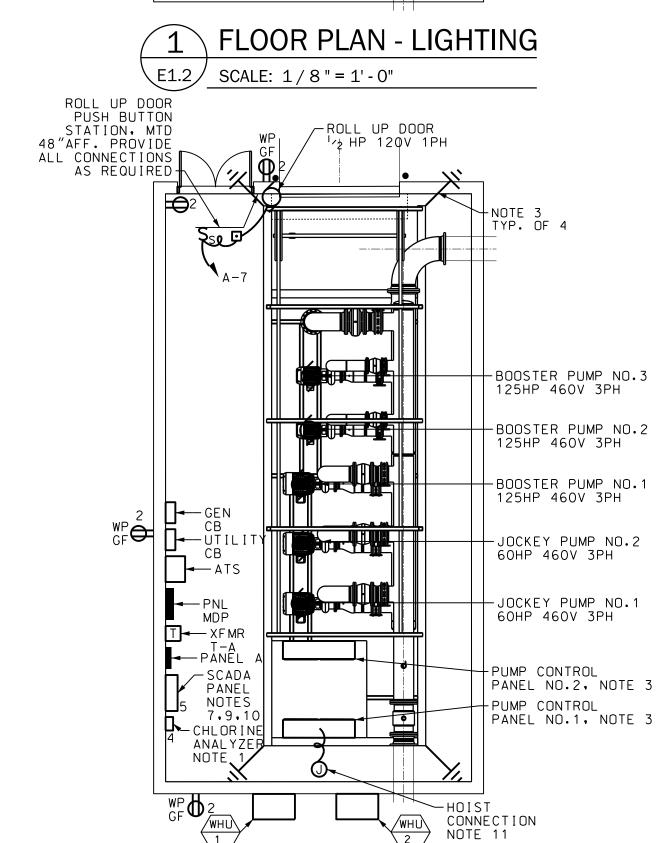
∥ m

JOB NO: J-28378.0000 DATE: 12/10/2020 DRAWN: AL DESIGNED: C

REVIEWED: PM APPROVED: CC SCALE: I" = 20'

LIGHTING FIXTURE SCHEDULE ALL FIXTURES SHALL BE PROVIDED WITH LED SOURCE ILLUMINATION UNLESS OTHERWISE NOTED. TYPE DESCRIPTION MOUNTING NOTES LED VAPOR PROOF CEILING COLOMBIA LIGHTING CVT4-LS40-5800LM WALL LED WALL MTD LUMINAIRE SG1-20-4K7-FT-UNV-DBT 10'AFF HUBBELL ELU | LED EMERGENCY LIGHT WALL 10'AFF COMPASS CU2SD XA LED EXIT/EMERGENCY FIXTURE WALL 8'AFF COMPASS





FLOOR PLAN - POWER

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

COLLEGE OF BANEL IAL VOLTA BUS A A.I.C F Load Type Lighting NEC Article 220.60

NEC Table 220.44

NEC Table 220.56

NEC Article 220.60

1.0 1.0

0.0

FLOOR PLAN - HVAC

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

0.0

3.6 KVA **Notes:**

3.4 KVA

В

Receptacles

Kitchen Equipment

Air-Conditioning

Phase A Connected Load

Phase B Connected Load

SCHEDULE OF PANEL 'A'																			
AMP	240 / 120 S: 100 A TNG: 22,000 A		PHASE: 1 DEVICE AMPS: 50 A MCB MOUNTING: SURFACE								WIRE: 3 NEMA: 1								
LOCATION DESCRIPTION		LOAD (KVA)	LOAD TYPE						TRIP POLE	#	PH	#	TRIP POLE	LOAD TYPE			LOCATIO	ON DESCRIPTION	
	INTERIOR LIGHTS	0.4	Α	20A/1P	1	Α	2	20A/1P	В	1.0		RE	CEPTACLES						
	EXTERIOR LIGHTS	0.1	Α	20A/1P	3	В	4	20A/1P	Н	0.1		CHLO	RINE ANALYZER						
	SCADA PANEL	0.1	Н	20A/1P	5	Α	6	20A/1P	Н	0.6	G	ENERATOR	R BATTERY CHARGER						
	ROLL UP DOOR	1.6	Н	20A/1P	7	В	8	20A/2P	Н	1.5	C	SENERATO	R COOLANT HEATER						
	SPARE			20A/1P	9	Α	10	-	Н	1.5			-						
	SPARE			20A/1P	11	В	12	20A/1P	Н	0.1		FL	OW METER						
	SPARE			20A/1P	13	Α	14	20A/1P					SPARE						
	SPARE			20A/1P	15	В	16	20A/1P					SPARE						
SPARE				20A/1P	17	Α	18	20A/1P					SPARE						
					PANEL I	LOAD A	WALYSIS	6											
nd De	DESCRIPTION	Conn. KVA	Demand 2017 NEC KVA Reference			Load Type	I DESCRIPTION			Conn. KVA	Demand KVA	2017 NEC Reference							
	Lighting	0.5	0.6	NEC	Article 2	215.3	Ė		Heating		0.0	0.0	NEC Article 220.60						

0.0

0.0

TOTAL CONNECTED LOAD

TOTAL DEMAND LOAD

Largest Motor

Other Motors

Other Loads

0.0

7.0 KVA

7.1 KVA

0.0

NEC Article 440.7

NEC Article 440.7

29.2 AMPS 29.7 AMPS

LIGHTING AND POWER PLANS NOTES: PROVIDE CHLORINE RESIDUAL ANALYZER (HA2-FCI) FROM CHEMTRAC WITH LOCAL DISPLAY AND 4-20MA OUTPUT TO SCADA.

TOTAL CHLORINE WITH O ppm - 5 ppm SENSOR.
INSTALL ON OUTGOING LINE WITH OVERFLOW TO FLOOR DRAIN. OUTPUT TO BE CONNECTED TO SCADA. CONTRACTOR TO CALIBRATE ANALYZER AND SUBMIT DOCUMENTATION TO OWNER.

EXTEND THROUGH 3-POSITION SWITCH.

GROUND PUMP SKID FRAME AND FLOW METER TO SERVICE GROUNDING.

PHOTOCELL, MOUNTED UNDER EAVE, PROVIDE TORK/NSI MODEL 2107, EXTEND TO 3-POSITION SWITCH FOR PHOTO CONTROL.

FURNISH AND INSTALL A 20A 120/277V SINGLE POLE, MAINTAINED THREE-POSITION SWITCH FOR CONTROL OF EXTERIOR LIGHTS. UP - PHOTO CONTROL, CENTER - OFF, - DOWN - MANUAL ON. LABEL SWITCH POSITIONS AND PROVIDE NAMEPLATE FOR SWITCH. HUBBELL HBL 1385.

EXTEND GENERATOR ALARM AND PRE-ALARM AND GENERATOR RUN SIGNALS TO THE SCADA PANEL.

7. EXTEND 1"C W/CAT6 CABLE FROM SCADA PANEL TO PUMP CONTROL PANELS.

EXTEND 3/4"C W/4NO.14, 1NO.14(G) FROM ATS TO BOOSTER PUMP CONTROL PANEL, ATS SHALL PROVIDE PRE-TRANSFER SIGNAL AND POST-TRANSFER SIGNAL/ DELAY START TO CONTROL PANEL FOR LOAD STEP CONTROL. SCADA SYSTEM (CABINET, ANTENNA, RTU, ETC.) SHALL BE FURNISHED BY GOFORTH WILLIAMSON/GRUNDFOS. EQUIPMENT SHALL BE INSTALLED BY THE CONTRACTOR, CONTACT JIMMY EGAN, ACCOUNT MANAGER, 77-467-0303, ALL SCADA WIRING TERMINATIONS AND SYSTEM START-UP BY GOFORTH WILLIAMSON.

10. FURNISH AND INSTALL SCADA SYSTEM. PROVIDE WIRING

FOR THE FOLLOWING DISCRETE SIGNALS: POWER FAIL - TRANSFER SWITCH

GENERATOR RUN - TRANSFER SWITCH

GENERATOR FAIL - GENERATOR GENERATOR PRE-ALARM - GENERATOR ETHERNET CONNECTION FROM BOOSTER PANEL TO

SCADA PANEL. CHLORINE ANALYZER 4-20mA SIGNAL FLOW METER 4-20mA SIGNAL

11. THE CONTRACTOR SHALL PROVIDE A COMPLETE FESTOON
CABLE SYSTEM, TO PROVIDE POWER TO THE MOTORIZED
TROLLEY/HOIST. THE SYSTEM CONSISTS OF PAINTED
STEEL C-RAIL, STAINLESS STEEL CABLE TROLLEYS, FESTOON
CABLE(SUNLIGHT RESISTANT/OUTSIDE INSTALLATION RATED).
THE C-RAIL SHALL BE MOUNTED TO THE CEILING ADJACENT
TO THE HOIST SUPPORT BEAM, INSTALL AND SUPPORT IN
ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.
PROVIDE PRODUCTS OF CONDUCTIX/WAMPFLER, NO SUBSTITUTIONS.
CONTACT JERRY KOETTING, SOUTHEAST SALES, CONDUCTIX/WAMPFLER, (770)330-4608, EXT.574. REF: EFFINGHAM COUNTY WAMPFLER, (770)330-4608, EXT.574 . REF: EFFINGHAM COUNTY BOOSTER PUMP STATION.

Z

ATION ST

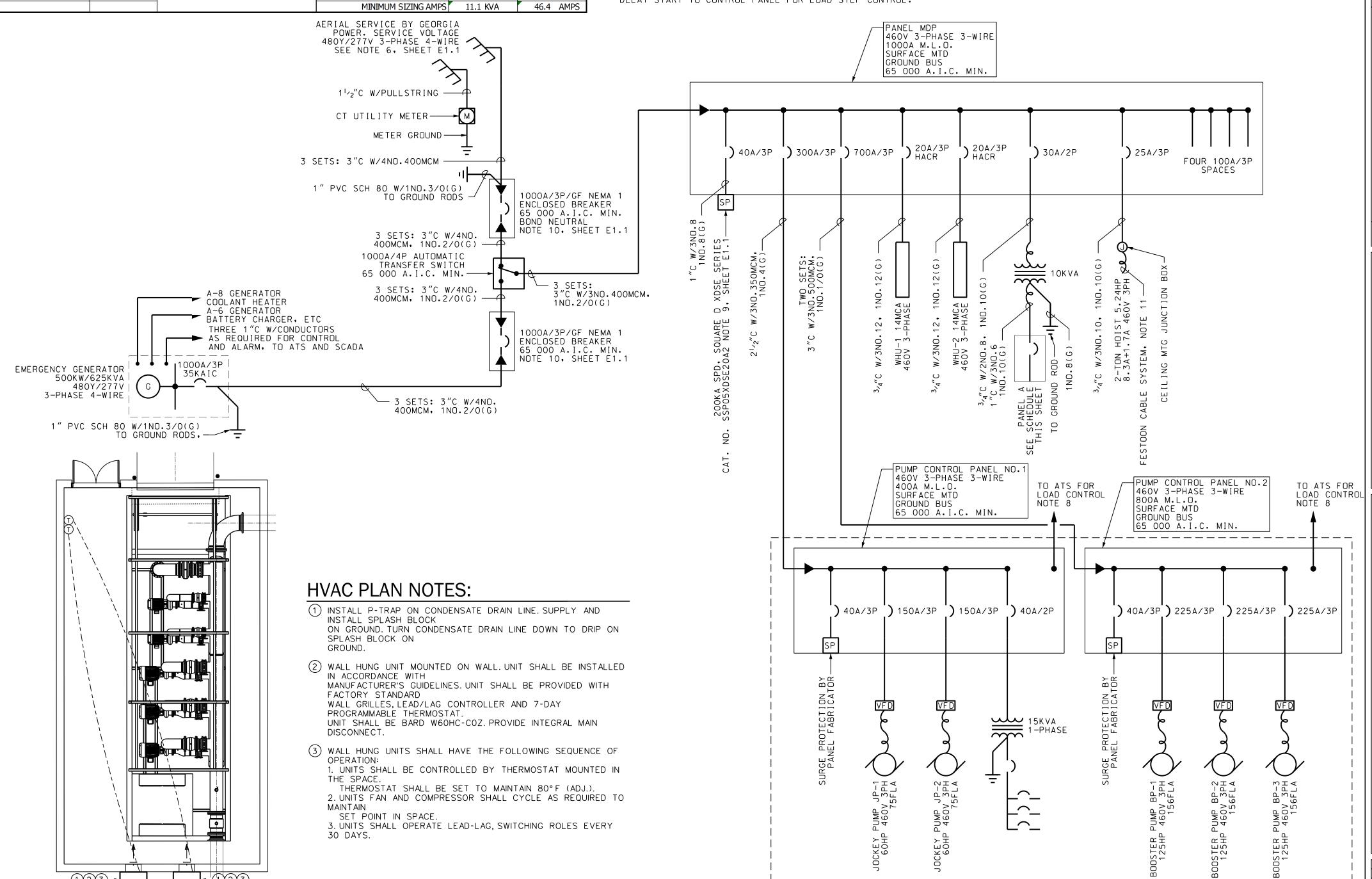
PUMP SION BOOSTER ONE ď INGHAI OF CO OUNT \circ \propto \triangleleft

EFFINGHAM JOB NO: J-28378.0000 DATE: I2/I0/2020

 \circ

N N

DRAWN: AL DESIGNED: C REVIEWED: PM APPROVED: CC SCALE: 1/8" = 10'



ONE LINE DIAGRAM

SCALE: NONE

PREWIRED SKID PACKAGE PUMPING SYSTEM