PUMP STATION 4059
IMPROVEMENT PLANS
3058 OLD CYPRESS MILL ROAD
BRUNSWICK, GA 31520

GEORGIA REGISTERED No. 034205 PROFESSIONAL ENGINEER JONATHAN ROBERTS
08/12/2020

PREPARED FOR:
COASTAL CLUB BRUNSWICK, LLC
8830 MACON HIGHWAY #300
ATHENS, 30606

ROBERTS
CIVIL ENGINEERING
WWW.ROBERTSCIVILENGINEERING.COM

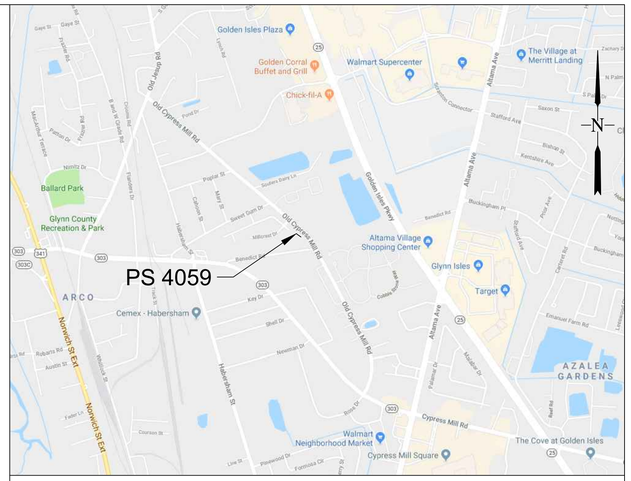
301 SEA ISLAND ROAD, SUITE 10
ST. SIMONS ISLAND, GA 31522
912-638-9681

6001 CHATHAM CENTER DRIVE, SUITE 255
SAVANNAH, GA 31405
912-298-7006

14600 WHIRLWIND AVE, SUITE 119A
JACKSONVILLE, FL 32218
904-741-0099

4000 FABER PLACE DRIVE, SUITE 300
NORTH CHARLESTON, SC 29405
843-323-1038

811 Know what's below. Call before you dig.



VICINITY MAP NTS

GLYNN COUNTY, GA

PS 4059 IMPROVEMENT PLANS

OWNER	ENGINEER
BRUNSWICK-GLYNN JOINT WATER & SEWER	ROBERTS CIVIL ENGINEERING
CONTACT	CONTACT
JASON VO, P.E.	WESLEY FRANKS
EMAIL	EMAIL
JVO@BGJWSC.ORG	WFRANKS@ROBERTSCIVILENGINEERING.COM

REVISIONS

2020-06-26: PER BGJWSC COMMENTS
2020-08-06: PER BGJWSC COMMENTS
2020-08-12: PER BGJWSC COMMENTS

2020-05-04: ORIGINAL ISSUE DATE RCE PROJECT NUMBER: 18122

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COVER

GENERAL NOTES

1. REFERENCED PUMP AND PANEL MANUFACTURER AND MODEL NUMBER INFORMATION CONTAINED IN THESE CONSTRUCTION PLANS IS TO ESTABLISH A BASIS-OF-DESIGN, BUT IS OPEN TO STANDARD DISTRIBUTORS OF EQUIVALENT AND COMPARABLE EQUIPMENT.

2. ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS.

3. CONTRACTOR SHALL ASSURE THAT ALL CONSTRUCTION PERMITS HAVE BEEN OBTAINED PRIOR TO COMMENCEMENT OF WORK. REQUIRED PERMITS THAT CAN BE ISSUED TO CONTRACTOR WILL BE OBTAINED AT HIS EXPENSE.

4. ANY DEVIATIONS FROM THE PLANS ARE PROHIBITED WITHOUT THE WRITTEN CONSENT OF THE ENGINEER.

5. THE CONTRACTOR IS TO IMMEDIATELY CONTACT THE ENGINEER IF ANY UNFORESEEN COMPLICATIONS OR DISCREPANCIES OCCUR.

6. CONTRACTOR SHALL COORDINATE THE CONSTRUCTION OF ALL UTILITIES ON SITE WITH THE APPROPRIATE PROVIDER (e.g. POWER, PHONE, CABLE, ETC.)

7. THE ENGINEER SHALL NOT BE HELD RESPONSIBLE FOR THE PHYSICAL CONSTRUCTION OF THE SITE.

8. CONTRACTOR SHALL MAINTAIN A SAFE SITE AND MEET ALL APPROPRIATE REGULATIONS CONCERNING SAFETY.

9. SURVEY DATA PROVIDED BY SHUPE SURVEYING COMPANY, P.C. 3837 DARIEN HWY BRUNSWICK, GA 31523 912-265-0562

10. EXISTING SURVEY INFORMATION TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY ENGINEER OF ANY DISCREPANCIES IN FIELD OBSERVATIONS VERSUS SURVEY DATA.

11. CONTRACTOR TO LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION BY CALLING THE CALL BEFORE YOU DIG HOTLINE: 811.

12. ACCORDING TO FEMA FLOOD INSURANCE RATE MAP 13127C0228H DATED 01-05-2018 THE SITE IS LOCATED IN THE 100 YEAR FLOODPLAIN IN ZONE X, WHICH IS NOT IN A SPECIAL FLOOD HAZARD AREA.

13. HORIZONTAL DATUM BASED ON GEORGIA STATE PLANE COORDINATE SYSTEM, EAST ZONE. NAD83. VERTICAL DATUM BASED ON NAVD88.

14. TRAFFIC CONTROL PLANS SHALL BE PROVIDED TO GLYNN COUNTY IN ORDER TO OBTAIN RIGHT OF WAY WORK PERMIT. CONTRACTOR TO BE RESPONSIBLE FOR PROVIDING TRAFFIC CONTROL PLANS AND DETAILS.

15. CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL DISTURBANCE AND DAMAGE CAUSED BY PROJECT CONSTRUCTION EQUAL TO OR BETTER THAN PRE-CONSTRUCTION CONDITIONS. ALL RESTORATION WILL BE INSPECTED BY AND MUST BE TO THE SATISFACTION OF GLYNN COUNTY AND/OR BGJWSC.

16. CONTRACTOR RESPONSIBLE FOR STABILIZATION OF ALL AREAS DISTURBED BY THE PROJECT CONSTRUCTION. FOR DISTURBANCES ADJACENT TO FRONTAGE OF RESIDENTIAL LOTS, CHURCHES AND BUSINESSES, AND WITHIN 100 FT OF A SUBDIVISION OR MULTIFAMILY USE ENTRANCE, STABILIZATION SHALL BE SOD. STABILIZATION WITHIN DITCH/SWALE AREAS SHALL BE SOD. ALL OTHER STABILIZATION IN UNPAVED AREAS MAY BE SEED.

17. THE CONTRACTOR SHALL PROVIDE IN WRITING ANY REQUESTS TO WORK ON WEEKENDS & HOLIDAYS. REQUESTS SHALL BE SUBMITTED TO THE OWNER AND ENGINEER FOR CONSIDERATION A MINIMUM OF 48 HOURS PRIOR TO THE REQUESTED WEEKEND & HOLIDAYS.

18. THE CONTRACTOR SHALL CREDIT THE JWSC BY CHANGE ORDER FOR INSPECTION SERVICES FOR OVERTIME WORK PERFORMED ON SUNDAYS OR LEGAL HOLIDAYS. THE AMOUNT OF CREDIT TO JWSC SHALL BE $50.00 PER HOUR, PER INSPECTION SERVICES.

SEWER FORCE MAIN NOTES

1. PIPE SHALL BE MANUFACTURED FROM A PE 3408 RESIN LISTED WITH THE PLASTIC PIPE INSTITUTE(PPI) AS TR-4. THE RESIN MATERIAL SHALL MEET THE SPECIFICATIONS OF ASTM D3350-02 WITH A MINIMUM CELL CLASSIFICATION OF PE 345464C. PIPE SHALL HAVE A MANUFACTURING STANDARD OF ASTM D3035. THE PIPE SHALL CONTAIN NO RECYCLED COMPOUNDS EXCEPT THAT GENERATED IN THE MANUFACTURER'S OWN PLANT FROM RESIN OF THE SAME SPECIFICATION FROM THE SAME RAW MATERIAL. THE PIPE SHALL BE HOMOGENEOUS THROUGHOUT AND FREE OF VISIBLE CRACKS, HOLES, FOREIGN INCLUSIONS, VOIDS, OR OTHER INJURIOUS DEFECTS. THE PIPE SHALL BE IDENTIFIED FOR THE APPLICATION BY A GREEN COLORED STRIPE AND, FOR LONG TERM IDENTIFICATION, "LOW PRESSURE SEWER FM" SHALL BE DEBOSSED(INDENT IMPRINTED) IN THE IDENTIFICATION LINE OF THE PIPE.
- PIPE & FITTINGS FOR 1-1/4" SERVICE SHALL BE SDR 9 IPS HDPE
- PIPE & FITTINGS FOR 2" & LARGER FORCE MAIN SHALL BE SDR 11 IPS HDPE

2. ALL JOINTS SHALL BE MADE BY FUSION OR WITH THE USE OF ELECTROFUSION FITTINGS. USE OF MECHANICAL CONNECTOR, FITTINGS OR INSERTS IS PROHIBITED. SOCKET FUSION, HOT GAS, THREADING, SOLVENTS, AND EPOXIES MAY NOT BE USED TO JOIN HDPE PIPE.

3. BUTT FUSION FITTINGS SHALL BE IN ACCORDANCE WITH ASTM D3261 AND SHALL BE MANUFACTURED BY INJECTION MOLDING, A COMBINATION OF EXTRUSION AND MATCHING OR FABRICATED HDPE PIPE CONFORMING TO THIS SPECIFICATION. ALL FITTINGS SHALL BE PRESSURE RATED TO PROVIDE A WORKING PRESSURE RATING NO LESS THAN THAT OF THE PIPE. THE USE OF FABRICATED FITTINGS SHALL BE LIMITED AS MUCH AS POSSIBLE. THE FITTING SHALL BE HOMOGENEOUS THROUGHOUT AND FREE OF VISIBLE CRACKS, HOLES, FOREIGN INCLUSIONS, VOIDS, OR OTHER INJURIOUS DEFECTS.

4. ELECTROFUSION FITTINGS SHALL BE PE3408 HDPE WITH MINIMUM CELL CLASSIFICATION OF 345464C AS DETERMINED BY ASTM D3350-02 AND BE THE SAME BSE RESIN AS THE PIPE. ELECTROFUSION FITTINGS SHALL HAVE A MANUFACTURING STANDARD OF ASTM F1055.

5. PRESSURE PIPELINES SHALL BE TESTED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE JWSC DESIGN AND CONSTRUCTION STANDARDS, PIPE MANUFACTURERS RECOMMENDATIONS AND ASTM F2164. HYDROSTATIC PRESSURE TESTING WITH CLEAN WATER WILL BE THE ONLY METHOD ALLOWED. AFTER ALLOWING FOR TEMPERATURE EQUALIZATION AND THE INITIAL EXPANSION PHASE, A TEST PRESSURE OF 100 PSI SHALL BE HELD FOR A PERIOD 1 HOUR. IF NO VISUAL LEAKAGE IS OBSERVED AND PRESSURE DURING THE TEST PHASE REMAINS STEADY(WITHIN 5% OF THE TEST PHASE PRESSURE) FOR THE 1 HOUR TEST PHASE PERIOD, A PASSING TEST IS INDICATED.

6. PIPE CONNECTIONS - SHALL HAVE FLEXIBLE WATERTIGHT JOINTS AT THE POINT OF ENTRY OF ANY SEWER MAIN INTO THE MANHOLE. THE JOINT SHALL BE WEDGED RUBBER SHAPE EQUIVALENT TO “PRESS WEDGE II,” OR A RUBBER SLEEVE EQUIVALENT TO “KOR-N-SEAL” OR “LOCK JOINT.”

7. #10 GAUGE SINGLE STRAND COPPER TRACING WIRE SHALL BE USED OVER ALL FORCE MAIN LINES.

8. SEWER EXCAVATIONS SHALL ADHERE TO THE OCCUPATIONAL AND SAFETY HEALTH ADMINISTRATION'S (OSHA) REGULATIONS. IN AREAS OF UNSUITABLE SOIL CONDITIONS, THE TRENCH MAY REQUIRE ADDITIONAL EXCAVATION AND BACKFILLED WITH SAND, GRAVEL, OR CONCRETE AT NO ADDITIONAL COST TO OWNER.

GENERAL SEWER NOTES:

1. PVC PIPE SHALL BE POLYVINYL CHLORIDE PLASTIC (PVC) AND SHALL MEET ALL REQUIREMENTS OF ASTM D 3034 SDR 26. ASTM D 2321 MUST BE FOLLOWED FOR THE INSTALLATION OF PVC PIPE. RUBBER RINGS SHOULD BE USED FOR CONTRACTION AND EXPANSION AT EACH JOINT. FITTINGS SHALL MEET THE SAME SPECIFICATION REQUIREMENTS AS THE PIPE. TESTS ON PVC PIPE SHALL BE DESIGNED TO PASS ALL TESTS AT 73° F. PIPE STANDARD LENGTHS SHALL BE 12.5 FEET (PLUS OR MINUS 1 INCH). PIPE SIZES AND DIMENSIONS SHALL BE AS SHOWN IN THE TABLE BELOW:

NOM SIZE	OUTSIDE DIA	MIN WALL THICKNESS
4"	4.215	0.162
6"	6.275	0.241
8"	8.400	0.323
10"	10.500	0.404
12"	12.500	0.481

2. JOINTS FOR PVC PIPE - SHALL BE INTEGRAL WALL BELL AND SPIGOT WITH A RUBBER RING GASKET. THE JOINTS SHALL CONFORM TO ASTM D 3212 AND THE GASKETS SHALL CONFORM TO ASTM F 477.

3. PRECAST CONCRETE MANHOLES- SHALL BE REINFORCED CONCRETE CONSTRUCTED IN ACCORDANCE WITH ASTM C 478 AND THE DETAILS SHOWN ON THE PLANS. THE JOINTS SHALL BE TONGUE AND GROOVE SEALED WITH FLEXIBLE GASKETS OR MASTIC SEALANT. GASKETS SHALL BE O-RING OR EQUIVALENT TO TYPE A OR B "TYLOX" CONFORMING TO ASTM C 443. MASTIC SHALL BE EQUIVALENT TO "RAM-NEK" WITH PRIMER. ALL CONTACT SURFACES OF THE MANHOLE JOINT SHALL HAVE THE PRIMER IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

4. FRAMES AND COVERS - SHALL BE LOCKING COMPOSITE, AND MINIMUM AASHTO H20 LOAD RATING.

5. PIPE CONNECTIONS - SHALL HAVE FLEXIBLE WATERTIGHT JOINTS AT THE POINT OF ENTRY OF ANY SEWER MAIN INTO THE MANHOLE. THE JOINT SHALL BE WEDGED RUBBER SHAPE EQUIVALENT TO "PRESS WEDGE II," OR A RUBBER SLEEVE EQUIVALENT TO "KOR-N-SEAL" OR 'LOCK JOINT."

6. #12 GAUGE SINGLE STRAND COPPER TRACING WIRE SHALL BE USED OVER ALL FORCE MAIN, SANITARY SEWER, AND SERVICE LATERAL LINES.

7. SEWER EXCAVATIONS SHALL BE TO THE DESIRED DEPTHS SHOWN ON THE PLANS WITH ADHERENCE TO THE OCCUPATIONAL AND SAFETY HEALTH ADMINISTRATION'S (OSHA) REGULATIONS. IN AREAS OF UNSUITABLE SOIL CONDITIONS, THE TRENCH MAY REQUIRE ADDITIONAL EXCAVATION AND BACKFILLED WITH SAND, GRAVEL, OR CONCRETE.

8. SEWER PIPES SHALL BE LAID UPGRADE WITH SPIGOTS POINTING DOWNGRADE. ASSEMBLY OF JOINTS SHALL COMPLY WITH MANUFACTURER'S RECOMMENDATIONS. SEAL OPEN ENDS OF PIPES IF INSTALLATION IS INTERRUPTED. MANHOLE CONNECTIONS SHOULD BE WATER TIGHT WITH THE USE OF FLEXIBLE WATER STOPS AND RESILIENT CONNECTORS.

9. MANHOLES SHALL HAVE A CHANNEL IN THE BOTTOM THAT IS SMOOTH AND ROUNDED. MANHOLE TOP ELEVATIONS SHALL BE GREATER THAN OR EQUAL TO THE FIFTY (50) YEAR FLOOD ELEVATION, UNLESS WATERTIGHT COVERS ARE PROVIDED. OUTSIDE OF PAVED AREAS, THE MANHOLE TOP ELEVATION SHALL BE 1" ABOVE THE GROUND SURFACE IN DEVELOPED AREAS AND 6" ABOVE THE GROUND SURFACE IN UNDEVELOPED AREAS UNLESS SHOWN OTHERWISE ON THE PLANS. MANHOLES IN PAVED AREAS SHALL BE BUILT AS DESIGNATED BY THE ENGINEER. NO LEAKS IN MANHOLES ARE ACCEPTABLE.

JWSC WATER & SEWER NOTES

1. ALL WATER AND SEWER CONSTRUCTION SHALL CONFORM WITH THE REQUIREMENTS OF THE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS OF THE BRUNSWICK GLYNN-COUNTY JOINT WATER & SEWER COMMISSION (JWSC). HOWEVER, JWSC IS IN THE PROCESS OF UPDATING THEIR STANDARDS. IN THE INTERIM, THE MATERIALS, EQUIPMENT, AND SPECIFICATIONS IN THESE CONSTRUCTION PLANS HAVE BEEN UPDATED TO JWSC'S PENDING NEW STANDARDS. IN THE EVENT OF A DISCREPANCY BETWEEN THESE CONSTRUCTION PLANS AND THE AFOREMENTIONED STANDARDS AND SPECIFICATIONS, THESE CONSTRUCTION PLANS SHALL TAKE PRECEDENCE. DISCREPANCIES SHALL BE BROUGHT IMMEDIATELY TO THE ATTENTION OF JWSC IN WRITING.

2. THE MINIMUM HORIZONTAL AND VERTICAL SEPARATION BETWEEN WATER LINES, SEWER LINES AND STORM DRAINS SHALL CONFORM TO THE LATEST GEORGIA EPD REQUIREMENTS.

3. A MINIMUM DISTANCE OF 20' OR TWO TIMES THE DEPTH OF THE MAIN, WHICHEVER IS GREATER, SHALL BE MAINTAINED FROM ALL BUILDINGS, FOUNDATIONS AND THE TOP OF BANK OF ALL PONDS. ANY DEVIATION FROM THIS REQUIREMENT MUST BE APPROVED IN WRITING BY THE JWSC.

4. PRESSURE AND LEAKAGE TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS OF THE JWSC.

5. DISINFECTION OF WATER MAINS SHALL BE PERFORMED IN ACCORDANCE WITH THE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS OF THE JWSC.

6. AT LEAST 72 HOURS PRIOR TO COMMENCEMENT OF THE WORK, THE CONTRACTOR SHALL NOTIFY THE UTILITIES PROTECTION CENTER (UPC) AT 1-800-282-7411 TO REQUEST UNDERGROUND UTILITY LOCATE SERVICE.

7. ALL GRAVITY SEWERS SHALL BE LOW PRESSURE AIR TESTED IN ACCORDANCE WITH JWSC STANDARDS 3.6.9.

8. ALL SANITARY SEWER MANHOLES SHALL BE VACUUM TESTED IN ACCORDANCE WITH JWSC STANDARDS 3.6.9.3.

9. ALL PORTIONS OF NEW SEWAGE FORCEMAIN SHALL UNDERGO A HYDROSTATIC TEST PER JWSC STANDARDS 4.7.7.

10. SEE JWSC STANDARD 2.5.3.3 FOR MINIMUM PIPE COVER REQUIREMENTS.

11. RECORD DRAWINGS MUST BE PROVIDED TO JWSC FOR PUBLIC WATER AND SEWER LINES IN ACCORDANCE WITH JWSC RECORD DRAWING STANDARDS.

12. BYPASS PUMPING UNIT SHALL BE CONNECTED, TESTED, AND APPROVED FOR USE BY THE JWSC, PRIOR TO BEING PUT INTO OPERATION. EXCEPT FOR TESTING OF THE IMPROVED PUMP STATION, THE UNIT SHALL BE KEPT IN CONSTANT OPERATION UNTIL THE IMPROVED PUMP STATION HAS BEEN APPROVED FOR RETURN TO SERVICE BY THE JWSC. CONTRACTOR SHALL MAINTAIN A BACKUP BYPASS PUMP UNIT (SAME CAPACITY) WITHIN 15 MINUTES DRIVE TIME FROM CONSTRUCTION SITE, WHICH CAN BE PUT INTO OPERATION WITHIN 60 MINUTES OF PRIMARY PUMP FAILURE. ALL TEMPORARY BYPASS PUMPING REQUIRED FOR REHAB WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE FOR THESE PUMPING REQUIREMENTS. ALL LABOR, DESIGN, EQUIPMENT, MATERIALS, RENTAL FEES, TEMPORARY PIPING AND INCIDENTALS SHALL BE CONSIDERED A SUBSIDIARY OBLIGATION TO THE CONTRACT.

13. THE JWSC RESERVES FIRST RIGHT OF SALVAGE FOR ALL EQUIPMENT REMOVAL AT EACH SITE.

14. THE JWSC WILL RETAIN SALVAGE RIGHTS TO ALL MATERIALS AND EQUIPMENT AND SUCH ITEMS RETAINED BY THE JWSC SHALL BE DELIVERED TO A PLACE DESIGNATED BY THE BGJWSC REPRESENTATIVE. ANY MATERIALS OR EQUIPMENT NOT RETAINED BY THE JWSC SHALL BE REMOVED FROM SITE AND DISPOSED OFF SITE BY THE CONTRACTOR IN ACCORDANCE WITH APPLICABLE REGULATION.

15. CONTRACTOR MUST PROVIDE ASSET INFORMATION IN A SPREADSHEET FOR ASSETS PURCHASED ON A SINGLE LINE ITEM COSTING $500 OR MORE. THE SPREADSHEET WILL BE USED TO UPDATE THE RECORDS IN THE JWSC ASSET MANAGEMENT DATABASE TO REFLECT EQUIPMENT IN THE PLANT.

16. CONTRACTOR SHALL NOTIFY THE RESPONSIBLE JWSC, PLANNING AND CONSTRUCTION DIVISION, 48 HOURS PRIOR TO BEGINNING CONSTRUCTION ON PROJECT.

GEORGIA REGISTERED No. 034205 PROFESSIONAL ENGINEER JONATHAN ROBERTS
08/12/2020

REVISIONS
2020-06-26: PER BGJWSC COMMENTS
2020-08-06: PER BGJWSC COMMENTS
2020-08-12: PER BGJWSC COMMENTS

ROBERTS CIVIL ENGINEERING
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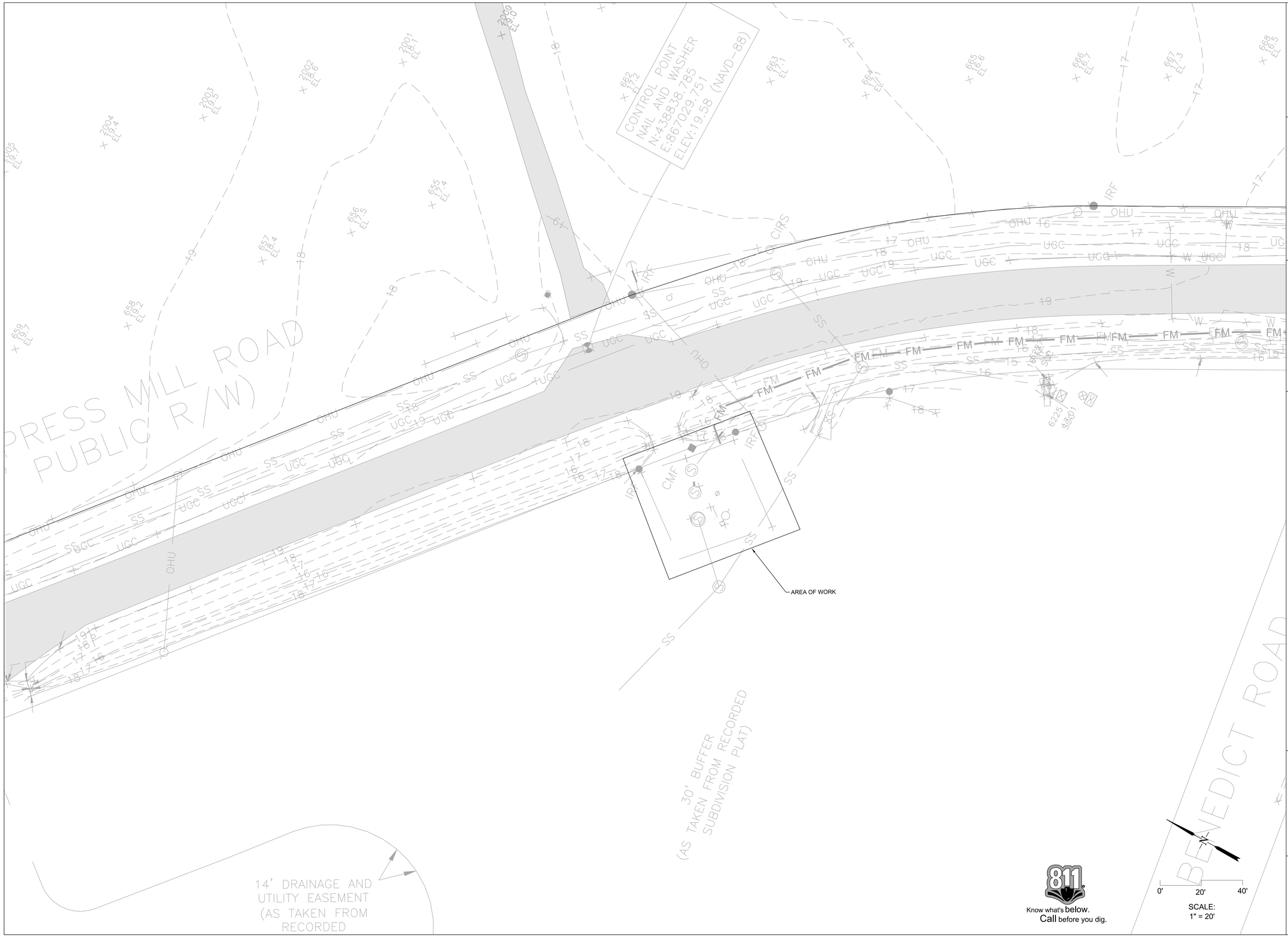
GENERAL NOTES

PS 4059 IMPROVEMENT PLANS
GLYNN COUNTY, GA

PREPARED FOR:
COASTAL CLUB BRUNSWICK, LLC

DATE: 2020-05-04
PROJECT NUMBER: 18122
DRAWN BY: BLH
CHECKED BY: JDR
SCALE: NTS

SHEET: 2



Know what's below.
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GEORGIA
No. 034205
PROFESSIONAL
JONATHAN ROBERTS
08/12/2020

REVISIONS

2020-06-26: PER BGIWSC COMMENTS
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EXISTING CONDITIONS PLAN

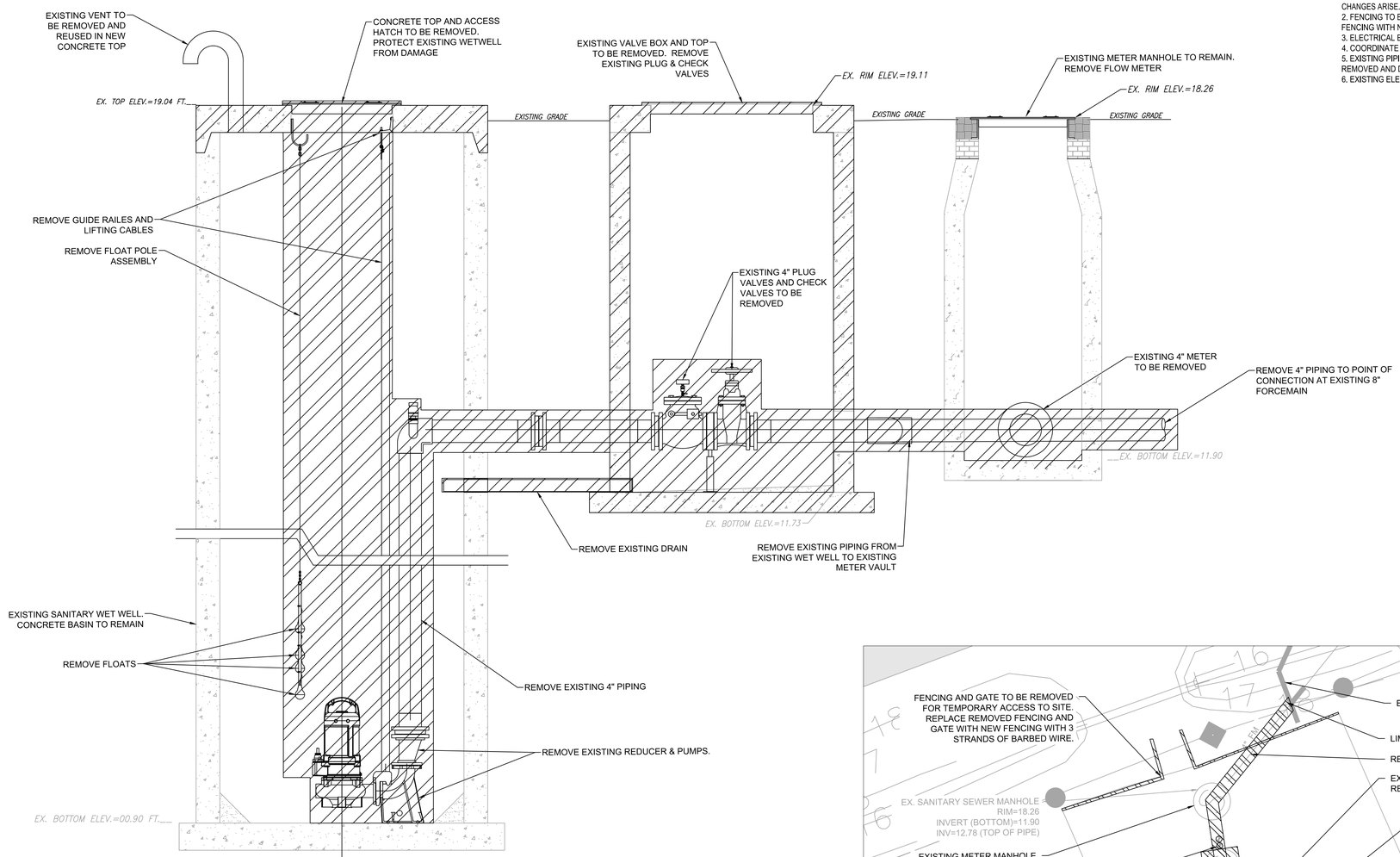
PS 4059 IMPROVEMENT PLANS
GLYNN COUNTY, GA

PREPARED FOR:
COASTAL CLUB BRUNSWICK, LLC

DATE: 2020-05-04
PROJECT NUMBER: 18122
DRAWN BY: BLH
CHECKED BY: JDR
SCALE: 1"=20' (FOR 24"X36" PLOT)

SHEET: 3

NOTES:
1. CONTRACTOR TO FIELD VERIFY ALL EXISTING DIMENSIONS & CONDITIONS PRIOR TO CONSTRUCTION OR FABRICATION. NOTIFY OWNER (JWSC) IMMEDIATELY IF CONFLICTS OR CHANGES ARISE.
2. FENCING TO BE REMOVED FOR TEMPORARY ACCESS TO SITE. REPLACE REMOVED FENCING WITH NEW FENCING.
3. ELECTRICAL EQUIPMENT, ANTENNA AND CONCRETE PAD TO BE REMOVED.
4. COORDINATE BYPASS WITH JWSC UPON REMOVAL AND START UP.
5. EXISTING PIPING, PUMPS, METER, VALVES AND INTACT VALVE VAULT/ACCESS HATCH TO BE REMOVED AND DELIVERED TO THE LOCATION DESIGNATED BY THE OWNER.
6. EXISTING ELECTRICAL EQUIPMENT TO BE REMOVED AND RETURNED TO JWSC.



EXISTING 6' DIA WET WELL
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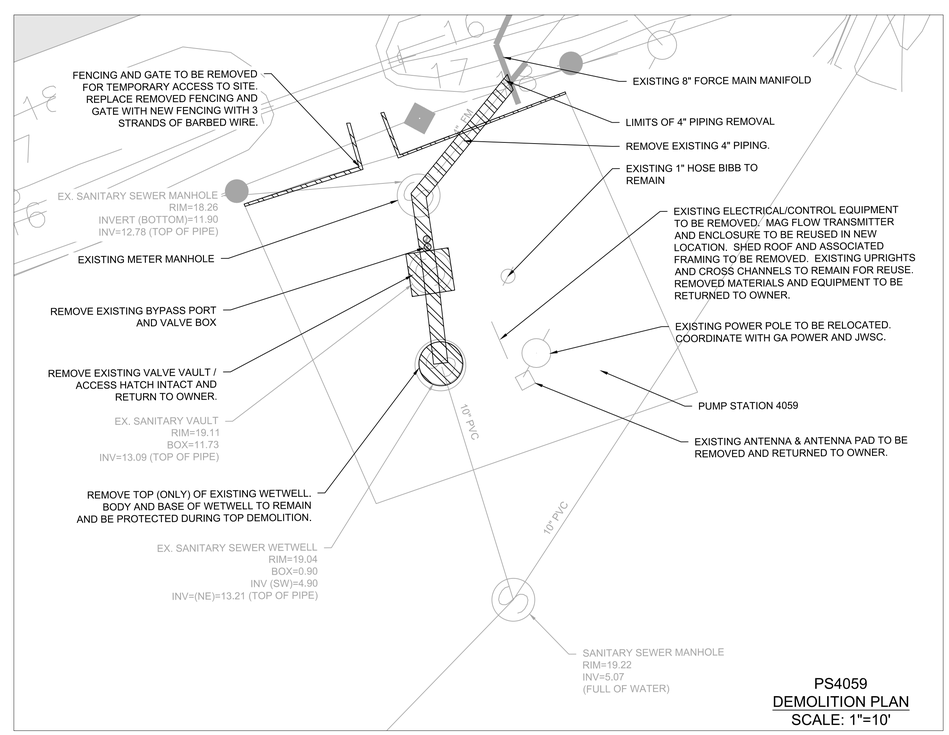

PS4059
DEMOLITION PLAN
SCALE: 1"=10'

GEORGIA REGISTERED No. 034205 PROFESSIONAL ENGINEER JONATHAN ROBERTS
08/12/2020

REVISIONS
2020-06-26: PER BGJWSC COMMENTS
2020-08-06: PER BGJWSC COMMENTS
2020-08-12: PER BGJWSC COMMENTS

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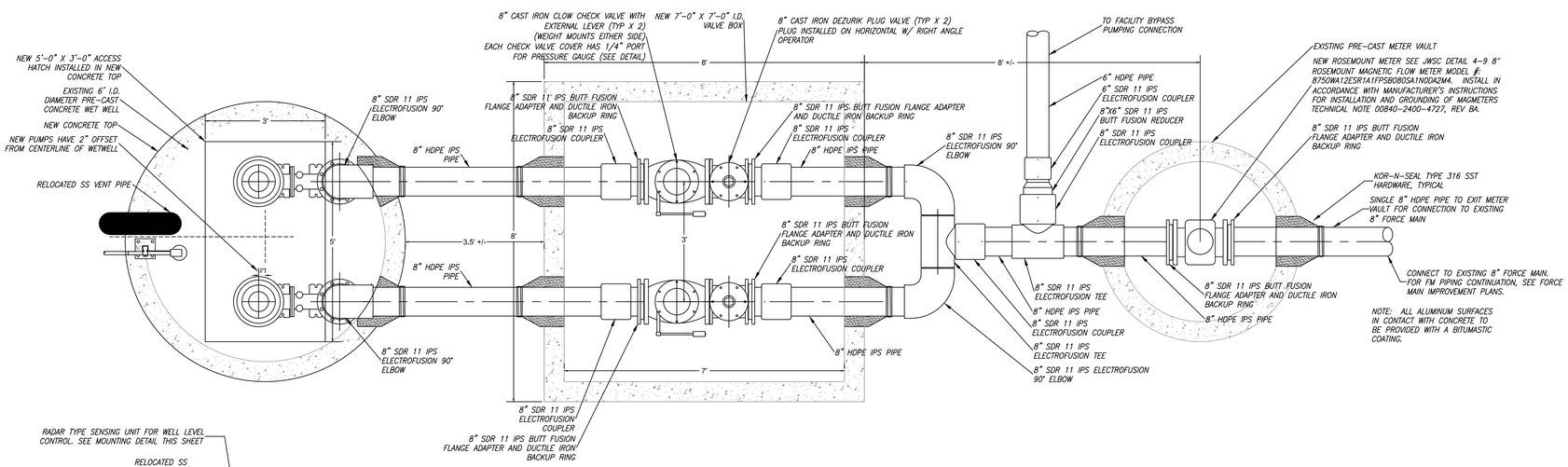
PUMP STATION 4059 DEMOLITION PLAN

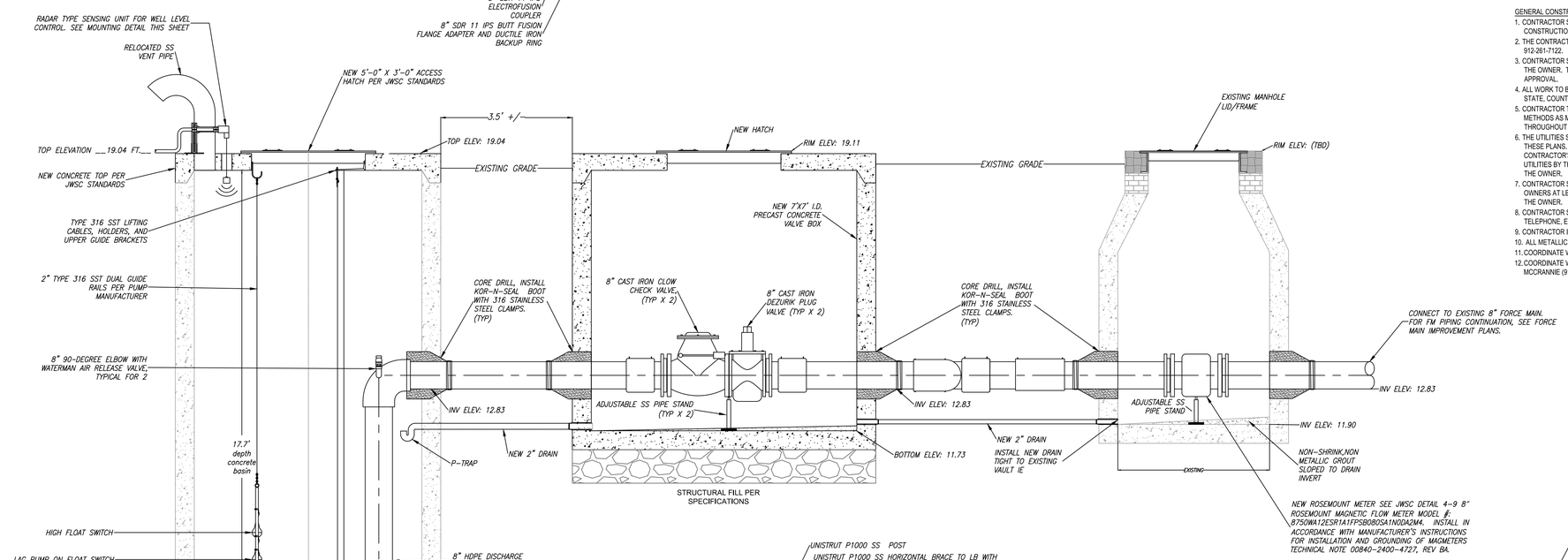
PS 4059 IMPROVEMENT PLANS
GLYNN COUNTY, GA

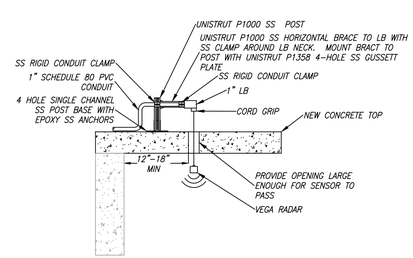
PREPARED FOR:
COASTAL CLUB BRUNSWICK, LLC

DATE: 2020-05-04
PROJECT NUMBER: 18122
DRAWN BY: BLH
CHECKED BY: JDR
SCALE: AS SHOWN

SHEET: 4







RADAR MOUNTING DETAIL
NTS

PUMP DATA TABLE	
MANUFACTURER	AMAREX
MODEL	KRT F 80-250/46XG-S
VOLTAGE	230
PHASE	3
HP	6.5
FLA	-
RPM	1160
GPM	454
HEAD (Feet)	21.90

INDICATED PUMP MANUFACTURER AND MODEL IS TO ESTABLISH A BASIS OF DESIGN. SEE JWSC APPENDIX 4A (4.5.9.2) FOR OTHER ACCEPTABLE PUMP MANUFACTURERS.

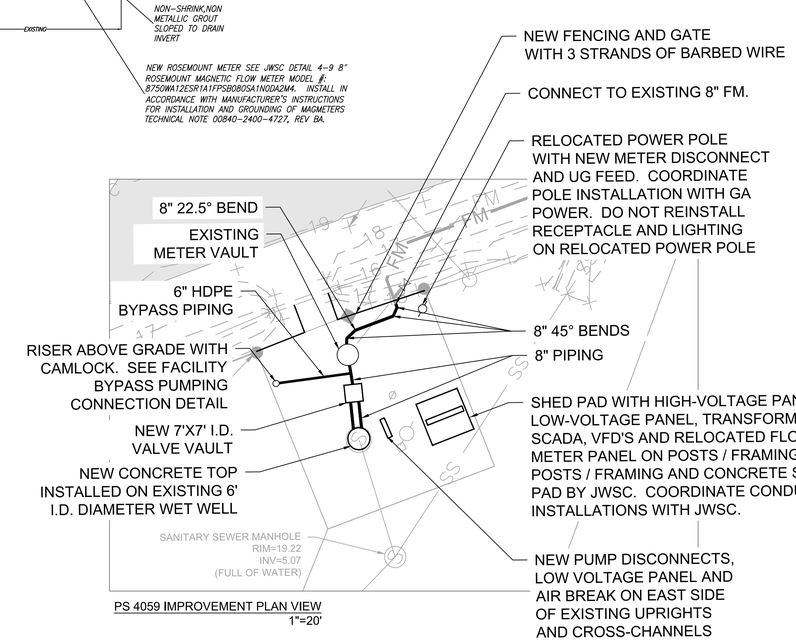
NOTE:
CONTRACTOR TO FIELD VERIFY ALL EXISTING DIMENSIONS & CONDITIONS PRIOR TO CONSTRUCTION OR FABRICATION. NOTIFY OWNER (JWSC) IMMEDIATELY IF CONFLICTS OR CHANGES ARISE.

EXISTING 6' DIA WET WELL
N.T.S.

ELECTRICAL REQUIREMENTS
1. UPGRADE ELECTRICAL SERVICE AND DISCONNECT DOWNSTREAM OF EXISTING UTILITY METER TO 230-VOLT, 3-PHASE, WITH SUFFICIENT CAPACITY TO FEED (2) 6.5-HP PUMPS. PROVIDE MINIMUM 200-AMP SS NEMA 4X LOADBREAK DISCONNECT FUSED PER NEC.
2. PROVIDE HIGH VOLTAGE PANEL / LOW VOLTAGE PANEL WITH (2) NEMA 4X DANFOSS DRIVES WITH 10 YEAR WARRANTY, WEATHERSHIELD, AND LCP RELOCATE KIT OPTIONS AS PER SPECIFICATIONS. DANFOSS MANUFACTURER'S REPRESENATIVE IS JON HARDWOOD (470) 248-8092 (JON.HARDWOOD@DANFOSS.COM) SCADA PANEL TO BE PROVIDED BY BGJWSC, BUT FLOW PACING OPERATION PARAMETERS TO BE PROVIDED BY EMC (ELECTRIC MACHINE CONTROL) - SEE NOTE 5 BELOW FOR ADDITIONAL INFORMATION.
3. PROVIDE RADAR BRAND VEGAPLUS C23 MODEL PSC23.XXXXXMCHB TO WORK WITH SCADA FOR LEVEL CONTROL. LOCAL MANUFACTURER'S REPRESENTATIVE IS FRANK DREY (912) 713-2936 (FDREY@BBPSALES.COM). PROVIDE (4) FLOATS FOR LEAD, LAG, OFF, AND HIGH ON THE RELAY BACK-UP CONTROLLER IN THE SCADA PANEL.
4. FLOW PACING REQUIREMENTS AS PER BGJWSC:
   a. THE RTU (REMOTE TERMINAL UNIT) IN CONJUNCTION WITH THE VARIABLE FREQUENCY DRIVES MUST BE CAPABLE OF CONTROLLING THE FLOW RATE OF EACH PUMP IN ORDER TO ACHIEVE A REPEATABLE FLOW RATE REGARDLESS OF INCOMING FLOW. THIS SHALL BE ACHIEVED WITH THE USE OF AN ALGORITHM WITHIN THE RTU CONTROLLER WITHOUT THE NEED OF AN EXTERNAL SENSOR, SUCH AS A FLOW METER.
   b. THE RTU FLOW PACING ALGORITHM MUST BE CAPABLE OF DETERMINING THE REQUIRED SPEED OF THE PUMP TO ACHIEVE A REPEATABLE FLOW BASED ON CONDITIONAL SET POINTS DETERMINED BY THE JWSC. THE RTU ALGORITHM CANNOT VIOLATE PUMP MANUFACTURER'S MINIMUM/MAXIMUM OPERATING SPEED, PUMP MANUFACTURER'S MAXIMUM STARTS PER HOUR, OR A MINIMUM OR MAXIMUM WET WELL LEVEL SET-POINT, AS DETERMINED BY THE JWSC AND SENSED BY DISCRETE OR ANALOG WET WELL LEVEL SENSORS. THERE SHALL ALSO BE WITHIN THE ALGORITHM A PROVISION TO ALTERNATE PUMPS WHEN REQUIRED BASED ON THE JWSC'S PREFERENCES. THE JWSC REQUIRES THAT THESE CONDITIONAL SET POINTS BE SENT TO THE RTU, MONITORED, RECORDED, AND CONTROLLED REMOTELY FROM JWSC'S SCADA SYSTEM. THE RTU SHALL USE THE SEL SCHWEITZER SERIES OF PROCESS CONTROLLERS IN CONJUNCTION WITH VARIABLE FREQUENCY DRIVE FEEDBACK TO ACHIEVE DESIRED FLOW PACING. THE FLOW PACING ALGORITHM SHALL BE WITHIN THE PROCESS CONTROLLER OF THE RTU AND SHALL ACHIEVE THE DESIRED RESULTS REGARDLESS OF THE SPECIFIC VARIABLE FREQUENCY DRIVE MANUFACTURER.
   c. OPERATIONAL INTENT IS TO HAVE THE LEAD PUMP RUN NO SLOWER THAN RECOMMENDED, BUT STAY RUNNING FOR AS LONG AS POSSIBLE ABOVE MINIMUM VELOCITIES AND RAGGING SPEEDS. RTU SHALL HAVE CAPABILITY TO ADJUST SETTINGS AND VARIABLES REMOTELY (IN REAL TIME) USING THE JWSC SCADA PLATFORM VTSCADA.
   d. MANUFACTURER'S REPRESENTATIVE IS JAMES DENTON (205) 910-8348 (JDENTON@EMCINC.BIZ)
5. INSTALL 100 AMP NON-FUSED SS 304 LOAD BREAK DISCONNECTS FOR EACH PUMP WITH N.C./N.O. SWITCH ON HANDLE FOR RUN SIGNAL. PROVIDE WITH NEUTRAL AND GROUND KIT.
6. NEW 5KVA TRANSFORMER IN NEMA 3R TO BE INSTALLED ON SHED PAD FRAMING PER NEC.

HDPE PIPE AND FITTING NOTES:
1. ALL HDPE PIPE AND FITTINGS WERE DETAILED USING DIMENSIONS FROM INTEGRITY FUSION PRODUCTS HDPE MOLDED BUTT FUSION AND SOCKET FUSION FITTINGS, ELECTROFUSION COUPLERS, FLANGE ADAPTERS, DUCTILE IRON BACKUP RINGS AND REDUCERS.

GENERAL CONSTRUCTION NOTES:
1. CONTRACTOR SHALL COORDINATE AND SCHEDULE WITH THE OWNER (JWSC) ANY SYSTEM SHUTDOWNS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS.
2. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OWNER, JOINT WATER & SEWER COMMISSION CONTACT TODD KLINE, P.E. AT 912-261-7122.
3. CONTRACTOR SHALL PROVIDE AND MAINTAIN BY-PASS PUMPING DURING THE ENTIRE CONSTRUCTION PERIOD AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL PREPARE & SUBMIT A BY-PASS PLAN TO THE ENGINEER AND/OR THE JWSC FOR REVIEW AND APPROVAL.
4. ALL WORK TO BE PERFORMED THAT IS NOT DEFINED BY THE CONTRACT DOCUMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STATE, COUNTY AND/OR LOCAL CODES.
5. CONTRACTOR TO PROVIDE AND MAINTAIN ALL NECESSARY BARRICADES, SUFFICIENT LIGHTING, SIGNS AND OTHER TRAFFIC CONTROL METHODS AS MAY BE NECESSARY FOR THE PROTECTION AND SAFETY OF THE PUBLIC AND SHALL BE PROVIDED AND MAINTAINED THROUGHOUT THE DURATION OF THE PROPOSED CONSTRUCTION IMPROVEMENTS.
6. THE UTILITIES SHOWN ARE FOR THE CONTRACTORS CONVENIENCE ONLY. THERE MAY BE UTILITIES OTHER THAN THOSE SHOWN ON THESE PLANS. THE OWNER AND ENGINEER ASSUME NO RESPONSIBILITY FOR THE LOCATIONS SHOWN AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATIONS OF ALL UTILITIES WITHIN THE LIMITS OF WORK. DAMAGES MADE TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED AT NO EXPENSE TO THE OWNER.
7. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO EXCAVATION. CONTRACTOR SHALL NOTIFY ALL UTILITY OWNERS AT LEAST 72 HOURS PRIOR TO CONSTRUCTION (811 OR 800-282-7411). ANY CONFLICTS SHALL BE IMMEDIATELY REPORTED TO THE OWNER.
8. CONTRACTOR SHALL NOTIFY USING AGENCY AT LEAST 72 HOURS IN ADVANCE IF ANY UTILITY SERVICE (E.G. WATER, SEWER, GAS, POWER, TELEPHONE, ETC.) IS TO BE TEMPORARILY INTERRUPTED IN ORDER TO CONSTRUCT IMPROVEMENTS.
9. CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED STATE & LOCAL PERMITTING FOR CONSTRUCTION.
10. ALL METALLIC FASTENERS & HARDWARE TO BE 316 STAINLESS STEEL.
11. COORDINATE WITH JWSC WATER DISTRIBUTION DIVISION FOR RELOCATION OF EXISTING WATER SERVICE(S).
12. COORDINATE WITH GA POWER FOR RELOCATION OF EXISTING POWER POLE(S) AS NECESSARY. GA POWER CONTACT IS GREG MCCRANNIE (912) 506-2181



PS 4059 IMPROVEMENT PLAN VIEW
1"=20'

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 034205 JONATHAN ROBERTS
08/12/2020

REVISIONS
2020-06-26: PER BGJWSC COMMENTS
2020-08-06: PER BGJWSC COMMENTS
2020-08-12: PER BGJWSC COMMENTS

ROBERTS CIVIL ENGINEERING
57 STAPHIS SQUARE | SAVANNAH | JACKSONVILLE | CHARLESTON
WWW.ROBERTSCIVILENGINEERING.COM

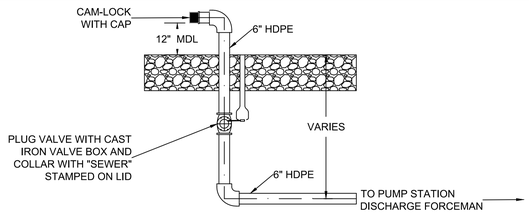
PUMP STATION 4059 IMPROVEMENT PLAN

PS 4059 IMPROVEMENT PLANS
GLYNN COUNTY, GA

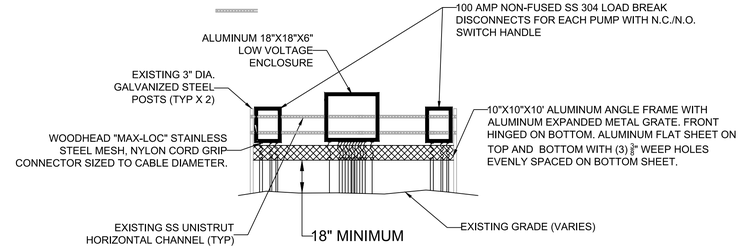
PREPARED FOR:
COASTAL CLUB BRUNSWICK, LLC

DATE: 2020-05-04
PROJECT NUMBER: 18122
DRAWN BY: BLH
CHECKED BY: JDR
SCALE: AS SHOWN

SHEET: 5

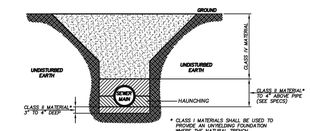


FACILITY BYPASS PUMPING CONNECTION
N.T.S.



WETWELL MOTOR DISCONNECT(S) DETAIL TYP.
N.T.S.

PIPE BEDDING MATERIALS		
CLASS	TYPE	DESCRIPTION
I		MANUFACTURED ANGULAR, GRANULAR MATERIAL, ¼" TO 1 ½" SIZE. INCLUDING MATERIALS HAVING REGIONAL SIGNIFICANCE SUCH AS CRUSHED STONE OR ROCK.
II	GW	WELL-GRADED GRAVELS AND GRAVEL-SAND MIXTURES, LITTLE OR NO FINES. 50% OR MORE OF COARSE FRACTION RETAINED ON NO. 4 SIEVE. MORE THAN 50% RETAINED ON NO. 200 SIEVE. CLEAN.
	GP	POORLY GRADED GRAVELS AND GRAVEL-SAND MIXTURES, LITTLE OR NO FINES. 50% OR MORE OF COARSE FRACTION RETAINED ON NO. 4 SIEVE. MORE THAN 50% RETAINED ON NO. 200 SIEVE. CLEAN.
	SW	WELL-GRADED SANDS AND GRAVELLY SANDS, LITTLE OR NO FINES. MORE THAN 50% OF COARSE FRACTION PASSES NO. 4 SIEVE. MORE THAN 50% RETAINED ON NO. 200 SIEVE. CLEAN.
	SP	POORLY GRADED SANDS AND GRAVELLY SANDS, LITTLE OR NO FINES. MORE THAN 50% OF COARSE FRACTION PASSES NO. 4 SIEVE. MORE THAN 50% RETAINED ON NO. 200 SIEVE.
III	GM	SILTY GRAVELS, GRAVEL–SAND–SILT MIXTURES. 50% OR MORE OF COARSE FRACTION RETAINED ON NO. 4 SIEVE. MORE THAN 50% RETAINED ON NO. 200 SIEVE.
	GC	CLAYEY GRAVELS, GRAVEL–SAND–CLAY MIXTURES. 50% OR MORE OF COARSE FRACTION RETAINED ON NO. 4 SIEVE. MORE THAN 50% RETAINED ON NO. 200 SIEVE.
	SM	SILTY SANDS, SAND–SILT MIXTURES. MORE THAN 50% OF COARSE FRACTION PASSES ON NO. 4 SIEVE. MORE THAN 50% RETAINED ON NO. 200 SIEVE.
	SC	CLAYEY SANDS, SAND–CLAY MIXTURES. MORE THAN 50% OF COARSE FRACTION PASSES NO. 4 SIEVE. MORE THAN 50% RETAINED ON NO. 200 SIEVE.
IV	ML	INORGANIC SILTS, VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS. LIQUID LIMIT 50% OR LESS. 50% OR MORE PASSES NO. 200 SIEVE.
	CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS. LIQUID LIMIT 50% OR LESS. 50% OR MORE PASSES NO. 200 SIEVE.
	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDS OR SILTS. ELASTIC SILTS. LIQUID LIMIT GREATER THAN 50%. 50% OR MORE PASSES NO. 200 SIEVE.
	CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS. LIQUID LIMIT GREATER THAN 50%. 50% OR MORE PASSES NO. 200 SIEVE.



FLEXIBLE PIPE IN NON-TRAFFIC AREAS

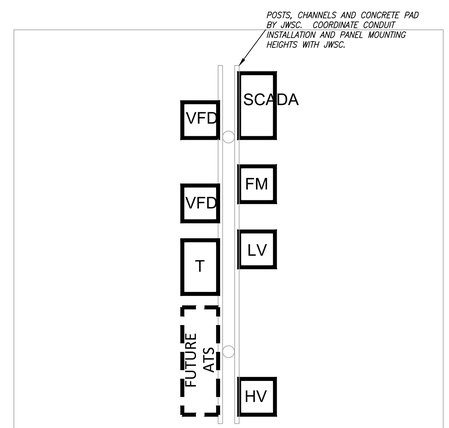
NOT TO SCALE

BRUNSWICK-GLYNN COUNTY JOINT WATER & SEWER COMMISSION
700 Gloucester Street, Suite 300
Brunswick, Georgia 31520
Phone: (912) 261-7110
Fax: (912) 261-7178
Website: www.bgjwsc.org

TRENCH DETAIL - FLEXIBLE PIPE

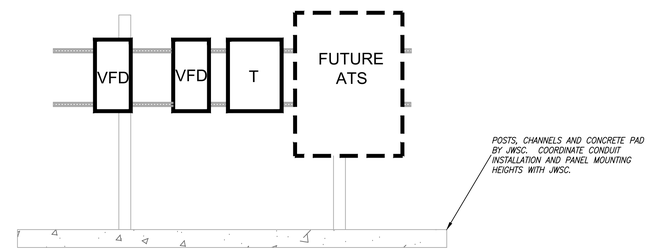
JWSC STANDARD DETAIL 3-11A

Date: OCTOBER 2011

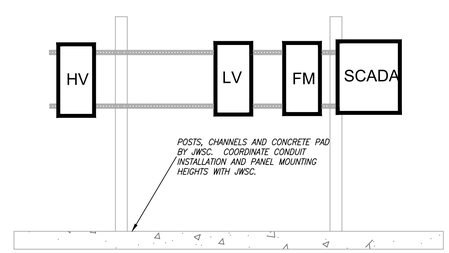


EXISTING ELECTRICAL SHED

SHED PAD ELECTRICAL-PANEL LAYOUT PLAN
N.T.S.



SHED PAD ELECTRICAL - FRONT ELEVATION
N.T.S.



SHED PAD ELECTRICAL - BACK ELEVATION
N.T.S.

PIPE BEDDING MATERIALS		
CLASS	TYPE	DESCRIPTION
I		MANUFACTURED ANGULAR, GRANULAR MATERIAL, ¼" TO 1 ½" SIZE. INCLUDING MATERIALS HAVING REGIONAL SIGNIFICANCE SUCH AS CRUSHED STONE OR ROCK.
II	GW	WELL-GRADED GRAVELS AND GRAVEL-SAND MIXTURES, LITTLE OR NO FINES. 50% OR MORE OF COARSE FRACTION RETAINED ON NO. 4 SIEVE. MORE THAN 50% RETAINED ON NO. 200 SIEVE. CLEAN.
	GP	POORLY GRADED GRAVELS AND GRAVEL-SAND MIXTURES, LITTLE OR NO FINES. 50% OR MORE OF COARSE FRACTION RETAINED ON NO. 4 SIEVE. MORE THAN 50% RETAINED ON NO. 200 SIEVE. CLEAN.
	SW	WELL-GRADED SANDS AND GRAVELLY SANDS, LITTLE OR NO FINES. MORE THAN 50% OF COARSE FRACTION PASSES NO. 4 SIEVE. MORE THAN 50% RETAINED ON NO. 200 SIEVE. CLEAN.
	SP	POORLY GRADED SANDS AND GRAVELLY SANDS, LITTLE OR NO FINES. MORE THAN 50% OF COARSE FRACTION PASSES NO. 4 SIEVE. MORE THAN 50% RETAINED ON NO. 200 SIEVE.
III	GM	SILTY GRAVELS, GRAVEL–SAND–SILT MIXTURES. 50% OR MORE OF COARSE FRACTION RETAINED ON NO. 4 SIEVE. MORE THAN 50% RETAINED ON NO. 200 SIEVE.
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	SM	SILTY SANDS, SAND–SILT MIXTURES. MORE THAN 50% OF COARSE FRACTION PASSES ON NO. 4 SIEVE. MORE THAN 50% RETAINED ON NO. 200 SIEVE.
	SC	CLAYEY SANDS, SAND–CLAY MIXTURES. MORE THAN 50% OF COARSE FRACTION PASSES NO. 4 SIEVE. MORE THAN 50% RETAINED ON NO. 200 SIEVE.
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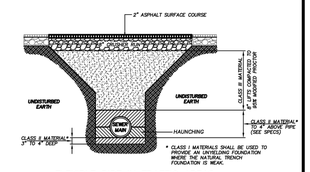


FLEXIBLE PIPE IN TRAFFIC AREAS

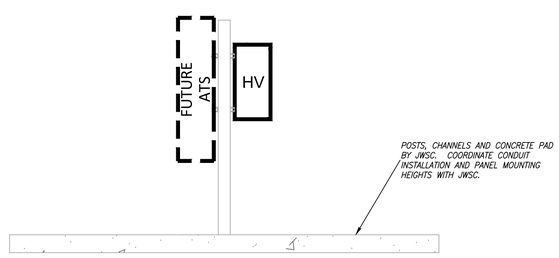
NOT TO SCALE

BRUNSWICK-GLYNN COUNTY JOINT WATER & SEWER COMMISSION
700 Gloucester Street, Suite 300
Brunswick, Georgia 31520
Phone: (912) 261-7110
Fax: (912) 261-7178
Website: www.bgjwsc.org

TRENCH DETAIL - FLEXIBLE PIPE

JWSC STANDARD DETAIL 3-11B

Date: FEBRUARY 2012



SHED PAD ELECTRICAL - SIDE ELEVATION
N.T.S.

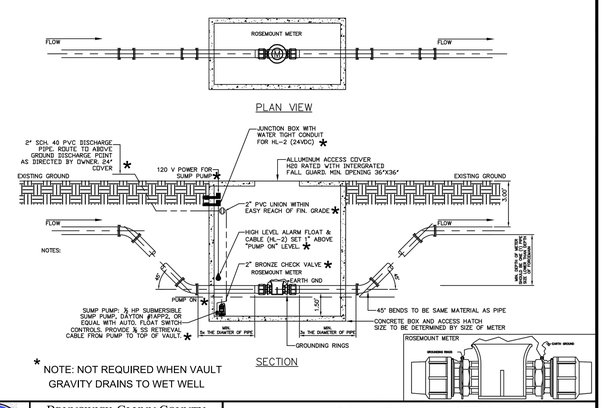
FENCING SHALL BE CONSTRUCTED AS FOLLOWS:

a. THE FENCE SHALL BE SIX (6) FEET HIGH, CONSISTING OF TWO (2) INCH MESH BY NINE (9) GAUGE ALUMINUM COATED STEEL FABRIC CONFORMING TO THE LATEST REVISION OF ASTM A-491. THE FENCE SHALL HAVE A SEVEN (7) GAUGE ALUMINUM COATED STEEL COIL SPRING TENSION WIRE ALONG THE BOTTOM OF THE FENCE FABRIC. THREE STRANDS OF TWELVE AND ONE-HALF (12-½) GAUGE ALUMINUM COATED STEEL OF BARBED WIRE WITH FOUR (4) POINT ALUMINUM BARB SPACED FIVE (5) INCHES APART MOUNTED ON THE BARBED WIRE SUPPORT ARMS SHALL BE INSTALLED ALONG THE TOP OF THE FENCE FABRIC.

b. THE POSTS SHALL BE GALVANIZED LINE POSTS, TWO AND A HALF (2 ½) INCH (3.65 LBS PER FT); GALVANIZED CORNER POSTS, THREE (3) INCH O.D. (2.27 LBS PER FT) WITH EXTRA LONG PRESSED STEEL SLEEVES. CORNER AND GATE POST SHALL HAVE NECESSARY STRUTS AND TIE BRACING. PROVIDE WATER TIGHT CLOSURE CAPS ON ALL POSTS.

c. GATE SHALL BE A PAIR OF 8'-0" LONG (SIXTEEN (16) FOOT TOTAL WIDTH) SIX (6) FEET HIGH SECTIONS AND SHALL BE EQUIPPED WITH A PROP POST CENTER LATCH AND HASP ASSEMBLY. A GROUND ANCHOR CAST IN CONCRETE SHALL BE PROVIDED. GATES SHALL BE FACTORY FABRICATED, GREEN PVC COATED CONFORMING TO THE LATEST REVISION OF ASTM A-429 AND EQUIPPED WITH GATE HOLDERS. DUCKBILL BACKSTOPS SHALL BE PROVIDED FOR SWING SIDE OF BOTH GATE SECTIONS.

JWSC LIFT STATION FENCING
JWSC STANDARDS FOR WATER AND SEWER DESIGN AND CONSTRUCTION SECTION 4.5.2.2



* NOTE: NOT REQUIRED WHEN VAULT GRAVITY DRAINS TO WET WELL

BRUNSWICK-GLYNN COUNTY JOINT WATER & SEWER COMMISSION
1703 Gloucester Street
Brunswick, Georgia 31520
Phone: (912) 261-7110
Fax: (912) 261-7178
Website: www.bgjwsc.org

ROSEMOUNT METER DETAIL

JWSC STANDARD DETAIL 4-9

Date: JUNE 2018

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 034205 JONATHAN ROBERTS
08/12/2020

REVISIONS
2020-06-26: PER BGJWSC COMMENTS
2020-08-06: PER BGJWSC COMMENTS
2020-08-12: PER BGJWSC COMMENTS

ROBERTS CIVIL ENGINEERING
ST. SIMONS ISLAND | SAVANNAH | JACKSONVILLE | CHARLESTON
WWW.ROBERTSCIVILENGINEERING.COM

CONSTRUCTION DETAILS

PS 4059 IMPROVEMENT PLANS
GLYNN COUNTY, GA

PREPARED FOR:
COASTAL CLUB BRUNSWICK, LLC

DATE: 2020-05-04
PROJECT NUMBER: 18122
DRAWN BY: BLH
CHECKED BY: JDR
SCALE: NTS

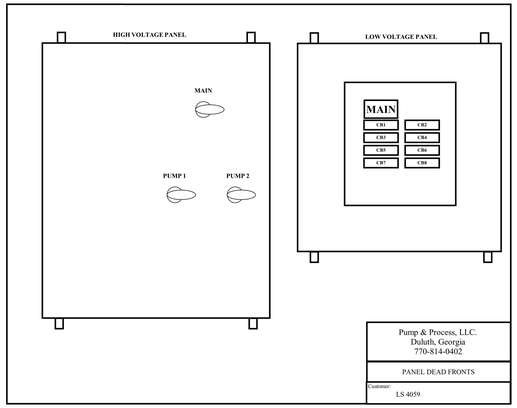
SHEET: 6

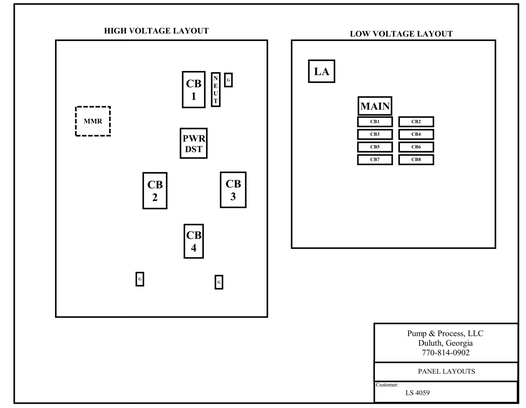
MATERIAL MANIFEST

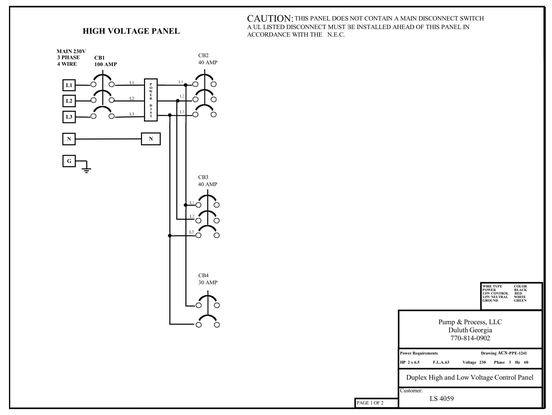
PUMP BRAND:		**KSB**	
PUMP MODEL:			
FULL LOAD AMPS:			
JOB NAME:		**COSTAL CLUB LS4059**	
EQUIPMENT TYPE:		**6.5 HP DUPLEX SPECIAL PANEL**	
		3 PHASE 230V 4W	
QTY	PART NUMBER	DESCRIPTION	MFG
1	SPN4SS-302412-1025	30X24 ENCLOSURE W/3PT HANDLE	SCHAEFERS
1	SPP-3024	30X24 BACK PLATE	SCHAEFERS
1	SPSW3AL-3024	DEADFONT PANEL	SCHAEFERS
24"	S2540	1X1.57 WIRE MOLD	ABB
3	ADR11	GND. LUG	BLACKBURN
1 SET		WIRE & TERM MARKED	CARROL / T&B
1 SET		LABLES	ACS
1	QOU230	30 AMP 2P BREAKER	SQUARE D
1	HS5F5AS	5KVA TRANSFORMER	SOLA
1	HDL36100	100 AMP BREAKER	SQUARE D
2	S29338	OPERATOR	SQUARE D
2	HDL36040	40 AMP BREAKER	SQUARE D
2	9421L4	OPERATOR	SQUARE D
4	0LD25701ZXDIN	POWER DIST. BLOCK	LITTLEFUSE
1	ACSLAM	LAM DWG IN DOOR	ACS

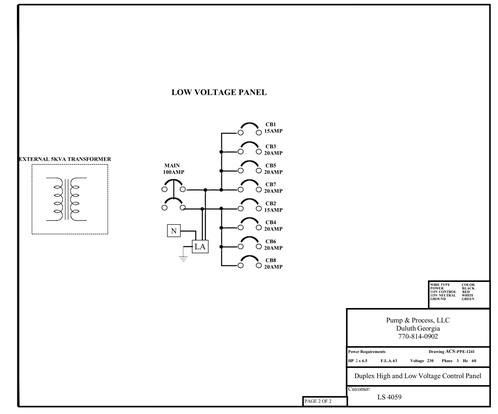
MATERIAL MANIFEST

PUMP BRAND:		**KSB**	
PUMP MODEL:			
FULL LOAD AMPS:			
JOB NAME:		**COSTAL CLUB LS4059**	
EQUIPMENT TYPE:		**6.5 HP DUPLEX LOW VOLTAGE PANEL**	
		1 PHASE 120/230V 3W	
QTY	PART NUMBER	DESCRIPTION	MFG
1	SPN4SS-242410-1025	24X24 ENCLOSURE W/3PT HANDLE	SCHAEFERS
1	SPP-2424	24X24 BACK PLATE	SCHAEFERS
1	SPSW3AL-2424	DEADFRONT PANEL	SCHAEFERS
1 SET		LABLES	ACS
1	BR1020B100SRNV	100 AMP PANEL	EATON
2	BR115	15 AMP 1P BREAKER	EATON
6	BR120	20 AMP 1P BREAKER	EATON
1	SDSA-1175	SURGE ARRESTOR	SQUARE D









GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 034205 JONATHAN ROBERTS
08/12/2020

REVISIONS
2020-06-26: PER BGJWSC COMMENTS
2020-08-06: PER BGJWSC COMMENTS
2020-08-12: PER BGJWSC COMMENTS

ROBERTS CIVIL ENGINEERING
51 SIMONS ISLAND | SAVANNAH | JACKSONVILLE | CHARLESTON
WWW.ROBERTSCIVILENGINEERING.COM

CONSTRUCTION DETAILS

PS 4059 IMPROVEMENT PLANS
GLYNN COUNTY, GA

PREPARED FOR:
COASTAL CLUB BRUNSWICK, LLC

DATE: 2020-05-04
PROJECT NUMBER: 18122
DRAWN BY: BLH
CHECKED BY: JDR
SCALE: NTS

SHEET: 7

KSB

Project
Customer pos.no
Project ID **BGJWSC LS 4059**
Pos.no **1**
Created by **N, N1**

Page 1 / 5
2020-06-18

Data sheet

Pump type **Amarex KRT F 80-250/46XG-S**

Operating data

Flow	454	US g.p.m.	Fluid		
Head	21.9	ft	Density	62.3	lb/ft³
Operating speed	1160	rpm	Viscosity	1.08E-5	ft²/s
Shaft power	4.87	hp	Temperature	68	°F
Efficiency	51	%			
Required pump NPSH	14.2	ft			
Head H(QnH)	42.7	ft			
Application range	Head		Flow		
From	42.7	ft	0	US g.p.m.	
To	14.5	ft	572	US g.p.m.	

Design

Make	KSB		Impeller type	Vortex impeller	
Design	Submersible pump			Open	
Series	Amarex KRT F		Impeller size	9 11/16	inch
Frame size	80-250			Max. 10 7/16	inch
Stages	1			Min. 7 1/2	inch
Curve number	K43063s/1*		Free passage	3	inch
			Weight	322.97	lb
Type of bearings	Antifriction				
Nos. of bearings	1 / 1				
Lubrication	Grease lubrication, lubricated for lifetime				
Suction port	Pressure rating		---		
	Nominal pipe size	DN0	---		
	Nominal pipe size	DN1	DN 100		
	Standard		---		
Discharge port	Pressure rating		PN 10		
	Nominal pipe size	DN2	DN 80		
	Nominal pipe size	DN3	DN 80		
	Standard		EN 1092-2		

Suction port: pump (DN1)
Discharge port: discharge elbow (DN3)

Materials

Pump casing	Grey cast iron EN-GJL-250 (A48 Class 35B)
Discharge cover	Grey cast iron EN-GJL-250 (A48 Class 35B)
Impeller	Grey cast iron EN-GJL-250 (A48 Class 35B)
Shaft	Stainless steel EN-1.4021+QT800 (A276 Type 420)
Bearing bracket	Grey cast iron EN-GJL-250 (A48 Class 35B)
Motor casing	Grey cast iron EN-GJL-250 (A48 Class 35B)
Bolts, nuts	Stainless steel A4 (EN-1.4571) (A276 Type 316)
Shaft protection sleeve	---
Casing wear ring	
Impeller wear ring	
O-Rings	Nitrile rubber (NBR)

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Data sheet

Pump type **Amarex KRT F 80-250/46XG-S**

Shaft seal

Type of seal	Double mechanical seal
Arrangement:	Tandem
Seal on medium side	with elastomer bellows
Mechanical seal, pump-side	Silicon carbide / Silicon carbide
Mechanical seal, bearing-side	Carbon / Silicon carbide

Monitoring

Thermal winding protection	By temperature sensitive switches
Explosion proof protection	By PTC (Explosion proof models only)
Motor housing monitoring	By conductive moisture sensor electrode
Mechanical seal leakage detection	---
Bearing temperature monitoring	---

Coating

Preparatory treatment	Sa 2 1/2 to ISO 8501-1 / ISO 12 944-4 DIN 55928, Part 4
Blasting method	Steel grit blasting
Primer	Zinc phosphate or Zinc dust
Dry film thickness primer	> 35 microns
Top coat	2-component epoxy resin
Solids content	> 82 %
Dry film thickness top coat	> 150 microns
Colour	Ultramarine Blue (RAL 5002 to DIN 6174)

Installation

INSTALLATION
Type of installation: Wet well installation designed for automatic connection to a permanently installed discharge elbow

Discharge elbow size (DN2/DN3):	DN 80 / DN 80
Flange dimensions to:	EN 1092-2, PN 10
Claw:	Bolted to the pump
Guide system:	Double guide bars
Guide bar diameter:	2 x 2 in pipe, outside dia. 60,3 mm (2,4 in), inside dia. 50...54 mm (2,0...2,1 in)
Installation depth:	4,5 m (15 ft)
Lifting device:	stainless steel lifting chain
Length of lifting device:	10 m (33 ft)
Lifting loops:	Every 2,5 m (8 ft)
Installation accessories:	Discharge elbow, DN 80 / DN 80 fasteners, claw, bracket, lifting chain, but without guide bars

Materials:	
Discharge elbow:	Grey cast iron EN-GJL-250 (A48 Class 35B)
Claw:	Grey cast iron EN-GJL-250 (A48 Class 35B)
Bracket:	Stainless steel EN-1.4571 (A276 Type 316 Ti)
Guide bars:	Not part of this specification
Lifting device:	Stainless steel EN-1.4404 (A276 Type 316 L)

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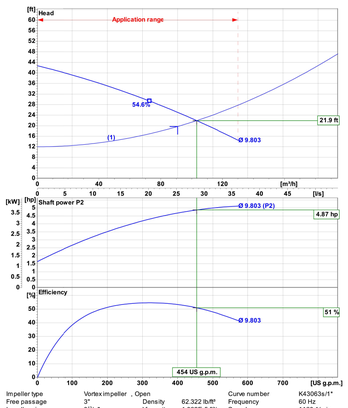
Performance curve

Pump type **Amarex KRT F 80-250/46XG-S**



Impeller type	Vortex impeller , Open			Curve number	K43063s/1*
Free passage	3"		Density	62.322 lb/ft³	Frequency 60 Hz
Impeller size	9 11/16"		Viscosity	1.082E-5 ft²/s	Speed 1160 1/min

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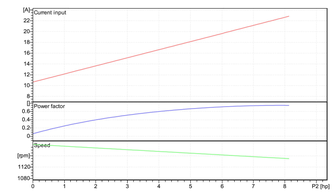
Data sheet: Motor data

Motor type **46XG**

Motor manufacturer	KSB Aktiengesellschaft	Rated voltage	230	V
Design acc. standard	-	Rated frequency	60	Hz
Degree of protection	IP68	Rated power P2	6.5	hp
Insulation class	F	Rated current	20	A
Coolant temperature	< / = 40 °C (104 °F)	Nominal speed	1160	rpm
Starting mode	Direct	Starting to rated current	5.6	
No. starts / h	30	Starting current	112	A
		Max. voltage	242	V
		Min. voltage	219	V
Motor casing	Grey cast iron EN-GJL-250 (A48 Class 35B)			
Explosion protection	Class I, Div. 1, Groups C,D, T3			
Pump type	Amarex KRT F 80-250/46XG-S			

Load	P1 kW	P2 hp	eta %	cos phi	I A
4/4	5.82	6.5	0.0	0.73	20.0
3/4	4.40	4.9	0.0	0.68	16.8
2/4	3.03	3.3	0.0	0.54	14.2
1/4	1.73	1.6	0.0	0.34	12.6

Main cable	1 x AWG 13-12	Diameter	0.73..0.77 inch
Control cable		Diameter	---
Cable, outer sheath	Waterproof synthetic rubber compound		
Cable length	15 m