GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH PEARL RIVER COUNTY CODES OF ORDINANCES AND SPECIFICATIONS. ALL WORK FOR UTILITY IMPROVEMENTS TO BE OWNED AND MAINTAINED BY LOVES SHALL COMPLY WITH THE PEARL RIVER COUNTY CODES OF ORDINANCES AND SPECIFICATIONS. ALL WORK FOR UTILITY IMPROVEMENTS TO BE OWNED AND MAINTAINED BY NICHOLSON WATER AND SEWER ASSOCIATION SHALL COMPLY WITH THE ASSOCIATIONS SPECIFICATIONS.
2. SEE TITLE SHEET FOR CONTACT PERSONS LIST FOR GOVERNING AGENCIES AND UTILITIES.
3. PROPERTY AND TOPOGRAPHIC SURVEY WAS PREPARED FOR AND PROVIDED BY THE DEVELOPER FOR USE AS THE BASE MAP IN THIS DESIGN. THE SURVEY IS ASSUMED TO BE FINAL AND COMPLETE.
4. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF VESTIBULE, SLOPE PAVING, SIDEWALKS, EXIT PORCHES, RAMPS, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
5. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR EXACT ACTUAL LOCATION OF ALL SERVICES INCLUDING ELECTRICAL, TELEPHONE, AND GAS SERVICE. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO AVOID CONFLICTS AND ASSURE PROPER DEPTHS ARE ACHIEVED AS WELL AS COORDINATING WITH THE REGULATORY AGENCY AS TO THE LOCATION AND TIE-INS/ CONNECTIONS TO THEIR FACILITIES.
6. CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING BENCHMARK AND RELOCATING BENCHMARK IF NECESSARY.
7. EXISTING UTILITY LINES ARE APPROXIMATE LOCATION ONLY. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITY LINE LOCATIONS PRIOR TO ANY CONSTRUCTION. ANY DEVIATIONS FROM THE DESIGN LOCATION SHALL BE REPORTED TO THE OWNER AND THE ENGINEER PRIOR TO CONSTRUCTION.
8. ALL NECESSARY PERMITS AND APPROVALS FROM AGENCIES GOVERNING THE CONSTRUCTION OF THIS WORK SHALL BE SECURED PRIOR TO BEGINNING CONSTRUCTION.
9. CONTRACTOR IS RESPONSIBLE FOR OBTAINING APPROVAL FROM THE POWER AND TELEPHONE COMPANIES FOR LOCATION BEFORE CONDUIT AND WIRING IS INSTALLED.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATION, INCLUDING BUT NOT LIMITED TO ALL UTILITIES, STORM DRAINAGE, SIGNS, TRAFFIC SIGNALS AND POLES, ETC... AS REQUIRED FOR WIDENING OF ALL ROADWAYS. ALL WORK SHALL BE IN ACCORDANCE WITH GOVERNING AUTHORITIES SPECIFICATIONS AND SHALL BE APPROVED BY SUCH. ALL COSTS SHALL BE INCLUDED IN THE BASE BID.
11. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION FOR ALL AREAS INDICATED TO REMAIN UNDISTURBED OR TO REMAIN AS BUFFERS, ALL PROPERTY CORNERS, AND REPLACING ALL PINS ELIMINATED OR DAMAGED DURING CONSTRUCTION.
12. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRS OR DAMAGE TO ANY EXISTING IMPROVEMENTS DURING CONSTRUCTION, SUCH AS BUT NOT LIMITED TO, DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB ETC., REPAIRS SHALL BE EQUAL TO OR BETTER THAN EXISTING CONDITIONS.
13. SITE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL UNDERGROUND UTILITIES WITH HIS WORK. ALL UNDERGROUND UTILITIES (WATER, SANITARY SEWER, STORM SEWER, ELECTRICAL CONDUIT, IRRIGATION SYSTEMS, AND ANY OTHER MISCELLANEOUS UTILITIES) SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF BASE COURSE MATERIAL, AND THE PLACEMENT OF APPROPRIATE SOIL STABILIZATION TECHNIQUE.
14. CONTRACTOR SHALL PROVIDE BOLLARDS FOR PROTECTION OF ALL ABOVE GROUND UTILITIES AND APPURTENANCES IN AND ADJACENT TO DRIVE AREAS.
15. CONTRACTOR SHALL MATCH EXISTING PAVEMENTS IN GRADE AND ALIGNMENT.
16. CONTRACTOR TO REMOVE OR RELOCATE WHEN APPLICABLE, ALL EXISTING BUILDINGS, FOUNDATIONS, BASEMENTS, AND CONNECTING IMPROVEMENTS, DRAIN PIPES, SANITARY SEWER PIPE, POWER POLES, AND GUY WIRES, WATER METERS AND WATER LINES, WELLS, SIDEWALKS, SIGN POLES, UNDERGROUND GAS, SEPTIC TANKS, AND ASPHALT SHOWN WITHIN THE CONSTRUCTION LIMITS AND WHERE NEEDED TO ALLOW FOR THE FILL MATERIAL. CONTRACTOR TO REVIEW SITE AS IT RELATES TO DEMOLITION WORK TO INSURE ALL DEMOLITION ITEMS ARE INCLUDED IN THE BASE BID (SEE SITEWORK SPECIFICATIONS).
17. ALL EXCAVATIONS SHOULD BE SLOPED OR BRACED AS REQUIRED BY OSHA REGULATIONS TO PROVIDE STABILITY AND SAFE WORKING CONDITIONS. TEMPORARY EXCAVATIONS WILL PROBABLY BE REQUIRED DURING GRADING OPERATIONS. THE GRADING CONTRACTOR, BY HIS CONTRACT, IS USUALLY RESPONSIBLE FOR DESIGNING AND CONSTRUCTING STABLE, TEMPORARY EXCAVATIONS AND SHOULD SHORE, SLOPE OR BENCH THE SIDES OF THE EXCAVATIONS AS REQUIRED TO MAINTAIN STABILITY OF BOTH THE EXCAVATION SIDES AND BOTTOM. ALL EXCAVATIONS SHOULD COMPLY WITH APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY REGULATIONS, INCLUDING THE CURRENT OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION (OSHA) EXCAVATION AND TRENCH SAFETY STANDARDS.
18. CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR WHO CONTROLS THE MEANS, METHODS, AND SEQUENCING OF CONSTRUCTION OPERATIONS. UNDER NO CIRCUMSTANCES SHALL THE INFORMATION PROVIDED HEREIN BE INTERPRETED TO MEAN THAT RESOURCE CONSULTING, LLC IS ASSUMING ANY RESPONSIBILITY FOR CONSTRUCTION SITE SAFETY OR THE CONTRACTOR'S ACTIVITIES; SUCH RESPONSIBILITY SHALL NEITHER BE IMPLIED NOR INFERRED.
19. CONSTRUCTION SHALL COMPLY WITH ALL GOVERNING CODES AND BE CONSTRUCTED TO THE SAME.
20. ANY WORK IN THE STATE'S RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH THE DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS AND STANDARD SPECIFICATIONS.
21. REFERENCE DETAIL SHEETS FOR CONSTRUCTION DETAILS

PAVING NOTES:

1. PAVEMENT SECTION DESIGNS ARE TAKEN FROM THE GEOTECHINCAL INVESTIGATION REPORT BY TERRACON AND ADDENDUM.
2. ALL PAVING WORK SHALL CONFORM TO THE MISSISSIPPI DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS, LATEST EDITION.
3. CONTRACTOR SHALL SUBMIT TO GEOTECHNICAL ENGINEER, SITE ENGINEER, AND CONSTRUCTION MANAGER ALL PAVING MIX DESIGNS PROPOSED FOR USE ON THIS PROJECT AND OBTAIN APPROVAL OF MIXES PRIOR TO PROCEEDING WITH PAVING OPERATIONS.
4. WITHIN 24 HOURS PRIOR TO ANY PAVING OPERATION, THE CONTRACTOR SHALL PERFORM SUBGRADE COMPACTION AND PROOF ROLL TESTS ON PREPARED SUBGRADE TO VERIFY THAT SUBGRADE HAS NOT DETERIORATED DURING PROJECT CONSTRUCTION.
5. ALL CONCRETE TO HAVE BROOM FINISH EXCEPT TRUCK FUELING BAYS TO HAVE HEAVY BROOM FINISH.
6. ALL ASPHALT THAT ABUTS CONCRETE IS TO BE FINISHED AT ½ INCH ABOVE FINISHED CONCRETE ELEVATION.
7. AFTER COMPLETING THE PAVING OPERATION, THE CONTRACTOR IS RESPONSIBLE FOR HAVING PAVEMENTS CORED AND SUBMITTING CORE RESULTS TO ENGINEER AND OWNER.

SANITARY SEWER NOTES

1. REFERENCE DETAIL SHEETS FOR CONSTRUCTION DETAILS
2. REFERENCE ARCHITECTURAL PLANS FOR ALL BUILDING SERVICE AND DOMESTIC SERVICE CONNECTION LOCATIONS.
3. COORDINATES AND DIMENSIONS ARE SHOWN TO CENTERLINE OF PIPE OR MANHOLE.
4. SANITARY SEWER PIPE OF DIFFERENT MATERIALS SHALL BE JOINED BY A RUBBER SLEEVE WITH STAINLESS STEEL COUPLING, MADE FOR TRANSITIONS FROM ONE PIPE MATERIAL TO ANOTHER.
5. THE TOP ELEVATION OF ALL MANHOLES IN GRASSED AREAS SHALL BE 6 INCHES ABOVE FINISHED GRADE.
6. THE SANITARY SEWER PIPE SHALL BE PVC, SDR35 SEWER PIPE UNLESS NOTES OTHERWISE ON PLAN.
7. CONTRACTOR SHALL INSTALL FLEXIBLE RUBBER CONNECTORS/GASKETS AROUND ALL PIPE ENTRANCES TO SANITARY SEWER MANHOLES TO ASSURE ALL CONNECTIONS ARE WATERTIGHT.
8. ALL MANHOLES ARE TO BE WATERPROOFED.

UTILITY NOTES

1. REFERENCE GENERAL NOTES
2. REFERENCE CONTACTS LIST
3. REFERENCE DETAIL SHEETS FOR CONSTRUCTION DETAILS
4. SITEWORK FOR THIS PROJECT SHALL MEET OR EXCEED THE PROJECT SITEWORK SPECIFICATIONS.
5. CONSTRUCTION TO COMPLY WITH ALL GOVERNING CODES AND BE CONSTRUCTED TO SAME.
6. CONSTRUCTION SHALL COMPLY WITH ALL GOVERNING CODES (I.E. CITY, COUNTY, ENTERGY, BELLSOUTH, ETC. STANDARDS AND SPECIFICATIONS) AND REQUIREMENTS. THE CONTRACTOR SHALL CONDUCT ALL REQUIRED TESTS TO THE SATISFACTION THE RESPECTIVE UTILITY COMPANIES AND OWNERS INSPECTING AUTHORITIES.
7. THE CONTRACTOR IS RESPONSIBLE FOR EXTENDING SERVICE LINES TO THE WATER AND SANITARY SEWER MAINS.
8. CONTRACTOR SHALL COORDINATE PROPOSED RECONNECTION OF ALL UTILITIES WITH ALL CIVIL AND ARCHITECTURAL PLANS AS WELL AS UTILITY COMPANIES AND BUILDING CONTRACTOR.
9. CONTRACTOR SHALL COMPLY FULLY WITH THE LATEST STANDARD OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING, AND OTHER MEANS OF PROTECTION. THIS INCLUDES BUT IS NOT LIMITED TO ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE TO COMPLY WITH PERFORMANCE CRITERIA FOR OSHA.
10. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL UTILITIES AND NOTIFYING THE APPROPRIATE UTILITY COMPANY BEFORE BEGINNING CONSTRUCTION.
11. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OF COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF THE UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOW ON THE PLANS.
12. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING STORM SEWER STRUCTURES, PIPES, AND ALL UTILITIES BEFORE CONSTRUCTION.
13. CONTRACTOR TO REMOVE OR RELOCATE, WHEN APPLICABLE, ALL EXISTING BUILDINGS, FOUNDATIONS, EASEMENTS, AND CONNECTING IMPROVEMENTS, DRAIN PIPES, SANITARY SEWER PIPES, POWER POLES AND GUY WIRES, WATER METERS AND WATER LINES, WELLS SIDEWALKS SIGN POLES, UNDERGROUND GAS, SEPTIC TANKS, AND ASPHALT SHOWN AND NOT SHOWN WITHIN THE CONSTRUCTION LIMITS AND WHERE NEEDED, TO ALLOW FOR FILL MATERIAL, UNLESS OTHERWISE DENOTED, TO BE REMOVED AS UNCLASSIFIED EXCAVATION.
14. CONTRACTOR IS RESPONSIBLE FOR REPAIRS OF DAMAGE TO ANY EXISTING IMPROVEMENTS DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO, UTILITIES, PAVEMENT, STRIPING, CURBS, ETC. REPAIRS SHALL BE EQUAL TO OR BETTER THAN EXISTING CONDITIONS.
15. CONTRACTOR SHALL REFER TO ALL PLANS AND SPECIFICATIONS FOR ACTUAL LOCATION OF ALL UTILITY ENTRANCES TO INCLUDE SANITARY SEWER LATERALS, DOMESTIC AND FIRE PROTECTION WATER SERVICE, ELECTRICAL, TELEPHONE, CABLE TV, AND GAS SERVICE. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO AVOID CONFLICTS AND ASSURE PROPER DEPTHS ARE ACHIEVED, AS WELL AS COORDINATING WITH CITY AND UTILITY REQUIREMENTS AS TO LOCATIONS AND SCHEDULING FOR TIE-INS AND CONNECTIONS PRIOR TO CONNECTING EXISTING FACILITIES.
16. CONTRACTOR SHALL COORDINATE WITH ALL PLANS FOR ACTUAL ROUTING OR REROUTING OF POWER AND COMMUNICATION SERVICES.
17. CONTRACTOR SHALL PAY ALL FEES AND CHARGES PERTINENT TO UTILITY CONSTRUCTION AND SHALL COORDINATE WITH ALL UTILITIES TO OBTAIN NECESSARY PERMITS AND LICENSES FOR THIS WORK.
18. SEE NICHOLSON WATER AND SEWER ASSOCIATION FOR BACKFILLING AND COMPACTION REQUIREMENTS ON UTILITY TRENCHES.
19. CONTRACTOR SHALL COORDINATE WITH OTHER UTILITIES TO ASSURE PROPER DEPTH AND PREVENT ANY CONFLICT OF UTILITIES.
20. THE MINIMUM HORIZONTAL SEPARATION BETWEEN THE CLOSEST TWO POINTS OF THE WATER AND SEWER LINE IS TEN (10) FEET, OR MINIMUM VERTICAL SEPARATION BETWEEN THE CLOSEST TWO POINTS OF THE WATER AND SEWER LINE IS EIGHTEEN (18) INCHES.
21. CONTRACTOR SHALL COORDINATE INSPECTION ON ALL UTILITIES WITH THE APPROPRIATE AUTHORITIES BEFORE COVERING TRENCHES AT INSTALLATION.
22. ALL EXCAVATIONS SHOULD BE SLOPED OR BRACED AS REQUIRED BY OSHA REGULATIONS TO PROVIDE STABILITY AND SAFE WORKING CONDITIONS. TEMPORARY EXCAVATIONS WILL PROBABLY BE REQUIRED DURING GRADING OPERATIONS. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND CONSTRUCTING STABLE, TEMPORARY EXCAVATIONS AND SHOULD SHORE, SLOPE OR BENCH THE SIDES OF THE EXCAVATIONS AS REQUIRED TO MAINTAIN STABILITY OF BOTH THE EXCAVATION SIDES AND BOTTOM. ALL EXCAVATIONS SHOULD COMPLY WITH APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY REGULATIONS, INCLUDING THE CURRENT OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION (OSHA) EXCAVATION AND TRENCH SAFETY STANDARDS.
23. CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR WHO CONTROLS THE MEANS, METHODS, AND SEQUENCING OF CONSTRUCTION OPERATIONS. UNDER NO CIRCUMSTANCES SHALL THE INFORMATION PROVIDED HEREIN BE INTERPRETED TO MEAN THAT RESOURCE CONSULTING, LLC IS ASSUMING ANY RESPONSIBILITY FOR CONSTRUCTION SITE SAFETY OR THE CONTRACTOR'S ACTIVITIES; SUCH RESPONSIBILITY SHALL NEITHER BE IMPLIED NOR INFERRED.
24. CONTRACTOR SHALL EXECUTE HIS WORK SO THAT THE EXISTING WATER AND SEWER SYSTEM REMAINS IN CONTINUOUS OPERATION DURING THE EXTENSION CONSTRUCTION, AND THAT FLOW SUPPLY IS NOT TO BE INTERRUPTED.
25. REFER TO CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.
26. MINIMUM SEPARATION BETWEEN SEWER LINES AND WATER LINES SHALL BE 10' HORIZONTAL AND 18" VERTICAL.
27. CONTRACTOR TO ADHERE TO CURRENT OSHA EXCAVATION & TRENCH SAFETY REGULATIONS.
28. ALL UTILITIES TO BE LOCATED PRIOR TO CONSTRUCTION (ONE CALL, WATER DEPT., ETC.) ALL CONSTRUCTION AND MATERIALS TO MEET OR EXCEED PEARL RIVER COUNTY CODES OF ORDINANCES AND SPECIFICATIONS WATER AND SEWER SPECIFICATIONS AND NICHOLSON WATER AND SEWER ASSOCIATION CODES.

LIFT STATION TECHNICAL SPECIFICATIONS:

1.0 GENERAL: FURNISH AND INSTALL A FULLY ASSEMBLED SUBMERSIBLE DUPLEX PUMPS PACKAGE CONSISTING OF THE GRINDER PUMPS, BASIN ASSEMBLY, INTERNAL DISCHARGE PIPING, CHECK VALVES, SHUT-OFF VALVES, QUICK-DISCONNECT GUIDE RAIL SYSTEM, LIFTING CABLES, FOUR FLOAT LEVEL CONTROLS, LEVEL CONTROL BRACKET, JUNCTION BOX, SCH 40 (STANDARD) INLET FITTING(S) AND CONTROL PANEL. ALL EQUIPMENT SHALL BE FACTORY INSTALLED EXCEPT FOR THE PUMPS, INLET FITTING(S) AND EXTERNALLY MOUNTED CONTROL PANEL. THE MANUFACTURER OF THE SPECIFIED PUMPS ARE SHOWN IN THE PUMP SELECTION TABLE.

1.1 THE LIFT STATION CONSTRUCTION SHALL INCLUDE A MINIMUM 12 FOOT WIDE 6" GRAVEL ACCESS ROAD WHICH PROVIDES ACCESS TO THE LIFT STATION DURING A 100 YEAR FLOOD EVENT. ALL PORTIONS OF THIS ROAD SHALL BE CONSTRUCTED ABOVE THE 100 YEAR BASE FLOOD ELEVATION.

1.2 SUBMITTALS: AFTER RECEIPT OF NOTICE TO PROCEED, THE MANUFACTURER SHALL FURNISH A MINIMUM OF SIX SETS OF SHOP DRAWINGS DETAILING THE EQUIPMENT TO BE FURNISHED INCLUDING DIMENSIONAL DATA AND MATERIALS OF CONSTRUCTION. THE MANUFACTURER SHALL ALSO SUBMIT DETAILED INSTALLATION AND USER INSTRUCTIONS FOR ITS PRODUCT AND SUBMIT EVIDENCE OF AN ESTABLISHED SERVICE PROGRAM INCLUDING COMPLETE PARTS AND SERVICE MANUALS. THE ENGINEER SHALL REVIEW THIS DATA, AND RETURN TWO COPIES AS ACCEPTED, OR WITH REQUESTED MODIFICATIONS. UPON THE ENGINEER'S ACCEPTANCE OF THE SHOP DRAWINGS AND THE MANUFACTURER'S RECEIPT OF NOTICE TO PROCEED, THE MANUFACTURER SHALL BEGIN FABRICATION OF THE EQUIPMENT.

1.3 WARRANTY: THE PUMP MANUFACTURER SHALL PROVIDE A STANDARD LIMITED WARRANTY ON COMPLETE STATIONS, ACCESSORIES AND CONTROL PANELS FOR A PERIOD OF 12 MONTHS FROM THE DATE OF INSTALLATION, OR 18 MONTHS FROM THE DATE OF SHIPMENT, WHICHEVER OCCURS FIRST. ANY MATERIAL OR CRAFTSMANSHIP DEFECTS NOT ASSOCIATED WITH FAULTY INSTALLATION, OPERATION OR MAINTENANCE FOUND DURING THE WARRANTY PERIOD WILL BE CORRECTED BY THE MANUFACTURER AT NO COST TO THE OWNER.

2.0 BASIN: ALL ELECTRICAL AND MECHANICAL EQUIPMENT INSTALLED IN THE WET WELL SHALL BE OF EXPLOSION PROOF CONSTRUCTION AND MATERIALS.

2.1 CONCRETE CONSTRUCTION. THE TANK SHALL CONSIST OF CONCRETE PIPE CONSTRUCTION. THE INNER SURFACE SHALL HAVE A SMOOTH FINISH AND BE FREE OF CRACKS. THE EXTERIOR TANK SURFACE SHALL BE RELATIVELY SMOOTH WITH NO EXPOSED REINFORCING STEEL OR SHARP PROJECTIONS. THE TANK WALL AND BOTTOM SHALL AS SHOWN HEREIN. ALL STATION COMPONENTS MUST FUNCTION NORMALLY WHEN EXPOSED TO THE EXTERNAL SOIL AND HYDROSTATIC PRESSURES DEVELOPED AT THE SPECIFIED BURIAL DEPTH. THE TANK BOTTOM SHALL EXTEND BEYOND THE TANK WALLS TO SUPPORT CONCRETE ANCHORING, AS REQUIRED, TO PREVENT FLOTATION.

2.2 BASIN COVER: A ONE-PIECE, ALUMINUM, HATCHED COVER SHALL BE PROVIDED WITH EACH BASIN ASSEMBLY. A COVER GASKET SHALL ALSO BE PROVIDED. COVERS SHALL BE BOLTED TO THE BASIN WITH STAINLESS STEEL CAP SCREWS. BASIN COVER SHALL BE SET AT A MINIMUM OF 1 FOOT ABOVE THE 100 YEAR BASE FLOOD ELEVATION.

2.3 LIFT-OUT RAIL ASSEMBLY: THE LIFT-OUT RAIL SYSTEM SHALL PERMIT EASY REMOVAL AND INSTALLATION OF PUMPS WITHOUT THE NECESSITY OF PERSONNEL ENTERING THE BASIN. EACH RAIL ASSEMBLY SHALL CONSIST OF A DUCTILE IRON LIFT-OUT BASE/ELBOW ASSEMBLY, STAINLESS STEEL GUIDE RAILS AND STAINLESS STEEL GUIDE RAIL BRACKETS. THE LIFT-OUT ELBOW FOR THE BASE ASSEMBLY SHALL CONTAIN A DOVETAILED GROOVE AND SEALING O-RING ON THE FACE TO PROVIDE A LEAK-PROOF SEAL AT ALL OPERATING PRESSURES. THE GUIDE RAILS ARE TO BE OF SUFFICIENT STRENGTH TO PREVENT BINDING AND FACILITATE EASY REMOVAL AND INSTALLATION OF PUMPS. THE LIFT-OUT BASE ELBOW INCORPORATES A NON-BINDING STAINLESS STEEL GUIDE BRACKET. THE GUIDE RAIL DESIGN MUST BE STRESS-FREE ONCE THE PUMP IS LOCATED WITHIN THE BASE ASSEMBLY.

2.4 CHECK VALVE: THE CHECK VALVE SHALL CONTAIN A FREE FLOWING SEALING METHOD, UNOBSTRUCTIVE TO THE FLOW OF LIQUIDS AND SOLIDS WITHIN THE DISCHARGE PIPING. THE VALVE DESIGN SHALL ALLOW FOR OPERATION WHEN NEGATIVE HEADS UP TO 5 FEET ARE ENCOUNTERED. THE VALVE SHALL CONTAIN A MAINTENANCE ACCESS PORT CAPABLE OF SERVICING THE VALVE WITHOUT DISRUPTING THE EXISTING PIPING. THE VALVE SHALL BE DESIGNED TO OPERATE AT ALL PRESSURES WITHIN THE SEWER SYSTEM CREATED BY THE PUMPS.

2.5 SHUT-OFF VALVE: GATE VALVE TYPE SHUT-OFF VALVES WITH TEFLON SEATS SHALL BE FURNISHED AS AN INTEGRAL PART OF THE INTERNAL PIPING ASSEMBLY. AN EXTENSION HANDLE SHALL BE SUPPLIED IF THE DISCHARGE DEPTH IS GREATER THAN 18" FROM THE SURFACE.

2.6 DISCHARGE PIPING: DUCTILE IRON PIPE DISCHARGE PIPING SHALL CONNECT TO THE STATIONARY DISCHARGE BASE LIFT-OUT ASSEMBLY AND TERMINATE AT A STAINLESS STEEL DISCHARGE FLANGE MOUNTED ON THE BASIN AT THE HEIGHT SHOWN IN THE PLANS. THE DISCHARGE FLANGE SHALL BE MANUFACTURED OF STAINLESS STEEL. THE DISCHARGE FLANGE SHALL HAVE FEMALE NPT THREADS FOR ATTACHING EXTERNAL DISCHARGE PIPING. SEE STATION DETAIL FOR PIPE SIZING.

2.7 INLET FITTING: AN INLET FITTING FOR 4," 6" OR 8" SCH 40 OR SDR 35 PLASTIC PIPE SHALL BE SHIPPED LOOSE FOR FIELD INSTALLATION. THE FITTING SHALL CREATE A WATER- AND VAPOR-TIGHT SEAL WITHOUT THE USE OF CAULKING. CONSULT THE CONTRACT DRAWINGS FOR THE NUMBER OF, SIZE, ELEVATION AND TYPE OF INLET FITTINGS REQUIRED.

2.8 LEVEL CONTROLS: PUMP ON, OFF AND ALARM LEVELS SHALL BE CONTROLLED BY FOUR MECHANICAL FLOATS. SWITCHES SHALL BE SEALED IN A CORROSION-RESISTANT POLYPROPYLENE HOUSING AND SHALL USE A MINIMUM OF 18 GAUGE, 2-WIRE, SJOW/A JACKETED CABLE. THE LEVEL CONTROLS SHALL BE SUSPENDED BY AN EXTERNALLY WEIGHTED CORD FROM A STAINLESS STEEL BRACKET SO THAT ADJUSTMENT OR REPLACEMENT MAY BE DONE WITHOUT ENTERING THE BASIN AND WITHOUT THE USE OF ANY SPECIALIZED TOOLS. LEVEL CONTROLS SHALL BE UL/CSA LISTED.

2.9 JUNCTION BOX: NEMA 6 JUNCTION BOXES SHALL BE CONSTRUCTED OF STRUCTURAL PLASTIC FOR CORROSION RESISTANCE AND OF ADEQUATE THICKNESS TO PROVIDE STABILITY AND MECHANICAL STRENGTH. THE JUNCTION BOX SHALL HAVE A FULLY GASKETED COVER THAT IS HELD IN PLACE BY FOUR CAPTIVE STAINLESS STEEL SCREWS WITH HEADS OF ADEQUATE SIZE SO THAT THEY MAY BE EASILY INSTALLED AND REMOVED WITHOUT THE USE OF SPECIAL TOOLS. AN ADEQUATE NUMBER OF SEALING-TYPE CORD GRIPS SHALL BE SUPPLIED FOR INCOMING PUMP AND LEVEL CONTROL CORDS. THE CORD GRIPS SHALL BE MADE OF A NON-CORROSIVE MATERIAL, SUCH AS PVC OR NYLON, AND SHALL MAKE AN EFFECTIVE SEAL AROUND THE WIRE JACKET. THE CORD GRIPS SHALL SEAL TO THE JUNCTION BOX WITH AN O-RING OR GASKET. THE JUNCTION BOX SHALL HAVE A PVC SOLVENT WELD SOCKET TYPE CONDUIT HUB OF ADEQUATE SIZE TO ACCOMMODATE THE NUMBER OF WIRES REQUIRED FOR THE PUMP AND LEVEL CONTROL OPERATION. THE INCOMING WIRES SHALL BE SEALED BY AN EXTERNAL EY TYPE SEAL-OFF (SUPPLIED BY OTHERS) SO CONDENSATION FROM THE CONDUIT OR GROUNDWATER WILL NOT ENTER THE ENCLOSURE. THE INTERIOR OF THE ENCLOSURE SHALL BE OF ADEQUATE SIZE TO ACCOMMODATE THE WIRES AND CONNECTIONS FOR PUMP AND LEVEL CONTROL OPERATION. THE WIRES RUNNING BETWEEN THE CONTROL PANEL AND THE JUNCTION BOX SHALL BE COLOR-CODED AND FASTENED TO THE PUMP AND LEVEL CONTROLS BY MEANS OF ADEQUATELY SIZED AND INSULATED TWIST LOCK OR CRIMP CONNECTORS.

2.10 CONTROL PANEL: IF NOT PROVIDED BY PUMP MANUFACTURER, A NEMA 4X FIBERGLASS CONTROL PANEL SHALL BE FURNISHED WITH EACH BASIN PACKAGE. THE CONTROL PANEL SHALL BE MOLDED OF GLASS REINFORCED POLYESTER RESINS THAT ARE CHEMICALLY RESISTANT TO CORROSIVE ATMOSPHERES. THE RESIN SYSTEM SHALL BE PIGMENTED TO IMPART A GRAY COLOR TO THE ENCLOSURE AND BE RESISTANT TO ULTRAVIOLET LIGHT. THE RESIN SYSTEM SHALL INCLUDE A FLAME RETARDANT TO OBTAIN FLAMMABILITY RATING THAT MEETS UL 94V-0. HEAT DISTORTION TEMPERATURE SHALL BE 350 DEGREES FAHRENHEIT. THE ENCLOSURE SHALL BE HINGED WITH A HEAVY-DUTY, CORROSION-RESISTANT, STAINLESS STEEL PIANO HINGE. TWO STAINLESS STEEL LOCKABLE CLASPS SHALL BE INCORPORATED IN THE ENCLOSURE. THE COMPLETE CONTROL BOX ASSEMBLY SHALL CONFORM TO UL 508 STANDARDS. THE ENCLOSURE SHALL BE OF ONE PIECE WITH SMOOTH, ROUNDED CORNERS AND SHALL BE CONSTRUCTED TO HAVE A SMOOTH EXTERIOR AND INTERIOR. THE ENCLOSURE SHALL BE FITTED WITH A CLOSED CELL NEOPRENE GASKET COVER. THE ENCLOSURE SHALL HAVE BACK PANEL MOUNTING PROVISIONS. THE ENCLOSURE SHALL BE PROVIDED WITH EXTERNAL MOUNTING FEET ON THE TOP AND BOTTOM OF THE ENCLOSURE. THESE MOUNTING FEET SHALL BE AN INTEGRAL PART OF THE ENCLOSURE. THE CONTROL PANEL SHALL BE INSTALLED AND MOUNTED ABOVE THE 100 YEAR BASE FLOOD ELEVATION.

THE BACK PANEL SHALL BE A MINIMUM OF .080" ALUMINUM AND HELD IN PLACE BY FOUR #10 SCREWS, WHICH WILL MATE TO FOUR THREADED STANDOFFS, WHICH ARE MOLDED INTO THE ENCLOSURE. THE PANEL SHALL INCLUDE: MAIN DISCONNECT CIRCUIT BREAKERS; ALARM CIRCUIT BREAKER; TWO IEC-RATED MOTOR CONTACTORS; TWO SETS OF START AND RUN CAPACITORS (SINGLE-PHASE ONLY); TWO PLUG-IN CONTROL RELAYS; ALTERNATOR RELAY; TWO PUMP HAND-OFF-AUTO SWITCHES; RED ALARM LIGHT; AUDIBLE ALARM; ALARM SILENCE SWITCH; ENCLOSED WIRE WAY; TERMINAL BLOCKS; GROUND LUG; AND ALL NECESSARY WIRING. TERMINAL STRIPS MUST HAVE A MINIMUM 3" CLEARANCE TO THE INSIDE WALL OF THE ENCLOSURE FOR EASE OF WIRING.

2.11 THE CONTROL PANEL SHALL BE FITTED WITH A RED LEXAN ALARM LIGHT. THE LIGHT SHALL REMAIN SOLIDLY ILLUMINATED FOR MOISTURE DETECTION IN THE LOWER SEAL CHAMBER OF THE PUMP. THE ALARM LIGHT SHALL FLASH, INDICATING A HIGH WATER ALARM CONDITION IN THE BASIN. THE LIGHT SHALL BE APPROXIMATELY 3" HIGH BY 2" DIAMETER, MOUNTED ON THE TOP SURFACE OF THE ENCLOSURE, VISIBLE FROM 360 DEGREES. THE BULB SHALL BE 40-WATT MINIMUM, HIGH INTENSITY, MEDIUM BASE TYPE. THE BULB OR LENS SHALL BE EASILY REPLACED BY REMOVING A THREADED SETSCREW AND LOCKING WASHER ON THE INTERIOR OF THE PANEL. THE LENS SHALL BE MOUNTED ON TOP OF THE ENCLOSURE WITH A NEOPRENE GASKET AND MUST MAINTAIN THE NEMA 4X RATING. THE ALARM CONDITION WILL PRODUCE A BRIGHT GLOWING ALARM LIGHT AND AUDIBLE BUZZER. THE AUDIBLE BUZZER CAN BE SILENCED BY MEANS OF THE SILENCE SWITCH INSIDE THE FRONT PANEL. THE RED INDICATOR LIGHT WILL REMAIN ILLUMINATED AS LONG AS THE ALARM CONDITION PERSISTS. BOTH FLASHING ALARM LIGHT AND AUDIBLE BUZZER WILL STOP WHEN THE WATER LEVEL DROPS TO NORMAL OPERATING CONDITIONS. ALL INTERNAL WIRING SHALL BE NEATLY ASSEMBLED WITHIN AN ENCLOSED WIRE WAY. EACH WIRE SHALL BE A DIFFERENT COLOR OR STRIPE (EXCEPT FOR GROUND), AND ALL INCOMING WIRES SHALL TERMINATE IN THE TERMINAL BLOCK. ALL WIRES SHALL BE 14GA. TYPE TEW RATED FOR 105 DEGREES CELSIUS. A SCHEMATIC DIAGRAM SHALL BE PERMANENTLY FASTENED TO THE INSIDE OF THE ENCLOSURE. THE CONTROL PANEL SHALL BE UL LISTABLE AS AN ASSEMBLY. THE CONTROL CIRCUITRY SHALL INCLUDE THERMAL OVERLOAD PROTECTION, AUTOMATICALLY STOPPING PUMP OPERATION IF OVERHEATING IS SENSED INSIDE THE MOTOR HOUSING OF THE PUMP. PUMP OPERATION WILL AUTOMATICALLY RESUME ONCE OVERHEATING CONDITIONS HAVE PASSED.

2.12 CHOPPER PUMP MODEL: THE PUMPS SHALL INCORPORATE AN INTEGRALLY BUILT-IN CHOPPER COMPONENTS AND SUBMERSIBLE TYPE MOTOR. THE UNIT SHALL BE CAPABLE OF MACERATING ALL MATERIAL IN NORMAL DOMESTIC AND COMMERCIAL SEWAGE, INCLUDING REASONABLE AMOUNTS OF FOREIGN OBJECTS SUCH AS SANITARY NAPKINS, DISPOSABLE DIAPERS, THIN RUBBER, SMALL WOOD, PLASTIC AND THE LIKE TO A FINE SLURRY THAT EASILY PASS THROUGH THE PUMP AND DISCHARGE PIPE. PUMP DISCHARGES SHALL BE STANDARD 150 LBS ANSI HORIZONTAL FLANGE.

2.13 PUMP HOIST: CONTRACTOR IS TO INSTALL A STAINLESS STEEL PUMP HOIST WITH CAPACITY OF 1000 POUNDS INCLUDING STAINLESS STEEL CABLE, GALVANIZED 1 TON HOOK, AND DUTTON-LAINSON MARINE GRADE BRAKE WINCH, WITH STAINLESS STEEL MOUNTING HOIST SOCKET WITH POLYMER LINING.

2.14 OPERATING CONDITIONS: THE PUMPS SHALL HAVE A CAPACITY AS SPECIFIED IN THE PUMP SELECTION TABLE.

2.15 POWER CORD / CONTROL CORD: ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE, LATEST EDITION. EACH MOTOR POWER CORD SHALL BE 10 GAUGE, SOW/SOWA OR SOOW. THE CONTROL CORD SHALL BE A MIMINUM OF 50 FEET IN LENGTH, 18 GAUGE SJOW/SOW. BOTH CABLE JACKETS SHALL BE SEALED AT THE MOTOR ENTRANCE BY MEANS OF A RUBBER COMPRESSION WASHER AND COMPRESSION NUT. AN EPOXY FILLED CORD CAP SHALL SEAL THE OUTER CABLE JACKETS AND INDIVIDUAL LEADS TO PREVENT WATER FROM ENTERING THE MOTOR HOUSING. INDIVIDUAL CONDUCTOR STRANDS SHALL BE SOLDERED WITHIN THE EPOXY SEAL. CORDS SHALL WITHSTAND A PULL OF 300 POUNDS.

3.0 START-UP AND FIELD TESTING: PRIOR TO ANY OPERATION, THE CONTRACTOR SHALL CLEANOUT ALL DEBRIS AND TRASH FROM THE LIFT STATION WET WELL AND INSURE THE PUMPS, FLOATS, PANELS, ARE ALL SECURELY INSTALLED, SEALED, AND THE DISCHARGE VALVES ARE IN THE OPEN POSITION. ALL CONDUIT CONNECTIONS SHOULD BE PROPERLY SEALED.

3.1 PRESSURE TESTING OF THE FORCE MAIN BY A QUALIFIED PROFESSIONAL SHALL INCLUDE A PRESSURE TEST OF 50 PSI ABOVE NORMAL OPERATING PRESSURE FOR THE ENTIRE LENGTH OF THE FORCE MAIN WITH AN ACCEPTABLE LEAKAGE RATE OF 10 GALLONS PER HOUR PER INCH DIAMETER PER DAY.

3.2 THE MANUFACTURER SHALL PROVIDE THE SERVICES OF QUALIFIED, FACTORY-TRAINED TECHNICIAN(S) WHO SHALL INSPECT THE PLACEMENT AND WIRING OF EACH STATION, PERFORM FIELD TESTS AND INSTRUCT THE OWNER'S PERSONNEL IN THE OPERATION AND MAINTENANCE OF THE EQUIPMENT BEFORE THE STATIONS ARE ACCEPTED BY THE OWNER. ONCE INSTALLATION NEARS COMPLETION, AND DEBRIS IS REMOVED FROM THE PIPES AND STRUCTURES.

4.1 ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE, LATEST EDITION.

4.2 ALL ELECTRICAL PANELS / BOXES SHALL BE NEMA 4X STAINLESS STEEL.

4.3 PROVIDE SEALANT FOR VAPOR SEAL AROUND CONDUITS ENTERING MANHOLE TO PREVENT VAPORS FROM ENTERING PANELS.

4.4 ALL SUPPORT BRACKETS, ANCHORS, AND ASSEMBLY BOLTS INSIDE MANHOLE SHALL BE 316 STAINLESS STEEL UNLESS NOTED OTHERWISE.

4.5 CONTRACTOR IS TO INSTALL A STAINLESS STEEL PUMP HOIST WITH CAPACITY OF 1000 POUNDS INCLUDING STAINLESS STEEL CABLE, GALVANIZED 1 TON HOOK, AND DUTTON-LAINSON MARINE GRADE BRAKE WINCH, WITH STAINLESS STEEL MOUNTING HOIST SOCKET WITH POLYMER LINING, PER HALLIDAY PRODUCTS MODEL #D2B36D AND MODEL #SOCKET #D2S LINED.

4.6 CONTRACTOR SHALL INSTALL ALL PIPING, SEWER CONNECTIONS, ELECTRICAL AND CONTROL WIRING, TO PROVIDE FOR A FULLY OPERATING SEWER SYSTEM. THE SYSTEM SHALL BE TEST RUN A MINIMUM OF THREE TIMES TO ASSURE THE SYSTEM IS OPERATIONAL.

4.7 CONTRACTOR TO CLEAN OUT STATION, FLUSH AND REMOVE ALL INCOMING SEWER LINES OF ALL DEBRIS AND SOLIDS PRIOR TO INSTALLING THE PUMPS.

4.8 ONCE INSTALLATION NEARS COMPLETION, AND DEBRIS IS REMOVED FROM THE PIPES AND STRUCTURES, THE CONTRACTOR SHALL CALL TO CONDUCT STARTUP INSPECTION, PRIOR TO OPERATION. THE CONTRACTOR SHALL CALL THE BELOW CONTACT TO CONDUCT STARTUP INSPECTION:

Walt Cuppetelli
Engineered Pump LLC
Office/Fax: 800 528 4154
Direct: 586 741 9128

4.9 FORCE MAIN TESTING:

A PRESSURE TEST OF THE FORCE MAIN SHALL BE CONDUCTED. THE TEST SHALL BE RUN AT 50 PSI ABOVE THE NORMAL OPERATING PRESSURE OF THE FORCE MAIN. A TEMPORARY VALVE MAY BE INSTALLED NEAR THE DISCHARGE POINT OF THE FORCE MAIN AND REMOVED AFTER SUCCESSFUL DOCUMENTED TESTING. THE FORCE MAIN SHALL BE FILLED WITH WATER FOR THE PRESSURE TEST. THE PIPELINE SHALL BE HELD AT THE DESIGNED PRESSURE FOR A MINIMUM OF 4 HOURS. AN ACCEPTABLE LEAKAGE TEST SHALL NOT EXCEED 10 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER DAY. COPIES OF TESTING RESULTS SHALL BE FORWARDED TO OWNER AND TO ENGINEER UPON COMPLETION.

LIFT STATION GENERAL NOTES

THIS LIFT STATION IS BEING CONSTRUCTED BY LOVE'S TO BE PLACED IN PUBLIC OWNERSHIP AND OPERATION BY NICHOLSON WATER AND SEWER ASSOCIATION UNDER ITS STANDARDS AND SPECIFICATIONS.

1. THE DESIGN OF A LIFT STATION, INCLUDING ALL MECHANICAL AND ELECTRICAL EQUIPMENT, MUST RESTRICT ACCESS BY AN UNAUTHORIZED PERSON.
2. A LIFT STATION MUST INCLUDE AN INTRUDER-RESISTANT FENCED ENCLOSURE, WITH LOCKABLE GATES.
3. AN INTRUDER-RESISTANT FENCE MUST USE A MINIMUM OF 8.0 FEET HIGH CHAIN LINK, MASONRY, OR BOARD FENCE WITH AT LEAST ONE STRAND OF BARBED WIRE.
4. MOTOR CONTROL CENTERS MUST BE MOUNTED AT LEAST 4.0 INCHES ABOVE GRADE TO PREVENT WATER INTRUSION AND CORROSION FROM STANDING WATER IN THE ENCLOSURE.
5. ELECTRICAL EQUIPMENT AND ELECTRICAL CONNECTIONS IN A WET WELL OR A DRY WELL MUST MEET NATIONAL FIRE PREVENTION ASSOCIATION AND NATIONAL ELECTRIC CODE EXPLOSION PREVENTION REQUIREMENTS.
6. A WET WELL MUST BE ENCLOSED BY WATERTIGHT AND GAS TIGHT WALLS.
7. ALL PENETRATIONS THROUGH A WALL OF A WET WELL MUST BE GAS TIGHT.
8. A WET WELL MUST NOT CONTAIN EQUIPMENT REQUIRING REGULAR OR ROUTINE INSPECTION OR MAINTENANCE, UNLESS INSPECTION AND MAINTENANCE CAN BE DONE WITHOUT ENTERING THE WET WELL.
9. A GRAVITY PIPE DISCHARGING TO A WET WELL MUST BE LOCATED SO THAT THE INVERT ELEVATION IS ABOVE THE LIQUID LEVEL OF THE LEAD PUMP'S "ON" SETTING.
10. A WET WELL FLOOR MUST HAVE A SMOOTH FINISH AND MINIMUM SLOPE OF 10% TO A PUMP INTAKE.
11. VALVE VAULT DRAINS. A FLOOR DRAIN FROM A VALVE VAULT TO A WET WELL MUST PREVENT GAS FROM ENTERING A VALVE VAULT BY INCLUDING FLAP VALVES, "P" TRAPS, SUBMERGED OUTLETS, OR A COMBINATION OF THESE DEVICES.
12. A NON-SUBMERSIBLE PUMP MUST HAVE INSPECTION AND CLEANOUT PLATES ON BOTH THE SUCTION AND DISCHARGE SIDES OF EACH PUMPING UNIT THAT FACILITATE LOCATING AND REMOVING BLOCKAGE-CAUSING MATERIALS, UNLESS THE PUMP DESIGN ACCOMMODATES EASY REMOVAL OF THE ROTATION ELEMENTS.
13. A PUMP SUPPORT MUST PREVENT MOVEMENT AND VIBRATION DURING OPERATION.
14. A SUBMERSIBLE PUMP MUST USE A RAIL-TYPE PUMP SUPPORT SYSTEM WITH MANUFACTURER-APPROVED MECHANISMS DESIGNED TO ALLOW PERSONNEL TO REMOVE AND REPLACE ANY SINGLE PUMP WITHOUT ENTERING OR DEWATERING THE WET WELL.
15. SUBMERSIBLE PUMP RAILS AND LIFTING CHAINS MUST BE CONSTRUCTED OF A MATERIAL THAT PERFORMS TO AT LEAST THE STANDARD OF SERIES 300 STAINLESS STEEL.
16. THE DISCHARGE SIDE OF EACH PUMP FOLLOWED BY A FULL-CLOSING ISOLATION VALVE MUST ALSO HAVE A CHECK VALVE. ALL CHECK VALVES MUST BE A SWING TYPE VALVE WITH AN EXTERNAL LEVER.
17. A VALVE MUST INCLUDE A POSITION INDICATOR TO SHOW ITS OPEN AND CLOSED POSITIONS, UNLESS A FULL-CLOSING VALVE IS A RISING-STEM GATE VALVE.
18. A CHOPPER PUMP INSTALLATION SHALL USE A SWING-TYPE CHECK VALVE. BUTTERFLY VALVE, TILTING-DISC CHECK VALVE, OR ANY OTHER VALVE USING A TILTING-DISC IN A FLOW PIPE IS PROHIBITED.
19. A LIFT STATION PIPE MUST HAVE FLANGED OR FLEXIBLE CONNECTIONS TO ALLOW FOR REMOVAL OF PUMPS AND VALVES WITHOUT INTERRUPTION OF THE LIFT STATION OPERATIONS.
20. WALL PENETRATIONS MUST ALLOW FOR PIPE FLEXURE WHILE EXCLUDING EXFILTRATION OR INFILTRATION.
21. PASSIVE VENTILATION STRUCTURES MUST INCLUDE SCREENING TO PREVENT THE ENTRY OF BIRDS AND INSECTS TO A WET WELL.
22. ALL MECHANICAL AND ELECTRICAL EQUIPMENT IN A WET WELL WITH PASSIVE VENTILATION MUST BE CONSTRUCTED IN COMPLIANCE WITH EXPLOSION REQUIREMENTS IN THE NATIONAL FIRE PROTECTION ASSOCIATION 70 NATIONAL ELECTRIC CODE.
23. A PASSIVE VENTILATION SYSTEM MUST BE SIZED TO VENT AT A RATE EQUAL TO THE MAXIMUM PUMPING RATE OF A LIFT STATION, BUT NOT TO EXCEED 600 FEET PER MINUTE THROUGH A VENT PIPE.
24. THE MINIMUM ACCEPTABLE DIAMETER FOR AN AIR VENT IS 4.0 INCHES.
25. A VENT OUTLET MUST BE AT LEAST 1.0 FOOT ABOVE A 100-YEAR FLOOD PLAIN ELEVATION.
26. PUMPS FOR LOW-FLOW LIFT STATION. A PUMP USED FOR A LIFT STATION WITH A PEAK FLOW OF LESS THAN 120 GALLONS PER MINUTE MUST BE SUBMERSIBLE AND INCLUDE A GRINDER OR CHOPPER COMPONENT.
27. A COLLECTION SYSTEM LIFT STATION MUST BE EQUIPPED WITH A TESTED QUICK-CONNECT MECHANISM OR A TRANSFER SWITCH PROPERLY SIZED TO CONNECT TO A PORTABLE GENERATOR, IF NOT EQUIPPED WITH AN ONSITE GENERATOR.
28. LIFT STATIONS MUST INCLUDE AN AUDIOVISUAL ALARM SYSTEM AND THE SYSTEM MUST TRANSMIT ALL ALARM CONDITIONS THROUGH USE OF AN AUTO-DIALER SYSTEM, SUPERVISORY CONTROL AND DATA ACQUISITION SYSTEM, OR TELEMETERING SYSTEM CONNECTED TO A CONTINUOUSLY MONITORED LOCATION.
29. AN EMERGENCY OPERATION PLAN FOR THE SEWER PUMP STATION SHALL BE PROVIDED WHERE ONSITE AUXILIARY POWER WITH AUTOMATIC SWITCHING WILL PROVIDE CONTINUOUS POWER TO OPERATE THE LIFT STATION IN THE EVENT OF POWER FAILURE OR NATURAL DISASTER. EMERGENCY OPERATION MAY BE ACCOMPLISHED BY ANY OF THE FOLLOWING MEANS:
   a. A PERMANENTLY INSTALLED ONSITE STANDBY GENERATOR WITH AUTOMATIC SWITCHING,
   b. SKID OR TRAILER MOUNTED GENERATOR WITH APPROPRIATE REQUIRED CONNECTIONS TO POWER THE PUMP STATION AND CONTROLS,
   c. ALTERNATE PERMANENT POWER SUPPLY FROM ANOTHER SEPARATE POWER SUBSTATION WITH AUTOMATIC SWITCHING IN THE EVENT OF POWER LOSS,
   d. PROVIDE A QUICK CONNECT TO THE FORCE MAIN DOWNSTREAM OF THE CHECK VALVE TO ALLOW AN ALTERNATE PUMP CONNECTION IN THE VALVE BOX TO PUMP AROUND THE PUMPS AND CONTROL PANEL AND DISCHARGE SEWAGE INTO THE FORCE MAIN.

JESSIE MARSH
REGISTERED PROFESSIONAL ENGINEER
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STATE OF MISSISSIPPI

3/1/23

THIS DRAWING IS NOT VALID WITHOUT AN ORIGINAL BLUE INK SIGNATURE AND ORIGINAL HANDWRITTEN DATE OF A LICENSED PROFESSIONAL ENGINEER.

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CERTIFICATE OF AUTHORIZATION
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