PART 1:  GENERAL

1.1 The scope of work covered in this section of the specifications includes the construction and installation of a complete lift station, including: the wetwell, valve pit, pumps, valves and piping, electrical wiring, controls and control panel, and accessories.

1.2 Related Requirements Specified Elsewhere

   A. Excavation, Backfilling and Compaction: Section 2221
   B. Gravity Sanitary Sewer: Section 2570
   C. Sanitary Force Main: Section 2576
   D. Fencing: Section 2830
   E. Access Road/Driveway

1.3 Product Delivery, Storage and Handling

   A. Store material to prevent physical damage and theft.
   B. Protect equipment during transportation and installation to avoid damage.
   C. When large precast sections are to be used, verify weight and reach capability of equipment on site, as well as access roads.

1.4 Quality Assurances

   Comply with the latest published editions of AWWA and ASTM Standards

   A. AWWA C500 - Gate Valves for Water & Sewerage Systems
   B. AWWA C509 - Swing Check Valves for Waterworks
   C. AWWA C151 - Ductile Iron Pipe
   D. ASTM A746 - Ductile Iron Pipe
   E. ASTM C478 - Concrete Pipe Manholes
   F. ASTM D2241 - Poly Plastic Pipe
   G. ASTM F477 - Elastomeric Seals for Plastic Pipe
PART 2: PRODUCTS

2.1 General Requirements

A. All products shall be new and unused.

B. Appropriate manufacturer's certifications, warrantees and performance curves shall be supplied.

C. The ECUA reserves the right to test or have tested any product to verify compliance with applicable specifications.

2.2 Wet Well

A. General

1. Will consist of base section, wall sections, top slab, interior tapered bottom fill, hatches.

2. To be assembled or constructed on site in accordance with plans.

a. Very small stations will usually be 4-foot diameter as precast manhole sections.

b. Small stations will usually be 6-foot diameter as precast pipe or manhole sections.

c. Medium stations will usually be 8 or 10-foot diameter, either cast-in-place or precast sections.

d. Large Stations will usually be 12 or 14-foot diameter, either cast-in-place or precast sections.

e. Regional stations will usually be rectangular cast-in-place, and possibly a dry well section for pumps and equipment.

B. Base Sections shall be monolithic and made of 3500 psi concrete, using reinforcing as shown on plans, commensurate with conditions; diameter larger than the vertical sections; and thickness 8" or more depending on total weight required. Provisions to be made for a watertight seal/joint with the walls.

C. Wall sections, if precast, to be made of 3500 psi concrete with adequate reinforcing; at least 5" thick, increasing with size and depth; lap or tongue and groove joint to accept bitumastic joint sealer or neoprene O-ring so as to make a watertight seal with other sections. Grout interior and exterior joints.

D. Top slab shall be precast reinforced concrete, made of at least 3500 psi concrete; at least 6" or more thick, increasing with larger diameters; with properly sized and located openings for hatchways. Top slab will fully cover the wet well, and may also extend to cover valve pit or dry pit.

E. Interior tapered bottom fill will be cast-in-place, using at least 2000 psi concrete, around the periphery of the base section such that any solids that settle will be directed to the intake of the pumps. To be sloped at an angle of 60 degrees to the bottom (1 horiz. to 1.73 vert.) forming an oval pattern centered on the centerline of the pumps, with its ends

2575.2
approximating the shadow line of the outboard pumps. See specific pump manufacturers recommendation.

F. Painting of exterior and interior of wet well:

1. Exterior walls shall be waterproofed with two coats of bitumastic paint or heavy layer of emulsified asphalt, after grouting all joints for the entire surface from a point 2 feet above maximum high groundwater to 6" below the base section floor level.

2. Interior surfaces shall be painted with two coats of epoxy coal tar paint after grouting joints and placing interior tapered fill. All surfaces, including underside of top slab to be painted.

G. Hatches shall be positioned in the top slab to afford ready access to each pump as shown on plans, with single or double doors as indicated.

1. Size shown shall be the clear opening.

2. Covers must have 300 lb. live load rating.

3. Covers will be aluminum tread plate 1/4" minimum thickness, 6061T6.

4. Frames shall be welded aluminum extrusions with continuous door stop.

5. Hinges shall be 316 stainless steel attached with stainless bolts, nuts, washers.

6. Cover/door lifting handles to be retractable.

7. Padlocking provisions must be provided.

8. Safety type open door latch to be provided.

H. There shall be an inverted "J" air vent mounted in the top slab of sufficient size to allow maximum displacement of air to pass without causing back pressure or a negative pressure. Minimum 2", but may be 6". Exterior end to be screened.

2.3 Valve pit shall be constructed adjacent to the wet well to contain and allow access to the station valves on the discharge lines.

A. To be constructed of 8" thick concrete masonry block on a cast-in-place concrete footing. May be all cast-in-place concrete, reinforced as needed, and structurally anchored to wet well.

B. Top cover shall adequately cover entire pit with lockable hatch/doorways for access.

1. May be 6" precast reinforced concrete, or

2. May be part of wet well top slab (see 2.02D), or

3. May be aluminum hatch cover (see 2.02F).

C. Floor of pit to be minimum 12" crushed stone to afford good draining.
D. May only be constructed on good, thoroughly compacted wet well backfill. Backfill on that side of wet well should be selected with care.

2.4 Lift Station Pumps - Two or More as Required

A. General

The pumps shall be centrifugal, non-clog submersible in design, capable of handling raw sewerage and designed for automatic connection to a permanently mounted discharge system, utilizing a guide rail system, powered by an integral squirrel cage, induction type electric motor.

B. Pump Construction

1. Housing and major components shall be made of cast iron per ASTM A48 Class 40B with smooth surface, devoid of blow holes and other irregularities. All external surfaces shall be protected with a chloric rubber paint finish.

2. Shaft shall be of Series 400 stainless steel, with a Brinell hardness of 200, or ASTM A576 Gr 1045 carbon steel with an ASTM A276 type 420 stainless steel sleeve.

3. Impeller shall be of non-clog design, statically and dynamically balanced, capable of passing 3-7/8" solids, with easily replaceable stainless steel wear ring with a Brinnell hardness of 200-310.

4. The shaft shall rotate on two permanently greased and adequately sized bearings with a B-10 bearing life of 40,000 hour minimum.

5. The pump shall be provided with a balanced tandem mechanical seal cartridge of stainless steel. Each lower and upper faces shall be tungsten carbide silver-soldered to stainless retainers, operating in pressure compensating oil chamber. Seal faces shall be self-aligning, positively driven and each held by separate spring systems.

6. Discharge shall be flanged per ANSI 125 to accept slide-away coupling.

C. Motors

1. The pump motor shall be integral to the pump for submersible or dry pit operation. The squirrel cage induction type motor shall be of Class F insulation, NEMA B design, Class H slot liners with a service factor of 1.25 and capable of resisting a heat rise to 155 degrees C, as defined in NEMA standard MG-1; and be capable of allowing 20 starts per hour.

2. Cooling shall be either air cooled through use of external fins, or oil cooled by a positive flow of contained oil to dissipate its heat to the pump fluid or external air.

3. Power cable entry to an isolated internal terminal board shall be such that moisture cannot enter external or internal through the cable; and shall be filled with an adequate strain relief and be of adequate length such that splices will not be required.

4. Mount large lifting eye or handle at top.
D. Discharge coupling to the station discharge piping will be accomplished by using a universal slide-away coupling that bolts to the pump discharge flange and mates/seals against the fixed discharge piping elbow; and allows positioning or removal of the pump by simple downward/upward motion of the pump, being guided by one or two permanently mounted rails.

1. The seal will be replaceable rubber gasket that will seal the joint with just the weight of the pump exerting the closure pressure.

2. Guide rails will either be 2" diameter rods, 2" X 2" tee bar, or dual X 2" channels. Preferred material will be stainless steel type.

3. Guide rail brackets as required, top, intermediate and/or lower, shall be stainless steel with stainless steel hardware.

4. Optional wire guide system may be approved.

2.5 Approved Pumps:

The following submersible pumps are approved for installation in ECUA lift stations rated for 3, 5, 7 10, 12, or 15 HP:

A. EMU
B. Wemco
C. ABS
D. Ebara
E. Hydro-matic

Approval is subject to review by ECUA for compatibility with other ECUA system components, and any special conditions associated with the specific installation.

2.6 Lift station piping shall be matched to pumps so as to handle initial and future flows.

A. Base discharge connection shall be cast iron flanged per ANSI-125 and suitable to accept slide-away coupling. Base section will be secured to wet well floor with stainless steel anchor bolts.

B. Piping in wet well and valve box shall be flanged D.I. Class 53 poly-lined. As an alternate on smaller stations, PVC Schedule 80 pipe may be approved.

C. Piping to exit wet well through properly sized cast iron sleeves and sealed.

D. On the horizontal section of each discharge pipe there shall be installed, in order:

1. 1" bronze gate valve, secured with proper saddle, and a 1" street elbow, directed down, inside wet well.

2. Check valves: The check valves shall be horizontal swing checks, iron body, bronze mounted with flanged ends rated for operation at 125 psi. The cover shall be cast iron with cover bolts of rust-proofed steel. The gate, gate-ring, set ring, and hinge shall be all bronze. The check valve shall be of the adjustable external
spring-loaded type. The contractor shall adjust the tension in the spring as necessary to prevent slamming in the valve pit.

3. **Gate Valves**: All gate valves shall be iron-body bronze mounted of the double-disc, parallel-seat, non-rising stem type, area fitted with a square operating unit opening left. The net area of the valve opening shall not be less than the net area of the connection pipe. They shall be Class 125 valves with flanged connections in the valve pit.

E. On the horizontal section of one of the discharge lines, past the in-line gate valve, there shall be assembled an emergency pump out connection, readily accessible with the valve pit hatch opened, and of the same pipe size as follows: tee, spool piece, gate valve, spool piece with upper end threaded and capped.

F. Outside the valve pit the piping will change to the specified force main pipe material, and through the necessary bends, wyes and increasers will direct all flows into the force main as specified. Thrust restraints must be used as needed using precautions to insure adequate support.

2.7 Liquid Level Control will be mounted in the wet well with wires running in conduit to the control panel mounted above ground.

A. Four (4) stainless steel Bulletin B 100 Model 9G mercury float switches, as manufactured by Consolidated Electric Company, or equal, shall be mounted on a stainless steel 1” pipe or rod which will be secured to the wet well wall with stainless steel hardware.

B. Each float switch shall be set at the elevation as indicated on the plan to control the following signals.

1. Low water - all pumps off
2. Lead pump on
3. Lag pump on
4. High level alarm

C. Each float cable shall be sealed to switch inside float, long enough to reach terminal in control panel without splicing or junction box, and shall be PVC or neoprene jacket with 2 #18 (41 strand wire).

D. There shall be a stainless steel cable holder, mounted for easy access with the hatch door open, to support the four float cables and each pump motor cable prior to their exiting through conduits to the control panel.

2.8 **Electrical Requirements**

A. **General**

1. ECUA has several different types of lift stations in its collection system. The types of station vary depending on type and quantity of pump(s), wet well/dry well, variable/constant speed, emergency generator, size of SCADA RTU, etc.

2. Because of the UHF radio controlled SCADA system, a standard off-the-shelf pump control panel cannot be used. It must be modified/manufactured as per the following specification.
3. The electrical construction drawings accompanying this specification is for typical ECUA two pump lift stations, 19 horsepower and below, with 240V 3-phase and 480V 3-phase supply voltages, respectively. The various points should be wired and equipment supplied as specified. All wires and terminals shall be marked as per the above mentioned drawings. Any deviation in equipment and/or wiring method must be approved by ECUA.

4. In the event a panel is required for other than these typical stations (more or less pumps or greater than 19 horsepower) wiring diagrams and panel layout drawings may be obtained from the ECUA.

B. Electrical

1. Codes and Permits

All electrical equipment shall be manufactured and installed in accordance with NEMA requirements and any local laws and ordinances as last revised. All materials used shall be new, of the highest quality, and of proper type for the use intended. Where applicable, all materials shall carry the approval of the Underwriters Laboratory. Substitutes which tend to lower the quality of the work will not be permitted. IEC rated devices that are not built to NEMA Standards are specifically prohibited.

The project is to result in a complete and operable lift station that is compatible with the SCADA system and other ECUA lift stations. Any items not specified, but normally included in such installations, shall be furnished and installed, regardless of omissions from specifications. However, specified omissions are not affected by this requirements.

2. Tests and Warranty

Upon completion, make final operating test of the entire wiring installation and equipment furnished and/or installed and/or connected under these specifications, cleaning and testing same; electrically and mechanically demonstrating that the work fulfills all the requirements of these specifications and meets with all local and Underwriters requirements.

3. Temporary Power

The contractor shall supply, install and maintain all necessary temporary lights and power during construction for himself and he shall pay for all electrical energy consumed during the construction period.

4. Service Entrances

It shall be the responsibility of the contractor to coordinate his work with the power company. He shall provide a suitable service entrance to the electrical equipment at each lift station.
5. **Main Circuit Breaker**

All lift stations shall include a main circuit breaker. On 240V stations, this circuit breaker shall be a Square D Type FAL32xxx (100A service or less) or KAL362xx (200/225A service) as required, or approved equivalent. On 480V stations this circuit breaker shall be a Square D Type FAL34xxx (100A service or less) or KAL362xx (200/225A service) as required, or approved equivalent. This circuit breaker shall be mounted in a NEMA 3R enclosure with ground lug and grounded neutral bus and must be suitable for service disconnect.

6. **Lightning protection**

All lift stations shall have a lightning arrester installed between each incoming power phase and ground. This lightning arrester would be best located inside the main circuit breaker enclosure and connected to the line side of the main circuit breaker.

7. **Transfer Switch**

All lift stations shall include a 3-pole double throw switch for disconnecting the primary power source from the lift station, allowing an emergency generator to be tied in for temporary operation of the lift station. This switch shall be a Westinghouse RXUK3??N or approved equivalent. On 240 volt stations only, this transfer switch may be a GE Model TC10424R.

8. **Generator Receptacle**

All lift stations shall include an appropriate receptacle for connecting to a portable emergency generator if required. This receptacle shall be a Crouse Hinds AR1041 or Appleton ADR1044 or approved equivalent for 100 amp services. This plug shall be a Crouse Hinds AR20412 or Appleton AR20044 or approved equivalent for 200 amp service.

9. **Transformer**

On 480V lift stations a lighting transformer will be mounted on the back of the lift station backboard. This transformer will be a 10kva, wall hung, outdoor enclosure, Square D Class 7410 Type 10S1F or approved equivalent.

10. **Junction Box**

A corrosion resistant (NEMA 4X rated) isolation junction box with back panel shall be mounted on the lift station panel backboard. This box should be at least 16 inches high by 14 inches wide and should contain appropriately sized corrosion resistant terminal strips to connect all pump and float leads. The purpose of this box is to completely isolate the wet well wiring from the control panel and to facilitate easier removal of pump leads during preventive maintenance and repair. The conduits between this isolation junction box and the motor control panel should be sealed with mastic. This box should be a Hoffman A1614CHSCFG or approved equivalent. The back panel should be a Hoffman A16P14 or approved equivalent.
11. **Final Power Turn-on**

After satisfactory completion of the electrical inspection, the contractor will provide the electrical permit number, size and type of service, and address to ECUA in order for ECUA to arrange with Gulf Power Company for electrical power connection and turn-on.

C. **Materials**

1. Conduit and conduit fittings shall be either rigid aluminum or schedule 80 PVC as per local code requirements. Electrical connectors and couplings shall be of the approved watertight type.

2. Wire and cable shall be properly sized to carry the anticipated load. Insulation, unless otherwise noted, shall be type THW, THWN, or THHN for all sizes. All wiring should be stranded copper.

3. All overload protection shall be provided by circuit breakers. An exception to this requirement can be made for those cases where special electronic equipment must be protected by quick acting fuses. These fuses will be installed as an addition to the required breaker.

D. **Controls**

All pump controls mounted outdoors will be mounted in a 36 inch by 30 inch NEMA 3R or NEMA 4X enclosure with back panel and dead front style swing out panel. The enclosure should be manufactured of aluminum unless otherwise noted on the construction plans. This enclosure will be a Hoffman A-36H3008ALLP or an approved equivalent. The back panel will be a Hoffman A36P30 or approved equivalent and will be cut out, labeled and components mounted as per construction drawings. The swing out panel shall be an aluminum pane, sized appropriately, hinged, cut out, labeled and components mounted as per construction drawings. Panel must swing out from the same side as the enclosure door and must swing at least 180 degrees. An exception to the NEMA ratings can be made for enclosures that contain electronic components that require special cooling fans, etc. In these cases, the NEMA ratings should be maintained as much as possible.

Single-phase pump motors shall not be acceptable. Where three-phase power is not available, a Ronk Add-A-Phase unit or approved equivalent will be provided.

All pumps larger than 19 HP shall utilize auto transformer, electronic soft starters, or variable speed drives.

The pump control circuit shall be designed to use mercury floats to sense wet well levels unless otherwise noted on the construction plans. One low level float will be used to turn all pumps off. A separate start float is to be used for each pump. The pumps are to operate on a "lead-lag" sequence with the "lead" pump starting first and the "lag" pump to follow in sequence if the level continues to rise. The system is to include an alternator to alternate the "lead" pump each time the pumps cycle. The circuit must be such that, if either pump is disabled, turned off or trips its breaker, the other pump will continue to operate normally and control the level. The pump controller shall incorporate the following components:
1. A properly sized starter (with properly sized heaters installed) for each motor with two (2) normally open auxiliary contacts added to each starter. These starters will be Square D Class 8536 or approved equivalent.

2. A properly sized circuit breaker for each motor. On 240V stations these circuit breakers will be Square D Class 650 Type FAL32xxx or approved equivalent. On 480V stations these breakers will be Square D Class 650 Type FAL34xxx or approved equivalent.

3. A three position maintained-contact hand-off-auto switch for each pump. Each H-O-A switch must have two N.O./N.C. contact blocks. One N.O./N.C. combination will be used for pump motor control. The other will be used for status input to the SCADA system. These switches should be NEMA 4X rated such as Square D Class 9001 Type SKS43BH2 or approved equivalent. These switches should be labeled "PUMP 1" under and "HAND OFF AUTOMATIC" over for one switch and "PUMP 2" under and "HAND OFF AUTOMATIC" over for the other switch.

4. One 115 VAC, single-phase, 20 amp GFI duplex receptacle, with 20 amp single pole breaker. This breaker will be a Square D Type QOU120 or approved equivalent.

5. One 115 VAC, single pole, 15 amp breaker to be used for SCADA power. This breaker will be a Square D Type QOU115 or approved equivalent.

6. One 240 VAC, single-phase, 20A, simplex receptacle with 20A two pole breaker to be used for mechanics air compressor. This receptacle to be mounted external to the lift station control panel. This breaker will be a Square D Type QOU220 or approved equivalent.

7. One 115 VAC, single pole, 10A breaker to be used for lift station control power. This breaker will be a Square D Type QOU110 or approved equivalent.

8. On 480 VAC stations only, one 480 VAC, 2 pole 30A breaker to be used for transformer power. This breaker will be a Square D Class 650 Type FAL24030 or approved equivalent.

9. An octal base plug-in DIN rail mounted power monitor that senses loss of incoming power/loss of phase from the power company. This power monitor should be protected by input fusing. The output of this monitor will report to the SCADA system via a contact that opens when the monitor senses a power problem. On 240V stations, this power monitor will be a Timemark Model A-2578-240VAC or approved equivalent. On 480V stations, this power monitor will be a Timemark Model A-2578-480VAC or approved equivalent. Fuses will be Bussman KTK-1 or approved equivalent.

10. Each stop, lead and lag float must be isolated from the control circuits by a four pole double throw (4PDT) relay. One of the relay contacts is to be used for reporting float status to the SCADA system. Refer to the construction drawings for appropriate connection of the other relay contacts. These relays will be Potter and Brumfield KHAY-17A11-120 or approved equivalent. Relay sockets will be Potter and Brumfield 27E894 or approved equivalent.
11. One pump alternator that is "cross-wired" as per the construction drawings. This alternator should be Diversified Electronics Model ARA series, Timemark Model 261, or an approved equivalent.

12. Two indicating lights to indicate local/remote (SCADA) operation. The local lens should be green in color. The remote lens should be red in color. These indicating lights must be NEMA 4X rated with 120 VAC lamp module and MB120 bulb, such as Square D Class 9001 Type SKP38G31/SKP38R31 or approved equivalent. These lights should be labeled "CONTROL" under both and "LOCAL" over the green light and "REMOTE" over the red light. These lamps are to be operated by a relay of the same type used for float and pump control. The other contacts of this relay will be used by the SCADA system to switch the pump controls from local to remote operation.

13. One NEMA 4X rated two position sustained contact switch, such as Square D Class 9001 Type SKS11BH2 or equivalent, to be labeled "mechanic present" under and "YES   NO" over. This switch to output to the SCADA system and disable/enable SCADA control.

14. All relays and other socket mounted devices shall be mounted on a DIN-rail.

15. All control and SCADA input/output points will be wired to a common terminal strip and appropriately identified as per the attached drawing to ensure standardization between panels. This terminal block will be a Square D Class 9080 Type BM6 or approved equivalent.

16. AC input power will be connected to the control panel via approved terminal blocks. The line power terminal block will be a Square D Class 9080 Type LBA362104 or approved equivalent. The neutral terminal block will be a Square D Class 9080 Type LBA162104 or approved equivalent. The ground lead will be connected to the back panel via an approved bonding lug.

17. The controller shall be completely assembled and bench tested prior to installation.

E. Liquid Level Control

The liquid level in each lift station wet well shall be controlled by normally open Bulletin B100 Model 9G stainless steel mercury float switches as manufactured by Consolidated Electric or Roto-float-SS, Type P by Anchor Scientific, Inc. or approved equivalent.

In lift stations where variable frequency drives are used, requiring analog representation of wet well level, or if analog representation of wet well level is required for any other reason, this float system will be replaced by an appropriate bubbler system and pump turn-on/turn-off will be accomplished by a PLC such as the Siemens Model 305 or equivalent or an electronic alarm module such as an AGM Model 4035 or equivalent, as needed.

F. High Level Alarm System

Each lift station will be equipped with a normally open float in the wet well which will be positioned to monitor high level conditions in the wet well. This float will be of the same type mentioned in paragraph E above, and will be utilized in the SCADA system for reporting wet well high level conditions to the lift station SCADA operator. Proper wiring of this float is shown in the construction drawings.
G. SCADA

Each lift station will be provided with a SCADA RTU manufactured by DAQ Electronics, Inc. This RTU will be supplied and installed by ECUA after final inspection and acceptance of the lift station. The cost of this equipment and installation shall be prepaid by the developer as a part of the project cost.

H. Installation Techniques

All conduit runs whether or not terminated in boxes shall be capped or plugged to prevent the entrance of foreign matter until wires are pulled.

Outlets, switches, boxes, etc., shall be rigidly secured and located properly with respect to easy accessibility.

All work shall be tested and subject to final approval of the Engineer.

No wiring shall be pulled until all conduit and boxes are permanently in place. Each branch circuit shall be separately controlled with a grounded neutral for each circuit. Circuiting shall be as indicated on the construction plans.

All feeders and branch circuits are to be color coded maintaining the same color code on the same phase.

All conduit runs under grade shall be rigid conduit from outlet to outlet, with 18 inches minimum cover. Waterproof construction techniques are to be used on all couplings to make the installation watertight.

All components of the lift station, including the main circuit breaker, the manual transfer switch, the lift station control panel, the transformer (when required) and the junction box will be mounted on an aluminum backboard as outlined in the construction drawings. Appropriate space will be provided on the backboard for later installation of the SCADA RTU by ECUA. The RTU currently being used by ECUA measures 24 inches high by 16 inches wide by 8 inches deep. Suitable allowance should be made for convenient entry of cabling from the antenna, conduit runs from the pump control panel and door opening.

Where space allows, the lift station control panel shall set back at least six feet from the wet well to minimize exposure to corrosive gasses.

2.9 Shop Drawings

The Contractor shall submit six copies of shop drawings for all major equipment and shall have the Engineer approve same in writing before ordering the equipment.

2.10 Supervision of Installation and the Guarantee

The Contractor shall see that all items of equipment are installed, piped, and wired in accordance with the manufacturer's recommendations and shall place all equipment in satisfactory operation. The plant equipment shall be checked by a manufacturer's representative to be sure that it has been installed in compliance with recommendations. The Contractor shall guarantee the satisfactory operation for all apparatus and machinery against defects in workmanship, material and installation for a period of one (1) year. The Contractor shall in turn protect himself with similar guarantees from all his suppliers and subcontractors.

2.11 Test Operation
A. The Contractor shall turn over to the Engineer two copies of operation and maintenance manuals for each piece of equipment installed.

B. He shall review and demonstrate the operation of the lift station with the Escambia County Utilities Authority’s representative completely familiarizing the operator with all operation procedures.

C. He shall fill out a "Lift Station Inventory" sheet as per the sample that follows.

2.12 Potable Water Service

A. General: Each station is to be supplied at a convenient location an adequate potable water supply for station washdown and/or emergency operator washing.

B. Minimum size to be 1" pipe terminated in a valve box with gate valve and backflow device. On larger stations there may be on-site lines to hose bibs and/or personnel showers.