TYPICAL STANDARD LIFT STATION

THESE TYPICAL LIFT STATION PLANS CONTAIN WWS MINTIMUM REQUIREMENTS AND ARE INTENDED TO PROVIDE A BASE FOR SITE ADAPTATION AND DESIGN BY A QUALIFIED ENGINEER. THE INFORMATION WITHIN, CONCERNING, SHALL ONLY BE USED AS A GENERAL GUIDELINE FOR THE INTENDED OPERATION AND FOR SITE ADAPTATION WHERE NOT COVERED, SHALL NOT BE CONSTRUED AS ALL INCLUSIVE.

ENGINEER OF RECORD AND CONSULTANTS USING THESE GUIDELINES SHALL VERIFY AND MODIFY ANY REQUIREMENT NOT NECESSARILY SHOWN AS MAY BE REQUIRED BY ANY AND ALL APPLICABLE CODES AND STANDARDS.

FOR TRIPLEX STATIONS AND FOR ALL LIFT STATIONS REQUIRING AN ONSITE GENERATOR, DESIGNER SHALL CONSULT WITH WWS FOR ADDITIONAL REQUIREMENTS. THESE STANDARDS APPLY ONLY TO DUPLEX LIFT STATIONS.

ALL CHANGES TO THESE MINIMUM REQUIREMENTS SHALL BE CLEARLY IDENTIFIED WHEN SUBMITTING FOR APPROVAL.

DRAWING INDEX

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>SHEET DESIGNATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>COVER SHEET</td>
<td>G-1</td>
</tr>
<tr>
<td>ABBREVIATIONS &amp; LOCATION MAP</td>
<td>G-2</td>
</tr>
<tr>
<td>PLAN &amp; ELEVATION</td>
<td>M-1</td>
</tr>
<tr>
<td>SITE PLAN</td>
<td>M-2</td>
</tr>
<tr>
<td>STANDARD DETAILS</td>
<td>M-3</td>
</tr>
<tr>
<td>STANDARD DETAILS</td>
<td>M-4</td>
</tr>
<tr>
<td>PUMP STATIONS NOTES</td>
<td>M-5</td>
</tr>
<tr>
<td>ELECTRICAL SITE PLAN &amp; RISER</td>
<td>E-1</td>
</tr>
<tr>
<td>ELECTRICAL PLAN &amp; CONNECTION PANEL</td>
<td>E-2</td>
</tr>
<tr>
<td>DUPLEX CONTROLS CIRCUIT</td>
<td>E-3</td>
</tr>
<tr>
<td>ELECTRICAL SCHEMATIC AND CONTROL PANEL</td>
<td>E-4</td>
</tr>
<tr>
<td>ELECTRIC SERVICE AND TRANSFER SWITCH</td>
<td>E-5</td>
</tr>
<tr>
<td>ELECTRICAL DETAILS</td>
<td>E-6</td>
</tr>
</tbody>
</table>

THE SIZE OF THESE PLANS MAY HAVE BEEN ALTERED BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING DATA.

THE VERTICAL DATUM USED FOR THESE DRAWINGS WAS NAVD 88.
Lift station station design and construction standards

1. For all water & wastewater minimum design and construction standards visit this WWS website at:
   www.broward.org/waterservices/pages/minimumdesignandconstructionstandards.aspx

2. Valve vault and valve vault hatches shall be US Foundry, Halliday (or approved equal) THD/TPD aluminum access hatches. All hardware to be 316 stainless steel.

3. Valve vault and valve vault hatches shall be US Foundry, Halliday (or approved equal) THD/TPD aluminum access hatches. All hardware to be 316 stainless steel.

4. Lift station common name refer to WWS minimum design and construction standard "waterlift station naming convention"
### Notes:

1. Maintenance access structures shall be installed within the pump station basement as shown unless WWS directs otherwise.

2. Finish grade elevation for wetwell and valve vault shall be a minimum of one foot above the term. Use in flood elevation or not lower than crown of road.

3. All concrete slabs on grade shall be Class A.

4. Driveway shall be 6-inch thick concrete, without reinforcement, unless WWS directs otherwise.

5. This site layout is general in nature and should be modified as required for each individual lift station. WWS reserves the right to modify proposed layout to meet operational needs.

<table>
<thead>
<tr>
<th>Wetwell Diameter</th>
<th>A'</th>
<th>B'</th>
<th>C'</th>
<th>D'</th>
</tr>
</thead>
<tbody>
<tr>
<td>6&quot;</td>
<td>10.00'</td>
<td>30.00'</td>
<td>13.34'</td>
<td>20.25'</td>
</tr>
<tr>
<td>8&quot;</td>
<td>10.00'</td>
<td>30.00'</td>
<td>16.34'</td>
<td>22.25'</td>
</tr>
<tr>
<td>10&quot;</td>
<td>32.00'</td>
<td>32.00'</td>
<td>19.00'</td>
<td>27.00'</td>
</tr>
<tr>
<td>12&quot;</td>
<td>35.00'</td>
<td>35.00'</td>
<td>20.00'</td>
<td>29.00'</td>
</tr>
</tbody>
</table>
GENERAL

1. ALL CONSTRUCTION AND MATERIALS SHALL COMPLY WITH BROWARD COUNTY WATER AND WASTEWATER SERVICES (WWWS) MINIMUM DESIGN AND CONSTRUCTION STANDARDS AS PUBLISHED IN www.broward.org/waterservices/PAGES/MINIMUMDESIGNANDCONSTRUCTIONSTANDARDS.ASPX

2. GENERAL REQUIREMENTS FOR PRODUCTS USED IN BROWARD COUNTY DISTRICT AND COLLECTION STATIONS AS PUBLISHED IN www.broward.org/waterservices/PAGES/MINIMUMDESIGNANDCONSTRUCTIONSTANDARDS.ASPX

3. FOR ALL WATER AND WASTEWATER "MINIMUM DESIGN AND CONSTRUCTION STANDARDS" AND "PRODUCT SPECIFICATION SHEETS" AT WWW.BROWARD.ORG/WATERSERVICES/PAGES/MINIMUMDESIGNANDCONSTRUCTIONSTANDARDS.ASPX

FINISHING UNIFORM SURFACES

1. ALL SURFACE FINISHES WILL BE APPLIED IN A CONSISTENT AND UNIFORM MANNER. INTERNAL SURFACES OF STRUCTURES SUCH AS WHICH MAY BE EXPOSED OR WHICH MIGHT BE COVERED OR FIXED WITH COVERINGS THAT ARE AIDED TO OBSCURE THE UGLINESS OF THE UNDERLYING SURFACE OR WHICH ARE NOT INCLUDED IN THE DESIGN OR IN THE CLOTH OF THE DRAWINGS OR SPECIFICATIONS, OR WHICH ARE NOT COVERED WITH A FINISH MATERIAL WHICH IS IN ACCORDANCE WITH THE SPECIFICATION, MAY REQUIRE AIME: 10769

2. PRECAST CONCRETE

A. ALL HEAVY-WEIGHT CONCRETE BOXES SHALL BE RAISED TO THE CAST-IN-PLACE IN FORMS FOR SLABS, FOOTINGS, FOUNDATIONS, MAINTENANCE ACCESS STRUCTURES

B. MEGGER MOTORS, MOTORS SHALL BE 20 MEGOHMS OR MORE TO GROUND, DO NOT MEGGER

C. F. CHECK OPERATION WITH OWNER'S PORTABLE GENERATOR AND CHANGE WIRE CONNECTIONS IN

D. LIGHTNING ARRESTER LEADS TO

E. POWER TO THE STATION, A "ROTOPHASE" PHASE CONVERTER SHALL BE SUPPLIED TO PROVIDE 3 PHASE

F. CONCRETE COVER FOR STEEL REINFORCEMENT SHALL BE AS SPECIFIED ON ACI 318.

SHAPE INDICATE A pH=7.0 OR GREATER. DESIGNATION:

16. BUBBLER TUBING SHALL BE CLEAR, 1/4" TYGON (OR APPROVED EQUAL). BACK-UP SENSOR TUBING TO BE C. SURFACE SHALL BE TESTED BY THE CONTRACTOR, IN THE PRESENCE OF THE ENGINEER, USING A SURFACE AS SHOWN

MINIMUM OR OTHER MECHANICAL SCARIFICATION TECHNIQUES APPROVED BY THE ENGINEER. 4. CONCRETE COVER FOR STEEL REINFORCEMENT SHALL BE AS SPECIFIED ON ACI 318.

CAST-IN-PLACE CONCRETE

1. NO SURFACE TREATMENT WILL BE REQUIRED FOR BURIED CONCRETE NOT FORMING AN INTEGRAL PART OF

2. SULFATE RESISTANCE WEIGHTLOSS     pH 1.0 <.97% ASTM C-267

3. DENSITY (WET):                                  130 LB/CU. FT. ASTM C138-92

4. BROOMING: SURFACES OF EQUIPMENT BASES AND SLABS ON GRADE SHALL BE GIVEN A LIGHT BROOM

5. THE CONTRACTOR SHALL DELIVER ALL MATERIALS TO THE WORK AREA, TO BE EQUALLY DISAGREEMENTS TO THE BROWARD COUNTY WATER AND WASTEWATER SERVICES (WWW.BROWARD.ORG/WATERSERVICES/)

6. THE BOTTOM SLAB SHALL BE CAST MONOLITHICALLY WITH THE LOWER WALL SECTION UNLESS OTHERWISE NOTED.5. DUCTILE IRON PIPE AND FITTINGS: DIP EXTERIOR SURFACES SHALL BE COATED WITH A 100% POLYAMINE

7. ALL ACCESS DOORS SHALL BE EQUIPPED WITH A MINIMUM OF FOUR (4) STAINLESS STEEL CARRIAGE BOLTSPROVIDED BY THE CONTRACTOR AND MANUFACTURED BY CHAMPION CONTROLS INC. TO WWS

8. SMALL LETTERS SHALL BE 1/2" HIGH

9. FROM THE REAR SIDE OF THE DEAD FRONT HINGED PANEL, ALL WIRES SHALL BE NEATLY LACED TOGETHER, HANDLE.

10. THE HATCH SHALL BE PROVIDED WITH A TYPE 316 STAINLESS STEEL SLAM-LOCK WITH A REMOVABLE

11. ACCESS HATCH

A. ALL CONTROL CIRCUIT WIRES SHALL BE TERMINATED WITH FORK TYPE CRIMP-ON CONNECTORS AND SHALL

B. BROOMING: SURFACES OF EQUIPMENT BASES AND SLABS ON GRADE SHALL BE GIVEN A LIGHT BROOM

PUMPS AND CONTROL PANEL

1. CONTROL PANEL ELECTRICAL SYSTEM SHALL BE AUTO-REVERSIBLE, AND WHEN OPPORTUNITY EXIST, TO USE "LIFT STATION STANDARD" PUMPS

2. CONTROL PANEL ELECTRICAL SYSTEM SHALL BE AUTO-REVERSIBLE, AND WHEN OPPORTUNITY EXIST, TO USE "LIFT STATION STANDARD" PUMPS

3. FOR ALL WATER & WASTEWATER "MINIMUM DESIGN AND CONSTRUCTION STANDARDS" AND "PRODUCT

CAST-IN-PLACE CONCRETE

1. ALL CONSTRUCTION AND MATERIALS SHALL COMPLY WITH BROWARD COUNTY WATER AND WASTEWATER SERVICES (WWW.BROWARD.ORG/WATERSERVICES/)

2. Ductile iron pipe and fittings shall conform to BCWWS product specification sheets.

3. All valve boxes shall have locking lids.

4. Brooming: Surfaces of equipment bases and slabs on grade shall be given a light brooming.

5. Brooming: Surfaces of equipment bases and slabs on grade shall be given a light brooming.

6. Surface shall be tested by the contractor, in the presence of the engineer, using a surface as shown.

7. Concrete shall be either class A or class B, as indicated on the drawings or specified by IND.

8. Concrete shall be either class A or class B, as indicated on the drawings or specified by IND.

9. All active leaks in the main body of the structure shall be stopped using chemical grouting and hydraulic

10. The hatch shall be closed with a l-c iron, mill finish with machined surface, and shall be provided with a special latch, handle, and cover screws.

11. All active leaks in the main body of the structure shall be stopped using chemical grouting and hydraulic

12. The hatch shall be provided with a Type 316 stainless steel slam-lock with a removable

13. All valve boxes shall have locking lids.

14. All active leaks in the main body of the structure shall be stopped using chemical grouting and hydraulic

15. Brooming: Surfaces of equipment bases and slabs on grade shall be given a light brooming.

16. Brooming: Surfaces of equipment bases and slabs on grade shall be given a light brooming.

17. Concrete shall be either class A or class B, as indicated on the drawings or specified by IND.

18. Concrete shall be either class A or class B, as indicated on the drawings or specified by IND.

19. All active leaks in the main body of the structure shall be stopped using chemical grouting and hydraulic

20. Run 3/4 inch rigid conduit from the rear of the building, and support the conduit at least 12" from the ground. Support the conduit at least 12" from the ground. Support the conduit at least 12" from the ground.
FLORIDA LICENSED PROFESSIONAL ENGINEER TO REVIEW AND MODIFY ELECTRICAL DESIGN AS REQUIRED TO ACCOMPLISH CONSTRUCTION IN ACCORDANCE WITH APPLICABLE CODES AND STANDARDS.

ELECTRICAL CONTROLS CIRCUIT (DUPLEX)
FLORIDA LICENSED PROFESSIONAL ENGINEER TO REVIEW AND MODIFY ELECTRICAL DESIGN AS REQUIRED TO ACCOMPLISH CONSTRUCTION IN ACCORDANCE WITH APPLICABLE CODES AND STANDARDS.