SECTION 31 23 19

DEWATERING

APPROVAL STATUS							
PREPARED BY:	GA	DATE	27July2021	CHECKED BY:	DD	DATE	27July2021
APPROVED BY:	DB	DATE	27July2021				

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REV	ISSUED FOR	REVISED BY	CHECKED BY	APPROVAL	APPROVAL	DATE
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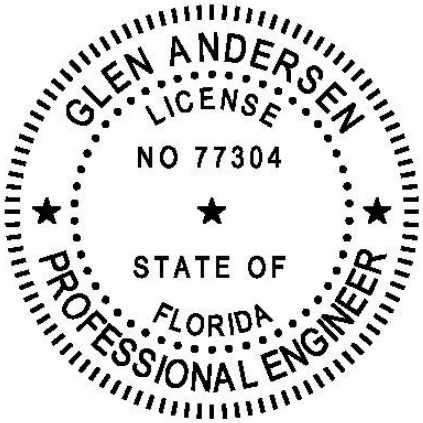
Engineer's Seal



Digital Signature

DN: cn=Glen R. Andersen, o=Wood Environment & Infrastructure Solutions, Inc., ou, email=glen.andersen@woodplc.com, c=US
Date: 2021.09.15 13:00:30 -04'00'

GLEN ANDERSEN P.E., STATE OF FLORIDA, PROFESSIONAL ENGINEER, LICENSE NO. 77304.

THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY GLEN ANDERSEN ON 15 JULY 2021, USING AN SHA AUTHENTICATION CODE BY DIGICERT.

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SECTION 31 23 19

DEWATERING

PART 1 GENERAL

1.1 DESCRIPTION

Furnish, operate, and maintain dewatering measures and equipment for the control, collection, and disposal of ground and surface water entering excavations and for pressure relief wells as shown on the drawings.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Specification 01 33 00 - Submittal Procedures
B. Specification 31 00 00 - Earthwork

1.3 SUBMITTALS

A. Submit plans for dewatering the excavation areas as part of the Construction Work Plan before work starts for ENGINEER review and approval. Include means and methods for dewatering.
B. Submit changes to dewatering means and methods to the ENGINEER for review before making those changes.

PART 2 PRODUCTS

2.1 GENERAL

A. Provide, operate, and maintain a dewatering system to remove water from the cofferdam, excavations and trenches using pumps, drains, well points, piping, and other facilities necessary to keep the excavations free of water, as required by these Specifications and the Engineer. Have spare units available for immediate use in the event of equipment breakdowns or significant rainfall.

PART 3 EXECUTION

3.1 PERFORMANCE

A. General:

1. Perform dewatering work as necessary at no additional cost to the Owner.

B. Excavation Dewatering:

1. Dispose of collected construction water removed from excavations, dewatering of soil/sediment, stockpile containment areas, and decontamination water in accordance with Permit requirements.

2. Treatment: Prior to discharge, collected construction water shall be

temporarily stored in sediment traps or detention basins, whichever is more applicable to the quality of water, in accordance with FDEP requirements.

3. The existing earthen fuse plug type Emergency Spillway will function as the principal by-pass for flows down the Manatee River. The sill elevation for this Spillway is 38 ft. Three of the bays will be opened by the County to handle the normal flows and the remaining 5 bays at elevations ranging from 44 ft to 45.5 ft will automatically open based on the water levels in the Lake. With respect to the by-pass flows, the County is responsible for:

   i. Managing the Emergency Spillway including replacing the earthen fuse plug; and,

   the Contractor is responsible for:

   i. Managing the downstream construction areas during high-tailwater events associated with high flows through the Emergency Spillway which includes evacuating equipment and personnel from the area at no additional cost to the County.

4. Construct a bypass system (cofferdams/bladder dams, pumps, and associated piping and appurtenances) as necessary to direct water collected from dewatering activities downstream of the Stilling Basin and Downstream apron during excavation and backfilling to prevent interference with construction activities.

5. Contractor may install a groundwater dewatering system to depress water table below excavation depths. CONTRACTOR responsible for management, sampling, and disposal of extracted groundwater. Dewatering well points on the Contract Drawings are shown for example only.

6. Discharge water from groundwater dewatering system to the canal downstream of the area being excavated. Use turbidity curtains immediately downstream of the bypass and dewatering discharge points.

C. Damage:

1. Repair damage resulting from the dewatering operations or failure to maintain the Work in a suitable dry condition at no additional cost to the Owner.

2. Incorporate both active and passive construction controls in the Emergency Shutdown Plan for Hurricane, Tropical Storm, or Heavy Rainfall Event to:

   i. Protect new work from being damaged; and,

   ii. Prevent flood water from passing through the spillway in the event of a flooding of the cofferdam.

3. These construction controls cover every critical activity involving the safety of the dam and can include but are not limited to:

i. Scheduling and sequencing repairs to the tainter and coarse screen gates;

ii. Using the existing stop log to seal a bay if its tainter gate is open and cannot be lowered;

iii. Managing the tailwater from the Emergency Spillway in the downstream repair area, etc.

4. The cofferdam is designed to flood if the lake or waves from the lake reach the level indicated on the Plans.

5. All flood water during construction is to be released through the Emergency Spillway

6. Brace or otherwise protect pipelines and structures which are not stable, against floatation, when necessary.

D. Diversion Berms:

1. Design, construct, maintain, and remove diversion berms where necessary for diverting runoff away from open excavations to minimize the generation of liquid wastes.

2. Design and construct diversion berms to withstand all imposed loads to prevent injury to adjacent structures or property.

3.2 DEWATERING THE CONSTRUCTION SITE

A. Dewater excavation areas and other parts of the construction site and keep free of standing water or excessively muddy conditions as needed for the Work.

B. Provide, install, operate, and maintain drains, sumps, pumps, and other equipment needed to perform the dewatering as specified.

C. Dewatering methods that cause a loss of fines from excavation areas are not allowed.

D. Discharge of water pumped from excavations in accordance with Section XI, Specification 02 72 00 - Construction Water Management.

3.3 REMOVAL OF TEMPORARY WORKS

A. When temporary works are no longer required, remove or level and grade them to the extent required to: present a clean appearance; prevent obstruction of water flow; and prevent interference with the operation of or access to permanent works.

B. Except as otherwise specified, remove temporary underdrain piping.

C. Continually clean up waste, debris, and leftover materials resulting from the Cutoff Wall, Tie-Ins, or Support Columns construction process. Dispose of these materials in designated areas provided by the Owner in accordance with all Federal, State, and local regulations and codes

-- End of Section --