

**Summer 2023**

Brevard County Board of County Commissioners

c/o Terri Breeden  
Brevard County Natural Resources Management  
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**Subject: SOIRL Grant 21-138 Time Extension Request**

**Introduction**

The City of West Melbourne (City) entered into a grant agreement with the Brevard County Save Our Indian River Lagoon (SOIRL) program on April 4, 2021 in the amount of \$4,260,000 for design and construction of a Biological Nutrient Reduction Upgrade to its Ray Bullard Water Reclamation Facility (WRF).

The original goal completion dates for the design and construction were stated therein as:

Task	Task Title	Task Start Date	Task Finish Date
1	Design and Permitting	December 2020	October 2021
2	Construction of Project	December 2021	June 2023

Design work proceeded accordingly, despite the following described schedule impacts.

While the process design of the Biological Nitrogen Removal process was underway, it was noticed that the influent wastewater strength was increasing over a few months. It became apparent that the lower design influent strength used during the previous BNR feasibility study would result in an inadequate nitrogen removal in the BNR process. Therefore, a several months long sampling exercise was undertaken to obtain the latest influent wastewater strength until it stopped increasing.

The scope of BNR Improvements project included conversion of an existing Aeration Basin into an Anoxic Basin, Construction of a new Aeration Basin with air diffusers, replacement on 25-year-old blowers with new blowers, replacement of the existing (leaking) air piping with new overhead air piping, construction of two Internal Recycle Pump Stations and installation of electrical system to support the converted process. The scope did not include improvement of the existing headworks (Screening and Grit Removal).

Subsequently, it was discovered that the existing screening and grit removal systems were performing poorly. The screens were performing an inadequate function of removing strings and rags from the influent wastewater. The grit removal equipment was not removing adequate sand and grit from the influent wastewater. It became apparent that the deficient performance of screening and grit removal

would result in an impaired performance of BNR process. Therefore, it was necessary to improve the headworks components.

On March 7, 2023, the City received a letter from FDEP giving the City notice of a Total Phosphorus discharge limit to be enforced at the time of FDEP wastewater permit renewal in October 2026. To ensure consistent permit compliance in the future permit, the City decided to include the design of a chemical addition process to implement TP removal in the current design.

The originally anticipated Scope of Work has necessarily expanded to include additional treatment works which will sustain the wastewater treatment effectiveness (Headworks Debris Screening and Grit Removal, SCADA, Phosphorus Removal).

The City has been favored with additional grant funding from FDEP 2023 Water Quality grant program (\$ 1,510,000) and the St Johns River Water Management District (SJRWMD) 2023 Cost Share Funding (\$ 1,343,250) which will assist with the additional costs of the needed treatment system additions.

Due to the above-described added components to the treatment works, COVID-19 restrictions, additional design for the FDEP lowered discharge limits, and weather impacts, the design process has taken longer than first anticipated.

We respectfully request that the Brevard County Board of County Commissioners extend the term of SOIRL 21-138 to accommodate the delayed schedule completion dates as follows:

Task	Task Title	Revised Task Start Date	Revised Task Finish Date
1	Design and Permitting	December 2020	September 2023
2	Construction of Project	January 2024	December 2024

A GANTT Schedule Timeline is included with this request.

Closing,

[signature]

Bill Huffman, P.E.  
Project Manager  
Infrastructure Solution Services

Enclosure: GANTT Chart Schedule WMB029 RB WRF BNR Upgrades Timeline  
Attachments: Appendix A Schedule Narrative



## Appendix 1 Schedule Narrative

### 1. ISS – Original City Task Order WMB029

- 1.1. The City of West Melbourne (City) and Infrastructure Solution Services (ISS) entered into a Task Order for design of the Ray Bullard Water Recovery Facility (WRF) Biological Nutrient Removal (BNR) Upgrades on September 5, 2020.
- 1.2. ISS and City proceeded to take inflow contaminant measurements to determine the level of BNR required to meet the WRF permitted outflow restrictions and completed those long term measurements on February 28, 2022.
- 1.3. Using the measurements noted above, ISS prepared 30% design stage plans of the proposed treatment process and submitted to City for comments.
- 1.4. City reviewed the 30% design stage plans and provided comments on June 13, 2022.
- 1.5. ISS and City performed a site visit at Atlantic Beach WTP to investigate their experience with a manufacturer's variable speed air blower system on October 13, 2022. There were scheduling delays for this visit due to Hurricane Ian (10/1/2022).
- 1.6. ISS incorporated comments and prepared 60% design stage plans which were submitted to City on January 31, 2023.
- 1.7. City reviewed the 60% design stage plans and provided comments on February 13, 2023
- 1.8. City received FDEP letter March 7, 2023 giving pre-notice of imminent Total Nitrogen (TN) and Total Phosphorus (TP) lower discharge limits to be enforced by next permit cycle (~2026). ISS recommended that City include some additional treatment elements to ensure the WRF would meet those future standards.
- 1.9. ISS submitted Task Order Change Order for additional design efforts.
  - 1.9.1. Task Order Change Order Executed / NTP
  - 1.9.2. ISS - City Revised Scope 60% Submittal
  - 1.9.3. City - ISS Revised Scope 60% Submittal Review Comments
  - 1.9.4. ISS - City Revised Scope 90% Submittal
  - 1.9.5. City - ISS Revised Scope 90% Submittal Review Comments
  - 1.9.6. ISS Permitting
  - 1.9.7. ISS Revised Scope 100% Submittal
  - 1.9.8. City Issued For Bid
  - 1.9.9. City Award of Contract
  - 1.9.10. Proposed Revised Construction Start
  - 1.9.11. Proposed Revised Construction Finish



## 2. Funding

### 2.1. SOIRL 21-138

- 2.1.1. Funding Agreement Executed
- 2.1.2. SOIRL 21-138 Design and Permitting Original Planned Start
- 2.1.3. SOIRL 21-138 Design and Permitting Original Planned Finish
- 2.1.4. SOIRL 21-138 Design and Permitting Requested Revised Planned Finish
- 2.1.5. SOIRL 21-138 Construction Original Planned Start
- 2.1.6. SOIRL 21-138 Construction Original Planned Finish
- 2.1.7. SOIRL 21-138 Construction Requested Revised Planned Finish

### 2.2. FDEP WQ Grant

- 2.2.1. Funding Grant Announced February 16, 2023
- 2.2.2. Original Requested Design and Permitting Planned Start
- 2.2.3. Original Requested Design and Permitting Planned Finish
- 2.2.4. Original Requested Construction Planned Start
- 2.2.5. Original Requested Construction Planned Finish

### 2.3. SJRWMD 2023 Cost Share Grant

- 2.3.1. Funding Grant Announced April 6, 2023
- 2.3.2. SJRWMD Cost Share Grant Executed (Planned)
- 2.3.3. Original Requested Design and Permitting Planned Start
- 2.3.4. Original Requested Design and Permitting Planned Finish
- 2.3.5. Original Requested Construction Planned Start
- 2.3.6. Original Requested Construction Planned Finish

