BAREFOOT BAY ADVANCED WASTEWATER TREATMENT FACILITY

NON-BENEFICIAL SURFACE WATER DISCHARGE ELIMINATION PLAN

OCTOBER 2021

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Cover Sheet for Plan Submittal

Facility Name BCUD - Barefoot Bay Advanced WWTF

Facility ID FL0042293

Contact Person Name, Title, Phone, Email Edward Fontanin, P.E., Utility Services Director

Brevard County Utility Services Department, (321) 633-2093; edward.fontanin@brevardfl.gov

If the requirement for a plan does not apply to the facility, please mark which exemption applies (attach documentation demonstrating that the facility meets the exemption) Not Applicable

Check One	Exemption
	Facility is in a fiscally constrained county as described in section 218.67(1), F.S.
	Facility is in a municipality that is entirely with a rural area of opportunity as designated pursuant to section 288.0656, F.S.
	Facility is in a municipality that has less than $10 million in total revenue, as determined by the municipality's most recent annual financial report submitted to the Department of Financial Services in accordance with section 218.32, F.S.
	Facility is operated by an operator of a mobile home park as defined in section 723.003, F.S., and has a permitted capacity of less than 300,000 gallons per day.

Indicate which plan(s) category under which the facility will comply

Check One	Plan Category
	The plan eliminates the discharge.
	The plan meets section 403.086(10), F.S.
	The plan does not eliminate the discharge – The discharge is associated with an indirect potable reuse project;
	The plan does not eliminate the discharge – The discharge is a wet weather discharge that occurs in accordance with an applicable department permit;
	The plan does not eliminate the discharge – The discharge is into a stormwater management system and is subsequently withdrawn by a user for irrigation purposes;
X	The plan does not eliminate the discharge – The utility operates the domestic wastewater treatment facilities with reuse systems that reuse a minimum of 90 percent of a facility's annual average flow, as determined by the department using monitoring data for the prior 5 consecutive years, for reuse purposes authorized by the department; or
	The plan does not eliminate the discharge – The discharge provides direct ecological or public water supply benefits, such as rehydrating wetlands or implementing the requirements of minimum flows and minimum water levels or recovery or prevention strategies for a waterbody.

Please enter the information on discharges eliminated **Not Applicable**

Discharge Type (effluent, reclaimed water, or reuse water)	Average Gallons Per Day	Date the discharge will be eliminated

Please enter information on any continuing discharges to surface waters after January 1, 2032.

Discharge Allowance Category	Discharge Type (effluent, reclaimed water, or reuse water)	Average Gallons Per Day	Treatment Level Provided (e.g. BOD limit = 5mg/L, TSS = 5 mg/L, TN = 3mg/L, TP = 1mg/L and high-level disinfection)
Meets section 403.086(10), F.S.			
Associated with an indirect potable reuse project.			
Wet weather discharge in accordance with an applicable department permit.			
Discharge into a stormwater management system that is subsequently withdrawn by a user for irrigation purposes.			
Reuse system reuses a minimum of 90 percent of a facility's annual average flow.	**Reclaimed Water**	**Up to 0.188 MGD AADF per Permit**	**Advanced secondary treatment, filtration and high-level disinfection**
Discharge provides direct ecological or public water supply benefits.			

Certification Statement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	
Authorized Signatory Representative Name *and Official Title* (type or print) [Rule 62-620.305, F.A.C.]	**Edward Fontanin, P.E., Utility Services Director** **Brevard County Utility Services Department**
Authorized Signatory Representative Signature	*Date Signed*

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BAREFOOT BAY ADVANCED

WASTEWATER TREATMENT FACILITY

NON-BENEFICIAL SURFACE WATER ELIMINATION PLAN

OCTOBER 2021

CPH, Inc.
500 West Fulton Street
Sanford, Florida 32771
CPH Project No. B19507

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AADF	Annual Average Daily Flow
AC	Acres
ASP	Activated Sludge Process
AWET	Acute Whole Effluent Toxicity
ADF	Average Daily Flow
BBWWTF	Barefoot Bay Advanced Wastewater Treatment Facility
BCUD	Brevard County Utilities Department
BFP	Belt Filter Press
BMP	Best Management Practices
BNR	Biological Nutrient Removal
BOD	Biochemical Oxygen Demand
CAR	Capacity Analysis Report
$CBOD_5$	Carbonaceous Biochemical Oxygen Demand - 5-Day
CCC	Chlorine Contact Chamber
CFR	Code of Federal Regulations
CIP	Capital Improvements Plan
COD	Chemical Oxygen Demand
DIW	Deep Injection Well
DMR	Discharge Monitoring Report
DO	Dissolved Oxygen
EPA	Environmental Protection Agency
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
F/M	Food-to-Microorganism Ratio
FSS	Fixed Suspended Solids
GPCD	Gallons per Capita-Day
HDT	Hydraulic Detention Time
HP	Horsepower
hr	Hour
HRT	Hydraulic Retention Time
IR	Internal Recycle
lb	Pounds
lb/day	Pounds per day
MCRT	Mean Cell Residence Time
MDF	Maximum Daily Flow
mg	Milligram
mg/L	Milligrams per Liter
MG	Million Gallons

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List of Abbreviations

MGD	Million Gallons per Day
Min	Minutes
MLSS	Mixed Liquor Suspended Solids
MLVSS	Mixed Liquor Volatile Suspended Solids
MOP	Monitoring and Operating Protocol
NaOCl	Sodium Hypochlorite
NH_3-N	Ammonia-Nitrogen
O&M	Operations and Maintenance
ORP	Oxidation Reduction Potential
PAR	Public Access Reuse
PD	Positive Displacement
PHF	Peak Hourly Flow
PVC	Polyvinyl Chloride
RAS	Return Activated Sludge
RCP	Reinforced Concrete Pipe
RPM	Revolutions per Minute
SCADA	Supervisory Control and Data Acquisition
SLR	Solids Loading Rate
SNdN	Simultaneous Nitrification-Denitrification
SOR	Surface Overflow Rate
SRF	State Revolving Fund
SRT	Solids Retention Time
SU	Standard Unit
TDH	Total Dynamic Head
TKN	Total Kjeldahl Nitrogen (Organic-N + NH_3-N)
TMDL	Total Maximum Daily Load
TN	Total Nitrogen
TP	Total Phosphorus
TRC	Total Residual Chlorine
TS	Total Solids
TSS	Total Suspended Solids
VFD	Variable Frequency Drive
VS	Volatile Solids
VSS	Volatile Suspended Solids
WAS	Waste Activated Sludge
WLR	Weir Loading Rate
WOR	Weir Overflow Rate
WRF	Water Reclamation Facility

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SECTION 1

EXECUTIVE SUMMARY

1.1 INTRODUCTION

The promotion of water conservation and reuse of reclaimed water are State goals/objectives and are considered to be in the public interest. The State also finds that the reuse of reclaimed water is a critical component of meeting the State's existing and future water supply needs while sustaining natural systems. To enhance the quality of surface waters throughout the Florida, the State is looking to reduce/eliminate non-beneficial surface water discharges by wastewater treatment facility's through a new law and modifications to Section 403.064, "*Reuse of Reclaimed Water*", of the Florida Statutes. The new law requires utilities with wastewater treatment plants that discharge to surface waters to submit a Non-beneficial Surface Water Discharge Elimination Plan to the FDEP to review by November 1, 2021 with full implementation of any proposed improvements completed by January 1, 2032.

Brevard County owns and operates the Barefoot Bay Advanced WWTF (BBWWTF) to process all of the wastewater generated within its permitted service area. The treatment facility serves the residential, commercial, and rural areas in this portion of Brevard County. The County has invested million of dollars into this facility and all of its ancillary components over the last twenty (20) years as well as reclaimed water distribution/transmission and effluent disposal infrastructure.

Barefoot Bay Wastewater Management System Service Area

The current regulatory environment, including the State's attempt to eliminate non-beneficial surface water discharges, requires Brevard County to evaluate the BBWWTF's surface water discharge and its potential impacts to surrounding surface waters in accordance with the requirements of Section 403.064, "*Reuse of Reclaimed Water*", of the Florida Statutes.

This Non-Beneficial Surface Water Discharge Elimination Plan for the Barefoot Bay Advanced WWTF includes the evaluation of the current FDEP-permitted surface water discharge from the Barefoot Bay Advanced WWTF to the Micco Ditch System and thence the Sebastian River and the Indian River Lagoon, the amount of effluent discharged to the surface water system, the amount of reclaimed water utilized throughout the service area, the reclaimed water quality generated by the treatment facility and the capability of the facility to meet Advanced Wastewater Treatment (AWT) Standards on a consistent basis to ensure protection of the environment. This Surface Water Discharge Elimination Plan is comprised of the following Sections:

- Section 2: Regulatory Framework for Non-Beneficial Surface Water Discharge Elimination
- Section 3: Existing Facility Conditions
- Section 4: Non-Beneficial Surface Water Discharge Elimination Plan

1.2 REGULATORY FRAMEWORK FOR NON-BENEFICIAL SURFACE WATER DISCHARGE ELIMINATION

The State of Florida Legislature developed and passed House Bill 263 and Senate Bill 64, and the Governor signed the legislation into law on June 29, 2021, requiring domestic wastewater utilities to submit a Plan to the FDEP for eliminating non-beneficial surface water discharges (e.g., treated effluent, reclaimed water or reuse water).

The new law creates a timeline and Plan to eliminate non-beneficial surface water discharge by January 1, 2032, subject to the requirements of the law. It contains a series of conditions authorizing discharges that are being beneficially used or otherwise regulated, and for specified hardships. The law requires domestic wastewater utilities that dispose of effluent, reclaimed water, or reuse water by surface water discharge to submit a Plan to eliminate non-beneficial surface water discharge to the Florida Department of Environmental Protection (FDEP) by November 1, 2021 and fully implemented at the treatment facility by January 1, 2032.

1.3 EXISTING FACILITY CONDITIONS

The Barefoot Bay Advanced WWTF is classified as a 0.90 MGD AADF *Advanced Secondary Treatment plus Filtration* Facility (Category I, Class B), utilizing two (2) ring-steel wastewater treatment units to treat the incoming raw wastewater from the service area and is currently operating under FDEP Permit No. FL0042293. The unit operations and processes currently employed are as follows:

Treatment Elements	Description
Primary Treatment	Two (2) manually cleaned static barscreens (0.1 inch) with a manual bypass screen in a separate channel and flow equalization.
Secondary Treatment	Biological oxidation of the organic wastes using dual ring-steel wastewater treatment units (each with anoxic and aerobic basins with a central secondary clarifier) and RAS/WAS pumping stations.
Tertiary Treatment	Tertiary filtration via 3 sand filtration units with backwashing systems and a filter clear well.
Disinfection System	High-level disinfection is accomplished through the use of bulk liquid NaOCl (chemical feed and storage systems) and a cast-in-place concrete chlorine contact chamber (CCC).
Dechlorination System	Dechlorination of facility effluent is provided prior to any surface water discharge via chemical feed and storage systems located on-site.
Sludge Treatment	Aerobic digestion of the sludge generated in the treatment system. Stabilized biosolids are conveyed to the County's South Central Regional WRF for further treatment prior to transportation to a local Class I solids waste landfill for final disposal.

Reclaimed water is produced at the facility and is used throughout the Barefoot Bay Reuse Service area in accordance with the following FDEP-permitted disposal systems:

Disposal System	FDEP Designation	AADF Capacity (MGD)	Disposal System Description
Land Application (Reuse)	R-001	1.041	An existing slow-rate Public Access Reuse (PAR) system consisting of a 0.13 MGD AADF permitted capacity 40-acre spray field, a 0.124 MGD AADF permitted capacity 50-Acre Barefoot Bay Golf Course, and a 0.787 MGD AADF infiltration impoundment (formerly permitted as a sprayfield) with 12 acres of exfiltration trenches on a 320-acre site. Storage facilities include an existing 1.8 MG on-site lined reject pond and an existing 4.0 MG reclaimed water pond. Land application system R-001 is located approximately at latitude 27° 52' 48" N, longitude 80° 32' 55" W.
Surface Water Discharge	D-001	0.188	An existing discharge to the Micco Ditch system (WBID# 3121) thence to the North Prong of the Sebastian River, (WBID# 3128), Class III fresh waters. The discharge is limited to 91 days per year. The outfall is approximately 2.5 feet in length and discharges at a depth of approximately 5 feet. The point of discharge is located approximately at latitude 27°53' 18" N, longitude 80°32' 10" W.

In peak flow situations, typically in response to intense rainfall events associated with tropical systems and severe localized thunderstorms within the Barefoot Bay Wastewater Management System Service Area, or when there is no remaining reclaimed water storage available, the facility effluent can be discharged to the Micco Ditch System and thence the North Prong of the Sebastian River and eventually the IRL. ***However, there have been no surface water discharges from the Barefoot Bay Advanced WWTF since 2012***.

The Barefoot Bay Advanced WWTF is efficient in treating the raw wastewater from the service area and is in compliance with all FDEP Operations Permit requirements/limitations.

1.4 NON-BENEFICIAL SURFACE WATER DISCHARGE ELIMINATION PLAN

The detailed evaluation of monthly operating data indicates that the Barefoot Bay Advanced WWTF has reused 100% of the facility's annual average effluent flow over the past five-year period from January 2016 - December 2020.

Therefore, in accordance with the requirements of the 403.064(17)(a)(3)(d), Florida Statutes, the Surface Water Discharge Elimination Plan for the Barefoot Bay Advanced WWTF does not provide for a complete elimination of the FDEP-permitted surface water discharge to the Micco Ditch System and thence to the St. Johns River and eventually to the Indian River Lagoon. However, Brevard County is providing the FDEP with an affirmation demonstration (as provided for in the law), based on the analyses and evaluations conducted in Section 3 of this document, that the Barefoot Bay WWTF is reusing a minimum of 90% of its annual average effluent flow as determined using the daily monitoring data from the previous five (5) Calendar Years (2016 - 2020) of operating data. In accordance with the regulatory requirements of 403.064, F.S., the County will therefore continue to utilize the FDEP-permitted discharge from the Barefoot Bay WWTF to the Micco Ditch System and will not exceed the 0.188 MGD AADF flow limitation. The current facility effluent disposal system (irrigation of the sprayfield and Barefoot Bay golf course and the Infiltration Impoundment) has the capacity to handle the current wastewater flows and those anticipated in the 20-year planning horizon; with the exception of potentially heavy rainfalls associated with tropical events and intense localized storms (surface water discharge is actually a "wet weather" discharge).

1.5 POTENTIAL TREATMENT FACILITY IMPROVEMENTS

Currently, the effluent produced at the treatment facility has elevated nutrient concentrations that exceed the permit limitations for surface water discharge. Thus, to meet the surface water discharge nutrient limitations and mass loadings (TN, TP) required in the current Barefoot Bay WWTF FDEP Operations Permit and the regulatory requirements mandated in Section 403.086, Florida Statutes, ***operational, process and infrastructure improvements, modifications and adjustments will be required at the facility***. It is recommended that an engineering study be conducted to address the elevated effluent TN and TP concentrations and provide both short-term and long-term recommendations and solutions to resolve this issue.

The required facility improvements to the Barefoot Bay Advanced WWTF will be included in the County's Utility Capital Improvements Program (CIP). As this is not a currently funded CIP project, the County will evaluate their utility capital resources during upcoming annual budget cycle meetings and include this project in its list of potential prioritized utility projects.

SECTION 2

REGULATORY FRAMEWORK FOR NON-BENEFICIAL SURFACE WATER DISCHARGE ELIMINATION

2.1 INTRODUCTION

This Section of the Non-Beneficial Surface Water Discharge Elimination Plan (NBSWDEP) presents the regulatory framework for the potential surface water elimination/reduction options for Brevard County's Barefoot Bay Advanced WWTF. The regulations regarding the surface water discharge elimination program have been promulgated by the State of Florida under 403.064, "*Reuse of Reclaimed Water*" (June 2021). The new law requires Brevard County to submit to the Florida Department of Environmental Protection (FDEP), by November 1, 2021, a Plan for eliminating non-beneficial treatment facility effluent discharges to surface waters.

The Florida Department of Environmental Protection (FDEP) regulates surface waters and watersheds within the State and the approach for restoring and protecting State waters and addressing TMDL Program requirements (1972 Federal Clean Water Act and the 1999 Florida Watershed Restoration Act (FWRA)).

2.2 NON-BENEFICIAL SURFACE WATER ELIMINATION LAW/REQUIREMENTS

The State of Florida Legislature, during the past session, developed and passed House Bill 263 and Senate Bill 64 requiring domestic wastewater utilities to submit a Plan to the FDEP for eliminating non-beneficial surface water discharges (e.g., treated effluent, reclaimed water or reuse water). Governor DeSantis signed the legislation into law on June 29, 2021. The law added new regulatory requirements to 403.064, "*Reuse of Reclaimed Water*" of the Florida Statutes which will be discussed herein.

The new law creates a timeline and Plan to eliminate non-beneficial surface water discharge by January 1, 2032, subject to the requirements of the law. It contains a series

of conditions authorizing discharges that are being beneficially used or otherwise regulated, and for specified hardships. The law requires domestic wastewater utilities that dispose of effluent, reclaimed water, or reuse water by surface water discharge to submit a Plan to eliminate non-beneficial surface water discharge to the Florida Department of Environmental Protection (FDEP). The Plan must be submitted to FDEP by November 1, 2021 and implemented by January 1, 2032.

The Non-Beneficial Surface Water Discharge Elimination Plan must include the following:

- The average flow (MGD) of effluent, reclaimed water, or reuse water that will no longer be discharged into surface waters and the date of such elimination;
- The average flow (MGD) of surface water discharge that will continue in accordance with the requirements for the elimination of ocean outfalls, one of the discharge conditions specified in the legislation or one of the hardship conditions; and
- The level of treatment which the effluent, reclaimed water, or reuse water will receive before being discharged into a surface water by each alternative.

To be approved by the FDEP, the Non-Beneficial Surface Water Discharge Elimination Plan must:

- Result in eliminating the surface water discharge;
- Result in meeting the statutory requirements (Section 403.086(10)) regarding the discharge of domestic wastewater through an ocean outfall; or
- Provide an affirmative demonstration that any of the following discharge conditions applies to the remaining discharge if the Plan does not provide for the complete elimination of surface water discharge:

Discharge Conditions
The discharge is associated with an indirect potable reuse project.
The discharge is a wet weather discharge that occurs in accordance with an applicable FDEP permit.
The discharge is into a stormwater management system and is subsequently withdrawn by a user for irrigation purposes.
The utility operates domestic wastewater treatment facilities with reuse systems that reuse a minimum of ninety percent (90%) of a facility's annual average flow, as determined by the FDEP using monitoring data for the prior five (5) consecutive years, for reuse purposes authorized by the FDEP.
The discharge provides direct ecological or public water supply benefits, such as rehydrating wetlands or implementing the requirements of minimum flows and minimum water levels or recovery or prevention strategies for a waterbody.

The new law requires the FDEP to approve or deny a Non-Beneficial Surface Water Discharge Elimination Plan within nine (9) months after receiving the Plan. Brevard County may modify the Barefoot Bay Advanced WWTF Plan by submitting the proposed modification(s) to the FDEP for review. However, the Plan may not be modified such that the requirements of the new law are not met and the FDEP may not extend the time within which a Plan will be implemented. The approval of the Plan or a modification by the FDEP does not constitute final agency action.

If the Non-Beneficial Surface Water Discharge Elimination Plan is not submitted in a timely manner by the County, or approved by the FDEP, the Barefoot Bay Advanced WWTF may not dispose of effluent, reclaimed water, or reuse water by surface discharge after January 1, 2028. In addition, a violation subjects Brevard County to administrative and civil penalties pursuant to ss. 403.121, 403.131, and 403.141.

A domestic wastewater utility applying for a permit for a new or expanded surface water discharge is now required to prepare a Plan in accordance with 403.064, F.S. as part of that permit application. The FDEP may not approve a permit for a new or expanded surface water discharge unless the Plan meets one or more of the conditions provided in the new law.

By December 31, 2021, and annually thereafter, the FDEP is required to submit a report to the President of the Florida Senate and the Speaker of the Florida House of Representatives which provides the average gallons per day of effluent, reclaimed water, or reuse water that will no longer be discharged into surface waters by the utility and the dates of such elimination; the average gallons per day of surface water discharges that will continue in accordance with the alternatives provided in the law, and the level of treatment that the effluent, reclaimed water, or reuse water will receive before being discharged into a surface water by each alternative and utility; and any modified or new plans submitted by a utility since the last report.

This new law does not apply to any of the following:

A domestic wastewater treatment facility that is located in a fiscally constrained Florida County as described in s. 218.67(1).
A domestic wastewater treatment facility that is located in a municipality that is entirely within a rural area of opportunity as designated pursuant to s. 288.0656.
A domestic wastewater treatment facility that is located in a municipality that has less than $10 million in total revenue, as determined by the municipality's most recent annual financial report submitted to the Department of Financial Services in accordance with s. 218.32.
A domestic wastewater treatment facility that is operated by an operator of a mobile home park as defined in s. 723.003 and has a permitted capacity of less than 300,000 gallons per day.

Therefore, as the Barefoot Bay Advanced WWTF has a permitted "intermittent" surface water discharge from the treatment facility to the Mico Ditch System, thence to the Sebastian River and into the Indian River Lagoon, and does not meet one of the Plan exemptions, as identified above, a Non-Beneficial Surface Water Discharge Elimination Plan must be submitted to FDEP by the November 1, 2021 deadline.

2.3 BAREFOOT BAY ADVANCED WWTF - CURRENT DISPOSAL PRACTICES

Brevard County owns and operates the Barefoot Bay Advanced WWTF (BBWWTF) which is classified as an *Advanced Secondary Treatment plus Filtration Facility* (Category I, Class B) utilizing the two (2) ring-steel wastewater treatment units to treat the incoming wastewater and meets all Class I Reliability Criteria. The treatment facility consists of dual static influent screening systems, a flow splitter box, two (2) treatment trains (each with anoxic and aerobic basins along with a central secondary clarifier), tertiary filtration, chemical feed facilities, high-level disinfection, a dechlorination system (for surface water discharges), pumping systems, reclaimed water storage and a "lined" substandard effluent holding pond.

A highly treated reclaimed water is produced at the facility that meets all regulatory effluent limitations. The current permitted treatment capacity of the facility is 0.90 MGD AADF and the BBWWTF is operating under FDEP Operations Permit No. FL0042293 (a copy is provided in Appendix A). Biosolids are aerobically digested and then transported by a sludge hauler to the Brevard County South Central Regional WRF for further treatment prior to final disposal in a Class I solid waste landfill.

Reuse/effluent disposal is achieved by a combination of the following FDEP permitted disposal systems:

Disposal System	FDEP Designation	AADF Capacity (MGD)	Disposal System Description
Land Application (Reuse)	R-001	1.041	An existing slow-rate Public Access Reuse (PAR) system consisting of a 0.13 MGD AADF permitted capacity 40-acre spray field, a 0.124 MGD AADF permitted capacity 50-Acre Barefoot Bay Golf Course, and a 0.787 MGD AADF infiltration impoundment (formerly permitted as a sprayfield) with 12 acres of exfiltration trenches on a 320-acre site. Storage facilities include an existing 1.8 MG on-site lined reject pond and an existing 4.0 MG reclaimed water pond. Land application system R-001 is located approximately at latitude 27° 52' 48" N, longitude 80° 32' 55" W.
Surface Water Discharge	D-001	0.188	An existing discharge to the Micco Ditch system (WBID# 3121) thence to the North Prong of the Sebastian River, (WBID# 3128), Class III fresh waters. The discharge is limited to 91 days per year. The outfall is approximately 2.5 feet in length and discharges at a depth of approximately 5 feet. The point of discharge is located approximately at latitude 27°53' 18" N, longitude 80°32' 10" W.

In peak flow situations, typically in response to intense rainfall events associated with tropical systems and severe localized thunderstorms within the Barefoot Bay Wastewater Management System Service Area, or when there is no remaining reclaimed water storage, the facility effluent can be discharged to the Micco Ditch System and thence the North Prong of the Sebastian River and eventually to the Indian River Lagoon. ***However, there have been no surface water discharges from the Barefoot Bay Advanced WWTF since 2012***.

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SECTION 3

EXISTING FACILITY CONDITIONS

3.1 WASTEWATER MANAGEMENT SYSTEM SERVICE AREA

The Barefoot Bay Wastewater Management System Service Area includes land within unincorporated portions of Brevard County as presented in Figure 3.1-1. The service area is generally bounded by a development immediately north of Ocean Avenue Way on the north, U.S. Highway 1 on the east, Emily's Glen Lane on the south and the western boundary of the County's 320-acre Infiltration Impoundment reuse site on the west.

The Barefoot Bay Wastewater Management System serves the County's residential, commercial, and rural areas. Population and corresponding raw wastewater flow projections are based on this service area. The raw wastewater is collected and conveyed via gravity sewers, lift stations and forcemains to the Barefoot Bay Advanced Wastewater Treatment Facility (BBWWTF) located at 7773 Dottie Drive, Barefoot Bay, FL 32976, for advanced secondary treatment and water reclamation.

Development is suburban in nature, dominated by mobile home communities, single-family residential subdivisions and commercial development typically associated with residential development.

3.2 BAREFOOT BAY ADVANCED WWTF (BBWWTF)

The Barefoot Bay Advanced WWTF is classified as an *Advanced Secondary Treatment plus Filtration Facility* (Category I, Class B) utilizing two (2) ring-steel wastewater treatment units to treat the incoming raw wastewater from the collection and transmission system. The treatment facility consists of dual static influent screening systems, a flow splitter box, flow equalization basin, two (2) treatment trains (each with anoxic and aerobic basins along with a central secondary clarifier), tertiary filtration, chemical feed facilities, high-level disinfection, a dechlorination system (for surface water discharges), pumping systems, reclaimed water storage and a "lined" substandard effluent holding pond.

The Barefoot Bay Wastewater Management System, Reuse System Service Area and the BBWWTF are operating under FDEP Operations Permit No. FL0042293. A copy of the current FDEP Operations Permit is provided in Appendix A. An aerial view, schematic flow diagram and site plan of the Barefoot Bay Advanced WWTF are presented in Figures 3.2-1 through 3.2-3, respectively.

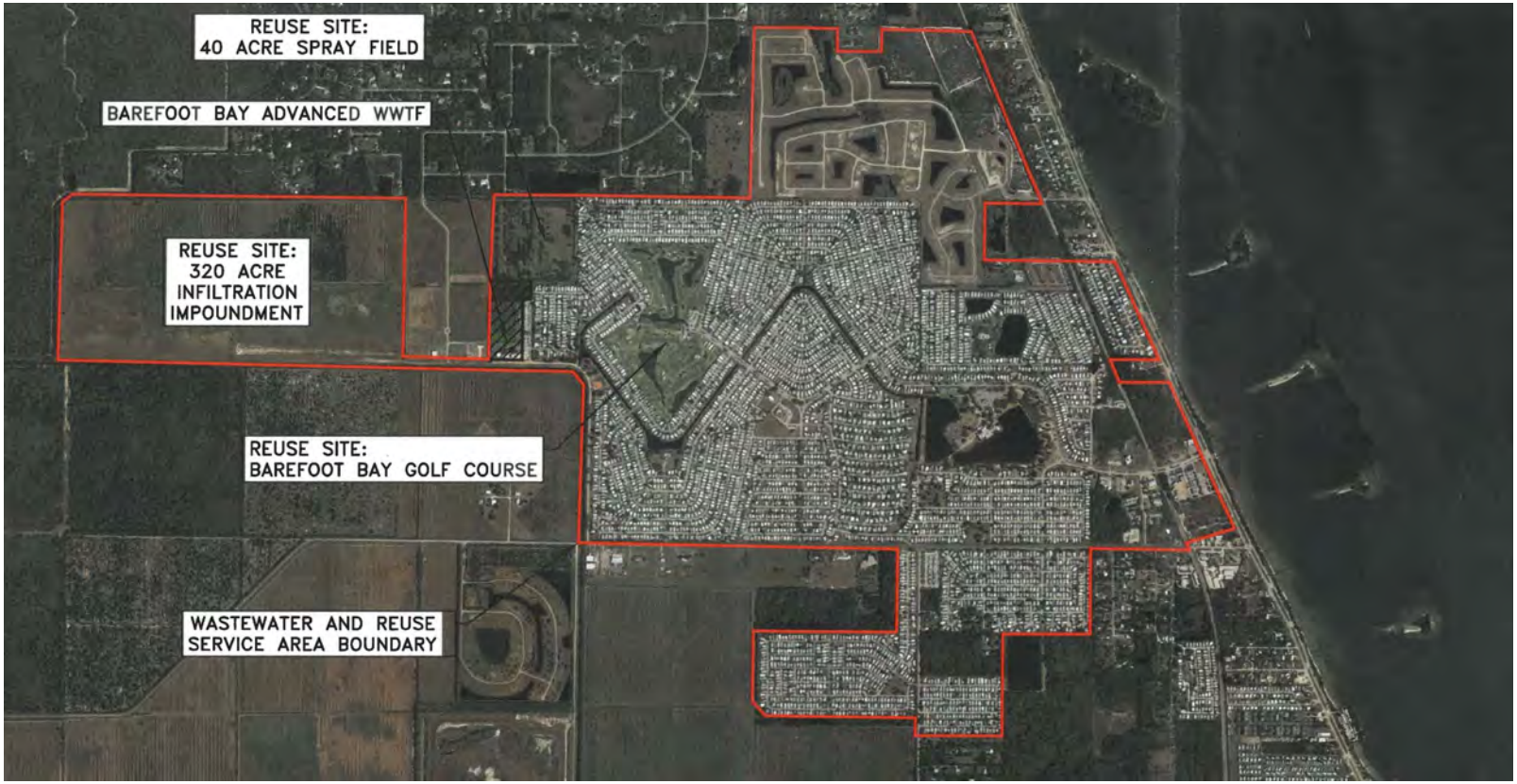

FIGURE 3.1-1 **BAREFOOT BAY WASTEWATER MANAGEMENT SYSTEM SERVICE AREA**

FIGURE 3.2-1 **BAREFOOT BAY ADVANCED WWTF - AERIAL VIEW**

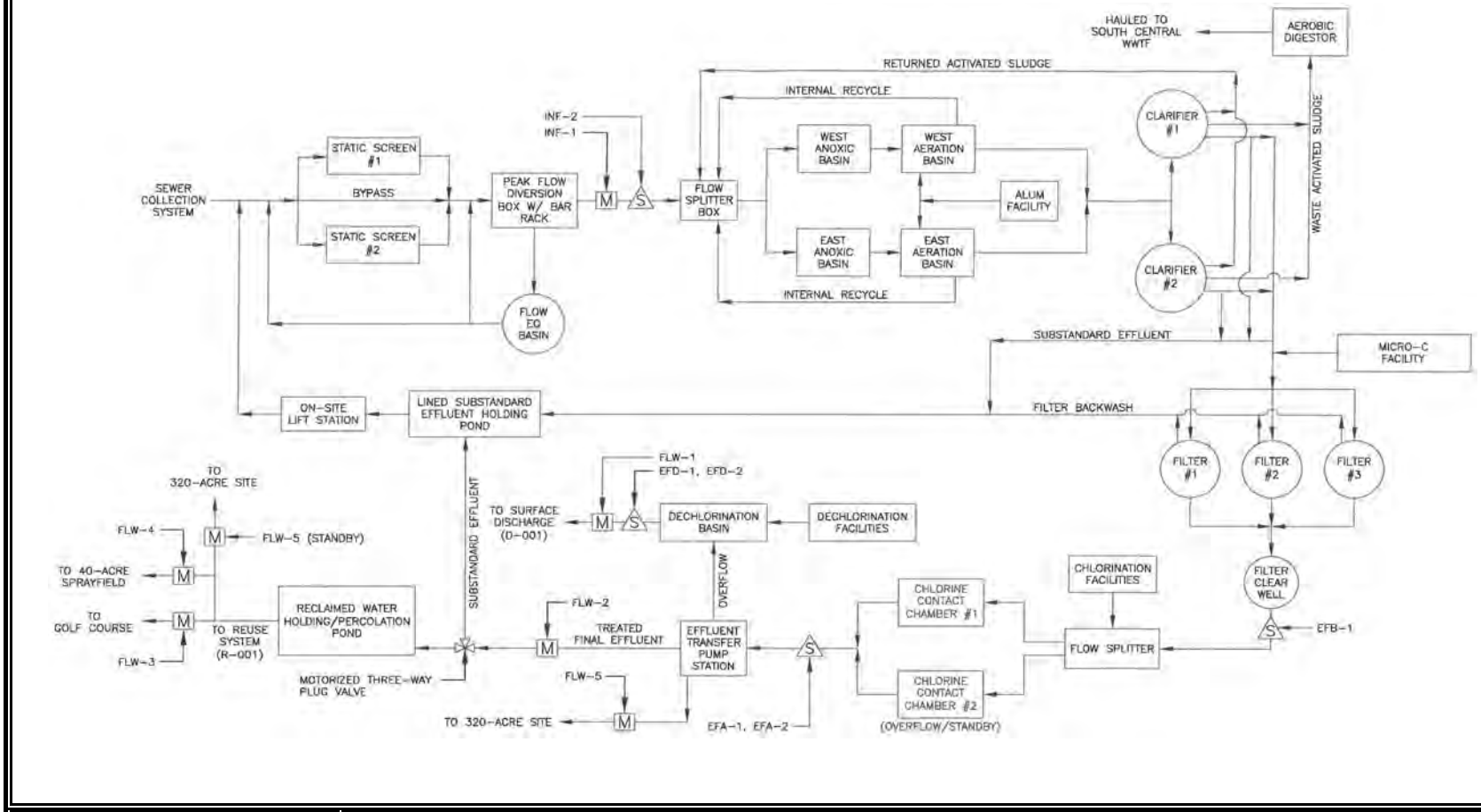

FIGURE 3.2-2 **BAREFOOT BAY ADVANCED WWTF: SCHEMATIC FLOW DIAGRAM**

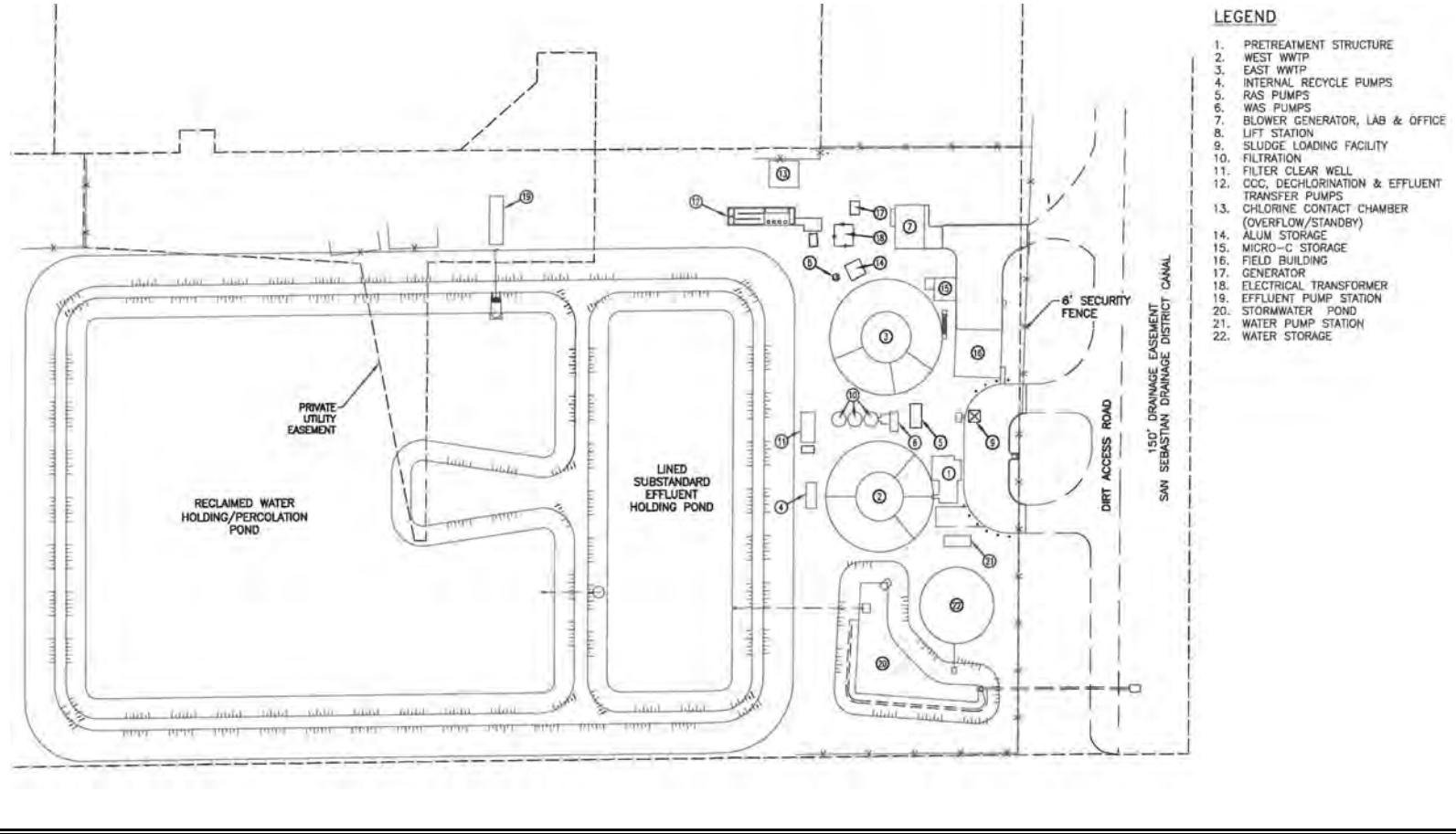

FIGURE 3.2-3 **BAREFOOT BAY ADVANCED WWTF: FACILITY SITE PLAN**

The reclaimed water produced at the Barefoot Bay Advanced WWTF is used throughout the service area for slow-rate irrigation and land application of *public access sites*. The unit operations and processes currently employed at the Barefoot Bay Advanced WWTF (2020) are divided into the following elements/categories:

Treatment Elements	Description
Primary Treatment	Two (2) manually cleaned static barscreens (0.1 inch) with a manual bypass screen in a separate channel and flow equalization.
Secondary Treatment	Biological oxidation of the organic wastes using dual ring-steel wastewater treatment units (each with anoxic and aerobic basins with a central secondary clarifier) and RAS/WAS pumping stations.
Tertiary Treatment	Tertiary filtration via three (3) sand filtration units with backwashing systems and a filter clear well.
Disinfection System	High-level disinfection is accomplished through the use of bulk liquid NaOCl (chemical feed and storage systems) and a cast-in-place concrete chlorine contact chamber (CCC).
Dechlorination System	Dechlorination of facility effluent is provided prior to any surface water discharge via chemical feed and storage systems located on-site.
Sludge Treatment	Aerobic digestion of the sludge generated in the treatment system. Stabilized biosolids are conveyed to the County's South Central Regional WRF for further treatment prior to transportation to a local Class I solids waste landfill for final disposal.

Design and current raw wastewater flows at the Barefoot Bay Advanced WWTF are as follows:

Table 3.2-1: Barefoot Bay Advanced WWTF: Design and Current Wastewater Flows

Flow Condition	Raw Wastewater Flow Rate (MGD)	
	Design	Actual Operation*
Annual Average Daily Flow (AADF)	0.90	0.721
Maximum Daily Flow (MDF)	2.34	1.905
Peak Hourly Flow (PHF)	2.70	

* *Actual flow conditions from Calendar Year 2020.*

Influent and effluent design criteria for the Barefoot Bay Advanced WWTF are presented in the table below.

Table 3.2-2: Barefoot Bay Advanced WWTF - Influent and Effluent Design Criteria			
Parameter	**Units**	**Influent**	**Tertiary Effluent**
$CBOD_5$	mg/L	240*	< 10
TSS	mg/L	145*	< 5**
TKN	mg/L	50	
TN***	mg/L		< 8
TP****	mg/L	8	≤ 3
pH	S.U.	6.0 - 8.5	6.0 - 8.5

* *Data from Operations Permit Renewal* ** *After Tertiary Filtration*
*** *Supplemental carbon may be required.* **** *A coagulant may be required*

3.2.1 Primary Treatment System

Raw wastewater flows from the Barefoot Bay Wastewater Management System Service Area enter the Pretreatment Structure, located on the south side of the facility. The Pretreatment Structure is an open, two-story structure with influent screening and a flow splitting system on the second floor and consists of the following unit operations:

Pretreatment Structure

- Two (2) static barscreens (0.1 inch)
- One manually cleaned barscreen
- Flow splitting system

Static Barscreen (0.1 in)

Raw wastewater flows entering the Pretreatment Structure are split between the two (2) parallel self-cleaning static screens. A third manually cleaned barscreen is located in a separate channel for peak flow events. The screenings are collected, slide down the screen by hydraulic and gravity action and discharge into a municipal dumpster at grade (landfill disposal).

Screened wastewater is then conveyed from the Pretreatment Structure as follows:

- Flows by gravity to the Flow Equalization (EQ) Basin (0.17 MG)

- Flows by gravity through the influent trough and a Parshall Flume to a flow splitter box and is conveyed to the anoxic basins within the two (2) ring-steel wastewater treatment units.

The EQ Basin provides flow and constituent attenuation and is aerated and mixed to ensure that the fluid is homogeneous and kept in an anoxic/aerobic state. The EQ Basin aeration system consists of a centrifugal blower and a system of coarse bubble diffusers. Two EQ Basin pumps then convey the screened wastewater to the Secondary Treatment System (wastewater treatment units) for further treatment.

3.2.2 Secondary Treatment System

Secondary treatment of raw, screened wastewater, up to 0.90 MGD AADF, can be processed through the two ring-steel biological treatment units. Each unit consists of the following treatment elements:

- Anoxic Zone: 80,835 gallon volume with 2 mixers and a hydraulic detention time of 4.3 hours.
- Aerobic Basin: 193,750 gallon volume with a hydraulic detention and solids retention time of 10.3 hours and 13 days, respectively.
- Secondary Clarifier: A center-fed unit with a 42-foot diameter and a 10-foot sidewater depth.

The anoxic basin functions as the main denitrification zone. The Mixed Liquor Suspended Solids (MLSS) and Internal Mixed Liquor Recycle (IMLR) streams bring nitrate from the aerobic basin into contact with the influent organic matter (BOD_5). Heterotrophic bacteria convert the nitrate to nitrogen gas and consume a portion of the influent BOD_5 in the process.

Ring-Steel Biological Treatment Unit

The MLSS from the primary anoxic basin flows, by gravity, to the aerobic basin that contains heterotrophic bacteria (suspended growth). The aerobic basin is designed to utilize the metabolic reactions of microorganisms to produce an acceptable effluent water quality by removing oxygen demanding constituents ($CBOD_5$) and nutrients (nitrogen and phosphorus).

Secondary clarification of the biologically treated wastewater is provided to remove MLSS, flocculated suspended solids and chemical precipitates and to meet the effluent criteria mandated by FDEP, EPA and Class I Reliability. Secondary clarification is provided in each biological treatment unit by one 42-foot diameter, 10-foot sidewater depth, ring steel clarifier with full-surface skimmers. The settled MLSS are removed in the secondary clarifier underflow and either returned to the treatment system as RAS or wasted to the aerobic digestion system as WAS.

3.2.3 Tertiary Treatment System

Tertiary filtration of the wastewater is required to ensure protection of public health and enhance the disinfection process. A chemical dose (alum/polymer) may be introduced upstream of the filters, as necessary, to enhance TSS removal should the effluent be approaching the mandated maximum concentration. The secondary clarifier effluent flows, by gravity, to the tertiary filtration system and is split between the three (3) tertiary sand filters (filtration capacity of 0.3 MGD AADF, each). Each circular filter has a surface area of approximately 122 ft^2 (total surface area of 367 ft^2) and is comprised of six (6) feet of mono-media sand over eighteen (18) inches of support gravel.

Tertiary Filtration System

One of the three (3) tertiary filters is backwashed on a daily basis. The backwashing cycle is performed based upon filter run-time rather than effluent TSS concentration, turbidity, or filtration system head loss. The backwash water is conveyed over a weir in the filter and to the lined substandard effluent holding pond by gravity.

3.2.4 Disinfection Sytem - Carrousel BNR Treatment System

From the tertiary filtration system, the treated effluent flows, by gravity, to a cast-in-place concrete Chlorine Contact Chamber (CCC). The CCC provides high level disinfection of the effluent through the application of liquid sodium hypochlorite (NaOCl) via a flow-paced system. The CCC System is designed to provide a minimum of fifteen (15) minutes of contact time at PHF and thirty (30) minutes at AADF. Sodium

Chlorine Contact Chamber (CCC)

hypochlorite is metered and mixed into the tertiary effluent and the CCC provides the contact time for the inactivation of fecal coliforms, pathogens and other microbial organisms.

3.2.5 Reclaimed Water/Effluent Disposal System

The Barefoot Bay Advanced WWTF effluent disposal systems, permitted by FDEP, are briefly described below:

Disposal System	FDEP Designation	AADF Capacity (MGD)	Disposal System Description
Land Application (Reuse)	R-001	1.041	An existing slow-rate Public Access Reuse (PAR) system consisting of a 0.13 MGD AADF permitted capacity 40-acre spray field, a 0.124 MGD AADF permitted capacity 50-Acre Barefoot Bay Golf Course, and a 0.787 MGD AADF infiltration impoundment (formerly permitted as a sprayfield) with 12 acres of exfiltration trenches on a 320-acre site. Storage facilities include an existing 1.8 MG on-site lined reject pond and an existing 4.0 MG reclaimed water pond. Land application system R-001 is located approximately at latitude 27° 52' 48" N, longitude 80° 32' 55" W.
Surface Water Discharge	D-001	0.188	An existing discharge to the Micco Ditch system (WBID# 3121) thence to the North Prong of the Sebastian River (WBID# 3128), Class III fresh waters and eventually the IRL. The discharge is limited to 91 days per year. The outfall is approximately 2.5 feet in length and discharges at a depth of approximately five (5) feet. The point of discharge is located approximately at latitude 27°53' 18" N, longitude 80°32' 10" W.

Reclaimed water meeting the Public Access Reuse criteria is pumped from the Transfer Pump Station (4 pump system) to the Reclaimed Water Storage Pond (4.0 MG volume) located on the BBWWTF site.

Effluent from the CCC that does not meet Public Access Reuse Criteria (low chlorine residual or high TSS/turbidity), is pumped to the lined Substandard Effluent Holding Pond (1.8 MG volume). This pond is also used for storage of the filtration system backwash water.

The BBWWTF control system is designed to manually switch pumping back to the Reclaimed Water Storage Pond once the facility effluent meets the Public Access Reuse criteria. Substandard effluent from the Effluent Holding Pond drains into the

on-site lift station (submersible pumps) where it is conveyed back to the head of the facility for further treatment. The return of this substandard effluent to the head of the treatment facility is through a manually operated valve based on flow conditions.

A. Public Access Reuse System

Reclaimed water is pumped to the following slow-rate public access sites for land application reuse if the effluent meets Public Access Reuse criteria:

Reuse User	FDEP Monitoring Location	Site Size (acres)	Disposal Capacity (MGD)
Barefoot Bay GC	FLW-3	50	0.124
Sprayfield	FLW-4	40	0.130
Infiltration Impoundment	FLW-5	320	0.787
	Totals:	**410**	**1.041**

B. Surface Water Disposal System

In peak flow situations, typically in response to intense rainfall events associated with tropical systems and severe localized thunderstorms within the Barefoot Bay Wastewater Management System Service Area or when there is no remaining reclaimed water storage, the facility effluent can be discharged to the Micco Ditch System and thence the North Prong of the Sebastian River and eventually to the Indian River Lagoon.

In such a situation, the effluent pumps shut down, causing the level in the Transfer Pump Station wet well to rise. The effluent then overflows a weir in the wetwell and is conveyed to the Dechlorination Chamber. A dechlorination chemical is mixed in with the effluent, and the chamber provides a minimum contact time of approximately two (2) minutes. The effluent is aerated and monitored prior to discharge into the Micco Ditch System.

When a surface water discharge is expected, alum can added to the effluent end of the aerobic basins to decrease the phosphorous concentration and Micro-C (supplemental carbon) can be added to the secondary clarifier effluent, prior to entering the tertiary filtration system, to reduce the effluent nitrate concentration (denitrification). ***There have been no surface water discharges from the Barefoot Bay Advanced WWTF since 2012.***

3.2.6 Sludge Management System

The sludge management system at the Barefoot Bay Advanced WWTF consists of the following infrastructure components/elements: (1) A two-stage aerobic digestion system; (2) blower system with coarse bubble diffusers; and (3) sludge load-out system. Waste Activated Sludge (WAS) is pumped from the secondary clarifiers in the ring-steel biological treatment units to the two-stage aerobic digestion system. The aerobic digestion system provides a total sludge treatment volume of 0.463 MG and a detention time of (39) days to reduce the volatile solids content of the sludge.

Sludge feed pumps are used to convey stabilized sludge from the aerobic digestion system to the sludge load-out system. The sludge is transported, by a 3rd party sludge hauling firm to the Brevard County South Central Regional WRF for further treatment and dewatering prior to final disposal at a local Class I solid waste landfill.

3.3 HISTORICAL WASTEWATER FLOWS

Historical wastewater flows, including monthly ADF flows, three-month ADF flows and annual ADF flows, for the Barefoot Bay Advanced WWTF for Calendar Years 2016 - 2020 are presented in Table 3.3-1 and are plotted as a function of time in Figures 3.3-1 through 3.3-3, respectively. Historical annual variations in raw wastewater flow (Calendar Years 2016 - 2020) are presented below in tabular form.

Calendar Year	AADF (MGD)	Max Month Flow (MGD)	Maximum 3-Month ADF		Maximum 3-Month ADF to AADF	Maximum Month Peaking Factor
			Month	Flow (MGD)		
2016	0.693	1.035	March	0.871	1.257	1.494
2017	0.780	1.517	November	1.271	1.629	1.945
2018	0.552	0.803	September	0.846	1.533	1.455
2019	0.669	1.357	October	0.925	1.383	2.028
2020	0.721	1.036	November	0.873	1.211	1.437
Five Year Average Flow Ratios/Factors:					**1.402**	**1.672**

Table 3.3-1: Barefoot Bay Advanced WWTF - Historical Wastewater Flows

Month	Year	Monthly ADF (MGD)	3-Month ADF (MGD)	AADF (MGD)
JANUARY	2016	1.035		
FEBRUARY	2016	0.935		
MARCH	2016	0.643	0.871	
APRIL	2016	0.551	0.710	
MAY	2016	0.796	0.663	
JUNE	2016	0.741	0.696	
JULY	2016	0.576	0.704	
AUGUST	2016	0.500	0.606	
SEPTEMBER	2016	0.816	0.631	
OCTOBER	2016	0.752	0.689	
NOVEMBER	2016	0.487	0.685	
DECEMBER	2016	0.489	0.576	0.693
JANUARY	2017	0.520	0.499	0.651
FEBRUARY	2017	0.555	0.522	0.619
MARCH	2017	0.526	0.534	0.609
APRIL	2017	0.442	0.508	0.600
MAY	2017	0.373	0.447	0.565
JUNE	2017	0.676	0.497	0.559
JULY	2017	0.918	0.656	0.588
AUGUST	2017	0.738	0.777	0.608
SEPTEMBER	2017	1.201	0.952	0.640
OCTOBER	2017	1.517	1.152	0.704
NOVEMBER	2017	1.094	1.271	0.754
DECEMBER	2017	0.787	1.133	0.779

Table 3.3-1: Barefoot Bay Advanced WWTF - Historical Wastewater Flows (Cont'd)

Month	Year	Monthly ADF (MGD)	3-Month ADF (MGD)	AADF (MGD)
JANUARY	2018	0.656	**0.846**	0.790
FEBRUARY	2018	0.595	0.679	0.794
MARCH	2018	0.527	0.593	0.794
APRIL	2018	0.499	0.540	0.798
MAY	2018	**0.803**	0.609	0.834
JUNE	2018	0.709	0.670	**0.837**
JULY	2018	0.508	0.673	0.803
AUGUST	2018	0.609	0.609	0.792
SEPTEMBER	2018	0.466	0.528	0.731
OCTOBER	2018	0.405	0.493	0.638
NOVEMBER	2018	0.411	0.427	0.581
DECEMBER	2018	0.438	0.418	0.552
JANUARY	2019	0.503	0.451	0.539
FEBRUARY	2019	0.636	0.526	0.543
MARCH	2019	0.572	0.570	0.546
APRIL	2019	0.524	0.577	0.549
MAY	2019	0.489	0.528	0.522
JUNE	2019	0.495	0.503	0.505
JULY	2019	0.572	0.519	0.510
AUGUST	2019	**1.357**	0.808	0.572
SEPTEMBER	2019	0.657	0.862	0.588
OCTOBER	2019	0.761	**0.925**	0.618
NOVEMBER	2019	0.722	0.713	0.644
DECEMBER	2019	0.731	0.738	**0.668**

Table 3.3-1: Barefoot Bay Advanced WWTF - Historical Wastewater Flows (Cont'd)

Month	Year	Monthly ADF (MGD)	3-Month ADF (MGD)	AADF (MGD)
JANUARY	2020	0.654	0.702	0.681
FEBRUARY	2020	0.610	0.665	0.679
MARCH	2020	0.556	0.607	0.677
APRIL	2020	0.523	0.563	0.677
MAY	2020	0.534	0.538	0.681
JUNE	2020	0.941	0.666	0.718
JULY	2020	0.945	0.807	**0.749**
AUGUST	2020	0.644	0.843	0.690
SEPTEMBER	2020	0.660	0.750	0.690
OCTOBER	2020	**1.036**	0.780	0.713
NOVEMBER	2020	0.924	**0.873**	0.730
DECEMBER	2020	0.619	0.860	0.721

A review of the historical raw wastewater flows to the Barefoot Bay Advanced WWTF, during the past five (5) years and in Calendar Year 2020, are synopsized in the table below.

Raw Wastewater Flow Condition	Barefoot Bay Advanced WWTF Raw Wastewater Flow (MGD)	
	Jan 2016 - Dec 2020	Calendar Year 2020
Average Daily Flow	0.683	0.721
Maximum Day Flow	2.520	1.905
Minimum Day Flow	0.225	0.422
Monthly ADF Range	0.373 - 1.517	0.523 - 1.036
3-Month ADF Range	0.418 - 1.271	0.538 - 0.873
AADF Range (monthly rolling average)	0.505 - 0.837	0.677 - 0.749
% of Permitted Facility Capacity (ADF)	**75.9**	**80.1**

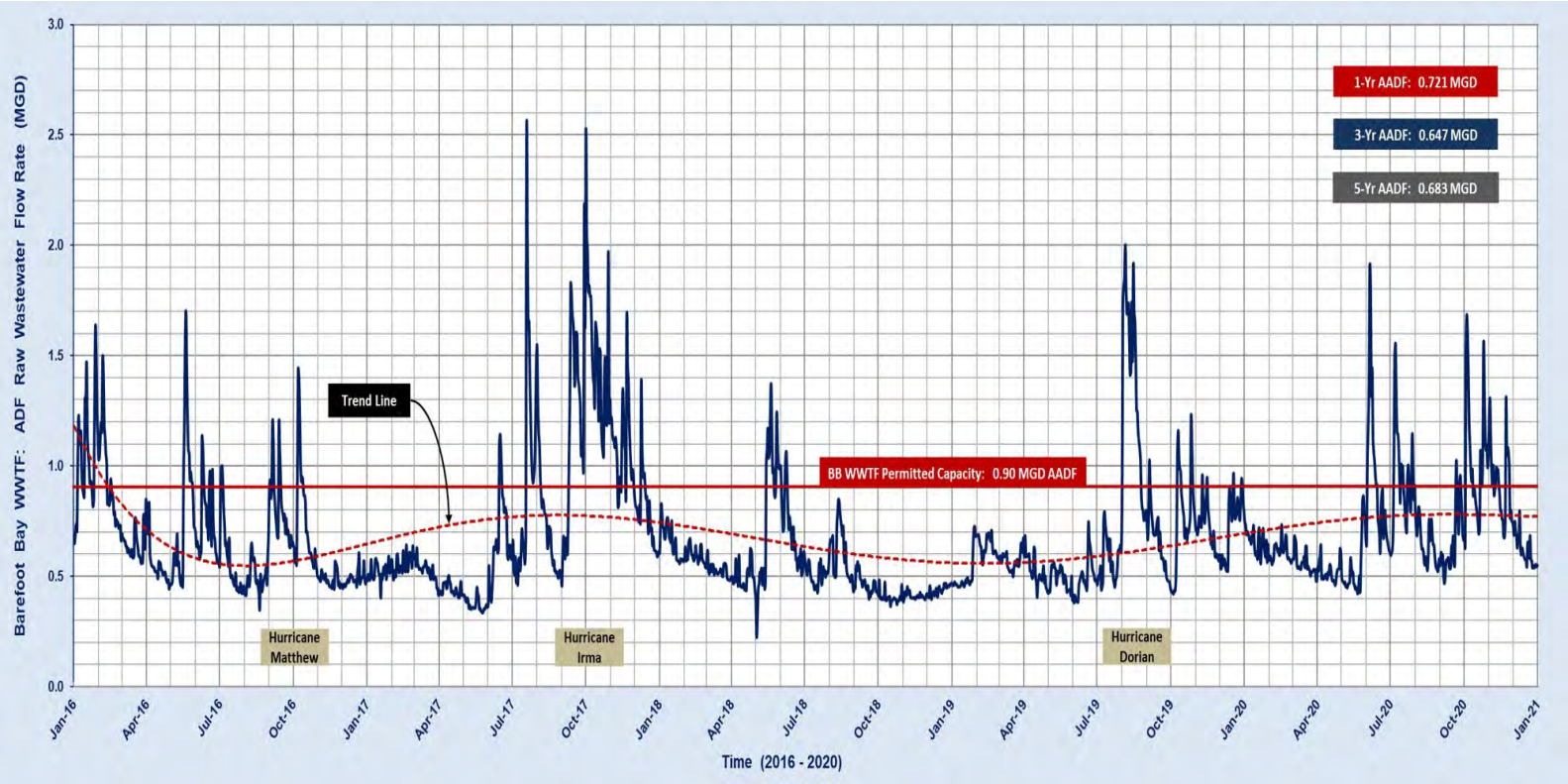

FIGURE 3.3-1 **BAREFOOT BAY ADVANCED WWTF: HISTORICAL WASTEWATER FLOWS (ADF)**

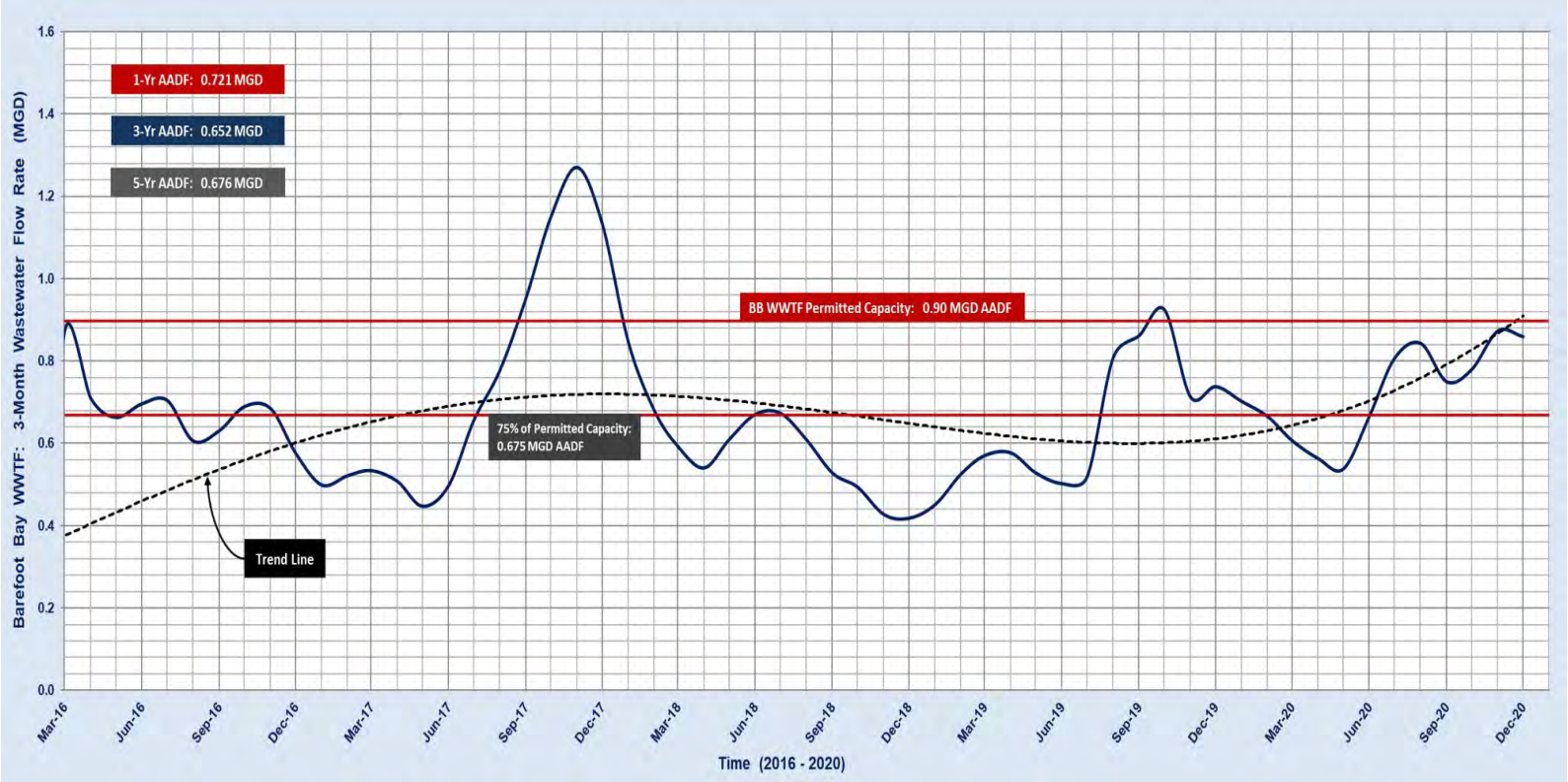

FIGURE 3.3-2

BAREFOOT BAY ADVANCED WWTF: HISTORICAL WASTEWATER FLOWS (3-MONTH ADF)

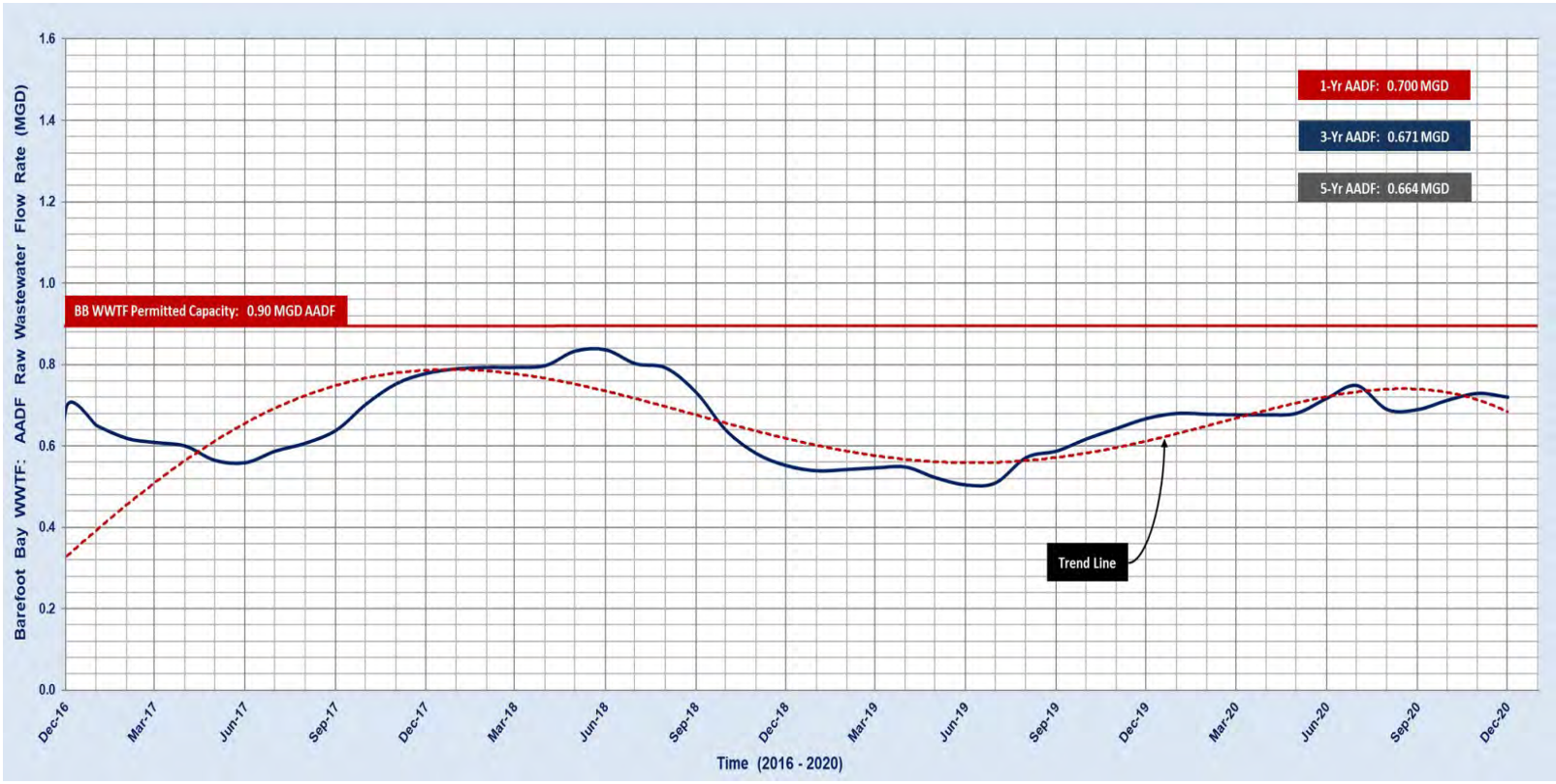

FIGURE 3.3-3 **BAREFOOT BAY ADVANCED WWTF: HISTORICAL WASTEWATER FLOWS (AADF)**

The Barefoot Bay Advanced WWTF raw wastewater flows, during the last 5-Year period, were approximately 75.9% of the permitted capacity of the facility. The raw wastewater flow treated at the facility during Calendar Year 2020 was approximately 80.1% of the permitted capacity of the facility. Thus, flow rates are below the facility's permitted capacity (0.9 MGD AADF) and the Barefoot Bay Advanced WWTF is capable of handling the raw wastewater hydraulic loadings anticipated over the 20-year planning horizon.

3.4 FACILITY EFFLUENT FLOWS

As previously indicated in Section 3.2.5, treated effluent from the Barefoot Bay Advanced WWTF can be discharged to any of the four (4) FDEP-permitted disposal systems:

Effluent Disposal System	Disposal Capacity (MGD AADF)
Sprayfield	0.130
Barefoot Bay Golf Course	0.124
Infiltration Impoundment	0.787
Surface Water Discharge to Micco Ditch System	0.188

The Barefoot Bay Advanced WWTF effluent flows, by disposal system, on a monthly and annual basis, for the period from 2016 - 2020 are presented in Table 3.4-1 and graphically (ADF) in Figures 3.4-1 through 3.4-3, respectively.

The data indicates that the Barefoot Bay Advanced WWTF has reused 100% of the facility's annual average effluent flow over the five-year period from January 2016 - December 2020. There were no surface water discharges to the Micco Ditch System during this time period. ***Therefore, the Barefoot Bay Advanced WWTF meets the requirements of 403.064(17)(a)(3)(d) in that it has reused a minimum of 90% of the facility's effluent AADF over the past five (5) calendar years (2016 - 2020).***

3.5 FACILITY EFFLUENT QUALITY

Reclaimed water quality ($CBOD_5$, TSS, TN, TP, pH and Fecal Coliform) generated by the Barefoot Bay Advanced WWTF, for the past five calendar years (2016 - 2020), is presented in Table 3.5-1. The Barefoot Bay Advanced WWTF treatment system efficiencies for the same five-year period are presented in a tabular form below.

Table 3.4-1: Barefoot Bay Advanced WWTF - Effluent Disposal (2016 - 2020)				
Month/Year	**Sprayfield (MGD)**	**Barefoot Bay Golf Course (MGD)**	**Infiltration Impoundment (MGD)**	**Surface Water Discharge (MGD)**
Jan 2016	0.000	0.940	0.000	0.000
Feb 2016	0.000	0.866	0.000	0.000
Mar 2016	0.301	0.158	0.000	0.000
Apr 2016	0.209	0.101	0.002	0.000
May 2016	0.365	0.000	0.308	0.000
Jun 2016	0.095	0.000	0.616	0.000
Jul 2016	0.024	0.082	0.320	0.000
Aug 2016	0.023	0.045	0.263	0.000
Sep 2016	0.157	0.000	0.703	0.000
Oct 2016*	0.177	0.029	0.566	0.000
Nov 2016	0.030	0.169	0.186	0.000
Dec 2016	0.048	0.065	0.239	0.000
2016 Average	**0.119**	**0.205**	**0.267**	**0.000**
Jan 2017	0.080	0.156	0.247	0.000
Feb 2017	0.086	0.146	0.296	0.000
Mar 2017	0.000	0.150	0.344	0.000
Apr 2017	0.001	0.274	0.179	0.000
May 2017	0.000	0.279	0.055	0.000
Jun 2017	0.153	0.011	0.482	0.000
Jul 2017	0.069	0.008	0.719	0.000
Aug 2017	0.100	0.000	0.673	0.000
Sep 2017	0.164	0.000	0.802	0.000
Oct 2017**	0.000	0.000	0.993	0.000
Nov 2017	0.000	0.000	0.982	0.000
Dec 2017	0.000	0.000	0.793	0.000
2017 Average	**0.054**	**0.085**	**0.547**	**0.000**

Table 3.4-1: Barefoot Bay Advanced WWTF - Effluent Disposal (2016 - 2020)				
Month/Year	**Sprayfield (MGD)**	**Barefoot Bay Golf Course (MGD)**	**Infiltration Impoundment (MGD)**	**Surface Water Discharge (MGD)**
Jan 2018	0.000	0.000	0.666	0.000
Feb 2018	0.380	0.068	0.338	0.000
Mar 2018	0.022	0.227	0.259	0.000
Apr 2018	0.000	0.202	0.224	0.000
May 2018	0.052	0.019	0.651	0.000
Jun 2018	0.000	0.000	0.620	0.000
Jul 2018	0.000	0.000	0.416	0.000
Aug 2018	0.000	0.000	0.587	0.000
Sep 2018	0.000	0.000	0.356	0.000
Oct 2018	0.019	0.101	0.195	0.000
Nov 2018	0.000	0.119	0.282	0.000
Dec 2018	0.000	0.120	0.325	0.000
2018 Average	**0.039**	**0.071**	**0.410**	**0.000**
Jan 2019	0.000	0.136	0.359	0.000
Feb 2019	0.000	0.000	0.570	0.000
Mar 2019	0.007	0.184	0.312	0.000
Apr 2019	0.000	0.153	0.367	0.000
May 2019	0.032	0.107	0.294	0.000
Jun 2019	0.030	0.050	0.366	0.000
Jul 2019	0.015	0.019	0.489	0.000
Aug 2019	0.000	0.000	0.976	0.000
Sep 2019	0.000	0.046	0.617	0.000
Oct 2019	0.016	0.070	0.513	0.000
Nov 2019	0.000	0.000	0.583	0.000
Dec 2019	0.000	0.000	0.726	0.000
2019 Average	**0.008**	**0.064**	**0.514**	**0.000**

Table 3.4-1: Barefoot Bay Advanced WWTF - Effluent Disposal (2016 - 2020)				
Month/Year	**Sprayfield (MGD)**	**Barefoot Bay Golf Course (MGD)**	**Infiltration Impoundment (MGD)**	**Surface Water Discharge (MGD)**
Jan 2020	0.033	0.000	0.549	0.000
Feb 2020	0.011	0.000	0.538	0.000
Mar 2020	0.065	0.000	0.256	0.000
Apr 2020	0.095	0.010	0.241	0.000
May 2020	0.062	0.000	0.306	0.000
Jun 2020	0.120	0.000	0.859	0.000
Jul 2020	0.091	0.000	0.901	0.000
Aug 2020	0.011	0.000	0.653	0.000
Sep 2020	0.046	0.000	0.578	0.000
Oct 2020	0.121	0.000	0.936	0.000
Nov 2020	0.082	0.000	0.879	0.000
Dec 2020	0.000	0.000	0.559	0.000
2020 Average	**0.061**	**0.001**	**0.605**	**0.000**

Effluent Disposal Percentage by Disposal System (2016 - 2020)								
Calendar Year	**Effluent Disposal System (MGD AADF)**				**Overall Effluent Disposal (%)**			
	Sprayfield	**Golf Course**	**Infiltr. Impound.**	**SW Discharge**	**Sprayfield**	**Golf Course**	**Infiltr. Impound.**	**SW Discharge**
2016	0.119	0.205	0.267	0.000	20.1%	34.7%	45.2%	0.0%
2017	0.054	0.085	0.547	0.000	7.9%	12.4%	79.7%	0.0%
2018	0.039	0.071	0.410	0.000	7.5%	13.7%	78.8%	0.0%
2019	0.008	0.064	0.514	0.000	1.4%	10.9%	87.7%	0.0%
2020	0.061	0.001	0.605	0.000	9.1%	0.2%	90.7%	0.0%
5-Yr Avg.	**0.056**	**0.085**	**0.469**	**0.000**	**9.2%**	**14.4%**	**76.4%**	**0.0%**

Overall 5-Year Barefoot Bay Advanced WWTF Effluent Disposal by System:	**Total Reuse Flow (R-001)**	**Surface Water Discharge (D-001)**
	100.0%	**0.0%**

* *Hurricane Matthew* ** *Hurricane Irma*

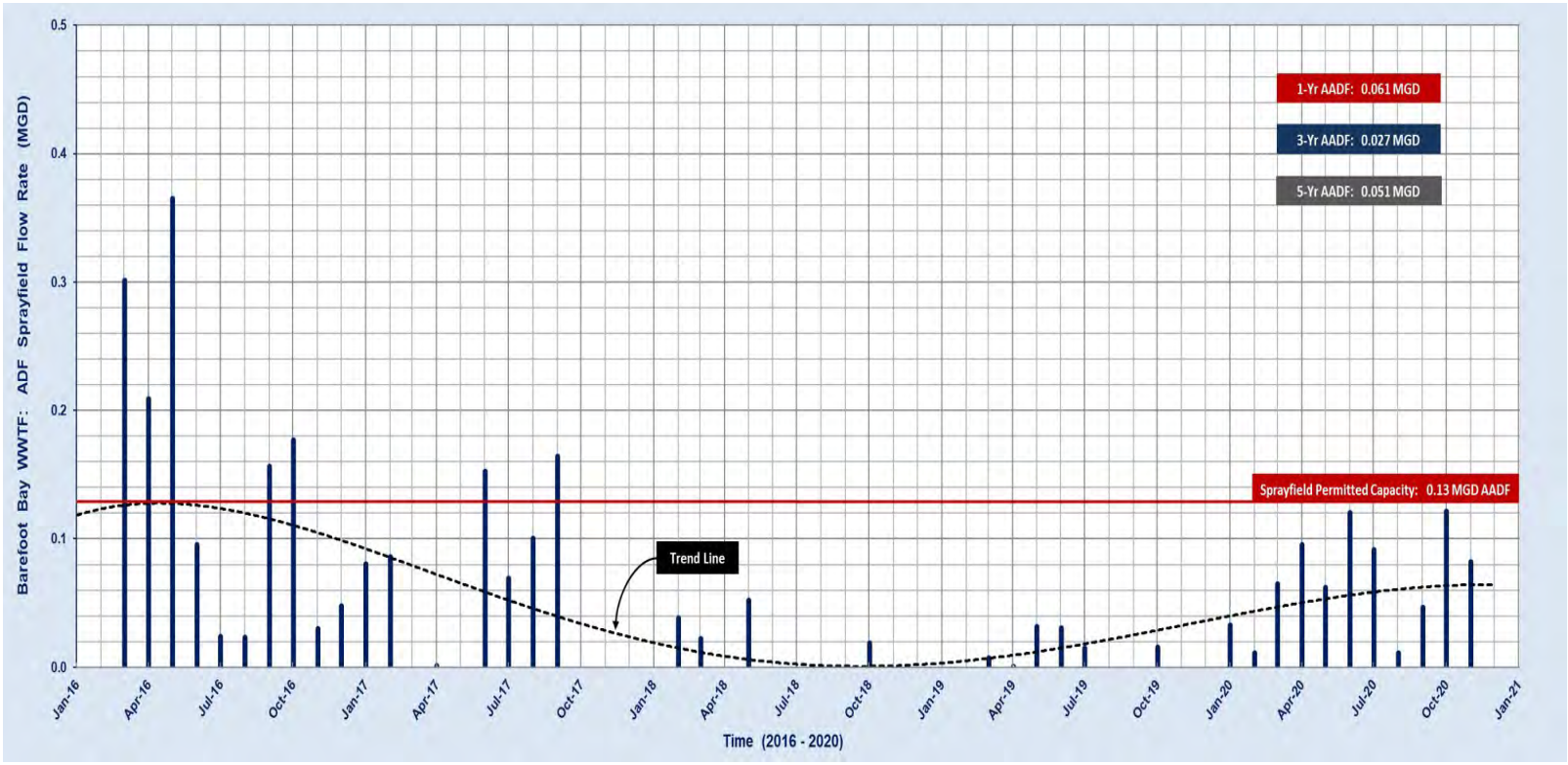

FIGURE 3.4-1

BAREFOOT BAY ADVANCED WWTF: SPRAYFIELD PUBLIC ACCESS REUSE SYSTEM (R-001) - HISTORICAL MONTHLY ADF

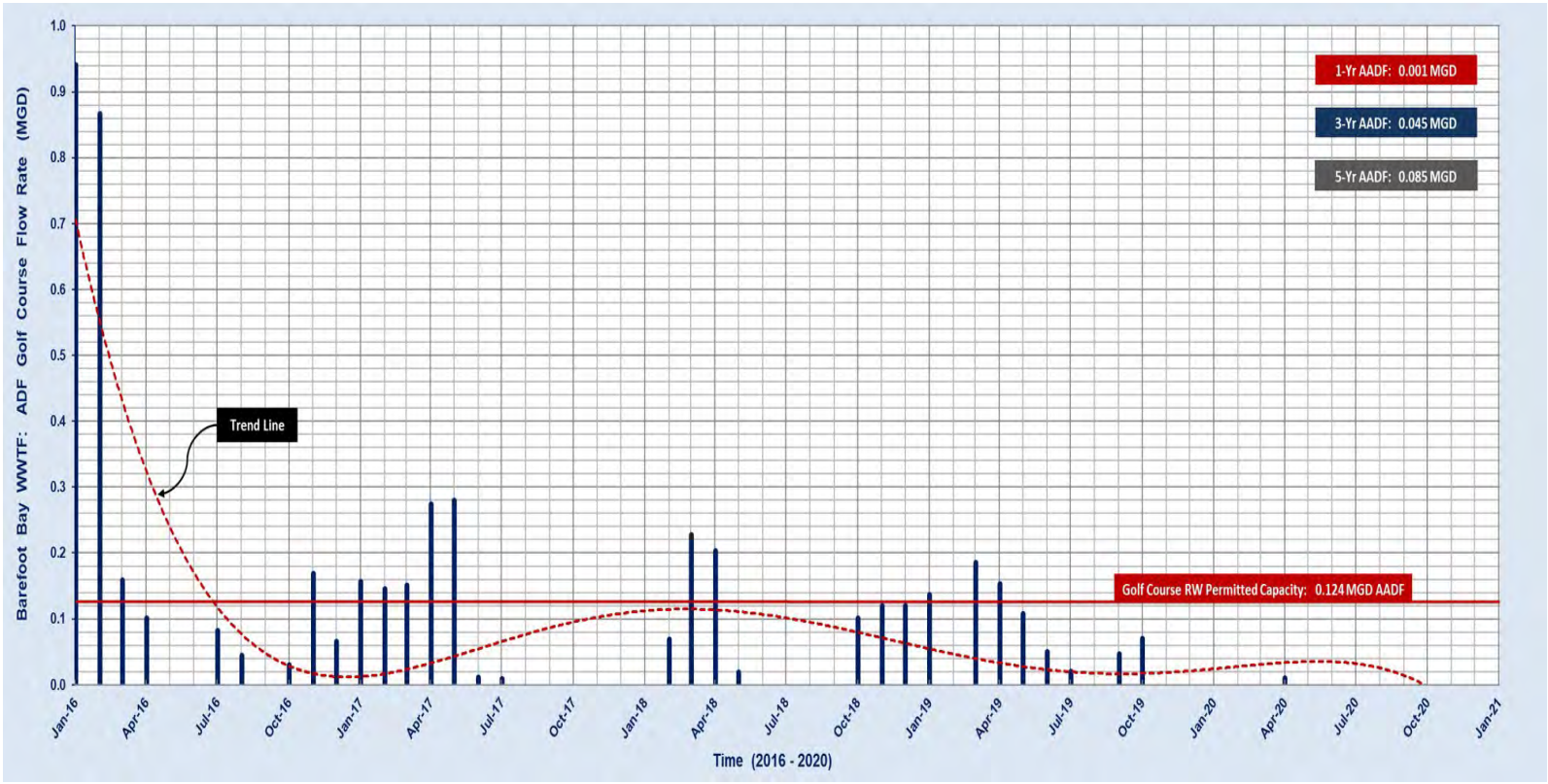

FIGURE 3.4-2

BAREFOOT BAY ADVANCED WWTF: GOLF COURSE PUBLIC ACCESS REUSE SYSTEM (R-001) - HISTORICAL MONTHLY ADF

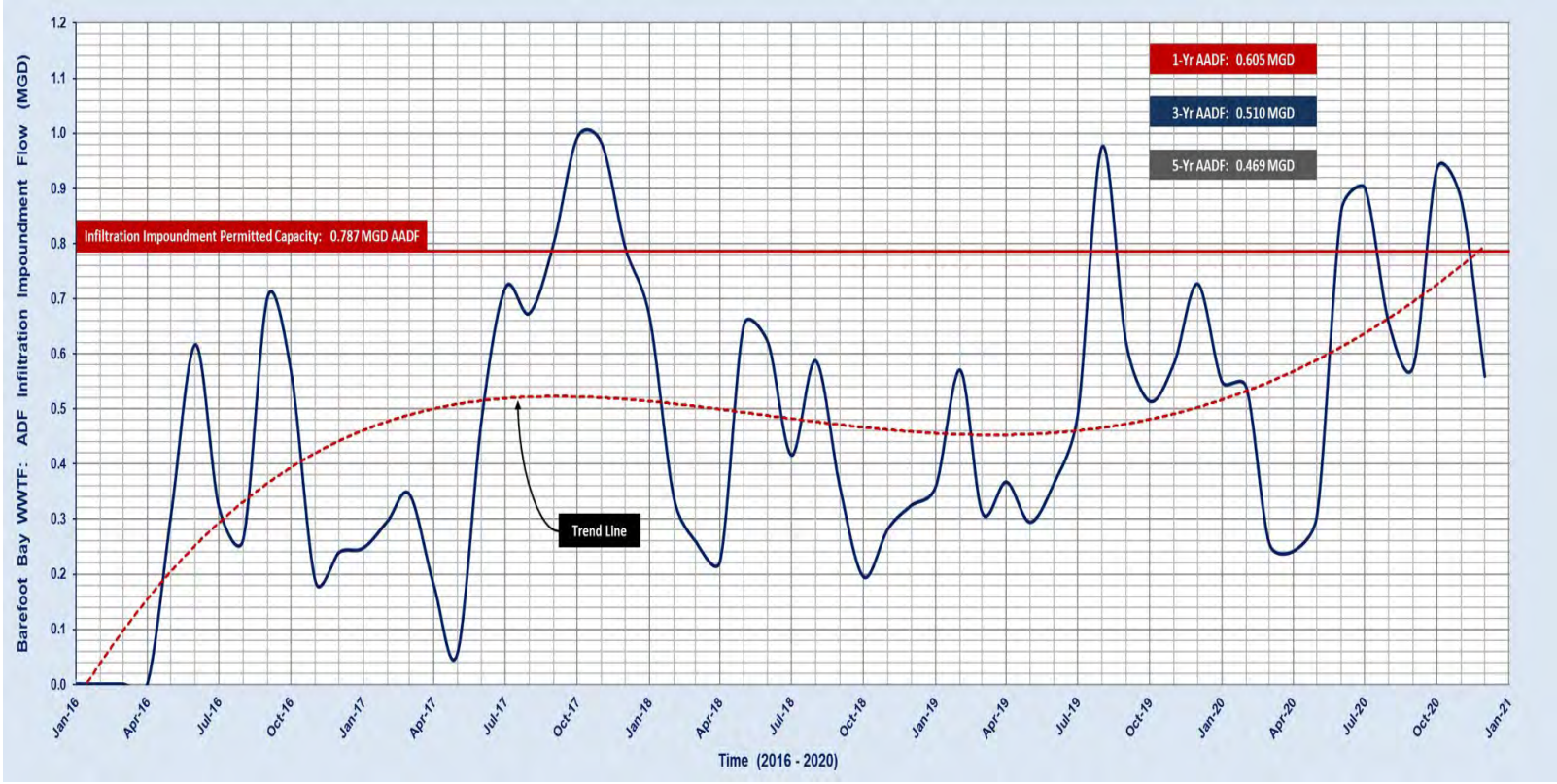

FIGURE 3.4-3	BAREFOOT BAY ADVANCED WWTF: INFILTRATION IMPOUNDMENT PUBLIC ACCESS REUSE SYSTEM (R-001) - HISTORICAL MONTHLY ADF

Table 3.5-1: Barefoot Bay Advanced WWTF - Reclaimed Water Quality (2016 - 2020)						
Month/Year	**$CBOD_5$ (mg/L)**	**TSS (mg/L)**	**TN (mg/L)**	**TP (mg/L)**	**pH (S.U.)**	**Fecal (#/100 mL)**
Permit Limit	**20**	**5**	**---**	**---**	**6.0 - 8.5**	**25**
Jan 2016	2.7	0.5	8.9	1.5	7.38	< 1
Feb 2016	3.3	0.5	6.7	1.4	7.42	< 1
Mar 2016	3.6	0.5	7.7	3.3	7.50	< 1
Apr 2016	5.9	0.5	7.2	3.7	7.67	< 1
May 2016	4.0	0.8	7.0	3.2	7.49	< 1
Jun 2016	3.2	0.5	8.4	2.1	7.56	< 1
Jul 2016	5.2	0.5	6.2	2.3	7.66	< 1
Aug 2016	5.8	0.6	9.1	4.0	7.59	< 1
Sep 2016	3.5	0.5	8.2	1.9	7.51	< 1
Oct 2016	2.0	0.5	9.4	2.0	7.53	< 1
Nov 2016	1.7	0.5	11.4	3.9	7.34	< 1
Dec 2016	2.0	0.5	10.8	4.4	7.32	< 1
2016 Avg.	**3.6**	**0.5**	**8.4**	**2.8**	**7.50**	**< 1**
Jan 2017	1.9	0.5	11.7	4.5	7.31	< 1
Feb 2017	1.0	0.5	11.5	4.3	7.27	< 1
Mar 2017	3.1	0.5	11.4	4.4	7.20	< 1
Apr 2017	2.1	0.5	10.2	4.4	7.30	< 1
May 2017	3.9	0.5	11.9	5.2	7.26	< 1
Jun 2017	3.9	0.5	11.3	2.5	7.40	< 1
Jul 2017	2.5	0.6	8.7	2.4	7.39	< 1
Aug 2017	1.2	0.5	7.8	2.0	7.45	< 1
Sep 2017	1.0	0.7	6.9	1.4	7.50	< 1
Oct 2017	1.0	0.5	6.2	0.9	7.34	< 1
Nov 2017	1.3	0.5	7.4	1.3	7.33	< 1
Dec 2017	1.0	0.5	8.7	1.9	7.38	< 1
2017 Avg.	**2.0**	**0.5**	**9.5**	**2.9**	**7.34**	**< 1**

Table 3.5-1: Barefoot Bay Advanced WWTF - Reclaimed Water Quality (2016 - 2020)						
Month/Year	**$CBOD_5$ (mg/L)**	**TSS (mg/L)**	**TN (mg/L)**	**TP (mg/L)**	**pH (S.U.)**	**Fecal (#/100 mL)**
Permit Limit	**20**	**5**	**---**	**---**	**6.0 - 8.5**	**25**
Jan 2018	1.4	0.5	9.4	1.6	7.45	< 1
Feb 2018	1.0	0.5	10.8	3.6	7.37	< 1
Mar 2018	1.3	0.5	11.6	4.4	7.36	< 1
Apr 2018	1.0	0.5	11.9	4.7	7.30	< 1
May 2018	1.7	0.5	11.4	3.5	7.23	< 1
Jun 2018	1.5	0.5	9.5	2.0	7.32	< 1
Jul 2018	2.6	0.5	15.5	3.4	7.36	< 1
Aug 2018	1.0	0.5	9.6	2.4	7.35	< 1
Sep 2018	1.0	0.5	12.0	3.4	7.34	< 1
Oct 2018	1.0	0.5	14.9	4.2	7.17	< 1
Nov 2018	1.3	0.5	14.5	4.6	7.11	< 1
Dec 2018	1.4	0.5	11.8	4.4	7.18	< 1
2018 Avg.	**1.3**	**0.5**	**11.9**	**3.5**	**7.30**	**< 1**
Jan 2019	1.3	0.5	18.0	4.5	6.97	< 1
Feb 2019	1.0	0.5	11.1	3.5	7.10	< 1
Mar 2019	1.0	0.5	11.7	4.2	7.13	< 1
Apr 2019	1.0	0.7	12.0	4.5	6.99	< 1
May 2019	1.0	0.6	8.3	3.4	7.21	< 1
Jun 2019	1.3	0.6	13.0	3.7	7.16	< 1
Jul 2019	1.0	0.6	13.1	3.0	7.19	< 1
Aug 2019	1.0	0.6	8.4	1.3	7.23	< 1
Sep 2019	1.4	0.6	12.3	1.0	7.35	< 1
Oct 2019	1.3	0.6	8.2	2.3	7.25	< 1
Nov 2019	1.0	0.6	8.0	1.4	7.27	< 1
Dec 2019	1.3	0.6	10.4	3.0	7.20	< 1
2019 Avg.	**1.1**	**0.6**	**11.2**	**3.0**	**7.17**	**< 1**

Table 3.5-1: Barefoot Bay Advanced WWTF - Reclaimed Water Quality (2016 - 2020)						
Month/Year	$CBOD_5$ (mg/L)	TSS (mg/L)	TN (mg/L)	TP (mg/L)	pH (S.U.)	Fecal (#/100 mL)
Permit Limit	20	5	---	---	6.0 - 8.5	25
Jan 2020	1.0	0.6	10.1	3.1	7.28	< 1
Feb 2020	1.0	0.6	10.3	3.6	7.25	< 1
Mar 2020	1.0	0.6	10.1	4.5	7.09	< 1
Apr 2020	1.0	0.6	11.8	4.3	7.20	< 1
May 2020	1.6	0.6	9.1	4.3	7.09	< 1
Jun 2020	1.0	0.6	6.8	1.9	7.17	< 1
Jul 2020	1.0	0.6	7.4	1.5	7.27	< 1
Aug 2020	1.0	0.6	10.7	2.3	7.26	< 1
Sep 2020	1.5	0.6	8.8	2.3	7.24	< 1
Oct 2020	1.0	0.6	7.4	1.5	7.16	< 1
Nov 2020	1.0	0.6	8.6	1.5	7.27	< 1
Dec 2020	1.2	0.7	10.8	3.0	7.15	< 1
2020 Avg.	**1.1**	**0.6**	**9.3**	**2.8**	**7.20**	**< 1**
5-Year Avg.	**1.8**	**0.5**	**10.1**	**3.0**	**7.30**	**< 1**
5-Yr % Removal	**99.2%**	**99.8%**	**79.9%**	**62.5%**	**---**	**---**

Barefoot Bay Advanced WWTF - Treatment System Efficiency (2016 - 2020)*							
Parameter	Influent Conc. (mg/L)	Influent Loading (lb/day)	Effluent Conc. (mg/L)	Effluent Load (lb/day)	Parameter Removal (lb/day)	Percent Removal	
						Design	Actual
$CBOD_5$	218	1,242	1.8	10	1,232	90%	99.2%
TSS	307	1,746	0.5	3	1,743	90%	99.8%
TN**	50	285	10.1	57	228	80%	79.9%
TP**	8	46	3.0	17	28	70%	62.5%

* *AADF (2016 - 2020): 0.683 MGD* ** *Assumed Influent Concentration (testing not required by permit)*

3.5.1 $CBOD_5$ Treatment (Removal) Efficiency

Over the past five-year period (Calendar Years 2016 - 2020), actual influent $CBOD_5$ concentrations have been slightly below the values used in the design of the facility. The Barefoot Bay Advanced WWTF has the ability to operate efficiently between 50 mg/L and 400 mg/L by adjusting process operations.

The effluent $CBOD_5$ concentrations are below the design values used for the facility, typical AWT standards (< 5 mg/L), and meet the limitations identified in the current FDEP Operations Permit.

The 5-Year $CBOD_5$ treatment (removal) efficiency averaged approximately 99.2%; which is greater than the design treatment efficiency of 90% and the minimum FDEP requirement of 85%. The effluent $CBOD_5$ concentration from the facility has been significantly below the design value of 5 mg/L. ***Thus, the Barefoot Bay Advanced WWTF is highly effective in removing organic wastes from the raw wastewater***.

3.5.2 TSS Treatment (Removal) Efficiency

Over the past five-year period (Calendar Years 2016 - 2020), actual influent TSS concentrations have been below the values used in the design of the facility; although the facility has the ability to operate efficiently between 40 mg/L and 500 mg/L by adjusting process operations.

The effluent TSS concentrations are below the design values used for the facility, typical AWT standards (< 5 mg/L) and meet the limitations identified in the current FDEP Operations Permit.

The 5-Year TSS treatment (removal) efficiency averaged approximately 99.8%; which is greater than the design treatment efficiency of 90% and the minimum FDEP requirement of 85%. The effluent TSS concentration has been significantly below the design value of 5 mg/L. ***Thus, the Barefoot Bay Advanced WWTF is highly effective in removing suspended solids from the raw wastewater as well as those generated in the treatment process***.

3.5.3 TN Treatment (Removal) Efficiency

Over the past five-year period (Calendar Years 2016 - 2020), actual influent TKN concentrations have been in the range of values used in the design of the facility. The facility has the ability to operate efficiently between 20 mg/L and 60 mg/L by adjusting process operations.

The 5-Year TN treatment (removal) efficiency averaged approximately 79.9% with an average annual effluent TN concentration of 10.1 mg/L over the past five calendar year period (2016 - 2020). The BBWWTF's FDEP Operations Permit limits the TN concentration in surface water discharges to no more than 3.75 mg/L on a monthly basis and a mass loading of no more than 476 lb TN annually. Unfortunately, the County would be in violation of the current effluent TN limitations if any surface water discharges were to occur due to the elevated TN concentrations.

Therefore, ***operational, process and infrastructure improvements, modifications and adjustments will be required to meet the current surface water effluent TN concentrations and Section 403.086, F.S., as it relates to meeting AWT criteria for any discharges of effluent to the Indian River Lagoon. It is recommended that an engineering study be conducted to address the elevated effluent TN concentrations and provide both short-term and long-term recommendations and solutions to resolve this issue.***

3.5.4 TP Treatment (Removal) Efficiency

Over the past five-year period (Calendar Years 2016 - 2020), actual influent TP concentrations have been in the range of values used in the design of the facility. The facility has the ability to operate efficiently between 2 mg/L and 12 mg/L by adjusting process operations and/or adding alum/polymer to the biological treatment units (enhancing TP removal via chemical precipitation).

The 5-Year TP treatment (removal) efficiency averaged approximately 62.5% with an average annual effluent TN concentration of 3.0 mg/L over the past five calendar year period (2016 - 2020). The BBWWTF's FDEP Operations Permit limits the TP concentration in surface water discharges to no more than 1.25 mg/L on a monthly basis and a mass loading of no more than 78 lb TP annually. Unfortunately, the County would be in violation of the current effluent TP limitations if any surface water discharges were to occur due to the elevated TP concentrations.

Therefore, ***operational, process and infrastructure improvements, modifications and TP concentrations and Section 403.086, F.S., as it relates to meeting AWT criteria for any discharges of effluent to the Indian River Lagoon. It is recommended that an engineering study be conducted to address the elevated effluent TP concentrations and provide both short-term and long-term recommendations and solutions to resolve this issue.***

SECTION 4

NON-BENEFICIAL SURFACE WATER DISCHARGE ELIMINATION PLAN

4.1 THE BAREFOOT BAY ADVANCED WWTF DISCHARGE ELIMINATION PLAN

The Barefoot Bay Advanced WWTF, located at 7773 Dottie Drive, Barefoot Bay, FL, 32976 is an *Advanced Secondary Treatment plus Filtration* Facility (Category I, Class B), utilizing two (2) ring-steel wastewater treatment units to treat the incoming raw wastewater from the collection and transmission system. The treatment facility consists of dual static influent screening systems, a flow splitter box, flow equalization basin, two (2) treatment trains (each with anoxic and aerobic basins along with a central secondary clarifier), tertiary filtration, chemical feed facilities, high-level disinfection, a dechlorination system (for surface water discharges), pumping systems, reclaimed water storage and a lined substandard effluent holding pond.

Biosolids management at the Barefoot Bay Advanced WWTF consists of aerobic digestion of the waste activated sludge followed by hauling of the biosolids, by a 3rd party sludge hauling firm, to the Brevard County South Central Regional WRF for further treatment and dewatering prior to final disposal at a local Class I solid waste landfill.

The treatment facility discharges highly treated reclaimed water to any of the four FDEP-permitted effluent disposal systems:

Effluent Disposal	FDEP Designation	Monitoring Location	Site Size (acres)	Overall Disposal Capacity (MGD)
Barefoot Bay Golf Course	R-001	FLW-3	50	0.124
Sprayfield	R-001	FLW-4	40	0.130
Infiltration Impoundment	R-001	FLW-5	320	0.787
Surface Water Discharge	D-001	FLW-1	---	0.188
Totals:			**410**	**1.229**

As previously presented in Section 3.4 of this document, an analysis of facility effluent flows by disposal system, over the past five (5) Calendar Years, was conducted with the following results:

Effluent Disposal Percentage by Disposal System (2016 - 2020)

Calendar Year	Effluent Disposal System (MGD AADF)				Overall Effluent Disposal (%)			
	Sprayfield	Golf Course	Infiltr. Impound.	SW Discharge	Sprayfield	Golf Course	Infiltr. Impound.	SW Discharge
2016	0.119	0.205	0.267	0.000	20.1%	34.7%	45.2%	0.0%
2017	0.054	0.085	0.547	0.000	7.9%	12.4%	79.7%	0.0%
2018	0.039	0.071	0.410	0.000	7.5%	13.7%	78.8%	0.0%
2019	0.008	0.064	0.514	0.000	1.4%	10.9%	87.7%	0.0%
2020	0.061	0.001	0.605	0.000	9.1%	0.2%	90.7%	0.0%
5-Yr Avg.	**0.056**	**0.085**	**0.469**	**0.000**	**9.2%**	**14.4%**	**76.4%**	**0.0%**

Overall 5-Year Barefoot Bay Advanced WWTF Effluent Disposal by System:	Total Reuse Flow (R-001)	Surface Water Discharge (D-001)
	100.0%	**0.0%**

The data indicates that the Barefoot Bay Advanced WWTF has reused 100% of the facility's annual average effluent flow over the past five-year period from January 2016 - December 2020. There has not been a surface water discharge from the BBWWTF to the Micco Ditch System since September 2012.

Therefore, in accordance with the requirements of the 403.064(17)(a)(3)(d), Florida Statutes, the Surface Water Discharge Elimination Plan for the Barefoot Bay Advanced WWTF does not provide for a complete elimination of the FDEP-permitted surface water discharge to the Micco Ditch System and thence to the St. Johns River and eventually to the Indian River Lagoon. However, Brevard County is providing the FDEP with an affirmation demonstration (as provided for in the law), based on the analyses and evaluations conducted in Section 3 of this document, that the Barefoot Bay WWTF is reusing a minimum of 90% of its annual average effluent flow as determined using the daily monitoring data from the previous five (5) Calendar Years (2016 - 2020) of operating data. In accordance with the regulatory requirements of 403.064, F.S., the County will therefore continue to utilize the FDEP-permitted discharge from the Barefoot Bay WWTF to the Micco Ditch System and will not exceed the 0.188 MGD AADF flow limitation. The current facility effluent disposal system (irrigation of the

sprayfield and Barefoot Bay golf course and the Infiltration Impoundment) has the capacity to handle the current wastewater flows and those anticipated in the 20-year planning horizon; with the exception of potentially heavy rainfalls associated with tropical events and intense localized storms.

In accordance with Section 403.064(17), Florida Statutes, Brevard County is also required to provide the following information as part of the Surface Water Discharge Elimination Plan:

Plan Information to Be Provided	Value	Explanation
The average flow (MGD) of effluent, reclaimed water, or reuse water that will no longer be discharged into surface waters and the date of such elimination	0.0 MGD AADF	Facility reuses more than 90% of its annual effluent flow based on the past 5 calendar years of operational data
The average flow (MGD) of surface water discharge that will continue in accordance with the requirements for the elimination of ocean outfalls, one of the discharge conditions specified in the legislation or one of the hardship conditions;	0.188 MGD AADF (maximum)	This is the permitted surface water discharge capacity in the current facility FDEP Operations Permit. In addition, the BBWWTF has not discharged to the surface water disposal system since September 2012.
The level of treatment which the effluent, reclaimed water, or reuse water will receive before being discharged into a surface water by each alternative	Advanced Secondary Treatment Levels* (5, 5, 3.75, 1.25)	The BBWWTF provides advanced secondary treatment of the raw wastewater received at the facility. consists of two BNR treatment trains capable of potentially generating reclaimed water meeting AWT standards/levels

* *Modifications to the BBWWTF treatment process may be required to meet AWT Standards (BOD_5 < 5 mg/L; TSS < 5 mg/L; TN < 3 mg/L; and TP , 1 mg/L) required by Section 403.086, F.S. This is further discussed in Section 4.3 of this document.*

4.2 CAPACITY AND EFFICIENCY OF THE BAREFOOT BAY ADVANCED WWTF

A detailed evaluation of the historical wastewater flows to the Barefoot Bay Advanced WWTF was conducted in Section 3.3 of this document. The raw wastewater flow rate received at the treatment facility, over the past five (5) Calendar Years (2016 - 2020), averaged 0.683 MGD, or 75.9% of the facility's treatment capacity. Therefore, the Barefoot Bay Advanced WWTF has the hydraulic capacity to treat the raw wastewater flows over the 20-year planning horizon.

Likewise, a detailed evaluation of the facility effluent quality, over the past five (5) Calendar Years (2016 - 2020), was conducted in Section 3.5 of this document. The reclaimed water quality produced and treatment efficiencies are as follows:

Barefoot Bay Advanced WWTF - Treatment System Efficiency (2016 - 2020)			
Parameter	**Influent Conc. (mg/L)**	**Effluent Conc. (mg/L)**	**Parameter Removal**
$CBOD_5$	218	1.8	99.2%
TSS	307	0.5	99.8%
TN	50	10.1	79.9%
TP	8	3.0	62.5%

Therefore, the Barefoot Bay Advanced WWTF is capable of treating the incoming raw wastewater and generating a reclaimed water product that is in compliance with the current FDEP Operations Permit using the existing unit operations and processes at the facility.

4.3 ABILITY OF THE BAREFOOT BAY ADVANCED WWTF TO MEET "CURRENT" AND "FUTURE" NUTRIENT LIMITS

The wastewater treatment systems at the Barefoot Bay Advanced WWTF consist of primary, secondary and tertiary treatment unit operations and processes to remove contaminants inherent in the raw wastewater influent and meet the Federal and State regulatory standards.

The reclaimed water quality produced by the Barefoot Bay Advanced WWTF during the past five-year period (2016 - 2020) and the ability of the facility to meet AWT Criteria is presented in the table below.

Parameter	AWT Effluent Limits (mg/L)	Effluent Concentration (mg/L)*	"Current" Facility Effluent Meets AWT Criteria
BOD_5	**5**	1.8	Yes
TSS	**5**	0.5	Yes
Total Nitrogen (TN)	**3**	**10.1**	**No**
Total Phosphorus (TP)	**1**	**3.0**	**No**
pH	**6.0 - 8.5**	7.26	Yes

* *Concentrations of reclaimed water constituents from Jan 2016 - Dec 2020* ** *Values in **"red"** exceed the AWT Criteria*

To meet the surface water discharge nutrient limitations and mass loadings (TN, TP) required in the current Barefoot Bay WWTF Operations Permit and the regulatory

requirements mandated in Section 403.086, Florida Statutes, the following alternatives need to be evaluated for implementation based on the elevated effluent TN and TP concentrations previously discussed in Sections 3.5.3 and 3.5.4 of this document:

1. ***Alternative No. 1:*** ***Construction of a new BNR treatment facility.*** The new treatment facility would be designed using state-of-the-art BNR treatment technologies, systems and equipment to specifically meet AWT standards and produce a high-quality effluent that is low in nitrogen and phosphorus. Primary, secondary and tertiary treatment systems would be designed to take advantage of the state-of-the art technologies that have been developed in the last 3 - 5 years. The new treatment facility would meet all industry standards and codes, and use energy-efficient, cost-effective and sustainable technologies. The infrastructure would be built using concrete and corrosion resistant materials (Type 316 stainless steel, etc.) to be able to withstand the salt environment, the corrosive nature of the wastewater and associated gases, and tropical events. The concrete tankage would have a service life, if properly maintained, of 50 - 100 years. This alternative would save construction time and cost, over the long-term, as it could be built on a *greenfield site* while the existing BBWWTF would continue to treat the raw wastewater generated within the service area. Upon commissioning of the new treatment facility, raw wastewater flows from the service area would be directed to it for processing and the existing BBWWTF decommissioned in accordance with FDEP requirements.

2. ***Alternative No. 2:*** ***Significant infrastructure improvements throughout the existing treatment facility in an attempt to produce an effluent that is low in TN and TP.*** The existing BBWWTF and its infrastructure, unit operations and unit processes was never designed to meet the rigorous and low-level effluent TN and TP concentrations required today by the regulatory agencies. Thus, many of the structures, tankage and equipment would have to be totally replaced. This project would include the construction of new infrastructure that is capable of producing an effluent that is low in TN and TP; replace antiquated, corroded, and safety-questionable equipment and infrastructure; and replace infrastructure that has reached the end of its service life. All of this work would have to be accomplished in the small footprint available at

the existing facility site and would have to be constructed while the treatment facility is actively processing and treating the wastewater from the service area and the biosolids generated in the treatment process. This alternative would take much more time to construct (busy, constricted site with a lot of existing infrastructure) and therefore more long-term costs would be realized by the County.

It is recommended that an engineering evaluation/study be conducted to address the elevated effluent TN and TP concentrations and determine the most cost-effective, energy efficient, and sustainable solution for wastewater treatment in this area of Brevard County. However, time is of the essence as the requirement for wastewater treatment facilities that could potentially discharge effluent to the Indian River Lagoon, directly or indirectly, to meet the effluent AWT standards is July 1, 2025, per Section 403.086, Florida Statutes. The following activities must be completed by the mandated deadline (07/01/2025):

- Engineering Evaluation/Study to determine the most cost-effective, energy-efficient and sustainable alternative to produce an effluent, on a consistent basis, that meets the AWT standards.
- Siting of the proposed improvements and potential acquisition of the land, if not already owned by the County.
- Conceptual, preliminary and final engineering design of the proposed improvements.
- Permitting of the proposed improvements.
- Acquiring project funding for the proposed improvements (SRF Loan, Bonds, etc.)
- Competitive bidding of the proposed improvements in accordance with State and Federal Law.
- Construction of the proposed improvements.
- Check-out, demonstration testing, operator training, seeding of the biological treatment system, optimization of all unit operations and processes and commissioning of the facility with all regulatory agencies.

Due to the compressed timeline to meet the regulatory mandate, this project needs to begin to move forward very soon and will have to be integrated into the County's Utility Capital Improvements Program (CIP).

APPENDIX A

BAREFOOT BAY ADVANCED WWTF: "EXISTING" FDEP OPERATIONS PERMIT

OCTOBER 2021

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FLORIDA DEPARTMENT OF
Environmental Protection

CENTRAL DISTRICT OFFICE
3319 MAGUIRE BLVD., SUITE 232
ORLANDO, FLORIDA 32803

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Noah Valenstein
Secretary

NOTICE OF PERMIT

Tammy.Hurley@Brevardfl.Gov
Edward.Fontanin@Brevardfl.Gov

In the Matter of an
Application for Permit by:
Brevard County Utilities Services Department
931 Barefoot Blvd.
Barefoot Bay, FL 32876

Brevard County - DW
BCUD Barefoot Bay WRF
Wastewater Permit Application
DEP File No: FL0042293-011

ATTENTION Edward Fontanin
Director

Enclosed is Permit Number FL0042293 to operate a domestic wastewater facility issued under Chapter 403 Florida Statutes.

Monitoring requirements under this permit are effective on the first day of the second month following the effective date of the permit. Until such time, the permittee shall continue to monitor and report in accordance with previously effective permit requirements, if any.

NOTICE OF RIGHTS

Judicial Review
Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68, F.S. by the filing of a notice of appeal under Florida Rules of Appellate Procedure 9.110 and 9.190 with the Clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice must be filed within 30 days after this order is filed with the Clerk of the Department.

Executed in Orlando, Florida.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

_____

Nathan Hess
Program Administrator
Permitting and Waste Cleanup Program

NJH/ee/dj

Enclosures: Permit, DMR, and Fact Sheet

CERTIFICATE OF SERVICE
The undersigned duly designated deputy clerk hereby certifies that this document and all attachments were sent on the filing date below to the following listed persons:

DEP: Marc Harris, David Smicherko, Reggie Phillips, Dennise Judy
Brian L. Woodworth, P.E., Wade Trim Consultants, bwoodworth@WadeTrim.com
Gregory M. Munson, Esq., Gunster, Yoakley, & Stewart, PA, gmunson@gunster.com

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to Section 120.52, F. S., with the designated Department Clerk, receipt of which is hereby acknowledged.

Clerk

October 16, 2019
Date

FLORIDA DEPARTMENT OF
Environmental Protection

CENTRAL DISTRICT OFFICE
3319 MAGUIRE BLVD., SUITE 232
ORLANDO, FLORIDA 32803

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Noah Valenstein
Secretary

STATE OF FLORIDA
DOMESTIC WASTEWATER FACILITY PERMIT

PERMITTEE:
Brevard County Utilities Services Department

RESPONSIBLE OFFICIAL:

Edward Fontanin,
Director
Edward.Fontanin@Brevardfl.Gov

2725 Judge Fran Jamieson Way
BLDG. A-213
Melbourne, Florida 32940-6605
(321) 633-2091

PERMIT NUMBER: FL0042293 (**Minor**)
FILE NUMBER: FL0042293-011-DW1P
EFFECTIVE DATE: **October 16, 2019**
EXPIRATION DATE: October 15, 2024

FACILITY:

Barefoot Bay Advanced WWTF
7773 Dottie Drive
Barefoot Bay, FL 32976-7003
Brevard County
Latitude: 27°53' 19.2037" N Longitude: 80°32' 10.5212" W

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and applicable rules of the Florida Administrative Code (F.A.C.) and constitutes authorization to discharge to waters of the state under the National Pollutant Discharge Elimination System. This permit does not constitute authorization to discharge wastewater other than as expressly stated in this permit. The permittee named above is hereby authorized to operate the facilities in accordance with the documents attached hereto and specifically described as follows:

WASTEWATER TREATMENT:

The treatment plant is an existing 0.90 mgd annual average daily flow (AADF) permitted capacity advanced wastewater treatment system. Major process components include influent screening, flow equalization, two anoxic/aeration basins, secondary clarification, chemical feed systems for coagulant aids and Micro-C, filtration, chlorination, dechlorination, and aerobic digestion of biosolids.

REUSE OR DISPOSAL:

Surface Water Discharge D-001: This is an existing 0.188 MGD annual average daily flow permitted capacity discharge to the Micco Ditch system (WBID# 3121) thence to the North Prong of the Sebastian River, (WBID# 3128), Class III fresh waters. The discharge is limited to 91 days per year. The outfall is approximately 2.5 feet in length and discharges at a depth of approximately 5 feet. The point of discharge is located approximately at latitude 27°53' 18" N, longitude 80°32' 10" W.

Land Application R-001: This is an existing 1.041 MGD AADF permitted capacity slow-rate public access system (R-001), consisting of a 0.13 MGD AADF permitted capacity 40-acre spray field, a 0.124 MGD AADF permitted capacity 50-Acre Barefoot Bay Golf Course, and a 0.787 MGD AADF infiltration impoundment (formerly permitted as a sprayfield) with 12 acres of exfiltration trenches on a 320-acre site. Storage facilities include an existing 1.8 mg on-site lined reject pond and an existing 4.0 MG reclaimed water pond. Land application system R001 is located approximately at latitude 27° 52' 48" N, longitude 80° 32' 55" W.

PERMITTEE:	Brevard County Utilities Services Department	PERMIT NUMBER:	FL0042293 (Minor)
FACILITY:	Barefoot Bay Advanced WWTF	EXPIRATION DATE:	October 15, 2024

IN ACCORDANCE WITH: The limitations, monitoring requirements, and other conditions set forth in this cover sheet and Part I through Part IX on pages 1 through 26 of this permit.

I. RECLAIMED WATER AND EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Surface Water Discharges

1. During the period beginning on the effective date of the permit, and lasting through the expiration date of this permit, the permittee is authorized to discharge effluent from Outfall D-001 to North Prong of Sebastian River. Such discharge shall be limited and monitored by the permittee as specified below and reported in accordance with Permit Condition I.C.8.

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow (To outfall)	MGD	Max Max	0.188 Report	Annual Average Monthly Average	Continuous	Recording Flow Meter with Totalizer	FLW-1	See I.A.3
BOD, Carbonaceous 5 day, 20C	mg/L	Max Max Max	6.25 7.5 10.0	Monthly Average Weekly Average Single Sample	Weekly	16-hr FPC	EFD-1	See I.A.5
Solids, Total Suspended	mg/L	Max Max Max	6.25 7.5 10.0	Monthly Average Weekly Average Single Sample	Weekly	16-hr FPC	EFD-1	See I.A.5
Coliform, Fecal	#/100mL	Max Max Max	14 14 86	Annual Average Monthly Median Single Sample	Weekly	Grab	EFA-2	See I.A.4
pH	s.u.	Min Max	6.0 8.5	Single Sample Single Sample	5 Days/Week	Grab	EFD-2	
Chlorine, Total Residual (For Disinfection)	mg/L	Min	1.0	Single Sample	5 Days/Week	Grab	EFA-2	See I.A.6
Chlorine, Total Residual (For Dechlorination)	mg/L	Max	0.01	Single Sample	Weekly	Grab	EFD-2	
Nitrogen, Total	mg/L	Max Max Max	3.75 4.5 6.0	Monthly Average Weekly Average Single Sample	Weekly	16-hr FPC	EFD-1	
Nitrogen, Total	lb/yr	Max Max	476.0 Report	Annual Total Monthly Total	Monthly	16-hr FPC	EFD-1	
Phosphorus, Total (as P)	mg/L	Max Max Max	1.25 1.5 2.0	Monthly Average Weekly Average Single Sample	Weekly	16-hr FPC	EFD-1	
Phosphorus, Total (as P)	lb/yr	Max Max	78.0 Report	Annual Total Monthly Total	Monthly	16-hr FPC	EFD-1	
Oxygen, Dissolved (DO)	mg/L	Min	5.0	Single Sample	5 Days/Week	Grab	EFD-2	

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Acute Whole Effluent Toxicity, 96 Hour LC50 (Ceriodaphnia dubia)	percent	Min	100	Single Sample	Annually	4 grabs/24 hr.period	EFD-2	See I.A.7
Acute Whole Effluent Toxicity, 96 Hour LC50 (Cyprinella leedsi)	percent	Min	100	Single Sample	Annually	4 grabs/24 hr.period	EFD-2	See I.A.7
Coliform, Fecal	#/100mL	Max Max Max Max	14 14 43 86	Annual Average Monthly Median 90th Percentile Single Sample	Monthly	Grab	EFD-2	See I.A.4

2. Effluent samples shall be taken at the monitoring site locations listed in Permit Condition I.A.1. and as described below:

Monitoring Site Number	Description of Monitoring Site
FLW-1	90-degree V-notch weir and flow recorder downstream of dechlorination chamber
EFD-1	Automatic sampler at the end of the Dechlorination Chamber
EFA-2	Sampling point at the end of the Chlorine Contact Chamber
EFD-2	Sampling point at the end of the Dechlorination Chamber

3. A recording flow meter with totalizer shall be utilized to measure flow and calibrated at least once every 12 months. *[62-600.200(25)]*

4. The effluent limitation for the monthly median for fecal coliform is only applicable if 10 or more values are reported. If fewer than 10 values are reported, the monthly median shall be calculated and reported on the Discharge Monitoring Report to be used to calculate the annual average. *[62-600.440(7)(b)]*

5. In accordance with subsections 62-600.420(1) and (2), F.A.C., the monthly average effluent $CBOD_5$ and TSS concentrations shall not exceed 15% of their respective influent values (i.e., 85% removal).

   [62-600.420(1) and (2)]

6. Total residual chlorine must be maintained for a minimum contact time of 15 minutes based on peak hourly flow. *[62-600.440(5)(c), (6)(b), and (7)(c)]*

7. The permittee shall comply with the following requirements to evaluate acute whole effluent toxicity of the discharge from outfall D-001.

   a. Effluent Limitation
      (1) In any routine or additional follow-up test for acute whole effluent toxicity, the 96-hour LC50 shall not be less than 100% effluent. [Rules 62-302.200(1), 62-302.500(1)(a)4., 62-4.244(3)(a), and 62-4.241, F.A.C.]

   b. Monitoring Frequency
      (1) Routine toxicity tests shall be conducted annually, the first during the next discharge event, and lasting for the duration of this permit.

   c. Sampling Requirements
      (1) Routine tests shall be conducted on four separate grab samples collected at evenly-spaced (6-hr) intervals over a 24-hour period. The four grab samples shall be used in eight bioassays (four bioassays for each species) and shall represent one test. If the duration of the discharge is less than 24-hours, the duration of discharge shall be documented on the chain of custody.
      (2) For additional follow-up tests, the first test shall be conducted on four separate grab samples collected at evenly-spaced (6-hr) intervals over a 24-hour period. The four grab samples shall be used in four separate bioassays for each species that failed the routine test. The four grab samples represent one test. The second follow-up test shall be run on a single grab sample collected on the day and time when the greatest toxicity was identified in the routine or first additional follow-up test.

   d. Test Requirements
      (1) Routine Tests: All routine tests shall be conducted using a control (0% effluent) and a minimum of five dilutions: **100%, 75%, 50%, 25%**, and **12.5%** effluent.
      (2) The permittee shall conduct 96-hour acute static renewal multi-concentration toxicity tests using the daphnid, **Ceriodaphnia dubia**, and the bannerfin shiner, **Cyprinella leedsi**, concurrently.
      (3) All test species, procedures and quality assurance criteria used shall be in accordance with **Methods for Measuring Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms**, 5th Edition, EPA-821-R-02-012. Any deviation of the bioassay procedures outlined herein shall be submitted in writing to the Department for review and approval prior to use. In the event the above method is revised, the permittee shall conduct acute toxicity testing in accordance with the revised method.
      (4) The control water and dilution water shall be moderately hard water as described in EPA-821-R-02-012, Table 7.

e. Quality Assurance Requirements
   (1) A standard reference toxicant (SRT) quality assurance (QA) acute toxicity test shall be conducted with each species used in the required toxicity tests either concurrently or initiated no more than 30 days before the date of each routine or additional follow-up test conducted. Additionally, the SRT test must be conducted concurrently if the test organisms are obtained from outside the test laboratory unless the test organism supplier provides control chart data from at least the last five monthly acute toxicity tests using the same reference toxicant and test conditions. If the organism supplier provides the required SRT data, the organism supplier's SRT data and the test laboratory's monthly SRT-QA data shall be included in the reports for each companion routine or additional follow-up test required.
   (2) If the mortality in the control (0% effluent) exceeds 10% for either species in any test, the test for that species (including the control) shall be invalidated and the test repeated. The repeat test shall begin within 14 days after the last day of the invalid test.
   (3) If 100% mortality occurs in all effluent concentrations for either species prior to the end of any test and the control mortality is less than 10% at that time, the test (including the control) for that species shall be terminated with the conclusion that the test fails and constitutes non-compliance.
   (4) Routine and additional follow-up tests shall be evaluated for acceptability based on the concentration-response relationship, as required by EPA-821-R-02-012, Section 12.2.6.2., and included with the bioassay laboratory reports.

f. Reporting Requirements
   (1) Results from all required tests shall be reported on the Discharge Monitoring Report (DMR) as follows:
      (a) Routine Test Results: If an LC50 >100% effluent occurs in all four separate grab sample tests for the test species, ">100%" shall be entered on the DMR for that test species. If in any of the four separate grab sample tests for the test species an LC50 <100% effluent occurs, the lowest calculated LC50 effluent concentration shall be entered on the DMR for that test species.
      (b) Additional Follow-up Test Results: For each additional test required, the calculated LC50 value shall be entered on the DMR for that test species.
   (2) A bioassay laboratory report for the routine test shall be prepared according to EPA-821-R-02-012, Section 12, Report Preparation and Test Review, and mailed to the Department at the address below within 30 days after the last day of the test.
   (3) For additional follow-up tests, a single bioassay laboratory report shall be prepared according to EPA-821-R-02-012, Section 12, and mailed within 30 days after the last day of the second valid additional follow-up test.
   (4) Data for invalid tests shall be included in the bioassay laboratory report for the repeat test.
   (5) The same bioassay data shall not be reported as the results of more than one test.
   (6) All bioassay laboratory reports shall be sent to:
   Florida Department of Environmental Protection
   Central District Office
   3319 Maguire Blvd, Suite 232
   Orlando, Florida 32803-3767

g. Test Failures
   (1) A test fails when the test results do not meet the limits in 7.a.(1).
   (2) Additional Follow-up Tests:
      (a) If a routine test does not meet the acute toxicity limitation in 7.a.(1) above, the permittee shall notify the Department at the address above within 21 days after the last day of the failed routine test and conduct two additional follow-up tests on each species that failed the test in accordance with 7.d.
      (b) The first test shall be initiated within 28 days after the last day of the failed routine test. The remaining additional follow-up tests shall be conducted weekly thereafter until a total of two valid additional follow-up tests are completed.
      (c) The first additional follow-up test shall be conducted using a control (0% effluent) and a minimum of five dilutions: 100%, 75%, 50%, 25%, and 12.5% effluent. The permittee may modify the dilution series in the second additional follow-up test to more accurately bracket the toxicity such that at least two dilutions above and two dilutions below the target concentration and a control (0% effluent) are run. All test results shall be statistically analyzed according to the procedures in EPA-821-R-02-012.

(3) In the event of three valid test failures (whether routine or additional follow-up tests) within a 12-month period, the permittee shall notify the Department within 21 days after the last day of the third test failure.
   (a) The permittee shall submit a plan for correction of the effluent toxicity within 60 days after the last day of the third test failure.
   (b) The Department shall review and approve the plan before initiation.
   (c) The plan shall be initiated within 30 days following the Department's written approval of the plan.
   (d) Progress reports shall be submitted quarterly to the Department at the address above.
   (e) During the implementation of the plan, the permittee shall conduct quarterly routine whole effluent toxicity tests in accordance with 7.d. Additional follow-up tests are not required while the plan is in progress. Following completion or termination of the plan, the frequency of monitoring for routine and additional follow-up tests shall return to the schedule established in 7.b.(1). If a routine test is invalid according to the acceptance criteria in EPA-821-R-02-012, a repeat test shall be initiated within 14 days after the last day of the invalid routine test.
   (f) Upon completion of four consecutive quarterly valid routine tests that demonstrate compliance with the effluent limitation in 7.a.(1) above, the permittee may submit a written request to the Department to terminate the plan. The plan shall be terminated upon written verification by the Department that the facility has passed at least four consecutive quarterly valid routine whole effluent toxicity tests. If a test within the sequence of the four is deemed invalid, but is replaced by a repeat valid test initiated within 14 days after the last day of the invalid test, the invalid test will not be counted against the requirement for four consecutive quarterly valid routine tests for the purpose of terminating the plan.

(4) The additional follow-up testing and the plan do not preclude the Department taking enforcement action for whole effluent toxicity failures.

[62-4.241, 62-620.620(3)]

B. Reuse and Land Application Systems

1. During the period beginning on the effective date of the permit and lasting through the expiration date of this permit, the permittee is authorized to direct reclaimed water to Reuse System R-001. Such reclaimed water shall be limited and monitored by the permittee as specified below and reported in accordance with Permit Condition I.C.8.:

			Reclaimed Water Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow (Public access reuse)	MGD	Max Max	1.041 Report	Annual Average Monthly Average	Continuous	Recording Flow Meter with Totalizer	FLW-2	See I.B.3
Flow (Golf course)	MGD	Max	Report	Annual Average	Continuous	Recording Flow Meter with Totalizer	FLW-3	
Flow (Sprayfield)	MGD	Max	0.130	Annual Average	Continuous	Recording Flow Meter with Totalizer	FLW-4	
Flow (Infiltration impoundment)	MGD	Max	0.787	Annual Average	Continuous	Recording Flow Meter with Totalizer	FLW-5	
BOD, Carbonaceous 5 day, 20C	mg/L	Max Max Max Max	20.0 30.0 45.0 60.0	Annual Average Monthly Average Weekly Average Single Sample	Weekly	16-hr FPC	EFA-1	
Solids, Total Suspended	mg/L	Max	5.0	Single Sample	4 Days/Week	Grab	EFB-1	
Coliform, Fecal	#/100mL	Max	25	Single Sample	4 Days/Week	Grab	EFA-2	
Coliform, Fecal, % less than detection	percent	Min	75	Monthly Total	4 Days/Week	Calculated	EFA-2	See I.B.4
pH	s.u.	Min Max	6.0 8.5	Single Sample Single Sample	5 Days/Week	Grab	EFA-2	
Chlorine, Total Residual (For Disinfection)	mg/L	Min	1.0	Single Sample	Continuous	Meter	EFA-2	See I.B.5 and I.B.8
Turbidity	NTU	Max	Report	Single Sample	Continuous	Meter	EFB-1	See I.B.6 and I.B.8
Nitrogen, Total	mg/L	Max	Report	Single Sample	Weekly	16-hr FPC	EFA-1	
Phosphorus, Total (as P)	mg/L	Max	Report	Single Sample	Weekly	16-hr FPC	EFA-1	
Giardia	cysts/100L	Max	Report	Single Sample	Every 5 years	Grab	EFA-2	See I.B.9
Cryptosporidium	oocysts/100L	Max	Report	Single Sample	Every 5 years	Grab	EFA-2	See I.B.9

2. Reclaimed water samples shall be taken at the monitoring site locations listed in Permit Condition I.B.1. and as described below:

Monitoring Site Number	Description of Monitoring Site
FLW-2	propeller meter downstream of the effluent transfer pumps
FLW-3	Flow meter to Barefoot Bay Golf Course
FLW-4	Flow meter to 40 acre spray field site
FLW-5	Flow meter to 320-acre impoundment site
EFA-1	Automatic sampler at the end of the Chlorine Contact Chamber
EFB-1	Sampling point after filtration and prior to chlorination
EFA-2	Sampling point at the end of the Chlorine Contact Chamber

3. A recording flow meter with totalizer shall be utilized to measure flow and calibrated at least once every 12 months. *[62-600.200(25)]*

4. To report the "% less than detection," count the number of fecal coliform observations that were less than detection, divide by the total number of fecal coliform observations in the month, and multiply by 100% (round to the nearest integer). *[62-600.440(6)(a)]*

5. The minimum total chlorine residual shall be limited as described in the approved operating protocol, such that the permit limitation for fecal coliform bacteria will be achieved. In no case shall the total chlorine residual be less than 1.0 mg/L. *[62-600.440(6)(b)][62-610.460(2)][62-610.463(2)]*

6. The maximum turbidity shall be limited as described in the approved operating protocol, such that the permit limitations for total suspended solids and fecal coliforms will be achieved. *[62-610.463(2)]*

7. The treatment facilities shall be operated in accordance with all approved operating protocols. Only reclaimed water that meets the criteria established in the approved operating protocol(s) may be released to system storage or to the reuse system. Reclaimed water that fails to meet the criteria in the approved operating protocol(s) shall be directed to reject storage for subsequent additional treatment or disinfection. *[62-610.320(6) and 62-610.463(2)]*

8. Instruments for continuous on-line monitoring of total residual chlorine and turbidity shall be equipped with an automated data logging or recording device. *[62-610.463(2)]*

9. Intervals between sampling for Giardia and Cryptosporidium shall not exceed five years. *[62-610.463(4)]*

C. Other Limitations and Monitoring and Reporting Requirements

1. During the period beginning on the effective date of the permit and lasting through the expiration date of this permit, the treatment facility shall be limited and monitored by the permittee as specified below and reported in accordance with condition I.C.8.:

			Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow (Total through plant)	MGD	Max Max Max	0.90 Report Report	Annual Average Monthly Average Quarterly Average	Continuous	Recording Flow Meter with Totalizer	INF-1	See I.C.4
Percent Capacity, (TMADF/Permitted Capacity) x 100	percent	Max	Report	Monthly Average	Monthly	Calculated	INF-1	
BOD, Carbonaceous 5 day, 20C (Influent)	mg/L	Max Max	Report Report	Single Sample Annual Average	Weekly	16-hr FPC	INF-2	See I.C.3
Solids, Total Suspended (Influent)	mg/L	Max Max	Report Report	Single Sample Annual Average	Weekly	16-hr FPC	INF-2	See I.C.3

2. Samples shall be taken at the monitoring site locations listed in Permit Condition I.C.1. and as described below:

Monitoring Site Number	Description of Monitoring Site
INF-1	Influent flow meter at headworks.
INF-2	Automatic sampler at screen box.

3. Influent samples shall be collected so that they do not contain digester supernatant or return activated sludge, or any other plant process recycled waters. *[62-600.660(4)(a)]*

4. A recording flow meter with totalizer shall be utilized to measure flow and calibrated at least once every 12 months. *[62-600.200(25)]*

5. Sampling results for giardia and cryptosporidium shall be reported on DEP Form 62-610.300(4)(a)4, Pathogen Monitoring, which is attached to this permit. This form shall be submitted to the Department's Central District Office and to DEP's Reuse Coordinator in Tallahassee. *[62-610.300(4)(a)]*

   a. The sample collection, analytical test methods, and method detection limits (MDLs) applicable to this permit shall be conducted using a sufficiently sensitive method to ensure compliance with applicable water quality standards and effluent limitations and shall be in accordance with Rule 62-4.246, Chapters 62-160 and 62-600, F.A.C., and 40 CFR 136, as appropriate. The list of Department established analytical methods, and corresponding MDLs (method detection limits) and PQLs (practical quantitation limits), which is titled "FAC 62-4 MDL/PQL Table (May 31, 2019)" is available at https://floridadep.gov/dear/quality-assurance/content/quality-assurance-resources. The MDLs and PQLs as described in this list shall constitute the minimum acceptable MDL/PQL values and the Department shall not accept results for which the laboratory's MDLs or PQLs are greater than those described above unless alternate MDLs and/or PQLs have been specifically approved by the Department for this permit. Any method included in the list may be used for reporting as long as it meets the following requirements:

      (1) The laboratory's reported MDL and PQL values for the particular method must be equal or less than the corresponding method values specified in the Department's approved MDL and PQL list;

      (2) The laboratory reported MDL for the specific parameter is less than or equal to the permit limit or the applicable water quality criteria, if any, stated in Chapter 62-302, F.A.C. Parameters that are listed as "report only" in the permit shall use methods that provide an MDL, which is equal to or less than the applicable water quality criteria stated in 62-302, F.A.C.; and

      (3) If the MDLs for all methods available in the approved list are above the stated permit limit or applicable water quality criteria for that parameter, then the method with the lowest stated MDL shall be used.

   When the analytical results are below method detection or practical quantitation limits, the permittee shall report the actual laboratory MDL and/or PQL values for the analyses that were performed following the instructions on the applicable discharge monitoring report.

   Where necessary, the permittee may request approval of alternate methods or for alternative MDLs or PQLs for any approved analytical method. Approval of alternate laboratory MDLs or PQLs are not necessary if the laboratory reported MDLs and PQLs are less than or equal to the permit limit or the applicable water quality criteria, if any, stated in Chapter 62-302, F.A.C. Approval of an analytical method not included in the above-referenced list is not necessary if the analytical method is approved in accordance with 40 CFR 136 or deemed acceptable by the Department. *[62-4.246, 62-160]*

6. The permittee shall provide safe access points for obtaining representative samples which are required by this permit. *[62-600.650(2)]*

7. **Monitoring requirements under this permit are effective December 1, 2019**. Until such time, the permittee shall continue to monitor and report in accordance with previously effective permit requirements. During the period of operation authorized by this permit, the permittee shall complete and submit to the Department Discharge Monitoring Reports (DMRs) in accordance with the frequencies specified by the REPORT type (i.e. monthly, quarterly, semiannual, annual, etc.) indicated on the DMR forms attached to this permit. Unless specified otherwise in this permit, monitoring results for each monitoring period shall be submitted in

accordance with the associated DMR due dates below. DMRs shall be submitted for each required monitoring period including periods of no discharge.

REPORT Type on DMR	Monitoring Period	Submit by
Monthly	first day of month - last day of month	28th day of following month
Quarterly	January 1 - March 31 April 1 - June 30 July 1 - September 30 October 1 - December 31	April 28 July 28 October 28 January 28
Semiannual	January 1 - June 30 July 1 - December 31	July 28 January 28
Annual	January 1 - December 31	January 28

The permittee shall use the electronic DMR system approved by the Department (EzDMR) and shall electronically submit the completed DMR forms using the DEP Business Portal at http://www.fldepportal.com/go/, unless the permittee has a waiver from the Department in accordance with 40 CFR 127.15. Reports shall be submitted to the Department by the twenty-eighth (28th) of the month following the month of operation.

[62-620.610(18)][62-600.680(1)]

8. During the period of operation authorized by this permit, reclaimed water or effluent shall be monitored annually for the primary and secondary drinking water standards contained in Chapter 62-550, F.A.C., (except for asbestos, total coliform, color, odor, and residual disinfectants). These monitoring results shall be reported to the Department annually on the DMR. During years when a permit is not renewed, a certification stating that no new non-domestic wastewater dischargers have been added to the collection system since the last reclaimed water or effluent analysis was conducted may be submitted with the signed DMR in lieu of performing the analysis. When such a certification is submitted with the DMR, monitoring not required this period should be noted on the DMR. The annual reclaimed water or effluent analysis report, and certification if applicable, shall be completed and submitted in a timely manner so as to be received by the Department at the address identified on the DMR by January 28 of each year. Approved analytical methods identified in Rule 62-620.100(3)(j), F.A.C., shall be used for the analysis. If no method is included for a parameter, methods specified in Chapter 62-550, F.A.C., shall be used. *[62-600.660(2) and (3)(d)][62-600.680(2)][62-610.300(4)]*

9. The permittee shall submit an Annual Reuse Report using DEP Form 62-610.300(4)(a)2. on or before January 1 of each year. *[62-610.870(3)]*

10. Operating protocol(s) shall be reviewed and updated periodically to ensure continuous compliance with the minimum treatment and disinfection requirements. Updated operating protocols shall be submitted to the Department's Central District Office for review and approval upon revision of the operating protocol(s) and with each permit application. *[62-610.320(6)][62-610.463(2)]*

11. The permittee shall maintain an inventory of storage systems. The inventory shall be submitted to the Department's Central District Office at least 30 days before reclaimed water will be introduced into any new storage system. The inventory of storage systems shall be attached to the annual submittal of the Annual Reuse Report. *[62-610.464(5)]*

12. Unless specified otherwise in this permit, all reports and other information required by this permit, including 24-hour notifications, shall be submitted to or reported to, as appropriate, the Department's Central District Office at the address specified below:

    Electronic submittal is preferred, by sending to **DEP_CD@dep.state.fl.us**.

    Florida Department of Environmental Protection
    Central District
    3319 Maguire Blvd., Suite 232
    Orlando, Florida 32803-3767

    Phone Number - (407)897-4100

[62-620.305]

13. All reports and other information shall be signed in accordance with the requirements of Rule 62-620.305, F.A.C. *[62-620.305]*

II. BIOSOLIDS MANAGEMENT REQUIREMENTS

A. Basic Requirements

1. Biosolids generated by this facility may be transferred to BCUD/South Central WRF or disposed of in a Class I solid waste landfill. Transferring biosolids to an alternative biosolids treatment facility does not require a permit modification. However, use of an alternative biosolids treatment facility requires submittal of a copy of the agreement pursuant to Rule 62-640.880(1)(c), F.A.C., along with a written notification to the Department at least 30 days before transport of the biosolids. *[62-620.320(6), 62-640.880(1)]*

2. The permittee shall monitor and keep records of the quantities of biosolids generated, received from source facilities, treated, distributed and marketed, land applied, used as a biofuel or for bioenergy, transferred to another facility, or landfilled. These records shall be kept for a minimum of five years. *[62-640.650(4)(a)]*

3. Biosolids quantities shall be monitored by the permittee as specified below. Results shall be reported on the permittee's Discharge Monitoring Report for Monitoring Group RMP-Q in accordance with Condition I.C.8.

			Biosolids Limitations		Monitoring Requirements		
Parameter	Units	Max/ Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number
Biosolids Quantity (Transferred)	dry tons	Max	Report	Monthly Total	Monthly	Calculated	RMP-1
Biosolids Quantity (Landfilled)	dry tons	Max	Report	Monthly Total	Monthly	Calculated	RMP-1

[62-640.650(5)(a)1]

4. Biosolids quantities shall be calculated as listed in Permit Condition II.3 and as described below:

Monitoring Site Number	Description of Monitoring Site Calculations
RMP-1	Biosolids leaving the facility

5. The treatment, management, transportation, use, land application, or disposal of biosolids shall not cause a violation of the odor prohibition in subsection 62-296.320(2), F.A.C. *[62-640.400(6)]*

6. Storage of biosolids or other solids at this facility shall be in accordance with the Facility Biosolids Storage Plan. *[62-640.300(4)]*

7. Biosolids shall not be spilled from or tracked off the treatment facility site by the hauling vehicle. *[62-640.400(9)]*

B. Disposal

8. Disposal of biosolids, septage, and "other solids" in a solid waste disposal facility, or disposal by placement on land for purposes other than soil conditioning or fertilization, such as at a monofill, surface impoundment, waste pile, or dedicated site, shall be in accordance with Chapter 62-701, F.A.C. *[62-640.100(6)(b) & (c)]*

C. Transfer

9. The permittee shall not be held responsible for treatment and management violations that occur after its biosolids have been accepted by a permitted biosolids treatment facility with which the source facility has an agreement in accordance with subsection 62-640.880(1)(c), F.A.C., for further treatment, management, or disposal. *[62-640.880(1)(b)]*

10. The permittee shall keep hauling records to track the transport of biosolids between the facilities. The hauling records shall contain the following information:

Source Facility	Biosolids Treatment Facility or Treatment Facility
1. Date and time shipped	1. Date and time received
2. Amount of biosolids shipped	2. Amount of biosolids received
3. Degree of treatment (if applicable)	3. Name and ID number of source facility
4. Name and ID Number of treatment facility	4. Signature of hauler
5. Signature of responsible party at source facility	5. Signature of responsible party at treatment facility
6. Signature of hauler and name of hauling firm	

A copy of the source facility hauling records for each shipment shall be provided upon delivery of the biosolids to the biosolids treatment facility or treatment facility. The treatment facility permittee shall report to the Department within 24 hours of discovery any discrepancy in the quantity of biosolids leaving the source facility and arriving at the biosolids treatment facility or treatment facility.

[62-640.880(4)]

D. Receipt

11. If the permittee intends to accept biosolids from other facilities, a permit revision is required pursuant to paragraph 62-640.880(2)(d), F.A.C. *[62-640.880(2)(d)]*

III. GROUND WATER REQUIREMENTS

1. The permittee shall give at least a 72-hour notice to the Department's Central District Office, prior to the installation of any monitoring wells. *[62-520.600(6)(h)]*

2. Before construction of new ground water monitoring wells, a soil boring shall be made at each new monitoring well location to properly determine monitoring well specifications such as well depth, screen interval, screen slot, and filter pack. *[62-520.600(6)(g)]*

3. Within 30 days after installation of a monitoring well, the permittee shall submit to the Department's Central District Office well completion reports and soil boring/lithologic logs on the attached DEP Form(s) 62-520.900(3), Monitoring Well Completion Report. *[62-520.600(6)(j) and .900(3)]*

4. All piezometers and monitoring wells not part of the approved ground water monitoring plan shall be plugged and abandoned in accordance with Rule 62-532.500(5), F.A.C., unless future use is intended. *[62-532.500(5)]*

5. For the Part III Public Access system, all ground water quality criteria specified in Chapter 62-520, F.A.C., shall be met at the edge of the zone of discharge. The zone of discharge shall extend horizontally 100 feet from the application site(s) or to the property boundaries, whichever is less, and vertically to the base of the surficial aquifer. *[62-520.200(27)] [62-520.465]*

6. The ground water minimum criteria specified in Rule 62-520.400 F.A.C., shall be met within the zone of discharge. *[62-520.400 and 62-520.420(4)]*

7. If the concentration for any constituent listed in Permit Condition III.10. in the natural background quality of the ground water is greater than the stated maximum, or in the case of pH is also less than the minimum, the representative background quality shall be the prevailing standard. *[62-520.420(2)]*

8. During the period of operation authorized by this permit, the permittee shall continue to sample ground water at the monitoring wells identified in Permit Condition III.9., below in accordance with this permit and the approved ground water monitoring plan prepared in accordance with Rule 62-520.600, F.A.C. *[62-520.600] [62-610.463]*

9. The following monitoring wells shall be sampled for Reuse System R-001.

Monitoring Well ID	Alternate Well Name and/or Description of Monitoring Location	Latitude	Longitude	Depth (Feet)	Aquifer Monitored	Well Type	New or Existing
MWB-3	MW-3 BACKGROUND, 2767 and 3005A13766	27°32' 28"	80°32' 8"	24	Surficial	Background	Existing
MWC-2	MW-2 DEEP COMPLIANCE, 2765 and 3005A13768	27°32' 24"	80°32' 10"	30	Surficial	Compliance	Existing
MWC-4	Compliance well at Infiltration Impoundment	27°33' 28"	80°33' 29"	25	Surficial	Compliance	Existing
MWC-5	Compliance Well at Infiltration Impoundment	27°33' 19"	80°33' 3"	25	Surficial	Compliance	Existing
MWC-6	Compliance Well at Infiltration Impoundment	27°32' 41"	80°32' 30"	25	Surficial	Compliance	Existing
MWI-1	MW-1 INTERMEDIATE, 2766 and 3005A13767	27°32' 26"	80°32' 10"	24	Surficial	Intermediate	Existing

[62-520.600] [62-610.463]

10. The following parameters shall be analyzed for each monitoring well identified in Permit Condition III.9.:

Parameter	Compliance Well Limit	Units	Sample Type	Monitoring Frequency
Water Level Relative to NGVD	Report	ft	In Situ	Quarterly
Nitrogen, Nitrate, Total (as N)	10	mg/L	Grab	Quarterly
Solids, Total Dissolved (TDS)	500	mg/L	Grab	Quarterly
Coliform, Fecal	4	#/100mL	Grab	Quarterly
pH	6.5 - 8.5	s.u.	Grab	Quarterly

[62-520.600(11)(b)] [62-600.670] [62-600.650(3)] [62-520.310(5)]

11. Water levels shall be recorded before evacuating each well for sample collection. Elevation references shall include the top of the well casing and land surface at each well site (NAVD allowable) at a precision of plus or minus 0.01 foot. *[62-520.600(11)(c)] [62-610.463(3)(a)]*

12. Ground water monitoring wells shall be purged prior to sampling to obtain representative samples. *[62-160.210] [62-600.670(3)]*

13. Analyses shall be conducted on unfiltered samples, unless filtered samples have been approved by the Department's Central District Office as being more representative of ground water conditions. *[62-520.310(5)]*

14. Ground water monitoring test results shall be submitted on Part D of Form 62-620.910(10) in accordance with Permit Condition I.C.8. *[62-520.600(11)(b)] [62-600.670] [62-600.680(1)] [62-620.610(18)]*

15. If any monitoring well becomes inoperable or damaged to the extent that sampling or well integrity may be affected, the permittee shall notify the Department's Central District Office within two business days from discovery, and a detailed written report shall follow within ten days after notification to the Department. The written report shall detail what problem has occurred and remedial measures that have been taken to prevent recurrence or request approval for replacement of the monitoring well. All monitoring well design and replacement shall be approved by the Department's Central District Office before installation. *[62-520.600(6)(l)]*

16. The permittee shall sample the following monitoring well(s): MWC-4 for the primary and secondary drinking water parameters included in Rules 62-550.310 and 62-550.320, F.A.C., (except for asbestos and all parameters in Table 5 of Chapter 62-550, F.A.C., other than Di(2-ethylhexyl) adipate and Di(2-ethylhexyl) phthalate). Results of this sampling shall be submitted to the Department's Central District Office with the application for permit renewal. Sampling shall occur no sooner than 180 days before submittal of the renewal application. *[62-520.600(5)(b)]*

IV. ADDITIONAL REUSE AND LAND APPLICATION REQUIREMENTS

A. Part III Public Access System(s)

1. This reuse system includes the following major user(s) of reclaimed water (i.e., using 0.1 MGD or more):

Site Number	User Name	User Type	Capacity(MGD)	Acreage
PAA-001A	Barefoot Bay Golf Course	Other Landscape Irrigation	0.124	50
PAA-001B	40 Acre Sprayfield	Other Landscape Irrigation	0.13	40
PAA-001C	320 Acre Infiltration Impoundment	Other Landscape Irrigation	0.787	320
		Total	1.041	410

[62-610.800(5)][62-620.630(10)(b)]

2. Cross-connections to the potable water system are prohibited. *[62-610.469(7)]*
3. A cross-connection control program shall be implemented and/or remain in effect within the areas where reclaimed water will be provided for use and shall be in compliance with the Rule 62-555.360, F.A.C. *[62-610.469(7)]*
4. The permittee shall conduct inspections within the reclaimed water service area to verify proper connections, to minimize illegal cross-connections, and to verify both the proper use of reclaimed water and that the proper backflow prevention assemblies or devices have been installed and tested. Inspections are required when a customer first connects to the reuse distribution system. Subsequent inspections are required as specified in the cross-connection control and inspection program. *[62-610.469(7)(h)]*
5. If an actual or potential (e.g. no dual check device on residential connections served by a reuse system) cross-connection between the potable and reclaimed water systems is discovered, the permittee shall:

   a. Immediately discontinue potable water and/or reclaimed water service to the affected area if an actual cross-connection is discovered.

   b. If the potable water system is contaminated, clear the potable water lines.

   c. Eliminate the cross-connection and install a backflow prevention device as required by the Rule 62-555.360.F.A.C.

   d. Test the affected area for other possible cross-connections.

   e. Within 24 hours, notify the Department's Central District Office's domestic wastewater and drinking water programs.

   f. Within 5 days of discovery of an actual or potential cross-connection, submit a written report to the Department's Central District Office detailing: a description of the cross-connection, how the cross-connection was discovered, the exact date and time of discovery, approximate time that the cross-connection existed, the location, the cause, steps taken to eliminate the cross-connection, whether reclaimed water was consumed, and reports of possible illness, whether the drinking water system was contaminated and the steps taken to clear the drinking water system, when the cross-connection was eliminated, plan of action for testing for other possible cross-connections in the area, and an evaluation of the cross-connection control and inspection program to ensure that future cross-connections do not occur.

   [62-555.350(3) and 62-555.360][62-620.610(20)]

6. Maximum obtainable separation of reclaimed water lines and potable water lines shall be provided and the minimum separation distances specified in Rule 62-610.469(7), F.A.C., shall be provided. Reuse facilities shall be color coded or marked. Underground piping which is not manufactured of metal or concrete shall be color coded using Pantone Purple 522C using light stable colorants. Underground metal and concrete pipe shall be color coded or marked using purple as the predominant color. *[62-610.469(7)]*

7. In constructing reclaimed water distribution piping, the permittee shall maintain a 75-foot setback distance from a reclaimed water transmission facility to public water supply wells. No setback distances are required to other potable water supply wells or to any nonpotable water supply wells. *[62-610.471(3)]*

8. A setback distance of 75 feet shall be maintained between the edge of the wetted area and potable water supply wells, unless the utility adopts and enforces an ordinance prohibiting potable water supply wells within the reuse service area. No setback distances are required to any nonpotable water supply well, to any surface water, to any developed areas, or to any private swimming pools, hot tubs, spas, saunas, picnic tables, barbecue pits, or barbecue grills. *[62-610.471(1), (2), (5), and (7)]*

9. Reclaimed water shall not be used to fill swimming pools, hot tubs, or wading pools. *[62-610.469(4)]*

10. Low trajectory nozzles, or other means to minimize aerosol formation shall be used within 100 feet from outdoor public eating, drinking, or bathing facilities. *[62-610.471(6)]*

11. A setback distance of 100 feet shall be maintained from indoor aesthetic features using reclaimed water to adjacent indoor public eating and drinking facilities. *[62-610.471(8)]*

12. The public shall be notified of the use of reclaimed water. This shall be accomplished by posting of advisory signs in areas where reuse is practiced, notes on scorecards, or other methods. *[62-610.468(2)]*

13. All new advisory signs and labels on vaults, service boxes, or compartments that house hose bibbs along with all labels on hose bibbs, valves, and outlets shall bear the words "do not drink" and "no beber" along with the equivalent standard international symbol. In addition to the words "do not drink" and "no beber," advisory signs posted at storage ponds and decorative water features shall also bear the words "do not swim" and "no nadar" along with the equivalent standard international symbols. Existing advisory signs and labels shall be retrofitted, modified, or replaced in order to comply with the revised wording requirements. For existing advisory signs and labels this retrofit, modification, or replacement shall occur within 365 days after the date of this permit. For labels on existing vaults, service boxes, or compartments housing hose bibbs this retrofit, modification, or replacement shall occur within 730 days after the date of this permit. *[62-610.468, 62-610.469]*

14. The permittee shall ensure that users of reclaimed water are informed about the origin, nature, and characteristics of reclaimed water; the manner in which reclaimed water can be safely used; and limitations on the use of reclaimed water. Notification is required at the time of initial connection to the reclaimed water distribution system and annually after the reuse system is placed into operation. A description of on-going public notification activities shall be included in the Annual Reuse Report. *[62-610.468(6)]*

15. Routine aquatic weed control and regular maintenance of storage pond embankments and access areas are required. *[62-610.414(8)]*

16. Overflows from emergency discharge facilities on storage ponds shall be reported as abnormal events in accordance with Permit Condition IX.20. *[62-610.800(9)]*

V. OPERATION AND MAINTENANCE REQUIREMENTS

A. Staffing Requirements

1. During the period of operation authorized by this permit, the wastewater facilities shall be operated under the supervision of one or more operators certified in accordance with Chapter 62-602, F.A.C. In accordance with Chapter 62-699, F.A.C., this facility is a Category I, Class B facility and, at a minimum, operators with appropriate certification must be on the site as follows:

   A Class C or higher operator 8 hours/day for 7 days/week. The lead/chief operator must be a Class B operator, or higher.

   [62-620.630(3)][62-699.310] [62-610.462]

2. The lead/chief operator shall be employed at the plant full time. "Full time" shall mean at least 4 days per week, working a minimum of 35 hours per week, including leave time. A licensed operator shall be on-site and in charge of each required shift for periods of required staffing time when the lead/chief operator is not on-site. An operator meeting the lead/chief operator class for the treatment plant shall be available during all periods of plant operation. "Available" means able to be contacted as needed to initiate the appropriate action in a timely manner. *[62-699.311(10), (6) and (1)]*

3. An operator meeting the lead/chief operator class for the plant shall be available during all periods of plant operation. "Available" means able to be contacted as needed to initiate the appropriate action in a timely manner. *[62-699.311(1)]*

B. Capacity Analysis Report and Operation and Maintenance Performance Report Requirements

1. The application to renew this permit shall include an updated capacity analysis report prepared in accordance with Rule 62-600.405, F.A.C. *[62-600.405(5)]*

2. The application to renew this permit shall include a detailed operation and maintenance performance report prepared in accordance with Rule 62-600.735, F.A.C. *[62-600.735(1)]*

C. Recordkeeping Requirements

1. The permittee shall maintain the following records and make them available for inspection on the site of the permitted facility.

   a. Records of all compliance monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, including, if applicable, a copy of the laboratory certification showing the certification number of the laboratory, for at least three years from the date the sample or measurement was taken;

   b. Copies of all reports required by the permit for at least three years from the date the report was prepared;

   c. Records of all data, including reports and documents, used to complete the application for the permit for at least three years from the date the application was filed;

   d. Monitoring information, including a copy of the laboratory certification showing the laboratory certification number, related to the biosolids use and disposal activities for the time period set forth in Chapter 62-640, F.A.C., for at least three years from the date of sampling or measurement;

   e. A copy of the current permit;

   f. A copy of the current operation and maintenance manual as required by Chapter 62-600, F.A.C.;

   g. A copy of any required record drawings;

   h. Copies of the licenses of the current certified operators;

   i. Copies of the logs and schedules showing plant operations and equipment maintenance for three years from the date of the logs or schedules. The logs shall, at a minimum, include identification of the plant; the signature and license number of the operator(s) and the signature of the person(s) making any entries; date and time in and out; specific operation and maintenance activities, including any preventive maintenance or repairs made or requested; results of tests performed and samples taken, unless documented on a laboratory sheet; and notation of any notification or reporting completed in accordance with Rule 62-602.650(3), F.A.C. The logs shall be maintained on-site in a location accessible to 24-hour inspection, protected from weather damage, and current to the last operation and maintenance performed; and

   j. Records of biosolids quantities, treatment, monitoring, and hauling for at least five years.
   [62-620.350, 62-602.650, 62-640.650(4)]

VI. SCHEDULES

1. The following improvement actions shall be completed according to the following schedule:

Improvement Action	Completion Date
1. Submit reports to the Department detailing the Inflow and Infiltration program efforts.	Every two years from the effective date of this permit.

[62-620.320(6)]

2. The permittee is not authorized to discharge to waters of the state after the expiration date of this permit, unless:

   a. The permittee has applied for renewal of this permit at least 180 days before the expiration date of this permit using the appropriate forms listed in Rule 62-620.910, F.A.C., and in the manner established in the Department of Environmental Protection Guide to Permitting Wastewater Facilities or Activities Under Chapter 62-620, F.A.C., including submittal of the appropriate processing fee set forth in Rule 62-4.050, F.A.C.; or

   b. The permittee has made complete the application for renewal of this permit before the permit expiration date.

      Please note, effluent testing shall be conducted for each outfall in accordance with the instructions provided in Sections 3.A.12., 13., and 14. of the application form. A minimum of three samples shall be taken within four and one-half years prior to the date of the permit application and must be representative of the seasonal variation in the discharge from each outfall. *[62-620.335(1) - (4)]*

VII. INDUSTRIAL PRETREATMENT PROGRAM REQUIREMENTS

1. This facility is not required to have a pretreatment program at this time. *[62-625.500]*

VIII. OTHER SPECIFIC CONDITIONS

1. The permittee shall comply with all conditions and requirements for reuse contained in their consumptive use permit issued by the Water Management District, if such requirements are consistent with Department rules. *[62-610.800(10)]*
2. In the event that the treatment facilities or equipment no longer function as intended, are no longer safe in terms of public health and safety, or odor, noise, aerosol drift, or lighting adversely affects neighboring developed areas at the levels prohibited by Rule 62-600.400(2)(a), F.A.C., corrective action (which may include additional maintenance or modifications of the permitted facilities) shall be taken by the permittee. Other corrective action may be required to ensure compliance with rules of the Department. Additionally, the treatment, management, use or land application of biosolids shall not cause a violation of the odor prohibition in Rule 62-296.320(2), F.A.C. *[62-600.410(5) and 62-640.400(6)]*
3. The deliberate introduction of stormwater in any amount into collection/transmission systems designed solely for the introduction (and conveyance) of domestic/industrial wastewater; or the deliberate introduction of stormwater into collection/transmission systems designed for the introduction or conveyance of combinations of storm and domestic/industrial wastewater in amounts which may reduce the efficiency of pollutant removal by the treatment plant is prohibited, except as provided by Rule 62-610.472, F.A.C. *[62-604.130(3)]*
4. Collection/transmission system overflows shall be reported to the Department in accordance with Permit Condition IX. 20. *[62-604.550] [62-620.610(20)]*
5. The operating authority of a collection/transmission system and the permittee of a treatment plant are prohibited from accepting connections of wastewater discharges which have not received necessary pretreatment or which contain materials or pollutants (other than normal domestic wastewater constituents):

   a. Which may cause fire or explosion hazards; or

   b. Which may cause excessive corrosion or other deterioration of wastewater facilities due to chemical action or pH levels; or

   c. Which are solid or viscous and obstruct flow or otherwise interfere with wastewater facility operations or treatment; or

   d. Which result in the wastewater temperature at the introduction of the treatment plant exceeding 40^{o}C or otherwise inhibiting treatment; or

   e. Which result in the presence of toxic gases, vapors, or fumes that may cause worker health and safety problems.

   [62-604.130(5)]

6. The treatment facility, storage ponds for Part II systems, rapid infiltration basins, and/or infiltration trenches shall be enclosed with a fence or otherwise provided with features to discourage the entry of animals and unauthorized persons. *[62-600.400(2)(b)]*

7. Screenings and grit removed from the wastewater facilities shall be collected in suitable containers and hauled to a Department approved Class I landfill or to a landfill approved by the Department for receipt/disposal of screenings and grit. *[62-701.300(1)(a)]*

8. Where required by Chapter 471 or Chapter 492, F.S., applicable portions of reports that must be submitted under this permit shall be signed and sealed by a professional engineer or a professional geologist, as appropriate. *[62-620.310(4)]*

9. The permittee shall provide verbal notice to the Department's Central District Office as soon as practical after discovery of a sinkhole or other karst feature within an area for the management or application of wastewater, wastewater Biosolids (sludges), or reclaimed water. The permittee shall immediately implement measures appropriate to control the entry of contaminants, and shall detail these measures to the Department's Central District Office in a written report within 7 days of the sinkhole discovery. *[62-620.320(6)]*

10. The permittee shall provide notice to the Department of the following:

    a. Any new introduction of pollutants into the facility from an industrial discharger which would be subject to Chapter 403, F.S., and the requirements of Chapter 62-620, F.A.C., if it were directly discharging those pollutants; and

    b. Any substantial change in the volume or character of pollutants being introduced into that facility by a source which was identified in the permit application and known to be discharging at the time the permit was issued.

    Notice shall include information on the quality and quantity of effluent introduced into the facility and any anticipated impact of the change on the quantity or quality of effluent or reclaimed water to be discharged from the facility.

    [62-620.625(2)]

IX. GENERAL CONDITIONS

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are binding and enforceable pursuant to Chapter 403, Florida Statutes. Any permit noncompliance constitutes a violation of Chapter 403, Florida Statutes, and is grounds for enforcement action, permit termination, permit revocation and reissuance, or permit revision. *[62-620.610(1)]*

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviations from the approved drawings, exhibits, specifications, or conditions of this permit constitutes grounds for revocation and enforcement action by the Department. *[62-620.610(2)]*

3. As provided in subsection 403.087(7), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor authorize any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit or authorization that may be required for other aspects of the total project which are not addressed in this permit. *[62-620.610(3)]*

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title. *[62-620.610(4)]*

5. This permit does not relieve the permittee from liability and penalties for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted source; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department. The permittee shall take all reasonable steps to minimize or prevent any discharge, reuse of reclaimed water, or biosolids use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. *[62-620.610(5)]*

6. If the permittee wishes to continue an activity regulated by this permit after its expiration date, the permittee shall apply for and obtain a new permit. *[62-620.610(6)]*

7. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control, and related appurtenances, that are installed and used by the permittee to achieve compliance with the conditions of this permit. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to maintain or achieve compliance with the conditions of the permit. *[62-620.610(7)]*

8. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit revision, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. *[62-620.610(8)]*

9. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, including an authorized representative of the Department and authorized EPA personnel, when applicable, upon presentation of credentials or other documents as may be required by law, and at reasonable times, depending upon the nature of the concern being investigated, to:

    a. Enter upon the permittee's premises where a regulated facility, system, or activity is located or conducted, or where records shall be kept under the conditions of this permit;

    b. Have access to and copy any records that shall be kept under the conditions of this permit;

    c. Inspect the facilities, equipment, practices, or operations regulated or required under this permit; and

    d. Sample or monitor any substances or parameters at any location necessary to assure compliance with this permit or Department rules.

    [62-620.610(9)]

10. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data, and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except as such use is proscribed by Section 403.111, F.S., or Rule 62-620.302, F.A.C. Such evidence shall only be used to the extent that it is consistent with the Florida Rules of Civil Procedure and applicable evidentiary rules. *[62-620.610(10)]*

11. When requested by the Department, the permittee shall within a reasonable time provide any information required by law which is needed to determine whether there is cause for revising, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. The permittee shall also provide to the Department upon request copies of records required by this permit to be kept. If the permittee becomes aware of relevant facts that were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be promptly submitted or corrections promptly reported to the Department. *[62-620.610(11)]*

12. Unless specifically stated otherwise in Department rules, the permittee, in accepting this permit, agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, F.A.C., shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard. *[62-620.610(12)]*

13. The permittee, in accepting this permit, agrees to pay the applicable regulatory program and surveillance fee in accordance with Rule 62-4.052, F.A.C. *[62-620.610(13)]*

14. This permit is transferable only upon Department approval in accordance with Rule 62-620.340, F.A.C. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department. *[62-620.610(14)]*

15. The permittee shall give the Department written notice at least 60 days before inactivation or abandonment of a wastewater facility or activity and shall specify what steps will be taken to safeguard public health and safety during and following inactivation or abandonment. *[62-620.610(15)]*

16. The permittee shall apply for a revision to the Department permit in accordance with Rules 62-620.300, F.A.C., and the Department of Environmental Protection Guide to Permitting Wastewater Facilities or Activities Under Chapter 62-620, F.A.C., at least 90 days before construction of any planned substantial modifications to the permitted facility is to commence or with Rule 62-620.325(2), F.A.C., for minor modifications to the permitted facility. A revised permit shall be obtained before construction begins except as provided in Rule 62-620.300, F.A.C. *[62-620.610(16)]*

17. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.The permittee shall be responsible for any and all damages which may result from the changes and may be subject to enforcement action by the Department for penalties or revocation of this permit. The notice shall include the following information:

    a. A description of the anticipated noncompliance;

    b. The period of the anticipated noncompliance, including dates and times; and

    c. Steps being taken to prevent future occurrence of the noncompliance.

    [62-620.610(17)]

18. Sampling and monitoring data shall be collected and analyzed in accordance with Rule 62-4.246 and Chapters 62-160, 62-600, and 62-610, F.A.C., and 40 CFR 136, as appropriate.

    a. Monitoring results shall be reported at the intervals specified elsewhere in this permit and shall be reported on a Discharge Monitoring Report (DMR), DEP Form 62-620.910(10), or as specified elsewhere in the permit.

    b. If the permittee monitors any contaminant more frequently than required by the permit, using Department approved test procedures, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

    c. Calculations for all limitations which require averaging of measurements shall use an arithmetic mean unless otherwise specified in this permit.

    d. Except as specifically provided in Rule 62-160.300, F.A.C., any laboratory test required by this permit shall be performed by a laboratory that has been certified by the Department of Health Environmental Laboratory Certification Program (DOH ELCP). Such certification shall be for the matrix, test method and analyte(s) being measured to comply with this permit. For domestic wastewater facilities, testing for parameters listed in Rule 62-160.300(4), F.A.C., shall be conducted under the direction of a certified operator.

    e. Field activities including on-site tests and sample collection shall follow the applicable standard operating procedures described in DEP-SOP-001/01 adopted by reference in Chapter 62-160, F.A.C.

    f. Alternate field procedures and laboratory methods may be used where they have been approved in accordance with Rules 62-160.220, and 62-160.330, F.A.C.

    [62-620.610(18)]

19. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule detailed elsewhere in this permit shall be submitted no later than 14 days following each schedule date. *[62-620.610(19)]*

20. The permittee shall report to the Department any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and time, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. For noncompliance events related to sanitary sewer overflows or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (sanitary sewer overflows or bypass events), type of sewer overflow (e.g., manhole), discharge volumes by the treatment works treating domestic sewage, types of human health and environmental impacts of the sewer overflow event, and whether the noncompliance was related to wet weather. The written submission may be provided electronically using the Department's Business Portal at http://www.fldepportal.com/go/ (via "Submit" followed by "Report" or "Registration/Notification"). Notice required under paragraph (d) may be provided together with the written submission using the Business Portal. All noncompliance events related to sanitary sewer overflows or bypass events submitted after December 21, 2020 shall be submitted electronically.

    a. The following shall be included as information which must be reported within 24 hours under this condition:
        1. Any unanticipated bypass which causes any reclaimed water or the effluent to exceed any permit limitation or results in an unpermitted discharge,
        2. Any upset which causes any reclaimed water or the effluent to exceed any limitation in the permit,
        3. Violation of a maximum daily discharge limitation for any of the pollutants specifically listed in the permit for such notice, and
        4. Any unauthorized discharge to surface or ground waters.

    b. Oral reports as required by this subsection shall be provided as follows:
        1. For unauthorized releases or spills of treated or untreated wastewater reported pursuant to subparagraph (a)4. that are in excess of 1,000 gallons per incident, or where information indicates that public health or the environment will be endangered, oral reports shall be provided to the Department by calling the STATE WATCH OFFICE TOLL FREE NUMBER (800) 320-0519, as soon as practical, but no later than 24 hours from the time the permittee becomes aware of the discharge. The permittee, to the extent known, shall provide the following information to the State Watch Office~~:~~
            a. Name, address, and telephone number of person reporting;
            b. Name, address, and telephone number of permittee or responsible person for the discharge;
            c. Date and time of the discharge and status of discharge (ongoing or ceased);
            d. Characteristics of the wastewater spilled or released (untreated or treated, industrial or domestic wastewater);
            e. Estimated amount of the discharge;
            f. Location or address of the discharge;
            g. Source and cause of the discharge;
            h. Whether the discharge was contained on-site, and cleanup actions taken to date;
            i. Description of area affected by the discharge, including name of water body affected, if any; and
            j. Other persons or agencies contacted.
        2. Oral reports, not otherwise required to be provided pursuant to subparagraph (b)1. above, shall be provided to the Department within 24 hours from the time the permittee becomes aware of the circumstances.

    c. If the oral report has been received within 24 hours, the noncompliance has been corrected, and the

noncompliance did not endanger health or the environment, the Department shall waive the written report.

d. In accordance with Section 403.077, F.S., unauthorized releases or spills reportable to the StateWatch Office pursuant to subparagraph (b)1. above shall also be reported to the Department within 24 hours from the time the permittee becomes aware of the discharge. The permittee shall provide to the Department information reported to the State Watch Office. Notice of unauthorized releases or spills may be provided to the Department through the Department's Public Notice of Pollution web page at https://floridadep.gov/pollutionnotice.

1. If, after providing notice pursuant to paragraph (d) above, the permittee determines that a reportable unauthorized release or spill did not occur or that an amendment to the notice is warranted, the permittee may submit additional notice to the Department documenting such determination.
2. If, after providing notice pursuant to paragraph (d) above, the permittee discovers that a reportable unauthorized release or spill has migrated outside the property boundaries of the installation, the permittee must provide an additional notice to the Department that the release has migrated outside the property boundaries within 24 hours after its discovery of the migration outside of the property boundaries.

[62-620.610(20)] [62-620.100(3)] [403.077, F.S.]

21. The permittee shall report all instances of noncompliance not reported under Permit Conditions IX.17., IX.18., or IX.19. of this permit at the time monitoring reports are submitted. This report shall contain the same information required by Permit Condition IX.20. of this permit. *[62-620.610(21)]*

22. Bypass Provisions.

a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment works.

b. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless the permittee affirmatively demonstrates that:
(1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and
(2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
(3) The permittee submitted notices as required under Permit Condition IX.22.c. of this permit.

c. If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Department, if possible at least 10 days before the date of the bypass. The permittee shall submit notice of an unanticipated bypass within 24 hours of learning about the bypass as required in Permit Condition IX.20. of this permit. A notice shall include a description of the bypass and its cause; the period of the bypass, including exact dates and times; if the bypass has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent recurrence of the bypass.

d. The Department shall approve an anticipated bypass, after considering its adverse effect, if the permittee demonstrates that it will meet the three conditions listed in Permit Condition IX.22.b.(1) through (3) of this permit.

e. A permittee may allow any bypass to occur which does not cause reclaimed water or effluent limitations to be exceeded if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Permit Condition IX.22.b. through d. of this permit.

[62-620.610(22)]

23. Upset Provisions.

a. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee.
   (1) An upset does not include noncompliance caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, careless or improper operation.
   (2) An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of upset provisions of Rule 62-620.610, F.A.C., are met.

b. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed contemporaneous operating logs, or other relevant evidence that:
   (1) An upset occurred and that the permittee can identify the cause(s) of the upset;
   (2) The permitted facility was at the time being properly operated;
   (3) The permittee submitted notice of the upset as required in Permit Condition IX.20. of this permit; and
   (4) The permittee complied with any remedial measures required under Permit Condition IX.5. of this permit.

c. In any enforcement proceeding, the burden of proof for establishing the occurrence of an upset rests with the permittee.

d. Before an enforcement proceeding is instituted, no representation made during the Department review of a claim that noncompliance was caused by an upset is final agency action subject to judicial review.

[62-620.610(23)]

Executed in Orlando, Florida.

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

Nathan Hess
Program Administrator
Permitting and Waste Cleanup Program

PERMIT ISSUANCE DATE:
October 16, 2019

Attachment(s): DRAFT
Discharge Monitoring Report
"Pathogen Monitoring" Form
Maps of Reuse Service Area and Discharge Location

DEPARTMENT OF ENVIRONMENTAL PROTECTION DRAFT DISCHARGE MONITORING REPORT - PART A

When Completed submit this report to: http://www.fldepportal.com/go/

PERMITTEE NAME:	Brevard County Utilities Services Department	PERMIT NUMBER:	FL0042293-011-DW1P	**DMR Effective Date:**	**December 1, 2019**
MAILING ADDRESS:	2725 Judge Fran Jamieson Way				
	BLDG. A-213	LIMIT:	Final	REPORT FREQUENCY:	Monthly
	Melbourne, Florida 32940-6605	CLASS SIZE:	MI	PROGRAM:	Domestic
FACILITY:	Barefoot Bay Advanced WWTF	MONITORING GROUP NUMBER:	D-001		
LOCATION:	7773 Dottie Drive	MONITORING GROUP DESCRIPTION:	Discharge to Surface Water		
	Barefoot Bay, FL 32976-7003	RE-SUBMITTED DMR: ☐			
		NO DISCHARGE FROM SITE: ☐			
COUNTY:	Brevard	MONITORING PERIOD From:	_____ To: _____		
OFFICE:	Central District				

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Flow (To outfall)	Sample Measurement										
PARM Code 50050 Y Mon. Site No. FLW-1	Permit Requirement		0.188 (An. Avg.)	MGD						Continuous	Flow Totalizer
Flow (To outfall)	Sample Measurement										
PARM Code 50050 1 Mon. Site No. FLW-1	Permit Requirement		Report (Mo. Avg.)	MGD						Continuous	Flow Totalizer
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 1 Mon. Site No. EFD-1	Permit Requirement				10.0 (Max.)	7.5 (Max.Wk.Avg.)	6.25 (Mo. Avg.)	mg/L		Weekly	16-hr FPC
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 1 Mon. Site No. EFD-1	Permit Requirement				10.0 (Max.)	7.5 (Max.Wk.Avg.)	6.25 (Mo. Avg.)	mg/L		Weekly	16-hr FPC
Coliform, Fecal	Sample Measurement										
PARM Code 74055 Y Mon. Site No. EFA-2	Permit Requirement					14 (An. Avg.)		#/100mL		Weekly	Grab
Coliform, Fecal	Sample Measurement										
PARM Code 74055 A Mon. Site No. EFA-2	Permit Requirement					14 (Mo. Med.)	86 (Max.)	#/100mL		Weekly	Grab

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Barefoot Bay Advanced WWTF MONITORING GROUP NUMBER: D-001 PERMIT NUMBER: FL0042293-011-DW1P
MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
pH	Sample Measurement										
PARM Code 00400 1 Mon. Site No. EFD-2	Permit Requirement				6.0 (Min.)		8.5 (Max.)	s.u.		5 Days/Week	Grab
Chlorine, Total Residual (For Disinfection)	Sample Measurement										
PARM Code 50060 A Mon. Site No. EFA-2	Permit Requirement				1.0 (Min.)			mg/L		5 Days/Week	Grab
Chlorine, Total Residual (For Dechlorination)	Sample Measurement										
PARM Code 50060 1 Mon. Site No. EFD-2	Permit Requirement						0.01 (Max.)	mg/L		Weekly	Grab
Nitrogen, Total	Sample Measurement										
PARM Code 00600 1 Mon. Site No. EFD-1	Permit Requirement				6.0 (Max.)	4.5 (Max.Wk.Avg.)	3.75 (Mo. Avg.)	mg/L		Weekly	16-hr FPC
Nitrogen, Total	Sample Measurement										
PARM Code 00600 P Mon. Site No. EFD-1	Permit Requirement	Report (Mo. Total)	476.0 (An. Total)	lb/yr						Monthly	16-hr FPC
Phosphorus, Total (as P)	Sample Measurement										
PARM Code 00665 1 Mon. Site No. EFD-1	Permit Requirement				2.0 (Max.)	1.5 (Max.Wk.Avg.)	1.25 (Mo. Avg.)	mg/L		Weekly	16-hr FPC
Phosphorus, Total (as P)	Sample Measurement										
PARM Code 00665 P Mon. Site No. EFD-1	Permit Requirement	Report (Mo. Total)	78.0 (An. Total)	lb/yr						Monthly	16-hr FPC
Oxygen, Dissolved (DO)	Sample Measurement										
PARM Code 00300 1 Mon. Site No. EFD-2	Permit Requirement				5.0 (Min.)			mg/L		5 Days/Week	Grab
Coliform, Fecal	Sample Measurement										
PARM Code 74055 1 Mon. Site No. EFD-2	Permit Requirement					14 (An. Avg.)		#/100mL		Monthly	Grab
Coliform, Fecal	Sample Measurement										
PARM Code 74055 P Mon. Site No. EFD-2	Permit Requirement				86 (Max.)	43 (90th %)	14 (Mo. Med.)	#/100mL		Monthly	Grab

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Barefoot Bay Advanced WWTF MONITORING GROUP NUMBER: D-001 PERMIT NUMBER: FL0042293-011-DW1P
MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
LC50 STATRE 96HOUR ACUTE Ceriodaphnia dubia (Routine)	Sample Measurement				100 (Min.)			percent		Annually	4 grabs/24 hr.
PARM Code TAN3B P Mon. Site No. EFD-1	Permit Requirement										
LC50 STATRE 96HOUR ACUTE Ceriodaphnia dubia (Additional)	Sample Measurement				100 (Min.)			percent		As needed	As required by the permit
PARM Code TAN3B Q Mon. Site No. EFD-1	Permit Requirement										
LC50 STATRE 96HOUR ACUTE Ceriodaphnia dubia (Additional)	Sample Measurement				100 (Min.)			percent		As needed	As required by the permit
PARM Code TAN3B R Mon. Site No. EFD-1	Permit Requirement										
LC50 STATRE 96HOUR ACUTE Cyprinella leedsi (Routine)	Sample Measurement				100 (Min.)			percent		Annually	4 grabs/24 hr.
PARM Code TAN6H P Mon. Site No. EFD-1	Permit Requirement										
LC50 STATRE 96HOUR ACUTE Cyprinella leedsi (Additional)	Sample Measurement				100 (Min.)			percent		As needed	As required by the permit
PARM Code TAN6H Q Mon. Site No. EFD-1	Permit Requirement										
LC50 STATRE 96HOUR ACUTE Cyprinella leedsi (Additional)	Sample Measurement				100 (Min.)			percent		As needed	As required by the permit
PARM Code TAN6H R Mon. Site No. EFD-1	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed submit this report to: http://www.fldepportal.com/go/

PERMITTEE NAME:	Brevard County Utilities Services Department	PERMIT NUMBER:	FL0042293-011-DW1P	**Effective Date of DMR**	**December 1, 2019**
MAILING ADDRESS:	2725 Judge Fran Jamieson Way				
	BLDG. A-213	LIMIT:	Final	REPORT FREQUENCY:	Monthly
	Melbourne, Florida 32940-6605	CLASS SIZE:	MI	PROGRAM:	Domestic
FACILITY:	Barefoot Bay Advanced WWTF	MONITORING GROUP NUMBER:	R-001		
LOCATION:	7773 Dottie Drive	MONITORING GROUP DESCRIPTION:	Public Access Reuse System, with influent		
	Barefoot Bay, FL 32976-7003	RE-SUBMITTED DMR: ☐			
		NO DISCHARGE FROM SITE: ☐			
COUNTY:	Brevard	MONITORING PERIOD From:	_____ To: _____		
OFFICE:	Central District				

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Flow (Public access reuse)	Sample Measurement										
PARM Code 50050 Y Mon. Site No. FLW-2	Permit Requirement		1.041 (An. Avg.)	MGD						Continuous	Flow Totalizer
Flow (Public access reuse)	Sample Measurement										
PARM Code 50050 1 Mon. Site No. FLW-2	Permit Requirement		Report (Mo. Avg.)	MGD						Continuous	Flow Totalizer
Flow (Golf course)	Sample Measurement										
PARM Code 50050 P Mon. Site No. FLW-3	Permit Requirement		Report (An. Avg.)	MGD						Continuous	Flow Totalizer
Flow (Sprayfield)	Sample Measurement										
PARM Code 50050 Q Mon. Site No. FLW-4	Permit Requirement		0.130 (An. Avg.)	MGD						Continuous	Flow Totalizer
Flow (Infiltration impoundment)	Sample Measurement										
PARM Code 50050 R Mon. Site No. FLW-5	Permit Requirement		0.787 (An. Avg.)	MGD						Continuous	Flow Totalizer
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 Y Mon. Site No. EFA-1	Permit Requirement					20.0 (An. Avg.)		mg/L		Weekly	16-hr FPC

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Barefoot Bay Advanced WWTF MONITORING GROUP NUMBER: R-001 PERMIT NUMBER: FL0042293-011-DW1P
MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 A Mon. Site No. EFA-1	Permit Requirement				60.0 (Max.)	45.0 (Max.Wk.Avg.)	30.0 (Mo. Avg.)	mg/L		Weekly	16-hr FPC
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 B Mon. Site No. EFB-1	Permit Requirement						5.0 (Max.)	mg/L		4 Days/Week	Grab
Coliform, Fecal	Sample Measurement										
PARM Code 74055 A Mon. Site No. EFA-2	Permit Requirement						25 (Max.)	#/100mL		4 Days/Week	Grab
Coliform, Fecal, % less than detection	Sample Measurement										
PARM Code 51005 A Mon. Site No. EFA-2	Permit Requirement				75 (Min.Mo.Total)			percent		4 Days/Week	Calculated
pH	Sample Measurement										
PARM Code 00400 A Mon. Site No. EFA-2	Permit Requirement				6.0 (Min.)		8.5 (Max.)	s.u.		5 Days/Week	Grab
Chlorine, Total Residual (For Disinfection)	Sample Measurement										
PARM Code 50060 A Mon. Site No. EFA-2	Permit Requirement				1.0 (Min.)			mg/L		Continuous	Meter
Turbidity	Sample Measurement										
PARM Code 00070 B Mon. Site No. EFB-1	Permit Requirement						Report (Max.)	NTU		Continuous	Meter
Nitrogen, Total	Sample Measurement										
PARM Code 00600 A Mon. Site No. EFA-1	Permit Requirement						Report (Max.)	mg/L		Weekly	16-hr FPC
Phosphorus, Total (as P)	Sample Measurement										
PARM Code 00665 A Mon. Site No. EFA-1	Permit Requirement						Report (Max.)	mg/L		Weekly	16-hr FPC
	Sample Measurement										
	Permit Requirement										

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Barefoot Bay Advanced WWTF MONITORING GROUP NUMBER: R-001 PERMIT NUMBER: FL0042293-011-DW1P
MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Flow (Total through plant)	Sample Measurement										
PARM Code 50050 G Mon. Site No. INF-1	Permit Requirement		0.90 (An. Avg.)	MGD						Continuous	Flow Totalizer
Flow (Total through plant)	Sample Measurement										
PARM Code 50050 P Mon. Site No. INF-1	Permit Requirement	Report (Qt. Avg.)	Report (Mo. Avg.)	MGD						Continuous	Flow Totalizer
Percent Capacity, (TMADF/Permitted Capacity) x 100	Sample Measurement						Report (Mo. Avg.)	percent		Monthly	Calculated
PARM Code 00180 G Mon. Site No. INF-1	Permit Requirement										
BOD, Carbonaceous 5 day, 20C (Influent)	Sample Measurement										
PARM Code 80082 Y Mon. Site No. INF-2	Permit Requirement					Report (An. Avg.)		mg/L		Weekly	16-hr FPC
BOD, Carbonaceous 5 day, 20C (Influent)	Sample Measurement										
PARM Code 80082 G Mon. Site No. INF-2	Permit Requirement						Report (Max.)	mg/L		Weekly	16-hr FPC
Solids, Total Suspended (Influent)	Sample Measurement										
PARM Code 00530 Y Mon. Site No. INF-2	Permit Requirement					Report (An. Avg.)		mg/L		Weekly	16-hr FPC
Solids, Total Suspended (Influent)	Sample Measurement										
PARM Code 00530 G Mon. Site No. INF-2	Permit Requirement						Report (Max.)	mg/L		Weekly	16-hr FPC
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed submit this report to: http://www.fldepportal.com/go/

PERMITTEE NAME:	Brevard County Utilities Services Department	PERMIT NUMBER:	FL0042293-011-DW1P		
MAILING ADDRESS:	2725 Judge Fran Jamieson Way				
	BLDG. A-213	LIMIT:	Final	REPORT FREQUENCY:	Monthly
	Melbourne, Florida 32940-6605	CLASS SIZE:	MI	PROGRAM:	Domestic
FACILITY:	Barefoot Bay Advanced WWTF	MONITORING GROUP NUMBER:	RMP-Q		
LOCATION:	7773 Dottie Drive	MONITORING GROUP DESCRIPTION:	Biosolids Quantity		
	Barefoot Bay, FL 32976-7003	RE-SUBMITTED DMR: ☐			
		NO DISCHARGE FROM SITE: ☐			
COUNTY:	Brevard	MONITORING PERIOD From:	_____ To: _____		
OFFICE:	Central District				

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Biosolids Quantity (Transferred)	Sample Measurement										
PARM Code B0007 + Mon. Site No. RMP-1	Permit Requirement		Report (Mo. Total)	dry tons						Monthly	Calculated
Biosolids Quantity (Landfilled)	Sample Measurement										
PARM Code B0008 + Mon. Site No. RMP-1	Permit Requirement		Report (Mo. Total)	dry tons						Monthly	Calculated
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed submit this report to: http://www.fldepportal.com/go/

PERMITTEE NAME: Brevard County Utilities Services Department
MAILING ADDRESS: 2725 Judge Fran Jamieson Way
BLDG. A-213
Melbourne, Florida 32940-6605
FACILITY: Barefoot Bay Advanced WWTF
LOCATION: 7773 Dottie Drive
Barefoot Bay, FL 32976-7003

COUNTY: Brevard
OFFICE: Central District

PERMIT NUMBER: FL0042293-011-DW1P
LIMIT: Final
CLASS SIZE: MI
MONITORING GROUP NUMBER: RWS-A
MONITORING GROUP DESCRIPTION: Annual Reclaimed Water or Effluent Analysis
RE-SUBMITTED DMR: ☐
NO DISCHARGE FROM SITE: ☐
MONITORING NOT REQUIRED:* ☐
MONITORING PERIOD From: _____ To: _____

REPORT FREQUENCY: Annually
PROGRAM: Domestic

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Antimony, Total Recoverable (GWS = 6)**	Sample Measurement										
PARM Code 01268 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Arsenic, Total Recoverable (GWS = 10)	Sample Measurement										
PARM Code 00978 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Barium, Total Recoverable (GWS = 2,000)	Sample Measurement										
PARM Code 01009 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Beryllium, Total Recoverable (GWS = 4)	Sample Measurement										
PARM Code 00998 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Cadmium, Total Recoverable (GWS = 5)	Sample Measurement										
PARM Code 01113 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Chromium, Total Recoverable (GWS =100)	Sample Measurement										
PARM Code 01118 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC

*THE "MONITORING NOT REQUIRED" CHECKBOX SHOULD BE SELECTED WHEN A CERTIFICATION STATEMENT IN ACCORDANCE WITH SUBSECTION 62-600.680(2), F.A.C., IS SUBMITTED WITH THIS DMR. SEE CERTIFICATION STATEMENT IN COMMENTS SECTION BELOW.
**GROUND WATER STANDARD (GWS) FOR REFERENCE AND REVIEW ONLY.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):
☐ NO NEW NON-DOMESTIC WASTEWATER DISCHARGERS HAVE BEEN ADDED TO THE COLLECTION SYSTEM SINCE THE LAST RECLAIMED WATER OR EFFLUENT ANALYSIS WAS CONDUCTED.
SIGN AND DATE:

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Barefoot Bay Advanced WWTF MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FL0042293-011-DW1P
MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Cyanide, Free (amen. to chlorination)(GWS = 200)	Sample Measurement										
PARM Code 00722 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
Fluoride, Total (as F) (GWS = 4.0/2.0)	Sample Measurement										
PARM Code 00951 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	24-hr FPC
Lead, Total Recoverable (GWS = 15)	Sample Measurement										
PARM Code 01114 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Mercury, Total Recoverable (GWS = 2)	Sample Measurement										
PARM Code 71901 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Nickel, Total Recoverable (GWS = 100)	Sample Measurement										
PARM Code 01074 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Nitrogen, Nitrate, Total (as N) (GWS = 10)	Sample Measurement										
PARM Code 00620 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	24-hr FPC
Nitrogen, Nitrite, Total (as N) (GWS = 1)	Sample Measurement										
PARM Code 00615 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	24-hr FPC
Nitrite plus Nitrate, Total 1 det. (as N)(GWS = 10)	Sample Measurement										
PARM Code 00630 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	24-hr FPC
Selenium, Total Recoverable (GWS =50)	Sample Measurement										
PARM Code 00981 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Sodium, Total Recoverable (GWS = 160)	Sample Measurement										
PARM Code 00923 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Barefoot Bay Advanced WWTF MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FL0042293-011-DW1P
MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Thallium, Total Recoverable (GWS = 2)	Sample Measurement										
PARM Code 00982 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
1,1-dichloroethylene (GWS = 7)	Sample Measurement										
PARM Code 34501 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
1,1,1-trichloroethane (GWS = 200)	Sample Measurement										
PARM Code 34506 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
1,1,2-trichloroethane (GWS = 5)	Sample Measurement										
PARM Code 34511 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
1,2-dichloroethane (GWS = 3)	Sample Measurement										
PARM Code 32103 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
1,2-dichloropropane (GWS = 5)	Sample Measurement										
PARM Code 34541 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
1,2,4-trichlorobenzene (GWS = 70)	Sample Measurement										
PARM Code 34551 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Benzene (GWS = 1)	Sample Measurement										
PARM Code 34030 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
Carbon tetrachloride (GWS = 3)	Sample Measurement										
PARM Code 32102 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
Cis-1,2-dichloroethene (GWS = 70)	Sample Measurement										
PARM Code 81686 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Barefoot Bay Advanced WWTF MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FL0042293-011-DW1P
MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Dichloromethane (methylene chloride)(GWS = 5)	Sample Measurement										
PARM Code 03821 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
Ethylbenzene (GWS = 700)	Sample Measurement										
PARM Code 34371 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
Monochlorobenzene (GWS = 100)	Sample Measurement										
PARM Code 34031 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
1,2-dichlorobenzene (GWS = 600)	Sample Measurement										
PARM Code 34536 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
1,4-dichlorobenzene (GWS = 75)	Sample Measurement										
PARM Code 34571 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
Styrene, Total (GWS = 100)	Sample Measurement										
PARM Code 77128 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
Tetrachloroethylene (GWS = 3)	Sample Measurement										
PARM Code 34475 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
Toluene (GWS = 1,000)	Sample Measurement										
PARM Code 34010 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
1,2-trans-dichloroethylene (GWS = 100)	Sample Measurement										
PARM Code 34546 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
Trichloroethylene (GWS = 3)	Sample Measurement										
PARM Code 39180 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Barefoot Bay Advanced WWTF MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FL0042293-011-DW1P
MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Vinyl chloride (GWS = 1)	Sample Measurement										
PARM Code 39175 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
Xylenes (GWS = 10,000)	Sample Measurement										
PARM Code 81551 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
2,3,7,8-tetrachlorodibenzo-p-dioxin(GWS = 3x10^-5)	Sample Measurement										
PARM Code 34675 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
2,4-dichlorophenoxyacetic acid (GWS = 70)	Sample Measurement										
PARM Code 39730 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Silvex (GWS = 50)	Sample Measurement										
PARM Code 39760 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Alachlor (GWS = 2)	Sample Measurement										
PARM Code 39161 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Atrazine (GWS = 3)	Sample Measurement										
PARM Code 39033 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Benzo(a)pyrene (GWS = 0.2)	Sample Measurement										
PARM Code 34247 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Carbofuran (GWS = 40)	Sample Measurement										
PARM Code 81405 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Chlordane (tech mix. and metabolites)(GWS = 2)	Sample Measurement										
PARM Code 39350 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Barefoot Bay Advanced WWTF MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FL0042293-011-DW1P
MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Dalapon (GWS = 200)	Sample Measurement										
PARM Code 38432 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Bis(2-ethylhexyl)adipate (GWS = 400)	Sample Measurement										
PARM Code 77903 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Bis (2-ethylhexyl) phthalate (GWS = 6)	Sample Measurement										
PARM Code 39100 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Dibromochloropropane (DBCP) (GWS = 0.2)	Sample Measurement										
PARM Code 82625 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
Dinoseb (GWS = 7)	Sample Measurement										
PARM Code 30191 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Diquat (GWS = 20)	Sample Measurement										
PARM Code 04443 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Endothall (GWS = 100)	Sample Measurement										
PARM Code 38926 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Endrin (GWS = 2)	Sample Measurement										
PARM Code 39390 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Ethylene dibromide (1,2-dibromoethane)(GWS = 0.02)	Sample Measurement										
PARM Code 77651 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
Glyphosate (GWS = 0.7)	Sample Measurement										
PARM Code 79743 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Barefoot Bay Advanced WWTF MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FL0042293-011-DW1P
MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Heptachlor (GWS = 0.4)	Sample Measurement										
PARM Code 39410 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Heptachlor epoxide (GWS = 0.2)	Sample Measurement										
PARM Code 39420 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Hexachlorobenzene (GWS = 1)	Sample Measurement										
PARM Code 39700 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Hexachlorocyclopentadiene (GWS = 50)	Sample Measurement										
PARM Code 34386 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Gamma BHC (Lindane) (GWS = 0.2)	Sample Measurement										
PARM Code 39782 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Methoxychlor (GWS = 40)	Sample Measurement										
PARM Code 39480 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Oxamyl (vydate) (GWS = 200)	Sample Measurement										
PARM Code 38865 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Pentachlorophenol (GWS = 1)	Sample Measurement										
PARM Code 39032 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Picloram (GWS = 500)	Sample Measurement										
PARM Code 39720 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Polychlorinated Biphenyls (PCBs)(GWS = 0.5)	Sample Measurement										
PARM Code 39516 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Barefoot Bay Advanced WWTF MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FL0042293-011-DW1P
MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Simazine (GWS = 4)	Sample Measurement										
PARM Code 39055 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Toxaphene (GWS = 3)	Sample Measurement										
PARM Code 39400 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Trihalomethane, Total by summation(GWS = 0.080)	Sample Measurement										
PARM Code 82080 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	Grab
Radium 226 + Radium 228, Total (GWS = 5)	Sample Measurement										
PARM Code 11503 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	pCi/L		Annually	24-hr FPC
Alpha, Gross Particle Activity (GWS = 15)	Sample Measurement										
PARM Code 80045 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	pCi/L		Annually	24-hr FPC
Aluminum, Total Recoverable (GWS = 0.2)	Sample Measurement										
PARM Code 01104 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	24-hr FPC
Chloride (as Cl) (GWS = 250)	Sample Measurement										
PARM Code 00940 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	24-hr FPC
Iron, Total Recoverable (GWS = 0.3)	Sample Measurement										
PARM Code 00980 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	24-hr FPC
Copper, Total Recoverable (GWS = 1,000)	Sample Measurement										
PARM Code 01119 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Manganese, Total Recoverable (GWS = 50)	Sample Measurement										
PARM Code 11123 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Barefoot Bay Advanced WWTF MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FL0042293-011-DW1P
MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Silver, Total Recoverable (GWS = 100)	Sample Measurement										
PARM Code 01079 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Sulfate, Total (GWS = 250)	Sample Measurement										
PARM Code 00945 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	24-hr FPC
Zinc, Total Recoverable (GWS = 5,000)	Sample Measurement										
PARM Code 01094 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
pH (GWS = 6.5-8.5)	Sample Measurement										
PARM Code 00400 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	s.u.		Annually	Grab
Solids, Total Dissolved (TDS) (GWS = 500)	Sample Measurement										
PARM Code 70295 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	24-hr FPC
Foaming Agents (GWS = 0.5)	Sample Measurement										
PARM Code 01288 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	24-hr FPC
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										

DAILY SAMPLE RESULTS - PART B

Permit Number: FL0042293-011-DW1P Facility: Barefoot Bay Advanced WWTF
Monitoring Period From: _____ To: _____

	BOD, Carbonaceous 5 day, 20C mg/L	Nitrogen, Total mg/L	Phosphorus, Total (as P) mg/L	Chlorine, Total Residual (For Disinfection) mg/L	Coliform, Fecal #/100mL	pH s.u.	Solids, Total Suspended mg/L	Turbidity NTU	BOD, Carbonaceous 5 day, 20C mg/L	Nitrogen, Total mg/L	Phosphorus, Total (as P) lb/yr
Code	80082	00600	00665	50060	74055	00400	00530	00070	80082	00600	00665
Mon. Site	EFA-1	EFA-1	EFA-1	EFA-2	EFA-2	EFA-2	EFB-1	EFB-1	EFD-1	EFD-1	EFD-1
1											
2											
3											
4											
5											
6											
7											
8											
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22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
Total											
Mo. Avg.											

PLANT STAFFING:

Day Shift Operator Class: _____ Certificate No: _____ Name: _____

Evening Shift Operator Class: _____ Certificate No: _____ Name: _____

Night Shift Operator Class: _____ Certificate No: _____ Name: _____

Lead Operator Class: _____ Certificate No: _____ Name: _____

DAILY SAMPLE RESULTS - PART B

Permit Number: FL0042293-011-DW1P Facility: Barefoot Bay Advanced WWTF
Monitoring Period From: _____ To: _____

	Phosphorus, Total (as P) mg/L	Solids, Total Suspended mg/L	Chlorine, Total Residual (For Dechlorination) mg/L	Coliform, Fecal #/100mL	Oxygen, Dissolved (DO) mg/L	pH s.u.	Flow (To outfall) MGD	Flow (Public access reuse) MGD	Flow (Golf course) MGD	Flow (Sprayfield) MGD	Flow (Infiltration impoundment) MGD
Code	00665	00530	50060	74055	00300	00400	50050	50050	50050	50050	50050
Mon. Site	EFD-1	EFD-1	EFD-2	EFD-2	EFD-2	EFD-2	FLW-1	FLW-2	FLW-3	FLW-4	FLW-5
1											
2											
3											
4											
5											
6											
7											
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30											
31											
Total											
Mo. Avg.											

PLANT STAFFING:

Day Shift Operator Class: _____ Certificate No: _____ Name: _____

Evening Shift Operator Class: _____ Certificate No: _____ Name: _____

Night Shift Operator Class: _____ Certificate No: _____ Name: _____

Lead Operator Class: _____ Certificate No: _____ Name: _____

DAILY SAMPLE RESULTS - PART B

Permit Number: FL0042293-011-DW1P Facility: Barefoot Bay Advanced WWTF
Monitoring Period From: _____ To: _____

	Flow (Total through plant) MGD	BOD, Carbonaceous 5 day, 20C (Influent) mg/L	Solids, Total Suspended (Influent) mg/L							
Code	50050	80082	00530							
Mon. Site	INF-1	INF-2	INF-2							
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
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26										
27										
28										
29										
30										
31										
Total										
Mo. Avg.										

PLANT STAFFING:

Day Shift Operator Class: _____ Certificate No: _____ Name: _____

Evening Shift Operator Class: _____ Certificate No: _____ Name: _____

Night Shift Operator Class: _____ Certificate No: _____ Name: _____

Lead Operator Class: _____ Certificate No: _____ Name: _____

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Barefoot Bay Advanced WWTF
Permit Number: FL0042293-011-DW1P
County: Brevard

Monitoring Well ID: MWB-3
Well Type: Background
Description: BAREFOOT BAY/MW-3 BACKGROUND, 2767 and 3005A13766

Report Frequency: Quarterly
Program: Domestic

Office: Central District

Re-submitted DMR: ☐

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Nitrogen, Nitrate, Total (as N)	00620		Report	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		Report	mg/L	Grab	Quarterly				
Coliform, Fecal	74055		Report	#/100mL	Grab	Quarterly				
pH	00400		Report	s.u.	Grab	Quarterly				

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Barefoot Bay Advanced WWTF
Permit Number: FL0042293-011-DW1P
County: Brevard

Monitoring Well ID: MWC-2
Well Type: Compliance
Description: BAREFOOT BAY/MW-2 DEEP COMPLIANCE, 2765 and 3005A13768

Report Frequency: Quarterly
Program: Domestic

Office: Central District

Re-submitted DMR: ☐

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Nitrogen, Nitrate, Total (as N)	00620		10	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		500	mg/L	Grab	Quarterly				
Coliform, Fecal	74055		4	#/100mL	Grab	Quarterly				
pH	00400		6.5 - 8.5	s.u.	Grab	Quarterly				

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Barefoot Bay Advanced WWTF
Permit Number: FL0042293-011-DW1P
County: Brevard

Office: Central District

Monitoring Well ID: MWC-4
Well Type: Compliance
Description: Compliance well at Trench Site (previously 320-acre spray site)

Report Frequency: Quarterly
Program: Domestic

Re-submitted DMR: ☐

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Nitrogen, Nitrate, Total (as N)	00620		10	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		500	mg/L	Grab	Quarterly				
Coliform, Fecal	74055		4	#/100mL	Grab	Quarterly				
pH	00400		6.5 - 8.5	s.u.	Grab	Quarterly				

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Barefoot Bay Advanced WWTF
Permit Number: FL0042293-011-DW1P
County: Brevard

Office: Central District

Monitoring Well ID: MWC-5
Well Type: Compliance
Description: Compliance Well at Trench Site (previously 320-acre spray site)

Report Frequency: Quarterly
Program: Domestic

Re-submitted DMR: ☐

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Nitrogen, Nitrate, Total (as N)	00620		10	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		500	mg/L	Grab	Quarterly				
Coliform, Fecal	74055		4	#/100mL	Grab	Quarterly				
pH	00400		6.5 - 8.5	s.u.	Grab	Quarterly				

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Barefoot Bay Advanced WWTF
Permit Number: FL0042293-011-DW1P
County: Brevard

Monitoring Well ID: MWC-6
Well Type: Compliance
Description: Compliance Well at Trench Site (previously 320-acre spray site)

Report Frequency: Quarterly
Program: Domestic

Office: Central District

Re-submitted DMR: ☐

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Nitrogen, Nitrate, Total (as N)	00620		10	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		500	mg/L	Grab	Quarterly				
Coliform, Fecal	74055		4	#/100mL	Grab	Quarterly				
pH	00400		6.5 - 8.5	s.u.	Grab	Quarterly				

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NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Barefoot Bay Advanced WWTF
Permit Number: FL0042293-011-DW1P
County: Brevard

Monitoring Well ID: MWI-1
Well Type: Intermediate
Description: BAREFOOT BAY/MW-1 INTERMEDIATE, 2766 and 3005A13767

Report Frequency: Quarterly
Program: Domestic

Office: Central District

Re-submitted DMR: ☐

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Nitrogen, Nitrate, Total (as N)	00620		Report	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		Report	mg/L	Grab	Quarterly				
Coliform, Fecal	74055		Report	#/100mL	Grab	Quarterly				
pH	00400		Report	s.u.	Grab	Quarterly				

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENTS AND EXPLANATION (Reference all attachments here):

INSTRUCTIONS FOR COMPLETING THE WASTEWATER DISCHARGE MONITORING REPORT

Read these instructions before completing the DMR. Hard copies and/or electronic copies of the required parts of the DMR were provided with the permit. All required information shall be completed in full and typed or printed in ink. A signed, original DMR shall be mailed to the address printed on the DMR by the 28th of the month following the monitoring period. Facilities who submit their DMR(s) electronically through eDMR do not need to submit a hardcopy DMR. The DMR shall not be submitted before the end of the monitoring period.

The DMR consists of three parts--A, B, and D--all of which may or may not be applicable to every facility. Facilities may have one or more Part A's for reporting effluent or reclaimed water data. All domestic wastewater facilities will have a Part B for reporting daily sample results. Part D is used for reporting ground water monitoring well data.

When results are not available, the following codes should be used on parts A and D of the DMR and an explanation provided where appropriate. Note: Codes used on Part B for raw data are different.

CODE	DESCRIPTION/INSTRUCTIONS
ANC	Analysis not conducted.
DRY	Dry Well
FLD	Flood disaster.
IFS	Insufficient flow for sampling.
LS	Lost sample.
MNR	Monitoring not required this period.

CODE	DESCRIPTION/INSTRUCTIONS
NOD	No discharge from/to site.
OPS	Operations were shutdown so no sample could be taken.
OTH	Other. Please enter an explanation of why monitoring data were not available.
SEF	Sampling equipment failure.

When reporting analytical results that fall below a laboratory's reported method detection limits or practical quantification limits, the following instructions should be used, unless indicated otherwise in the permit or on the DMR:

1. Results greater than or equal to the PQL shall be reported as the measured quantity.
2. Results less than the PQL and greater than or equal to the MDL shall be reported as the laboratory's MDL value. These values shall be deemed equal to the MDL when necessary to calculate an average for that parameter and when determining compliance with permit limits.
3. Results less than the MDL shall be reported by entering a less than sign ("<") followed by the laboratory's MDL value, e.g. < 0.001. A value of one-half the MDL or one-half the effluent limit, whichever is lower, shall be used for that sample when necessary to calculate an average for that parameter. Values less than the MDL are considered to demonstrate compliance with an effluent limitation.

PART A -DISCHARGE MONITORING REPORT (DMR)

Part A of the DMR is comprised of one or more sections, each having its own header information. Facility information is preprinted in the header as well as the monitoring group number, whether the limits and monitoring requirements are interim or final, and the required submittal frequency (e.g. monthly, annually, quarterly, etc.). Submit Part A based on the required reporting frequency in the header and the instructions shown in the permit. The following should be completed by the permittee or authorized representative:

Resubmitted DMR: Check this box if this DMR is being re-submitted because there was information missing from or information that needed correction on a previously submitted DMR. The information that is being revised should be clearly noted on the re-submitted DMR (e.g. highlight, circle, etc.)
No Discharge From Site: Check this box if no discharge occurs and, as a result, there are no data or codes to be entered for all of the parameters on the DMR for the entire monitoring group number; however, if the monitoring group includes other monitoring locations (e.g., influent sampling), the "NOD" code should be used to individually denote those parameters for which there was no discharge.
Monitoring Period: Enter the month, day, and year for the first and last day of the monitoring period (i.e. the month, the quarter, the year, etc.) during which the data on this report were collected and analyzed.
Sample Measurement: Before filling in sample measurements in the table, check to see that the data collected correspond to the limit indicated on the DMR (i.e. interim or final) and that the data correspond to the monitoring group number in the header. Enter the data or calculated results for each parameter on this row in the non-shaded area above the limit. Be sure the result being entered corresponds to the appropriate statistical base code (e.g. annual average, monthly average, single sample maximum, etc.) and units. Data qualifier codes are not to be reported on Part A.
No. Ex.: Enter the number of sample measurements during the monitoring period that exceeded the permit limit for each parameter in the non-shaded area. If none, enter zero.
Frequency of Analysis: The shaded areas in this column contain the minimum number of times the measurement is required to be made according to the permit. Enter the actual number of times the measurement was made in the space above the shaded area.
Sample Type: The shaded areas in this column contain the type of sample (e.g. grab, composite, continuous) required by the permit. Enter the actual sample type that was taken in the space above the shaded area.
Signature: This report must be signed in accordance with Rule 62-620.305, F.A.C. Type or print the name and title of the signing official. Include the telephone number where the official may be reached in the event there are questions concerning this report. Enter the date when the report is signed.
Comment and Explanation of Any Violations: Use this area to explain any exceedances, any upset or by-pass events, or other items which require explanation. If more space is needed, reference all attachments in this area.

PART B - DAILY SAMPLE RESULTS

Monitoring Period: Enter the month, day, and year for the first and last day of the monitoring period (i.e. the month, the quarter, the year, etc.) during which the data on this report were collected and analyzed.
Daily Monitoring Results: Transfer all analytical data from your facility's laboratory or a contract laboratory's data sheets for all day(s) that samples were collected. Record the data in the units indicated. Table 1 in Chapter 62-160, F.A.C., contains a complete list of all the data qualifier codes that your laboratory may use when reporting analytical results. However, when transferring numerical results onto Part B of the DMR, only the following data qualifier codes should be used and an explanation provided where appropriate.

CODE	DESCRIPTION/INSTRUCTIONS
<	The compound was analyzed for but not detected.
A	Value reported is the mean (average) of two or more determinations.
J	Estimated value, value not accurate.
Q	Sample held beyond the actual holding time.
Y	Laboratory analysis was from an unpreserved or improperly preserved sample.

To calculate the monthly average, add each reported value to get a total. For flow, divide this total by the number of days in the month. For all other parameters, divide the total by the number of observations.
Plant Staffing: List the name, certificate number, and class of all state certified operators operating the facility during the monitoring period. Use additional sheets as necessary.

PART D - GROUND WATER MONITORING REPORT

Monitoring Period: Enter the month, day, and year for the first and last day of the monitoring period (i.e. the month, the quarter, the year, etc.) during which the data on this report were collected and analyzed.
Date Sample Obtained: Enter the date the sample was taken. Also, check whether or not the well was purged before sampling.
Time Sample Obtained: Enter the time the sample was taken.
Sample Measurement: Record the results of the analysis. If the result was below the minimum detection limit, indicate that. Data qualifier codes are not to be reported on Part D.
Detection Limits: Record the detection limits of the analytical methods used.
Analysis Method: Indicate the analytical method used. Record the method number from Chapter 62-160 or Chapter 62-601, F.A.C., or from other sources.
Sampling Equipment Used: Indicate the procedure used to collect the sample (e.g. airlift, bucket/bailer, centrifugal pump, etc.)
Samples Filtered: Indicate whether the sample obtained was filtered by laboratory (L), filtered in field (F), or unfiltered (N).
Signature: This report must be signed in accordance with Rule 62-620.305, F.A.C. Type or print the name and title of the signing official. Include the telephone number where the official may be reached in the event there are questions concerning this report. Enter the date when the report is signed.
Comments and Explanation: Use this space to make any comments on or explanations of results that are unexpected. If more space is needed, reference all attachments in this area.

SPECIAL INSTRUCTIONS FOR LIMITED WET WEATHER DISCHARGES

Flow (Limited Wet Weather Discharge): Enter the measured average flow rate during the period of discharge or divide gallons discharged by duration of discharge (converted into days). Record in million gallons per day (MGD).
Flow (Upstream): Enter the average flow rate in the receiving stream upstream from the point of discharge for the period of discharge. The average flow rate can be calculated based on two measurements; one made at the start and one made at the end of the discharge period. Measurements are to be made at the upstream gauging station described in the permit.
Actual Stream Dilution Ratio: To calculate the Actual Stream Dilution Ratio, divide the average upstream flow rate by the average discharge flow rate. Enter the Actual Stream Dilution Ratio accurate to the nearest 0.1.
No. of Days the SDF > Stream Dilution Ratio: For each day of discharge, compare the minimum Stream Dilution Factor (SDF) from the permit to the calculated Stream Dilution Ratio. On Part B of the DMR, enter an asterisk (*) if the SDF is greater than the Stream Dilution Ratio on any day of discharge. On Part A of the DMR, add up the days with an "*" and record the total number of days the Stream Dilution Factor was greater than the Stream Dilution Ratio.
$CBOD_5$: Enter the average $CBOD_5$ of the reclaimed water discharged during the period shown in duration of discharge.
TKN: Enter the average TKN of the reclaimed water discharged during the period shown in duration of discharge.
Actual Rainfall: Enter the actual rainfall for each day on Part B. Enter the actual cumulative rainfall to date for this calendar year and the actual total monthly rainfall on Part A. The cumulative rainfall to date for this calendar year is the total amount of rain, in inches, that has been recorded since January 1 of the current year through the month for which this DMR contains data.
Rainfall During Average Rainfall Year: On Part A, enter the total monthly rainfall during the average rainfall year and the cumulative rainfall for the average rainfall year. The cumulative rainfall for the average rainfall year is the amount of rain, in inches, which fell during the average rainfall year from January through the month for which this DMR contains data.
No. of Days LWWD Activated During Calendar Year: Enter the cumulative number of days that the limited wet weather discharge was activated since January 1 of the current year.
Reason for Discharge: Attach to the DMR a brief explanation of the factors contributing to the need to activate the limited wet weather discharge.

Florida Department of Environmental Protection
Twin Towers Office Bldg., 2600 Blair Stone Road, Tallahassee, Florida 32399-2400

PATHOGEN MONITORING

Part I - Instructions

1. Completion of this report is required by Rules 62-610.463(4), 62-610.472(3)(d), 62-610.525(13), 62-610.568(11), 62-610.568(12), and 62-610.652(6)(c), F.A.C., for all domestic wastewater facilities that provide reclaimed water to certain types of reuse activities. The schedule for sampling and reporting shall be in accordance with the permit for the facility. If a schedule for sampling or re-sampling is not included in the permit, the following schedule shall apply:

   a. Routine Sampling:

      If sampling is required once every two years, this report shall be submitted on or before November 28 of each even numbered year (2006, 2008, 2010, etc.).

      If sampling is required once every five years, this report shall be submitted with the application for permit renewal.

      If sampling is required quarterly, this report shall be submitted on or before February 28, May 28, August 28, and November 28 of each year.

   b. Subsequent Re-Sampling:

      If subsequent re-sampling is required by Item 9 in Part I of this form, this form shall be submitted for the subsequent re-sampling(s) in accordance with the schedule established in Item 9 in Part I of this form.

2. Submit one copy of this form and a copy of the laboratory's final report for the analysis of *Giardia* and *Cryptosporidium* to each of the following two addresses:

   a. The appropriate DEP district office (attention Domestic Wastewater Program). Addresses for the DEP district offices are available at www.dep.state.fl.us/secretary/dist/default.htm.

   b. DEP Water Reuse Coordinator
      Mail Station 3540
      2600 Blair Stone Road
      Tallahassee, Florida 32399-2400

3. Please type or print legibly.

4. In Part II, Items 7 through 12 need to be completed only if this is the first submittal of this report, if the information in Items 7 through 12 has changed since the last submittal, or if the information in any of these questions has not been previously provided.

5. Part III is to be used when sampling for *Giardia* and *Cryptosporidium* at the treatment plant. Part III is also to be used when sampling for *Giardia* and *Cryptosporidium* in a supplemental water supply (see Rule 62-610.472, F.A.C.).

6. For each sample, record the sample volume obtained in liters.

7. For *Giardia*, record the concentrations in cysts per 100 liters. For *Cryptosporidium*, record the concentrations in oocysts per 100 liters. Sufficient sample volumes shall be collected and processed such that the detection limit is no greater than 5 cysts or oocysts per 100 liters. Detection levels on the order of 1 cyst or oocyst per 100 liters are recommended. If an observation is less than the detection limit, make an entry in the form "<2" (where 2 per 100 liters is the detection limit in this example). The actual detection limit will be dictated by the volumes of sample obtained, filtered, and processed. Do NOT record nondetectable values as zero.

8. EPA Method 1623 or other approved methods for reclaimed water or nonpotable waters, adjusted appropriately to accommodate the detection limit requirements, shall be used. Methods previously allowed for EPA's Information Collection Rule (ICR) shall not be used. The full requirements of the approved method, including quality assurance and quality control, are to be met. Quality assurance and sampling requirements in Chapter 62-160, F.A.C., shall apply.

   Two concentrations of *Giardia* and *Cryptosporidium* shall be recorded on Part III of this form:

   a. Total cysts and oocysts shall be enumerated using EPA Method 1623 or other approved methods.

   b. Potentially viable cysts and oocysts shall be enumerated using the DAPI staining technique contained in EPA Method 1623 or similar enumeration techniques included in other approved methods. Cysts and oocysts that are stained DAPI positive or show internal structure by D.I.C. shall be considered as being potentially viable. If the laboratory reports separate values for DAPI positive and for cysts or oocysts having internal structure, the larger of the two concentrations will be reported as being potentially viable.

9. If the number of potentially viable cysts of *Giardia* reported exceeds 5 per 100 liters, a subsequent sample shall be taken and analyzed using EPA Method 1623 or other approved methods and reported using this form. If the number of potentially viable oocysts of *Cryptosporidium* reported exceeds 22 per 100 liters, a subsequent sample shall be taken and analyzed using EPA Method 1623 or other approved methods and reported using this form. This subsequent sample shall be collected within 90 days of the date the initial sample was taken, analyzed for both *Giardia* and *Cryptosporidium*, and the results of the subsequent analysis shall be submitted to DEP using this form within 60 days of sample collection.

10. Rule 62-160.300, F.A.C., requires that all laboratories generating environmental data for submission to the DEP shall hold certification from the Department of Health's (DOH) Environmental Laboratory Certification Program (ELCP). Certification by the ELCP for analysis of *Giardia* and *Cryptosporidium* using EPA Method 1623 for non-potable waters is required. If other approved methods are used, certification by the ELCP is required for the specific method and for the test matrix. Lists of certified laboratories can be found at www.dep.state.fl.us/labs/cgi-bin/aams/index.asp

11. Samples shall be collected during peak flow periods (normally between the hours of 8:00 a.m. and 6:00 p.m.).

12. Recognizing that concentrations of these pathogens generally increase during the late summer through fall period, it is recommended that utilities sample during the August through October time period.

13. If the wastewater treatment facility uses chlorination for disinfection, samples obtained for analysis of *Giardia* and *Cryptosporidium* shall be dechlorinated.

14. When sampling at the treatment facility, obtain a grab sample for total suspended solids (TSS) that is representative of the water leaving the filters at the treatment facility during the period when pathogen

samples are being obtained. In addition, record the highest turbidity and the lowest total chlorine residual observed during the period when pathogen samples are being obtained.

15. When sampling a supplemental water supply, obtain a grab sample for total suspended solids (TSS) that is representative of the surface water or treated stormwater as it is added to the reclaimed water system. This TSS sample shall be taken during the period when pathogen samples are being obtained. In addition, record the lowest total chlorine residual observed during the period when pathogen samples are being obtained.

Part II - General Information

1. DEP wastewater facility identification number: **FL0042293**

   Wastewater facility name: Barefoot Bay Advanced WWTF

   Permittee name: Brevard County Util Serv Department

2. Person completing this form:

   Name: _____

   Telephone: (_____)_____

   Email address: _____

3. Sampling and analysis:

   Date samples were taken: _____

   Organization collecting the samples: _____

   Was the sample dechlorinated in the field? ☐ Yes ☐ No

   Was the sample refrigerated or kept on ice during shipment to the laboratory? ☐ Yes ☐ No

   Date samples delivered to laboratory: _____

   Date analytical work was done: _____

   Laboratory doing the analysis: _____

   Laboratory's DOH Identification Number: _____

   Approved method used:

   ☐ EPA Method 1623

   ☐ Other approved method: _____

   Contact person at the laboratory: _____

   Email address of the lab contact person: _____

4. Is this the first time that this form has been submitted for the facility?

   ☐ Yes [Please complete Questions 7 through 16.]

   ☐ No [Proceed to Question 5.]

5. Is this a report of "subsequent re-sampling" required by Item 9 in Part I of this form based on concentrations of potentially viable cysts or oocysts in a previous sampling?

☐ No [Proceed to Question 6.]

☐ Yes [Attach a description of any facility or operational changes made to the treatment facilities since the time of the previous sampling and proceed to Question 6.]

6. Has the information requested in Questions 7 through 12 (below) changed since the last submittal of this form?

☐ Yes [Please complete Questions 7 through 16.]

☐ No [Proceed to Questions 13 through 16 of Part II of this form. You do not need to complete Questions 7 through 12.]

7. Type of secondary treatment system:

☐ Conventional activated sludge ☐ Extended aeration

☐ Contact stabilization ☐ Biological nutrient removal (such as Bardenpho)

☐ Other: _____

8. Does this treatment facility nitrify (convert ammonia nitrogen to nitrate)? ☐ Yes ☐ No

9. Filter type:

☐ Deep bed, single media ☐ Deep bed, multiple media

☐ Shallow bed, automatic backwash ☐ Upflow (including Dynasand)

☐ Slow rate sand filter ☐ Diatomaceous earth filter

☐ Fabric filter ☐ Cartridge filter

☐ Membranes (microfiltration, ultrafiltration, membrane bioreactor, reverse osmosis)

☐ Other: _____

10. Filter Media (complete for each type of media provided):

Top layer of media: Media type: _____

Effective size: _____ mm

Uniformity coefficient: _____

Bed depth: _____ inches

Middle layer of media: Media type: _____

Effective size: _____ mm

Uniformity coefficient: _____

Bed depth: _____ inches

Bottom layer of media: Media type: _____

Effective size: _____ mm

Uniformity coefficient: _____

Bed depth: _____ inches

11. Filter backwash water:

☐ Backwash water is returned to the headworks of the treatment plant.

☐ Backwash water is returned to the aeration basin.

☐ Other. Please describe: _____

12. Disinfection system:

☐ Chlorination, gas ☐ Hypochlorite

☐ Chlorine dioxide ☐ Chlorination, other _____

☐ Ultraviolet ☐ Ozone

☐ Other: _____

13. Is chlorine added before the filters? ☐ No ☐ Yes Dose: _____ mg/L

14. During the period that samples were taken, did you add a coagulant, coagulant aid, polyelectrolyte, or other chemical to enhance filtration?

☐ No

☐ Yes. Please list the chemicals being added and their dose.

Chemical 1 - Name: _____ Dose: _____ mg/L

Chemical 2 - Name: _____ Dose: _____ mg/L

Chemical 3 - Name: _____ Dose: _____ mg/L

15. Wastewater treatment plant permitted capacity: _____ MGD

16. Wastewater flow being treated at the time samples were collected: _____ MGD

PART III - PATHOGEN MONITORING REPORT

FACILITY ID: FL0042293
FACILITY NAME: Barefoot Bay Advanced WWTF
FACILITY ADDRESS: 7773 Dottie Dr, Barefoot Bay, FL 32976-7003
PERMITTEE NAME: Brevard County Util Serv Department
MAILING ADDRESS: 2725 Judge Fran Jamieson Way, BLDG. A-213, Melbourne, Florida 32940-6605
DATE OF SAMPLING: _____

Parameter	Quantity or Loading		Quality or Concentration	
	Sample Measurement	Units	Sample Measurement	Units
Treatment Plant: After Filter Monitoring Site No.				
Turbidity PARM Code 00070				NTU
TSS PARM Code 00530				mg/L
Treatment Plant: After Disinfection Monitoring Site No.				
Total Chlorine Residual PARM Code 50060				mg/L
Volume Collected PARM Code 71994		Liters		
Giardia, total count * PARM Code GIARD				total cysts/100 L
Giardia, potentially viable cysts * PARM Code VGIAR				potentially viable cysts/100 L
Cryptosporidium, total count * PARM Code CRYPT				total oocysts/100 L
Cryptosporidium, potentially viable oocysts * PARM Code VCRYP				potentially viable oocysts/100 L
Supplemental Water Supply (surface water or stormwater): After Treatment & Disinfection Monitoring Site No.				
TSS PARM Code 00530				mg/L
Total Chlorine Residual PARM Code 50060				mg/L
Volume Collected PARM Code 71994		Liters		
Giardia (total count) * PARM Code GIARD				total cysts/100 L
Giardia, potentially viable cysts * PARM Code VGIAR				potentially viable cysts/100 L
Cryptosporidium, total count * PARM Code CRYPT				total oocysts/100 L
Cryptosporidium, potentially viable oocysts * PARM Code VCRYP				potentially viable oocysts/100 L

* Data entries must be made for both total and potentially viable cysts and oocysts.

PART IV - CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein; and based upon my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Name/Title of Principle Executive Officer or Authorized Agent (Type or Print)	Signature of Principle Executive Officer or Authorized Agent	Telephone No.	Date (YY/MM/DD)
	Email Address		

FACT SHEET
FOR
STATE OF FLORIDA DOMESTIC WASTEWATER FACILITY PERMIT

PERMIT NUMBER: FL0042293-011 (Minor)

FACILITY NAME: BCUD-Barefoot Bay Advanced WRF

FACILITY LOCATION: 7773 Dottie Drive
Barefoot Bay, FL 32976-7003
Brevard County

RESPONSIBLE PARTY: Edward Fontanin, Director
edward.fontanin@brevardfl.gov

NAME OF PERMITTEE: Brevard County Utilities Services Department

PERMIT WRITER: Eugene Elliott and Dennise Judy.

1. SUMMARY OF APPLICATION

a. Chronology of Application

Application Number: FL0042293-011-DW1P

Application Submittal Date: March 8, 2018

b. Type of Facility

Domestic Wastewater Treatment Plant

Ownership Type: County

SIC Code: 4952

c. Facility Capacity

Existing Permitted Capacity:	0.90 MGD Annual Average Daily Flow
Proposed Increase in Permitted Capacity:	0 MGD Annual Average Daily Flow
Proposed Total Permitted Capacity:	0.90 MGD Annual Average Daily Flow

d. Description of Wastewater Treatment

An existing 0.90 mgd annual average daily flow (AADF) permitted capacity advanced wastewater treatment facility. Major process components include influent screening, flow equalization, two anoxic/aeration basins, secondary clarification, chemical feed, filtration, chlorination, dechlorination, and aerobic digestion of biosolids. The facility also uses a Micro-C feed system.

e. Description of Effluent Disposal and Land Application Sites

Surface Water Discharge D-001: An existing 0.188 MGD annual average daily flow discharge to the Micco Ditch system (WBID 3121) thence to the North Prong of the Sebastian River, (WBID# 3128). The discharge is limited to 91 days per year. The outfall is approximately 2.5 feet in length and discharges at a depth of

approximately 5 feet. The point of discharge is located approximately at latitude 27°53' 18" N, longitude 80°32' 10" W. Both water bodies are Class III fresh waters.

Land Application R-001: An existing 1.041 MGD AADF permitted capacity slow-rate public access system (R-001), consisting of land application system R001 which includes an existing 0.13 MGD AADF permitted capacity 40-acre spray field, an existing 0.124 MGD AADF permitted capacity 50-Acre Barefoot Bay Golf Course, and the existing 0.787 MGD AADF infiltration impoundment (formerly permitted as a sprayfield) with 12 acres of exfiltration trenches and a total permitted area of 320 acres. Storage facilities include one (1) existing 1.8 mg on-site lined substandard water storage pond and one (1) existing 4.0 MG reclaimed water storage pond. Land application system R001 is located approximately at latitude 27° 52' 48" N, longitude 80° 32' 55" W.

2. SUMMARY OF SURFACE WATER DISCHARGE

Monitoring Group D-001: Class III Fresh Waters, North Prong of Sebastian River –

There were no discharges during this permitting cycle.

This facility does not have a new or expanded discharge to surface waters. The Department does not anticipate adverse impacts on threatened or endangered species as a result of permit issuance.

3. BASIS FOR PERMIT LIMITATIONS AND MONITORING REQUIREMENTS

This facility is authorized to discharge effluent from Outfall D-001 to the North Prong of Sebastian River based on the following:

Parameter	Units	Max/ Min	Limit	Statistical Basis	Rationale
Flow (To outfall)	MGD	Max	0.188	Annual Average	62-600.700(2)(b) FAC
		Max	Report	Monthly Average	62-600.700(2)(b) FAC
BOD, Carbonaceous 5 day, 20C	mg/L	Max	6.25	Monthly Average	62-600.740(1)(b)2.b. FAC
		Max	7.5	Weekly Average	62-600.740(2)(b)3
		Max	10.0	Single Sample	62-600.740(1)(b)2.a., FAC
Solids, Total Suspended	mg/L	Max	6.25	Monthly Average	62-600.740(1)(b)2.b. FAC
		Max	7.5	Weekly Average	62-600.740(2)(b)3. FAC
		Max	10.0	Single Sample	62-600.740(2)(b)4. FAC
Coliform, Fecal	#/100mL	Max	14	Annual Average	62-600.440(7)(a)1. FAC
		Max	14	Monthly Median	62-600.440(7)(a)2. FAC
		Max	86	Single Sample	62-600.440(7)(a)4. FAC
pH	s.u.	Min	6.0	Single Sample	62-600.430, 62-302.530(52) FAC
		Max	8.5	Single Sample	62-600.430, 62-302.530(52) FAC
Chlorine, Total Residual (For Disinfection)	mg/L	Min	1.0	Single Sample	62-600.440(7)(c) FAC
Chlorine, Total Residual (For Dechlorination)	mg/L	Max	0.01	Single Sample	62-600.440(2) & 62-302.530(19) FAC
Nitrogen, Total	mg/L	Max	3.75	Monthly Average	62-600.740(1)(b)2.b. FAC
		Max	4.5	Weekly Average	62-600.740(2)(b)3. FAC
		Max	6.0	Single Sample	62-600.740(2)(b)4. FAC
Nitrogen, Total	lb/yr	Max	476.0	Annual Total	62-600.420(1)(a) FAC
		Max	Report	Monthly Total	62-600.420(1)(a) FAC
Phosphorus, Total (as P)	mg/L	Max	1.25	Monthly Average	62-600.740(1)(b)2.b. FAC
		Max	1.5	Weekly Average	62-600.740(2)(b)3. FAC
		Max	2.0	Single Sample	62-600.740(1)(b)2.c. FAC
Phosphorus, Total (as P)	lb/yr	Max	78.0	Annual Total	62-600.420(1)(a) FAC
		Max	Report	Monthly Total	62-600.420(1)(a) FAC

Parameter	Units	Max/ Min	Limit	Statistical Basis	Rationale
Oxygen, Dissolved (DO)	mg/L	Min	5.0	Single Sample	62-302.530(31) FAC
Acute Whole Effluent Toxicity, 96 Hour LC50 (Ceriodaphnia dubia)	percent	Min	100	Single Sample	62-302.200(1), 62-302.500(1)(a)4 & 62-4.241(1)(a) FAC
Acute Whole Effluent Toxicity, 96 Hour LC50 (Cyprinella leedsi)	percent	Min	100	Single Sample	62-302.200(1), 62-302.500(1)(a)4 & 62-4.241(1)(a) FAC
Coliform, Fecal *	#/100mL	Max	14	Annual Average	62-600.520(5) FAC
		Max	14	Monthly Median	62-600.520(5) FAC
		Max	43	90th Percentile	62-600.520(5) FAC
		Max	86	Single Sample	62-600.520(5) FAC

This facility has provided reasonable assurance that the discharge will not adversely affect the designated use of the receiving water. Fifth year inspection data, as well as all other available data, have been evaluated in accordance with the Department's reasonable assurance procedures to ensure that no limits other than those included in this permit are needed to maintain Florida water quality standards.

The discharge is to an unnamed ditch (WBID #3121), then to the North Prong of the Sebastian River (WBID 3128A) which has been verified as impaired for DO. The permit includes a minimum limit of 5.0 mg/L for DO, which will not negatively impact the water body. The unnamed ditch as the immediate point of discharge identified in the last permit cycle is now referred to as the Micco Ditches and is not verified as impaired for any parameters.

The previous permit included annual average concentrations limits for total nitrogen and phosphorus. The permit was subsequently revised to remove the annual average concentration limits for these two nutrients to avoid unnecessary compliance issues, due to the intermittent nature of the discharge, in accordance with guidance from Tallahassee and EPA. Expressing an annual nutrient limit in terms of load is more appropriate for an intermittent discharge.

The Total Maximum Daily Load (TMDL) for the Indian River Lagoon was finalized by EPA in April 2007 and adopted by Rule 52-304.520 FAC by the DEP in March 2009. The Federal EPA approved that adoption in November 2009. The TMDL includes a wasteload allocation of:

476 lb/year for Total Nitrogen
78 lb/year for Total Phosphorus

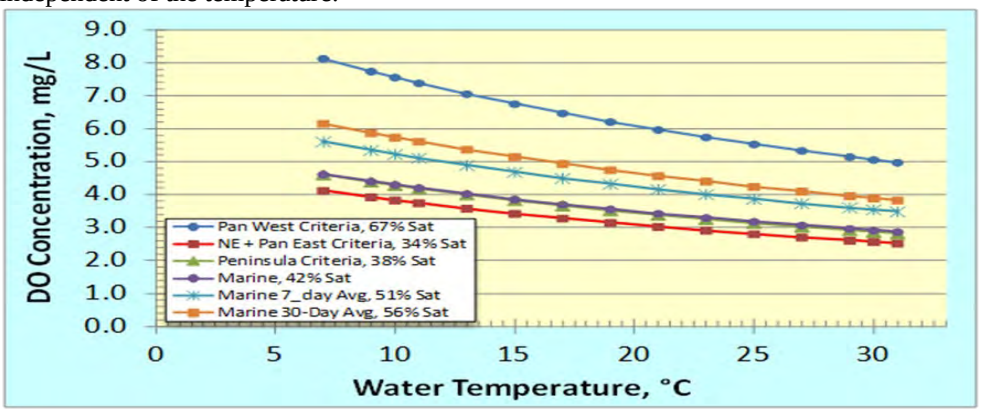
Establishment of Numeric Nutrient Criteria for surface waters may result in a future change of effluent limits.

Criteria for the Whole Effluent Toxicity Tests (WET) requirements: The permit requires the performance of 96-hour definitive static acute toxicity tests to be conducted on freshwater test species. The discharge is infrequent in nature and getting the required samples for the Chronic Toxicity test is not possible. Results of past WET tests showed no significant toxicity caused by the discharge. Based on these results, the frequency of the WET tests was previously reduced to once every twelve months in the last permit. The sampling for the testing shall occur any time during a twelve-month period when the facility is actually discharging to surface waters, unless the permittee notifies the Department in writing that for the last twelve months no surface water discharge has occurred. Department guidelines require the use of freshwater test species to demonstrate unacceptable acute toxicity ("at the end of the discharge pipe").

Intermediate disinfection under subsection 62-600.440(7), F.A.C., requires that the annual average of fecal coliform values not exceed 14 per 100 mL of sample, the monthly median of fecal coliform values not exceed 14 per 100 mL of sample, no more than 10% of samples collected during a month exceed 43 fecal coliform values per 100 mL of sample, and no one sample exceed 86 fecal coliform values per 100 mL of sample.". Bacteriological water quality standards under Rule 62-302.530, F.A.C., for Class III predominately fresh waters require that the monthly geometric mean of E. coli values not exceed 126 E. coli values per 100 mL of sample and no more than 10% of samples collected during a month exceed 410 E. coli values per 100 mL of sample. Because E. coli bacteria are a type of fecal coliform bacteria and the disinfection standards in Rule 62-600.440, F.A.C. for fecal coliform are more stringent than the water quality

standards for E. coli in Rule 62-302.530, F.A.C., if the disinfection requirements are met, the water quality standards for E. coli for discharges to Class III predominately fresh waters will be met as well. For this reason, limitations based on the disinfection standards for fecal coliform, rather than the water quality standards for E. coli, have been included in the permit.

Dissolved Oxygen: The single sample dissolved oxygen (DO) minimum of 5.0 was not changed to the new FDEP dissolved oxygen criteria (effective August 2013and accepted by EPA September 2013) which is based on saturation, because the single sample limit of 5.0 is as stringent as or more stringent than the new criteria. As seen in the attached graph, the state peninsula (area) criteria at 38% saturation and marine criteria at 42% are always below a DO of 5.0 independent of the temperature.



Historical Information (from the first State NPDES permit):

The Indian River Lagoon Protection Act (IRLPA - Chapter 90-262, Laws of Florida) required that all existing wastewater discharges into the Indian River be eliminated by July 1, 1995, with certain exceptions that could be granted by the Department as specifically described in the Act. The facility did not qualify for a limited wet weather discharge (LWWD) under Rule 62-610.860(3), F.A.C. because travel time restrictions to estuarine areas severely limit the applicability of that rule. Subsection 2(3)(c) of the IRPLA allows discharge to the Indian River Lagoon if the facility provides at least advanced wastewater treatment (AWT) for the discharge. The facility has expanded the reuse system to a reuse capacity equal to the permitted treatment capacity of 0.9 MGD. According to 403.086(4)(a) FS, the annual averages for $CBOD_5$, TSS, TN and TP for an AWT are 5 mg/L, 5 mg/L, 3 mg/L and 1 mg/L, respectively. Also, the facility must provide intermediate level disinfection if the discharge is a backup disposal for reuse, which this facility provides. The proposed annual averages for $CBOD_5$, TSS, TN and TP for an LWWD are 5 mg/L, 5 mg/L, 3 mg/L and 1 mg/L, respectively. The proposed monthly, weekly and one-time single sample effluent limitations for $CBOD_5$, TSS, TN and TP are multipliers in accordance with 62-600.740(1)(b)(2)(c and d), FAC. This permit authorizes only an intermittent discharge (91 days per year) to a drainage canal leading to the North Prong of the Sebastian River, a tributary of the Indian River (Indian River Lagoon).

At this time, the permittee has provided reasonable assurance that the discharge will not adversely affect the designated use of the receiving water. Fifth year inspection data, as well as all other available data, have been evaluated in accordance with the Department's reasonable assurance procedures to ensure that no limits other than those included in this permit are needed to maintain Florida water quality standards. The proposed effluent limitations will be achieved during the period beginning on the issuance date and lasting through the expiration date of the permit. The Water Quality Based Effluent Limit (WQBEL) Level I Process was used for this permit renewal to ensure the discharge will not adversely impact the receiving water body. The low frequency of discharge occurring during wet weather conditions is also a factor in providing this reasonable assurance.

This facility is authorized to direct reclaimed water to Reuse System R-001, a slow-rate public access system, based on the following:

Parameter	Units	Max/ Min	Limit	Statistical Basis	Rationale
Flow (Public access reuse)	MGD	Max	1.041	Annual Average	62-600.700(2)(b) & 62-610.810(5) FAC
		Max	Report	Monthly Average	62-600.700(2)(b) & 62-610.810(5) FAC
Flow (Golf course)	MGD	Max	Report	Annual Average	62-600.700(2)(b) & 62-610.810(5) FAC
Flow (Sprayfield)	MGD	Max	0.130	Annual Average	62-600.400(3)(b) FAC
Flow (Infiltration impoundment)	MGD	Max	0.787	Annual Average	62-600.400(3)(b) FAC
BOD, Carbonaceous 5 day, 20C	mg/L	Max	20.0	Annual Average	62-610.460 & 62-600.420(3)(a)1. FAC
		Max	30.0	Monthly Average	62-610.460 & 62-600.420(3)(a)2. FAC
		Max	45.0	Weekly Average	62-610.460 & 62-600.420(3)(a)3. FAC
		Max	60.0	Single Sample	62-610.460 & 62-600.420(3)(a)4. FAC
Solids, Total Suspended	mg/L	Max	5.0	Single Sample	62-610.460(1) & 62-600.440(6)(a)3. FAC
Coliform, Fecal	#/100mL	Max	25	Single Sample	62-610.460 & 62-600.440(6)(a)2. FAC
Coliform, Fecal, % less than detection	percent	Min	75	Monthly Total	62-610.460 & 62-600.440(6)(a)1. FAC
pH	s.u.	Min	6.0	Single Sample	62-600.445 FAC
		Max	8.5	Single Sample	62-600.445 FAC
Chlorine, Total Residual (For Disinfection)	mg/L	Min	1.0	Single Sample	62-600.440(6)(b), 62-610.460(2), & 62-610.463(2) FAC
Turbidity	NTU	Max	Report	Single Sample	62-610.463(2) FAC
Nitrogen, Total	mg/L	Max	Report	Single Sample	62-600.650(3)FAC
Phosphorus, Total (as P)	mg/L	Max	Report	Single Sample	62-600.650(3)FAC
Giardia	cysts/100L	Max	Report	Single Sample	62-610.463(4) FAC
Cryptosporidium	oocysts/100L	Max	Report	Single Sample	62-610.463(4) FAC

Other Limitations and Monitoring Requirements:

Parameter	Units	Max/ Min	Limit	Statistical Basis	Rationale
Flow (Total through plant)	MGD	Max	0.90	Annual Average	62-600.700(2)(b) FAC
		Max	Report	Monthly Average	62-600.700(2)(b) FAC
		Max	Report	Quarterly Average	62-600.700(2)(b) FAC
Percent Capacity, (TMADF/Permitted Capacity) x 100	percent	Max	Report	Monthly Average	62-600.405(4) FAC
BOD, Carbonaceous 5 day, 20C (Influent)	mg/L	Max	Report	Single Sample	62-600.660(1) FAC
Solids, Total Suspended (Influent)	mg/L	Max	Report	Single Sample	62-600.660(1) FAC
Monitoring Frequencies and Sample Types	-	-	-	All Parameters	62-600 FAC & 62-699 FAC and/or BPJ of permit writer

Parameter	Units	Max/ Min	Limit	Statistical Basis	Rationale
Sampling Locations	-	-	-	All Parameters	62-600, 62-610.412, 62-610.463(1), 62-610.568, 62-610.613 FAC and/or BPJ of permit writer

4. DISCUSSION OF CHANGES TO PERMIT LIMITATIONS

The current wastewater permit for this facility FL0042293-011-DW1P expires on October 15, 2024. Fecal Coliform was added to sampling at D-001 based on Rule 62-600.520(5) FAC. in an earlier permitting cycle. The language for Total Ammonia Nitrogen required under Rule 62-302.530(11)(c), FAC. does not apply to this permit because the prior permit did not require Unionized Ammonia sampling. The testing frequency for TSS and Fecal Coliform is changed to 4 days/week, accordance with Chapter 62-600.530(3) and Chapter 62-600(1) note 4 Florida Administrative Code, and was previously approved by permit modification dated January 7, 2016, FL0042293-009.

PERMITTING HISTORY:

The -008 permit was the last renewal issued on September 10, 2013, for a term of 5 years. No changes were listed in that permit from the previous cycle.

The -009 revision was issued January 7, 2016, to approve a reduction in the frequency of testing for Total Suspended Solids and Fecal Coliform.

The -010 revision was to implement that requirement of the EPA for NPDES facilities to use EZDMR. That was issued October 18, 2016.

5. BIOSOLIDS MANAGEMENT REQUIREMENTS

Biosolids generated by this facility may be transferred to BCUD/South Central WRF or disposed of in a Class I solid waste landfill.

See the table below for the rationale for the biosolids quantities monitoring requirements.

Parameter	Units	Max/ Min	Limit	Statistical Basis	Rationale
Biosolids Quantity (Transferred)	dry tons	Max	Report	Monthly Total	62-640.650(5)(a)1. FAC
Biosolids Quantity (Landfilled)	dry tons	Max	Report	Monthly Total	62-640.650(5)(a)1. FAC
Monitoring Frequency		All Parameters			62-640.650(5)(a) FAC

6. GROUND WATER MONITORING REQUIREMENTS

Ground water monitoring requirements have been established in accordance with Chapters 62-520, 532, 601, 610, and 620, F.A.C.

Parameters Arsenic, Cadmium, Chromium, Sulfate and Lead are currently not included in the Ground Water Monitoring Plan (GWMP) because they are not believed to be present in the effluent. However, if the Department has any reasons in the future to believe that these metals are present in the effluent, they will be added to the Ground Water Monitoring Plan sampling list.

Compliance well MWC-4 (WAFR # 96968) will be sampled for all Primary and Secondary Drinking water standard parameters prior to each permit renewal and the results of this analysis must be submitted along with the permit renewal application. [62-520.600(5)2(b)].

Although the parameter Trihalomethanes, Total (TTHMs) in the Effluent Analysis Report exceeded the MCL, it will not be added to the GWMP. TTHMs were added to the GWMP during the last permit cycle and there were no exceedances in the groundwater monitoring wells.

pH was added to the list of parameters.

Historically, the 320-Acre Spray Field Site (A Slow Rate Restricted Public Access System) was changed to an exfiltration trench site with the permit renewal of August 2008. Compliance Monitoring Wells MWC-4, MWC-5, and MWC-6 have been installed at the Trench site. All three (3) wells are 25 feet deep and serve as compliance wells.

7. PERMIT SCHEDULES

The following improvement actions shall be completed according to the following schedule:

Improvement Action	Completion Date
1. Submit reports to the Department detailing the Inflow and Infiltration program efforts.	Every two years from the effective date of this permit.

[62-620.320(6)]

8. INDUSTRIAL PRETREATMENT REQUIREMENTS

At this time, the facility is not required to develop an approved industrial pretreatment program. However, the Department reserves the right to require an approved program if future conditions warrant.

9. ADMINISTRATIVE ORDERS (AO) AND CONSENT ORDERS (CO)

This permit is not accompanied by an AO and the permittee has not entered a CO with the Department.

10. REQUESTED VARIANCES OR ALTERNATIVES TO REQUIRED STANDARDS

No variances were requested for this facility.

11. THE ADMINISTRATIVE RECORD

The administrative record including application, draft permit, fact sheet, public notice (after release), comments received, and additional information is available for public inspection during normal business hours at the location specified in item 13 or online at http://prodenv.dep.state.fl.us/DepNexus/public/electronic-documents/FL0042293/facility!search.

A third party, Crystal Bay, LLC. asked for a public meeting regarding the issuance of this permit in July 2018. Upon review by the Office of General Council, it was determined that the issue presented by the Crystal Bay, LLC is a civil matter between it and the utility. There were no issues involving the suitability of the draft permit and therefore the Department did not schedule a public meeting.

The Notice of Intent to Issue was signed and sent on January 16, 2019; on January 25, 2019, Crystal Bay, LLC, filed a Timely Motion for Enlargement of Time to File Initial Pleading; on January 29, 2019, an extension until March 11, 2019, was granted. On March 11, 2019, another extension request was filed and was granted. On April 10, 2019, another extension request was filed and granted on April 16, 2019. On May 10, 2019, a third extension request and a petition against the permit was received. On May 28, 2019, the request for extension and the petition was dismissed with leave to amend and allowed 15 days to submit an amended petition. An amended Petition was filed on June 12, 2019 and was dismissed without prejudice on July 16, 2019 with leave to amend. A second amended petition was filed on August 16, 2019. A Final Order of Dismissal with Prejudice was sent to the petitioner on September 13, 2019. The petitioner filed a notice of appeal on October 11, 2019.

12. PROPOSED SCHEDULE FOR PERMIT ISSUANCE

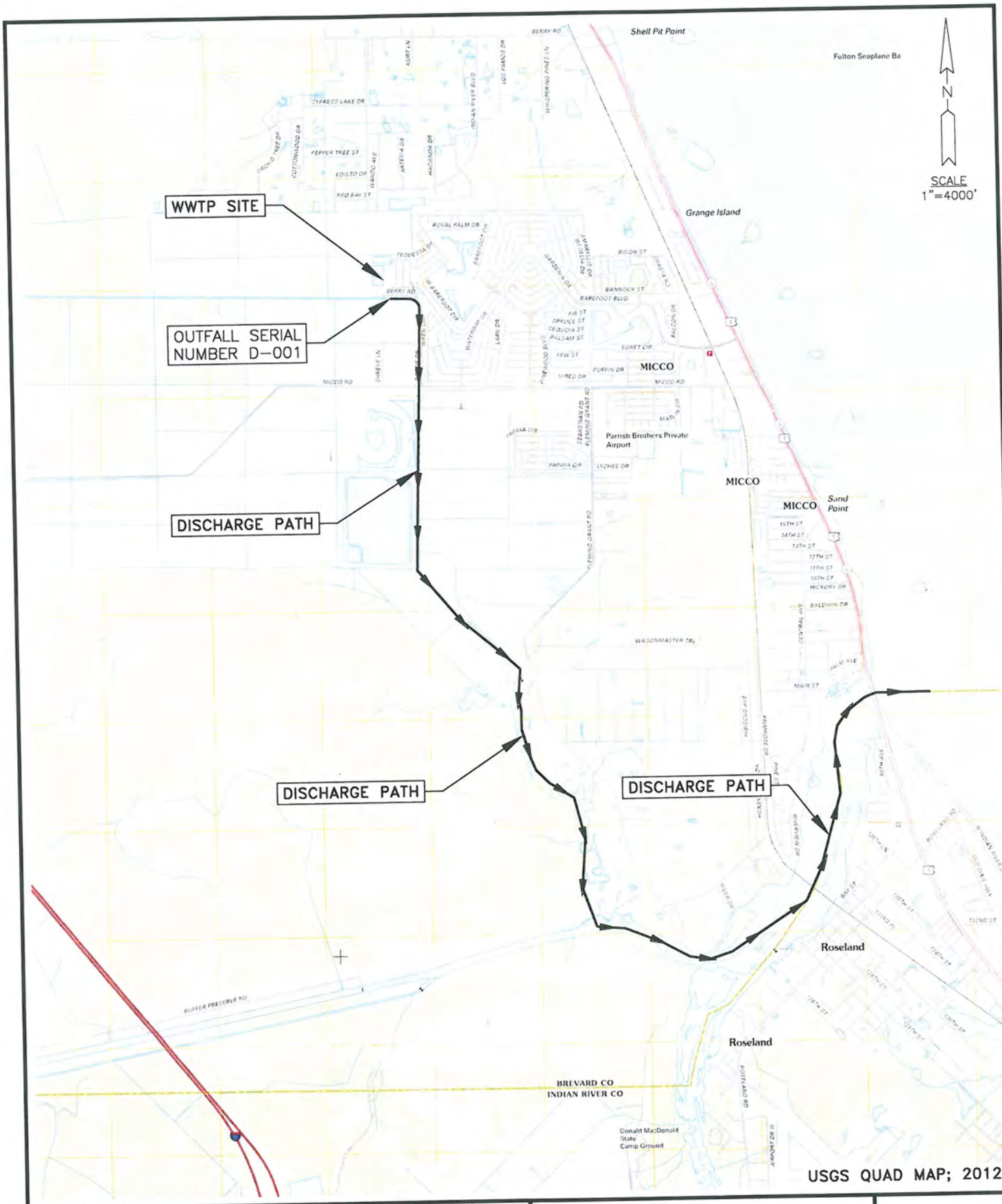
Draft Permit and Public Notice to Applicant and EPA	May 18, 2018
Public Comment Period	Beginning: May 22, 2018 Ending: June 21, 2018
Proposed Permit to Tallahassee	May 18, 2018
Preliminary Draft to the County:	June 6, 2018
Notice of Draft Permit to County	June 22, 2018
Notice of Intent to Issue	January 16, 2019
Notice of Permit Issuance	October 16, 2019

13. DEPARTMENT CONTACT

Additional information concerning the permit and proposed schedule for permit issuance may be obtained during normal business hours from:
Permitting and Waste Cleanup Program

3319 Maguire Blvd, Suite 232
Orlando, FL 32803-3767

Telephone No.: 407-897-4100



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Palm Bay, FL 32905
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Certificate of Authorization No.: 3952
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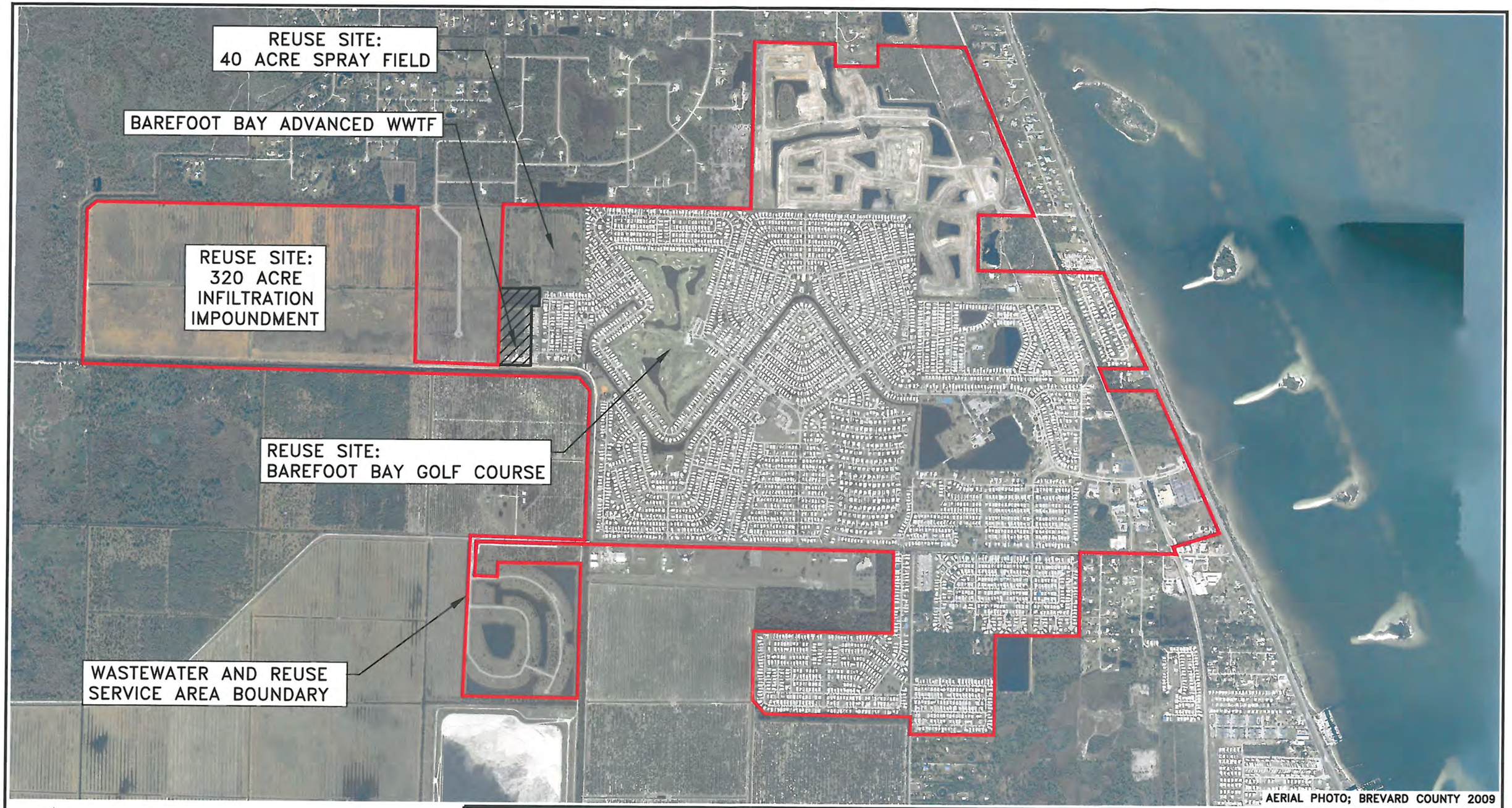
WET WEATHER DISCHARGE PATH
BAREFOOT BAY ADVANCED WASTEWATER TREATMENT FACILITY
O & M PERFORMANCE REPORT
BREVARD COUNTY, FLORIDA

FIGURE 1-5



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SCALE IN FEET

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SEAL OF BREVARD COUNTY FLORIDA

SERVICE AREA MAP
BAREFOOT BAY ADVANCED WASTEWATER
TREATMENT FACILITY
CAPACITY ANALYSIS REPORT
N FT MYERS, LEE COUNTY, FLORIDA

FIGURE 1-2

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