

City of Ocoee

DRAFT

Wastewater Treatment Plan

Ocoee WWTF
FDEP Permit No. FLA010815



JANUARY 31, 2024

Table of Contents

Introduction	1
Ocoee WWTF	4
Total Nitrogen and Phosphorus	6
Capacity Analysis.....	8
Facility Construction/Expansion/Upgrades and Timeline.....	9

Figures

Location Map.....	1
Sewer Service Territory.....	2
Priority Focus Area.....	3
WWTP Layout.....	5

Tables

Table 1. Ocoee WWTF Annual Average Reclaimed Water Flow and TN	7
Table 2. Ocoee WWTF Annual Average Reclaimed Water Flow and TP	8
Table 3. WWTF Permitted Capacities	8
Table 4. Projected AADF	9
Table 5. Anticipated Projects	9

Attachments

Attachment 1: WWTP Permit

Attachment 2: Capacity Analysis Report

Introduction

The City of Ocoee (City), located in west Orange County and east of Lake Apopka, owns and operates one wastewater treatment facility, the Ocoee WWTF (FDEP Permit No. FLA010815). A location map is provided as **Figure 1**.

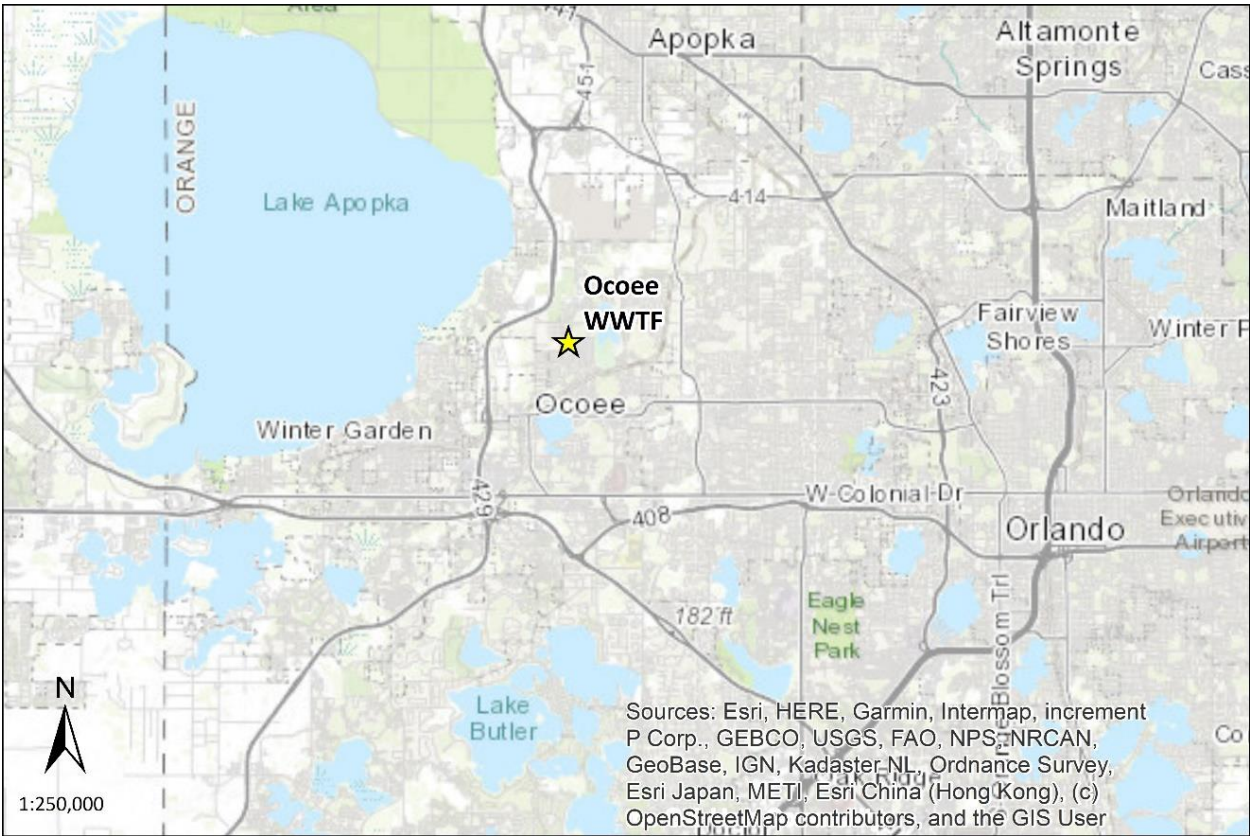
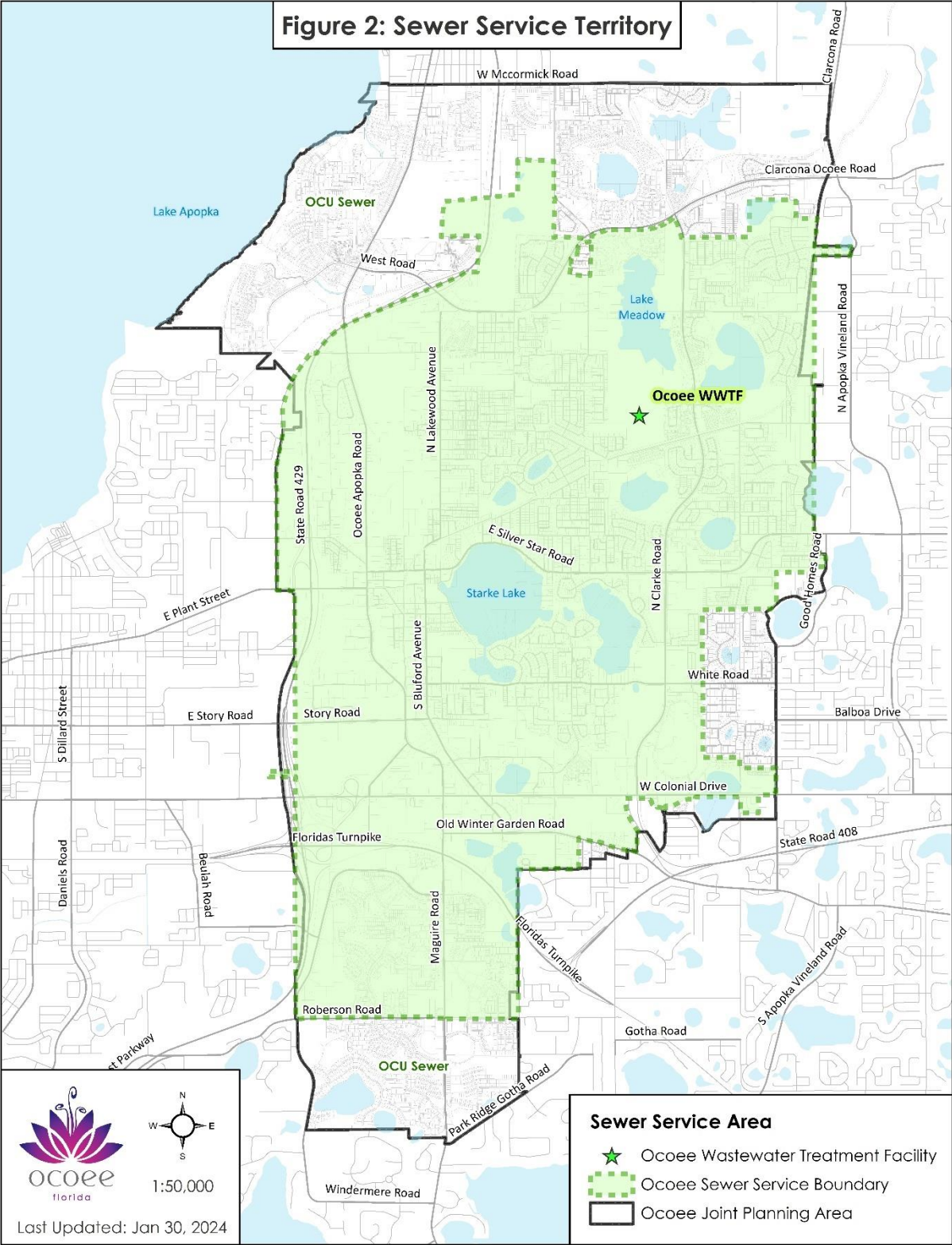
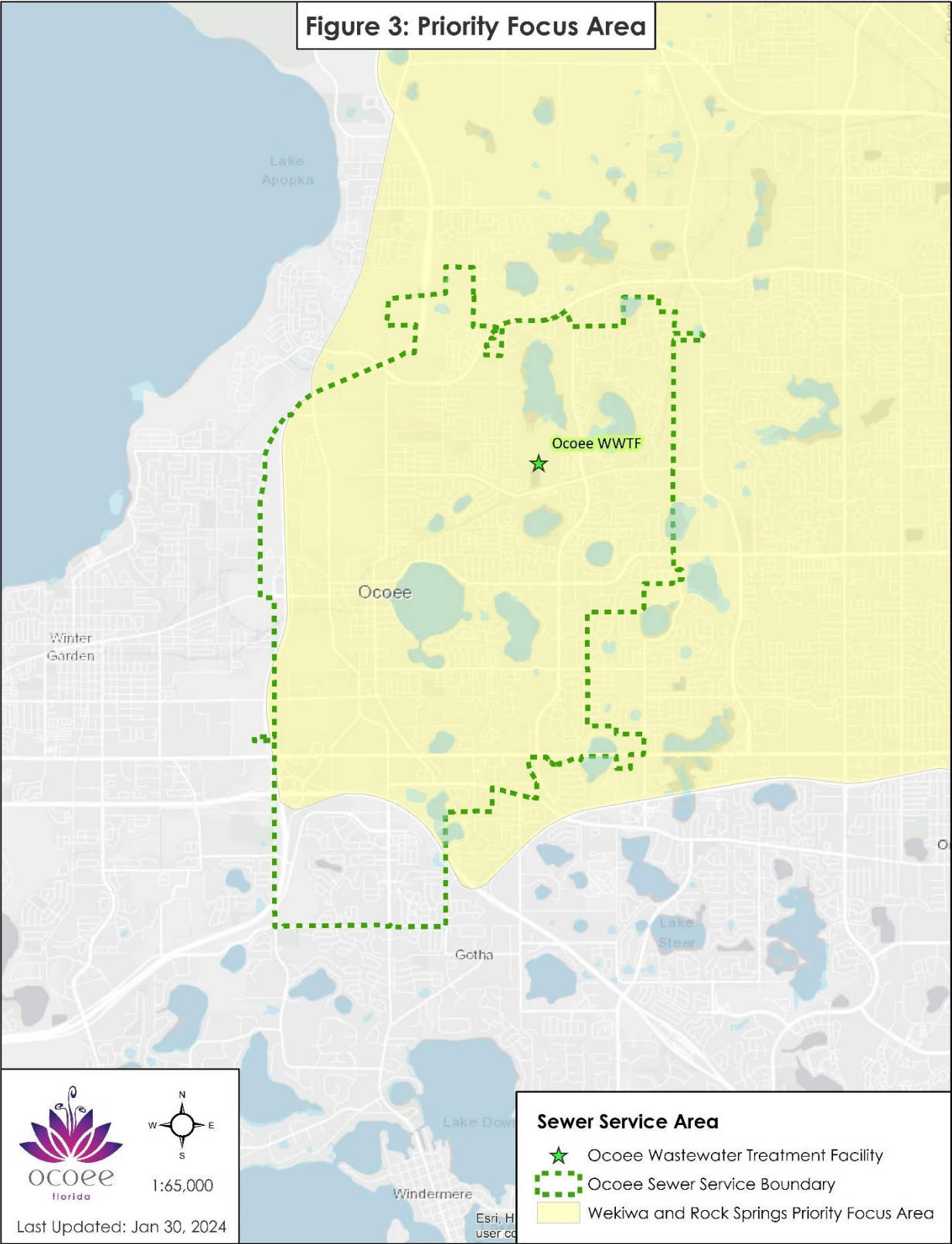


Figure 1: Location Map

The City’s sanitary sewer service territorial boundary is established in the Orange County/City of Ocoee Sewer Service Territorial Agreement and is shown in **Figure 2**.

As shown in **Figure 3**, the City’s wastewater service territory is primarily located within the *Wekiva Springs and Rock Springs Basin Management Action Plan (BMAP)*, with the majority of the wastewater service territory and the Ocoee Wastewater Treatment Facility (WWTF) also located within the BMAP priority focus area (PFA).





Subparagraph 403.067(7)(a)9., Florida Statutes, specifies that local governments within the *Wekiwa and Rock Springs BMAP* must develop a wastewater treatment plan containing the following information for each domestic wastewater facility under its jurisdiction:

1. The facility's permitted capacity in average annual gallons per day;
2. The facility's permitted TN and TP effluent limits for the facility;
3. The annual TN and TP loads (showing both flow and concentrations) discharged from the facility over the past five years, estimated if necessary;
4. A capacity analysis for the facility, considering future growth over the next 20 years;
5. A list and ranking of facility construction, expansion, or upgrades necessary to meet applicable nutrient water quality requirements (for example, to meet nutrient effluent limits in BMAPs and TMDLs, section 403.064(17), Florida Statutes, requirements, or other statutory or regulatory requirements), and the estimated costs of these facility improvements; and,
6. A projected timeline of the dates by which the construction of any facility improvements, including new/extended sewer lines, will begin and be completed and the date by which operations of the improved facility will begin.

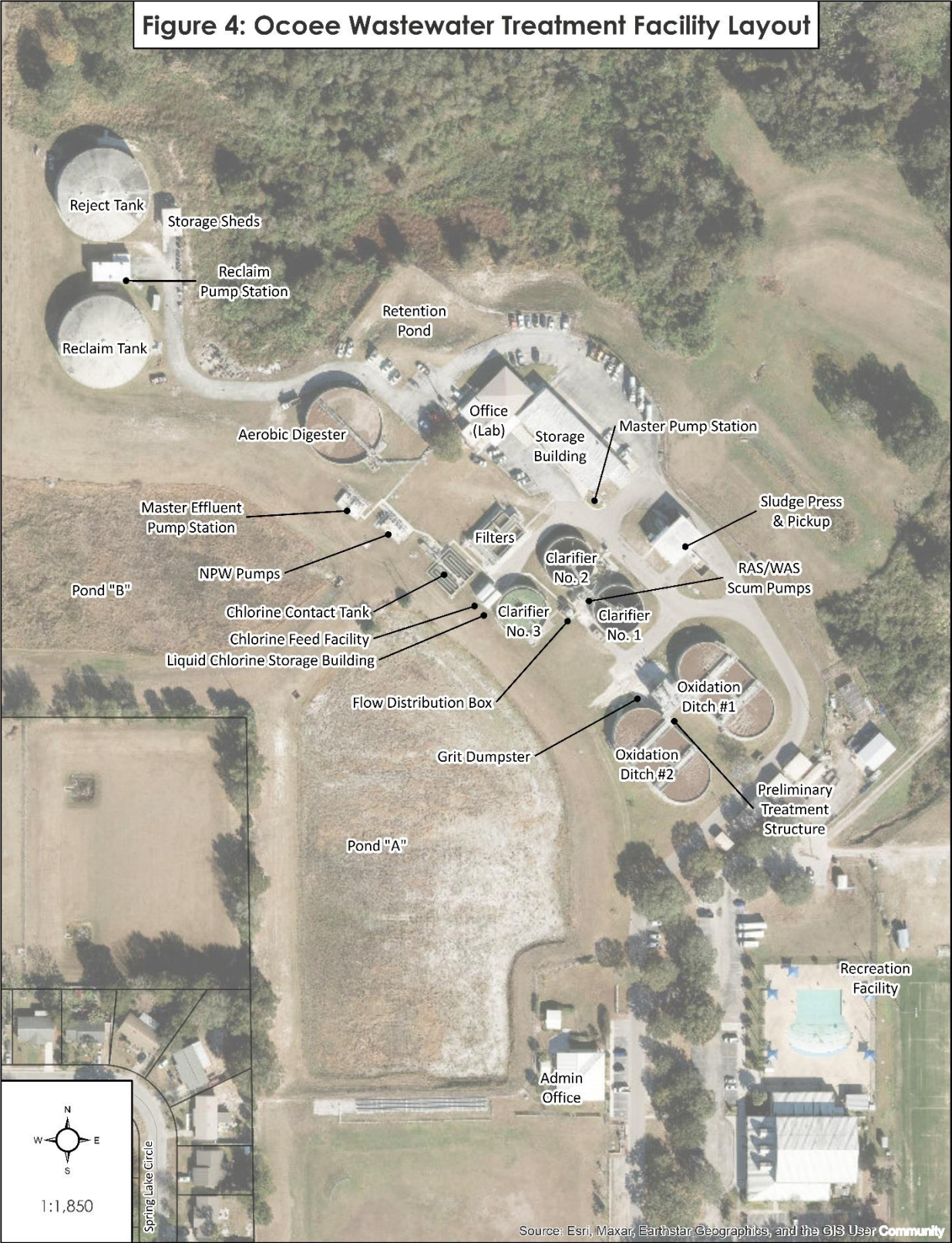
Draft wastewater treatment plans must be submitted to FDEP by February 1, 2024. This draft Wastewater Treatment Plan is provided in accordance with Subparagraph 403.067(7)(a)9., Florida Statutes.

Ocoee WWTF

The City of Ocoee owns and operates the City of Ocoee Wastewater Treatment Facility (WWTF) at 1810 A.D. Mims Road. This facility has a design capacity of 3.0 MGD and is permitted under FDEP Permit No. FLA010815. This permit was most recently renewed on May 13, 2023, and expires on May 12, 2033. A copy of the wastewater permit is included under **Attachment 1**, and the WWTF layout is illustrated in **Figure 4**.



Ocoee WWTF



Treatment at the Ocoee WWTF begins at pretreatment with preliminary screening and grit removal followed by the Bio-Denitro™ process. The Bio-Denitro™ process utilizes an interconnected oxidation ditch system to decrease the total nitrogen content, bio-chemical oxygen demand (BOD), ammonia, and suspended solids levels. The mixed liquor from both oxidation ditches is combined and then flows to the three (3) secondary clarifiers where the solids settle out of the wastewater.

The solids are either recycled to the oxidation ditch as return activated sludge (RAS) to help maintain biological growth or are wasted to the aerobic digester as waste activated sludge (WAS) for stabilization, before dewatering by belt press and disposal. The City uses Shelley's Environmental Systems to dispose of and treat biosolids produced at the WWTF. The clarifier effluent flows to the traveling bridge automatic backwash (ABW) filters for final filtration, then to the chlorine contact chambers for disinfection, and lastly through a Parshall Flume for metering.

After disinfection, effluent flows to the Master Effluent Pump Station (MEPS). Within the MEPS either the Effluent Transfer Pumps (ETPs) or the Master Pump Station Pumps (MPs) can convey flow for effluent disposal. The ETPs transfer treated effluent to the 2.0 MG reclaimed water ground storage tank (GST). High service pumps connected to the reclaimed GST convey flow to the slow-rate public access reuse system (Land Application R-002). If the effluent is unsuitable for public reuse, then the ETPs pump the unsuitable effluent to the reject GST or the on-site RIBs (Land Application R-001). Continuous on-line monitoring of turbidity and chlorine residual allows for automatic divergence of unsuitable effluent (high turbidity, low chlorine residual) through an automatic valve to the reject storage tank or to the on-site RIBs.

The MPS pumps can pump reclaimed water for irrigation to the Forest Lake Golf Course or to the Rapid Infiltration Basins (RIBs) at the Forest Lake Golf Course and the City of Winter Garden's RIB site. The City has an ongoing interlocal agreement with the City of Winter Garden for the joint use of the sites. The agreement allows Winter Garden to dispose public-access quality effluent to the Forest Lake Golf Course. Conversely, the City of Ocoee can send up to 0.25 MGD of effluent for disposal to the City of Winter Garden's RIB site during wet weather conditions.

Total Nitrogen and Phosphorus

Section I.A. Condition 9 limits the Ocoee WWTF annual average total nitrogen (TN) concentration limit to 10.0 mg/L, and Condition 10 states that an annual average TN of 3 MG/L will be written into the City's permit at the next renewal in 2033. Copies of TN concentration permit conditions are provided below.

9. Total Nitrogen concentration in the water discharged to the land application system shall not exceed the annual average limit of 10.0 mg/L TN due to being located in the Wekiva Study Area and the Wekiva Basin Management Action Plan (BMAP) area. [62-600.550]

10. The Wekiva BMAP was updated May 18, 2021 and the facility is located in the Primary Focus Area (PFA) of the Wekiwa and Rock Springs Basin Management Action Plan (BMAP) and will have to meet an annual average limit of 3 mg/l of Total Nitrogen in the reclaimed water because of the capacity and type of reuse system at the facility. New effluent standards for existing facilities in the PFA will take effect on July 1, 2028 and will be written into the facility's permit at the next permit issuance or renewal following the effective date. Facilities must be compliant with the new standards no later than July 1, 2038. [Secretarial Order, DEP 18-1065]

Table 1 provides the annual TN concentrations discharged from the Ocoee WWTF over the last five years. Note that in the past five years, the annual average limit has not been exceeded.

Table 1. Ocoee WWTF Annual Average Reclaimed Water Flow and TN

Year	Reclaimed Water Discharged From Ocoee WWTF (MGD, AADF)	Annual Average TN (mg/L)
2019	1.77	8.55
2020	1.68	2.91
2021	1.65	3.83
2022	1.65	2.46
2023	1.78	4.66

Section I.A. Condition 23 of the Ocoee WWTF Permit also requires that the City monitor and submit total phosphorus (TP) concentrations. The permit does not establish maximum TP concentrations. A copy of the TP monitoring condition is provided below.

23. Monitoring for total phosphorus (TP) is required as allowed by Rule 62-600.650(3), FAC, to evaluate impacts of reclaimed water to ground and surface waters in an impaired water basin. [62-600.650(3)]

The annual average TP concentrations discharged from the Ocoee WWTF over the last 5 years are provided in **Table 2**.

Table 2. Ocoee WWTF Annual Average Reclaimed Water Flow and TP

Year	Reclaimed Water Discharged From Ocoee WWTF (MGD, AADF)	Annual Average TP (mg/L)
2019	1.77	2.53
2020	1.68	2.21
2021	1.65	3.48
2022	1.65	3.13
2023	1.78	2.83

Capacity Analysis

The Ocoee WWTF FDEP permit was issued on April 4, 2023. Permitted capacities are provided in **Table 3**.

Table 3. WWTF Permitted Capacities

Facility	Permitted Capacity (MGD, AADF)
Flow through WWTF	3.0
Land Application R-001 – An existing reuse system consisting of two rapid infiltration basins.	
Onsite RIBs	0.35
Land Application R-002 – An existing slow-rate public access system. The city is permitted to supplement the system by utilizing reuse capacities for Orange County Utilities Department Northwest Regional Reclamation Facility and/or from City of Orlando’s Water Conserve II Water Reclamation Facility.	
Public Access Reuse	1.89
Forest Lake Golf Course	Report
Forest Lake RIBs	Report
Winter Garden RIBs	0.25

Table 4 provides projected population and wastewater flows for the next 20 years. Projected population and wastewater flows through 2032 are consistent with the 2022 Capacity Analysis report prepared by Wright-Pierce and reviewed and approved by FDEP as part of the recent permit renewal. Wastewater flows for the 11- to 20-year planning horizon are assumed to be 1% based on vacant land and the projected development schedule. A copy of the 2022 Capacity Analysis Report is provided as **Attachment 2**.

Table 4. Projected AADF

Year	Projected Wastewater Population	Per Capita Daily Flow (GPD)	Estimated Wastewater AADF (MGD)	Percent Permitted Capacity Based on AADF	Estimated Max TMADF	Percent Permitted Capacity Based on TMADF
2024	28,851	63	1.82	61%	1.93	64%
2029	31,854	63	2.01	67%	2.13	71%
2034	34,482	63	2.17	72%	2.30	77%
2039	36,241	63	2.28	76%	2.42	81%
2044	38,090	63	2.40	80%	2.54	85%

Facility Construction/Expansion/Upgrades and Timeline

The City continues to evaluate projects to meet current and future customer wastewater demands and comply with the *Wekiwa and Rock Springs BMAP* requirements. These projects are summarized in **Table 5**.



Floral Sewer Project

Table 5. Anticipated Projects

Project	Anticipated Start Date Unless Otherwise Noted	Anticipated Completion Date	Estimated Cost ³
Floral Street Sanitary Sewer	Under Construction	May 2024	\$2,300,000 ¹
Clarifier 3 Mechanical Replacement	June 2024	October 2024	\$126,000
WWTP Electrical Building and Electrical Upgrade	December 2024	December 2026	\$4,000,000
16" Reclaim Main From OCU Connection to New Reclaim Tank	December 2024	December 2026	\$3,700,000
1 MG Reclaimed Tank (OUC RW)	December 2024	December 2026	\$4,500,000
Replace 3 Existing Rotors and Add Two New Rotors, Gear Box, Motor, and Bearings in Oxidation Ditch	June 2025	December 2026	\$1,000,000
Bluford Phase 1 Gravity Sewer	June 2025	June 2027	\$3,500,000 ²
Lakewood Gravity Sewer	June 2025	December 2026	\$4,000,000
Bluford Phase 2 Gravity Sewer	June 2029	June 2031	\$2,000,000 ²
Advanced Wastewater Treatment Project Construction (Nitrogen Removal)	January 2030	December 2032	\$20,000,000

1. Project cost includes watermain replacement

2. Part of a larger street improvement project. Sewer will only be installed if the rest of the project is constructed.

3. Estimated cost present value.

4. Design and permit fees not included in project costs.

Attachment 1

WWTP Permit



FLORIDA DEPARTMENT OF Environmental Protection

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Shawn Hamilton
Secretary

Central District Office
3319 Maguire Blvd, Suite 232
Orlando, Florida 32803-3767

STATE OF FLORIDA DOMESTIC WASTEWATER FACILITY PERMIT

PERMITTEE:

Ocoee, City of

RESPONSIBLE OFFICIAL:

Jamie Croteau, Utilities Director
1800 A D Mims Rd
Ocoee, Florida 34761-4001
(407) 905-3159
JCroteau@ocoee.org

PERMIT NUMBER: FLA010815
FILE NUMBER: FLA010815-009-DW1P
ISSUANCE DATE: April 4, 2024
EFFECTIVE DATE: May 13, 2023
EXPIRATION DATE: May 12, 2033

FACILITY:

Ocoee WWTF
1800 A D Mims Rd
Ocoee, FL 34761-4001
Orange County
Latitude: 28°35' 19.31" N Longitude: 81°31' 10.85" 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.). This permit does not constitute authorization to discharge wastewater other than as expressly stated in this permit. The above-named permittee is hereby authorized to operate the facilities in accordance with the documents attached hereto and specifically described as follows:

WASTEWATER TREATMENT:

An existing 3.0 mgd annual average daily flow (AADF) permitted capacity conventional activated sludge domestic wastewater treatment plant consisting of influent screening, grit removal, aeration, secondary clarification, chemical feed, filtration, chlorination, and aerobic digestion of biosolids followed by de-watering and drying/storage beds. The facility also includes a septage receiving station.

REUSE OR DISPOSAL:

Land Application R-001: An existing 0.35 MGD annual average daily flow permitted capacity rapid infiltration basin system. R-001 is a reuse system which consists of two rapid infiltration basins with a total wetted area of 10.7 acres having a capacity of 0.35 MGD located approximately at latitude 28°35' 15" N, longitude 81°31' 9" W.

Land Application R-002: An existing 3.14 MGD annual average daily flow permitted capacity slow-rate public access system. R-002 is a reuse system which consists of irrigation within the Reuse Service Area as shown on the attached map. Additionally, the City is permitted to supplement its reuse supply in R-002 by utilizing reuse capacities for Orange County Utilities Department Northwest Regional Reclamation Facility and/or from City of Orlando's CONSERV II Facility.

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 25 of this permit.

PERMITTEE: Ocoee, City of
FACILITY: Ocoee WWTF

PERMIT NUMBER: FLA010815
EXPIRATION DATE: May 12, 2033

I. RECLAIMED WATER AND EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Reuse and Land Application Systems

- During the period beginning on the effective date and lasting through the expiration date of this permit, the permittee is authorized to direct reclaimed water to rapid rate 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.B.8.:

Parameter	Units	Max. /Min	Reclaimed Water Limitations		Monitoring Requirements			Notes
			Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	
Flow (To onsite RIBs)	MGD	Max Max	0.35 Report	Annual Average Monthly Average	Continuous	Recording Flow Meter with Totalizer	FLW-4	See I.A.4
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	8-hr FPC	EFA-1	
Solids, Total Suspended	mg/L	Max Max Max Max	20.0 30.0 45.0 60.0	Annual Average Monthly Average Weekly Average Single Sample	Weekly	8-hr TPC	EFA-1	
Coliform, Fecal	#/100mL	Max Max Max Max	200 200 400 800	Monthly Geometric Mean Annual Average 90th Percentile Single Sample	Weekly	Grab	EFA-1	See I.A.5 and I.A.6
pH	s.u.	Min Max	6.0 8.5	Single Sample Single Sample	Continuous	Meter	EFA-1	See I.A.3
Chlorine, Total Residual (For Disinfection)	mg/L	Min	0.5	Single Sample	Continuous	Meter	EFA-1	See I.A.7 and I.A.3
Nitrogen, Nitrate, Total (as N)	mg/L	Max	12.0	Single Sample	Weekly	8-hr FPC	EFA-1	See I.A.8
Nitrogen, Total	mg/L	Max Max	10.0 Report	Annual Average Monthly Average	Weekly	8-hr FPC	EFA-1	

- Reclaimed water 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-4	Flow meter to on-site RIBs (M-2)
EFA-1	Chlorine contact chamber effluent

- Hourly measurement of pH and total residual chlorine for disinfection during the period of required operator attendance may be substituted for continuous measurement. [62-600.660(1)]
- A recording flow meter with totalizer shall be utilized to measure flow and calibrated at least once every 12 months. [62-600.200(25)]
- The effluent limitation for the monthly geometric mean for fecal coliform is only applicable if 10 or more values are reported. If fewer than 10 values are reported, the monthly geometric mean shall be calculated and reported on the Discharge Monitoring Report to be used to calculate the annual average. All other fecal coliform

PERMITTEE: Ocoee, City of
FACILITY: Ocoee WWTF

PERMIT NUMBER: FLA010815
EXPIRATION DATE: May 12, 2033

effluent limitations included in permit condition I.A.1 apply regardless of the number of values reported. [62-600.440(5)(b)]

6. To report the "90th percentile,"
 - a. Place the bacteria results in ascending order (from lowest to highest value) and assign each sample a number, 1 for the lowest value.
 - b. Multiply the total number of samples by 0.9 to determine the 90th percentile level.
 - c. Report the value of the sample that corresponds to the 90th percentile level (e.g., 10 samples x 0.9 = 9, report the value of the 9th sample). If the 90th percentile level is not a whole number, rounding or interpolation should be used to determine the 90th percentile. When rounding, round down to the nearest whole number if the decimal is 0.4 or lower, and round up to the nearest whole number if the decimal is 0.5 or higher (e.g., 12 samples x 0.9 = 10.8, report the value of the 11th sample if rounding).
- [62-600.440(5)(a)3]
7. Total residual chlorine must be maintained for a minimum contact time of 15 minutes based on peak hourly flow. [62-610.510][62-600.440(5)(c) and (6)(b)]
 8. Nitrate nitrogen (NO₃) concentration in the water discharged to the land application system shall not exceed 12.0 mg/L or as required to comply with Rule 62-610.510, F.A.C. [62-610.510]
 9. Total Nitrogen concentration in the water discharged to the land application system shall not exceed the annual average limit of 10.0 mg/L TN due to being located in the Wekiva Study Area and the Wekiva Basin Management Action Plan (BMAP) area. [62-600.550]
 10. The Wekiva BMAP was updated May 18, 2021 and the facility is located in the Primary Focus Area (PFA) of the Wekiwa and Rock Springs Basin Management Action Plan (BMAP) and will have to meet an annual average limit of 3 mg/l of Total Nitrogen in the reclaimed water because of the capacity and type of reuse system at the facility. New effluent standards for existing facilities in the PFA will take effect on July 1, 2028 and will be written into the facility's permit at the next permit issuance or renewal following the effective date. Facilities must be compliant with the new standards no later than July 1, 2038. [Secretarial Order, DEP 18-1065]
 11. During the period beginning on the effective date and lasting through the expiration date of this permit, the permittee is authorized to direct reclaimed water to Reuse System R-002. Such reclaimed water shall be limited and monitored by the permittee as specified below and reported in accordance with Permit Condition I.B.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	1.89 Report	Annual Average Monthly Average	Continuous	Recording Flow Meter with Totalizer	FLW-3	See I.A.14
Flow (Forest Lake GC)	MGD	Max	Report	Annual Average	Continuous	Recording Flow Meter with Totalizer	FLW-2A	
Flow (Forest Lake RIBs)	MGD	Max	Report	Annual Average	Continuous	Recording Flow Meter with Totalizer	FLW-2B	
Flow (Winter Garden RIBs)	MGD	Max	0.25	Annual Average	Continuous	Recording Flow Meter with Totalizer	FLW-2C	

PERMITTEE: Ocoee, City of
FACILITY: Ocoee WWTF

PERMIT NUMBER: FLA010815
EXPIRATION DATE: May 12, 2033

Parameter	Units	Max. /Min	Reclaimed Water Limitations		Monitoring Requirements			Notes
			Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	
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	8-hr FPC	EFA-1	
Solids, Total Suspended	mg/L	Max	5.0	Single Sample	Daily; 24 hours	Grab	EFB-1	
Coliform, Fecal	#/100mL	Max	25	Single Sample	Daily; 24 hours	Grab	EFA-1	
Coliform, Fecal, % less than detection	percent	Min	75	Monthly Total	Daily; 24 hours	Calculated	EFA-1	See I.A.15
pH	s.u.	Min Max	6.0 8.5	Single Sample Single Sample	Continuous	Meter	EFA-1	See I.A.13
Chlorine, Total Residual (For Disinfection)	mg/L	Min	1.0	Single Sample	Continuous	Meter	EFA-1	See I.A.16 and I.A.19
Turbidity	NTU	Max	Report	Single Sample	Continuous	Meter	EFB-1	See I.A.17 and I.A.19
Nitrogen, Total	mg/L	Max Max	10.0 Report	Annual Average Monthly Average	Weekly	8-hr FPC	EFA-1	See I.A.21
Phosphorus, Total (as P)	mg/L	Max Max	Report Report	Annual Average Monthly Average	Weekly	8-hr FPC	EFA-1	See I.A.21
Giardia	cysts/100 L	Max	Report	Single Sample	Biennially; Every 2 years	Grab	EFA-1	See I.A.20
Cryptosporidium	oocysts/100L	Max	Report	Single Sample	Biennially; Every 2 years	Grab	EFA-1	See I.A.20

12. Reclaimed water samples shall be taken at the monitoring site locations listed in Permit Condition I.A.11. and as described below:

Monitoring Site Number	Description of Monitoring Site
FLW-3	Flow meter to Reuse Service Area
FLW-2A	Flow meter in line to Forest Lakes Golf Course
FLW-2B	Flow meter to Forest Lakes RIBs
FLW-2C	Flow meter to Winter Garden RIBs
EFA-1	Chlorine contact chamber effluent
EFB-1	Filter effluent prior to chlorination

13. Hourly measurement of pH during the period of required operator attendance may be substituted for continuous measurement. [62-600.660(1)]
14. A recording flow meter with totalizer shall be utilized to measure flow and calibrated at least once every 12 months. [62-600.200(25)]
15. 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)]

PERMITTEE: Ocoee, City of
FACILITY: Ocoee WWTF

PERMIT NUMBER: FLA010815
EXPIRATION DATE: May 12, 2033

16. 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)]
17. 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. Filtration shall be provided for total suspended solids control. [62-610.463(2)]
18. 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 or to the following permitted alternate discharge system: on-site RIBS. [62-610.320(6) and 62-610.463(2)]
19. 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)]
20. Sampling for Giardia and Cryptosporidium shall be conducted at one time during each two-year period. Intervals between sampling shall not exceed two years. The sample results shall be submitted to the Department on or before November 28 of that year using Form 62-610.300(3)(a)4. [62-610.463(4)]
21. Total Nitrogen concentration in the water discharged to the land application system shall not exceed the annual average limit of 10.0 mg/L TN due to being located in the Wekiva Study Area and the Wekiva Basin Management Action Plan (BMAP) area. [62-600.550]
22. The Wekiva BMAP was updated May 18, 2021 and the facility is located in the Primary Focus Area (PFA) of the Wekiwa and Rock Springs Basin Management Action Plan (BMAP) and will have to meet an annual average limit of 3 mg/l of Total Nitrogen in the reclaimed water because of the capacity and type of reuse system at the facility. New effluent standards for existing facilities in the PFA will take effect on July 1, 2028 and will be written into the facility's permit at the next permit issuance or renewal following the effective date. Facilities must be compliant with the new standards no later than July 1, 2038. [Secretarial Order, DEP 18-1065]
23. Monitoring for total phosphorus (TP) is required as allowed by Rule 62-600.650(3), FAC, to evaluate impacts of reclaimed water to ground and surface waters in an impaired water basin. [62-600.650(3)]

B. Other Limitations and Monitoring and Reporting Requirements

1. During the period beginning on the effective date 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.B.8.:

Parameter	Units	Max. /Min	Limitations		Monitoring Requirements			Notes
			Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	
Flow (Total through plant)	MGD	Max Max Max	3.0 Report Report	Annual Average Monthly Average Quarterly Average	Continuous	Recording Flow Meter with Totalizer	FLW-1	See I.B.4
Percent Capacity, (TMADF/Permitted Capacity) x 100	percent	Max	Report	Monthly Average	Monthly	Calculated	FLW-1	
BOD, Carbonaceous 5 day, 20C (Influent)	mg/L	Max	Report	Single Sample	Weekly	8-hr FPC	INF-1	See I.B.3
Solids, Total Suspended (Influent)	mg/L	Max	Report	Single Sample	Weekly	8-hr FPC	INF-1	See I.B.3

PERMITTEE: Ocoee, City of
FACILITY: Ocoee WWTF

PERMIT NUMBER: FLA010815
EXPIRATION DATE: May 12, 2033

2. 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-1	Master flow meter at chlorination tanks, total plant flow (M-4)
INF-1	Influent to plant headworks

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(3)(a)4, Pathogen Monitoring, which is attached to this permit. This form shall be submitted to the Department's Wastewater Management Program (M.S. 3545 Blair Stone Road, Tallahassee, Florida 32399-2400 or at epostbwfrdom@floridadep.gov) and to the Department's Central District Office. [62-610.300(4)(a)]
6. 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 (November 10, 2020)" 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:
- 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;
 - 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
 - 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]

7. The permittee shall provide safe access points for obtaining representative samples which are required by this permit. [62-600.650(2)]
8. 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. During the period of operation authorized by this permit,

PERMITTEE: Ocoee, City of
FACILITY: Ocoee WWTF

PERMIT NUMBER: FLA010815
EXPIRATION DATE: May 12, 2033

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	28 th day of following month
Once Every Two Months	January 1 - February 28/29 March 1 - April 30 May 1 - June 30 July 1 - August 31 September 1 - October 31 November 1 - December 31	March 28 May 28 July 28 September 28 November 28 January 28
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 may submit either paper or electronic DMR forms. If submitting electronic DMR forms, 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 <https://www.fldepportal.com/go/>. Reports shall be submitted to the Department by the twenty-eighth (28th) of the month following the month of operation. Data submitted in electronic format is equivalent to data submitted on signed and certified paper DMR forms.

If submitting paper DMR forms, the permittee shall make copies of the attached DMR forms, without altering the original format or content unless approved by the Department, and shall mail the completed DMR forms to the Department's Central District Office at the address specified in Permit Condition I.B.14. by the twenty-eighth (28th) of the month following the month of operation.

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

9. 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., and the Revised Total Coliform Rule contained in Rule 62-550.830, F.A.C., (except for asbestos, 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(3)]*
10. The permittee shall submit DEP Form 62-610.300(3)(a)2., Annual Reuse Report, using DEP Form 62-610.300(4)(a)2. on or before January 1 of each year. to the Department and the appropriate water management district on or before January 1 of each year. The form shall be submitted electronically to the Department using the Online Business Portal (<https://www.fldepportal.com/DepPortal/go/home>) *[62-610.870(3)(a)]*
11. 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)]*

PERMITTEE: Ocoee, City of
FACILITY: Ocoee WWTF

PERMIT NUMBER: FLA010815
EXPIRATION DATE: May 12, 2033

12. The permittee shall maintain an inventory of storage systems. The most recent inventory shall be submitted each year with the Annual Reuse Report. At least 30 days before reclaimed water will be introduced into any new storage system, the updated inventory shall be submitted to the Department's Central District Office. The inventory shall include the following:
 - a. name or identifier for the storage system;
 - b. location of the storage system (latitude/longitude);
 - c. function of the storage system (system storage or reject storage);
 - d. type of facility (covered tank, lined pond, unlined pond);
 - e. Indication of whether or not the storage facility is a water of the state or discharges to a water of the state; and
 - f. distances to the nearest public water supply wells and to the nearest potable water supply wells which are not public water supply wells.

[62-610.464(5) and 62-610.870(3)(d)]

13. The permittee of a publicly owned facility shall submit an annual report regarding transactions or allocations of costs and expenditures on pollution mitigation among the utility's permitted wastewater systems, including the prevention of sanitary sewer overflows, collection and transmission system pipe leakages, and inflow and infiltration. This report may be combined with the annual report for the permittee's collection system action plan once Rule 62-600.705, F.A.C., becomes effective. The report shall be electronically submitted to the district office no later than June 30 of each calendar year. *[62-600.700(4)]*

14. 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]

15. 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 Shelley's BTF FLA016177 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)]*

PERMITTEE: Ocoee, City of
FACILITY: Ocoee WWTF

PERMIT NUMBER: FLA010815
EXPIRATION DATE: May 12, 2033

- 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.B.8.

			Biosolids Limitation		Monitoring Requirements			
Parameter	Units	Max. /Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
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]

- 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. Calculated based on estimated volume and percent solids or actual weight and reported in dry tons.

- 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)]
- Storage of biosolids or other solids at this facility shall be in accordance with the Facility Biosolids Storage Plan. [62-640.300(4)]
- Biosolids shall not be spilled from or tracked off the treatment facility site by the hauling vehicle. [62-640.400(9)]

B. Disposal

- 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

- 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)]
- 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

- Date and time shipped
- Amount of biosolids shipped
- Degree of treatment (if applicable)
- Name and ID Number of treatment facility
- Signature of responsible party at source facility
- Signature of hauler and name of hauling firm

Biosolids Treatment Facility or Treatment Facility

- Date and time received
- Amount of biosolids received
- Name and ID number of source facility
- Signature of hauler
- Signature of responsible party at treatment facility

PERMITTEE: Ocoee, City of
FACILITY: Ocoee WWTF

PERMIT NUMBER: FLA010815
EXPIRATION DATE: May 12, 2033

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

1. 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

A. Construction Requirements

1. The permittee shall give at least 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)]*

B. Operational Requirements

1. For the Part IV land application system(s), 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 for Land Application Site R-001 shall extend horizontally 100 feet from the application site and vertically to the base of the surficial aquifer. *[62-520.200(27)] [62-520.465]*
2. 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]*
3. 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)]*
4. If the concentration for any constituent listed in Permit Condition III.7. and III.9. 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)]*
5. During the period of operation authorized by this permit, the permittee shall continue to sample ground water at the monitoring wells identified in Permit Conditions III.6. and III.8., 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] [62-610.510]*
6. The following monitoring wells shall be sampled for Reuse System R-001 located at Land Application Site RIB-001.

PERMITTEE: Ocoee, City of
FACILITY: Ocoee WWTF

PERMIT NUMBER: FLA010815
EXPIRATION DATE: May 12, 2033

Monitoring Well ID	Alternate Well Name and/or Description of Monitoring Location	Latitude	Longitude	Depth (Feet)	Aquifer Monitored	Well Type	New or Existing
MWB-1BR	Ocoee WWTF RIBs/ MW-1B BACKGROUND	28°35' 8"	81°31' 18"	25	Surficial	Background	Existing
MWB-2B	Background monitoring well located upgradient from a pollution source to measure the change in the level of pollutants in the ground water relative to a compliance well.	28°35' 18"	81°31' 25"	35	Surficial	Background	Existing
MWI-4R	Ocoee WWTF RIBs/ MW-4R INTERMEDIATE	28°35' 28"	81°31' 22"	15	Surficial	Intermediate	Existing
MWC-5	Ocoee WWTF RIBs/ MW-5 COMPLIANCE	28°35' 22"	81°31' 18"	15	Surficial	Compliance	Existing

[62-520.600] [62-610.510]

7. The following parameters shall be analyzed for each monitoring well identified in Permit Condition III.6.:

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
Chloride (as Cl)	250	mg/L	Grab	Quarterly
Coliform, Fecal	4	#/100mL	Grab	Quarterly
pH	6.5-8.5	s.u.	Grab	Quarterly
Turbidity	Report	NTU	Grab	Quarterly

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

8. The following monitoring wells shall be sampled for Reuse System R-002.

Monitoring Well ID	Alternate Well Name and/or Description of Monitoring Location	Latitude	Longitude	Depth (Feet)	Aquifer Monitored	Well Type	New or Existing
MWC-SW-1	Golf Course Area Reuse system R-002	28°36' 31"	81°32' 3"	--	Surficial	Surface water	Existing
MWI-1	GOLF COURSE SITE/IW-1 INTERMEDIATE	28°36' 36"	81°31' 53"	30	Surficial	Intermediate	Existing
MWC-2	GOLF COURSE SITE/CW-2 COMPLIANCE	28°36' 49"	81°31' 48"	30	Surficial	Compliance	Existing
MWC-3	GOLF COURSE SITE/CW-3 COMPLIANCE	28°36' 29"	81°31' 48"	25	Surficial	Compliance	Existing
MWI-5A	GOLF COURSE SITE/CW-5A - re-designated as an Intermediate well	28°36' 36"	81°32' 1"	21	Surficial	Intermediate	Existing
MWC-7R	Compliance well @ Golf Course Site	28°36' 25"	81°32' 5"	30	Surficial	Compliance	Existing

[62-520.600] [62-610.463]

* Existing wells BW-1 (WAFR # 5334), CW-8 (WAFR # 5323), and CW-9 (WAFR # 5322) located at the Golf Course Site have been deleted from the existing Groundwater Monitoring Plan (GWMP). These three (3) wells shall be inactivated but shall not be abandoned. In the future, these wells shall be re-activated, if warranted.

MWB = Background Well; MWI = Intermediate Well; MWC = Compliance Well; SW = Surface Water Sampling Location

PERMITTEE: Ocoee, City of
FACILITY: Ocoee WWTF

PERMIT NUMBER: FLA010815
EXPIRATION DATE: May 12, 2033

9. The following parameters shall be analyzed for each monitoring well identified in Permit Condition III.8.:

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
Chloride (as Cl)	250	mg/L	Grab	Quarterly
Coliform, Fecal	4	#/100mL	Grab	Quarterly
pH	6.5-8.5	s.u.	Grab	Quarterly
Turbidity	Report	NTU	Grab	Quarterly

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

10. 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)] [62-610.510(3)(b)]*
11. Ground water monitoring wells shall be purged prior to sampling to obtain representative samples. *[62-160.210] [62-600.670(3)]*
12. 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)]*
13. Ground water monitoring test results shall be submitted on Part D of Form 62-620.910(10) in accordance with Permit Condition I.B.8. *[62-520.600(11)(b)] [62-600.670] [62-600.680(1)] [62-620.610(18)]*
14. 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)]*
15. The Permittee shall provide verbal notice to the Department's Central District, Ground Water Section as soon as practical after discovery of a sinkhole within an area for the management or application of wastewater, wastewater residuals (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, Ground Water Section in a written report within 7 days of the sinkhole discovery. *[62-4.070(3)]*
16. The permittee shall sample the following monitoring well(s): MWC-5 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. Use of reclaimed water is authorized within the general service area identified in the attached map. The following uses of reclaimed water are authorized within this general service area:

PERMITTEE: Ocoee, City of
FACILITY: Ocoee WWTF

PERMIT NUMBER: FLA010815
EXPIRATION DATE: May 12, 2033

Residential Developments
Golf Courses
Athletic Complexes and Parks
Other Landscape Irrigation

[62-620.630(10)(a)]

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

Site Number	User Name	User Type	Capacity (MGD)	Acreage
PAA-001	Forest Lake Golf Course and RIBs	Golf Courses	1.0	260
PAA-002	Winter Garden RIBs	Other	0.25	100
PAA-003	Reuse Service Area	Service Area	1.89	9,360
Total			3.14	

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

3. New major users of reclaimed water (i.e., using 0.1 MGD or more) may be added to the reuse system using the general permit described in Rule 62-610.890, F.A.C., if the requirements in this rule are complied with. Application for use of this general permit shall be made using Form 62-610.300(3)(a)1. Notice of Intent to Use General Permit for Addition of a Major User of Reclaimed Water. *[62-610.890]*
4. Cross-connections to the potable water system are prohibited. *[62-610.469(7)]*
5. 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)]*
6. 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)]*
7. 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:
- Immediately discontinue potable water and/or reclaimed water service to the affected area if an actual cross-connection is discovered.
 - If the potable water system is contaminated, clear the potable water lines.
 - Eliminate the cross-connection and install a backflow prevention device as required by the Rule 62-555.360.F.A.C.
 - Test the affected area for other possible cross-connections.
 - Within 24 hours, notify the Department's Central District Office's domestic wastewater and drinking water programs.
 - 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

PERMITTEE: Ocoee, City of
FACILITY: Ocoee WWTF

PERMIT NUMBER: FLA010815
EXPIRATION DATE: May 12, 2033

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.

[62-555.360][62-620.610(20)]

8. 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)]*
9. 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)]*
10. 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)]*
11. Reclaimed water shall not be used to fill swimming pools, hot tubs, or wading pools. *[62-610.469(4)]*
12. 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)]*
13. 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)]*
14. 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)]*
15. 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]*
16. 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)]*
17. Routine aquatic weed control and regular maintenance of storage pond embankments and access areas are required. *[62-610.414(8)]*
18. 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)]*

PERMITTEE: Ocoee, City of
FACILITY: Ocoee WWTF

PERMIT NUMBER: FLA010815
EXPIRATION DATE: May 12, 2033

19. Requirements for system storage pond capacity shall be as contained in Rule 62-610.414, F.A.C. System storage capacity shall be the volume equal to three times that portion of the average daily flow of the total reuse capacity for which no alternative reuse or disposal system is permitted. *[62-610.414, 62-610.464 (2)]*
20. A separate, off-line system for storage of reject water shall be provided unless another permitted reuse system or effluent disposal system is capable of discharging the reject water in accordance with requirements of Chapter 62-600, F.A.C. At a minimum this capacity shall be the volume equal to one day flow at the average daily design flow of the treatment plant or the average daily permitted flow of the reuse system, whichever is less. *[62-610.464(3)]*
21. If reclaimed water will be used only for toilet flushing, the Department shall approve alternate levels of reliability, operation controls, and operator attendance if the applicant provides an affirmative demonstration in the engineering report that alternative controls will provide controls on reclaimed water production equivalent to the full requirements of Part III of this chapter, and the engineering report presents reasonable assurances that public health will be protected. The engineering report shall document cross-connection control measures and controls on facility operation sufficient to ensure reliable production of reclaimed water of suitable quality. *[62-610.476(1)(a)]*
22. If reclaimed water will be used only for fire protection, the Department shall approve alternative levels of reliability, operation controls, and operator attendance if the applicant provides an affirmative demonstration in the engineering report that alternative controls will provide controls on reclaimed water production equivalent to the full requirements of Part III of this chapter, and the engineering report presents reasonable assurances that public health will be protected. The engineering report shall document cross-connection control measures and controls on facility operation sufficient to ensure reliable production of reclaimed water of suitable quality. *[62-610.476(2)(b)]*

B. Part IV Rapid Infiltration Basins

1. Advisory signs shall be posted around the site boundaries to designate the nature of the project area. *[62-610.518]*
2. The maximum annual average loading rate to the two rapid infiltration basins shall be limited to 1.2 inches per day (as applied to the entire bottom area). *[62-610.523(3)]*
3. The two rapid infiltration basins normally shall be loaded for 7 days and shall be rested for 7 days. Infiltration ponds, basins, or trenches shall be allowed to dry during the resting portion of the cycle. *[62-610.523(4)]*
4. Rapid infiltration basins shall be routinely maintained to control vegetation growth and to maintain percolation capability by scarification or removal of deposited solids. Basin bottoms shall be maintained to be level. *[62-610.523(6) and (7)]*
5. Routine aquatic weed control and regular maintenance of storage pond embankments and access areas are required. *[62-610.514 and 62-610.414]*
6. Overflows from emergency discharge facilities on storage ponds or on infiltration ponds, basins, or trenches shall be reported as abnormal events in accordance with Permit Condition IX.20. *[62-610.800(9)]*
7. Holding ponds are provided for reclaimed water storage, such ponds are subject to the requirements of Rule 62-610.414, F.A.C. *[62-610.514(2)]*
8. If subsurface drain systems are needed, they shall be designed in accordance with appropriate portions of paragraph 62-610.300(1)(c), F.A.C., concerning Natural Resources Conservation Services criteria for subsurface drains. The drainage system shall be designed so that the seasonal high-water table is drawn down to a minimum of 36 inches below pond bottoms during resting periods. The requirements of subsection 62-610.850(1), F.A.C., shall apply to discharges to surface waters from the drainage system. *[62-610.517(2)(a)]*

PERMITTEE: Ocoee, City of
FACILITY: Ocoee WWTF

PERMIT NUMBER: FLA010815
EXPIRATION DATE: May 12, 2033

9. A setback distance of 500 feet shall be provided from the edge of the rapid infiltration basin, percolation pond, basin, or trench embankments, or from the edge of an absorption field to potable water supply wells that are existing or have been approved by the Department or by the Department of Health (but not yet constructed); Class I surface waters; or Class II surface waters. The setback distance to Class I and II surface waters shall be reduced to 100 feet if high-level disinfection is provided. Setback distance requirements apply to all Class II waters, regardless of Department classification. *[62-610.521(2)]*

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 A 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 A 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. Submit an updated capacity analysis report prepared in accordance with Rule 62-600.405, F.A.C., five years from the date of issuance of this permit. *[62-600.405(5)]*
2. 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)]*
3. 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 at the following address: 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 this 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 this permit for at least three years from the date the application was filed;

PERMITTEE: Ocoee, City of
FACILITY: Ocoee WWTF

PERMIT NUMBER: FLA010815
EXPIRATION DATE: May 12, 2033

- d. Monitoring information, including a copy of the laboratory certification showing the laboratory certification number, related to the residuals 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 wastewater facility permit;
- f. Copies of the current operation and maintenance manuals for the wastewater facility and the collection/transmission systems owned or operated by the wastewater facility permittee as required by Chapters 62-600 and 62-604, F.A.C.;
- g. A copy of any required record drawings for the wastewater facility and the collection/transmission systems owned or operated by the wastewater facility permittee;
- 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, 62-604.500, 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 an updated capacity analysis report in accordance with permit condition V.B.1.	Five years from the date of permit issuance

[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.

[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)]

PERMITTEE: Ocoee, City of
FACILITY: Ocoee WWTF

PERMIT NUMBER: FLA010815
EXPIRATION DATE: May 12, 2033

2. In the event that the wastewater facilities or equipment, including collection/transmission systems, no longer function as intended, are no longer safe in terms of public health and safety (including inactive or abandoned facilities), or odor, noise, aerosol drift, or lighting adversely affects neighboring developed areas at the levels prohibited by paragraphs 62-600.400(2)(a) and 62-604.400(2)(c), 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 residuals shall not cause a violation of the odor prohibition in subsection 62-296.320(2), F.A.C. *[62-600.410(5), 62-604.500(3) and 62-640.400(6)]*
3. All collection/transmission systems shall be operated and maintained to provide uninterrupted service. All pump stations shall be operated and maintained to provide the emergency pumping capability requirements in paragraph 62-604.400(2)(a), F.A.C., the lightning and transient voltage surge protections in paragraph 62-604.400(2)(b), F.A.C., and the design and signage requirements in paragraph 62-604.400(2)(d), F.A.C. Also, all equipment, pipes, manholes, pump stations, and other appurtenances necessary for the collection/transmission of domestic wastewater, including equipment provided pursuant to subsection 62-604.400(2), F.A.C., shall be maintained to function as intended. *[62-604.500(2) and (3)]*
4. The permittee shall evaluate and update the emergency response plan portion of the collection system operation and maintenance manual annually. The emergency response plan shall assess collection system security including cybersecurity; water quality monitoring for sanitary sewer overflows affecting surface waters; and hurricane and severe storm preparedness and response. *[62-604.500(4)]*
5. Collection/transmission systems shall be maintained to minimize excessive infiltration and inflow into the collection/transmission system, as well as excessive leakage from the collection/transmission system. The permittee shall take corrective actions when infiltration, inflow, or leakage is excessive. Infiltration and inflow are considered excessive if one or both cause or contribute to sanitary sewer overflows. Leakage, or exfiltration, is considered excessive if it causes or contributes to a violation of surface water quality standards or ground water quality standards. *[62-604.500(5)]*
6. All collection/transmission systems shall be operated and maintained to prevent sanitary sewer overflows. The permittee shall evaluate the cause of all sanitary sewer overflows and evaluate potential corrective measures to avoid future sanitary sewer overflows. Corrective actions shall be taken by the permittee if excessive inflow and infiltration causes or contributes to a sanitary sewer overflow. The owner/operator of a satellite collection system shall take corrective actions for a sanitary sewer overflow in the receiving collection system caused by excessive inflow and infiltration in the satellite collection system. *[62-604.500(6)]*
7. 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(4)]*
8. Cross-connection, as defined in Rule 62-550.200, F.A.C., between the wastewater facility, including the collection/transmission system, and a potable water system is prohibited. *[62-550.360]/[62-604.130(3)]*
9. The collection/transmission operation and maintenance manual shall be maintained and revised periodically in accordance with subsection 62-604.500(4), F.A.C., to reflect any alterations performed or to reflect experience resulting from operation. However, a new operation and maintenance manual is not required to be developed for each project if there is already an existing manual that is applicable to the facilities being constructed. *[62-604.500(4)]*
10. Collection/transmission system overflows shall be reported to the Department in accordance with Permit Condition IX. 20. *[62-604.550] [62-620.610(20)]*
11. 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):

PERMITTEE: Ocoee, City of
FACILITY: Ocoee WWTF

PERMIT NUMBER: FLA010815
EXPIRATION DATE: May 12, 2033

- 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°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)]

12. 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. *[62-610.518(1) and 62-600.400(2)(b)]*
13. 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)]*
14. 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)]*
15. 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 residuals (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)]*
16. 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. If pretreatment becomes necessary, this permit may be modified to require the permittee to develop and implement a local pretreatment program in accordance with the requirements of Chapter 62-625, F.A.C.

[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)]*

PERMITTEE: Ocoee, City of
FACILITY: Ocoee WWTF

PERMIT NUMBER: FLA010815
EXPIRATION DATE: May 12, 2033

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 residuals 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,

PERMITTEE: Ocoee, City of
FACILITY: Ocoee WWTF

PERMIT NUMBER: FLA010815
EXPIRATION DATE: May 12, 2033

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.

PERMITTEE: Ocoee, City of
FACILITY: Ocoee WWTF

PERMIT NUMBER: FLA010815
EXPIRATION DATE: May 12, 2033

- 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 times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; clean up actions taken and status; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. For noncompliance events related to sanitary sewer overflows, bypass events, or unauthorized discharges, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (e.g., sanitary sewer overflow, bypass, unauthorized discharge); type of sanitary sewer overflow structure (e.g., manhole); the discharge location address and latitude/longitude; type of water discharged; discharge volumes and volumes recovered; volume discharged to surface waters and receiving waterbody name; types of human health and environmental impacts of the sanitary sewer overflow, bypass event, or unauthorized discharge (e.g., beach closure); whether the noncompliance was caused by a third party; and whether the noncompliance was related to wet weather. The written submission may be provided electronically using the Department's Business Portal at <https://www.fldeportal.com/go/> (via "Submit" followed by "Report" or "Registration/Notification"). Notice required for public notice of pollution 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 September 14, 2021, 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, except for discharges to ground water of reclaimed water meeting Part III or Part V treatment standards under Chapter 62-610, F.A.C.
 - 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 practicable, 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:

PERMITTEE: Ocoee, City of
FACILITY: Ocoee WWTF

PERMIT NUMBER: FLA010815
EXPIRATION DATE: May 12, 2033

- (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 State Watch 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> or by reporting electronically using the Department's Business Portal at <https://www.fldeportal.com/go/> (via "Submit" followed by "Report" or "Registration/Notification").
- (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 a letter to the Department documenting such determination at pollution.notice@floridadep.gov.
 - (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.
- e. Unless discharged to surface waters, a spill, release, discharge, upset or bypass involving reclaimed water meeting Part III or Part V treatment standards under Chapter 62-610, F.A.C., shall not be considered to endanger health or the environment and shall be reported under subsection (21) of this permit.

[62-620.610(20)] [62-620.100(3)]

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

PERMITTEE: Ocoee, City of
FACILITY: Ocoee WWTF

PERMIT NUMBER: FLA010815
EXPIRATION DATE: May 12, 2033

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.

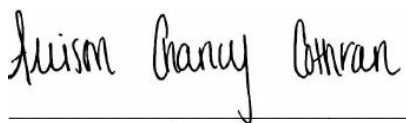
[62-620.610(23)]

Executed in Orlando, Florida.

PERMITTEE: Ocoee, City of
FACILITY: Ocoee WWTF

PERMIT NUMBER: FLA010815
EXPIRATION DATE: May 12, 2033

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION



Allison Chancy Cothran,
Environmental Manager

Attachment(s):
Discharge Monitoring Report
"Pathogen Monitoring" Form
Map of the General Reuse Service Area

Attachment 2

Capacity Analysis Report



Capacity Analysis Report Update

NOVEMBER 2022

2022 WWTF Permit Renewal



2022 WWTF Permit Renewal

Capacity Analysis Report Update

November 2022

Prepared for:

The City of Ocoee

1800 A.D. Mims Road
Ocoee, Florida 34761
407-905-3159 | ocoee.org

Prepared By:

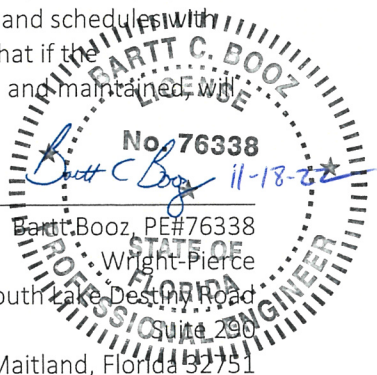
Wright-Pierce

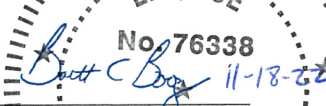
601 South Lake Destiny Road, Suite 290
Maitland, FL 32751
407.906.1776 | wright-pierce.com

CERTIFICATIONS

ENGINEER

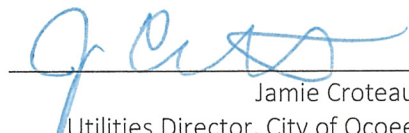
The information contained in this report is true and correct to the best of my knowledge, the report was prepared in accordance with sound engineering principles, and I have discussed the recommendations and schedules with the permittee or the permittee's delegated representative and the lead operator and agree that if the recommended schedules for corrective action are met, the facilities, when properly operated and maintained, will comply with all applicable statutes of the State of Florida and rules of the Department.




Bartt Booz, PE#76338
Wright-Pierce
601 South Lake Destiny Road
Suite 200
Maitland, Florida 32751
Telephone: (407) 747-9935
e-mail: bartt.booz@wright-pierce.com

PERMITTEE

The undersigned has reviewed and is fully aware of the recommendations and schedules included in this Capacity Analysis Report Update.


Jamie Croteau
Utilities Director, City of Ocoee
1800 A.D. Mims Road
Ocoee, Florida 34761
Telephone: (407) 905-3159
e-mail: jcroteau@ocoe.org

OPERATOR

The undersigned has reviewed and is fully aware of the recommendations and schedules included in this Capacity Analysis Report Update.


Trent Hopper
License #0021305
Wastewater Type A
Lead Facility Operator, City of Ocoee
1800 A.D. Mims Road
Ocoee, Florida 34761
Telephone: (407) 905-3159
e-mail: thopper@ocoe.org

Table of Contents

Section 1	Introduction	1-1
	1.1 Purpose	1-1
	1.2 Facility Background	1-1
	1.3 Process Description	1-1
Section 2	Existing Conditions	2-1
	2.1 Existing Conditions	2-1
	2.2 Permit Summary and Capacities	2-1
	2.3 Current and Historical Flows	2-3
	2.4 Seasonal Variations in Flow	2-5
	2.5 Updated Flow and Loading	2-6
Section 3	Future Conditions	3-1
	3.1 Service Areas	3-1
	3.2 Wastewater Service Area Population Projections	3-1
	3.3 Wastewater Flow Projections	3-3
Section 4	Summary and Conclusions	4-1
	4.1 Time Required for Three-Month Average Daily Flow to Reach Permitted Capacity	4-1
	4.2 Recommendations	4-1

List of Figures

Figure 2-1 Influent Total Plant Flows, 2017 to 2022	2-4
Figure 3-1 Estimated AADF and Maximum TMADF, 2017 through 2032	3-5

List of Tables

Table 2-1	Permitted Capacities	2-1
Table 2-2	Reclaimed Water Limitations, R-001 Land Application Reuse Systems	2-2
Table 2-3	Reclaimed Water Limitations, R-002 Land Application Reuse System	2-2
Table 2-4	Current and Historical Flow Summary (2017 through August 2022)	2-3
Table 2-5	Summary of Seasonal Flow Variations (2012 through August 2022)	2-5
Table 2-6	Flows and Loads for the Capacity Analysis	2-6
Table 2-7	Current AADF Flows to Effluent Disposal Locations	2-6
Table 3-1	Yearly Average Utility Connections and Estimated Wastewater Population 2017 through 2021	3-2
Table 3-2	Projected Utility Connections and Wastewater Population 2022 through 2032	3-2
Table 3-3	Yearly Average Utility Connections and Estimated Wastewater Population 2017 to 2021	3-3
Table 3-4	Estimated AADF and Maximum TMADF 2022 to 2032	3-4

Appendix

Appendix A – Maps and Figures

Appendix B – Design Criteria Table

Section 1 Introduction

1.1 Purpose

This updated Capacity Analysis Report (CAR) was prepared to examine the operations and capabilities of the City of Ocoee's Wastewater Treatment Facility (WWTF) and to update the 2018 CAR. Under the jurisdiction of the FDEP, the City of Ocoee currently operates this facility under FDEP Operating Permit No. FLA010815, which expires May 12, 2023. This CAR update has been prepared as part of the package assembled for the permit's renewal.

1.2 Facility Background

The Ocoee Wastewater Treatment Facility (WWTF) is located at 1810 A.D. Mims Road on approximately 128 acres of land in the northwestern section of Orange County. The facility originally was composed of a 1.0 MGD "ring steel" package plant and has undergone several expansions. The City acquired the WWTF from Prima Vista Utilities in 1988 first expanding the facility to a 2.0 MGD facility in 1990 and then again to its current 3.0 MGD permitted capacity in 1992. The 3.0 MGD expansion included the addition of the Bio-Denitro™ process, an activated sludge treatment process using dual-phased oxidation ditches for the reduction of nitrogen and BOD. The 1992 expansion also included the addition of tertiary filters and high-level disinfection facilities to achieve the public-access treatment level, and monitoring required by the Florida Department of Environmental Protection (FDEP) for reuse-quality effluent.

1.3 Process Description

Flow/treatment at the Ocoee WWTF begins at pretreatment with preliminary screening and grit removal followed by the Bio-Denitro™ process. The Bio-Denitro™ process utilizes the interconnected oxidation ditch system to decrease the total nitrogen content, and the bio-chemical oxygen demand (BOD), ammonia and suspended solids levels. The mixed liquor from both oxidation ditches is combined and then flows to the three (3) secondary clarifiers where the solids settle out of the wastewater.

The solids are either recycled to the oxidation ditch as return activated sludge (RAS) to help maintain biological growth or are wasted to the aerobic digester as waste activated sludge (WAS) for stabilization, before dewatering by belt press and disposal. The City uses Shelley's Environmental Systems to dispose and treat biosolids produced at the WWTF. The clarifier effluent flows to the traveling bridge automatic backwash (ABW) filters for final filtration, then to the chlorine contact chambers for disinfection and lastly through a Parshall Flume for metering.

After disinfection, effluent flows to the Master Effluent Pump Station (MEPS). Within the MEPS either the Effluent Transfer Pumps (ETPs) or the Master Pump Station Pumps (MPSs) can convey flow for effluent disposal. The ETPs transfer treated effluent to the 2.0 MG reclaimed water ground storage tank (GST). High service pumps connected to the reclaimed GST convey flow to the slow-rate public access reuse system (Land Application R-002).). If the effluent is unsuitable for public reuse, then the ETPs pump the unsuitable effluent to the reject GST or the on-site RIBs (Land Application R-001). Continuous on-line monitoring of turbidity and chlorine residual allows for automatic divergence of unsuitable effluent (high turbidity, low chlorine residual) through an automatic valve to the reject storage tank or to the on-site RIBs. The MPS pumps can pump reclaimed water for irrigation to the Forest Lake Golf Course or to the Rapid Infiltration Basins (RIBs) at the Forest Lake Golf Course and the City of Winter Garden's RIB site. The City has an ongoing interlocal agreement with the City of Winter Garden for the joint use of the sites. The agreement allows Winter Garden to dispose public-access quality effluent to the Forest Lake Golf Course. Conversely, the City of Ocoee can send up to 0.25 MGD of effluent for disposal to the City of Winter Garden's RIB site during wet weather conditions.

The WWTF has a permitted effluent disposal limit of 1.89 MGD to the slow-rate public access reuse system and 0.35 MGD for the onsite RIBs. The City of Ocoee can dispose a total up to 3.14 MGD to the slow-rate public access reuse system while supplementing the reuse supply from Orange County Utilities Northwest Regional Reclamation facility and/or from the City of Orlando's Water Conserve II Water Reclamation Facility.

The overall treatment facility process flow diagram, general site plan, location map and service area map for the facility is included in Appendix A. The design criteria for the facility unit operations and processes are included in Appendix B.

Section 2 Existing Conditions

2.1 Existing Conditions

To illustrate present conditions at the WWTF, the following characteristics of the wastewater treatment plant operation were evaluated:

- Permitted Capacities
- Current and Historical Flow
- Variations in Season Flow
- Updated Flow and Loading Data

2.2 Permit Summary and Capacities

Table 2-1 shows the permitted capacities of the facility according to the current FDEP operating permit.

Table 2-1 Permitted Capacities

Facility	Monitoring Site	Permitted Capacity (MGD)	Statistical Basis
Flow through WWTF	FLW-1	3.0	AADF
Land Application R-001 – An existing reuse system consisting of two rapid infiltration basins.			
Onsite RIBs	FLW-4	0.35	AADF
Land Application R-002 – An existing slow-rate public access system. The city is permitted to supplement the system by utilizing reuse capacities for Orange County Utilities Department Northwest Regional Reclamation Facility and/or from City of Orlando's Water Conserve II Water Reclamation Facility.			
Public Access Reuse	FLW-3	1.89	AADF
Forest Lake Golf Course	FLW-2A	Report	AADF
Forest Lake RIBs	FLW-2B	Report	AADF
Winter Garden RIBs	FLW-2C	0.25	AADF

Table 2-2 and Table 2-3 summarize and specify the effluent limitation and monitoring requirements for the two permitted effluent discharges.

Table 2-2 Reclaimed Water Limitations, R-001 Land Application Reuse Systems

Parameter	Monitoring Site	Units	Max/Min	Reclaimed Water Limitation			
				Annual Average	Monthly Average	Weekly Average	Single Sample
BOD, Carbonaceous 5 day, 20C	EFA-1	mg/L	Max	20	30	45	60
Solids, Total Suspended	EFA-1	mg/L	Max	20	30	45	60
Coliform, Fecal	EFA-1	#/100 ML	Max	200	200	-	800
pH	EFA-1	SU	Range	-	-	-	6.0-8.5
Chlorine, Total Residual (For Disinfection)	EFA-1	mg/L	Min	-	-	-	0.5
Nitrogen, Nitrate, Total (as N)	EFA-1	mg/L	Max	-	-	-	12
Nitrogen, Total	EFA-1	mg/L	Max	10	Report	-	-

Table 2-3 Reclaimed Water Limitations, R-002 Land Application Reuse System

Parameter	Monitoring Site	Units	Max/Min	Reclaimed Water Limitations			
				Annual Average	Monthly Average	Weekly Average	Single Sample
BOD, Carbonaceous 5 day, 20C	EFA-1	mg/L	Max	20	30	45	60
Solids, Total Suspended	EFB-1	mg/L	Max	-	-	-	5
Coliform, Fecal	EFA-1	#/100 ML	Max	-	-	-	25
Fecal Coliform, % less than detection	EFA-1	Percent	Min	-	75 (Total)	-	-
pH	EFA-1	SU	Range	-	-	-	6.0-8.5
Chlorine, Total Residual (For Disinfection)	EFA-1	mg/L	Min	-	-	-	1.0

Parameter	Monitoring Site	Units	Max/Min	Reclaimed Water Limitations			
				Annual Average	Monthly Average	Weekly Average	Single Sample
Turbidity	EFB-1	NTU	Max	-	-	-	Report
Nitrogen, Total	EFA-1	mg/L	Max	10	Report	-	-
Phosphorus, Total (as P)	EFA-1	mg/L	Max	Report	Report	-	-
Giardia	EFA-1	cysts/100L	Max	-	-	-	Report
Cryptosporidium	EFA-1	oocysts/100L	Max	-	-	-	Report

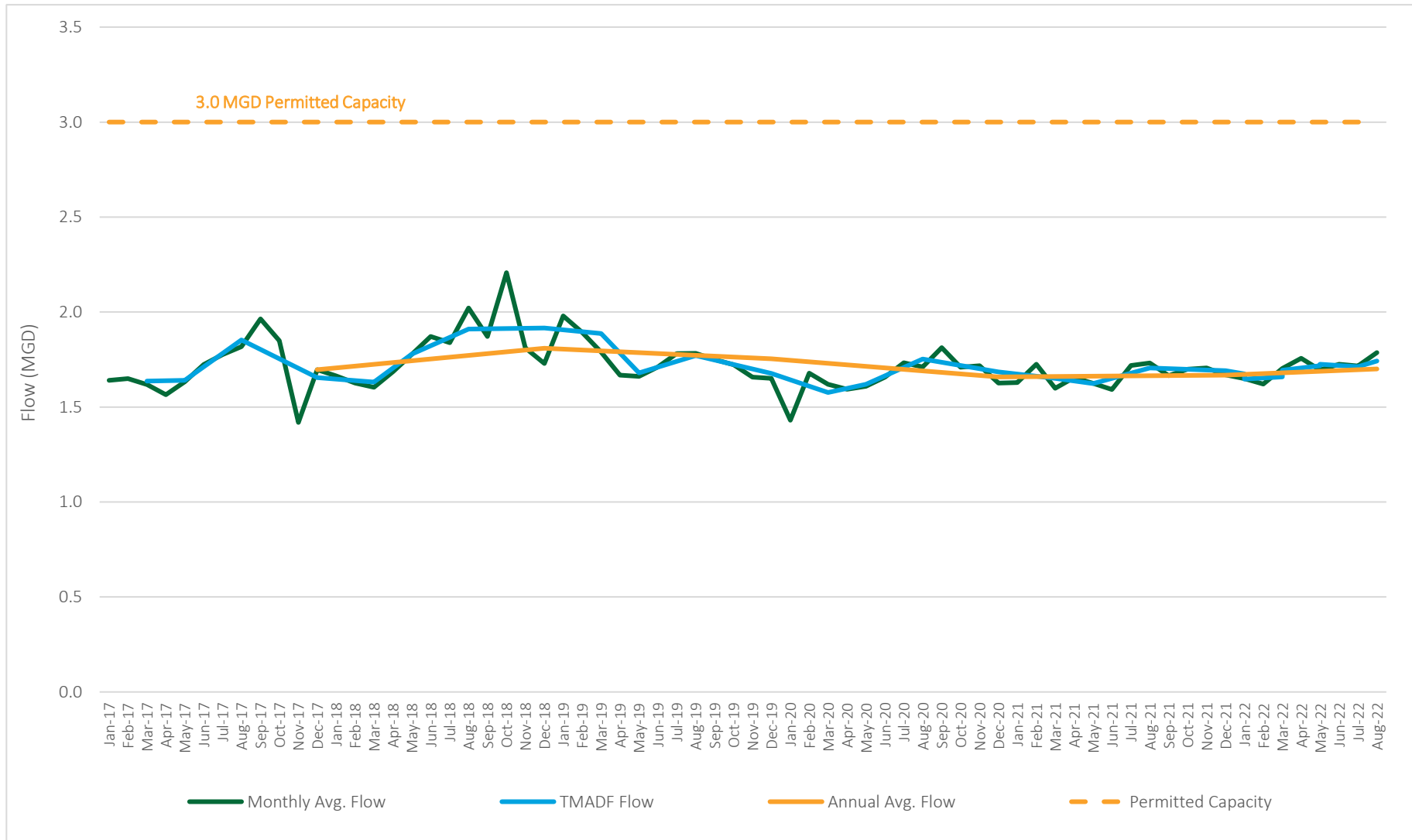
2.3 Current and Historical Flows

Type I facilities are to graph monthly average daily flows, three-month average daily (TMADF) and AADF for at least the past 5 years as part of the CAR update. Figure 2-1 depicts these flows and the 3.0 MGD permitted capacity for the WWTF. Since 2017, annual average flows have remained steady varying between 1.66 and 1.8 MGD. Percent Capacity as measured by maximum TMADF over permitted capacity has varied from 57% to 70%. These values are summarized in Table 2-4. As indicated in the 2018 Capacity Analysis Report, the City of Ocoee has an aggressive water conservation program. Based on the flows it appears the program has been successful in decreasing domestic flows per capita.

Table 2-4 Current and Historical Flow Summary (2017 through August 2022)

Year	Maximum TMADF (MGD)	Month	AAFD (MGD)	TMADF/AAFD	Permitted Capacity	Percent Capacity (TMADF/Permitted Capacity)
2017	1.85	Sep	1.70	1.09	3.00	62%
2018	2.10	Oct	1.81	1.16	3.00	70%
2019	1.90	Jan	1.75	1.08	3.00	63%
2020	1.76	Oct	1.66	1.06	3.00	59%
2021	1.71	Sep	1.67	1.02	3.00	57%
2022	1.74	Aug	1.70	0.98	3.00	58%

Figure 2-1 Influent Total Plant Flows, 2017 to 2022



2.4 Seasonal Variations in Flow

Table 2-5 presents the ratios of the maximum TMADF to the AADF annually from 2012 to August 2022. Over this 10-year range the average TMADF to AADF ratio is 1.06. The maximum TMADF typically occurs in October of each year. This ratio peaked at 1.16 in 2018 and has decreased since. This indicates the City's ongoing maintenance efforts appear to be having a positive impact on seasonal variations and indicates a lower influence from inflow and infiltration in the facility's collection and transmission systems.

Table 2-5 Summary of Seasonal Flow Variations (2012 through August 2022)

Year ¹	Maximum TMADF (MGD)	Month	AADF (MGD)	TMADF/AADF
2012	1.69	August	1.62	1.04
2013	1.68	September	1.61	1.04
2014	1.61	October	1.59	1.01
2015	1.63	October	1.56	1.05
2016	1.72	October	1.64	1.05
2017	1.85	October	1.70	1.10
2018	2.10	October	1.81	1.16
2019	1.90	January	1.75	1.09
2020	1.76	October	1.66	1.06
2021	1.71	September	1.67	1.02
2022	1.74	August	1.70	0.98
Average:				1.06

Note:

1. Data from 2012 to 2016 obtained from 2018 Capacity Analysis Report.

2.5 Updated Flow and Loading

Table 2-6 below provides the design and an estimate of current CBOD₅, Total Suspended Solids (TSS), and Total Kjeldahl Nitrogen (TKN) loads. The design loads for the existing 3.0-MGD WWTF were obtained from the design criteria table in Appendix B. Current values for CBOD₅, and TSS are calculated based on the data from January 2022 through August 2022. TKN information is determined from recent influent sampling which occurred from April 2021 to March 2022.

An overall BOD₅, TSS and sludge mass balance is presented in in Appendix A. This information was updated for current facility conditions by facility staff as a part of the preparation of this CAR update. Based on this information and the information in Table 2-6 the facility does not appear to be overloaded.

Table 2-6 Flows and Loads for the Capacity Analysis

Parameter	Estimated Current	Design
Running 1-year ADF	1.70	3.0
Maximum Day flow	2.66	7.5 ¹
CBOD ₅ , lbs./day	3,001	5,630 ²
TSS, lbs./day	2,583	7,480 ²
TKN lbs./day	722 ³	1,322 ³

Notes:

1. 7.5 MGD is the peak hourly flow rate design criteria for the oxidation ditch.
2. TSS & CBOD₅ design criteria assumes 299 and 225 mg/L respectively, at the facility AADF of 3.0 MGD.
3. Total Kjeldahl nitrogen design criteria assumes an Ammonia/TKN ratio of 0.7 and an average ammonia concentration of 37.0 mg/L.

Current AADF flows to the effluent disposal locations are illustrated in Table 2-7 based on data from January 2022 through August 2022. Effluent flow to the disposal sites generally remained within permit limits and the effluent disposal sites do not appear to be overloaded. It should be noted that flows to the public access reuse system are approaching 80% of permitted capacity.

Table 2-7 Current AADF Flows to Effluent Disposal Locations

Parameter	Current AADF (MGD)	Permitted Capacity (MGD)	Percent Capacity
Land Application R-001 – Onsite RIBs	0.131	0.35	37%
Land Application R-002 – Public Access Reuse	1.40	1.89	74%
Land Application R-002 – Forest Lake Golf Courses	0.0125	Report (1.0 MGD)	-
Land Application R-002 – Forest Lake RIBs	0.0	Report (1.0 MGD)	-
Land Application R-002 – Winter Garden RIBs	0.0	0.25	0%

Section 3 Future Conditions

3.1 Service Areas

The flow and wastewater customer population projections provided within this CAR assumes contributions from both the City's Utility (Potable Water and Wastewater) Service Area and the Reclaimed Water Service Area. The "Ocoee Utility Service Area" was established through a Joint Planning Agreement (JPA) with Orange County. The JPA was accepted in the early 1990s and established annexation limits and areas within which each party would provide water and sewer service. While the City of Ocoee Utility Service Area is centered within the City. There are two large areas and one neighborhood within the incorporated City limits in which both water and wastewater are provided by Orange County. The specific descriptions of these areas/neighborhoods are as follows:

1. The portion of the City located along South Maguire Road, lying south of the east-west corridor of Roberson (Moore) Road.
2. The portion of the City generally located in the far north section of incorporated Ocoee, more specifically, north of Clarcona-Ocoee Road and S.R. 429, to the northern and western City limits.
3. The Rose Hill subdivision, Phases II & III.

It should be noted, the Forest Lakes Estates development's wastewater service is provided by Orange County Utilities.

The City's Reclaimed Water Service Area includes all of the area in incorporated Ocoee. Further, a special consideration of the previous JPA with Orange County was that unincorporated parcels lying within the City Utility and/or Reclaimed Water Service area would be considered part of the appropriate City service area. Exhibits 2 and 3 included in Appendix A provide a graphical depiction of these service areas which should be understood as the contributing service areas to the WWTF.

3.2 Wastewater Service Area Customer Population Projections

The population projections provided herein are limited to the City of Ocoee's Utility Service Area and represent the population of wastewater customers that contribute flow to the Ocoee WWTF. To assess the current wastewater customer population, data on the average number of utility connections was obtained from the City for 2017 to 2021. This data was then multiplied by the number of persons per household (3.27) as determined by the 2020 US census for the City of Ocoee. This data is summarized in Tables 3-1 and 3-2, along with customer population projections for the wastewater utility service area through 2032.

From 2017 to 2022 the City of Ocoee has experienced slow and continued growth averaging about 0.69% annually. This corresponds to about 736 new customers from 2017 to 2021. However, according to City records approximately 1,700 new units are currently in various stages of development and will be constructed during the next renewal term. Therefore, it is anticipated growth may increase slightly in the future. As a result, a more conservative assumption of 2% for future growth was estimated for the contributing wastewater service area. Assuming a 2% annual growth rate, the wastewater customer population is projected to grow to about 33,800 customers by 2032.

Table 3-1 Yearly Average Utility Connections and Estimated Wastewater Population 2017 through 2021

Year	Utility Connections	Estimated WW Population ¹	Annual UC Growth
2017	8,089	26,451	
2018	8,097	26,477	0.10%
2019	8,175	26,732	0.96%
2020	8,215	26,863	0.49%
2021	8,314	27,187	1.21%
ASSUMED ANNUAL UTILITY CONNECTION GROWTH RATE			2%

Table 3-2 Projected Utility Connections and Wastewater Population 2022 through 2032

YEAR	Utility Connections	Annual Growth	Projected WW Population ¹
2022	8,480	2.00%	27,731
2023	8,650	2.00%	28,285
2024	8,823	2.00%	28,851
2025	8,999	2.00%	29,428
2026	9,179	2.00%	30,016
2027	9,363	2.00%	30,617
2028	9,550	2.00%	31,229
2029	9,741	2.00%	31,854
2030	9,936	2.00%	32,491
2031	10,135	2.00%	33,141
2032	10,337	2.00%	33,803

Notes:

1. Estimated and projected wastewater population assumes 3.27 persons per household as determined by the U.S Census for the City of Ocoee in 2020

3.3 Wastewater Flow Projections

Using the projected wastewater customer population, and 2020 U.S Census data, per capita daily flow rates were developed and used to project future AADF and maximum TMADF at the WWTF. The result of this analysis is summarized in Table 3-3 and Table 3-4.

As evidenced by the data, the City's water conservation program appears to have reduced per capita daily flow rates from about 64.3 gallons per capita day (gpcd) in 2017 down to 61.4 gpcd in 2021. This reduction in per-capita flow rates is contributing to the relatively consistent AADF received by the facility, while system connections increase. It is anticipated that per-capita flows are reaching the low-limit threshold from conservation. Consequently, the per-capita flow is estimated based on the average of the last three years of data to project wastewater flow, using 63 gpcd. Therefore, future wastewater flows are expected to increase at a rate similar to the growth in utility connections.

Under these assumptions the projected AADF or Maximum TMADF flows is not expected to reach permitted capacity within the next 10 years. Consequently, an abbreviated CAR should be submitted in 5 years from the approval of this permit application to continue to monitor flows.

Table 3-3 Yearly Average Utility Connections and Estimated Wastewater Population 2017 to 2021

Year	Utility Connections	AADF	Estimated WW Population ¹	Per Capita Daily Flow (GPCD)
2017	8,089	1.7	26,451	64.3
2018	8,097	1.81	26,477	68.4
2019	8,175	1.75	26,732	65.5
2020	8,215	1.66	26,863	61.8
2021	8,314	1.67	27,187	61.4
Average (2019-2021)				63.0

Notes:

1. Estimated wastewater customer population assumes 3.27 persons per household as determined by the U.S Census in 2020.

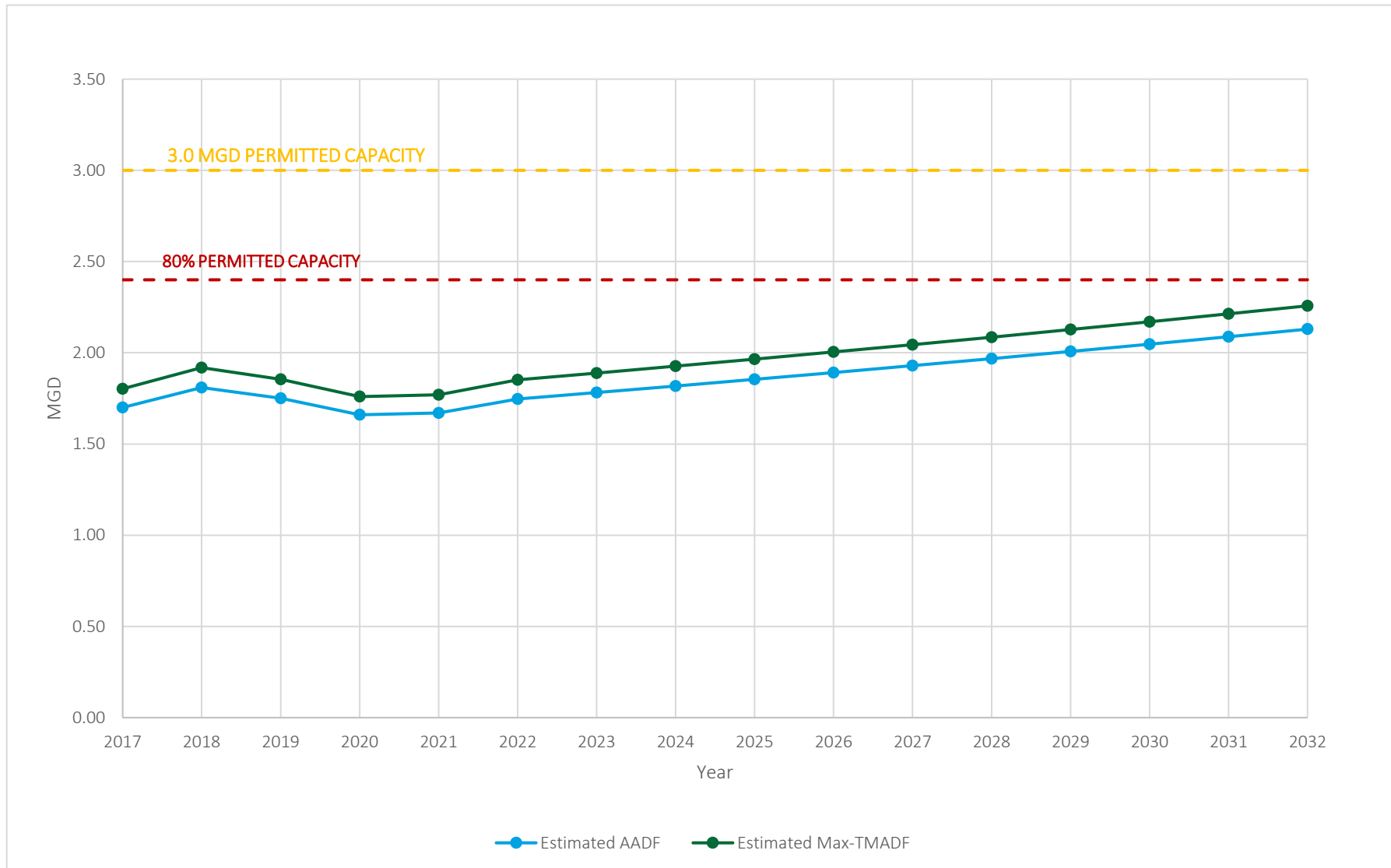
Table 3-4 Estimated AADF and Maximum TMADF 2022 to 2032

Year	Projected WW Population ¹	Per Capita Daily Flow (GPD)	Estimated AADF	Percent Permitted Capacity ²	Estimated Max-TMADF ³	Percent Permitted Capacity ²
2022	27,731	63.0	1.75	58%	1.85	62%
2023	28,285	63.0	1.78	59%	1.89	63%
2024	28,851	63.0	1.82	61%	1.93	64%
2025	29,428	63.0	1.85	62%	1.97	66%
2026	30,016	63.0	1.89	63%	2.00	67%
2027	30,617	63.0	1.93	64%	2.04	68%
2028	31,229	63.0	1.97	66%	2.09	70%
2029	31,854	63.0	2.01	67%	2.13	71%
2030	32,491	63.0	2.05	68%	2.17	72%
2031	33,141	63.0	2.09	70%	2.21	74%
2032	33,803	63.0	2.13	71%	2.26	75%

Notes:

1. Projected wastewater customer population assumes 3.27 persons per household as determined by the U.S Census in 2020.
2. Percent permitted capacity based on the estimated AADF and estimated Max TMADF as compared to the permitted capacity of 3.0 MGD,
3. Estimated Max TMADF assumes a TMADF/AADF ratio of 1.06.

Figure 3-1 Estimated AADF and Maximum TMADF, 2017 through 2032



Section 4 Summary and Conclusions

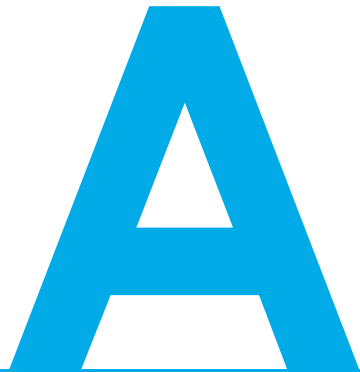
4.1 Time Required for Three-Month Average Daily Flow to Reach Permitted Capacity

The City of Ocoee's WWTF is operating at an average flow rate of 1.7 MGD as of 2022 and has been relatively consistent for the past five years. This consistent influent flow is attributed to two main items. These include increased water conservation through the City's water conservation program, and reduced inflow and infiltration due to recent improvements in the transmission and collection systems. Water conservation has reduced wastewater flows resulting in reduced per capita daily flow rates from about 64.3 gpcd in 2017 to 61.4 gpcd in 2021. Collection system improvements have reduced the maximum TMADF to AADF ratio from a high of 1.16 in October of 2018, down to a ratio of 1.02 in September of 2021. Both factors are assumed to have been maximized.

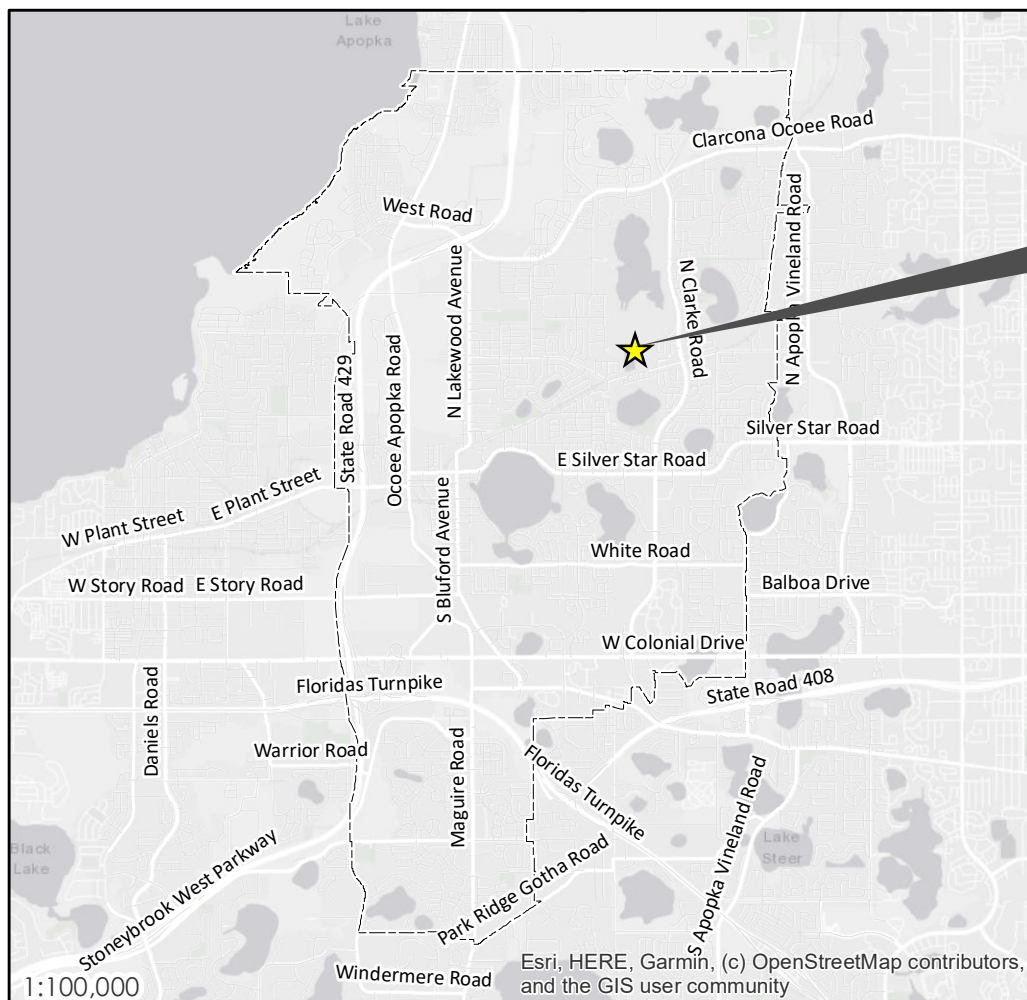
Future growth is anticipated to increase the influent flow to the City's WWTF at an average of 63 gpcd. Based upon the average recent utility connection trends, and City planned development records the WWTF's contributing wastewater customer population is anticipated to grow at an average rate of about 2.0% annually. This equates to a projected influent of 2.26 MGD by TMADF in Year 2032. The treatment processes currently have a permitted capacity of 3.0 MGD. Consequently, the AADF and Maximum TMADF projected in this CAR update, anticipate permitted capacity will not be exceeded within the next 10 years.

4.2 Recommendations

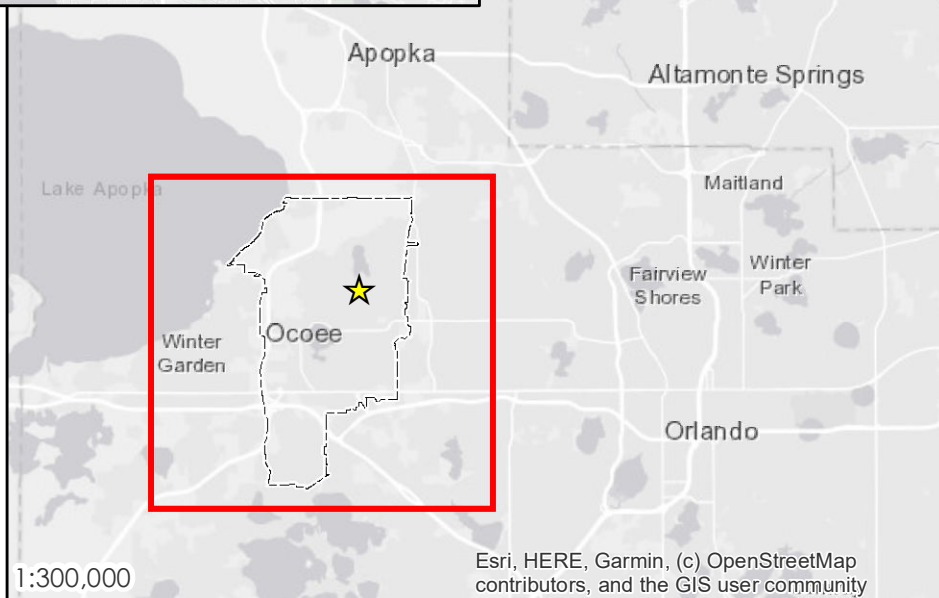
The City should continue to monitor and adjust the wastewater flow projections to account for new development, annexations and other factors affecting wastewater customer population growth. The City should also continue to monitor actual flows experienced by the WWTF and continue efforts to reduce infiltration and inflow and repair the wastewater collection and transmission systems as sources are identified.



City of Ocoee Utilities



Wastewater Treatment Facility
1810 A.D. Mims Rd
Ocoee, Florida 34761



Ocoee Wastewater
Treatment Facility

Location Map

July 2022

Legend

 Ocoee Joint Planning Area

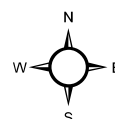
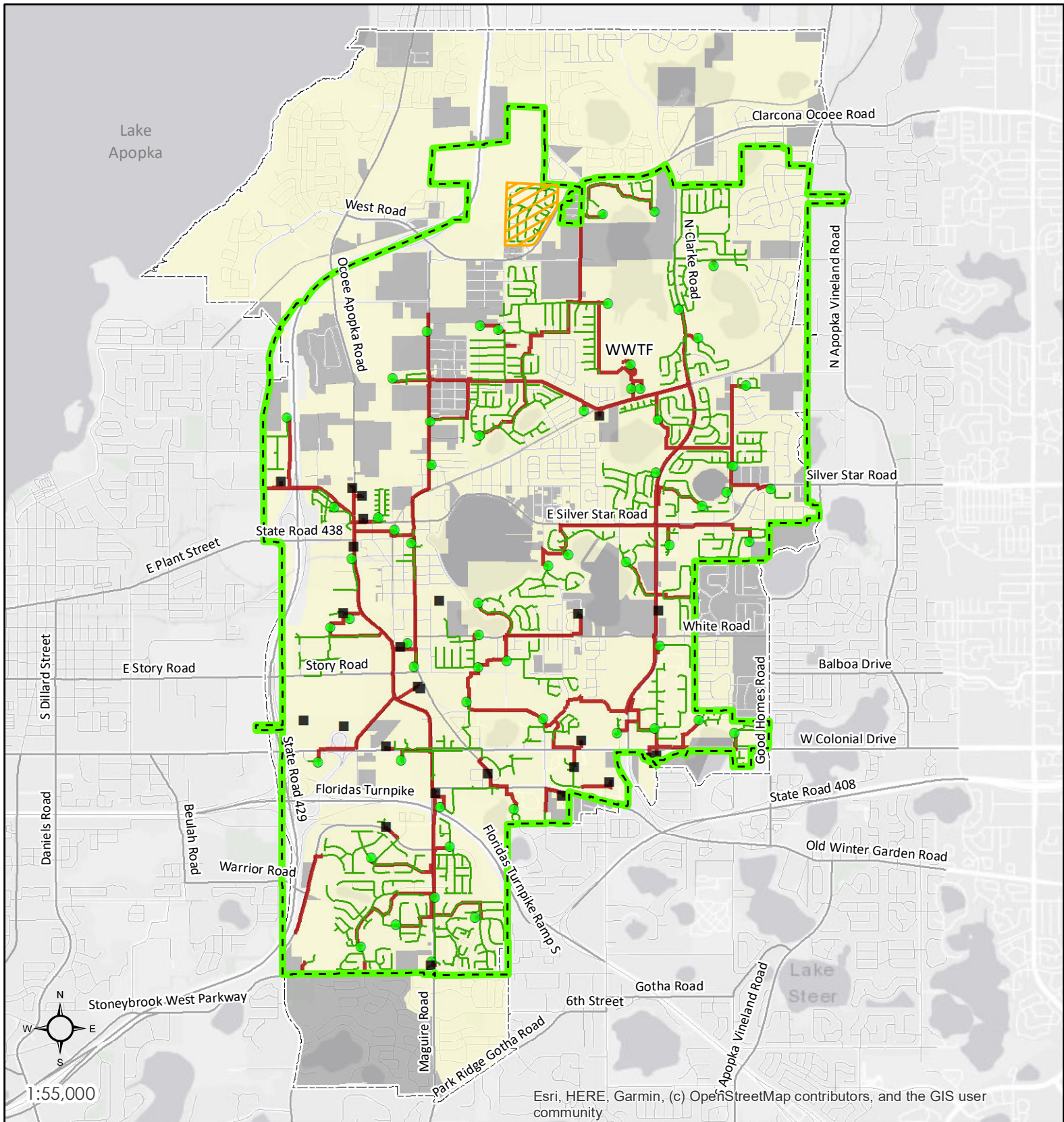


Exhibit 1



City of Ocoee Utilities



Wastewater
Collection System

Service Area Map

July 2022

Legend

- Ocoee Joint Planning Area
- Sewer Utility Service Area
- Forest Lake Estates- Wastewater Service by Orange County Utilities
- City of Ocoee
- Unincorporated Properties

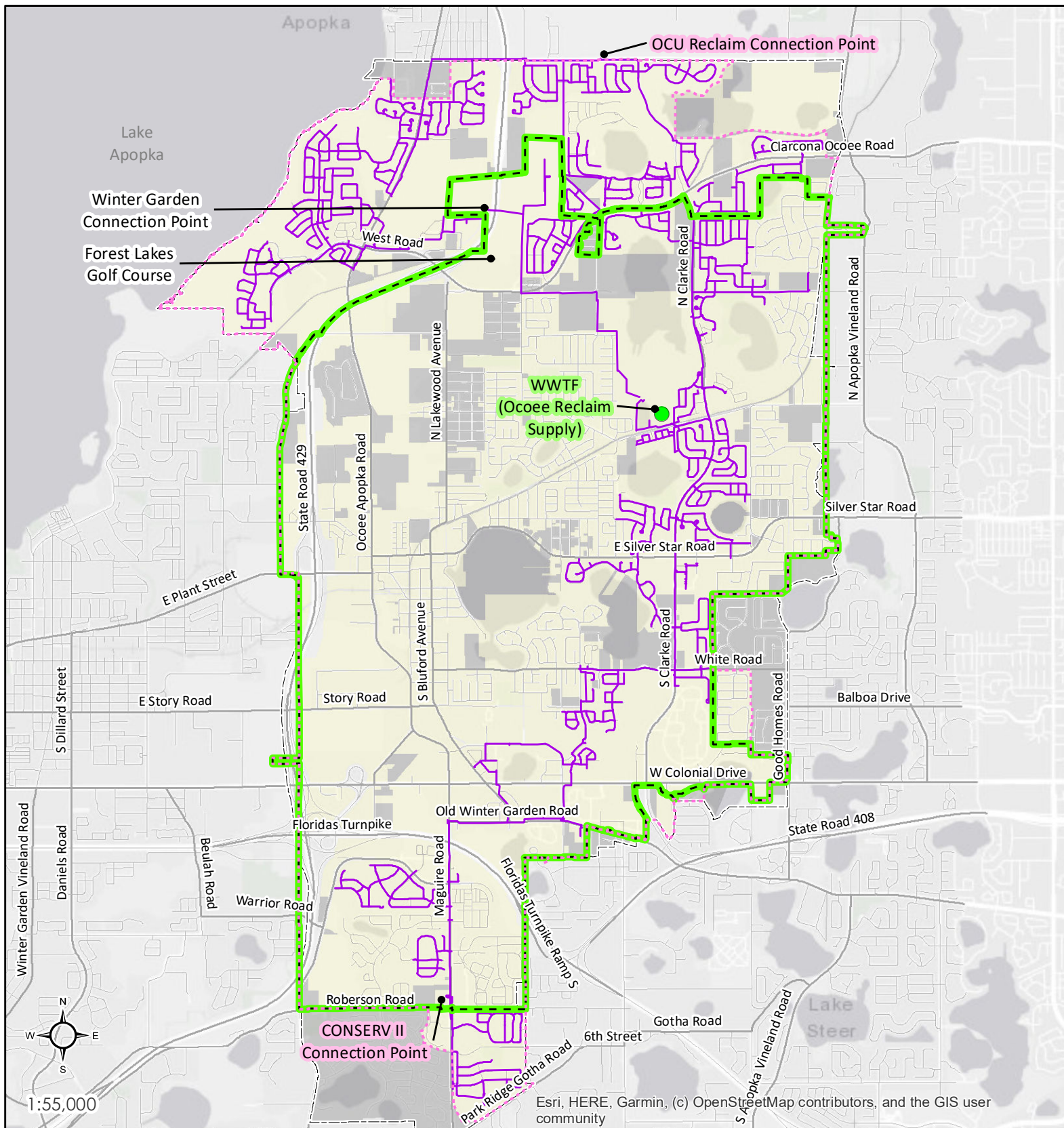
Sanitary Sewer Features

- Sewer Gravity Main
- Sewer Pressurized Main
- Ocoee Lift Station
- Private Lift Station

Exhibit 2



City of Ocoee Utilities



Wastewater Collection &
Reclaimed Distribution
Utility Systems

Service Area Map

July 2022

Legend

- Ocoee Joint Planning Area
- Reclaimed Utility Service Area
- Sewer Utility Service Area
- City of Ocoee
- Unincorporated Properties
- Reclaimed Water Features**
- Reclaimed Water Distribution Mains

Exhibit 3



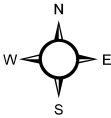
City of Ocoee Utilities



Wastewater
Treatment Facility

Overall Campus

July 2022

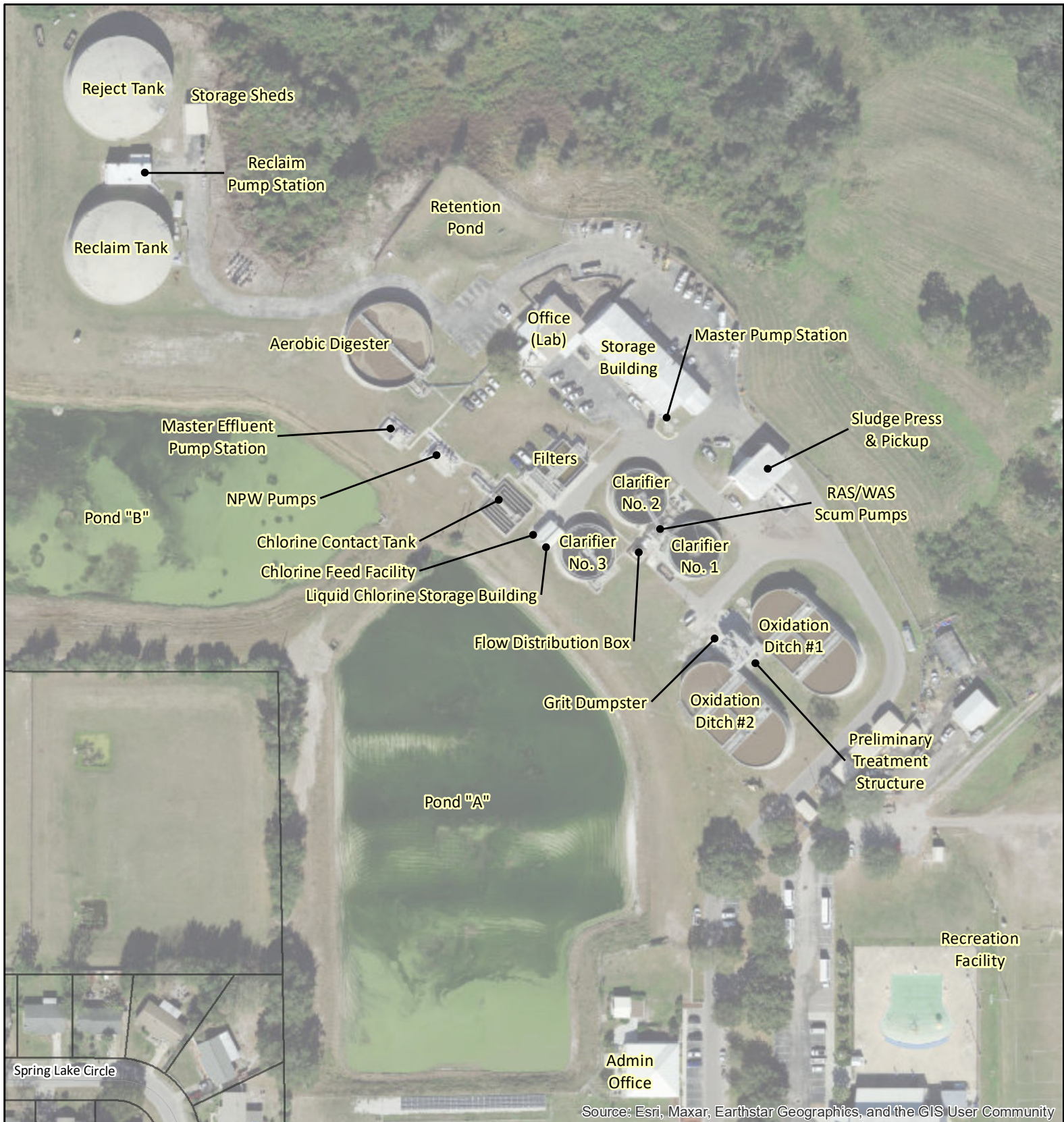


1:4,000

Exhibit 4



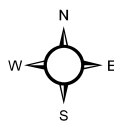
City of Ocoee Utilities



Wastewater
Treatment Facility

Site Plan

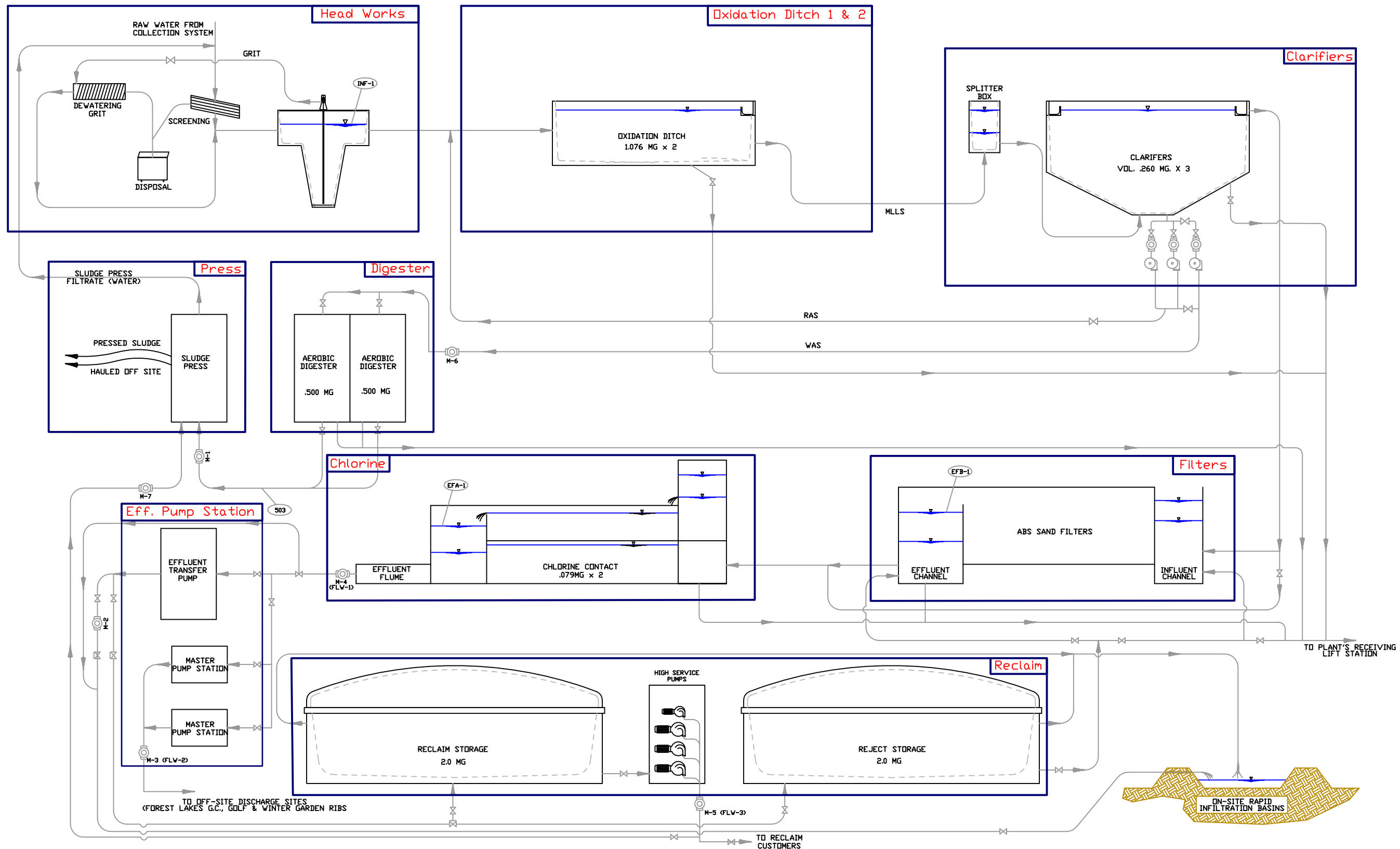
July 2022



1:1,850

Exhibit 5





LEGEND			
	PROPORTIONAL VALVE		RAW WATER FROM
	FLOW PATH		CONTROL VALVE
	MONITORING STATION		FLOW METER WITH LABEL
	PUMPS		WATER LEVEL
	RAW WATER FROM		

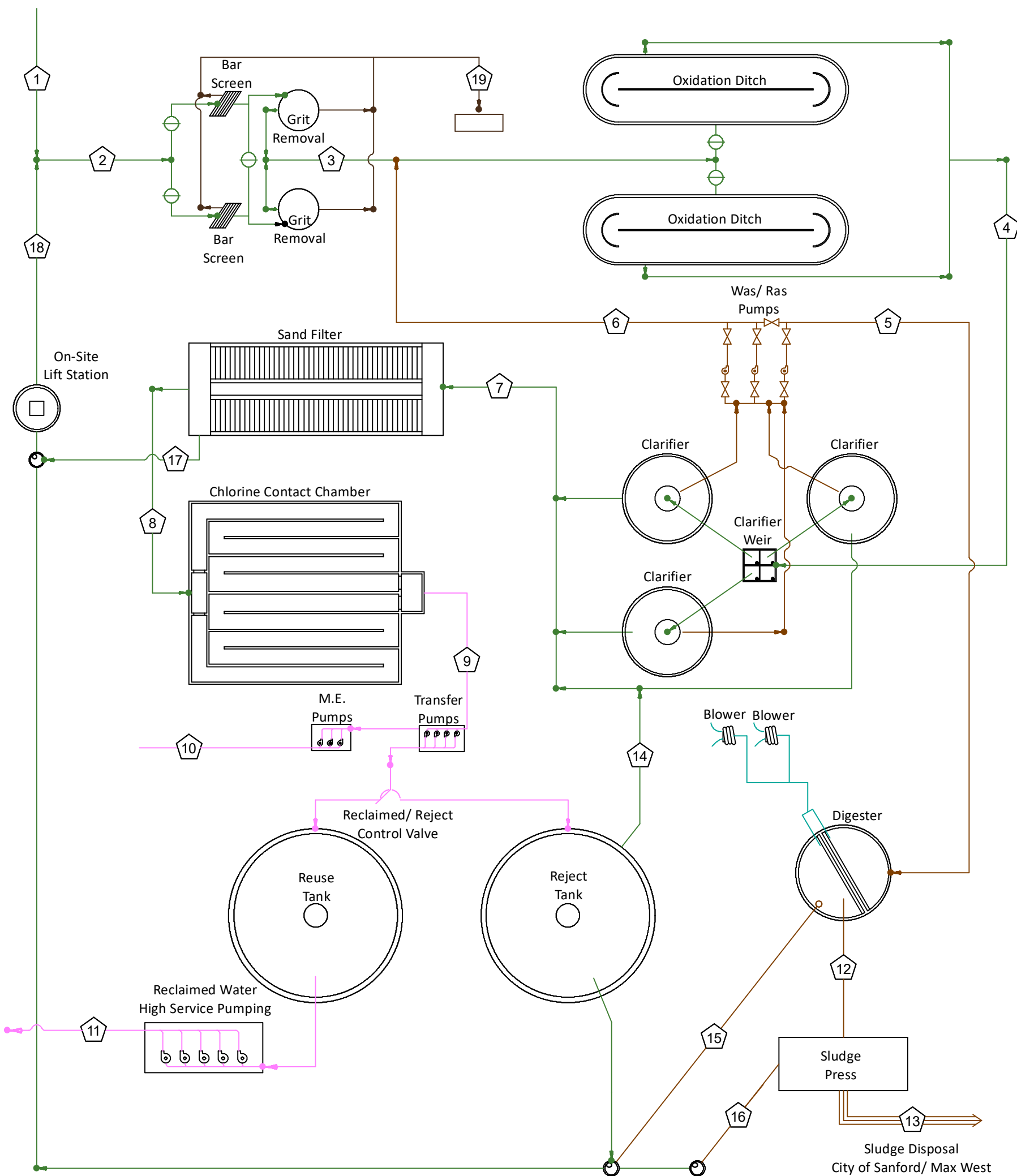
METERS & MONITORING POINTS	
NO.	DESCRIPTION
METERS	
M-1	PRESS REJECT
M-2	E.V. #2, FOR FLOW TO ON-SITE RIBS (FLW-4)
M-3	FLGC/RIBS FLOW (FLW-2)
M-4	TOTAL PLANT FLOW METER (FLW-1)
M-5	TO RECLAIM CUSTOMERS (FLW-3)
MONITORING POINTS	
INF-1	INFLUENT SAMPLING
503	SLUDGE ANALYSIS
EFA-1	EFFLUENT SAMPLING PRIOR CL2 ADDED
EFA-1	FINAL EFFLUENT

Facility Process Flow Diagram
Wastewater Treatment Facility
CITY OF OCOEE
UTILITIES DEPARTMENT

EXHIBIT

6

City of Ocoee Utilities



ID	Flow Stream	Flow Rate (MGD)	BOD Loading (lb/day)	TSS Loading (lb/day)	Sludge (lb/day)	ID	Flow Stream	Flow Rate (MGD)	BOD Loading (lb/day)	Flow Rate (mgd)	TSS Loading (lb/day)
1	Raw Influent Wastewater	1.674	3252.95	3294.83	N/A	11	Reclaimed Water	1.492	105.64	18.42	N/A
2	Raw Influent/ Recycle	1.70	3303.47	3346.01	N/A	12	Digested Sludge	0.03	N/A	N/A	4003
3	Screened Influent/ Recycle	1.70	3303.47	3346.01	N/A	13	De-Watered Sludge	0.004	N/A	N/A	560
4	Oxidation Effluent	2.228	198.82	68.75	59460	14	Rejected Back Drain	0.48	N/A	N/A	N/A
5	Waste Activated Sludge	0.03	N/A	N/A	3252	15	Supernate Water from Digester	Min.	N/A	N/A	N/A
6	Returned Activated Sludge	0.528	N/A	N/A	56208	16	Press Water	0.026	N/A	N/A	N/A
7	Clarified Effluent	2.15	152.23	66.34	N/A	17	Filter Backwash & Overflow	Mln.	N/A	N/A	N/A
8	Filtered Effluent	2.15	152.23	26.54	N/A	18	Recycle of Plant Process	0.026	N/A	N/A	N/A
9	Final Effluent	2.15	152.23	26.54	N/A	19	Grit and Screenings	N/A	N/A	N/A	N/A
10	Forest Lake Reuse Effluent	0.178	12.6	2.20	N/A						

DESIGN CRITERIA TABLES

B

2017
OCOEE WASTEWATER TREATMENT FACILITY
DESIGN CRITERIA UPDATED TABLE

PRETREATMENT DESIGN CRITERIA		
	Type of Screening	Fine Screen
	Quantity of Screens	2
	Screen Capacity	Total 8 MGD (4 MGD/each)
	Screen Opening	6mm horizontal opening
	Type of Grit Removal	Vortex
	Quantity of Units	2
	Grit Removal Capacity	Total 15 MGD (7.5 MGD/each)
	Grit Removal Efficiency	95% of grit > 150 micron
	Type of Grit Dewatering	Screw Classifier
	Quantity of Units	1
	Dewatering Capacity	2 CF grit/mgd, 6 CF grit/day
	Dewatering Efficiency	95% of grit > 100 micron
OXIDATION DITCH DESIGN CRITERIA		
	Influent Flow, AADF	3.0 mgd
	Influent Flow, Peak Hourly	7.5 mgd
	Side Water Depth	15 ft. SWD submerged mixing provided
	Oxidation Ditch Volume	1.0 MG, Total
	Number of Ditches	2 each
	Total Oxidation Volume	2.0 MG
	Hydraulic Retention	16 hours @ 3.0 mgd
	Influent TSS, annual average	299 mg/l
	Influent BOD, annual average	175 mg/l
	Influent BOD, annual average	5,630 lb/day at 3.0 mgd
	BOD Oxidized	220 mg/l, minimum
	BOD Oxidized	5,505 lb/day at 3.0 mgd
	WAS	0.8 lb/lb BOD Oxidized
	WAS	4,405 lb/day at 3.0 mgd
	SRT	13.3 days at 4,000 mg/l MLSS and 3.0 mgd
	Influent NH ₃ -N	40 mg/l
	NH ₃ -N Removed, Synthesis	5% of WAS
	NH ₃ -N Removed, Synthesis	8.8 mg/l

NH ₃ -N Removed, Synthesis	220 lb/day at 3.0 mgd
Effluent NH ₃ -N	1.0 mg/l
NH ₃ -N Oxidized to NO ₃ -N	30.2 mg/l
NH ₃ -N Oxidized to NO ₃ -N	755 lb/day at 3.0 mgd
NH ₃ -N Oxidized to N ₂ -N	27.2 mg/l
NH ₃ -N Oxidized to N ₂ -N	680 lb/day at 3.0 mgd
O ₂ -N Required	1.3 lb O ₂ /lb BOD Oxidized 4.5 lb O ₂ /lb NH ₃ -N Oxidized -2.9 lb O ₂ /lb NO ₃ -N Reduced
AOR	8,660 lb O ₂ /day at 3.0 mgd
Alpha Value	0.80
Beta Value	0.96
D.O. Concentration	2.0 mg/l
SOR	14,670 lb/day at average conditions
Available Oxygen	1.8 Kg O ₂ /KW hr at 12" submergence
Available Oxygen	3.0 lb O ₂ /hp hr at 12" submergence
Number of Rotors	4 total (2 per ditch)
Power	60 hp/rotor
Total Power	240 hp
Available Oxygen	17,280 lb/day, 1.175 times SOR
Additional Mixers	2 each oxidation ditch, 4 total
Mixer Power	9 hp/each, 36 hp total
Mixer Power	0.012 hp/1,000 gallons

SECONDARY CLARIFIER DESIGN CRITERIA

Number of Clarifiers	3 existing
Diameter	65 feet each
SWD	12 feet
Unit Area	3317 ft ² each
Total Area	9954 ft ² with 3 clarifiers
Overflow Rate	300 gpd/ft ² at 3.0 mgd
Overflow Rate	450 gpd at 3.0 mgd with 2 clarifiers
Weir Length	204 ft/clarifier
Weir Length	612 ft total
Weir Length	4,900 gpd/ft
Solids Loading	18 lb/ft ² /day at 3.0 mgd influent and 0.03 mgd RAS @ 3,500 mg/l MLSS

PUMPING SYSTEMS DESIGN CRITERIA		
	RAS Pumps	
	Type	8" Non-Clog Centrifugal, Existing
	Quantity	2 each, 1 each on-line, 1 each stand-by
	Pumping Rate	800 gpm @ 13 ft TDH (850 rpm)
	Pumping Rate	1400 gpm @ 18 ft TDH (1100 rpm)
	Pumping Rate	2400 gpm @ 36 ft TDH (1700 rpm)
	Control	On/Off, Variable Speed Motion Control
	Power	30 hp/pump
	WAS Pump	
	Type	4" Non-Clog Centrifugal, Proposed
	Quantity	1 each, (RAS pump as stand-by)
	Pumping Rate	200 gpm @ 14 ft TDH
	Pumping Rate	400 gpm @ 10 ft TDH
	Control	On/Off
	Power	5 hp/Pump
	Scum Pump	
	Type	Submersible Grinder
	Quantity	2 each
	Pumping Rate	20 gpm @ 40 ft. TDH
	Pumping Rate	40 gpm @ 15 ft. TDH
	Control	H-O-A with Float Level Control
	Power	2 hp/pump

TERTIARY FILTER DESIGN CRITERIA		
	Number of Filters	2 each, traveling bridge filters
	Filter width x length	12.5 ft. x 42.0 ft. each
	Filter Area	525 ft ² /each, 1050 ft ² total
	Media	11 inches of sand
	Hydraulic Loading	2.0 gpm/ft ² at 3.0 mgd ADF
	Hydraulic Loading	5.0 gpm/ft ² at 7.5 mgd peak
	Solids Loading	0.5 lb/day/ft ² at 3.0 mgd, 20 mg/l TSS
	Head Loss	33 inches, maximum
	Backwash Control	Level control/timer override

	Backwash Rate	25 gpm/ft ²
	Backwash Rate	200 gpm, on cell backwashing
	Total Backwash	2% of throughput at 3.0 mgd influent
DISINFECTION SYSTEM DESIGN CRITERIA		
	Disinfectant	Chlorine
	Contact Time	43 minutes at 3.0 mgd 17 minutes at 7.5 mgd
	Chlorine Feed Rate	6.0 mg/l average, at 3.0 mgd
	Chlorine Feed Rate	125 lb/day average, at 3.0 mgd
	Available Feed Rate	8.0 mg/l maximum, at 7.5 mgd
	Available Feed Rate	270 lb/day
	Residual	1.0 mg/l minimum, after contact time
	Available Chlorine	3300 gallons
	Pump Feed Rate(s)	28 gph each (56 gph total)
	Supply on Hand	21 days, average
	Feed Method	Solution
	Control	Flow/Chlorine Residual Compound Loop

IN-PLANT PUMP STATION DESIGN CRITERIA		
	Type	6" Non-Clog Submersible
	Quantity	2 each duplex
	Pumping Rate (1 pump), Design	800 gpm @ 59 ft. TDH
	Pumping Rate (1 pump)	700 gpm @ 63 ft. TDH
	Pumping Rate (2 pumps)	1100 gpm @ 70 ft. TDH
	Pumping Rate (2 pumps)	1000 gpm @ 73 ft. TDH
	Control	Floats
	Power	20 hp/pump

AEROBIC DIGESTION DESIGN CRITERIA		
	Tank Volume	801,400 gallons, total
	Dimensions	45 ft. inner diameter/26 ft outer ring/15 ft. SWD
	WAS	4,405 lb/day at 3.0 mgd ADF
	WAS	53,000 gpd @ 1% solids
	Digester Solids Concentration	1.5-2.0%, through decanting
	Digestion SRT	23-30 days @ 1.5-2.0% solids

	VSS	0.75 lb VSS/lb WAS
	VSS	3,305 lb/day at 3.0 mgd
	VSS Reduction	38% min., 1255 lb/day @ 3.0 mgd
	SRT for VSS Reduction ¹	20 days @ 20°C, 60°F 16 days @ 26°C, 87°F
	Oxygen Required	2.3 lb O ₂ /lb VSS reduced
	Oxygen Required	2,890 lb O ₂ /day, AOR
	Oxygen Transfer Efficiency	4%; field
	Air Required	3,250 ICFM, VSS Reduction
	Air for Mixing	30 CFM/1,000 CF
	Air Required	3,215 ICFM, Mixing
	Aeration	2 each centrifugal blowers, existing
	Aeration Capacity	3,300 ICFM/each
	Aeration Power	150 hp/each
	Aeration Power	0.19 hp/1,000 gal, 1 operating
	Additional Mixing	Not in use
	Mixer Power	n/a
	Decanting	Telescoping Valve

BIOSOLIDS DEWATERING DESIGN CRITERIA		
	Type of Dewatering	Ashbrook - Belt Filter Press
	Digested Sludge	3100 lb/day from digester
	Digested Sludge	15,000 – 20,000 gpd @ 1.5-2.0% solids
	Belt Size	2.0 meter (width)
	Belt Capacity	80 gpm/meter width
	Belt Capacity	9 lb/min/meter width
	Operating Time	7.0 hrs/day avg. (3 days/wk)
	Solids Capture Rate	95% minimum
	Dewatered Solids	14-18% dry solids
	Dewatered Solids	29 CY/day avg. (3 day/wk operation)
	Filtrate	36,000 gpd avg. (3 day/wk operation)
	Wash Water	100 gpm at 60 psi Reuse
	Wash Water	126,000 gpd avg. (3 days/wk) Reuse
	Bulk Polymer	50% concentrated liquid
	Polymer Feed Rate	0.50 – 1.0 gph

	Polymer Feed Solution	1% diluted polymer solution
	Polymer Feed Pumps	40-60 gph

SCADA and PLC		
	Software Version (SCADA)	VT SCADA
	Alarm Dialer	VTSCADA
	PLC	5 units, Allen Bradley Control Logics, Rev. 17 Firmware



601 South Lake Destiny Road, Suite 290
Maitland, FL 32751
407.906.1776 | wright-pierce.com

bartt.booz@wright-pierce.com