



TOWN OF PALM BEACH

Town Manager's Office

PUBLIC WORKS COMMITTEE MEETING

TOWN HALL
COUNCIL CHAMBERS – SECOND FLOOR
360 SOUTH COUNTY ROAD

AGENDA
THURSDAY, AUGUST 15, 2019
9:30 A.M.

WELCOME!

- I. CALL TO ORDER AND ROLL CALL
Bobbie Lindsay, Committee Chair
Margaret A. Zeidman, Committee Member
- II. PLEDGE OF ALLEGIANCE
- III. APPROVAL OF AGENDA
- IV. COMMUNICATIONS FROM CITIZENS
- V. GREEN INITIATIVE UPDATE
- VI. CONSTRUCTION UPDATE
- VII. ECR UPDATE
- VIII. ANY OTHER MATTERS
- IX. ADJOURNMENT

PLEASE TAKE NOTE:

The progress of this meeting may be monitored by visiting the Town's website (www.townofpalmbeach.com) and clicking on "Meeting Audio" in the left column. If you have questions regarding that feature, please contact the Office of Information Systems (561) 227-6315. The audio recording of the meeting will appear within 24 hours after the conclusion of the meeting.

Disabled persons who need an accommodation in order to participate in the Public Works Committee Meeting are requested to contact the Town Manager's Office at 838-5410 or through the Florida Relay Service by dialing 1-800-955-8770 for voice callers or 1-800-955-8771 for TDD callers, at least two (2) working days before this meeting.

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TOWN OF PALM BEACH

Information for Public Works Committee Meeting: August 15, 2019

TO: Public Works Committee

VIA: Kirk W. Blouin, Town Manager

FROM: H. Paul Brazil, P.E., Director of Public Works

RE: Green Initiative Update

DATE: August 1, 2019

STAFF RECOMMENDATION

Town staff is providing an update on the progress pertaining to the Town's Green Initiative Program and requests the Public Works Committee members to provide any direction deemed necessary.

GENERAL INFORMATION

- Town Wide Landscape Maintenance Bid Documents

Staff has written and posted Bid No. 2019-31-Landscape Maintenance. This new document encompasses all Town owned and maintained properties as well as rights-of-way with the exception of Worth Avenue, Town Square, Royal Poinciana circular beds, and Southern Causeway circular beds. The bid document does not allow synthetic chemicals. This is consistent with the Town's Green Initiative.

We have taken this opportunity to divide the Town into four (4) separate zones, breaking out each particular landscape duty within the zone; which makes the vendors responsible for all work within their particular zone and allows the Town to gain additional control over services. The due date for this bid document is August 21st at 2:00 p.m. The cost for all four (4) zones is anticipated to be \$650,000 to \$750,000 annually.

- New Worth Avenue Maintenance Contract

The new Worth Avenue landscape maintenance contract began on July 1, 2019. The Town had several potential vendors review the document and attend the pre-bid meeting. The contract was awarded to the incumbent vendor, Property Works. This vendor proposed, and is utilizing, an environmentally friendly subcontractor, Clements Pest & Environmental (Clements), for pest control and fertilization. Prior to the start of the applications, staff met with both Property Works and Clements, provided a copy of Town Ordinances pertaining to fertilizer usage, and reviewed their non-synthetic pest control practices. Staff has continued to meet with these vendors to confirm applications and to validate products utilized.

In addition, Town staff contacted the Garden Club of Palm Beach to review the condition of Worth Avenue landscaping and to see if there would be an opportunity to establish a more native planting plan in some of the existing planting beds. The Garden Club, in conjunction with the Worth Avenue Association, feels it is a great opportunity to showcase the beauty of native plantings. Public Works contacted Nelo Robert Freijomel, of Stephen Boruff, AIA Architects, to see if they would be interested in assisting staff. We are in the infancy stages of this project and will provide more information during future Public Works Committee meetings.

- Sugarcane Mosaic Virus

Mosaic disease of St. Augustine grass was first reported in the 1960's in sugarcane producing areas of Florida (rural Palm Beach County). The symptoms are blotchy and streaky patterns of yellow and green color. The result is turf dieback that typically starts in September and October and continues through the winter into spring. There has been recent outbreaks reported in Palm beach County. Pre-emptive steps have been taken to avoid the spread of this disease by having our vendors wash and disinfect all mowers, blades, rollers, and tires between each maintenance at each location.

- Ficus Replacement Program

As previously reported, ficus hedges have been removed in Lakeside Park at Brazilian and Australian dock parking lots and replaced with turf and added low flow irrigation. We anticipate removing ficus hedges at the Peruvian Dock this fiscal year. Native hedge material will be installed as part of the Marina Project. Additionally, we anticipate replacing hedges at D-9 (Mediterranean), Phipps Ocean Park, and Town owned property near Crescent Drive. In addition, we were able to remove a diseased ficus tree located near Crescent Drive. This is an on-going project which we will continue with the efforts.

The replacement schedule is attached (Exhibit A). Staff will continuously review, modify, and update the list to include replacement totals and species types in an effort to avoid establishing a mono-culture of hedge materials and to promote species diversity.

- Fertilizer and Pesticide at Town-Owned Properties

All fertilizers and pesticides are applied at or below label rates and are applied using Best Management Practices (BMP). We are constantly accessing and evaluating our current program, minimizing our impact on the environment. For the past four (4) years we have used a vendor who annually tests the soil throughout the Town so we can customize our treatment programs to address existing conditions and issues. All vendors that provide applications hold a Certified Pest Control Operator (CPO) Licenses and provides the Town with spray logs that detail what was applied, as well as the amount applied during each treatment. A list of Town properties are attached (Exhibit B) which includes our previous treatment program and the current program. The following is a breakdown for each type of treatment:

1. Pesticides

The Town currently treats for lethal yellowing, Royal Palm bug, and white fly utilizing synthetics. All other pests are treated with environmentally friendly applications, all with a quarterly maintenance program.

2. Fertilizers

The Town currently has a quarterly fertilization program for the green spaces in the medians and at large turf areas such as Bradley Park, Lakeside Park, and Wrightsman/Dean Park which are utilizing a 0-0-20 product in the 'black-out' period. The Worth Avenue turf and plantings are fertilized monthly and the palm trees are treated by deep root injections to provide proper nutrients to the palm trees due to limited green space adjacent to the palms.

Staff will continue to search for superior, substitute plant materials, to replace the chemical dependent varieties. Staff will attend continuing education programs and will work with the UF Entomologist, USDA, and Palm Beach County extension agents to identify the latest in BMP's.

- Lethal yellowing

Lethal Yellowing (LY) is a fatal but preventable disease caused by bacteria. LY currently affects 40% of palm species, most common is Coconut and Date Palms. This disease affects the vascular system of the palms by clogging its vessels, not allowing nutrients to migrate through the tree. It is spread by a palm sap feeding leafhopper.

Treatment for LY consists of drilling a small hole in the tree and inserting a valve. The valve is then penetrated with a syringe. The chemical injected is a water-soluble antibiotic, oxytetracycline hydrochloride (OTC). Because it is water based, as is the palm, it dissipates over a short time, requiring treatment 3x/year to maintain effective control. An average size coconut palm would be injected with 4 grams of OTC/tree/year.

- Other Issues

The arborist has identified opportunities to improvement our practices. Some have been adopted already. These include pressurized LY treatments, increasing the sizes of tree rings to prevent mower damage, and sterilization of cutting equipment between each and every individual tree trimming. This prevents the transfer of pathogens between trees.

The treatment of the North County Road ficus canopy was traditionally a quarterly neonicotinoid systemic treatment four times (4x) per year. We recently reduced it to two (2) treatments per year and used Altus (a non-neonicotinoid systemic) for the alternate treatments. This has reduced our neonicotinoid exposure in the area by 50%. In addition, the arborist is currently working on alternate treatments or reduced traditional treatments for the Royal Palm bug.

The arborist and Town staff recognize the impact of neonicotinoids on pollinators, and have implemented a bee removal program in lieu of eradication. Our vendor sets up an alternative hive and relocates the queen (or introduces a new one) and the worker bees follow into the alternate hive. We are currently implementing this at a hive in Lakeside Park. A photo is attached (Exhibit C).

Lastly, as previously noted, we have experimented with eliminating chemical treatment (including fertilizer) at both Park Avenue Park and Boyd Park. Unfortunately, we had an outbreak of grubs at Park Avenue Park. We used a green product to spot treat the grubs, no other treatment has been necessary. Photos of Park Avenue Park (Exhibit D) and Boyd Park (Exhibit E) are attached.

Attachments

cc: Jay Boodheshwar, Deputy Town Manager
Eric B. Brown, P.E., Assistant Director of Public Works
Paul Colby, Facility Maintenance Division Manager
John Lawrence, Grounds Supervisor

FICUS REPLACEMENT PROGRAM

EXHIBIT A

LOCATION	SPECIES	PRIORITY (1 to 5)	LINEAR FT	REMOVAL & INSTALLATION LABOR COST/LN FT.	UNIT RATE POTENTIAL REPLACEMENT MATERIAL	ESTIMATED COST	Actual cost	Vendor (V) or In-house (IH)	ANTICIPATED REPLACEMENT YEAR	COMMENTS
Australian Dock	Ficus	1	394	\$100	\$96	\$77,224			2019	Summer 2019. Sod will be installed pending Dock project.
Australian Parking Lot	Ficus	1	130	\$100	\$96	\$25,480	\$3,078.00	IH	2019	In-house labor and equipment cost only - replacement dependant on Dock project.
Brazilian Parking Lot	Ficus	1	145	\$100	\$96	\$28,420	\$4,865.00	IH	2019	In-house labor and equipment cost only - replacement dependant on Dock project.
Crescent Park	Ficus	3	130	\$100	\$96	\$25,480	\$3,345.00		2019	Removal only - Nothing slated to be reinstalled. Stump grinding and sod replacement still pending.
D-9 Mediterranean	Ficus	1	235	\$100	\$96	\$46,060			2019	Contingent on funding
Peruvian Dock	Ficus	1	115	\$100	\$96	\$22,540			2019	Contingent on funding
Peruvian Parking Lot	Ficus	3	224	\$100	\$96	\$43,904			2019	Contingent on funding
Phipps Ocean / Little Red School House	Ficus	1	250	\$100	\$96	\$49,000			2019	Contingent on funding
FY19 Total						\$318,108	\$11,288.00			
Phipps Ocean - North Lot	Ficus	2	274	\$100	\$96	\$53,704			2020	Contingent on funding
Phipps Ocean - South Lot	Ficus	2	268	\$100	\$96	\$52,528			2020	Contingent on funding
Phipps Ocean - South Restroom	Ficus	2	15	\$100	\$96	\$2,940			2020	Contingent on funding
South Fire Station	Ficus	3	180	\$100	\$96	\$35,280			2020	Contingent on funding
D-10 Via Marila	Ficus	2	186	\$100	\$96	\$36,456			2020	Contingent on funding
Palmo Way	Ficus	2	83	\$100	\$96	\$16,268			2020	Contingent on funding
Police Department	Ficus	2	45	\$100	\$96	\$8,820			2020	Contingent on funding
FY20 Total						\$205,996	\$0.00			

D-8 Country Club	Ficus	3	154	\$100	\$96	\$30,184			2021	Contingent on funding
North Fire	Ficus	3	79	\$100	\$96	\$15,484			2021	Contingent on funding
Central Fire	Ficus	3	38	\$100	\$96	\$7,448			2021	Contingent on funding
A-42	Ficus	3	35	\$100	\$96	\$6,860			2021	Contingent on funding
FY21 Total						\$59,976	\$0.00		2021	Contingent on funding

Brazilian Parking Dock	Ficus		71	\$100	\$96	\$13,916	\$2,690.00	IH	2018	Ficus removed 2018. Sod installed pending Dock project.
Park Avenue North			0	\$100	\$96	\$0	\$6,812.60	V & IH	2018	\$4,562.60 vendor cost. \$2,250.00 in Town labor costs.

POTENTIAL NATIVE HEDGE MATERIAL

Total \$661,304

Autograph - Jamaican Caper

\$20,790.60 TOTAL ACTUAL COSTS TO DATE

Buttonwood - Marlberry

Cocoplum - Simpson's Stopper

EXHIBIT B

Pre 2019									Current										
Product Name	Type	Active Ingredient	Frequency 2018	Certified Organic or "Green" product	Target	EPA Registration	Method	Action	Current/ or Alternatives Product Name	Type	Active Ingredient	Frequency 2019	Certified Organic or "Green" Product	Target	Residual	Cost	EPA Registration	Method	Action
Segway	Fungicide	Cyazofamid	2 (As Needed)		Ptyhium Root Rot	7152-13-279	Spray	Curative		Fungicide		Researching Alternatives		Ptyhium Root Rot				Unknown	Curative
Azaguard	Insecticide	Azadirachtin/Neem Oil	As Needed	NOP	Grubs/Nematodes		Spray	Curative	AzaGuard	Insecticide	Azadirachtin/Neem Oil	As Needed	NOP Compliant	Grubs/Nematodes	7-10 Days	\$62.53 p/acr.	70299-17	Spray	Curative
8-2-12	Fertilizer	N,P,K	2		Nutrition	N/A	Spreader	Nutrition	8-2-12	Fertilizer	N,P,K	2						Spreader	Nutrition
									0-0-20 + Fe, Mn.	Fertilizer	N,P,K	2		Nutrition			N/A	Spreader	Nutrition
Arena .25g	Insecticide	Clothianidin	2 (As Needed)		Chinch Bugs	59639-157	Spray	Curative	Essentria IC3	Insecticide	Rosemary,Geraniol, Peppermint Oil	As Needed	NOP Compliant	Chinch Bugs	7-10 Days	\$180.68 p/acr.	FIFRA 25(b) Exempt	Spray	Curative
Miramichi Green Pro	Herbicide	Ammonium Nonanoate	8(As Needed)	OMRI Listed	Weeds	87663-3-90778	Spray	Weed Control	EcoMight	Herbicide	Natural soaps & salts	As Needed	E.P.A. Minimum Risk Exemption List	Weeds	90 Days	\$3.00 p/gal.	Minimum Risk Exempt	Spray	Weed Control
Celcius	Herbicide	Thiencarbazone-methy	2 (As Needed)		Weeds	264-DEU-001	Spray	Curative				Researching Alternatives						Unknown	Curative
		Iodosulfuron-methyl-sodium																	
		Dicamba																	
8-2-12	Fertilizer	N,P,K	2		Nutrition	N/A	Spreader	Nutrition	0-0-20 + Fe, Mn.	Fertilizer	N,P,K	1		Nutrition			N/A	Spreader	Nutrition
13-3-13	Fertilizer	N,P,K	2		Nutrition	N/A	Spreader	Nutrition	13-3-13 N,P,K	Fertilizer	N,P,K	3		Nutrition			N/A	Spreader	Nutrition
Avalon	Insecticide	Bifenthrin	4 (As Needed)		Cinch Bugs	279-3206--72112	Spray	Curative	AzaGuard	Insecticide	Azadirachtin/Neem Oil	As Needed	NOP Compliant	Cinch Bugs	7-10 Days	\$62.53 p/acr.	70299-17	Spray	Curative
Dimension 2Ew	Herbicide	Dithiopyr	4 (As Needed)		Weeds	67219-542	Spray	Curative				Researching Alternatives		Weeds				Unknown	Curative
Dominion 2L	Insecticide	Imidacloprid	5 (As Needed)		Insects	53883-229	Spray	Curative	AzaSol	Insecticide	Azadirachtin/Neem Oil	As Needed	OMRI Certified	Insects	7-10 Days	Varies/Pest	81899-74578	Spray	Curative
Pro-Sedge	Herbicide	Halosulfuron-methyl	4 (As Needed)		Sedge	228-702	Spray	Curative				Researching Alternatives		Sedge				Unknown	Curative
Rometsol 60 DF	Herbicide	Metsulfuron-methyl	4 (As Needed)		Weeds	83100-2-83979	Spray	Curative				Researching Alternatives		Weeds				Unknown	Curative
Sevin SL	Insecticide	Cabaryl	4 (As Needed)		Ornamental Insects	432-1227	Spray	Curative				Researching Alternatives		Ornamental Insects				Unknown	Curative
Tempo Sc Ultra	Insecticide	Beta-Cyfluthrin	4 (As Needed)		Fleas	432-1363	Spray	Curative	AzaSol	Insecticide	Azadirachtin/Neem Oil	As Needed	OMRI Certified	Fleas	7-10 Days		81899-74578	Spray	Curative
Receptor	Stimulant	Indole-3-butyric Acid, Gibberellic Acid	8		Roots	5905-594	Spray	Nutrition											
Celcius	Herbicide	See E8 E9 E10	4 (As Needed)		Weeds	432-1507	Spray	Curative				Researching Alternatives		Weeds				Unknown	Curative
21-0-0	Fertilizer	N	3		Nutrition	N/A	Spray	Nutrition	21-0-0	Fertilizer	N	As Needed		Nutrition			N/A	Spray	Nutrition
Asset RTU	Fertilizer	N,P,K,B,Cu,Fe,Mn,Mg,Zn	2		Nutrition	N/A	Spray	Nutrition	Asset RTU	Fertilizer	N,P,K,B,Cu,Fe,Mn,Mg,Zn	As Needed		Nutrition			N/A	Spray	Nutrition
Ele Max 0-28-26	Fertilizer	Phosphoric Acid, Potash	2		Nutrition	N/A	Spray	Nutrition	Ele Max 0-28-26	Fertilizer	Phosphoric Acid, Potash	As Needed		Nutrition			N/A	Spray	Nutrition
Hydra-Hume 0-0-1	Fertilizer	K, Humic Acid, Fulvic Acid	3		Nutrition	N/A	Spray	Nutrition	Hydra-Hume 0-0-1	Fertilizer	K, Humic Acid, Fulvic Acid	As Needed		Nutrition			N/A	Spray	Nutrition
8-2-12	Fertilizer	N,P,K,Mn,Mg,Fe,Cu,Zn	12		Nutrition	N/A	Spreader	Nutrition	8-2-12	Fertilizer	N,P,K,Mn,Mg,Fe,Cu,Zn	As Needed		Nutrition			N/A	Spreader	Nutrition
Axilo Mix 5	Fertilizer	N,P,K,B,Cu,Fe,Mn,Mg,Zn	6		Nutrition	N/A	Spray	Nutrition	Axilo Mix 5	Fertilizer	N,P,K,B,Cu,Fe,Mn,Mg,Zn	As Needed		Nutrition			N/A	Spray	Nutrition
Ferrilene	Fertilizer	Fe	4		Nutrition	N/A	Spray	Nutrition	Ferrilene	Fertilizer	Fe	As Needed		Nutrition			N/A	Spray	Nutrition
20-20-20	Fertilizer	N,P,K	3		Nutrition	N/A	Spray	Nutrition	20-20-20	Fertilizer	N,P,K			Nutrition			N/A	Spray	Nutrition
8-0-12	Fertilizer	N,K,Fe,Z,B,Mg,Mn	12		Nutrition	N/A	Spray	Nutrition	8-0-12	Fertilizer	N,K,Fe,Z,B,Mg,Mn	As Needed		Nutrition			N/A	Spray	Nutrition
Dominion 2L	Insecticide	Imidacloprid	6		Insects	53883-229	Drench	Preventative	Dominion 2L	Insecticide	Imidacloprid	Researching Alternatives		Insects			53883-229	Drench	Preventative
Talstar	Insecticide	Bifenthrin	2(As Needed)		Insects	279-3206	Spray	Curative				Researching Alternatives						Unknown	Curative
Merit	Insecticide	Imidacloprid	3(As Needed)		Insects	432-1312	Spray	Curative				Researching Alternatives						Unknown	Curative
Transom	Fungicide	Thiophanate-methyl	2(As Needed)		Fumgus/Disease	72112-1	Spray	Curative				Researching Alternatives						Unknown	Curative
Certainty	Herbicide	Sulfosulfuron	2(As Needed)		Weeds	524-535	Spray	Curative				Researching Alternatives						Unknown	Curative
Minx	Insecticide	Abamectin	1(As Needed)		Insects/Mites	228-736	Spray	Curative				Researching Alternatives						Unknown	Curative
Ranger Quick Pro	Herbicide	Glyphosate- Ceased use September 2018	8 (As Needed)		Weeds	524-517	Spray	Weed Control	Avenger	Herbicide	d-Limonene (citrus oil)	As Needed	OMRI Certified	Weeds	30 Days	\$4.69 p/gal	82052-1	Spray	Weed Control
8-2-12	Fertilizer	N,P,K,Mn,Mg,Fe,Cu,Zn	3		Nutrition	N/A	Spreader	Nutrition	8-2-12	Fertilizer	N,P,K,Mn,Mg,Fe,Cu,Zn	3		Nutrition			N/A	Spreader	Nutrition
Dominion 2L	Insecticide	Imidacloprid	3		Insects	53883-229	Spray	Preventative	Dominion 2L	Insecticide	Imidacloprid	3		Insects			53883-229	Spray	Preventative
Tree Saver Injection		Orthotetracycline hydrochlorine	3		Lethal Yellowing	N/A	Injection	Preventative	Tree Saver Injection		Orthotetracycline hydrochlorine	3		Lethal Yellowing			N/A	Injection	Preventative
Imidacloprid 2f	Insecticide	Imidacloprid	4		White Fly	83399-17	Drench	Curative	Altus/Drench	Insecticide	Flupyradifurone - 17.09 %	2 rotational	non neonicotinoid	White Fly			4321575	Drench	Curative
Safari 20sg	Insecticide	Dinotefuran	2 (As Needed)		White Fly	86203-11-59639	Drench	Curative	Safari/ Drench	Insecticide	Dinotefuran	2 rotational		White Fly			86203-11-59639	Drench	Curative
Ranger Quick Pro	Herbicide	Glyphosate- Ceased use September 2018	2(As Needed)		Weeds	524-517	Spray	Weed Control	EcoMight	Herbicide	Natural soaps & salts	As Needed	E.P.A. Minimum Risk Exemption List	Weeds	90 Days	\$3.00 p/gal	Minimum Risk Exempt	Spray	Weed Control







TOWN OF PALM BEACH

Information for Public Works Committee Meeting: August 15, 2019

TO: Public Works Committee

VIA: Kirk W. Blouin, Town Manager

FROM: H. Paul Brazil, P.E., Director of Public Works

RE: Construction Update

DATE: August 5, 2019

STAFF RECOMMENDATION

Town staff will make a presentation providing an update of the status of several Capital Projects.

GENERAL INFORMATION

The Public Works Committee requested an update on the Public Works Capital Projects.

Paving Program

This past year, the Town was able to utilize an existing contract through another municipality with All County Paving. The rates were very favorable for the Town and, therefore, the Town has already awarded a contract for Phase 1 North to be milled and resurfaced. All County Paving will begin paving on August 19th and expects the paving to take less than 2 weeks.

Lift Stations

During the 2019 construction season, five (5) lift stations were scheduled for construction. E-2 has been completed. E-1 was delayed due to items that took longer to be delivered than anticipated, but is presently under construction. Two (2) of the remaining three (3) stations are located on the Lake Trail. This contract was awarded at the February Town Council meeting. The start and completion of these stations is controlled by the ability to purchase the necessary controls and other materials. E-4 is beginning construction now. E-3 will be coordinated to begin construction once the Lake Trail can be reopened at E-4. G-9 construction is also beginning this week. This station is located adjacent to South Ocean Boulevard at the intersection with Chilean Avenue. Staff does not see any significant traffic impacts during this construction.

400 Block of Worth Avenue

The entire 400 block of Worth Avenue has been under construction since mid-May. The watermain has been replaced. The sewermain has been lined. The primary focus now is on the installation of the upgraded drainage. Work is scheduled to be completed by the end of October.

Mast Arms at Sunrise and Bradley and Clarke and Cocoanut Row

The mast arms at both locations have been installed and are working. The final steps of pavement restoration are taking place this week.

Attachment

cc: Jay Boodheshwar, Deputy Town Manager
Eric B. Brown, P.E., Assistant Director of Public Works
Patricia Strayer, P.E., Town Engineer

TOWN OF PALM BEACH

Information for Public Works Committee Meeting: August 15, 2019

TO: Public Works Committee

VIA: Kirk W. Blouin, Town Manager

FROM: H. Paul Brazil, P.E., Director of Public Works

RE: ECR Update

DATE: August 5, 2019

STAFF RECOMMENDATION

Town staff is providing an informational update on the East Central Regional Water Reclamation Facility (ECR) and no action is required.

GENERAL INFORMATION

- **Biosolids Project Report:**
This major project included several components including the conversion of Aeration Basin #1, construction of a new Dewatering Facility, a new Digester Facility, a new Fat/Oil/Grease Facility, and other necessary improvements associated with the work. At this time, the aeration basin work has been completed and was accepted and is operational. Completion of other remaining tasks is nearing completion but still pends testing and acceptance as well as permit inspections and close-out. The project is anticipated to be complete by the end of the year. Liquidated damages continue to accrue and resolution of claims and delays is still pending. A copy of the latest update provided to the ECR Board on this is attached for reference.
- **FY2020 Budget Adoption:**
The ECR Board adopted its final FY2020 budget and a copy of the applicable pages pertaining to the Town is attached. The FY2020 contribution required by the Town is \$2,252,198 and is approximately 5% greater than the previous year's contribution of \$2,139,296. The Town's contribution is based on the estimated flow as a percentage of the total flows of all entities, and the Town's percentage share of the overall plant capacity.
- **Capital Project Status:**
The ECR Board also adopts as part of its budget a 10-year Capital Improvement Program (CIP) that identifies and prioritizes the project work to be accomplished. A copy of that CIP plan is attached for reference.

Attachments

cc: Jay Boodheshwar, Deputy Town Manager
Eric B. Brown, P.E., Assistant Director of Public Works
Jason Debrincat, P.E., Senior Project Engineer
Brett Madison, Water Resources Division Manager

ECRWF BIOSOLIDS IMPROVEMENTS PROJECT
EXECUTIVE SUMMARY OF MONTHLY CONSTRUCTION PROGRESS



DATE: 7/25/2019

Project Description:

Construction of new biosolids facilities and facility upgrades, including conversion of existing Decant Tank No. 2 to Aerated WAS Storage; Gravity Belt Thickening Building upgrades; a new temperature phased anaerobic digestion process, a new centrifuge dewatering facility; conversion of existing Decant Tank No. 1 to dewatering centrate equalization storage; new septage and FOG (fats, oils, greases) receiving stations; a new odor control system; conversion of the aerobic digester to Aeration Basin (AB) No. 1; and electrical and SCADA upgrades

Project Purpose:

To replace aging solids processing infrastructure with new facilities to reduce biosolids quantities and reduce biosolids disposal costs

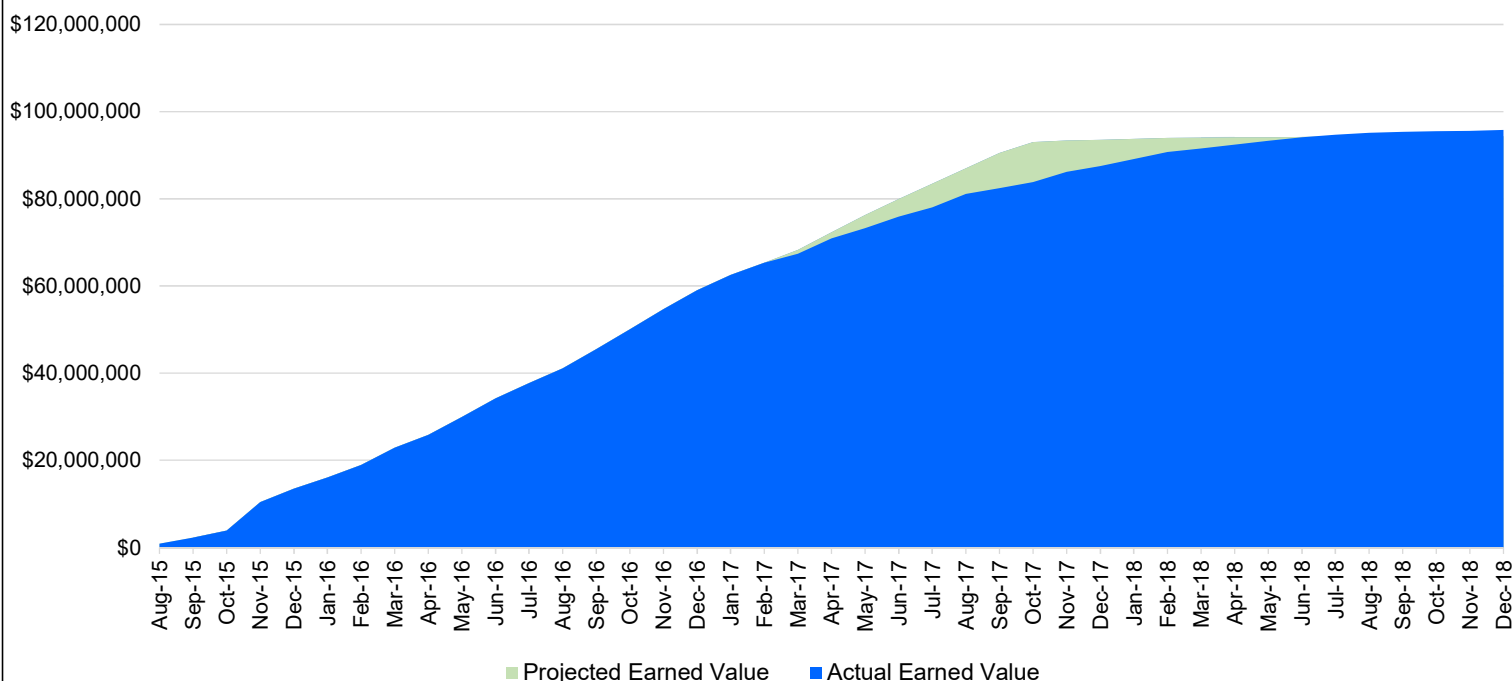
Project Construction Costs:

Original Contract Amount:	\$92,602,000.00	
Change Orders to Date:	\$4,275,703.20	4.62%
Current Contract Amount:	\$96,877,703.20	
Potential Change Orders:	\$72,143.00	0.08%
Total Work Completed to Date:	\$96,390,734.49	99.50%
Balance to Complete:	\$486,968.71	

Project Schedule:

	Days	Date
Notice to Proceed:	----	8/10/2015
Substantial Completion - Biosolids:	-327	9/1/2018
Substantial Completion - FOG Receiving:	-256	11/11/2018
Substantial Completion - AB1 Conversion:		7/31/2018
Final Completion - AB1 Conversion:	-314	9/14/2018
Final Completion:	-102	4/14/2019
Elapsed days to date:	1445	

Earned Value / Progress Payments - Projected vs. Actual



Summary of Major Work Items Completed Last Month

- Continued equipment yellow and blue tag testing
4/23 Status -- Yellow Tags: **181**, Blue Tags: **153**
Total Pieces of Equipment: **194**
- Demobilized Engineer's Field Trailer
- Closed Permits: (1) WAS Storage Tank, (2) Centrate EQ Tank, (3) Centrate EQ Pump Station, (4) Septage Receiving, (5) Odor Control Facility, (6) Plant Drain Pump Station, (7) AB1, (8) FOG Receiving, (9) ADF Electrical Bldg
- Completed testing of Digester M2 Lid

Summary of Major Work Items Scheduled for Next Month

- Continue loop testing and FAT testing of ADF
- Startup and test the DEW Odor Control System
- Manufacturer testing of the gas compressors, boilers
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Digester M2 Lid Testing



Work on MOVs

ECRWRF BIOSOLIDS IMPROVEMENTS PROJECT
EXECUTIVE SUMMARY OF MONTHLY CONSTRUCTION PROGRESS

DATE: 7/25/2019

Contract Amendment Log:

Amd	Date	Notes
1	7/22/2016	Updated and clarified the backup documentation that the Contractor is required to submit with the monthly applications for payment
2	1/13/2017	Modifies Aeration Basin No.1 constraints and milestones
3	10/2/2017	Allows for early operation of the GBT and provides for an extended warranty on the GBT Facility
4		Allows for early operation of the Dewatering Building and associated facilities

Change Order Log:

CO	Amount	Date	Notes
1	\$ 8,835.00	9/10/2015	Access Road
2	\$ (12,190.00)	6/14/2016	Power & Water Credit, Decant Tank 1 Coatings
3	\$ 180,000.00	7/6/2016	Permit Allowance Overage
4	\$ (37,160.00)	7/6/2016	Electrical Conduit 90's, Material Change
5	\$ (36,691.00)	7/6/2016	Tandem to Single Megalugs
6	\$ 3,089.00	9/12/2016	Bldg Dept Revisions - Dewatering Bldg Electric
7	\$ 14,941.00	9/15/2016	Odor Control Facility Floor Drains
8	\$ (4,356.00)	9/15/2016	Septage Receiving Tank Volume Reduction
9	\$ 13,435.00	10/31/2016	Underground Refrigerant Piping
10	\$ 23,310.00	10/31/2016	Mechanical Seals for Centrate EQ Pumps
11	\$ (34,660.00)	11/21/2016	Conduit Hubs, Material Change, Stainless Steel to Aluminum
12	\$ 5,118.00	11/21/2016	Relocate Condenser at ADF Elec Bldg
13	\$ 7,938.00	11/21/2016	Relocate Drains at Centrifuge Conveyor Outlets
14	\$ 837,192.00	1/13/2017	RAS Bypass and Repair
15	\$ (17,658.00)	1/13/2017	Power/Water Credit through 6/23/16
16	\$ 121,473.00	1/17/2017	Update Handrail to Meet Plant Standard (3-Rail)
17	\$ 432,313.00	2/9/2017	Electrical Ductbank Conflicts / Demo
18	\$ 52,565.00	3/9/2017	Allowance Adjustments & Cancellation of CO#1
19	\$ 4,895.00	3/9/2017	Odor Control Vessel Diameter
20	\$ 8,985.00	3/9/2017	Replace Force Main 90s with 45s
21	\$ -	4/17/2017	Hurricane Matthew Preparations and Recovery (7 Days)
22	\$ 6,330.00	4/17/2017	Door Hardware Modifications
23	\$ (20,255.00)	4/17/2017	Delete Purafil Remote Control Panel
24	\$ 77,140.00	4/20/2017	Change SCADA Software from GE IFix to Trihedral VTScada
25	\$ 14,524.00	4/17/2017	Blower Pipe Insulation
26	\$ 44,626.00	4/17/2017	Bldg Dept Revisions - Dewatering Bldg HVAC
27	\$ 1,687,500.00	4/21/2017	AB1 Solids Removal and Disposal
28	\$ 26,821.00	5/11/2017	Water Softener Outdoor Specs
29	\$ (21,783.00)	5/11/2017	Deletion of the Insta-hot Water Heaters on Emergency Showers
30	\$ 128,359.00	5/25/2017	Temporary bypass pumping for 96" influent pipe
31	\$ 14,870.00	6/15/2017	Dewatering Bldg Revisions to Accommodate Andritz Centrifuges
32	\$ 10,320.00	7/10/2017	Grounding Waste Gas Burner Piping
33	\$ (669,318.75)	7/12/2017	Digester Cleaning Reconciliation
34	\$ 3,190.00	7/10/2017	Additional Odor Control Equipment Pads
35	\$ 7,650.00	7/10/2017	Bldg Exterior Modifications, Stucco / EIFS
36	\$ -	7/10/2017	Building Parapets, Change from Concrete to CMU
37	\$ 76,583.00	7/10/2017	Interconnect to DST Pumps
38	\$ 3,046.00	7/10/2017	Install Neutral to GBT Panels
39	\$ (54,408.00)	7/10/2017	Digester Lid Light Removal
40	\$ 43,608.00	8/11/2017	Coatings at GBT Thickened Sludge Sump
41	\$ 639,871.00	9/1/2017	RAS Piping Rehabilitation
42	\$ 54,461.00	7/10/2017	FOG Facility Enhancements
43	\$ 28,685.00	10/2/2017	GBT Extended Warranty
44	\$ (34,670.00)	10/2/2017	Power and Water Credit
45	\$ 110,880.00	10/2/2017	GBT Operation, Labor
46	\$ 13,353.00	11/9/2017	Replace mud valve at GBT Facility
47	\$ 5,224.00	11/9/2017	Additional Wall Board at Dewatering Building
48	\$ 18,614.00	11/9/2017	Change MOVs to Modulating
49	\$ (70,258.00)	12/21/2017	Electrical Site Upgrades / Credit for MV Manholes
50	\$ 105,558.00	2/23/2018	GBT Startup Readiness
51	\$ 8,166.00	2/22/2018	Additional Remote Stations for MOVs
52	\$ 42,000.00	3/12/2018	Hurricane Irma Impacts - Work Recovery
53	\$ -	3/6/2018	Hurricane Irma Preparations - Biosolids Phase
54	\$ (1,038.00)	3/6/2018	Overhead Door Loop Detectors
55	\$ 18,630.00	3/6/2018	AB1 Outlet Box Structural Adjustments
56	\$ 4,033.00	3/6/2018	GBT VCPs 120V to 480V
57	\$ 12,368.00	3/20/2018	Location of Truck Loading Conveyor I/O
58	\$ -	3/29/2018	Hurricane Irma Delays at AB1 - Time Only
59	\$ 9,047.00	3/29/2018	HVAC Duct Modifications at FOG Attendant Bldg

60	\$	16,631.00	3/29/2018	Digester Bypass Piping Addition
61	\$	11,606.00	4/27/2018	Additional Pipe Supports / Piping Adjustments in Digesters
62	\$	12,811.00	6/19/2018	FOG / Septage foul air duct changes
63	\$	12,181.00	6/19/2018	16" WAS Repair / Exploratory
64	\$	4,721.00	6/19/2018	Electric for Relocated MOVs at Centrifuge Units
65	\$	12,985.00	6/19/2018	Pavement Elevation at Bulk Polymer
66	\$	6,899.00	6/25/2018	Speed Control Override for VFDs at GBT
67	\$	-	6/19/2018	Time Extension for Biosolids Improvements
68	\$	-	6/19/2018	Time Extension for AB-1
69	\$	32,804.00	7/19/2018	Polymer Skid Communications
70	\$	13,126.00	7/19/2018	GBT Startup Readiness - Budgetary vs Actual
71	\$	9,726.00	7/19/2018	Removal of Abandoned 48" DIP
72	\$	5,005.00	7/19/2018	Ductbank Conflict with 6" CEQ Piping at Centrate Pump Station
73	\$	62,962.00	7/19/2018	DEW Hydraulic Units Cooling Water
74	\$	6,625.00	10/9/2018	Adjustments to HVAC Branch Ducts in ADF Buildings
75	\$	13,951.00	9/17/2018	Adjustments to Landings at Meso Digesters
76	\$	7,993.00	9/17/2018	DEW Carbon Monoxide Detector Power
77	\$	1,506.00	11/14/2018	Additional Supports at TWAS Tank
78	\$	19,600.00	11/14/2018	Rotameters at ADF
79	\$	19,097.00	11/14/2018	Revised MOV Schedule
80	\$	10,075.00	11/14/2018	Piping Adjustments at Meso Heat Exchangers
81	\$	55,412.05	4/25/2019	Costs associated with Hurricane Irma
82	\$	(139,293.10)	4/25/2019	Reconciliation of unused allowance items
83	\$	24,302.00	5/17/2019	Asphalt Adjustments at AB1
84	\$	8,723.00	5/17/2019	FRP Foul Air Duct Relocation
85	\$	3,750.00	5/17/2019	Drywall Ceiling Remobilization
86	\$	100,980.00	5/17/2019	DEW Temp Service Water
87	\$	26,425.00		Additional Backfill / Excavation at Centrate Pump Station
88	\$	-		Incorporation of WCD-32 and 32R
Total				\$ 4,275,703.20

Pending Change Order Log:

PCO	Amount	Status	Notes
151	\$ 7,121.00	Approved	WCD-33, Abondon Dewatering Well at AB1 Effluent Structure (CO-?)
155	\$ 10,065.00	Approved	Vent Piping for Pressure Safety Relief Valves (CO-?)
156.1	\$ 9,276.00	Approved	Light Fixtures on Digesters (CO-?)
157	\$ 5,640.00	Approved	Lighting at FOG (CO-?)
158.1	\$ 13,984.00	Approved	Grout Removal at AB5 Effluent Box (CO-?)
159	\$ 12,399.00	Approved	Handrail for Slide Gates at Influent and Effluent (CO-?)
162	\$ (7,002.00)	Approved	Credit for Civil Work in Area of Fire Storage/Pumping per Memo 389 (CO-89)
164	\$ -	Approved	Asphalt Adjustments at Entry Gate (CO-90)
166	\$ 5,298.00	Approved	ADF - 480V Power to MOV-65-025 (CO-91)
167	\$ -	In Development	Credit for Unused Centrifuge Training
168	\$ 3,060.00	Approved	Street Light Pole Removal at AB1 (CO-92)
170	\$ -	In Development	Credit for Seal Water Panels for Rotary Lobe Sludge Pumps
171	\$ 5,362.00	Approved	Refeed Site Lighting at Administration Building (CO-93)
172	\$ 6,940.00	Approved	DEW Temp Water Pump - Additional Month (CO-94)
Total	\$ 72,143.00		

EAST CENTRAL REGIONAL WATER RECLAMATION FACILITY
BUDGET SUMMARY - ENTITIES CONTRIBUTION
FY 2019/2020

<u>ENTITIES</u>	<u>EST FLOW MGD</u>	<u>% OF TOTAL FLOW</u>	<u>Operating (470)</u>	<u>AWT/REUSE OPERATING (470)</u>	<u>AWT/REUSE R & R 478,479</u>	<u>2.0% CONTRIBUTION R & R (471)</u>	<u>FY20 TOTAL CONTRIBUTIONS PER ENTITY</u>	<u>FY19 TOTAL CONTRIBUTIONS PER ENTITY</u>	<u>AMOUNT OF INCREASE (DECREASE)</u>
WEST PALM BEACH	4,650.00	29.08%	\$8,703,771			\$2,323,012	\$11,026,783	\$11,073,815	(\$47,032)
TOWN OF PALM BEACH	840.00	5.25%	1,572,294			679,904	2,252,198	2,139,296	112,902
LAKE WORTH	3,290.00	20.57%	6,158,152			1,303,156	7,461,308	7,255,025	206,283
PALM BEACH COUNTY	5,317.53	33.25%	9,953,240	2,649,441	241,471	2,719,624	15,563,776	15,206,617	357,159
RIVIERA BEACH	1,895.00	11.85%	3,547,021			906,544	4,453,565	4,340,725	112,840
TOTAL	15,992.53	100%	\$29,934,478	\$2,649,441	\$241,471	\$7,932,240	\$40,757,630	\$40,015,478	\$742,152



**FY 2020 - FINAL SCHEDULE OF ANNUAL BILLING
BASED ON FY 2020 ESTIMATED FLOWS**

FLOW	FLOW	ENTITY	FUND 470 OPERATING		FUND 470 REUSE	FUND 471 R&R	R&R	TOTAL	% Change
FY20 Estimated MGD	% of Total		O&M 097340	Total 470	O&M 097342	2.0% Cash Contribution	Fund 479 Reuse	Required Contribution	Total Required Contribution FY19 to FY20
4,650.00	29.08%	West Palm Beach	\$ 8,703,771	\$ 8,703,771		\$ 2,323,012		\$ 11,026,783	0%
840.00	5.25%	Town of Palm Beach	\$ 1,572,294	\$ 1,572,294		\$ 679,904		\$ 2,252,198	5%
3,290.00	20.57%	Lake Worth Beach	\$ 6,158,152	\$ 6,158,152		\$ 1,303,156		\$ 7,461,308	3%
5,317.53	33.25%	Palm Beach County	\$ 9,953,240	\$ 9,953,240	\$ 2,649,441	\$ 2,719,624	\$ 241,471	\$ 15,563,776	2%
1,895.00	11.85%	Riviera Beach	\$ 3,547,021	\$ 3,547,021		\$ 906,544		\$ 4,453,565	3%
15,992.53	100.00%	Total	\$ 29,934,478	\$ 29,934,478		\$ 7,932,240		\$ 40,757,630	

FY 2019 - FINAL SCHEDULE OF ANNUAL BILLING

FLOW	FLOW	ENTITY	FUND 470 OPERATING		FUND 470 AWT/REUSE	FUND 471 R&R	R&R	TOTAL
FY19 Estimated MGD	% of Total		O&M 097340	Total 470	O&M 097341/097342	2.0% Cash Contribution	Fund 478 AWT / Fund 479 Reuse	Required Contribution
4,705.00	29.49%	West Palm Beach	\$ 5,406,296	\$ 8,592,111	\$ 34,000	\$ 2,255,351	\$ 192,353	\$ 11,073,815
810.00	5.08%	Town of Palm Beach	\$ 930,734	\$ 1,479,195		\$ 660,101		\$ 2,139,296
3,280.00	20.56%	Lake Worth	\$ 3,768,896	\$ 5,989,825		\$ 1,265,200		\$ 7,255,025
5,263.86	32.99%	Palm Beach County	\$ 6,048,457	\$ 9,612,683	\$ 2,719,084	\$ 2,640,411	\$ 234,438	\$ 15,206,616
1,895.00	11.88%	Riviera Beach	\$ 2,177,457	\$ 3,460,585		\$ 880,140		\$ 4,340,725
15,953.86	100.00%	Total	\$ 18,331,839	\$ 29,134,399		\$ 7,701,203		\$ 40,015,477

FY 2018 - ADOPTED SCHEDULE OF ANNUAL BILLING

FLOW	FLOW	ENTITY	FUND 470 OPERATING		FUND 470 REUSE	FUND 471 R&R	FUND 479 REUSE	TOTAL
FY18 Estimated MGD	% of Total		O&M 097340	Total 470	O&M 097342	2.0% Cash Contribution	R&R	Required Contribution
4,735.00	30.20%	West Palm Beach	\$ 5,069,159	\$ 7,838,223		\$ 1,621,007		\$ 9,459,230
759.00	4.84%	Town of Palm Beach	\$ 812,564	\$ 1,256,433		\$ 474,440		\$ 1,730,873
3,230.00	20.60%	Lake Worth	\$ 3,457,947	\$ 5,346,876		\$ 909,347		\$ 6,256,223
5,061.41	32.28%	Palm Beach County	\$ 5,418,596	\$ 8,378,547	\$ 2,668,956	\$ 1,897,765	\$ 227,610	\$ 13,172,878
1,895.00	12.09%	Riviera Beach	\$ 2,028,733	\$ 3,136,944		\$ 632,590		\$ 3,769,534
15,680.41	100.00%	Total	\$ 16,786,998	\$ 25,957,023		\$ 5,535,149		\$ 34,388,738

**EAST CENTRAL REGIONAL WATER RECLAMATION FACILITY
TENTATIVE SCHEDULE OF BILLINGS
TOWN OF PALM BEACH
BASED ON FY 2020 ESTIMATED FLOWS**

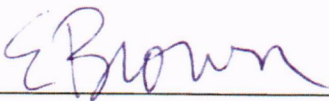
	ESTIMATED FLOWS (MGD)	470 MONTHLY BILLING OPERATING	8.57140% ANNUAL BILLING 471 R&R	TOTAL BILLINGS
OCTOBER	75.000	\$140,383	\$679,904	\$820,287
NOVEMBER	75.000	140,383		140,383
DECEMBER	80.000	149,742		149,742
JANUARY	75.000	140,383		140,383
FEBRUARY	75.000	140,383		140,383
MARCH	70.000	131,025		131,025
APRIL	70.000	131,025		131,025
MAY	65.000	121,666		121,666
JUNE	65.000	121,666		121,666
JULY	65.000	121,666		121,666
AUGUST	60.000	112,307		112,307
SEPTEMBER	65.000	121,666		121,666
TOTALS	840.000	\$1,572,294	\$679,904	\$2,252,198

**EAST CENTRAL REGIONAL WATER RECLAMATION FACILITY
ESTIMATED MONTHLY FLOWS (MG)
FROM OCTOBER 1, 2019 TO SEPTEMBER 30, 2020**

ENTITY NAME: TOWN OF PALM BEACH

OCTOBER	75.00
NOVEMBER	75.00
DECEMBER	80.00
JANUARY	75.00
FEBRUARY	75.00
MARCH	70.00
APRIL	70.00
MAY	65.00
JUNE	65.00
JULY	65.00
AUGUST	60.00
SEPTEMBER	65.00

TOTAL FLOWS FY 2020: **840.00**

 4-25-19

BOARD MEMBER APPROVAL SIGNATURE

EAST CENTRAL REGIONAL WATER RECLAMATION FACILITY 10 -YEAR CIP FOR FY2020 BUDGET

As of May 3, 2019														
CCI Forecast (2019)														
2.92 2.49 2.54 2.48 2.42 2.62 2.63														
1.0541 1.0795 1.104282868 1.128472787 1.154694584 1.180975402														
Project Description	Total FY 20-29	Adopted Budget FY 19	Project Carryforwards	FY 19 Revised Budget	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29
1 Pretreatment (5 Mech Bar Screens, 2 Grit Chambers, 5 Compactors, 2 Classifiers, 03)	\$ 1,573,851													
1-A Bar Screen System Rehab (42272009)	0			0										
1-B Grit Collection System Improvements (14993402)	0			0										
1-D Headworks Upgrade: Screening & Grit Removal, Electric, Structure Rehab & Flow Meters (42272130)	200,000			0	200,000									
1-E Rehab Odor Control System (40172520)	0	5,922	202,550	208,472										
1-G New Headworks Odor Control System & Ductwork (40172835)	1,373,851			0	1,373,851									
1-H FM Gate Cover	0			0										
2 Flow Equalization Basin and Tank	\$ 3,794,036													
2-A EQ Basin Mixing System Evaluation (42272011)	0			0										
2-C Replace Davit Cranes (42272131)	200,000		51,328	51,328	200,000									
2-D Install 4 New Return Piping Valves at Splitter Box (42272228)	0			0										
2-E Flow Equalization Basin Mixing System Design and Improvements (40172514)	826,004		-	0						826,004				
2-F Structural Repairs/Rehab to EQ Basin - Davit Cranes - (In House Project) (40172521)	0		0	0										
2-G Replace 4 3-Way Valves & Actuators & Submersible Pumps - (In House Project) (40172522)	350,000		0	0								350,000		
2-H Replace Process Water Booster Pumps & Install Water Cannons	522,818			0						522,818				
2-I Replace 8 Submersible Pumps	1,895,213			0						1,895,213				
3 Aeration Basin No. 1 & 5, Anoxic Basin, Influent and Effluent Structures	\$ -													
3-A Aeration Basin No. 1 Cleaning and Rehabilitation	0			0										
3-B Aeration Basin No. 5 Cleaning and Rehabilitation (42172493) CONSTRUCTION FUNDED IN 47B	0		21,504	21,504										
4 Aeration Basins No. 2 & 6 and Aerated Channels	\$ 21,480,777													
4-B Blower & Air Piping System Evaluation & Improvements (42272056)	192,600	93,618	4,360,269	4,453,887	192,600									
4-C MLSS Transfer System Pump Rehab (Couch Pumps) (In House Project) (40172523)	509,503		450,247	450,247	6,153	509,503								
4-D Replace Air Piping from AB-1 to AB-2	0			0										
4-E Aeration Basin No. 2 Cleaning and Rehabilitation (40172680)	7,530,127		383,213	383,213			7,530,127							
4-E1 Aeration Basin No. 6 Cleaning & Rehabilitation	12,970,146			0					12,970,146					
4-F Replace Aerated Channel Blowers	278,401			0								278,401		
5 Clarifiers, RAS, WAS & Scum Pumps	\$ 9,903,327													
5-B Clarifier Rehabilitation (42272014) (previous 14993405)	8,846,149	78,534		78,534	6,563					676,434	1,916,563	2,987,584	3,010,980	248,026
5-C Automated Sludge Withdrawal System (14993404)	0			0										
5-D 30" RAS Pipe Repairs (42272225)	0		215,360	215,360										
5-E Clarifier Effluent Trough Rehab	392,113			0										392,113
5-F RAS Chlorination System (40172664)	0	314,421	211,619	526,040										
5-G Replace Scum Wasting Pumps (42272013)	665,065		0	0	108,936	119,830	131,813	144,994	159,493					
6 Chlorination System No. 1 & 2 (2 Contact Chambers, Chlorine Bldg w/ CL Gas Equip)	\$ 3,730,081													
6-B Design & Construct Effluent Screens	3,730,081			0							472,390	3,257,691		
6-C Evaluate Chlorination System Improvements (42272132)	0			0										
6-D Replace Hypochlorite Feed Pumps & Tanks (40172673)	0	223,932	(223,932)	0										
7 Effluent Pump Stations No. 1 & No. 2 (11 Vertical Turbine Pumps, 3 VFDS)	\$ 3,244,333													
7-A Effluent Pump Rebuild (14993406) (42272133) (In House Project)	1,174,198	296,157	547,416	843,573	6,529	85,000	93,500	102,850	113,135	124,449	136,893	150,583	165,641	195,618
7-B Replace Effluent Pump, Valves, Actuators Nos. 7, 8, 9 (40172513) move to 477	0			0										
7-D Variable Frequency Drives for Effluent Pump Nos. 10, 11 (40172519) move to 477	0			0										
7-E Replace Surge System Compressors (In House Project)	0			0										
7-F Rebuild East Effluent Pump Station, New Pumps, Discharge Header/Piping	0			0										
7-G Effluent Pumps/Motors Vibration and Thermal Sensors	664,263			0							664,263			
7-H Rehab RAS and WAS Pumps (40172836)	1,405,872			0	343,872	332,000	172,000	178,000	185,000	195,000				
8 Deep Injection Wells No. 1 - 7	\$ -													
8-A Monitoring Wells 2, 4, 6, 7 Repl & MW-2 Lower Zone Abandonment (14993416)	0			0										
8-B Rehabilitate Injection Wells	0			0										
8-D Monitoring Well #2 Replacement (13993408)	0			0										
9 Biosolids & Dewatering Systems	\$ 7,575,108													
9-B Rehab/Repair Belt Filter Presses and Related Equipment (42272135)	250,000		183,140	183,140	250,000									
9-C Supernatant Pump Station Replacement/Abandonment	243,648			0			243,648							
9-D Centrifuge Scroll Replacement / Rehabilitation	1,085,977			0										
9-E Digester Gas Pipeline (40172674)	5,995,483	528,000	(528,000.00)	0								354,293	361,966	369,718
10 Electrical System	\$ 1,884,383											659,383	5,336,100	
10-A Electrical System Evaluation & Improvements (14993413)	0			0										
10-C Remote Racking System (40172675)	0	116,295	2,000	118,295										
10-D Replace Main Switchgear (Main Electric Building- bid w/ Fiber Optic) (40172640) ALSO FUNDED IN 4	0		806,431	806,431										
10-E Replace MCC-1 to MCC-5, and Panelboard PDP, PA, PAA	0			0										
10-M Install Portable Generator Switchboards	0			0										
10-X Replace MCC-5 (East Effluent Pump Station) & Install Second Feeder	408,947			0										
10-Z1 Electrical Maintenance Testing (42272233)	1,475,436		1,063,266	1,063,266	1,475,436		408,947							
11 Septage Receiving Station & Sand Drying Beds	\$ 311,903													
11-B Abandon/Modify Septage Facility (40172676)	311,903	123,100	(123,100)	0	311,903									
11-C Septage Facility Building Upgrade (13993404)	0			0										
12 Site Related Projects (Landscaping, Security Upgrades, Process Water Piping, Roadway, Etc.)	\$ 6,863,934													
12-A ECR Roadway Rehab & Resurfacing (14993409) (In House Project)	1,159,185	243,728	82,370	326,098									1,159,185	
12-B Process Water/Reuse Irrigation System Upgrade (42272060)	2,975,674	129,624	5,123,407	5,253,031	11,744					2,963,930				
12-B1 N/S Existing Process Water Rehab and Rebuild	0			0										
12-C ECRWRF Expand Security System CCTV (14993415) (42272137)	0			0										
12-D Process Water Valve and Pipe Replacement (42272138)	0			0										
12-E Enhance Turnpike Landscape Buffer (In House Project)	0			0										
12-N Building and Security Improvements (40172538)	121,107	37,129	1,733,224	1,770,353	121,107									
12-P Valve and Gate Replacement (10993402) (includes balanced transferred from 40172515)	2,607,968		695,714	695,714	63,335	250,478	257,992	265,732	273,704	281,915	290,373	299,084	308,056	317,298
13 General Facility Needs (Machinery & Equipment)	\$ -													
13-A Laboratory Rehab/Equipment Replacement (42272017) - (In House Project) (Fund in 470)	0		0	0										

EAST CENTRAL REGIONAL WATER RECLAMATION FACILITY 10 -YEAR CIP FOR FY2020 BUDGET

Project Description	Total FY 20-29	Adopted Budget FY 19	Project Carryforwards	FY 19 Revised Budget	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29
13-B 2009 ECR Improvements Project (09993419)	0			0										
13-C Replace Buried Waste Oil Tank at Generator Building (42272139)	0		25,530	25,530										
14 Computer Upgrades	\$ 1,950,000			0										
14-A SCADA HMI Modernization (09993424) (In House Project) (40172524) move to 477	0			0										
14-B ECR Fiber Cable Installation (42272054)	0			0										
14-C PLC Replacement (42272140)	1,950,000	138,881	(138,881)	0		150,000	1,800,000							
15 Emergency Generation Systems	\$ 1,453,143			0										
15-A Inlet Silencers (42272230)	0		0	0										
15-B Generator Rehab for Units 2&4 (40172681) (Project originally Units 3&4) FUND IN 47B	0			0										
15-C Generator Rehab for Units 1&2 (Should this be Units 1 & 3, see above)	1,453,143			0							1,453,143			
15-D Rehab Roof Oil Coolers (40172516)	0		0	0										
16 Buildings & Structures	\$ 439,988			0										
16-A Replace/Rehab HVAC Equipment (14993412) (42272141)	2,618		157,793	157,793	2,618									
16-B Control Building AC Replacement(14993411)	0			0										
16-C Warehouse Awning Installation (40172097)	0			0										
16-D ECR Control Building Improvements (14993414)	0			0										
16-E Building Envelope Repairs (12993409) (42272142)	0			0										
16-F Handrail, Grating, Walkway, Stair Repairs (42272143) (Safety Improvements)	0			0										
16-G Miscellaneous Concrete Repairs (42272144) (Fund in 470)	0		12,470	12,470										
16-H Replace Generator, Level Control Station And Effluent Pump Station Building Roof (42272229)	0			0										
16-I Rehabilitate South Blower Building (42272231)	0			0										
16-J Rehabilitate North Blower Building (42272232)	0			0										
16-K Abandon/Secure/Modify Decant Tank No. 3 (40172677)	337,370	363,019	(363,019)	0										337,370
16-L Convert Dewatering Building to Storage/Repair Building	0			0										
16-M Fiber-Optic-Replacement (Include with Replace Main Switchgear Project 40172640)	0			0										
16-N Electrical Manhole Sump Pumps	0			0										
16-O Plant and Landscaping Improvements	100,000			0										100,000
16-P Replace Electric Security Gates (40172837)	75,000			0	75,000									
17 CIP Administrative	\$ 4,743,814			0										
17-B Biosolids Contingency (13993422)	0	900,000	5,275,938	6,175,938										
17-C ECR Board Discretionary CIP Reserve For Future Projects (500928-00000000)	0	780,864	(780,864)	0										
17-D Project Management and Construction Inspection	4,743,814			0										
10 YR PROJECTED CAPITAL EXPENDITURES FY 2020-2029	\$ 69,029,830	\$ 4,373,224	\$ 20,227,854	\$ 23,820,217	\$ 4,749,647	\$ 1,917,541	\$ 10,769,225	\$ 1,690,270	\$ 14,263,041	\$ 7,995,296	\$ 5,731,749	\$ 8,588,735	\$ 10,932,648	\$ 2,511,678
		FY19 Budget	Project Carryforwards	FY 19 Revised	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29
Contributions FY 2020-2029 (Shortfall) Surplus Funding	90,934,235				7,932,239	8,170,207	8,415,313	8,667,772	8,927,805	9,195,639	9,471,509	9,755,654	10,048,324	10,349,773
Cash Balance March 31, 2019	34,415,145				37,597,738	43,850,404	41,506,492	48,583,994	43,258,758	49,784,337	46,998,518	50,951,256	46,114,193	58,789,351
Value of 1% Reserve Requirement				3,850,602	3,966,120	4,085,103	4,207,656	4,333,886	4,463,903	4,597,820	4,735,754	4,877,827	5,024,162	5,174,887
Less Project Encumbrances	\$ (6,181,967)													
Less Remaining Project Budget	\$ (15,059,771)													
Subtotal	\$ 13,173,407													
Less 1% Reserve Requirement (FY19)	\$ (3,850,602)													
Estimated Unrestricted Reserve Balance	\$ 9,322,805													
Estimated Unrestricted Reserve Balance				\$ 9,322,805	\$ 12,389,880	\$ 18,523,562	\$ 16,057,097	\$ 23,008,370	\$ 17,553,117	\$ 18,619,543	\$ 22,221,369	\$ 23,246,215	\$ 22,215,555	\$ 29,902,926
Contributions FY 2020-2029	\$ 90,934,235	\$ 7,701,203		\$ 7,701,203	\$ 7,932,239	\$ 8,170,207	\$ 8,415,313	\$ 8,667,772	\$ 8,927,805	\$ 9,195,639.49	\$ 9,195,639	\$ 9,755,654	\$ 10,048,324	\$ 10,349,773
West Palm Beach	28,630,727			2,255,351	2,323,012	2,392,702	2,464,483	2,538,418	2,614,570	2,693,007	2,773,798	2,857,012	2,942,722	3,031,004
Town of Palm Beach	7,794,337			660,101	679,904	700,301	721,310	742,949	765,238	788,195	811,841	836,196	861,282	887,120
Lake Worth Beach	14,939,222			1,265,200	1,303,156	1,342,251	1,382,518	1,423,994	1,466,713	1,510,715	1,556,036	1,602,717	1,650,799	1,700,323
Palm Beach County	31,177,439			2,640,411	2,719,624	2,801,213	2,885,249	2,971,806	3,060,961	3,152,789	3,247,373	3,344,794	3,445,138	3,548,492
Riviera Beach	10,392,510			880,140	906,544	933,740	961,752	990,605	1,020,323	1,050,933	1,082,461	1,114,935	1,148,383	1,182,834
Annual Percent Contribution				2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Est Plant Value (3% increase/year) (Incl AWT value, FY19 Add BioSolids Value \$100,000,000)	\$ 385,060,165			\$ 385,060,165	\$396,611,970	\$ 408,510,329	\$ 420,765,639	\$ 433,388,608	\$ 446,390,266	\$ 459,781,974	\$ 473,575,434	\$ 487,782,697	\$ 502,416,177	\$ 517,488,663
Value of 1% Reserve Requirement	3,850,602			3,850,602	3,966,120	4,085,103	4,207,656	4,333,886	4,463,903	4,597,820	4,735,754	4,877,827	5,024,162	5,174,887