



Fort Lauderdale, FL

Stormwater Rate Study

Fee Work Session

November 19, 2019



Core Elements of the Study



Revenue Requirements

- Operations & Maintenance
- Renewal and Replacement
- Master Plan CIP

Cost Allocation

- Units of Service
- Effective Imp. Area
- Trip Generation

Fee Structure

- Identify Structures
- Customer Impacts

Method of Billing

- Utility Bill
- Tax Assessment

Project Timeline

2016

- Stormwater fee study analysis completed, and initial results presented.
- Trip generation and fee zones introduced as potential fee structures.

2017

- Refined version of fees presented to City Commission, which considered a hybrid approach between trip generation and the current structure.
- **City of Fort Lauderdale Infrastructure Task Force Committee-** Recommended the City Commission consider adopting a new stormwater rate methodology based upon the trip generation cost apportionment and to consider using the bond validation process immediately thereafter to validate the methodology.

2018

- **Budget Advisory Board-**Recommended that the City Commission change the methodology used for stormwater charges from using impervious surface to a trip generation model.
- City Commission provided direction to investigate hybrid structure further.
- Significant challenges arose regarding the ability to charge an updated fee using current billing data.

2019

Revenue Requirements

Near Term Needs of the Stormwater Utility

The Utility delivers service through three key areas:

- Operations and Maintenance (O&M) **\$11.5M** — **Funded**
- Renewal and Replacement Capital Projects **\$4M** — **Funded**
- Phase 1 Master Plan Capital Projects **\$200M** — **Unfunded**
 - *Edgewood*
 - *River Oak*
 - *Dorsey Riverbend*
 - *Durrs Area*
 - *Progresso*
 - *Victoria Park*
 - *Southeast Isles*

Goal: Ensure the Stormwater Utility has the resources needed to invest in and maintain the stormwater system that protects the City.

Diagnostic Scenario

FAMS-XL

FT. LAUDERDALE STORMWATER



CALC SAVE CTRL LAST OVR

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2023	FY 2028
Stormwater Revenue Plan	0.00%	16.67%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	16.67%	16.67%
Senior-Lien DSC	0.00	2.86	0.82	0.60	0.52	0.44	0.37	0.17	0.11	0.07	0.05	Scenario Manager	

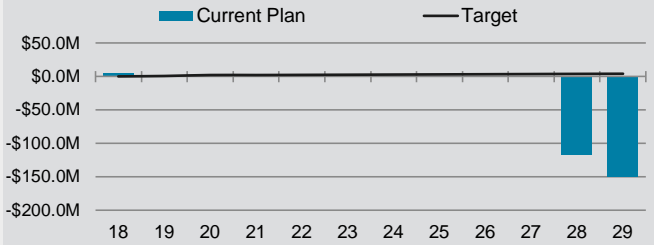
Current Revenue Level

Impaired Coverage

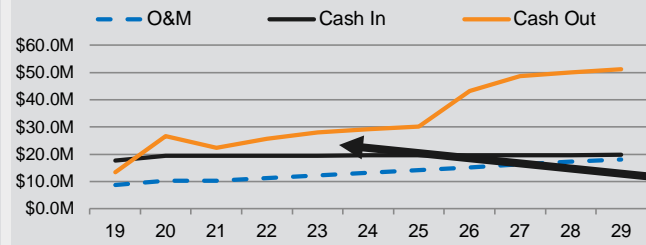
Deficit Spending

Debt Financing

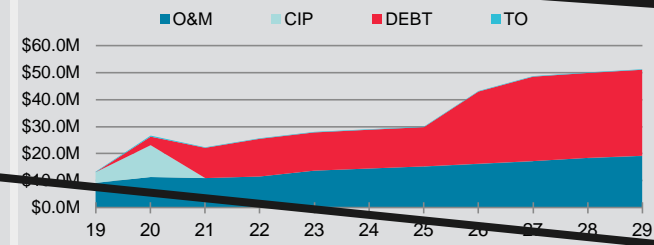
Operating Fund



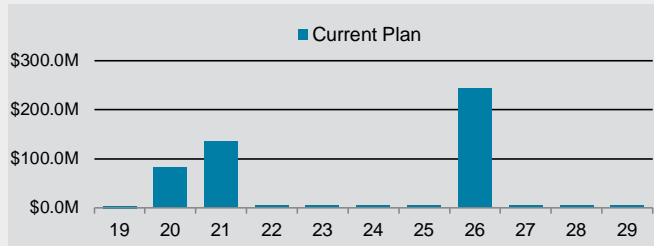
Revenues vs. Expenses



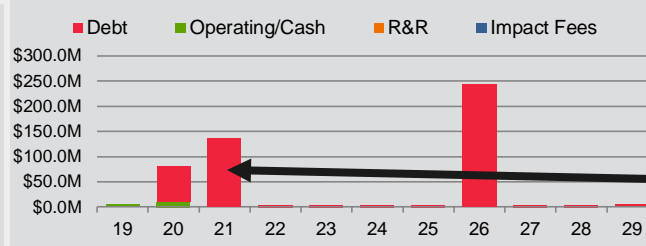
Expenses by type



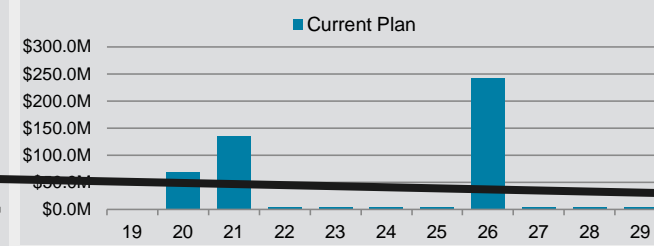
CIP Spending



CIP Funding



Borrowing



Required Revenue Adjustments

FAMS-XL

FT. LAUDERDALE STORMWATER



CALC SAVE CTRL LAST OVR

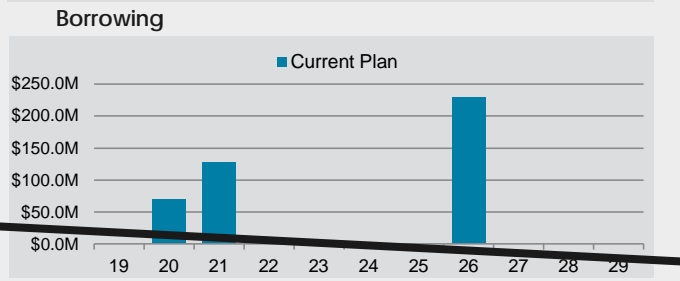
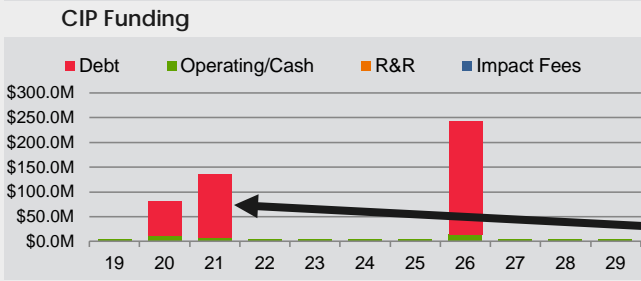
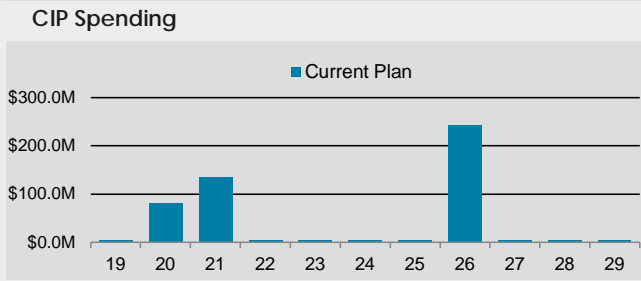
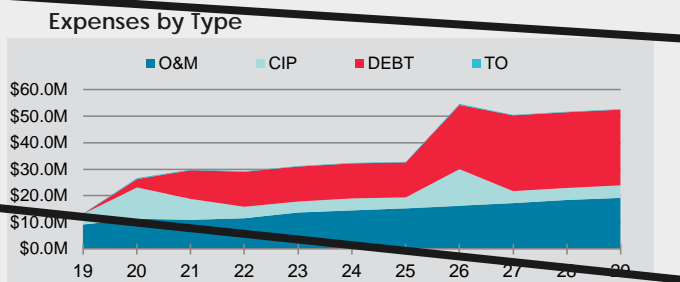
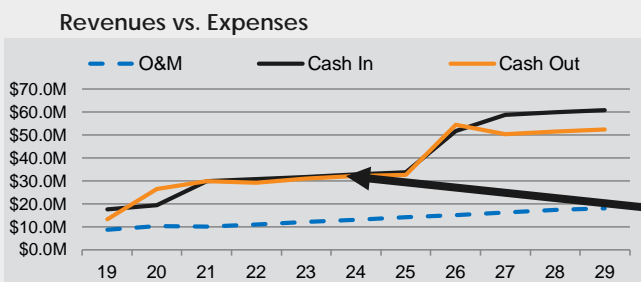
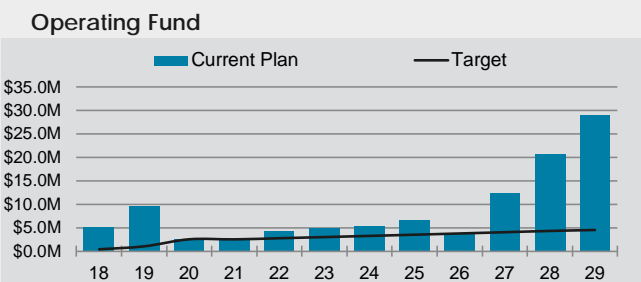
	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2023	FY 2028
Stormwater Revenue Plan	0.00%	16.67%	54.00%	3.02%	2.91%	2.87%	2.79%	53.01%	37.68%	3.02%	1.83%	90.49%	345.12%
Senior-Lien DSC	0.00	2.86	1.82	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	Scenario Manager	

54% More Revenue Required

Proper Coverage

Balanced Cash Flow

Debt Financing



Cost Allocation

Options for Stormwater Cost Allocations

Recovery Basis

Method for Measured Units on Parcel

Taxable Value

Dwelling Units

Gross Area

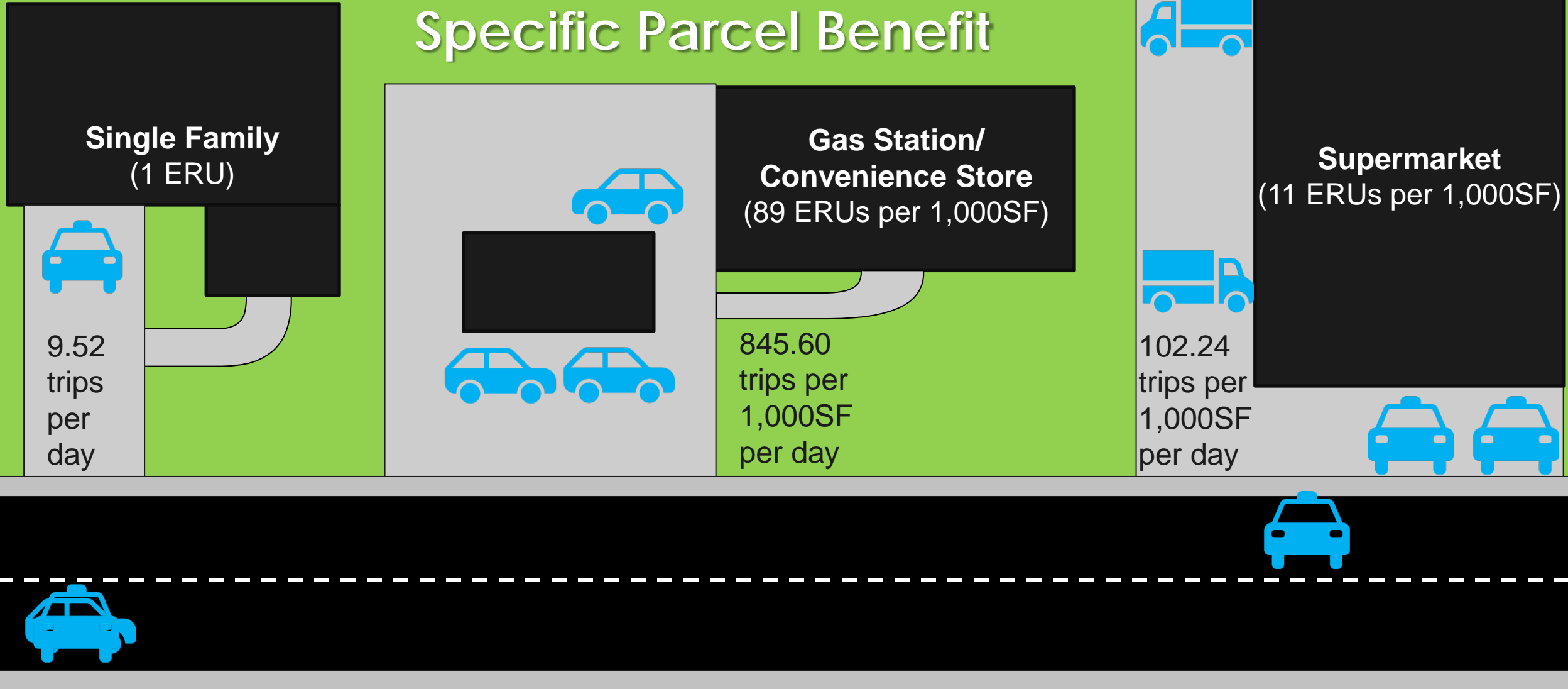
Pervious Area

Impervious Area

Trip Generation



ITE Trip Generation Rates & Specific Parcel Benefit

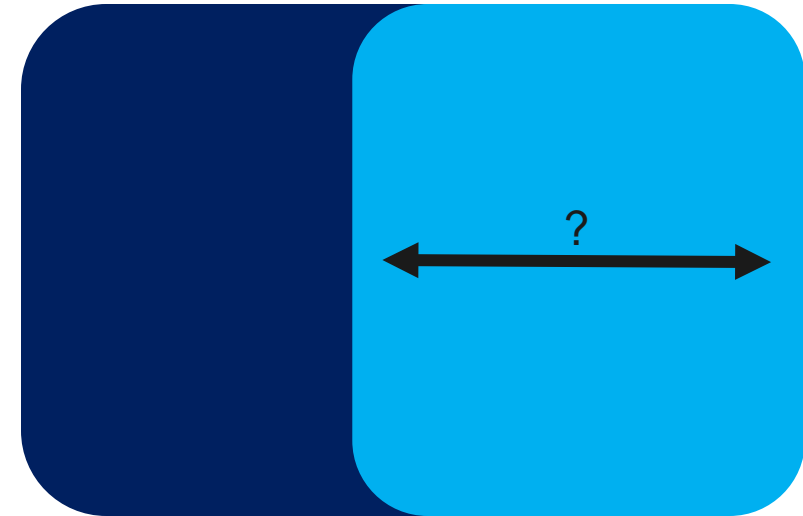


The Hybrid Model

Current Fee Structure (Effective Impervious)

Trip Generation

Revenue Requirement Split



Objective and Metric Based Split

Key Requirements:

- Updated Billing Units
- Creation of New Billing File
- Defensible Spilt of Cost
 - Quality vs. Quantity

Cost of Service Analysis

Quality

Quantity

Cost Allocation

Recovery Basis

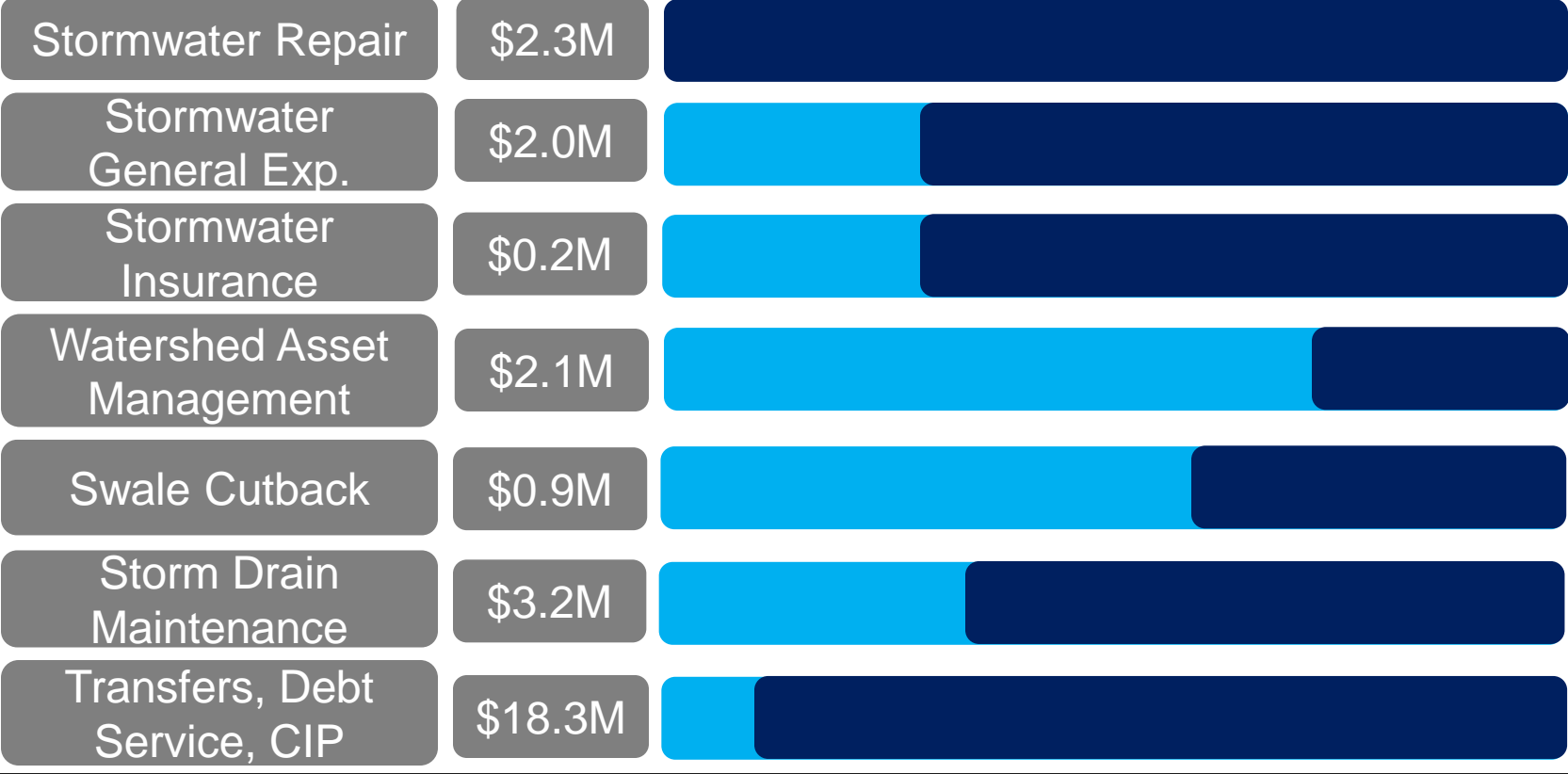
FY 2021 Expenses \$29M

Trips

Current Structure

Quality

Quantity

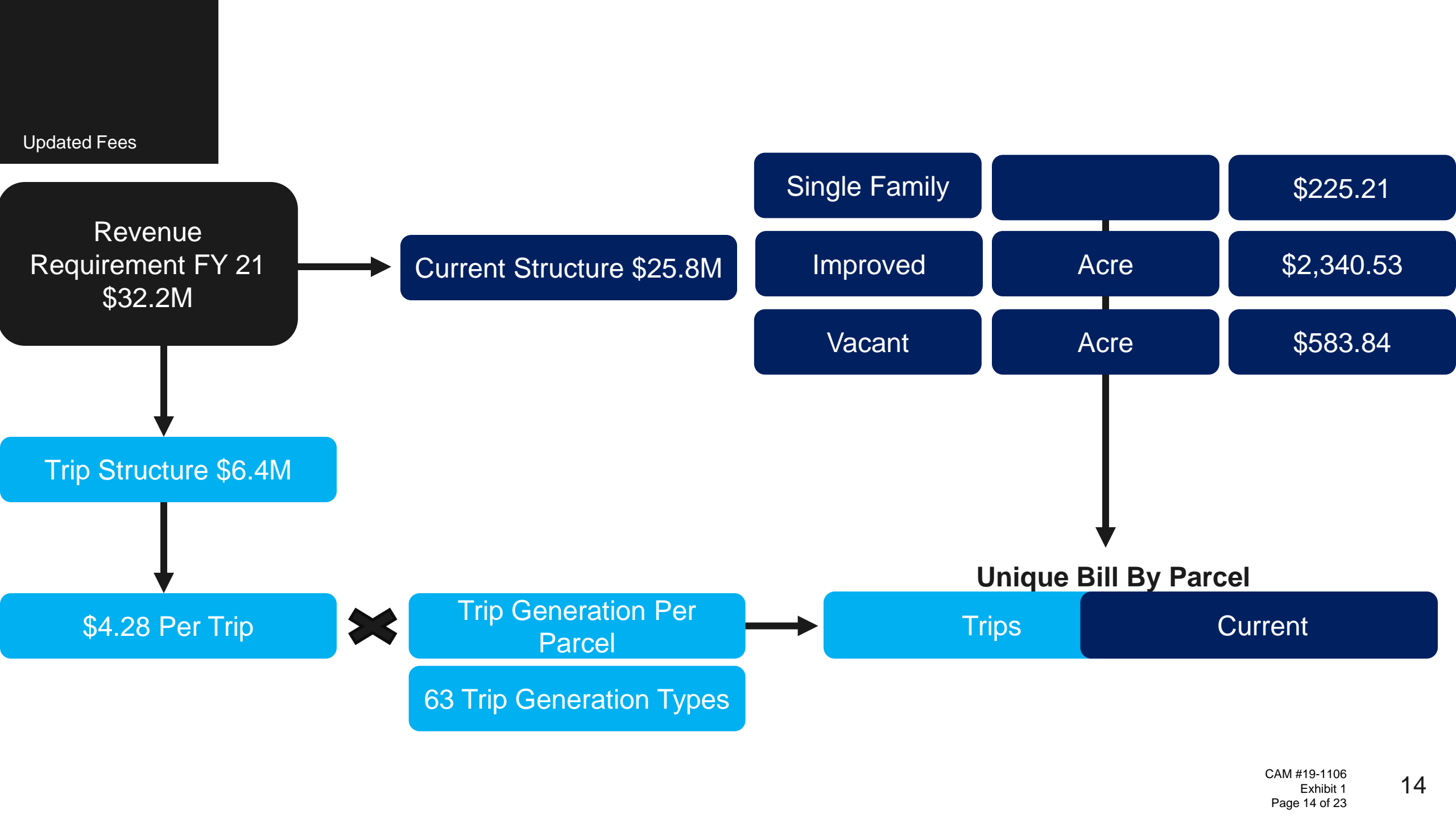


Overall

20%

80%

Fee Structure



Revenue Requirement FY 21 \$32.2M

Current Structure \$25.8M

Single Family

\$225.21

Improved

Acre

\$2,340.53

Vacant

Acre

\$583.84

Trip Structure \$6.4M

\$4.28 Per Trip

×


Trip Generation Per Parcel

63 Trip Generation Types

Unique Bill By Parcel

Trips

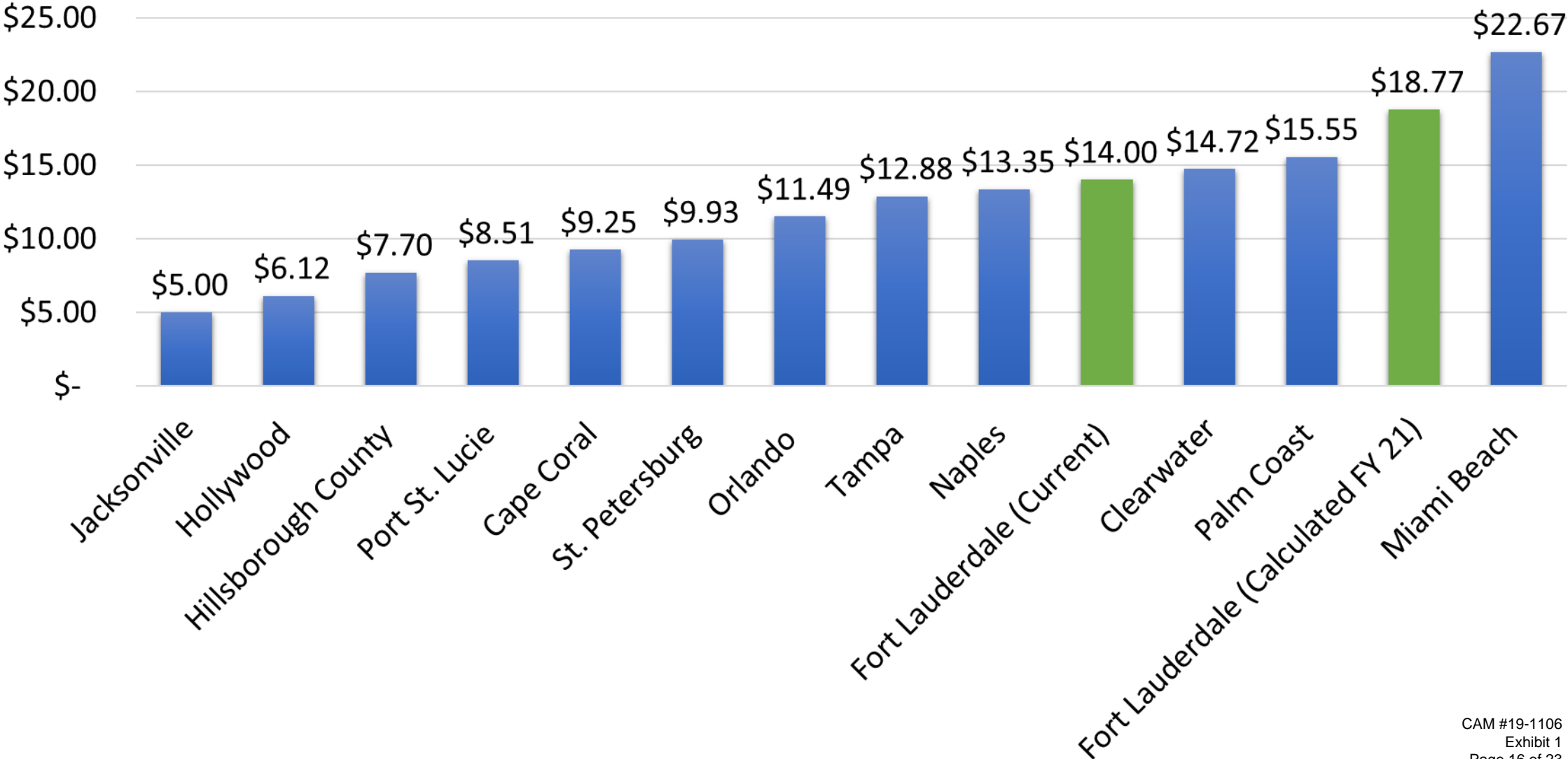
Current


Single Family Home (1 Dwelling Unit)	Annual	Monthly
	Current: \$168.00	\$14.00
	Calculated: \$225.21	\$18.77
	Change: \$57.21	\$4.77

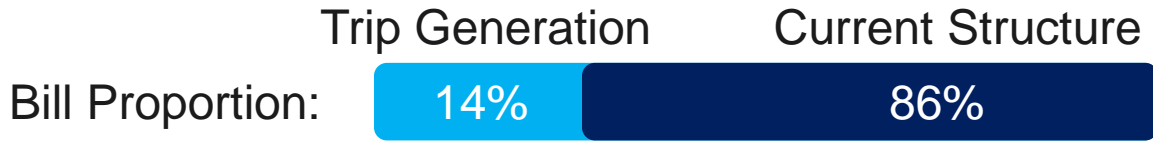



Single Family Fee Survey

Updated Fees



Condo Example (Dwelling Unit)		Annual	Monthly
 110 Units	Current:	\$42.55	\$3.55
	Calculated:	\$77.86	\$6.49
	Change:	\$35.31	\$2.94



Church Example (SQFT)		Annual	Monthly
	Current:	\$1,428.71	\$119.06
	Calculated:	\$2,596.36	\$216.36
	Change:	\$1,167.65	\$97.30

Building 20,901 SQFT
Parcel 36,750 SQFT

Trip Generation Current Structure

Bill Proportion:



Commercial Example (SQFT)



Building 120,158 SQFT
Parcel 82,526 SQFT

	Annual	Monthly
Current:	\$3,208.30	\$267.36
Calculated:	\$23,105.14	\$1,925.43
Change:	\$19,896.84	\$1,658.07

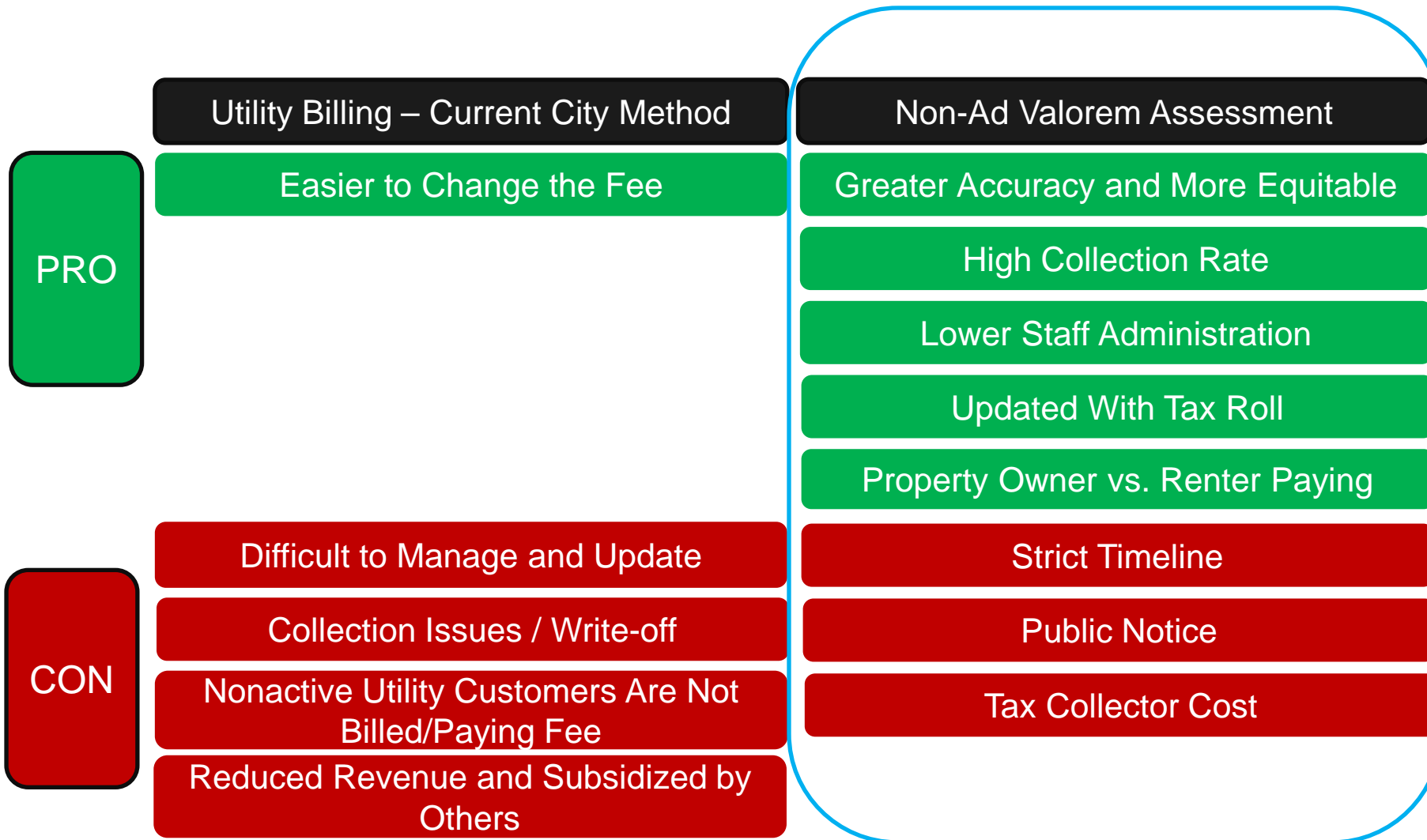


Method of Billing

Stormwater Revenue Collection Method

Method of Collection

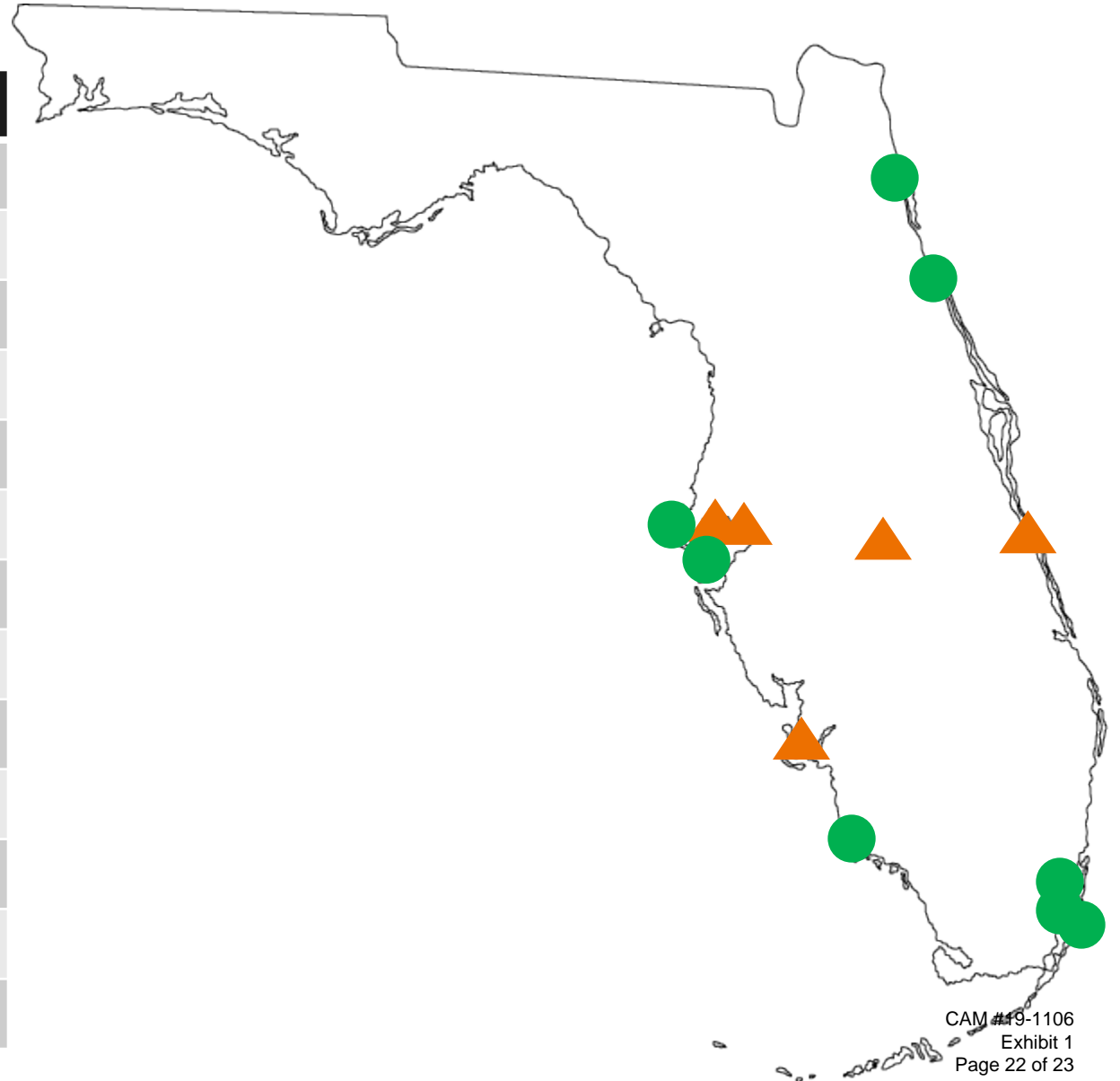
Recommended



Comparable Municipal Survey

Method of Collection

Utility	Assessment ▲	Utility Bill ●
Fort Lauderdale		X
Tampa	X	
St. Petersburg		X
Miami Beach		X
Palm Coast		X
City of Jacksonville		X
Hollywood		X
Cape Coral	X	
Hillsborough County	X	
Port St. Lucie	X	
Orlando	X	
Clearwater		X
Naples		X





Andrew Burnham

Vice President

(904) 631-5109

Andrew.Burnham@Stantec.com

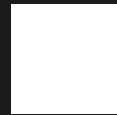
Kyle Stevens

Managing Consultant

(904) 610-2910

Kyle.Stevens@Stantec.com

Additional Questions/Discussion



**City of Fort Lauderdale
Infrastructure Task Force Committee
November 4, 2019
8th Floor City Commission Room – City Hall
Fort Lauderdale, FL 33301**

MEMBERS		PRESENT	ABSENT
Marilyn Mammano	P	29	1
Ralph Zeltman	P	29	1
Peter Partington	P	9	1
Roosevelt Walters	P	26	4
Fred Stresau	P	25	5
Norm Ostrau	P	27	1
Jacquelyn Scott	P	12	3
Gerald Angeli	P	6	0

Staff Present

Aneisha Daniel, Deputy Director- Public Works
 Talal Abi-Karam, P.E. Assistant Public Works Director - Utilities
 Dr. Nancy Gassman, Assistant Public Works Director-Sustainability
 Omar Castellon, Chief Engineer
 Jill Prizlee, Chief Engineer
 Fred Harris, Sr. Technology Strategist
 Meredith Shuster, Senior Administrative Assistant
 Pauline Ricketts, Administrative Assistant
 Prototype-Inc. Recording Secretary, Tatiana

Roll was called at 2:02 p.m. and a quorum was established.

Communication to the City Commission

With a quorum present, the Infrastructure Task Force by consensus communicates to the City Commission:

1. It is in favor of broadly considering the Public, Private Partnership (P3) approach [for the replacement of the Fiveash Water Treatment Plant] providing that no form of P3 allows that the City give up ownership of the water, water quality or rate structure.
2. Prior to supporting a P3 the City should hire a consultant to evaluate the different type of P3's that would be appropriate and beneficial to the City on this project and further urges the City Commission to begin the process of finding said consultant sooner rather than later should the P3 approach be determined to be the direction the City Commission chooses.
3. The Infrastructure Task Force supports the purchase of an allocation from the C-51 Reservoir and executing a Capacity Allocation Agreement.

The Fiveash WTP walkthrough was conducted by Ralph Zeltman on 11 March 2019 and the following Questions?/Answers are provided herewith:

Q1.) The railroad car and cylinders containing chlorine at the WTP appears to have been stored at the WTP for quite sometime and would there be a potential health and safety risk should a chlorine leak occur?

The City advised that PW Engineering has submitted the request for qualification (RFQ) to the City's Procurement Department for the replacement of the elemental chlorine system (90 ton rail car and the 1 Ton cylinders).

Q2.) Does the City have a chlorine leak detection systems at the Fiveash WTP to include both sound alarms and flashing warning lights should a chlorine leak occur and be detected at the plant site to effectively allow evacuation of on-site personnel as well as alerting the neighboring communities contiguously located around the plant?

The City advised the plant has installed chlorine leak detection monitors that go off at 1 part per million (PPM). There are two audible alarms and three visual alarms. Furthermore, the alarm also shows via the Supervisory Control and Data Acquisition (SCADA).

Q3.) Why is chloramines (chlorine + ammonia) water treatment preferred over using only chlorine water treatment?

The chloramines treatment method has a more stable residual and halts the formation of trihalomethanes (THM's) than free chlorine treatment and is a more preferred method used by many utilities. Reference is made to the American Water Works Association (AWWA) Manual M56, Second Edition, titled "Nitrification Prevention and Control in Drinking Water".

Q4.) Is the Fiveash WTP equipped with any gas scrubbers or other emergency equipment capable of neutralizing or mitigating any chlorine gas leaks should an unfortunate event occur at Fiveash WTP to prevent catastrophic health and safety problems on-site and off-site neighboring communities?

The Fiveash WTP does not have gas scrubbers. The plant has:

- 1. Two automatic isolation valves in series activated based on high pressured. These are located at the 90-ton rail car.**
- 2. A system of chlorine detectors and alarms to deploy staff to investigate.**
- 3. An active collaborative system with the Fire Department first responders.**
- 4. There are two B-Kits and one C-Kit to be used by the fire department first responders as needed.**

5. **An active and continually updated Risk Management Plan which includes inspections, training, and documentation.**
6. **A collaborative effort with the Florida Division of Emergency Management and the Local Emergency Planning Council was made during the last inspection on January 2017 with no issues identified and staff was praised for their efforts.**
7. **A rehabilitation of the chlorine system was undertaken by plant staff which resulted in:**
 - * **Replacement of three out three evaporators**
 - * **Replacement of 5 out 6 chlorinators.**
 - * **Installation of trunnions and protocols (SOP) for the handling of the chlorine one ton cylinders.**
 - * **Replacement of various chlorine alarms and updating on minor supporting components in the chlorine system.**

The plant's chlorine system is being replaced as part of project P11589: Fiveash WTP Reliability Upgrades & Disinfection System Replacement RFQ has been forwarded to the Procurement Department by PW-Engineering. This upcoming project replaces the elemental chlorine system with a bulk hypochlorite system which eliminates the concerns of a gaseous chlorine leak and will remove the chlorine from the risk management plan.

Q5.) What is the anticipated number of water maintenances estimated to be performed during this year to the City's water system necessary to prevent nitrification build-up inherent with the chloramines type of disinfection treatment used at the Fiveash WTP as described in the above #Q3 question/answer? Also, will the City notify both their City residents as well as other cities/municipalities receiving water prior to each maintenance being scheduled? Also, will each water maintenance duration last for about 30 calendar days as was the case during 2018?

1. **Nitrification control is an ongoing activity. It starts at the water plants by checking the amount of free ammonia leaving in the finished water. The target is to have a value around 0.2 mg/L as recommended in the Comprehensive Utility Strategic Master Plan.**
2. **The City's ISO 17025 and NELAP certified environmental laboratory measures the nitrite and nitrate leaving the water plants on a monthly basis. In addition, and as a City's initiative the lab also samples at six locations in the distribution system the level of nitrate and nitrites (this is not required but the City is proactive).**
3. **The traditional method of performing "free chlorination maintenance activities" has not been done since 2018. However, the plant staff for periods of about 2 weeks raises the total chlorine leaving the plants while maintaining the proper ratio to ammonia. This effort is expected to be transparent to the residents and has shown to cause a reduction in the nitrification level in the distribution system.**

4. Based on the results of the 6.b. initiative the field staff has initiated localized flushing.
5. The field staff has installed approximately 20 automatic flushing devices and is in the process of installing an additional 50 automatic flushing devices in the distribution system (dead ends).
6. City staff has drafted a potential plan to implement free chlorination maintenance activities within the confines of the recommendation by FDEP. If/when implemented, the neighbors will be notified with a multifaceted outreach program involving the City's Public Information Office. This potential draft plan is being reviewed.

Q6.) Are there other concerns you and/or others at the Fiveash WTP have regarding the plant infrastructure or equipment or operations that should be brought to the attention of the ITFC? This is an opportunity to advise of any deficiencies that are needed at Fiveash WTP until it is upgraded or replaced contingent upon Carollo Engineers assessment.

1. Staff is eagerly awaiting the upcoming results of the evaluation to be completed by Carollo. This effort should provide guidance in the direction the Fiveash WTP will follow which would result at improving the services the City provides its neighbors.
2. The upcoming disinfection and reliability project P11589 described above will assist on the plant's operational readiness.
3. There are a couple of upcoming projects to replace filter media (\$2 million) and to rehabilitate the northmost 5 million gallon tank that will further enhance the plant's ability to meet demand.
4. The upcoming work will replace the skylights damaged during Hurricane Irma.
5. Depending on the direction the City follows pending the result of Carollo's evaluation there might be a couple of projects that may need to be implemented. For example, a lime improvement project, variable frequency drive for the high service pump, etc.
6. Plant staff continues with its efforts to maintain and improve the existing infrastructure by in-house improvements to the plants 4,160 volt system, the air compressor system, flow meters, etc.

QUESTION #1: Is there a deep well injection system(s) at the Fiveash WTP and if so, what are the permit restrictions/constraints parameters, including the current average disposal volume and maximum allowable disposal volume; material type and the length of permit(s) time remaining?

ANSWER #1: There is no deep well injection at the Fiveash Water Treatment Plant.

QUESTION #2: What items were presented by Carollo Engineers during their preliminary Fiveash WTP report presentation to the City, specifically their findings and recommendations for upgrading the water treatment processes (i.e. Reverse Osmosis, nanofiltration membrane system, etc.) and if the existing WTP structures can be either upgraded or a new WTP be constructed at the existing 23 acre site or will a new WTP be constructed at another off-site location, providing the consultant's rationale including the time and cost estimates for each?

ANSWER #2: These questions will be answered in the report expected in December. An executive summary is anticipated to be presented to the City Commission in January. The Carollo report is on the February 3, 2020 agenda for the ITF.

QUESTION #3: Any other relevant information the City has on the Fiveash WTP that should be shared with the ITFC to assist in developing a recommendation to the commission on same?

ANSWER #3: Not at this time.



Results of 40 Year Building Safety Inspections Program



CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT

11/22/2019

Program Requirements

Broward County Building Safety Inspection Program started in 2006 and it requires structural and safety inspections for buildings 40 years old or older and every 10 years thereafter.

- **The main goal of the program is to minimize the possibility of future building failure and better preparedness for hurricane winds.**



Program Administration

Broward County Board of Rules and Appeals provides a list of eligible buildings using information from County Property Appraiser's Office to City Building Department.

Building Department sends notification letters to property owner.

Owner has **90 days** to complete the inspections and submit to the Building Department.

If any deficiencies are noted, the Owner has **180 days** to complete the repairs in accordance with Florida Building Code.



Buildings Identified for Inspections

1. **Holiday Park Activity Center;**
2. **Holiday Park Social Center;**
3. **Holiday Park Gym;**
4. **Parker Playhouse;**
5. **Art Serve;**
6. **War Memorial;**
7. **GTL Treatment Plant;**
8. **City Hall;**
9. **Police Department;**
10. **Aquatic Center West Building;**
11. **CMS Public Works.**



Inspections Management

The reports were transmitted to the Department of Sustainable Development for review **on December 22nd 2017**. WZA completed all inspections and reports **on December 20th, 2017**.

City completed the repairs of 7 facilities and the reports were submitted to DSD . **One facility is on hold** due to the major future renovations and **3 facilities will require the structural repairs to be done by specialty contractor**.



Holiday Park Activity Center Repairs Status



**Electrical
repairs**

**Facilities completed
required repairs**

**WZA inspected
repairs**

**Final report
submitted to DSD**

All work completed



Holiday Park Social Center, Art Serve and Gym Repairs Status



**Electrical
and
Architectural
repairs**

**Facilities completed
required repairs**

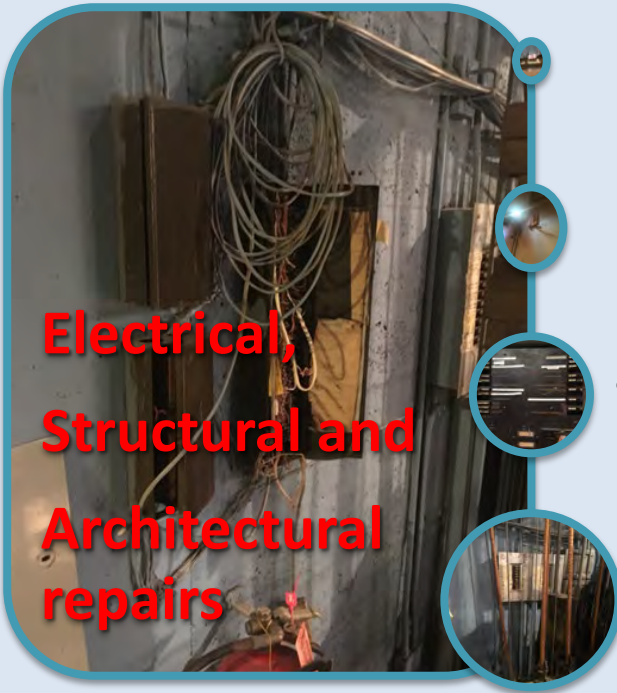
**WZA inspected
repairs**

**Final report
submitted to DSD**

All work completed



War Memorial Repairs Status



**Electrical,
Structural and
Architectural
repairs**

We requested DSD to postpone the required repairs which will be done by the future tenant of the building as part of the major renovations. The building is currently not occupied



CMS Repairs Status



Public Works completed the required electrical repairs

WZA inspected repairs

Final report was submitted to DSD

All work completed



Swimming Hall of Fame Auditorium Repairs Status



Facilities addressed electrical and architectural repairs

Remaining structural repairs will be addressed via separate repair contract. Staff is preparing re-bid package (estimated bid date December 2019)

WZA will re-inspect electrical, structural and architectural repairs when all completed

We requested extension to be able to complete the remaining structural repairs required



Parker Playhouse Repairs Status



**Electrical
repairs**

**Broward County completed
the required electrical repairs**

WZA inspected repairs

**Final report was submitted to
DSD**

All work completed



City Hall Repairs Status



**Electrical,
Structural and
Architectural
repairs**

Facilities completed electrical and architectural repairs

Remaining structural repairs will be addressed via separate repair contract. Staff is preparing re-bid package (estimated bid date December 2019)

WZA will re-inspect electrical, structural and architectural repairs when all completed

We requested extension to be able to complete the remaining structural repairs required



GTL Repairs Status



Public Works addressed all electrical and architectural repairs

Remaining structural repairs will be addressed via separate repair contract. Staff is preparing re-bid package (estimated bid date December 2019)

WZA will re-inspect electrical, structural and architectural repairs when all completed

We requested extension to be able to complete the remaining structural repairs required



Police Department Repairs Status



**Electrical,
Structural and
Architectural
repairs**



Facilities completed all repairs

WZA re-inspected the repairs and the final report was submitted to DSD. All work completed.



Summary

- **11 sites** were identified for inspections, **overall 483,633 sq.ft. of building space**. Consultant completed all required inspections.
- All buildings required repairs. **7 sites had all repairs completed. 3 sites have only structural repairs pending and 1 site is on hold due to the future tenant renovations.**
- The remaining structural repairs need to be completed by a specialty contractor. We are in the process of finalizing the bid documents (estimated bid in December of 2019).
- We requested time extension for remaining structural repairs to be done by specialty contractor.



Overall Summary

- Visual Inspections performed by WZA and its consultants were in accordance with Broward County Board of Rules and Appeals 40 year inspection program. **These inspections are limited to determining if the building structural and electrical systems are safe to occupy the building.** They are in no way a determination as to the performance or long term viability of the individual structures. Please refer to FBC 2014 Chapter I - Section 110.15 "Building Safety Inspection Program" - (B.C Administrative Provisions).
- WZA concluded that currently there are **no issues that pose critical danger to the life, safety and welfare of the occupants that would require closure of a facility or deem it as "an unsafe structure"**. However, WZA recommends that the items noted within each report should be addressed as soon as possible to remove any potential danger. City completed the majority of the required repairs with only structural portion remaining to be addressed.

