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# Village of North Palm Beach Stormwater Utility Study

Final Report

August 2021

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# List of Acronyms

| Abbreviation | Definition |
|---|---|
| B&V | Black and Veatch |
| BMP | Best Management Practice |
| CCTV | Closed Circuit Television |
| CIP | Capital Improvement Plan |
| CMP | Corrugated Metal Pipe |
| DOR | Department of Revenue |
| ERU | Equivalent Residential Unit |
| ES | Executive Summary |
| FDOT | Florida Department of Transportation |
| FL | Florida |
| FY | Fiscal Year |
| GIS | Geographic Information System |
| IA | Impervious Area |
| PWD | Public Works Department |
| RCP | Reinforced Concrete Pipe |
| ROW | Right of Way |
| SeSwA | Southeast Stormwater Association |
| SF | Single-Family |
| SFR | Single-Family Residential |

# Executive Summary

This Study ("SW Fee Study") builds on the February 2019 conceptual Village of North Palm Beach Stormwater Management Study ("2019 Study") prepared for the Village of North Palm Beach's ("Village") Department of Public Works. The main objective of this SW Fee Study is to develop a stormwater utility fee that would sustainably fund the Village's stormwater management program. The stormwater utility fee would rationalize budgeting and link individual Village parcels with the demand they place on the stormwater management system based on their impervious area coverage, which is assumed proportionate to the amount of stormwater runoff they contribute to the treatment system.

Data from the Village and Palm Beach County were analyzed and used to estimate impervious area coverage by property use class including single-family residences, multifamily residences, condominiums, commercial and industrial enterprises, government, and institutional facilities. With few exceptions, land parcels other than public schools and right of ways would be subject to the proposed stormwater utility fee. **Table ES-1** shows the distribution of the Village land parcels by property use classification.

**Table ES-1: North Palm Beach Service Area Parcel Categories**

| | Parcels | | Area (acres) | |
|---|---|---|---|---|
| **Category** | **Total** | **Percentage** | **Total** | **Percentage** |
| Commercial/Industrial | 158 | 5.0% | 329 | 18% |
| Institutional | 12 | 0.4% | 67 | 4% |
| All Residential | 2,914 | 91.8% | 1,009 | 54% |
| Right of Way/Exempt | 12 | 0.4% | 10 | 1% |
| Vacant | 48 | 1.5% | 51 | 3% |
| Utility | 2 | 0.1% | 2 | 0.06% |
| Municipal/Government | 27 | 0.9% | 398 | 21% |
| **Grand Total** | **3,173** | **100.0%** | **1,867** | **100.0%** |

The Equivalent Residential Unit or ERU is the base unit in stormwater billing. An ERU is commonly defined as the average Impervious Area (IA) per parcel of one or more residential billing classes. Fees can be flat or variable, with flat fees traditionally assigned to property classes with relatively homogenous property use (e.g., single-family residences, condos) and variable fees assigned to classes with more property development variability (commercial, institutional). The SW Fee Study tested two Methods for developing the ERU:

- Method 1: ERU is based on the average IA for a statistically significant sample of single-family residential (SFR) parcels. A flat rate of 1 ERU is assigned to SFR parcels, and condos are billed 0.22 ERUs based on the ratio (22%) of the average condominium unit IA to the average SFR IA.
- Method 2: ERU is based on the weighted average of SFR IA, and average condominium unit IA. SFR and condos are both billed 1 ERU per dwelling unit. All other fee eligible properties would be billed a specifically derived charge based on their measured IA divided by the ERU.

Method 1 yields an ERU of 5,550 square feet, while the Method 2 ERU is 3,389 square feet. Under Method 1, a condominium unit would be assessed a fee based of 0.22 ERUs; under Method 2, a condominium unit would be assigned 1 ERU, the same as an SFR parcel. Method 1 is recommended because it allocates ERU's to the different property use classes more closely in proportion to IA distribution in the Village. The distribution of ERUs under Method 1 is shown in **Table ES-2**.

**Table ES-2: ERU Counts by Property Use**

| Property Use Class | Total ERU Count |
|---|---|
| Single-Family Residential | 2,675 |
| Condominium | 1,052 |
| Commercial | 1,077 |
| Institutional | 233 |
| Municipal/Government | 79 |
| Multifamily Residential | 431 |
| Utility | 9 |
| Vacant | 5 |
| Total | 5,561 |

Annual stormwater management costs were then projected for the period FY2021-FY2025. The 2019 Study cost estimates were updated for four Level of Service Scenarios with increasing CIP requirements. The scenarios range from a slightly enhanced status quo (Scenario 1) to a more comprehensive and significantly enhanced Level of Service under Scenario 4. Annualized costs are estimated to range from approximately $380,000 to over $1 million. The Village's preference is to proceed with Scenario 2, which offers a slightly more robust infrastructure maintenance and rehabilitation program than the status quo. We recommend that it be implemented at least for the first year to give the Village residents and businesses time to adjust to the new stormwater fee while still progressing towards stormwater management and water quality objectives.

The baseline monthly stormwater utility fee under the Scenario 2 Level of Service would be $7.53 per ERU. The SW Fee Study assumes that the stormwater fee would be billed as a non-ad valorem assessment through each parcel's property tax bill. The projected fee includes 4 percent early payment discount and 1 percent administrative charge imposed by the county for use of the property tax bill.

Finally, the SW Fee Study recommends that the Village include a credit program to improve equity and incentivize parcel owners to install best management practices to reduce stormwater runoff volume and/or peak discharge rate, thus reducing demand on the system. Because credit programs result in fewer ERUs to which costs can be allocated, they necessarily raise the per monthly fee on remaining ERUs. Mitigating the likely impact is that participation rates in credit programs are very low, averaging only about 3 percent of total stormwater utility accounts in the Southeast United States according to the Southeast Stormwater Association 2019 Survey. For the purposes of the SW Fee Study, three different credit program participation rates were evaluated to estimate the impact on the ERU fee. The mid-level of the three participation scenarios would increase the monthly fee per ERU from $7.53 to $7.78, about a 3.3 percent increase. The cost burden shift across the different property use classes would be negligible, and any enterprise fund surplus would be considered in establishing future year budgets and rates.

# 1. Introduction and Background

During the past two years, Hazen and Sawyer (Hazen) has been assisting the Public Works Department (PWD) of the Village of North Palm Beach (Village), Florida to develop a more financially sustainable stormwater management program. In February 2019, Hazen prepared a conceptual study that evaluated the feasibility of establishing a utility fee to fund the Village's ongoing stormwater management program[1]. The 2019 Study encompassed:

- Obtaining from the Village an inventory of the Village's stormwater management assets;
- Reviewing regulatory compliance requirements;
- Estimating costs, revenues and funding requirements;
- Preparing a 5-Year financial forecast, and
- Investigating alternative rate structures.

A stormwater utility fee would not only provide dedicated funding for stormwater infrastructure operations and maintenance but would also fund the treatment of stormwater runoff in accordance with water quality requirements for runoff entering natural water bodies. Stormwater charges are typically based on the characteristics of parcels, including the dimensions of impervious area (IA). IA is the portion of a parcel which has been altered by development or compaction, through which rainwater cannot percolate into the ground, thus entering the stormwater management system as runoff. As such, IA is an indicator of the amount of runoff that a property passes into the Village's stormwater management system. Based on the 2019 Study results, the Public Works Department (PWD) tasked Hazen to conduct a SW Fee Study to develop a stormwater utility fee that would generate annual revenues sufficient to fund the stormwater program.

A stormwater management program funded from a dedicated revenue stream derived from a utility fee confers a multitude of advantages over the current method under which the stormwater program is funded through an annual appropriation from the Village's operating budget. Each budget year the stormwater program must compete against other Village programs to obtain its annual funding. As such, stormwater program funding is also vulnerable to fluctuations in the local economy.

The current budgeting mechanism creates uncertainty in the level and continuity of funding and hinders effective long-term stormwater management planning. Furthermore, because the funds are derived from general revenues, there is no linkage between what individual households and businesses pay for stormwater management and the demands they place on the system.

In contrast, a stormwater utility fee is designed to link each parcel of land with the volume of stormwater runoff it generates. According to the Southeast Stormwater Association (SeSwA) 2019 Southeast Stormwater Utility Report, 86 percent of stormwater utilities use IA as the general basis for allocating stormwater management costs across their customers. Under a well-designed stormwater utility fee, each

[1] Hazen and Sawyer, Village of North Palm Beach Stormwater Management Study. February 20, 2019

stormwater customer pays its fair share of the program's capital, operating and maintenance costs based on the parcel's proportion of the total impervious area served by the system. Finally, because a stormwater utility fee is based on the annualized cost of the program, equitably allocated across the program users, the revenues it generates will be reliable and predictable and allow for long-term planning for a sustainable program. It is for these reasons that the Village is seeking to implement a stormwater utility fee that will meet its funding needs and better rationalize its budgeting process. The remainder of this document describes the methods used to develop the unit fee for the stormwater utility, the financial impacts of alternative utility fee calculations, financial impacts of incorporating a credit program, billing alternatives, and conclusions and recommendations. The SW Fee Study is structured to provide the reader with a detailed understanding of all the cost elements that comprise the recommended fee and how those costs would be equitably allocated across the different property use classes.

# 2. Estimate of Village of North Palm Beach Total Impervious Area and Distribution by Property Use

For the 2019 Study, Hazen conducted a preliminary analysis of the Village's land use patterns to determine the number of parcels by property use and their contribution to Village's total impervious area (IA). The following summarizes the methods used and the resulting calculations with some data updates and refinements made since the submission of the 2019 Study.

Electronic files containing property appraiser parcel data were downloaded from the online Palm Beach County Enterprise GIS Data Catalog and included the following elements:

- GIS Parcel Shapefile
- Property Data Database File
- Condo Data Database File
- Instructions for joining the Property Data and Condo Data Database files to the GIS Parcel Shapefile.
- Existing Land Use GIS shapefile for matching parcels records to Palm Beach County general land use categories

High resolution orthoimagery of the Village stormwater service area, for the purposes of manually measuring IA, was also requested from Palm Beach County Information Systems Services. The Parcel Shapefile was brought into GIS and mapped over the Palm Beach County orthoimagery.

**Figure 2-1** shows an example of the GIS parcel shapefile over the orthoimagery. The parcel shapefile was joined with the Property Data file which included detailed property use descriptions. Single-family residential parcels are indicated by blue outline, multifamily parcels are outlined in green while multifamily parcels with more than ten units are outlined in purple, condo in turquoise and all other parcels are outlined in black.


**Figure 2-1: Example of Palm Beach County Parcel Polygon Shapefile Data**

## 2.1 Village of North Palm Beach Land Use by Property Use

The development of a stormwater utility billing system requires the classification of each parcel by land use. Because the Palm Beach County parcel dataset did not include the Florida Department of Revenue (DOR) property use codes typically employed for this purpose, an existing land use field was used instead. Assigned land use categories were aggregated into general use categories that included residential, commercial, industrial, institutional, and governmental groupings.

Table 2-1 shows how the property use classifications in the Parcel Data File were assigned to each corresponding general use category with the purpose of grouping for billing.

**Table 2-1: Property Use Category from Village of North Palm Beach Parcel Data File matched to General DOR Land Use Code[2]**

| General Land Use Grouping | County Property Use Category |
|---|---|
| Residential | SINGLE-FAMILY |
| | SINGLE-FAMILY-IND ZONE |
| | TOWNHOUSE |
| | CONDO |
| | MULTIFAMILY |
| | MULTIFAMILY < 10 UNITS |
| Commercial/Industrial | AUTO SALES |
| | DEPARTMENT STORE |
| | FINANCIAL |
| | GOLF COURSE |
| | INSURANCE |
| | MORT/CEMETERY |
| | MOTEL |
| | NIGHT CLUBS |
| | OFFICE MULTISTORY |
| | OFFICE ONE STORY |
| | PKG LT / MH PK |
| | PROF OFFICES |
| | RESTAURANT |
| | RESTAURANT, DRIVE IN |
| | SANI/ REST HOME |
| | SERVICE STATION |
| | SHOPPING CENTER CMMI |
| | STORE/OFFICE/RESIDEN |
| | STORES |
| | SUPERMARKET/DRUG STO |
| | WORKING WATERFRONT |
| | RESIDENTIAL COMMON AREA |
| | WAREH/DIST TERM |
| Institutional | PRV SCHL/COLL |
| | RELIGIOUS |
| Municipal/Government | FOREST/PK/REC |
| | MUNICIPAL |
| | OUTDR REC/PARK LAND |
| | PUB CTY SCHOOL (excluded) |
| | STATE |

| General Land Use Grouping | County Property Use Category |
|---|---|
| Utility | UTILITY |
| Vacant | RIVER/LAKES |
| | SEWG/WASTE LAND |
| | SINGLE-FAMILY-IND ZO |
| | VACANT |
| | VACANT INDUSTRIAL |
| Water/Right of Way | CENTRALL ASSESSED |
| | R/W - BUFFER |

[2] As described in the 2018 Production Guide and Data Record Layout for the Comma Delimited File Format by the Florida Department of Revenue Property Tax Oversight, available online: http://floridarevenue.com/property/Documents/2018prodguide.pdf

In 2017 the 15th Circuit Court ruled in the case of School Board of Palm Beach County v. City of West Palm Beach that public schools were to be exempt from stormwater fees. Therefore, public school parcels have been excluded from the stormwater fee calculations in this report. There is one such public school parcel in the Village, *The Conservatory School at North Palm Beach*. Depending on the billing method selected to implement the fee (Section 8), the Village may not be able to collect from government owned parcels. All aggregations of acreage used in the estimation of the Village's potential stormwater revenue collection, including governmental categories exclude the school's approximately 10-acre parcel.

The Generalized DOR land use codes were then used to summarize the major service area parcel categories in the Village as shown in **Table 2-2**:

**Table 2-2: Major Service Area Parcel Categories**

| | Parcels | | Area (acres) | |
|---|---|---|---|---|
| **Category** | **Total** | **Percentage** | **Total** | **Percentage** |
| Commercial/Industrial | 158 | 5.0% | 329 | 18% |
| Institutional | 12 | 0.4% | 67 | 4% |
| All Residential | 2,914 | 91.8% | 1,009 | 54% |
| Right of Way/Exempt | 12 | 0.4% | 10 | 1% |
| Vacant | 48 | 1.5% | 51 | 3% |
| Utility | 2 | 0.1% | 2 | 0.06% |
| Municipal/Government | 27 | 0.9% | 398 | 21% |
| **Grand Total** | **3,173** | **100.0%** | **1,867** | **100.0%** |

**Table 2-2** shows that while most parcels within the Village are residential, they comprise a little more than half of the total land area. Note that while the Village has an area of 5.8 square miles, 2.2 square miles of that is water, and a little over a half of a square mile of that (0.55) is water or parcels for transportation rights-of-way which are exempt from stormwater fees.

## 2.2 Estimation of Impervious Area by Property Use

The next step of the analysis was to estimate the distribution of IA by property use and then calculate the IA to be assigned to each parcel. For multifamily residential and condominium land parcels, the IA was measured for the entire parcel and not for individual units. However, for condominiums, an average per unit ratio was estimated based on the total units across all condominium parcels. For Single-Family Residential (SFR) parcels, a statistically significant random sample of approximately 5 percent of Village SFR properties were used to estimate an average square footage of IA per parcel. That average was then applied to all SFR properties within the Village. For all other nonresidential land parcels, including commercial/industrial, institutional, municipal/ government, and utilities, the IA square footage was measured for each parcel due to the variability of land development within each respective property class. Accordingly, these parcels would be charged based on their actual measured individual land cover characteristics rather than the average IA coverage for their property use classification.

**Table 2-3** presents the estimates of the Village's impervious area for SFR and Condominiums. On average, SFR parcels contain 5,550 $ft^2$ of IA while the IA associated with each condominium unit averages only about 1,227 $ft^2$. The average IA for multifamily units is not included in the estimate because multifamily residential unit counts per parcel were not available. For purposes of estimating a stormwater utility fee, the multifamily parcels are treated the same as a commercial parcel with one fee charged for the entire property.

**Table 2-3: Average Impervious Area and Unit Count for SFR and Condominium Parcels**

| Metric | Value | Units |
|---|---|---|
| SFR Average IA | 5,550 | $ft^2$ |
| Condominium Average IA | 1,227 | $ft^2$ |
| SFR/Condominium Weighted Average IA | 3,389 | $ft^2$ |
| Condominium Unit Count | 4,755 | units |
| SFR Unit Count | 2,675 | units |
| Average Condominium IA/Average SFR IA | 22 | percent |

**Table 2-4** shows the relative contribution of each property use class to the total IA of the Village. The SFR parcels account for 340.8 acres of IA or about 48 percent of the total Village IA. Commercial and condominium parcels account for 137.2 acres and 134 acres, respectively. Parcels with multifamily residences and institutional buildings together contain another 85 acres of IA.

**Table 2-4: Total Impervious Area by Land and Property Use Classification**

| Land Use | Property Use | Acres |
|---|---|---|
| Residential | Single-Family Residential | 340.8 |
| | Condominium | 134.0 |
| | Multifamily Residential | 54.9 |
| Nonresidential | Commercial | 137.2 |
| | Institutional | 29.6 |
| | Municipal/Government | 10.0 |
| | Utility | 1.2 |
| | Vacant | 0.6 |
| | Water/ROW | N/A |
| | **Total** | **708.3** |

**Figures 2-2** and **2-3** put these values into perspective by showing that although SFR parcels account for 84 percent of the total number of parcels in the Village, they account for just 48 percent of the IA.[3] Condominium complexes and their common areas comprise just 3 percent of the parcels but contain 19 percent of the IA. Commercial parcels also tend to be larger and typically have more IA. As shown in the figures below, although only 5 percent of the parcels are classified as commercial, they contain 19 percent of the IA.

[3] Single-Family parcels were assumed to have 5,550 square feet of impervious area each for the purposes of this estimate.

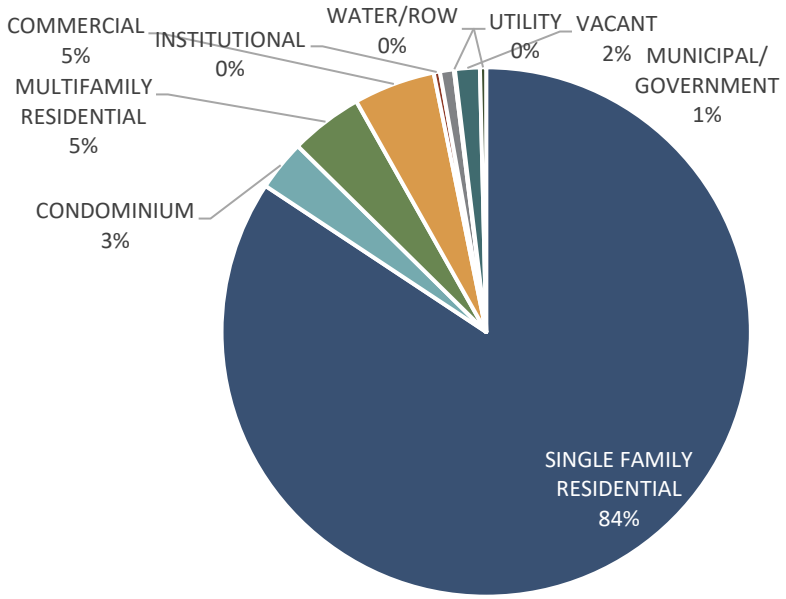


**Figure 2-2: North Palm Beach Parcel Distribution by General Property Use Class**

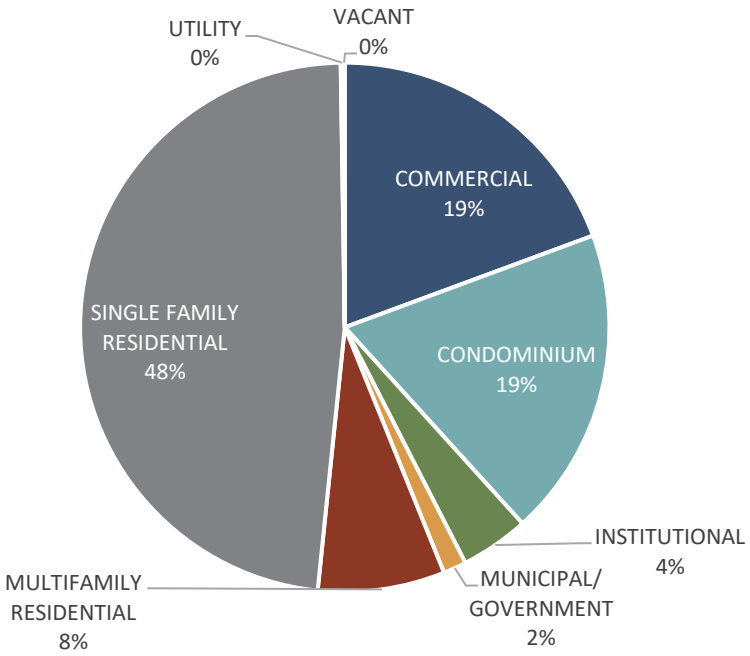


**Figure 2-3: North Palm Beach Impervious Area Distribution by General Property Use Class**

# 3. Methods to Calculate Equivalent Residential Unit and Resulting Distribution by Property Type and Use

An Equivalent Residential Unit or ERU is the billing unit commonly used by stormwater utilities to determine the fee customers pay for their share of stormwater services. Stormwater services include both infrastructure operations and maintenance as well as water quality treatment for runoff discharged to surrounding natural bodies of water. An ERU typically represents the average impervious area associated with one or more residential use classes. Once defined, the ERU is applied to service area parcels to determine either a flat fee (in the case of SFR and condominium parcels) or a variable fee (for nonresidential parcels) when impervious area is measured individually for each parcel.

The most recent (2018, published biennially) Florida Stormwater Association Survey[4] notes that 56 percent of surveyed stormwater utilities base their ERU on SFR parcels only, while 35 percent base it on all residential property types. Depending on the distribution of single and multifamily dwelling units within a given municipality, one method may be preferable to the other. In the case of the Village of North Palm Beach, the number of condominium dwelling units outnumbers single-family residential parcels by nearly 2-to-1.

For purposes of this study, an ERU was calculated employing two methods:

1. Method 1: An ERU equals the average IA of SFR parcels
2. Method 2: An ERU equals the weighted average of IA of SFRs and condominiums

The ERU calculated for all nonresidential parcels is the ratio of each parcel's IA to the ERU basis established by the two methods, respectively. Method 1 results in an ERU of 5,550 square feet, and Method 2 results in an ERU of 3,389 square feet.

[4] Florida Stormwater Association 2018 Stormwater Utility Survey, p. 17

**Table 3-1** shows the distribution of ERUs by property use class for the Village of North Palm Beach under the two ERU calculation methods. Under Method 2, the total number of ERUs is significantly larger because the ERU is based on a smaller IA square footage. As a result, nonresidential properties would be assigned larger ERU values then under Method 1. Condominium units, despite being associated with a much smaller IA footprint than SFR parcels, would be assigned the same ERU value. Specifically, under Method 2, a total of 4,755 ERUs are allocated to the 98 parcels containing the 4,755 condominium units, whereas under Method 1, those same condominium units are assigned only 1,052 ERUs. As will be shown in **Section 5**, the reallocation of ERUs would also impact the cost burden of the Stormwater Program borne by the property use classes.

**Table 3-1: ERU Allocations Under Alternative Methods**

| | | Method 1 | | Method 2 | |
|---|---|---|---|---|---|
| **Property Use Class** | **Total Ft² of IA** | **Total ERU Count** | **ERU Method** | **ERU Count** | **ERU Method** |
| Single-Family Residential | 14,846,250 | 2,675 | 1.0 ERU | 2,675 | 1.0 ERU |
| Condominium | 5,836,639 | 1,052 | 0.22 ERU[1] | 4,755 | 1.0 ERU |
| Commercial | 5,975,907 | 1,077 | Measured IA divided by average SF IA | 1,763 | Measured IA divided by weighted average SF/Condo IA |
| Institutional | 1,291,124 | 233 | | 381 | |
| Municipal/Government | 437,258 | 79 | | 129 | |
| Multifamily Residential | 2,392,204 | 431 | | 706 | |
| Utility | 50,570 | 9 | | 15 | |
| Vacant | 25,638 | 5 | | 8 | |
| **Total** | **30,855,590** | **5,561** | | **10,432** | |

[1] Condominium Average IA/SFR Average IA; See Table 2-4

# 4. Projected Stormwater Expenditures Under Alternative Investment Scenarios

For the past decade, the Village has been making repairs as stormwater infrastructure fails and financing water quality treatment through the general fund. Most Village stormwater issues appear to be condition based rather than capacity based. The following scenarios were developed for key anticipated costs. Each scenario considers an assumed rate of inflation of 2.5 percent, based on the average inflation in the United States through the first two months of 2020.

For purposes of estimating the annual total revenue requirements to pay for the stormwater management program, this SW Fee Study assumes that the stormwater fee would be billed through the annual property tax bill (See Section 8 on alternative billing options). Accordingly, the financial forecast includes a 4.0 percent uncollected revenue premium, accounting for the 4 percent Palm Beach County early payment discount given for non-ad valorem assessment payments.[5] Estimates also include the Palm Beach County administrative fee of 1.0 percent of revenue collected for all non-ad valorem assessments. The fee is also calculated without the adjustment as a gauge of how much the Village could spend using an alternative billing mechanism (e.g., third-party billing using an entity such as Seacoast) without increasing the fee beyond that estimated using the property tax bill.

- Scenario 1: Baseline Stormwater Program
    - Repairs made as infrastructure fails, resulting in an estimated cost of $87,543[6] per year.[7] Annual costs through FY2025 are escalated by 2.5% to account for inflation.
    - NPDES permitting: FY2019 budget used as the baseline; annual costs from FY2021 through FY2025 escalated by 2.5% to account for inflation.
    - Emergency Repairs: FY2020 emergency repairs costs provided by North Palm Beach (NPB) used as the baseline; annual costs through FY2025 are escalated by 2.5% to account for inflation.
    - Engineering and/or Consultant Costs: Annual costs estimated based on 20% of Emergency Repairs, Asset Cleaning and Video Inspection, and Pipe Rehabilitation and Maintenance costs.
    - Asset Cleaning and Video Inspection, and Pipe Rehabilitation and Maintenance:
    - Annual funding for cleaning and video inspection as well as limited rehabilitation and maintenance of the stormwater management collection and conveyance (piping) system. Funds can be discretionarily allocated between the two elements. The five-

[5] While the Village has not yet selected a method of collection, these discounts are used in the example to provide a conservative cost per ERU estimate.

[6] All dollar values converted to 2019 dollars utilizing the Bureau of Labor Statistics published Consumer Price Index tables available online here: https://data.bls.gov/timeseries/cuur0000sa0?series_id=cwur0000sa0

[7] Cost of repairs approved by the Village Council for FY 2020, obtained from the Village.

year funding amounts assume that over a 10-year period the entire system would be cleaned, and video inspected (at an approximate total cost of $475,000) and the balance of funds would be used to initiate rehabilitation and maintenance (which under this funding scenario would be expected to extend beyond 10 years).

- Contingency: Calculated as 20% of the costs for Emergency Repairs, Engineering and/or Consultant costs, and Asset Cleaning and Video Inspection, and Pipe Rehabilitation and Maintenance costs.

- Scenario 2: Enhanced Cleaning, Inspection, Pipe Rehabilitation and Maintenance
  - In addition to Scenario 1, as well as rehabilitation and maintenance for the rest of the Village's stormwater assets.
  - NPDES permitting: Same assumptions and annual cost as Scenario 1.
  - Emergency Repairs: Assumes that Pipe Rehabilitation and Maintenance will reduce frequency of repairs over time as more of the system is rehabilitated or replaced. Applies a downward sliding scale over the first five years of the anticipated aggregate 10-year cost of emergency repairs.
  - Engineering and/or Consultant Costs: Annual costs are based on 20% of Emergency Repairs, Asset Cleaning and Video Inspection, and Pipe Rehabilitation and Maintenance costs.
  - Asset Cleaning and Video Inspection: Assumes entire system is inspected and cleaned within a 5-year timeframe.
  - Pipe Rehabilitation and Maintenance: Assumes Asset Cleaning and Video Inspection reveals 20% of inspected mains require manhole to manhole lining and 5% require replacement. Cost assumes a 15-year project to incorporate rehabilitation measures.
  - Contingency: Calculated as 20% of the costs for Emergency Repairs, Engineering and/or Consultant costs, and Asset Cleaning and Video Inspection, and Pipe Rehabilitation and Maintenance costs.

- Scenario 3: Further Enhanced Cleaning and Inspection, Pipe Rehabilitation and Maintenance
  - NPDES permitting: Same assumptions and annual cost as Scenario 1.
  - Emergency Repairs: Same assumptions and annual cost as Scenario 2.
  - Engineering and/or Consultant Costs: Annual costs are based on 20% of Emergency Repairs, Asset Cleaning and Video Inspection, and Pipe Rehabilitation and Maintenance costs.
  - Asset Cleaning and Video Inspection: Same assumptions and annual cost as Scenario 2.

  - Pipe Rehabilitation and Maintenance: Assumes Asset Cleaning and Video Inspection reveals 30% of inspected mains require manhole to manhole lining and 5% require replacement. Cost assumes a 15-year project to incorporate rehabilitation measures.
  - Contingency: Calculated as 20% of the costs for Emergency Repairs, Engineering and/or Consultant costs, and Asset Cleaning and Video Inspection, and Pipe Rehabilitation and Maintenance costs.

- Scenario 4: Further Enhanced Stormwater Program with Swale Rehabilitation
  - NPDES permitting: Same assumptions and annual cost as Scenario 1.
  - Emergency Repairs: Same assumptions and annual cost as Scenarios 2 and 3.
  - Engineering and/or Consultant Costs: Annual costs are based on 20% of Emergency Repairs, Asset Cleaning and Video Inspection, Pipe Rehabilitation and Maintenance, and Swale Rehabilitation costs.
  - Asset Cleaning and Video Inspection: Same assumptions and cost as Scenarios 2 and 3.
  - Pipe Rehabilitation and Maintenance: Same assumptions and cost as Scenario 3.
  - Swale Rehabilitation Program: Assumes the Village rehabilitates 5 percent of the swale linear footage per year for the next 20 years.
  - Contingency: Calculated as 20% of the costs for Emergency Repairs, Engineering and/or Consultant costs, and Asset Cleaning and Video Inspection, Pipe Rehabilitation and Maintenance, and Swale Rehabilitation Costs

These cost data were combined with the ERU allocations developed in **Section 3** to calculate the required monthly stormwater fee billing rate for each of the above scenarios. As the Village learns more about the needs of its system through the implementation of CCTV inspections, scenarios may be updated to more precisely budget for those needs. The asset videoing and cleaning, and maintenance and rehabilitation funding pools will be used as a common pool depending on the magnitude of their respective needs in any given year.

**Table 4-1** through **Table 4-4**[8] show the resulting estimated stormwater management costs and billing rates needed to cover each scenario's cost for FY2021 through FY2025. Each scenario includes a line item for revenue requirements and monthly estimated stormwater fee per ERU both with and without Palm Beach County property tax roll administrative fees and potential early payment discounts to show the magnitude of variance.[9] For example, the FY2021 Scenario 1 Level of Service charge per ERU would

[8] Note: Calculations in Tables 4-1 through 4-4 account for an assumed annual interest rate of 2.5%.

[9] Taxes paid prior to due date are given a 4% discount. With an added 1% administrative fee for processing tax bills, the net discount is 3%. The calculations assume all parcels would receive the discount.

be at least $4.37, assuming Seacoast administrative fees are not less than the fees associated with implementing a non-ad valorem tax assessment. Under Scenario 2, the monthly charge per ERU for FY2021 would be $7.53. We note that because the billing method has not yet been selected, the raw stormwater fee is presented to show the baseline charge upon which any administrative/billing fees would need to be added to cover the full cost of the program.

**Table 4-1: Scenario 1 – Status Quo Stormwater Plan with Asset Videoing and Cleaning ($)**

| Stormwater Program | FY2021 | FY2022 | FY2023 | FY2024 | FY2025 |
|---|---|---|---|---|---|
| NPDES Permitting | 15,000 | 15,375 | 15,759 | 16,153 | 16,557 |
| Emergency Repairs | 87,543 | 89,732 | 91,975 | 94,274 | 96,631 |
| Engineering and/or Consultant Costs | 36,484 | 37,396 | 38,331 | 39,289 | 40,272 |
| Asset Cleaning and Video Inspection, Pipe Rehabilitation and Maintenance | 94,878 | 97,250 | 99,681 | 102,173 | 104,727 |
| Contingency | 43,781 | 44,875 | 45,997 | 47,147 | 48,326 |
| **Revenue Subtotal** | **277,686** | **284,628** | **291,744** | **299,037** | **306,513** |
| Uncollected Revenue (4.0% for early payment discount) | 11,107 | 11,385 | 11,670 | 11,961 | 12,261 |
| County Tax Roll Administrative Fee (1.0% of collected revenue) | 2,666 | 2,732 | 2,801 | 2,871 | 2,943 |
| **Required Revenue After Discount & Admin Fee** | **291,459** | **298,745** | **306,214** | **313,869** | **321,716** |
| **Monthly Stormwater Fee per ERU (Residential billed for 1 ERU)** | $4.37 | $4.48 | $4.59 | $4.70 | $4.82 |

**Table 4-2: Scenario 2 – Scenario 1 Plus Pipe Rehabilitation and Maintenance Program ($)**

| Stormwater Program | FY2021 | FY2022 | FY2023 | FY2024 | FY2025 |
|---|---|---|---|---|---|
| NPDES Permitting | 15,000 | 15,375 | 15,759 | 16,153 | 16,557 |
| Emergency Repairs | 87,543 | 80,508 | 70,471 | 63,227 | 56,728 |
| Engineering and/or Consultant Costs | 64,366 | 64,131 | 63,324 | 63,106 | 63,068 |
| Asset Cleaning and Video Inspection | 94,878 | 97,250 | 99,681 | 102,173 | 104,727 |
| Pipe Rehabilitation and Maintenance | 139,411 | 142,896 | 146,468 | 150,130 | 153,883 |
| Contingency | 77,240 | 76,957 | 75,989 | 75,727 | 75,681 |
| **Revenue Subtotal** | **478,437** | **477,116** | **471,692** | **470,516** | **470,644** |
| Uncollected Revenue (4.0% for early payment discount) | 19,137 | 19,085 | 18,868 | 18,821 | 18,826 |
| County Tax Roll Administrative Fee (1.0% of collected revenue) | 4,593 | 4,580 | 4,528 | 4,517 | 4,518 |
| **Required Revenue After Discount & Admin Fee** | **502,168** | **500,781** | **495,088** | **493,854** | **493,988** |
| **Monthly Stormwater Fee per ERU (Residential billed for 1 ERU)** | $7.53 | $7.51 | $7.42 | $7.40 | $7.40 |

**Table 4-3: Scenario 3 – Pipe Rehabilitation and Maintenance Program Estimated Based on Asset Materials and Age ($)**

| Stormwater Program | FY2021 | FY2022 | FY2023 | FY2024 | FY2025 |
|---|---|---|---|---|---|
| NPDES Permitting | 15,000 | 15,375 | 15,759 | 16,153 | 16,557 |
| Emergency Repairs | 87,543 | 80,508 | 70,471 | 63,227 | 56,728 |
| Engineering and/or Consultant Costs | 72,323 | 72,286 | 71,683 | 71,674 | 71,850 |
| Asset Cleaning and Video Inspection | 94,878 | 97,250 | 99,681 | 102,173 | 104,727 |
| Pipe Rehabilitation and Maintenance | 179,193 | 183,673 | 188,265 | 192,972 | 197,796 |
| Contingency | 86,787 | 86,743 | 86,020 | 86,009 | 86,220 |
| **Revenue Subtotal** | **535,724** | **535,835** | **531,879** | **532,208** | **533,878** |
| Uncollected Revenue (4.0% for early payment discount) | 21,429 | 21,433 | 21,275 | 21,288 | 21,355 |
| County Tax Roll Administrative Fee (1.0% of collected revenue) | 5,143 | 5,144 | 5,106 | 5,109 | 5,125 |
| **Required Revenue After Discount & Admin Fee** | **562,296** | **562,412** | **558,260** | **558,605** | **560,358** |
| **Monthly Stormwater Fee per ERU (Residential billed for 1 ERU)** | **$8.43** | **$8.43** | **$8.37** | **$8.37** | **$8.40** |

**Table 4-4: Scenario 4: Scenario 3 Plus Swale Rehabilitation CIP ($)**

| Stormwater Program | FY2021 | FY2022 | FY2023 | FY2024 | FY2025 |
|---|---|---|---|---|---|
| NPDES Permitting | 15,000 | 15,375 | 15,759 | 16,153 | 16,557 |
| Emergency Repairs | 87,543 | 80,508 | 70,471 | 63,227 | 56,728 |
| Engineering and/or Consultant Costs | 121,199 | 122,385 | 123,034 | 124,309 | 125,801 |
| Asset Cleaning and Video Inspection | 94,878 | 97,250 | 99,681 | 102,173 | 104,727 |
| Pipe Rehabilitation and Maintenance | 179,193 | 183,673 | 188,265 | 192,972 | 197,796 |
| Swale Rehabilitation | 244,383 | 250,492 | 256,755 | 263,174 | 269,753 |
| Contingency | 145,439 | 146,862 | 147,641 | 149,171 | 150,961 |
| **Revenue Subtotal** | **887,635** | **896,544** | **901,606** | **911,178** | **922,322** |
| Uncollected Revenue (4.0% for early payment discount) | 35,505 | 35,862 | 36,064 | 36,447 | 36,893 |
| County Tax Roll Administrative Fee (1.0% of collected revenue) | 8,521 | 8,607 | 8,655 | 8,747 | 8,854 |
| **Required Revenue After Discount & Admin Fee** | **931,662** | **941,013** | **946,325** | **956,372** | **968,070** |
| **Monthly Stormwater Fee per ERU (Residential billed for 1 ERU)** | **$13.96** | **$14.10** | **$14.18** | **$14.33** | **$14.51** |

# 5. Estimated Stormwater Fee per ERU and Distribution of Costs by Property Use Under Alternative ERU Calculation Methods

Stormwater management costs are allocated based on the method used to establish the ERU definition and the how the resulting ERUs are distributed across the property use classes. For the purposes of this study the two methods described in **Section 3** were evaluated to assess the impact on the financial burden borne by each property use category or customer class.

Method 1, which was used to calculate the monthly per ERU charges in **Tables 4-1** through **4-4**, uses the average SFR IA as the ERU. SFR parcels are assigned a uniform ERU value and fee regardless of individual parcel size or impervious area. All other property use classes are assigned an ERU value based on the ratio of their actual IA compared to the average SFR IA.

Applying a uniform rate to property use classes with relatively invariable property development and that comprise large proportion of land parcels simplifies the program and reduces administrative costs, although it could present an equity issue in jurisdictions where there are significant differences in parcel sizes and impervious area ratios.

As detailed in Section 3, Method 2 calculates the ERU based on the weighted average of IA for SFRs and condominium units. Under this approach, a single ERU is based on an IA of 3,389 square feet instead of 5,550 square feet. The number of ERUs allotted to SFRs would be unchanged because each SFR parcel would still be assigned 1 ERU. ERUs assigned to condominiums and other property use parcels would necessarily increase because a single ERU would be based on a smaller IA. Under Method 1, for example, in FY2021 condominium units would pay on average $0.96 per month (Scenario 1); under Method 2, the average per monthly fee would rise to $2.33. A comparison of the estimated monthly stormwater fees per ERU for each Scenario (**Section 4**) and Method (**Section 3**) is shown in **Table 5-1**:

**Table 5-1 Monthly ERU Costs and Savings for Two ERU Calculation Methods**

| | Single-Family Residential | | Condominiums | |
|---|---|---|---|---|
| **Scenario** | **Method 1** | **Method 2** | **Method 1** | **Method 2** |
| Scenario 1 | $4.37 | $2.33 | $0.96 | $2.33 |
| Scenario 2 | $7.53 | $4.01 | $1.66 | $4.01 |
| Scenario 3 | $8.43 | $4.49 | $1.86 | $4.49 |
| Scenario 4 | $13.96 | $7.44 | $3.09 | $7.44 |

The overall shift in cost burden from SFR parcels under Method 2, is shown in the Figures 5-1 and 5-2. The share of stormwater fee burden for condominiums increases from 19 to 45 percent, while the contribution from SFRs decreases from 48 to 26 percent. The relative total share for other property use classes decreases slightly although the absolute fees for individual parcels would on average increase. The dramatic shift in cost burden to condominiums under Method 2, appears to be misaligned with the proportion of condominium land parcel IA comprising the Village's total IA. Therefore, Method 1 achieves greater equity by creating two flat fee categories for the two most common and homogenous property classes (SFR and Condominium), with each SFR parcel assigned 1 ERU and each condominium unit assigned a proportional fraction of the ERU based on SFR average IA.

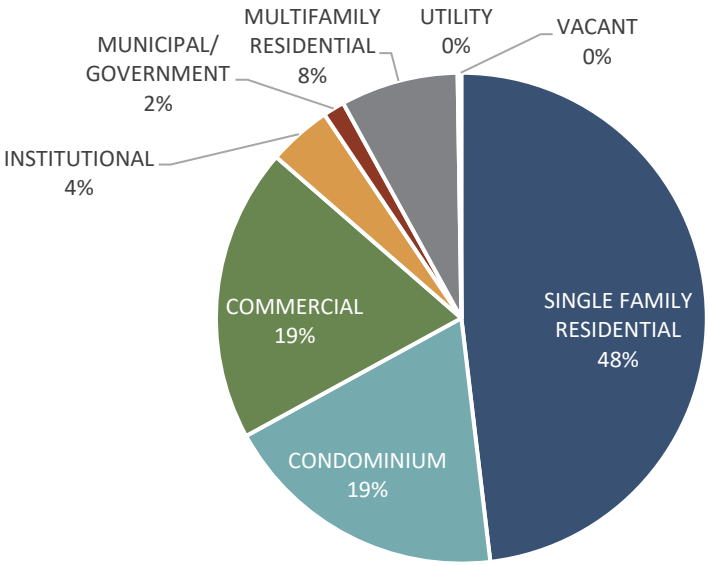


**Figure 5-1: Share of Stormwater Fee Burden: Method 1**

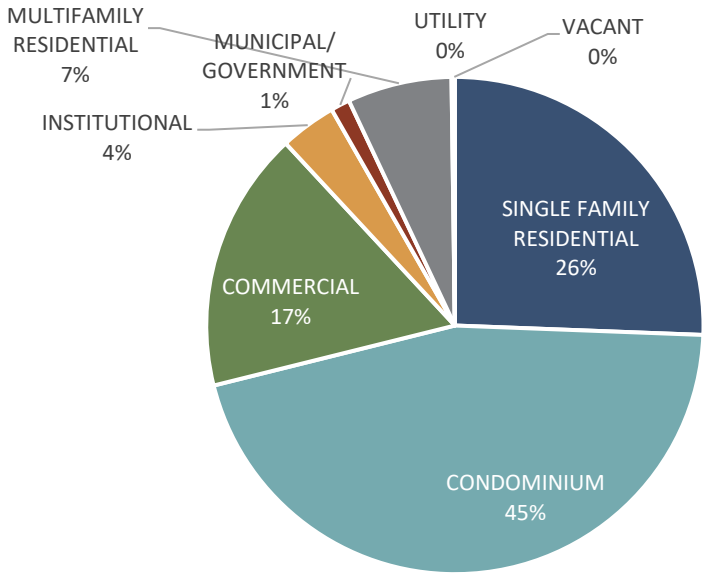


**Figure 5-2: Share of Stormwater Fee Burden: Method 2**

# 6. Incorporating Credits into a Stormwater Utility Fee Program

## 6.1 Overview of Stormwater Credits and Participation Rates

Providing credits or fee discounts to stormwater utility customers who reduce their stormwater runoff is an increasingly common element of stormwater utility fee programs. Black & Veatch's (B&V) 2018 nationwide survey of stormwater utilities reported that more than 50 percent of respondents provide credits for managing volume, water quality, and/or peak flow reduction. Similarly, most respondents to the 2019 Southeast Stormwater Association (SeSwA) Survey also provided credits for implementing stormwater best management practices (BMPs). However, both surveys found that credit program structures, eligibility, and size of discounts or credits provided vary substantially.

About 46 percent of the respondents to the B&V survey offered credits only to nonresidential accounts while 54 percent made all land parcels eligible. Most credit programs provide continuing fee discounts for specific types of management practices although some utilities provide one-time subsidies for installation of a structural BMP such as a rain barrel. For example, St. Petersburg, FL has recently announced it will offer rebates to single-family residential customers who install rainwater catchment devices that help conserve water and reduce rainwater runoff.[10]

For programs that offer ongoing discounts, the amount of maximum credit varies significantly. Although 42 percent of the B&V respondents set a credit limit of 25-50 percent per parcel, 34 percent of the programs provide credits up to 75 percent, and 21 percent of the utilities offer credits of more than 75 percent. In establishing BMP credits, a utility must create a balance between providing sufficiently large credits to elicit participation and ensuring that the revenue reduction does not exceed the value of the credits provided.

It is important to note that although stormwater credit programs are becoming increasingly more common and now are offered by most utilities, participation rates remain relatively low. For the 86 percent of the B&V Survey respondents that have a credit program, only 1-5 percent of the eligible parcels participate. For the SeSwA survey, the average participation rate was just 3 percent.

## 6.2 Credit Program Considerations

Credit programs are justified because they reduce the stormwater fee imposed on a parcel commensurate with the decrease in demand placed on the system by that parcel when a best management practice is implemented. Parcel owners are incentivized to control stormwater runoff at the source, which reduces system and environmental loads and the level of service required to maintain water quality of environmental water bodies. These benefits to the system should be passed on to the implementer. However, the BMPs that a parcel owner implements are only of value if they are properly maintained; otherwise, their efficacy will diminish over time and the owner would receive unwarranted credits.

[10] Introducing: St. Petersburg's Rainwater Rebate Program, City of St. Petersburg, FL, available online: http://www.stpete.org/internal-news-detail_T2_R1150.php (accessed April 29, 2020)

In implementing a credit program, the utility must be cognizant that its potential revenues will be reduced, requiring that the charge per ERU be increased to collect the revenue requirement. In addition, while providing credits for implementing BMPs may enhance the perception of equity and fairness in cost recovery, it also shifts the associated revenue loss recovery to non-participating customers. Accordingly, if eligibility is offered to only nonresidential land parcels, more of the program's cost burden will be shifted to residential customers, although the magnitude will depend on the participation rate and the size of the offered credits. In sum, credit programs need to be structured to balance the revenue needs of the utility with the overall goal of ensuring the fee charged to the system's users is as equitable and affordable as possible.

## 6.3 Evaluated Scenarios for the Village of North Palm Beach and Financial Impacts

It is recommended that the Village of North Palm Beach implement a credit program that includes eligibility for all property use classes provided they meet the program requirements for reducing stormwater runoff. The credits allotted to a specific parcel should be based on the type of structural BMP implemented which would correspond to volume and peak flow reduction. It is recommended that a maximum credit of 75 percent be established and that after a 3-year period, the land parcel owner must recertify confirming the mitigation facilities are still functioning as necessary. Renewal of the credit voucher should require an inspection to ensure that the BMP is being properly maintained.

Apart from report details the major elements of the recommended credit program including the application process, eligible BMPs, potential size of credits allotted by BMP type, and procedures for renewing credits will be developed.

As noted above, incorporating a credit program will have financial consequences; the greater the participation rate, the greater the reduction in revenue generated by the stormwater fee. Accordingly, the fee per ERU will have to increase commensurate with the reduction in revenue unless the reduction in demand on the system result in commensurate reduced program costs.

Because this would be the inaugural program for North Palm Beach, it is difficult to confidently forecast future participation rates and the resulting fee adjustment necessary to cover potential shortfalls in revenue. For the purposes of this report, a range of credit program participation rates similar to participation rates elsewhere was used to gauge the potential impacts to the baseline fee (no credit program) presented in the **Section 4**. For illustrative purposes, the monthly per ERU fee of $7.53 for FY2021 under Scenario 2 Level of Service is used as the baseline fee from which credit program participation would increase. Three Participation Scenarios were selected to estimate potential impacts on the baseline monthly ERU fee.

**Table 6-1: Credit Program Potential Impacts on Recommended Level of Service Scenario 1**

| Participation Scenario | Description | Projected Monthly ERU Fee FY2021 |
|---|---|---|
| No Credit Program Offered | No Credits Offered | $7.53 |
| Low Participation Scenario | 3% of all parcels receive credit averaging 50% of fee | $7.64 |
| Moderate Participation Scenario | 3% of SFR parcels and 10% of all other parcels* receive credit averaging 50% of Fee | $7.78 |
| High Participation Scenario | 3% of SFR parcels and 20% of all other parcels receive credit averaging 50% of fee | $8.00 |

*Excluding Utility and Vacant parcels.

As shown in **Table 6-1**, a credit program would likely have a minor impact on monthly fees given that the participation rate is likely to fall in line with regional participation rates of about 3 percent. In the scenarios above, there is about a 6 percent difference in the monthly ERU fee between the baseline fee (no credit program) and the highest participation rate scenario. The mid-level participation rate scenario would result in a monthly ERU fee of $7.78 or about 3.3 percent above the baseline fee of $7.53, while the low participation rate would generate a fee increase by only 1.4 percent. The moderate and high participation rate scenarios would also shift the cost burden to SFR parcels because their participation rates would remain unchanged from the low participation scenario while parcels in the other property use categories would receive more credits as their participation rates would increase. However, the burden shift would be negligible (less than a thousandth of a percent).

A credit program would result in the same percentage fee increase and shift of customer cost burden regardless of the Level of Service Scenario implemented. For example, under the Level of Service Scenario 1, the base ERU monthly fee of $4.37 fee would increase to $4.43 assuming a low participation rate. Assuming a moderate participation rate would raise the monthly fee to $4.52 while a high participation rate would require a monthly fee of $4.64. For the Scenarios 3 and 4, the monthly fees would be $8.96 and $14.83, for the high participation scenario, respectively. **Table 6-2** shows the final estimated fee burden by property class for Level of Service Scenario 2 with moderate participation rate.

**Table 6-2: Distribution of Monthly Stormwater Fee by Parcel Property Use Class**

| Use Class | Parcel Count | ERUs | Fee Per ERU | Monthly Total Revenue | Annual Total Revenue | Percent of Total Revenue | Average Monthly Fee |
|---|---|---|---|---|---|---|---|
| Single-Family Residential | 2,675 | 2,675 | $7.78 | $20,818 | $249,810 | 48.1% | $7.78 |
| Condominium (units) | 4,775 | 1,052 | | $8,187 | $98,243 | 18.9% | $1.72 |
| Commercial | 158 | 1,077 | | $8,381 | $100,578 | 19.4% | $59.44 |
| Institutional | 12 | 233 | | $1,813 | $21,759 | 4.2% | $11.48 |
| Municipal/Government | 27 | 79 | | $615 | $7,378 | 1.4% | $51.23 |
| Multifamily Residential | 141 | 431 | | $3,354 | $40,250 | 7.8% | $124.23 |
| Utility | 2 | 9 | | $70 | $840 | 0.2% | $35.02 |
| Vacant | 48 | 5 | | $39 | $467 | 0.1% | $0.81 |
| **Total** | **3,161** | 5,561 | **N/A** | **$43,277** | **$519,325** | **100.0%** | **N/A** |

*4,755 condo residential units on 98 parcels

# 7. Comparison of Projected Stormwater Fee with other Florida Utilities

Every two years the Florida Stormwater Association (FSA) publishes a summary report based on a survey sent to stormwater utilities located within the State of Florida. This report may be used as an industry benchmarking tool for the implementation of potential stormwater fees. The average monthly stormwater utility rate among responding Florida stormwater jurisdictions was $7.80 according to the FSA 2018 Stormwater Utility Report.[11] In comparison with Palm Beach County stormwater jurisdictions, the City of Lake Worth is $6.30 while the City of West Palm Beach is $13.57 per month.

**Figure 7-1** shows the number of Florida stormwater jurisdictions by monthly stormwater fee per stormwater unit in two-dollar increments. Most Florida stormwater jurisdictions charge a monthly fee between $3.25 and $9.25. Under a low participation rate scenario, the average monthly would range from $5.73 to $16.93, depending on the Level of Service scenario. Level of Service Scenario 1 would fall into the mid-range of fees charged by most Florida jurisdictions with Level of Service Scenario 2 falling in the upper portion of that range. Level of Service Scenarios 3 and 4, would fall into the higher range of fees.

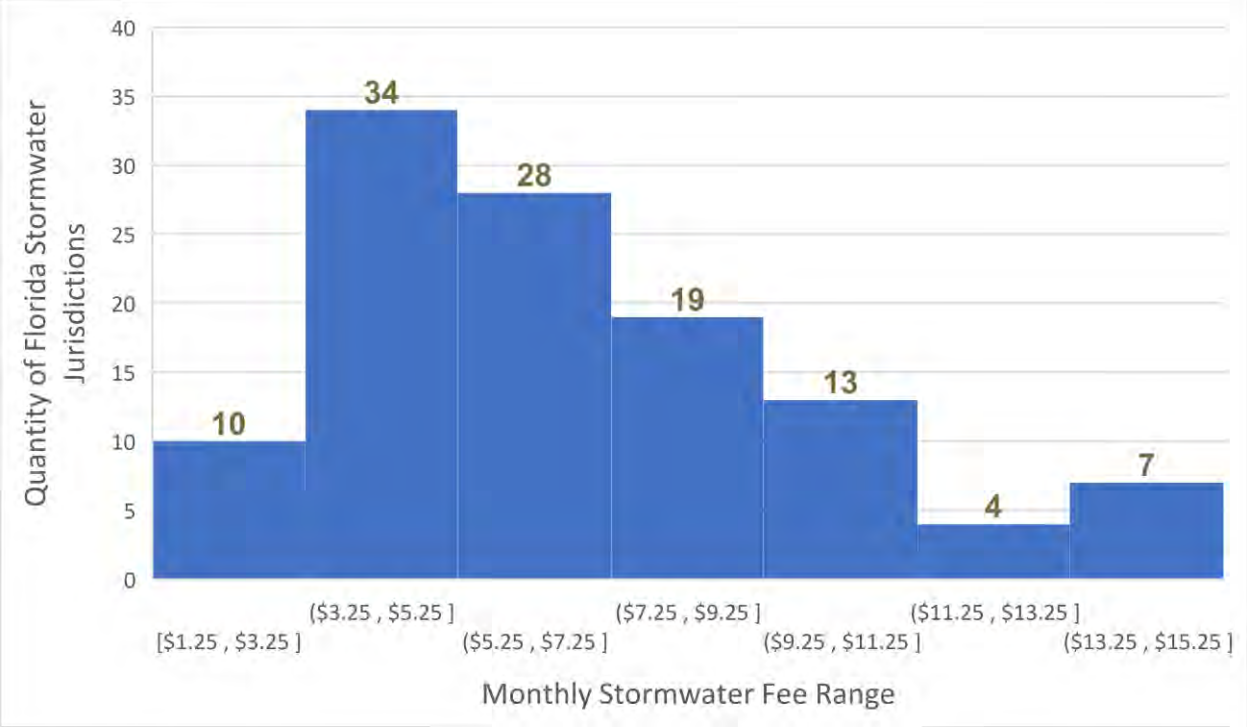


**Figure 7-1: Histogram of Florida Stormwater Jurisdictions by Monthly Fee Range** (data reflective of 2018 FSA survey respondents reporting both a stormwater rate and unit size)

[11] Florida Stormwater Association 2018 Stormwater Utility Report, p. 12

# 8. Alternative Billing Methods

There are two main methods for stormwater fee collection that are typical among municipal stormwater utilities in Florida. The first is to include stormwater management charges as a separate fee on an existing utility bill. A second is to utilize the *uniform method for non-ad valorem assessments* and place stormwater utility fees on the county tax bill. A third but uncommon method is for the municipality to develop the infrastructure for billing and collecting stormwater fees on its own. This method is not typically used or recommended due to the cost prohibitive nature of the requisite infrastructure and personnel requirements to implement.

According to the Florida Stormwater Association 2018 Stormwater Utility Report, 66 percent of utilities collect revenue through a user fee on a water/wastewater utility bill, while 29 percent do so through the second most common method, non-ad valorem or special assessments.[12] The uniform method of collection for non-ad valorem assessments is expressly permitted for stormwater fees in Florida Statute 403.0893. The use of the tax bill has been steadily gaining popularity in Florida over the past dozen years due to the ease and relatively low cost of implementation as well as the almost 100% collection rate.

Water and sewer services within the Village are provided by the Seacoast Utility Authority, which bills customers directly using its own billing system. Should the Village choose to collect stormwater fee revenue via the existing utility bill, it would need to enter a contractual arrangement with Seacoast to add stormwater fees to its billing system. Such an arrangement would likely entail a billing services fee that would be paid to Seacoast by the Village. In initial communication with Seacoast Utility Authority, indication was that its charter is not set up to allow for the billing and collection of stormwater utility fees, but future changes to the charter might be possible should the Village decide to pursue this billing method.

**Table 8-1** provides a side-by-side comparison between utility bill and non-ad valorem assessment billing options.

**Table 8-1: Comparison of Billing Options**

| Utility Bill | Non-ad Valorem Assessment |
|---|---|
| Collected monthly on the Seacoast Utility Authority water/sewer bill | Collected annually on county property tax bill |
| Requires special billing and customer list development | 1:1 Match between parcels and billing accounts |
| Collection enforcement typically via discontinuance of service | Highest rate of collection (tax lien, tax certificates not dependent on customers of a service) |
| Most flexible if changes are needed/required | Compliance with specific statutory process required |
| Fees can be updated anytime | Fees can be updated annually |
| All utility customers are in billing system (except for public schools) | Some parcels may be exempt from non-ad valorem assessments |
| Agreement with Seacoast Utility Authority required, including administrative and billing fees | County Tax Collector fee typically 1% of collected revenue; non-ad valorem assessments subject to early tax bill payment discount of up to 4% |

[12] Florida Stormwater Association 2018 Stormwater Utility Report, p. 10

The key advantages to collecting stormwater charges as a non-ad valorem assessment on the County property tax bill include:

- 1-to-1 relationship between parcel-based ERUs and County tax accounts; special accommodation of parcels with multiple tenants is not required.
- Condominium unit owners are billed directly rather than through an owner's association.
- Relatively simple billing and collection handled by the Property Appraiser and Tax Collector's offices.
- Near 100% collection rate on all assessments levied.
- Disincentive to default is a deterrent to all customers, not just those who use water/sewer services.
- Captures all properties, not just those with active water/sewer utility accounts.

The key disadvantage of using the property tax bill for stormwater charge collection is that government properties might be exempt, and will not be obligated to pay special assessments, leading to potential lost revenue from properties owned by the Federal Government. Regardless of method, the Palm Beach County School District is exempt from stormwater fees. Considering the Village's lack of current water and wastewater billing infrastructure, and that Seacoast's Charter does not provide for the addition of a stormwater fee to its billing cycle, it is recommended that a stormwater fee be added as part of the non-ad valorem assessment on the property tax bill both for cost effectiveness and ease of implementation.

# 9. Conclusions and Recommendations

Implementing a stormwater fee would provide Village of North Palm Beach with a reliable and predictable revenue stream to fund its ongoing stormwater management program. It would remove the uncertainty associated with the current budgeting process that is vulnerable to unpredictable funding allocations independent of the program's actual needs. A stormwater fee would also directly link each of the Village's land parcels with its impact on the stormwater system's capital and operations and maintenance costs.

The recommended fee structure is based on a uniform fee for all SFR and condominiums with each SFR parcel assigned 1 ERU and each condominium unit assigned 0.22 ERU. One ERU contains 5,550 square feet of IA, as determined by assessing orthoimagery for a statistically significant sample of SFR parcels. Condominium units would also pay the same ERU fraction of 0.22 based on average square footage of IA associated with all condominium units in the Village. All other parcels would be assigned an ERU value that is the ratio of that parcel's measured IA divided by 5,550 square feet (definition of the ERU).

The SW Fee Study also estimated the Village's stormwater program's annual cost from FY2021-FY2025 based on four Level of Service Scenarios. The Scenario 1 Level of Service would entail continuing with the status quo stormwater plan while adding asset videoing and cleaning at an estimated FY2021 cost of approximately $95,000. The other Level of Service scenarios would entail the implementation of more robust stormwater programs along with increased annual costs.

The Village has indicated its preference to implement the Scenario 2 Level of Service. The Scenario 2 Level of Service program provides a more robust maintenance program than the Scenario 1 or status quo Level of Service Program. This approach will also allow the Village residents and businesses to adapt to the new stormwater fee and the revenue will be sufficient to maintain the current infrastructure and begin planning future renewal and replacement investments. The Village can then adopt a higher level of service if/when it determines it appropriate to meet future stormwater management and environmental objectives change. If the Village were to use the annual property tax bill as the mechanism for billing the stormwater fee, the baseline monthly per ERU fee is estimated to be $7.53, or $7.78 with moderate credit program participation.

Finally, it is recommended that the stormwater fee program include a credit program that would provide discounts to owners of land parcels who implement BMPs in accordance with credit program policies. All land parcels would be eligible for credits and a maximum credit of 75 percent would be established.

National experience with credit programs is that relatively few parcel owners participate with an average of only 1-5 percent of land parcels receiving credits according to recent stormwater utility surveys conducted by Black and Veatch and the Southeast Stormwater Association. Accordingly, it is anticipated that a Village of North Palm Beach credit program would elicit a relatively low participation rate as well, perhaps even more so in the early years of implementation. Because, a credit program necessarily reduces the number of ERU's to which the annual costs can be allocated, a credit program would raise the monthly fee per ERU. Accordingly, the FY2021 monthly ERU fee would be $7.78 assuming 3 percent SFR participation and a 10 percent participation rate for all other land parcels. Although this represents the moderate participation rate scenario, the resulting stormwater fee would be about 3.4 percent above

the monthly fee without a credit program and the shift in cost burden to SFRs would be slight. Using this scenario also provides a more conservative estimate of revenue being generated. Figure 9-1 shows a breakdown of the final estimated revenues by property use class using ERU Method #1 for Level of Service Scenario 2 assuming a moderate credit program participation rate.

**Table 9-1: Distribution of Monthly Stormwater Fee by Parcel Property Use Class**

| Use Class | Parcel Count | ERUs | Fee Per ERU | Monthly Total Revenue | Annual Total Revenue | Percent of Total Revenue | Average Monthly Fee |
|---|---|---|---|---|---|---|---|
| Single-Family Residential | 2,675 | 2,675 | $7.78 | $20,818 | $249,810 | 48.1% | $7.78 |
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| Multifamily Residential | 141 | 431 | | $3,354 | $40,250 | 7.8% | $124.23 |
| Utility | 2 | 9 | | $70 | $840 | 0.2% | $35.02 |
| Vacant | 48 | 5 | | $39 | $467 | 0.1% | $0.81 |
| **Total** | **3,161** | 5,561 | **N/A** | **$43,277** | **$519,325** | **100.0%** | **N/A** |

*4,755 condo residential units on 98 parcels