

Ferguson Township
Stormwater Fee
BOS Worksession
September 23, 2020



Agenda

- Introductions
- Discussion Items
 1. ERU vs SF billing rate
 2. Funding pipe lining (TIF vs SWF)
 3. Equipment Purchases
 4. Credit Policy

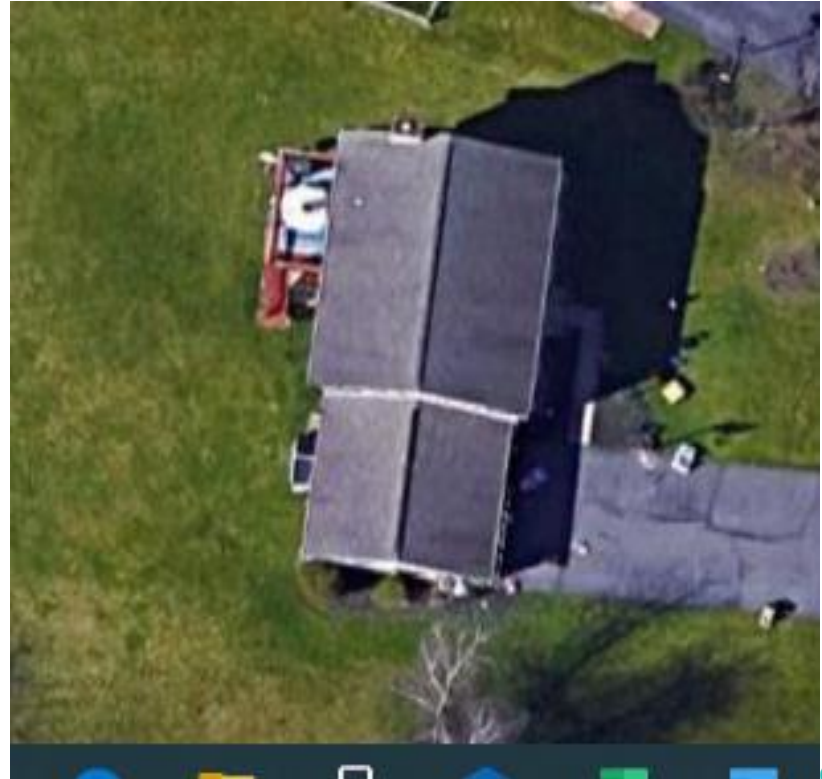


1. ERU vs SF billing unit

Equivalent Residential Unit (ERU) = mean of impervious area measured in square feet of all residential property

Or

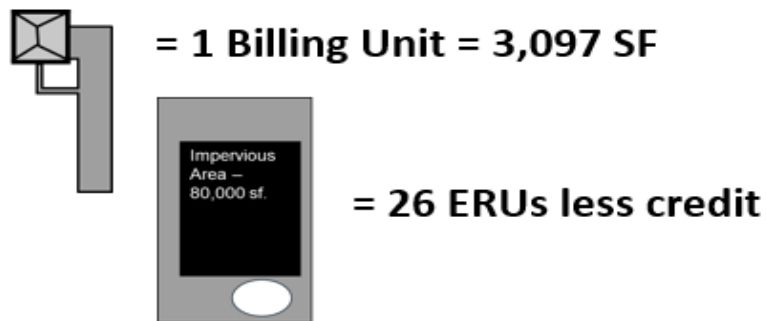
Per 1,000 square feet of impervious area for all parcels



Billing Unit Example

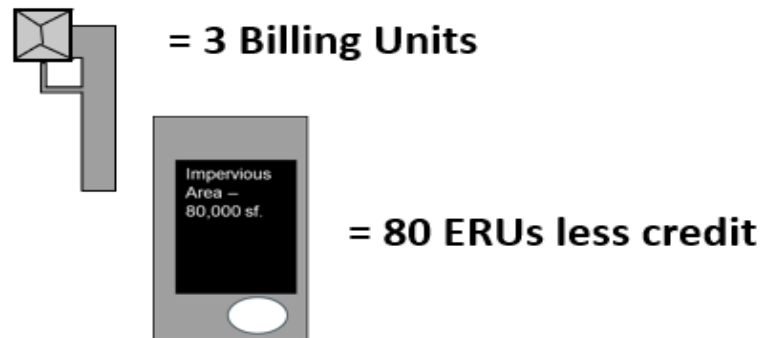
ERU – Equivalent Residential Unit

- Evaluation of impervious cover from Single-Family Detached-Residential (SFDR) parcels to set billing unit
- All SFDR Parcels charged one ERU
- All other parcels have an impervious area analysis to determine Billing Units



Fixed Billing Unit / Tiered Approach

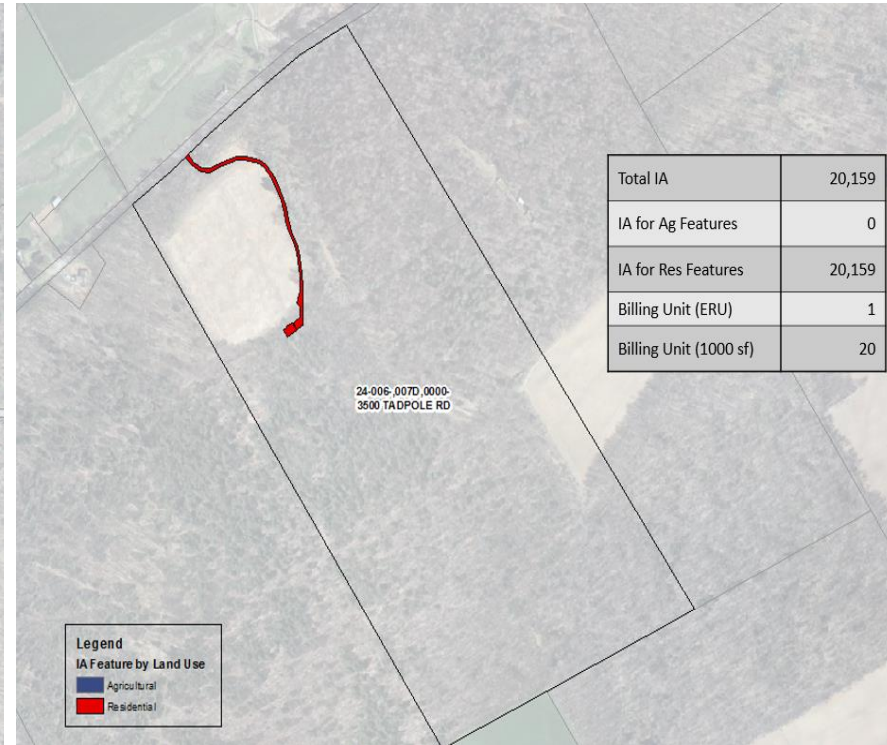
- Fee billing unit based on impervious area in SF (e.g., 500 SF, 1,000 SF)
- 1,000 SF recommended for FT



Treatment of Agriculture – Residential Property

- Many of the parcels with land use classification defined by the County as Agricultural were, in fact, **residential properties with no agricultural business-related impervious area.**
- Residential-use-only. properties were reclassified in the billing file to residential.
- For consistency, homes located on agriculture-business-use properties were also identified and, in the ERU analysis, considered as “one billing unit.”
- The impervious area for agricultural business use were separately identified and measured.

Examples of Agricultural Classified Parcels



2. How to pay for pipe lining

- Pipe lining is done on deteriorated corrugated metal pipe after inspections and prior to paving a road funded through the Transportation Improvement Fund (TIF)
- Started a few years ago proactively inspecting, cleaning, lining corrugated metal pipes geographically
- Should we continue to line pipes (not associated with a current road paving project, rather by neighborhood or pipe rating after inspections) using TIF, using SWF, or transition over time from TIF to SWF?

2. How to pay for pipe lining

- 33 miles total stormwater pipe in ROW as of February 2018
- 16 miles of which is CMP
- Additional 22 miles of private pipe of which 7 miles comingle MS4 stormwater
- Total inlets 2,760 including private
- 2,352 FT inlets in ROW

Pipe Lining Costs in proposed SWF

Capital Projects	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
MS4 Chesapeake Bay Pollutant Reduction Plan Implementation (Design, ROW, Permitting, Construction)		\$ 80,000	\$ 130,000	\$ 160,000	\$ 160,000			
Park Hill Drainage Improvement		\$ 1,500,000						
Line CMP - 5000'/year @\$100 based on priorities for CMP rehab	\$ 500,000	\$ 525,000	\$ 551,250	\$ 578,813	\$ 607,753	\$ 638,141	\$ 670,048	\$ 703,550
Repair stormwater inlets (5 a year @\$3000)	\$ 15,000	\$ 15,450	\$ 15,914	\$ 16,391	\$ 16,883	\$ 17,389	\$ 17,911	\$ 18,448
Community Partnership Program		\$ 50,000	\$ 52,750	\$ 55,651	\$ 58,712	\$ 61,941	\$ 65,348	\$ 68,942
All Stormwater Capital Projects	\$ 515,000	\$ 2,170,450	\$ 749,914	\$ 810,855	\$ 843,348	\$ 717,471	\$ 753,307	\$ 790,940
Total Stormwater Program - Operating and Capital	\$ 1,146,815	\$ 2,847,080	\$ 1,560,212	\$ 1,648,164	\$ 1,708,604	\$ 1,611,911	\$ 2,691,295	\$ 2,776,266

3. Equipment to inspect and clean storm pipes



- Inspection is done with a crawler camera
- An operator works the crawler camera from the truck, advancing the camera while recording and documenting the condition of the pipe
- Comes in various size trucks, cameras, crawlers, cost 170K to 210K

3. Equipment to inspect and clean storm pipes

- A vacuum truck is used to suck sludge and slurry from a storm pipe system or inlet, for this it has a large vacuum tank
- It also is equipped with a high pressure pump and hose to “pressure wash” the sediment and debris out of the system
- Comes in different shapes and sizes, used pricing for tandem frame, 10CY box, 1000 gal H2O = 450K



Options on Funding CIP and Equipment

CMP Lining -
TIF



Maintain Funding in
TIF



Funded by the
Stormwater Fee



Funding Transition
over time

Inspections -
Equipment

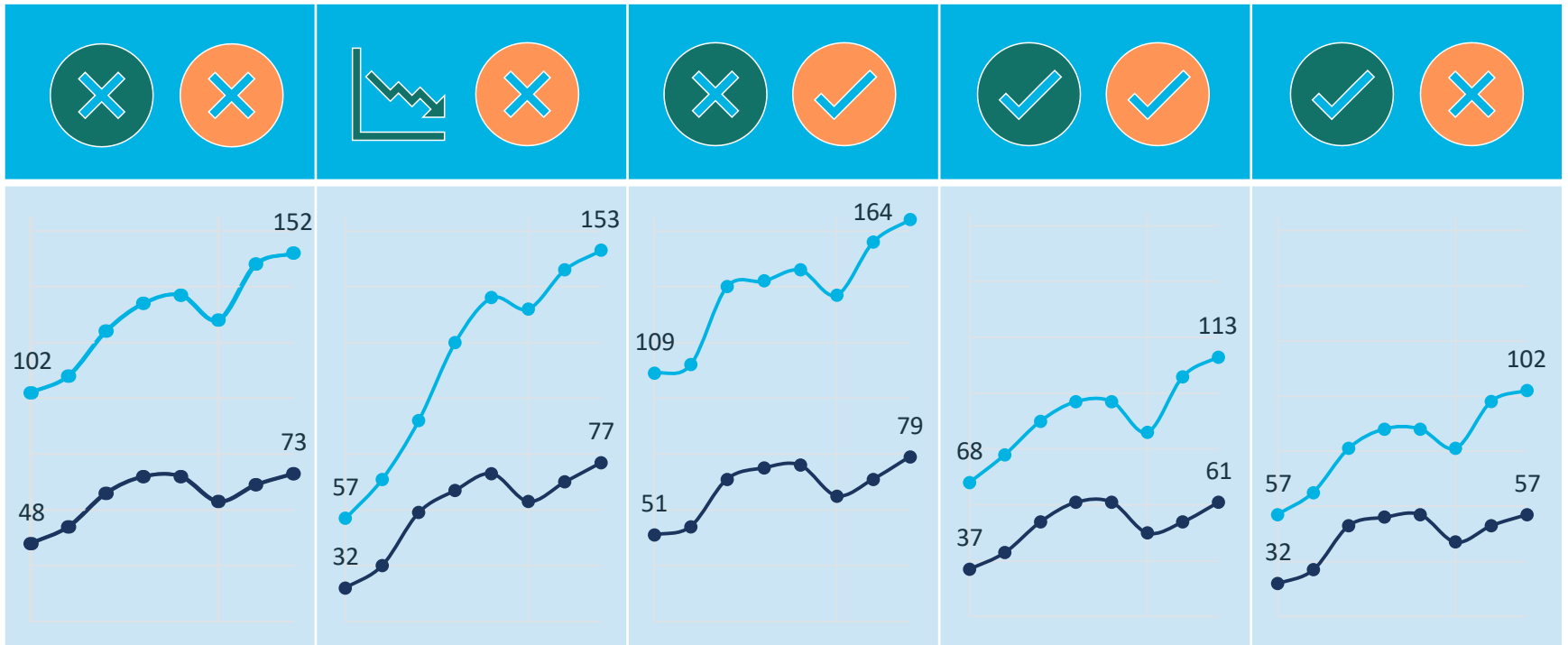


Equipment
Purchase



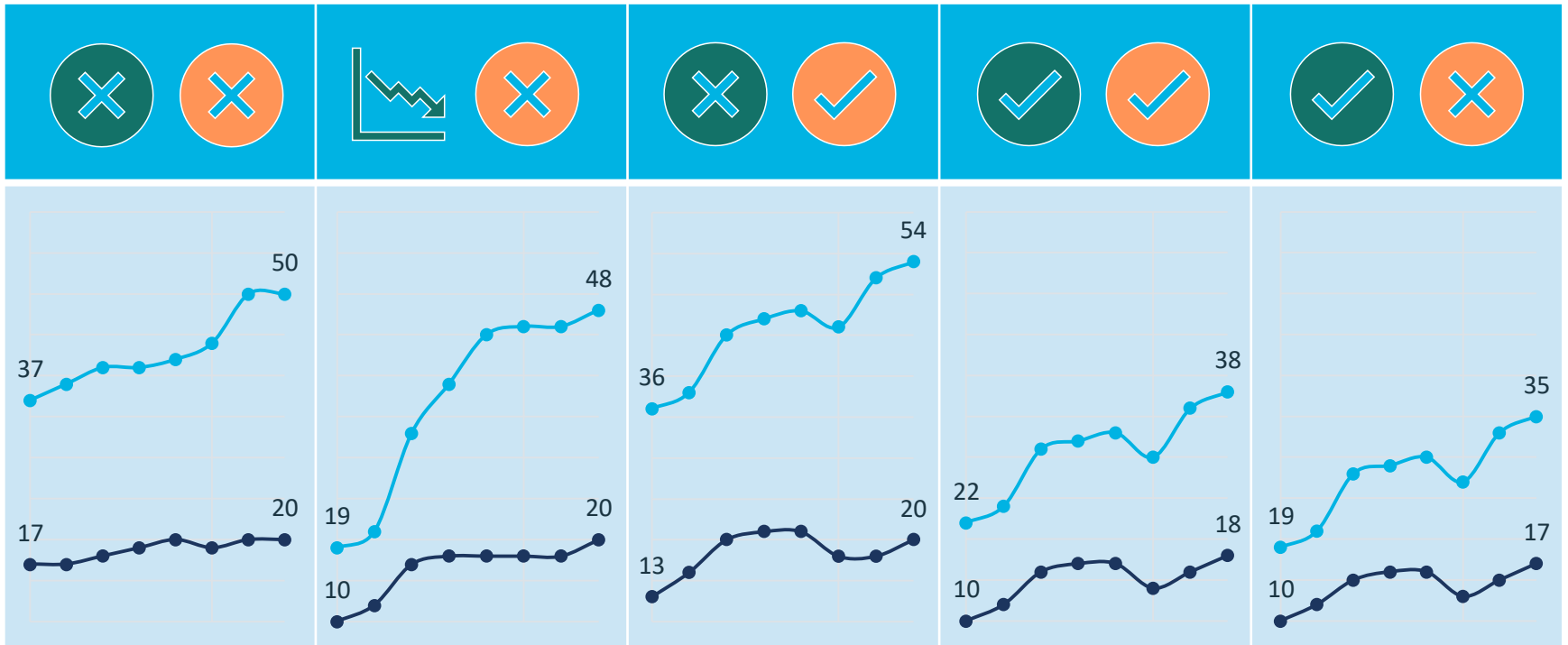
Continue to
Contract Out

Rates – ERU - With Options on Funding CIP and Equipment FY 21 – FY 28



■ Non-Growth Area ■ Growth Area

Rates – 1000SF - With Options on Funding CIP and Equipment FY 21 – FY 28



■ Non-Growth Area ■ Growth Area

4. Credits

SAC agrees with concept of the Township having a credit program if a user fee is assessed.

Credit programs can provide many different benefits, but each has to be weighed against the value it adds, versus the revenue impacts.

Credits can be offered in general categories such as structural, engagement or operational.

Recognized that some credits could provide “social” value but offer very little in way of actual improvements to flooding or water quality.

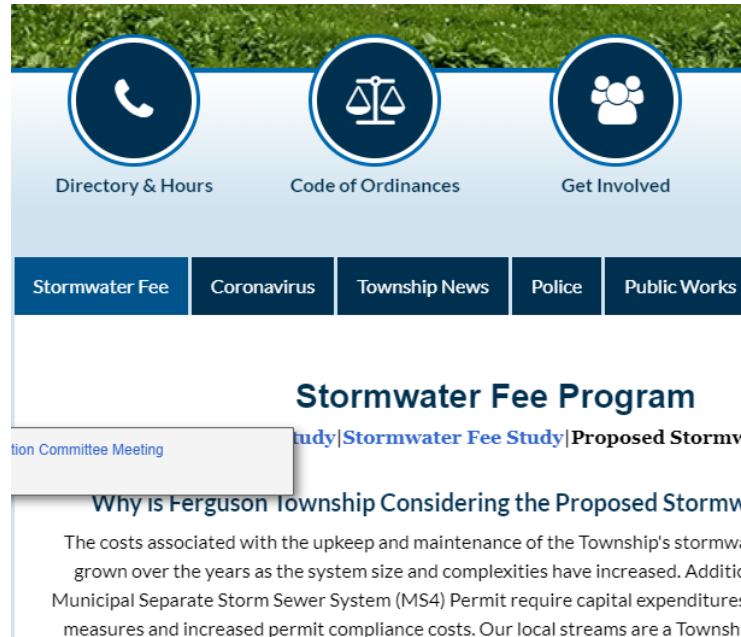
Credit Category	Credit Type	Eligible Ratepayers	Potential Applicants	Eligibility Criteria	Credit Amt
Education and Engagement (these events are yearly and routine, the credit is valid for a three-year period and must be renewed by the end of the third year of award)	Public Engagement	All non-residential ratepayers	Community groups Businesses Non-profits	Provide opportunity for the entire Township to participate in stream clean-up, rain barrel workshop, etc. Achieve pre-defined measure of success (miles cleaned, lbs. removed, participants, etc.)	10%
	Stormwater Education	Schools	Schools	Deliver specific messages to target audiences consistent with Township PEOP	10%
Post Construction Stormwater Management (PCSM)	Volume Controls	All residential / non-residential ratepayers	Homeowners Local Businesses Agricultural Industrial Institutional	Demonstrate ability to retain at least 1" of rainfall onsite through infiltration, reuse or ET practices. Record BMP O&M Plan / Agreement and provide inspection and maintenance records	10%
	Water Quality	All non-residential ratepayers	Local Businesses Agricultural Industrial Institutional	Demonstrate ability to improve the quality of surface runoff prior to discharge from the site. May include natural (soil media, vegetation) or physical processes (filters, hydrodynamic devices, etc.) Record BMP O&M Plan / Agreement and provide inspection and maintenance records	20%
	Recharge	All residential / non-residential ratepayers	Homeowners Local Businesses Agricultural Industrial Institutional	Demonstrate ability to properly infiltrate the runoff volume associated with at least 1.5" of rainfall completely onsite. Record BMP O&M Plan / Agreement and provide inspection and maintenance records. Site to be located within strategic recharge zone(s) / soil types.	20%
	Voluntary Exceedance of Pollutant, Volume or Rate Control	All residential / non-residential ratepayers	Homeowners Local Businesses Industrial Institutional	Demonstrate that BMPs exceed minimum regulatory control requirements by at least 20%. Record BMP O&M Plan and provide inspection and maintenance records.	15%

Credit Category	Credit Type	Eligible Ratepayers	Potential Applicants	Eligibility Criteria	Credit Amt
	PCSM BMP Maintenance	Stormwater Management Plan Holder	Homeowners Local Businesses Agricultural Industrial Institutional	Where no agreement or maintenance program currently exists, record BMP O&M Plan and provide inspection and maintenance records	5%
Low Impact Development	Disconnected Impervious Area	Cemeteries Business campuses Parks Golf course	Township School District	Low ratio of IA to total lot area Downspouts, cartways, and sidewalks discharge to flat, vegetated areas Use of vegetated swales instead of storm sewer Periodically confirm continuance of DIA	5%
	Riparian Buffer/Floodplain Protection	Township Golf course	Golf course owners Township departments	Protection and maintenance of vegetated riparian buffers Record riparian O&M Plan and provide inspection and maintenance records	30%
	Nutrient Management Plan	Golf course	Golf course owners	Nutrient management plan implementation which is not currently being considered for Chesapeake Bay wide crediting	20%
Agriculture Business Operations	Compliance with state or federal mandates for E&S controls and/or manure management plans	Agricultural businesses only	Farmers	Current plans are in place and approved, as appropriate, by the Centre County Conservation District	15%
	Stream Buffer plantings or other BMPs to provide water quality treatment and controls	Agricultural businesses only	Farmers	Minimum 35' buffer on streams up to 150' buffer dedicated, managed and protected. Water quality BMPs, reviewed by CCCD and submitted to the Township for documentation.	20% to 40%

Note: Credits as outlined above can be combined to a cumulative total **not to exceed 40%** of the total fee calculated prior to award. An exception is the 100% credit for MS4 NPDES permittees referenced on Page 1.

BOS Discussion

- Additional information is available at www.twp.ferguson.pa.us



The screenshot shows a website header with three circular icons: a telephone for 'Directory & Hours', scales of justice for 'Code of Ordinances', and a group of people for 'Get Involved'. Below this is a dark blue navigation bar with links for 'Stormwater Fee', 'Coronavirus', 'Township News', 'Police', and 'Public Works'. The main content area features the heading 'Stormwater Fee Program' and a sub-heading 'Stormwater Fee Study | Stormwater Fee Study | Proposed Stormwater Fee Study'. A grey box partially obscures the text 'tion Committee Meeting'. Below this, the text reads: 'Why is Ferguson Township Considering the Proposed Stormwater Fee Program? The costs associated with the upkeep and maintenance of the Township's stormwater system have grown over the years as the system size and complexities have increased. Additionally, the Township's Municipal Separate Storm Sewer System (MS4) Permit requires capital expenditure measures and increased permit compliance costs. Our local streams are a Township responsibility and require regular maintenance and capital expenditure measures to ensure they remain healthy and safe for the community.'

Additional resources on stormwater page

TAXIDNUM	IA - Total	ERU	Billing Unit (per 1,000 sf)
18-014-,005-,0909-	0	0	0
24-001-,017A,0000-	4370	1	4
24-001-,018A,0000-	5537	1	6
24-001-,018B,0000-	2990	1	3
24-001-,021B,0000-	4289	1	4
24-001-,022A,0000-	3432	1	3
24-001-,022G,0000-	4377	1	4
24-001-,022H,0000-	3656	1	4
24-001A,014-,0000-	5208	1	5
24-001C,016-,0000-	3617	1	4
24-001C,022-,0000-	3015	1	3
24-001C,026-,0000-	6188	1	6
24-001C,072-,0000-	7018	1	7
24-001C,092-,0000-	5592	1	6
24-001C,099-,0000-	3921	1	4
24-001C,107-,0000-	3772	1	4
24-001C,126-,0000-	5326	1	5
24-001C,140-,0000-	2897	1	3
24-001C,145-,0000-	4926	1	5
24-001C,154-,0000-	11301	1	11
24-001C,180-,0000-	9150	1	9
24-001C,183-,0000-	8493	1	8
24-001D,012-,0000-	5519	1	6
24-001D,015-,0000-	8056	1	8
24-001-,016-,1101-	710	1	1
24-001-,016-,1103-	710	1	1
24-001-,016-,1107-	710	1	1
24-001-,016-,1109-	710	1	1
24-001-,016-,1111-	710	1	1
24-001-,016-,1113-	710	1	1
24-001-,016-,1115-	710	1	1
24-001-,016-,1117-	731	1	1
24-001-,016-,1119-	731	1	1
24-001-,016-,1121-	731	1	1
24-001-,016-,1123-	731	1	1
24-001-,016-,1125-	731	1	1
24-001-,016-,1127-	731	1	1

Ferguson Cost of Service Program - 2020 with Equipment Purchase

	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
Operating Cost Projection								
Operational Costs Currently Funded by General Fund	\$ 380,903	\$ 392,190	\$ 404,304	\$ 416,798	\$ 429,683	\$ 442,974	\$ 456,685	\$ 1,388,133
Personnel								
PW Director								
Township Engineer								
Assistant Township Engineer								
Engineer Technician								
GIS Technician								
GIS Technician								
Road Superintendent								
Road Foreman								
Road Foreman								
Road Workers (11 staff)								
Part-time MS4 Engineer								
Direct Costs								
Consumable Supplies								
Fuel								
MS4 Program Compliance								
Miscellaneous Materials								
New Operational Costs - Totals	\$ 250,912	\$ 284,440	\$ 405,994	\$ 420,511	\$ 435,573	\$ 451,466	\$ 1,481,303	\$ 597,192
Stormwater Engineer - Full time, converted from current part-time, to maintain system inventory, MS4 compliance and inspection program. Grade 27.	\$ 113,296	\$ 117,163	\$ 121,348	\$ 125,599	\$ 130,015	\$ 134,603	\$ 139,372	\$ 144,328
Stormwater Foreman, lead for new crew, manage pipe inspections and minor rehabilitation of stormwater system. Grade 20							\$ 95,791	\$ 99,363
Stormwater Equip Operator, perform cleaning for inlets and pipe network, operate CCTV program for underground system inspection, Grade 17							\$ 81,243	\$ 84,263
Stormwater Workers (2), augment current PW labor force to address immediate repair needs based on initial system inspection of inlets and pipe network, Grade 17			\$ 111,216	\$ 115,020	\$ 118,881	\$ 123,062	\$ 127,303	\$ 131,706
Two interns for 480 hours @\$20 an hour	\$ 19,200	\$ 19,200	\$ 19,200	\$ 19,200	\$ 19,200	\$ 19,200	\$ 19,200	\$ 19,200
Purchase vactor truck and continue borrowing/sharing equipment as needed for maintenance program							\$ 553,443	
Purchase CCTV camera and truck for long-term inspection of all pipe (roadway, cross-connecting in West End, crossing private property carrying public runoff)							\$ 227,527	
Purchase vehicle for Foreman							\$ 55,344	
Increase in Materials for System Maintenance		\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000
Master Plan and Design Standards								\$ 93,333
Mobile data collection tools (interns)	\$ 1,200							
Based on experience in Ferguson - \$3.50/linear foot of pipe inspected x 44.4 miles which includes cross pipes and private pipes carrying public waters (3.50*5280*44.4). Complete in 7 years (cost escalated at 5%)	\$ 117,216	\$ 123,077	\$ 129,231	\$ 135,692	\$ 142,477	\$ 149,601	\$ 157,081	\$ -
All Stormwater Operational Costs	\$ 631,815	\$ 676,630	\$ 810,298	\$ 837,309	\$ 865,256	\$ 894,440	\$ 1,937,988	\$ 1,985,325
Capital Projects	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
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Additional Info

Rates – With Options on Funding CIP and Equipment

ERU Billing Unit of 3097sf – Residential Parcels Equal One ERU

	ERU Rate Comparison by FY and Funding Options							
	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28
Without TIF and Without Equipment Fund - ERU Residential Rate - Growth Area	\$ 102	\$ 108	\$ 124	\$ 134	\$ 137	\$ 128	\$ 148	\$ 152
Without TIF and Without Equipment Fund - ERU Residential Rate - Non-GA	\$ 48	\$ 54	\$ 66	\$ 72	\$ 72	\$ 63	\$ 69	\$ 73
With TIF Transition and Without Equipment Fund - ERU Residential Rate - Growth Area	\$ 57	\$ 71	\$ 92	\$ 120	\$ 136	\$ 132	\$ 146	\$ 153
With TIF Transition and Without Equipment Fund - ERU Residential Rate - Non-GA	\$ 32	\$ 40	\$ 59	\$ 67	\$ 73	\$ 63	\$ 70	\$ 77
Without TIF and With Equipment Fund - ERU Residential Rate - Growth Area	\$ 109	\$ 112	\$ 140	\$ 142	\$ 146	\$ 137	\$ 156	\$ 164
Without TIF and With Equipment Fund - ERU Residential Annual Fee - Non-GA	\$ 51	\$ 54	\$ 71	\$ 75	\$ 76	\$ 65	\$ 71	\$ 79
With TIF and With Equipment Fund - ERU Residential Rate - Growth Area	\$ 68	\$ 78	\$ 90	\$ 97	\$ 97	\$ 86	\$ 106	\$ 113
With TIF and With Equipment Fund - ERU Residential Rate - Non-GA	\$ 37	\$ 43	\$ 54	\$ 61	\$ 61	\$ 50	\$ 54	\$ 61
With TIF and Without Equipment Fund - ERU Residential Rate - Growth Area	\$ 57	\$ 65	\$ 81	\$ 88	\$ 88	\$ 81	\$ 98	\$ 102
With TIF and Without Equipment Fund - ERU Residential Rate - Non-GA	\$ 32	\$ 37	\$ 53	\$ 56	\$ 57	\$ 47	\$ 53	\$ 57

Rates – With Options on Funding CIP and Equipment

1000sf Billing Unit

	1000 sf Fixed Billing Unit by FY and Funding Options							
	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
Without TIF and Without Equipment Fund - 1000 sf Fixed Unit - Growth Area	\$ 37	\$ 39	\$ 41	\$ 41	\$ 42	\$ 44	\$ 50	\$ 50
Without TIF and Without Equipment Fund - 1000 sf Fixed Unit - Non-GA	\$ 17	\$ 17	\$ 18	\$ 19	\$ 20	\$ 19	\$ 20	\$ 20
With TIF Transition and Without Equipment Fund - 1000 sf Fixed Unit - Growth Area	\$ 19	\$ 21	\$ 33	\$ 39	\$ 45	\$ 46	\$ 46	\$ 48
With TIF Transition and Without Equipment Fund - 1000 sf Fixed Unit - <u>Non-GA</u>	\$ 10	\$ 12	\$ 17	\$ 18	\$ 18	\$ 18	\$ 18	\$ 20
Without TIF and with Equipment Fund - 1000 sf Fixed Unit - Growth Area	\$ 36	\$ 38	\$ 45	\$ 47	\$ 48	\$ 46	\$ 52	\$ 54
Without TIF and with Equipment Fund - 1000 sf Fixed Unit - Non-GA	\$ 13	\$ 16	\$ 20	\$ 21	\$ 21	\$ 18	\$ 18	\$ 20
With TIF and With Equipment Fund - 1000 sf Fixed Unit- Growth Area	\$ 22	\$ 24	\$ 31	\$ 32	\$ 33	\$ 30	\$ 36	\$ 38
With TIF and With Equipment Fund - 1000 sf Fixed Unit - Non-GA	\$ 10	\$ 12	\$ 16	\$ 17	\$ 17	\$ 14	\$ 16	\$ 18
With TIF and Without Equipment Fund - 1000 sf Fixed Unit - Growth Area	\$ 19	\$ 21	\$ 28	\$ 29	\$ 30	\$ 27	\$ 33	\$ 35
With TIF and Without Equipment Fund - 1000 sf Fixed Unit - Non-GA	\$ 10	\$ 12	\$ 15	\$ 16	\$ 16	\$ 13	\$ 15	\$ 17

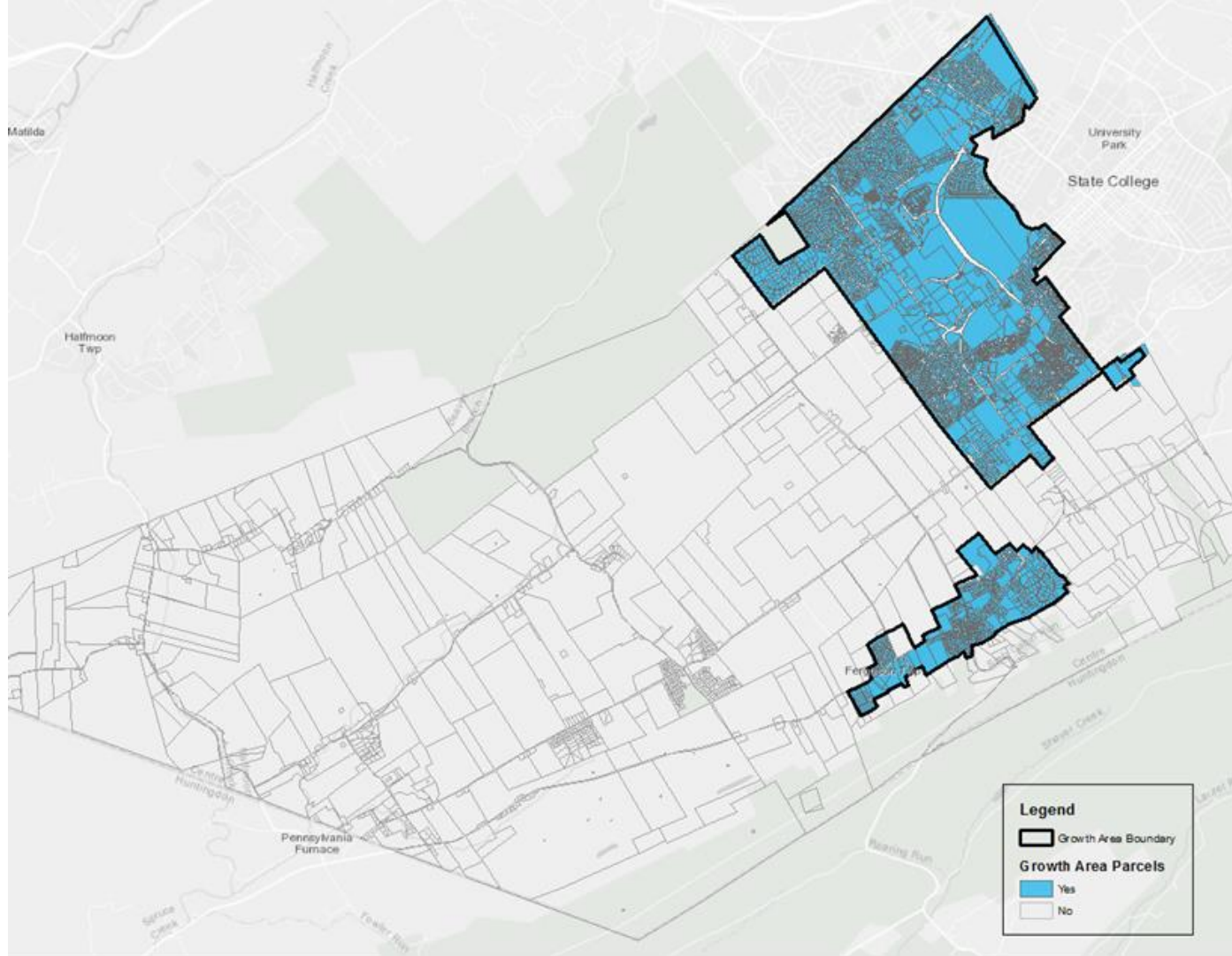
Costs Allocated By Growth Area/Non- Growth Area

Service Area 1 – Growth Area

- Personnel (92%)
- Direct Costs (allocated by Personnel FTE)
- Pipe Assessment (92%)
- Equipment Purchases (92%)
- CMP Rehabilitation (92%)
- Inlet Repair (93%)

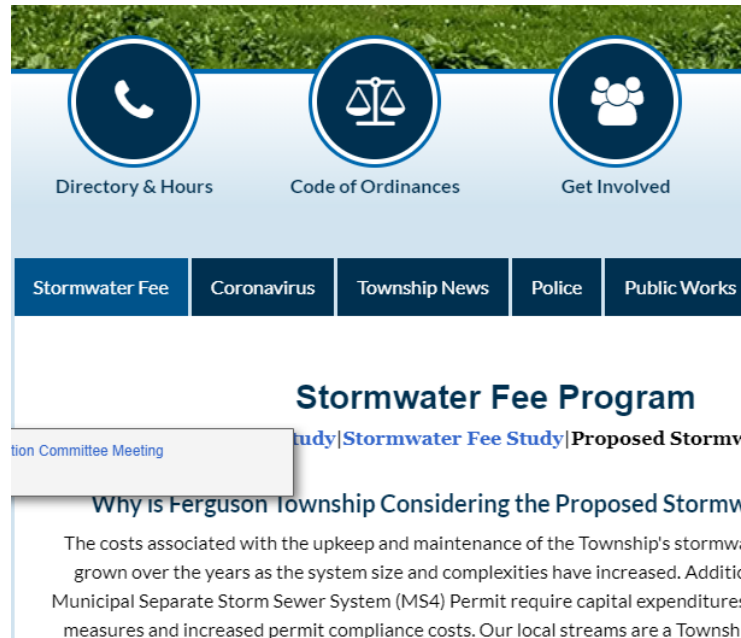
Service Area 2 – Non-Growth Area

- **Personnel (8%)**
- **Direct Costs (allocated by personnel FTE)**
- **Pipe Assessment (8%)**
- **Equipment Purchases (8%)**
- **CMP Rehabilitation (8%)**
- **Inlet Repair (7%)**



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