

**Physical Capacity MEP
Analysis Questionnaire
Baltimore City**

- 1. What is the typical implementation time frame (from planning through construction) for a restoration project? Provide a typical Gantt chart for the following three main classes of BMPs and break down into planning, design, and construction phases: 1. Large upland stormwater projects (e.g., new and retrofits for ponds, bioretention, infiltration basins, etc.); 2. In-stream restoration projects; and, 3. Alternative projects (not annual) (e.g., tree planting). Provide a written justification to explain the time frames for each BMP class and phase.**

Gantt charts for each of the project types are provided as Attachment 1. The time frames assume that either the design will be provided using a project-specific consultant contract or using a task order for an existing on-call consultant contract. Stream restoration projects use project-specific consultant contracts; while the other project types use on-call contracts due to the cost of the design effort. Procuring an on-call contract would add another 6 to 12 months on to the schedule time frames shown in Attachment 1. The time frames also assume no delay to obtain additional funding (change orders) or financing (modifications of appropriations); this type of delay can add 3 to 24 months to the timeframe.

For category 1, large upland stormwater projects, the City's experience is limited with these types of projects. All traditional BMP projects originally proposed in the MS4 and TMDL Watershed Implementation Plan (WIP) [August 2015] were either deemed infeasible for construction or are still in the implementation phase. One large upland stormwater project was added to the WIP, but it was a wetland included in a stream restoration project contract. The best case scenario (BCS) timeline for upland projects follows the timeline provided in the WIP, which totals 3.7 years. The worst case scenario (WCS) allows for project schedule delays addressed in question 6 and totals 6.5 years, which exceeds the MS4 permit duration. The 12-month construction schedule for this project type also allows for schedule alignment with planting seasons.

For Category 2, in-stream restoration projects, the City's experience is more extensive than Category 1; however, the only completed projects were initiated prior to the implementation of the stormwater utility fee (July 2013), when the projects were interrupted pending project funding / financing. The BCS time frame for in-stream restoration projects follows the timeline provided in the WIP and totals 3.8 years, to allow for the moratorium of work in the stream during May and June. This time frame is for a stream reach length of about 0.5 miles, whereas longer reaches would require a longer construction schedule. The WCS time frame scenario allows for project schedule delays addressed in question 6, especially right-of-entry and access agreements, plus community acceptance. The WCS time frame from in-stream restoration projects totals 7 years, almost twice the BCS time frame. Two stream restoration projects from the WIP were delayed to align with sanitary sewer construction projects: one project is currently in construction and the other one is proposed for construction in 2019. Two stream restoration

projects, although performed on City-owned property, have 100% design completion but have become contentious with community and environmental advocates, who have contacted state legislators to prevent the project. More than any project type, stream restoration projects have the highest potential to remove tree canopy and thus, challenge other environmental initiatives in the City.

For Category 3, alternative projects, the time frame is provided for impervious area removal projects on City-owned land, primarily schools. Most of the design phase work is the negotiation of memorandum of understandings (MOUs) with the specific schools. This project type is typically contracted as a bundle of many project locations. Construction schedules are limited to the summer (June to August) to limit disturbance during the school year. The BCS time frame for impervious area projects follows the timeline provided in the WIP and totals 2.1 months. The WCS time frame scenario allows for project schedule delays addressed in question 6 and totals 4.4 years.

Tree planting projects are completed in partnership with Tree Baltimore. The schedule is primarily affected by planting seasons (spring / fall) and contract capacity. In 2017, Baltimore City completed a street tree inventory and has mapped all potential tree plantings in the right-of-way or on public land. The potential tree planting locations are still pending field verification, so only about 75% of the identified sites may be feasible for planting. Just like environmental site design (ESD) projects (Category 4), street tree planting requires significant coordination with and acceptance by the community for successful implementation and maintenance.

Baltimore City has added a Category 4, Environmental Site Design (ESD) projects, to this survey. Previous experience with this project type was primarily performed in Watershed 263. Like the in-stream restoration projects, the previous projects had schedule interruptions due to funding and financing issues. This project type is typically contracted as a bundle of many project locations. The planning and site selection portion of this project is longer than the other project types due to the challenges of compacted soils, accessibility, traffic patterns, and existing utilities. Typically, only one in 10 locations were identified as feasible (treating more than 0.2 acre / facility and costing less than \$300,000 / acre). The ESD projects listed in the portfolio (Question 8) have been delayed to allow for financing by environmental impact bonds. The BCS time frame for ESD projects follows the timeline provided in the WIP and totals 3 years. The WCS time frame scenario allows for project schedule delays addressed in question 6 and totals 5.25 years. Although community outreach is performed at 30%, 60% and 90% milestones of design, the community input usually increases at the 60% phase and creates delays due to re-design.

- 2. Provide the average time to authorize capital improvement project (CIP) budgets for the initial project planning phase and for the design phase of a typical restoration project (assumes CIP approval for each phase is required). Do you have the ability to combine these two phases or do you have to get CIP approval for each phase consecutively?**

Planning and site selection is primarily performed in-house or through a contracted program manager. The design and construction phases are typically contracted using a design-bid-build format. CIP budgets are proposed in the fall of the preceding fiscal year, with approvals of appropriations provided by mid-Spring. The CIP approval is for next fiscal year but the entire estimated appropriation and expenditure schedule for the project life cycle over the next 5 years must be shown in the proposal. In addition to the CIP schedule, the City of Baltimore usually sets utility rates on a 3-year cycle. The most recent rate adjustment has been established for FY 2020 to 2022 (July 1, 2019 to June 30, 2022). The rate adjustment is based on the revenue requirements for the level of service and associated cost of service for the stormwater utility. The stormwater utility for the City supports both the MS4 compliance and the operation and maintenance of the City's storm sewer system. The rate adjustment assumed only the capital expenditures listed in the 2018 Financial Assurance Plan, allowing for a focus to improve the storm sewer infrastructure and address flooding in the City. Any MS4 permit conditions that require additional capital projects would have to be addressed in the next rate adjustment. A Gantt chart of the schedule for CIP approval and additional CIP projects is show in Attachment 2 (using Project Type 1 time frames).

- 3. Provide the average time to procure professional planning, design, and construction services. Is procurement done in phases (e.g., procurement for planning, then procurement for design, and then procurement for construction)? How would a pay for performance type of contract or a design-build-operation-maintenance contract affect these time frames? Please provide information on any innovative contracting mechanism you use to reduce procurement timeframes and what those reduced time frames are.**

Procurement is primarily used for the design and construction phase. A separate contract for a program manager would not be needed for each individual project. Procurement time frames are typically 6 months for each phase but can be doubled if the bids are protested or if the project must be re-advertised because the bids exceeded the available budget. Currently, all restoration projects have used design-bid-build contracting methods. The timeframes are shown in the Gantt chart shown in Attachment 1. The City is evaluating alternative procurement methods like design-build, pay-for-performance, construction manager at risk (CMAR), and design-build-operation-maintenance DBOM contracts. Design-build contracting has been used in transportation projects and the CMAR method was used for the Headworks project. Beyond a potential reduction of at least 6 months procurement and reduction of change orders, the City is still assessing oversight requirements, risk, and land access. Alternatively, the City is also evaluating environmental banking models to address private property access.

- 4. Provide the number of requests for proposals (RFPs) for BMP construction and for BMP design advertised during the past 5 year permit term. Of these, how many bids were submitted for each RFP and how many required re-advertising? Was there a trend over the permit term in the number of bid submittals received? How many unique companies provided bids for all RFPs?**

During this permit cycle, 7 projects were advertised for construction. Five of those projects were stream restoration, with two combined with sanitary sewer work. The other two restoration projects were ESD projects and impervious area removal. Two (2) of the restoration projects had to be re-advertised. Although the City has implemented programs to assist small business development, most of the bids are submitted by existing contractors who do work for other City agencies. Each project advertisement received only 2 to 6 bids. There was a total of 12 unique companies that bid for all RFPs.

5. Provide information on contracting limitations that result in longer project implementation times. Examples: Limited qualified construction contractors; Woman owned business enterprise (WBE) or minority owned business enterprise (MBE) requirements limit available qualified construction contractors and/or engineering contractors. Describe the issue and provide the time extension that results due to the issue.

The City's Office of Boards and Commissions is responsible for pre-qualifying consultants and construction contractors. These pre-qualified consultants and construction contractors are also bidding for and performing work in other MS4 jurisdictions working on similar deadlines. Each design and construction contract requires both MBE and WBE participation. The City has encountered the trend of multiple bids on the same contract using the same MBE or WBE vendors, limiting the experience and exposure for small businesses development.

Two of the bids received to date for restoration projects have had to be re-advertised because the bid exceeded the budget by more than 20% and the lowest bidder did not submit fully completed paperwork. Re-advertisements and subsequent negotiations can add up to 6 months to the time frame.

The City has attempted to include provisions of liquidated damages on restoration contracts to ensure completion by a specific deadline (end of permit); however, this approach increased the cost of the bid submittal and substantially limited the vendors submitting bids. In other City contracts with a specified, regulated deadline (like the modified consent decree for the sanitary sewers), the bids have been protested, unbalanced, and significantly exceeding the available budget (up to 100%). Given the regulatory constraints, the City has been forced to accept some of the bids with an unintended consequence of the making the regulatory obligation significantly more expensive, in addition to compromising other capital projects.

6. Provide a typical time frame required to obtain permits from local, State, and federal agencies for the three main BMP project classes (i.e., upland stormwater ponds, in-stream restoration, and alternative projects) prior to construction. Describe how these time frames affect the overall project implementation time frames described in Question #1. How can these time frames be reduced to help get these projects out the door faster?

The time frame impacts for obtaining permits and other technical plan review approvals are shown in the following table:

Permit / Review	Project Type				Time Frame Impact
	1	2	3	4	
State revolving loan fund (SRF) review (MDE)	X	X	X	X	Adds about 2 to 3 months at 30% (PER), 60%, 90%, bid and final
Right of Entry Agreement (City)	X	X		X	Adds 6 to 18 months. Condemnation process can add another 24 months.
ROW permitting, including review by other utilities (City)			X	X	Can add up to 3 months, but conducted concurrent with SWM/ESC process.
Joint Permit for floodplain / wetland (MDE/ USACE)	X	X			Can add up to 6 months but is usually conducted concurrent with SWM/ESC process. Improved with MDE streamlined process.
Floodplain Management (City)		X			Up to 6 months, although is usually concurrent with the joint permit process.
Forest Conservation Act (FCA)	X	X			Can add up to 18 months, especially if project is on City owned land. Usually is conducted concurrent
Stormwater Management / Erosion and Sediment Control (SWM/ESC) (City)	X	X	X	X	Adds 2 to 3 months at 30, 60, and 90 % design phase. Final approval is pending FEMA, JPA, ROE, NPDES and FCA approvals.
Maryland NPDES General Construction Permit (MDE)	X	X	X	X	Concurrent with SWM/ ESC process.

Suggestions for reducing the time frame is as follows:

- State revolving loan funds
 - Reduce requirements for the (Preliminary Engineering Design Report). These types of projects don't lend themselves to PER as alternatives analysis. It's an extra step that is added. Alternatives analysis should be similar in consideration as JPA for stream restoration projects.
 - Reduce the number of reviews during the design phase or else decrease the effort (time required) for reviewing the final and bid documents.
- Right of entry agreements
 - Add more resources to DOT to complete appraisals.
 - Initiate communication with property owners during the planning phase, instead of waiting until the 30% design milestone. This may increase the duration of the planning phase but it could also identify challenges earlier in the project life cycle.
 - Evaluate riparian rights policies, regardless of property ownership.

- Process can include railroad coordination, but these locations should be avoided.
- Floodplain management
 - Improved coordination with Joint Permit Application process.
 - Delays were encountered with Jones Falls and potential revision of mapping of floodplain.
 - After construction there is another 6 months to a year for final approval: Conditional Letter of Map Revision (CLOMAR) requirements. Stream is assessed again to verify actual flood level.
- Forest Conservation Act
 - Process is subject to community input.
 - Finalize policy on invasive management and tree mitigation

7. What type of a project do you consider as “low-hanging fruit”? What is your remaining capacity of available “low-hanging fruit” projects (estimate the number and impervious acre treatment total)?

A low-hanging fruit project would be one that is:

- cost-effective (\$ / impervious surface restoration or \$ / lb pollutant removal);
- located on City-owned land with no other competing use (utilities, traffic or planned recreation);
- has minimal maintenance needs; and
- poses no risk to community aesthetics.

Baltimore City has no low-hanging fruit projects. The City owns less than 6% of the impervious area outside of the right-of-way and most of that land contains public service buildings or is used for active recreation. The clayey soils and development density reduce the types of traditional and ESD projects which could be installed. The elaborate storm sewer system includes over 52,000 inlets connected to 1,100 miles of pipe within 82 square miles of land, limiting interception and thus treatment opportunities for stormwater runoff. The development density also requires significant community outreach and collaboration throughout the implementation and maintenance phases of the project.

8. Complete the spreadsheet provided for restoration projects to be planned, designed, and/or constructed from 2020 through 2027. Include for each restoration project the estimated impervious acres treated, estimated total nitrogen (TN) reduction, and estimated total suspended sediments (TSS) reduction; any local total maximum daily load (TMDL) parameter (or other water quality objective) addressed; estimated cost; implementation status; and projected completion year. Include projects that will be in the planning or design phase but will not be completed until after 2025. This information should be more specific for the first reporting year but may be more generalized for the remaining reporting years.

The spreadsheet is submitted as the Project Portfolio. Per the FY 2018 MS4 Annual Report, Baltimore City achieved the 20% impervious surface restoration (ISR) requirement through the implementation of capital projects, so the City does not have any unmet obligations from the previous permit. Although operational efficiencies for street sweeping are anticipated with the installation of street signs and subsequent parking enforcement, plus the installation of inlet screens, no additional proposed restoration is proposed for the next permit, to be conservative and allow the City time to analyze the impacts of the program enhancements.

As noted in the 2018 Financial Assurance Plan, projects from the WIP which were still feasible but not completed by FY 2019 would be considered as proposed restoration for the next permit; however, the stream restoration projects and alternative projects are no longer applicable to the impervious area metric. Since that submittal, one traditional structural project (retro-fit of existing pond) was determined to be infeasible for expansion due to surrounding land uses (new utility by BGE). Additionally, two stream restoration projects have been put on hold due to community acceptance challenges (see Question 1).

9. Provide a copy of your 5 year CIP for restoration projects (2020-2027).

The 5-year CIP for restoration projects is shown in Attachment 3, but the appropriations for many of the projects listed in the project portfolio had appropriations approved prior to FY 2020.

10. Provide a copy of your operating budget for annual restoration projects (FY2019).

The operating budget for annual restoration projects is included as Attachment 4.

11. Provide a copy of your operating and maintenance budget for all BMPs implemented under the MS4 permit? (FY2019)

The operating budget for annual restoration projects is included as Attachment 4.

Description	Start	Dur (mon)	FY 1												FY 2												FY 3												FY 4												FY 5												FY 6												FY 7											
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Type 1 - Large BMP	M 1 FY 1	44	[Best Case Scenario (BCS) time frame]																																																																																			
	M 1 FY 1	77	[Worst Case Scenario (WCS) time frame]																																																																																			
Planning / site selection (internal)	M 1 FY 1	2	[Best Case Scenario (BCS) time frame]																																																																																			
	M 1 FY 1	5	[Worst Case Scenario (WCS) time frame]																																																																																			
Design contracting (consultant)	M 3 FY 1	6	[Best Case Scenario (BCS) time frame]																																																																																			
	M 6 FY 1	12	[Worst Case Scenario (WCS) time frame]																																																																																			
Design implementation (includes permitting)	M 9 FY 1	18	[Best Case Scenario (BCS) time frame]																																																																																			
	M 6 FY 2	30	[Worst Case Scenario (WCS) time frame]																																																																																			
Construction contracting (contractor and consultant)	M 3 FY 3	6	[Best Case Scenario (BCS) time frame]																																																																																			
	M 12 FY 4	12	[Worst Case Scenario (WCS) time frame]																																																																																			
Construction implementation	M 9 FY 3	12	[Best Case Scenario (BCS) time frame]																																																																																			
	M 12 FY 5	18	[Worst Case Scenario (WCS) time frame]																																																																																			
Type 2 - Stream Restoration Projects	M 1 FY 1	45	[Best Case Scenario (BCS) time frame]																																																																																			
	M 1 FY 1	84	[Worst Case Scenario (WCS) time frame]																																																																																			
Planning / coordination (internal)	M 1 FY 1	3	[Best Case Scenario (BCS) time frame]																																																																																			
	M 1 FY 1	12	[Worst Case Scenario (WCS) time frame]																																																																																			
Design contracting (consultant)	M 3 FY 1	6	[Best Case Scenario (BCS) time frame]																																																																																			
	M 1 FY 2	12	[Worst Case Scenario (WCS) time frame]																																																																																			
Design implementation (includes permitting)	M 9 FY 1	18	[Best Case Scenario (BCS) time frame]																																																																																			
	M 1 FY 3	30	[Worst Case Scenario (WCS) time frame]																																																																																			
Construction contracting (contractor and consultant)	M 4 FY 3	6	[Best Case Scenario (BCS) time frame]																																																																																			
	M 7 FY 5	12	[Worst Case Scenario (WCS) time frame]																																																																																			
Construction implementation (allows moratorium)	M 10 FY 3	12	[Best Case Scenario (BCS) time frame]																																																																																			
	M 7 FY 6	18	[Worst Case Scenario (WCS) time frame]																																																																																			
Type 3 - Alternative Projects (IA Removal)	M 1 FY 1	25	[Best Case Scenario (BCS) time frame]																																																																																			
	M 1 FY 1	53	[Worst Case Scenario (WCS) time frame]																																																																																			
Planning / coordination (internal)	M 1 FY 1	2	[Best Case Scenario (BCS) time frame]																																																																																			
	M 1 FY 1	8	[Worst Case Scenario (WCS) time frame]																																																																																			
Design contracting (consultant)	M 3 FY 1	6	[Best Case Scenario (BCS) time frame]																																																																																			
	M 9 FY 1	12	[Worst Case Scenario (WCS) time frame]																																																																																			
Design implementation (includes permitting)	M 9 FY 1	8	[Best Case Scenario (BCS) time frame]																																																																																			
	M 9 FY 2	15	[Worst Case Scenario (WCS) time frame]																																																																																			
Construction contracting (contractor and consultant)	M 5 FY 2	6	[Best Case Scenario (BCS) time frame]																																																																																			
	M 12 FY 3	12	[Worst Case Scenario (WCS) time frame]																																																																																			
Construction implementation (allows moratorium)	M 11 FY 2	3	[Best Case Scenario (BCS) time frame]																																																																																			
	M 12 FY 4	6	[Worst Case Scenario (WCS) time frame]																																																																																			
Type 4 - ESD Projects	M 1 FY 1	36	[Best Case Scenario (BCS) time frame]																																																																																			
	M 1 FY 1	63	[Worst Case Scenario (WCS) time frame]																																																																																			
Planning / coordination (internal)	M 1 FY 1	9	[Best Case Scenario (BCS) time frame]																																																																																			
	M 1 FY 1	12	[Worst Case Scenario (WCS) time frame]																																																																																			
Design contracting (consultant)	M 3 FY 1	6	[Best Case Scenario (BCS) time frame]																																																																																			
	M 9 FY 1	12	[Worst Case Scenario (WCS) time frame]																																																																																			
Design implementation (includes permitting)	M 9 FY 1	9	[Best Case Scenario (BCS) time frame]																																																																																			
	M 9 FY 2	15	[Worst Case Scenario (WCS) time frame]																																																																																			
Construction contracting (contractor and consultant)	M 5 FY 2	6	[Best Case Scenario (BCS) time frame]																																																																																			
	M 12 FY 3	12	[Worst Case Scenario (WCS) time frame]																																																																																			
Construction implementation (allows moratorium)	M 11 FY 2	6	[Best Case Scenario (BCS) time frame]																																																																																			
	M 12 FY 4	12	[Worst Case Scenario (WCS) time frame]																																																																																			

Noted
 Best Case Scenario (BCS) time frame
 Worst Case Scenario (WCS) time frame

City of Baltimore - Six Year Capital Program
Ordinance of Estimates Recommendation for: DPW: Pollution/Erosion Control

Attachment 3
CIP

Amounts in Thousands

525-006 Basin Inlets

Description: Design and implement prioritized areas identified in the open channel database plan required under the NPDES Permit for stormwater.
 Location: Citywide

Impact on FY 2020 Operating Budget : 0

Source of Funds	Appr. to date	2020	2021	2022	2023	2024	2025	Total
657 MDOT-County Transportation Revenue Bond	0	-351	0	0	0	0	0	-351
Total	0	-351	0	0	0	0	0	-351

525-034 ER-4121|Herring Run 84" Water Main Stream Restoration

Description: Stabilize stream bank and eroded sections of stream and protect 84" water main.
 Location: Herring Run

Impact on FY 2020 Operating Budget : 0

Source of Funds	Appr. to date	2020	2021	2022	2023	2024	2025	Total
305 Stormwater Revenue Bonds	2,484	1,200	0	0	0	0	0	3,684
Total	2,484	1,200	0	0	0	0	0	3,684

525-044 ER 4137|Lower Stony Run Reach 3 Repair

Description: Evaluate and repair approximately 900 linear feet of stream length.
 Location: Lower Stony Run

Impact on FY 2020 Operating Budget : 0

Source of Funds	Appr. to date	2020	2021	2022	2023	2024	2025	Total
305 Stormwater Revenue Bonds	0	0	1,739	0	0	0	0	1,739
405 Stormwater Utility Funds	652	0	156	0	0	0	0	808
Total	652	0	1,895	0	0	0	0	2,547

City of Baltimore - Six Year Capital Program
Ordinance of Estimates Recommendation for: DPW: Pollution/Erosion Control

Amounts in Thousands

525-051 ER-4076|Large Debris Collection System 5

Description: Debris collector will collect floatable waste and organic debris in stream to remove from the inner harbor. Installation of device will assist in meeting goals for MS4 permit and Trash TMDL.

Location: TBD

Impact on FY 2020 Operating Budget : 0

Source of Funds	Appr. to date	2020	2021	2022	2023	2024	2025	Total
305 Stormwater Revenue Bonds	0	0	0	0	0	0	216	216
405 Stormwater Utility Funds	0	0	0	0	0	540	168	708
610 State Water Quality Revolving Loan Fund	0	0	0	0	0	0	1,944	1,944
Total	0	0	0	0	0	540	2,328	2,868

525-052 ER-4077|Large Debris Collection System 6

Description: Debris collector will collect floatable waste and organic debris in stream to remove from the inner harbor. Installation of device will assist in meeting goals for MS4 permit and Trash TMDL.

Location: TBD

Impact on FY 2020 Operating Budget : 0

Source of Funds	Appr. to date	2020	2021	2022	2023	2024	2025	Total
305 Stormwater Revenue Bonds	0	0	0	0	0	0	216	216
405 Stormwater Utility Funds	0	0	0	0	0	540	168	708
610 State Water Quality Revolving Loan Fund	0	0	0	0	0	0	1,944	1,944
Total	0	0	0	0	0	540	2,328	2,868

City of Baltimore - Six Year Capital Program
Ordinance of Estimates Recommendation for: DPW: Pollution/Erosion Control

Amounts in Thousands

525-053 ER-4079|Large Debris Collection System 8

Description: Debris collector will collect floatable waste and organic debris in stream to remove from the inner harbor. Installation of device will assist in meeting goals for MS4 permit and Trash TMDL.

Location: TBD

Impact on FY 2020 Operating Budget : 0

Source of Funds	Appr. to date	2020	2021	2022	2023	2024	2025	Total
305 Stormwater Revenue Bonds	0	0	0	0	0	0	0	0
405 Stormwater Utility Funds	0	0	0	0	0	0	540	540
610 State Water Quality Revolving Loan Fund	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	540	540

525-054 ER-4080|Large Debris Collection System 9

Description: Debris collector will collect floatable waste and organic debris in stream to remove from the inner harbor. Installation of device will assist in meeting goals for MS4 permit and Trash TMDL.

Location: TBD

Impact on FY 2020 Operating Budget : 0

Source of Funds	Appr. to date	2020	2021	2022	2023	2024	2025	Total
305 Stormwater Revenue Bonds	0	0	0	0	0	0	0	0
405 Stormwater Utility Funds	0	0	0	0	0	0	540	540
610 State Water Quality Revolving Loan Fund	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	540	540

City of Baltimore - Six Year Capital Program
Ordinance of Estimates Recommendation for: DPW: Pollution/Erosion Control

Amounts in Thousands

525-055 ER-4096|Large Debris Collection System 10

Description: Debris collector will collect floatable waste and organic debris in stream to remove from the inner harbor. Installation of device will assist in meeting goals for MS4 permit and Trash TMDL.

Location: TBD

Impact on FY 2020 Operating Budget : 0

Source of Funds	Appr. to date	2020	2021	2022	2023	2024	2025	Total
305 Stormwater Revenue Bonds	0	0	0	0	0	0	0	0
405 Stormwater Utility Funds	0	0	0	0	0	0	540	540
610 State Water Quality Revolving Loan Fund	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	540	540

525-056 Facility Greening Project 14

Description: The ultimate goal for this project is to treat urban runoff and help meet the City's MS-4 permit requirement by removing pavement, meeting total maximum daily loads (TMDL's) for pollution and reducing nutrients and sediments.

Location: TBD

Impact on FY 2020 Operating Budget : 0

Source of Funds	Appr. to date	2020	2021	2022	2023	2024	2025	Total
405 Stormwater Utility Funds	0	0	0	81	161	0	0	242
610 State Water Quality Revolving Loan Fund	0	0	0	0	583	0	0	583
Total	0	0	0	81	744	0	0	825

City of Baltimore - Six Year Capital Program
Ordinance of Estimates Recommendation for: DPW: Pollution/Erosion Control

Amounts in Thousands

525-057 ER-4055|Urgent Need Stream Repair 2

Description: City is required to maintain streams from previous restoration projects by the City and USACE in order to maintain our credits under the MS4 permit. Study conducted by USFWS on previous restorations identified a number of areas that need to be repaired.

Location: Citywide

Impact on FY 2020 Operating Budget : 0

Source of Funds	Appr. to date	2020	2021	2022	2023	2024	2025	Total
305 Stormwater Revenue Bonds	0	0	0	214	432	1,941	1,742	4,329
Total	0	0	0	214	432	1,941	1,742	4,329

525-058 Facility Greening Project 15

Description: The ultimate goal for this project is to treat urban runoff and help meet the City's MS-4 permit requirement by removing pavement, meeting total maximum daily loads (TMDL's) for pollution and reducing nutrients and sediments.

Location: TBD

Impact on FY 2020 Operating Budget : 0

Source of Funds	Appr. to date	2020	2021	2022	2023	2024	2025	Total
405 Stormwater Utility Funds	0	0	0	0	81	161	0	242
610 State Water Quality Revolving Loan Fund	0	0	0	0	0	583	0	583
Total	0	0	0	0	81	744	0	825

City of Baltimore - Six Year Capital Program
Ordinance of Estimates Recommendation for: DPW: Pollution/Erosion Control

Amounts in Thousands

525-059 Facility Greening Project 16

Description: The ultimate goal for this project is to treat urban runoff and help meet the City's MS-4 permit requirement by removing pavement, meeting total maximum daily loads (TMDL's) for pollution and reducing nutrients and sediments.

Location: Facility Greening Project 16

Impact on FY 2020 Operating Budget : 0

Source of Funds	Appr. to date	2020	2021	2022	2023	2024	2025	Total
405 Stormwater Utility Funds	0	0	0	0	81	161	0	242
610 State Water Quality Revolving Loan Fund	0	0	0	0	0	583	0	583
Total	0	0	0	0	81	744	0	825

525-995 Biddison Run Stream Restoration

Description: This de-appropriation will make old, unused funds available for a new purpose. The project is now being funded with stormwater utility revenue.

Location: Biddison Run Stream Upstream of Moravia Road

Impact on FY 2020 Operating Budget : 0

Source of Funds	Appr. to date	2020	2021	2022	2023	2024	2025	Total
657 MDOT-County Transportation Revenue Bond	0	-141	0	0	0	0	0	-141
Total	0	-141	0	0	0	0	0	-141

Service 661: Public Right-Of-Way Cleaning

Priority Outcome: Quality of Life

Agency: Public Works

Service Description: This service cleans public rights-of-ways and clears debris away from storm drains to protect water quality. Activities include Street and Alley Cleaning, Mechanical Sweeping Operations, Cleaning of Business Districts, Marine Operations, and Graffiti Removal.

Fiscal 2017 Actual			Fiscal 2018 Budget		Fiscal 2019 Recommended	
Fund	Dollars	Positions	Dollars	Positions	Dollars	Positions
General	\$17,531,836	210	\$16,330,539	172	\$17,767,400	172
Stormwater	\$3,294,023	-	\$5,119,514	36	\$5,184,904	36
Special	\$380,125	9	\$400,000	3	\$400,000	3
TOTAL	\$21,205,984	219	\$21,850,053	211	\$23,352,304	211

PERFORMANCE MEASURES

Type	Measure	FY14 Actual	FY15 Actual	FY16 Actual	FY17 Target	FY17 Actual	FY18 Target	FY19 Target
Output	# of miles swept	100,726	101,667	111,625	120,000	107,222	130,000	130,000
Output	# of service requests completed (alleys, streets, lots, graffiti)	83,710	73,757	70,968	70,000	97,496	71,000	85,000
Effectiveness	% of alley cleaning service requests closed on time	90%	58%	61%	70%	63%	80%	85%
Effectiveness	% of service requests escalated	1.28%	0.78%	0.60%	0.50%	0.37%	0.40%	0.40%
Outcome	% of citizens rating the city's cleanliness excellent or good	20%	20%	N/A	25%	N/A	30%	35%

• Truck driver retention challenges, resident parking issues, and delayed expansion in the Central District were factors that contributed to the fewer number of miles swept in Fiscal 2017 versus Fiscal 2016.
 • The percentage of alley cleaning service requests closed on time indicates whether the quadrants closed dirty alley service requests within seven days or not; in Fiscal 2017, performance increased over Fiscal 2016, but high driver turnover contributed to missing this performance target.
 • In Fiscal 2017, the percentage of service requests escalated dropped to 0.37%; the Bureau has tightened its quality control checks by instituting second level reviews and strict before and after pictures of work done with the street address inserted.

MAJOR BUDGET ITEMS

- In Fiscal 2018, a General Fund transfer bill shifted funding from various agencies to education and youth programs, reducing new funding for high-capacity trash cans in business districts by \$300K. This adjustment is reflected for Fiscal 2019; \$300K remains in the budget over Fiscal 2017 for this initiative.

CHANGE TABLE-GENERAL FUND

FISCAL 2018 ADOPTED BUDGET	\$16,330,539
Changes with service impacts	
Decrease funding for high-capacity trash cans in business districts	(300,000)
Adjustments with no service impact	
Salary Adjustment	123,904
Adjustment for pension cost allocation	27,252
Adjustment for health benefit costs	(309,035)
Adjustment for City fleet rental and repair charges	1,688,756
Change in allocation for workers' compensation expense	12,370
Change in inter-agency transfer credits	4,002
Increase in employee compensation and benefits	120,611
Increase in contractual services expenses	50,913
Increase in operating supplies and equipment	18,088
FISCAL 2019 RECOMMENDED BUDGET	\$17,767,400

AGENCY: 6100 Public Works
 SERVICE: 661 Public Right-of-Way Cleaning

SERVICE BUDGET SUMMARY

	Actual FY 2017	Budgeted FY 2018	Recommended FY 2019	Change In Budget
EXPENDITURES BY OBJECT:				
0 Transfers	-13,206	173,988	177,990	4,002
1 Salaries	8,668,315	8,265,736	8,564,404	298,668
2 Other Personnel Costs	3,832,168	3,831,171	3,474,879	-356,292
3 Contractual Services	7,313,551	7,417,603	9,044,040	1,626,437
4 Materials and Supplies	721,955	1,037,418	1,058,086	20,668
5 Equipment - \$4,999 or less	144,167	87,154	89,159	2,005
7 Grants, Subsidies and Contributions	539,034	1,036,983	943,746	-93,237
TOTAL OBJECTS	\$21,205,984	\$21,850,053	\$23,352,304	\$1,502,251
EXPENDITURES BY ACTIVITY:				
2 Casino Support-Cleaning Waterways	49,701	0	150,000	150,000
3 Marine Operations	859,014	1,382,812	1,841,954	459,142
8 Cleaning of Business Districts	2,485,606	2,357,968	2,290,920	-67,048
13 Street & Alley Cleaning	11,890,711	11,957,704	12,971,759	1,014,055
14 Mechanical Sweeping Operation	4,900,127	5,119,514	5,184,904	65,390
15 Casino Support-Sanitation Staffing	330,424	400,000	250,000	-150,000
22 Graffiti Removal	690,401	632,055	662,767	30,712
TOTAL ACTIVITIES	\$21,205,984	\$21,850,053	\$23,352,304	\$1,502,251
EXPENDITURES BY FUND:				
General	17,531,836	16,330,539	17,767,400	1,436,861
Stormwater Utility	3,294,023	5,119,514	5,184,904	65,390
Special	380,125	400,000	400,000	0
TOTAL FUNDS	\$21,205,984	\$21,850,053	\$23,352,304	\$1,502,251

AGENCY: 6100 Public Works

SERVICE: 661 Public Right-of-Way Cleaning

SERVICE SALARIES AND WAGES FOR PERMANENT FULL-TIME FUNDED POSITIONS

Class Code	Position Class Title	Grade	FY 2018	FY 2019	Changes		Recommended	
			Budget	Projected	Number	Amount	FY 2019	Budget
			Number	Amount	Number	Amount	Number	Amount
General Fund								
1	Permanent Full-time							
33212	OFFICE SUPPORT SPECIALIST II	075	3	101,642	0	0	3	101,642
33213	OFFICE SUPPORT SPECIALIST III	078	5	186,720	0	0	5	186,720
33562	STOREKEEPER II	080	1	33,272	0	0	1	33,272
52931	LABORER (HOURLY)	482	99	3,320,159	-8	-268,295	91	3,051,864
52932	LABORER CREW LEADER I	486	2	67,783	0	0	2	67,783
53811	SOLID WASTE WORKER	485	0	0	7	219,289	7	219,289
53814	SOLID WASTE LEAD WORKER	434	9	400,287	0	0	9	400,287
53815	SOLID WASTE SUPERVISOR	089	4	216,459	0	0	4	216,459
53816	SOLID WASTE SUPERINTENDENT	923	2	144,126	0	0	2	144,126
53818	ASSISTANT CHF, SOLID WASTE DIV	931	1	95,977	0	0	1	95,977
54411	MOTOR VEHICLE DRIVER I (HOURLY)	487	17	594,795	0	0	17	594,795
54412	MOTOR VEHICLE DRIVER II (HRLY)	490	12	449,412	1	37,451	13	486,864
54437	DRIVER I	424	12	423,147	0	0	12	423,147
54513	MARINE EQUIPMENT OPERATOR I	427	2	65,332	-1	-32,666	1	32,666
54514	MARINE EQUIPMENT OPERATOR II	430	3	121,530	1	40,510	4	162,040
Total 1 Permanent Full-time			172	6,220,641	0	-3,711	172	6,216,931
Stormwater Utility Fund								
1	Permanent Full-time							
31110	OPERATIONS OFFICER II	927	1	52,296	-1	-52,296	0	0
31114	OPERATIONS MANAGER I	939	0	0	1	83,856	1	83,856
33213	OFFICE SUPPORT SPECIALIST III	078	1	40,882	0	0	1	40,882
53813	MECHANICAL SWEEPER OPERATOR	491	28	1,112,746	0	0	28	1,112,746
53814	SOLID WASTE LEAD WORKER	434	2	79,268	0	0	2	79,268
53815	SOLID WASTE SUPERVISOR	089	2	116,375	0	0	2	116,375
53816	SOLID WASTE SUPERINTENDENT	923	1	60,690	0	0	1	60,690
54437	DRIVER I	424	1	36,249	0	0	1	36,249
Total 1 Permanent Full-time			36	1,498,506	0	31,560	36	1,530,066
Special Fund								
1	Permanent Full-time							
52941	LABORER	423	2	63,912	0	0	2	63,912
54422	MOTOR VEHICLE DRIVER II	430	1	34,994	0	0	1	34,994
Total 1 Permanent Full-time			3	98,906	0	0	3	98,906
Total All Funds			211	7,818,053	0	27,849	211	7,845,903

Service 674: Surface Water Management

Priority Outcome: Quality of Life

Agency: Public Works

Service Description: This service provides for the protection, enhancement, and restoration of watersheds within the City of Baltimore and the Chesapeake Bay tributaries through water quality management and compliance measures mandated by the EPA and the Clean Water Act. This service maintains 1,146 miles of storm drain pipe, 52,438 inlets, 27,561 manholes, 1,709 outfalls, 4 stormwater pumping stations, and 5 debris collectors.

Fund	Fiscal 2017 Actual		Fiscal 2018 Budget		Fiscal 2019 Recommended	
	Dollars	Positions	Dollars	Positions	Dollars	Positions
Federal	-	-	\$100,000	-	\$100,000	-
Stormwater	\$14,895,871	101	\$20,971,822	105	\$21,310,064	109
Wastewater	\$1,280,416	17	\$1,641,018	17	\$1,765,498	17
Water	\$411,888	3	\$565,357	3	\$556,969	3
State	-	-	\$300,000	-	\$300,000	-
TOTAL	\$16,588,175	121	\$23,578,197	125	\$24,032,531	129

PERFORMANCE MEASURES

Type	Measure	FY14 Actual	FY15 Actual	FY16 Actual	FY17 Target	FY17 Actual	FY18 Target	FY19 Target
Output	% construction sites inspected/2 weeks	80%	90%	74%	95%	74%	95%	85%
Output	Impervious area (acres) treated/year (construction initiated by City)	125	0	0	200	44	500	10
Effectiveness	# of inlets routinely cleaned on quarterly basis	20	30	420	1,000	1,092	1,000	1,600
Outcome	% Stormwater Management and Erosion and Sediment Control (SWM/ESC) Plans Review responses within 14 days	30%	25%	13%	40%	16%	45%	45%
Outcome	Miles/year of inventory completed for small pipes for illicit connection	3	4	1	10	0	10	0

- The percentage of construction sites inspected every two weeks is highly contingent on the number of construction projects occurring simultaneously; there has been a trend of increased development/construction projects in Fiscal 2016 and Fiscal 2017. Increased staffing and the use of tablets for routine inspections has started to improve efficiency in pollution source tracking.
- The impervious area (acres) treated/year varies yearly per the Capital Improvement Program, stormwater fee revenue, and the ability to obtain debt service; there is a regulatory mandate to restore 20% of the City's untreated impervious area.
- The number of inlets routinely cleaned on a quarterly basis has steadily increased due to community outreach, education, and code enforcement for little reduction; Cityworks software has also been used to facilitate the scheduling and tracking of performance of inlet cleaning. Inlets choked with trash and woody debris lead to flooding, poor aesthetics, and attract rats within storm inlet structures.

MAJOR BUDGET ITEMS

- The recommended funding for this service defunds two existing Stormwater Utility Fund positions and funds six additional positions per the operational needs of the service in Fiscal 2019.
- This service will increase debt service by \$1.1M for \$41M in revenue bonds for stormwater management projects in Fiscal 2019.
- 138 projects will control runoff from 930 acres of impervious area, including 14 stream restorations, 107 environmental site designs, 15 impervious area removals, and 2 stormwater quality ponds. Of these 138 projects, 4 have been completed, 3 projects are under construction, and 131 projects are under design.

AGENCY: 6100 Public Works
 SERVICE: 674 Surface Water Management

SERVICE BUDGET SUMMARY

	Actual FY 2017	Budgeted FY 2018	Recommended FY 2019	Change In Budget
EXPENDITURES BY OBJECT:				
0 Transfers	872,118	816,445	594,107	-222,338
1 Salaries	5,707,927	7,534,704	7,634,135	99,431
2 Other Personnel Costs	2,485,607	2,681,591	2,681,698	107
3 Contractual Services	3,173,177	6,581,116	5,883,989	-697,127
4 Materials and Supplies	271,716	445,964	432,096	-13,868
5 Equipment - \$4,999 or less	176,589	94,715	196,117	101,402
6 Equipment - \$5,000 and over	312,787	582,493	655,200	72,707
7 Grants, Subsidies and Contributions	324,748	263,036	277,480	14,444
8 Debt Service	3,263,506	4,578,133	5,677,709	1,099,576
TOTAL OBJECTS	\$16,588,175	\$23,578,197	\$24,032,531	\$454,334
EXPENDITURES BY ACTIVITY:				
1 Maintenance & Repair of Stormwater Systems	5,498,081	5,872,213	5,983,135	110,922
2 Waterway Maintenance	476,189	750,865	738,356	-12,509
3 Water Quality Monitoring and Inspections	1,475,366	2,013,164	2,124,361	111,197
4 Watershed Liaison	241,293	958,461	985,265	26,804
5 Surface Water Engineering	1,568,382	1,017,177	1,000,599	-16,578
6 Administration	2,212,587	3,016,004	3,455,285	439,281
7 Flood Warning	54,695	75,000	76,725	1,725
8 Debt Service	3,263,506	4,578,133	4,088,820	-489,313
9 Plans Review	1,551,584	2,097,306	2,307,723	210,417
11 Environmental Affairs section	28,862	180,645	185,673	5,028
26 Transfers	77,884	0	0	0
31 Preventive Maintenance	23,772	1,952,000	2,000,000	48,000
32 Maintenance Information	115,974	835,361	836,589	1,228
33 Planning and Analysis	0	231,868	250,000	18,132
TOTAL ACTIVITIES	\$16,588,175	\$23,578,197	\$24,032,531	\$454,334
EXPENDITURES BY FUND:				
Wastewater Utility	1,280,416	1,641,018	1,765,498	124,480
Water Utility	411,888	565,357	556,969	-8,388
Stormwater Utility	14,895,871	20,971,822	21,310,064	338,242
Federal	0	100,000	100,000	0
State	0	300,000	300,000	0
TOTAL FUNDS	\$16,588,175	\$23,578,197	\$24,032,531	\$454,334

AGENCY: 6100 Public Works

SERVICE: 674 Surface Water Management

SERVICE SALARIES AND WAGES FOR PERMANENT FULL-TIME FUNDED POSITIONS

Class Code	Position Class Title	Grade	FY 2018	FY 2019	Changes		Recommended	
			Budget	Projected	Number	Amount	FY 2019	Budget
			Number	Amount	Number	Amount	Number	Amount
Wastewater Utility Fund								
1	Permanent Full-time							
33213	OFFICE SUPPORT SPECIALIST III	078	1	41,971	0	0	1	41,971
42213	PUBLIC WORKS INSPECTOR III	092	1	60,340	0	0	1	60,340
71212	POLLUTION CONTROL ANALYST II	089	5	263,580	0	0	5	263,580
71213	POLLUTION CONTROL ANALYST III	093	3	220,580	0	0	3	220,580
72111	ENGINEER I	927	2	136,272	0	0	2	136,272
72711	ENGINEERING ASSOCIATE I	087	2	91,071	0	0	2	91,071
72712	ENGINEERING ASSOCIATE II	089	2	106,496	0	0	2	106,496
72713	ENGINEERING ASSOCIATE III	092	1	63,440	0	0	1	63,440
	Total 1 Permanent Full-time		17	983,750	0	0	17	983,750
Water Utility Fund								
1	Permanent Full-time							
71212	POLLUTION CONTROL ANALYST II	089	1	64,071	0	0	1	64,071
71213	POLLUTION CONTROL ANALYST III	093	1	72,209	0	0	1	72,209
71215	POLLUTION CONTROL ANALYST SUPV	927	1	83,856	0	0	1	83,856
	Total 1 Permanent Full-time		3	220,136	0	0	3	220,136
Stormwater Utility Fund								
1	Permanent Full-time							
10233	WWW DIVISION MANAGER II	942	1	115,974	0	0	1	115,974
31111	OPERATIONS OFFICER III	929	1	89,058	0	0	1	89,058
31312	ADMINISTRATIVE ANALYST II	923	0	0	1	89,058	1	89,058
31754	GRANTS PROCUREMENT OFFICER	904	1	67,626	0	0	1	67,626
33187	GIS ANALYST	927	3	200,879	0	0	3	200,879
33212	OFFICE SUPPORT SPECIALIST II	075	2	65,738	0	0	2	65,738
33213	OFFICE SUPPORT SPECIALIST III	078	1	36,521	0	0	1	36,521
42211	PUBLIC WORKS INSPECTOR I	084	1	37,741	0	0	1	37,741
42212	PUBLIC WORKS INSPECTOR II	087	4	187,408	0	0	4	187,408
42213	PUBLIC WORKS INSPECTOR III	092	2	128,826	0	0	2	128,826
42221	CONSTRUCTION PROJECT SUPV I	923	0	0	1	63,240	1	63,240
42255	ENVIRONMENTAL INSPECTION SUPV	090	1	55,632	-1	-55,632	0	0
42911	INSPECTOR TRAINEE	073	0	0	2	57,362	2	57,362
52221	MASON I	429	3	113,192	0	0	3	113,192
52225	MASON SUPERVISOR	087	1	57,334	0	0	1	57,334
52931	LABORER (HOURLY)	482	27	890,946	0	0	27	890,946
52932	LABORER CREW LEADER I	486	2	74,338	0	0	2	74,338
52943	LABORER CREW LEADER II	429	4	165,676	0	0	4	165,676
53513	UTILITIES INSTALLER REPAIR III	428	2	74,315	0	0	2	74,315
53515	UTILITIES INSTALLER REPAIR S I	082	3	134,166	0	0	3	134,166
53516	UTILITIES INSTALLER REPAIR SII	087	1	51,996	0	0	1	51,996
53523	GENL SUPT UTILITIES MAINT REP	927	1	67,932	0	0	1	67,932
53562	UTILITY INVESTIGATOR	087	1	42,131	0	0	1	42,131
54411	MOTOR VEHICLE DRIVER I (HOURLY)	487	9	319,009	0	0	9	319,009
54412	MOTOR VEHICLE DRIVER II (HRLY)	490	3	123,951	0	0	3	123,951
54431	HEAVY EQUIPMENT OPERATOR I	429	1	38,885	0	0	1	38,885
54432	HEAVY EQUIPMENT OPERATOR II	433	3	126,480	0	0	3	126,480
71216	POLLUTION CONTROL PROGRAM ADMN	936	1	86,802	0	0	1	86,802
72111	ENGINEER I	927	8	568,792	1	71,099	9	639,891
72113	ENGINEER II	929	7	553,364	-1	-79,052	6	474,312

AGENCY: 6100 Public Works

SERVICE: 674 Surface Water Management

SERVICE SALARIES AND WAGES FOR PERMANENT FULL-TIME FUNDED POSITIONS

Class Code	Position Class Title	Grade	FY 2018	FY 2019	Changes		Recommended	
			Budget	Projected	Number	Amount	FY 2019	Budget
			Number	Amount	Number	Amount	Number	Amount
72115	ENGINEER SUPERVISOR	936	3	277,032	0	0	3	277,032
72712	ENGINEERING ASSOCIATE II	089	2	109,731	0	0	2	109,731
72713	ENGINEERING ASSOCIATE III	092	1	51,800	0	0	1	51,800
74136	CITY PLANNER I	923	0	0	1	78,966	1	78,966
74137	CITY PLANNER II	927	1	75,174	0	0	1	75,174
90000	NEW POSITION	900	4	213,368	0	0	4	213,368
Total 1 Permanent Full-time			105	5,201,817	4	225,041	109	5,426,858
Total All Funds			125	6,405,703	4	225,041	129	6,630,744

Financial Capacity Spreadsheet			
1	County/City Name	Baltimore City, MD	
2	Cost As A Percent Of Household Income		
2a	Median Household Income (MHI)	\$	46,641
2b	Total Number Of Households In Jurisdiction		239,791.00
2c	Average Annual Cost For Public Stormwater Related Management Programs	\$	18,109,000.00
2d	Annual Cost For Public Stormwater Related Management Programs Per Household	\$	75.52
2e	% Of MHI Spent On Public Stormwater Related Management Programs		0.16%
2f	Total Annual Stormwater Remediation Fee Per Household	\$	60.00
2g	% Of MHI Spent Annually On Stormwater Remediation Fee		0.13%
3	Cost Of Impervious Surface Restoration As A Percent Of Household Income		
3a	Total In Previous Permit Term Spent On The Impervious Surface Restoration Plan (ISRP)	\$	50,984,013.00
3b	Average Annual Cost Of The ISRP During The Previous Permit Term	\$	10,196,802.60
3c	Annual Cost Of The ISRP Per Household During The Previous Permit Term	\$	42.52
3d	% Of MHI Spent On The ISRP During The Previous Permit Term		0.09%
3e	Total Projected Cost For Restoration Portfolio	\$	129,859,219.00
3f	Projected Annual Cost For Restoration Portfolio	\$	25,971,843.80
3g	Projected Annual Cost For Restoration Portfolio Per Household	\$	108.31
3h	% Of MHI Spent On Projected Cost Of Restoration Portfolio		0.23%
4	Cost For Low-Income Residential Customers As A Percent Of Household Income		
4a	Percentage Of Households With Annual Income <\$25,000		29.50%
4b	% Of Income For Low Income Households Spent On Public Stormwater Related Management Programs		0.30%
4c	% Of Income For Low Income Households Spent On Stormwater Remediation Fees		0.24%
4d	% Of Income For Low Income Household Spent On The ISRP		0.17%
4e	% Of MHI For Low Income House Spent On Projected Cost Of Restoration Portfolio		0.43%
5	Key Socioeconomic Indicators		
5a	Percentage Unemployed		6.10%
5b	Median Household Income	\$	46,641
5c	Percent Of Individuals (All People) Below Poverty Level		22.40%
6	Financial Capacity Indicators		
6a	Debt Indicators	Bond Rating – GO ¹ Bonds	
6b		Bond Rating – Revenue Bonds	
6c		Net Debt As A % Of FMPV ²	
6d	Financial Management Indicators	Property Tax Revenues As % Of FMPV	
6e		Property Tax Revenue Collection Rate	

Notes:

1. GO = General Obligation

2. FMPV = Full Market Property Value

Moody's	Aaa
	Aa
	A
	Baa
	Ba
	B
	Caa
	Ca
	C
S&P	AAA
	AA
	A
	BBB
	BB
	B
	CCC
	CC
	R
	SD
	D

Parameter from 2017 ACS	2017 Value
National Average MHI	\$ 57,652.00
National Percent Unemployed	4.1%
National Percent of Individuals Below Poverty Level	14.6%