

Admin & Support

Program Description & Goals

The Administration and Support Program (via the Director’s Office and Deputy Director’s Office of Strategy, Innovation and Performance) provides the organization with high-level leadership, strategic guidance and effective oversight of the Bureau. It leads the Bureau’s workforce development and equity plan; ensures timely and appropriate response to the public, ratepayers and regulatory agencies; and functions as the primary liaison between the Bureau, City Council and other bureaus.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
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Explanation of Services

The Bureau of Environmental Services (BES) provides critical services through its management of the City’s wastewater and stormwater infrastructure and protection of public health and the environment. The Bureau is highly regulated under the Clean Water Act, Safe Drinking Water Act and Endangered Species Act and as such must ensure compliance with federal and state regulators. To facilitate regulatory compliance, BES must in turn locally regulate, monitor and enforce environmental policies. The staff that provide the oversight, accountability and coordination of this critical work is organized into two work groups, which provide the following activities:

1) Director’s Office –

- Provides policy direction and executive-level strategic planning
- Coordinates the Bureau’s 28 programs, within five operating groups
- Represents the City and the Bureau to the public, elected officials, other agencies and bureaus, jurisdictions, community groups and organizations
- Responds to legal issues and requests for public records

2) Office of Strategy, Innovation and Performance –

- Leads and consults on the implementation of the Strategic Plan
- Implements the Bureau’s equity plan, which focuses on improving (1) outcomes for internal employees in recruitment and opportunities, and (2) service delivery for external communities of color and low-income households
- Implements the Bureau’s workforce development plan, which focuses on improving training opportunities for employee growth and improving employee recognition and wellbeing
- Manages Bureau communications staff, who coordinate internal and external communication
- Coordinates improvement of the internal and external code, rules and policy development
- Supports two utility advisory groups: the Portland Utility Board and the Citizens’ Utility Board
- Serves as legislative liaison with the Government Relations Office

Equity Impacts

The BES Equity Plan, adopted in 2016, provides measurable actions that BES continues to implement and track toward its goal of delivering optimally equitable services. In 2018, BES reaffirmed its commitment to equity with the BES 10-Year Strategic Plan, which incorporates a greater engagement with community-based organizations and culturally specific communities to better understand and measure the effects of BES services within these communities. As BES builds this capacity and framework, it is also developing evaluative data to support positive racial equity outcomes and equitable service levels.

The Administration and Support Program (via the Director's Office and Deputy Director's Office of Strategy, Innovation and Performance) leads the implementation of the Bureau's Equity Plan and Strategic Plan. Working with the employee Committee for Equity and Diversity, this program will assess priorities and resource needs to achieve equity outcomes throughout the year.

Changes to Program

The FY 2019-20 Requested Budget accommodates (via technical adjustments) changes to the organizational reporting structure that occurred in FY 2018-19:

- The Office of Strategy, Innovation, and Performance was newly established within the Director's office. This team, which reports to the Deputy Director, will lead the Bureauwide innovation and continuous improvement to help the Bureau achieve the goals and outcomes in the Strategic Plan.
- The bureauwide Emergency Management Program was moved to the Bureau Support Program (within the Business Services Group).
- Development services functions (see Systems Development Program) was moved from the Engineering and Pollution Prevention groups and now reports to the Director. This change is intended to better facilitate Bureauwide coordination and efficient operation and collaboration with partner bureaus that are responsible for development and permit-related functions.

None of these changes resulted in a direct budgetary adjustment, and all changes are expected to improve efficiency, collaboration and, ultimately, program outcomes.

The budgetary changes in the Administration and Support Program are an addition of \$150,000 in ongoing resources to support implementation of the Bureau's Strategic Plan, and \$15,000 ongoing to support an intern (via Portland State University) to support implementation of the Bureau's equity objectives. These additions are expected to (1) specifically address the Bureau's strategic initiative to evaluate existing service delivery and decision-making systems so that those systems align with the Strategic Plan, and (2) deliver services equitably.

Program Budget

Bureau Support

Program Description & Goals

The Bureau Support Program manages the business and administrative needs of the Bureau in accordance with City administrative rules and requirements. The overarching goal of this program is to provide the administrative and support functions that (1) guide employees toward efficient, cost-effective processes and practices that encourage accountability, consistency and transparency, and (2) align with the Bureau’s strategic goals.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
Amount of time loss, in hours per employee, due to injury	2.80	2.40	0	2.00	0

Explanation of Services

Bureau Support provides the basic services required for most administrative operations Bureauwide. Within the Business Services Group, Administrative Services provides human resources administration, facility and property management, and fleet and telecommunications coordination. Risk Services provides risk management, safety, loss prevention, emergency management, security support services, and management oversight of the Owner Controlled Insurance Programs (OCIP) for capital construction projects. Contract Management oversees contract coordination, the Bureau’s Contracting Opportunities Program, and Grant Management. Management of the Wastewater Group’s fleet, stores and facilities are also included in the Bureau Support Program.

The program results in coordinated decision-making regarding the following activities:

- Human resources (recruitment, hiring and HR management/administration)
- Facilities management (including security and property management responsibilities)
- Management of fleet vehicles
- Contracting that meets operating, capital, City Council and community objectives
- Risk management, employee safety and the City’s Owner-Controlled Insurance Program
- The Bureau’s emergency management program
- Centralized administrative coordination with partner bureaus and agencies, especially the Office of Management and Finance.

Equity Impacts

The Bureau Support Program manages the Contracting Opportunity Program, which performs extensive outreach within the Minority, Women, and Emerging Small Business (M/W/ESB) contracting community, to support and encourage contracting and subcontracting opportunities with BES. Equity considerations are also written into grant and contract agreements; those agreements have resulted in an increase of contracts awarded to minority businesses.

This program also works closely with the Bureau of Human Resources to promote and support recruitment and employee retention strategies to achieve Citywide and Bureau equity goals.

Changes to Program

The FY 2019-20 Requested Budget accommodates (via technical adjustments) moving the Bureauwide Emergency Management Program from Administration and Support (in the Director's Office) to Bureau Support (within the Business Services Group). This organizational change is expected to improve the Bureau's ability to advance priorities in the emergency preparation work plan by better integrating emergency activities Bureauwide and by improving coordination with and among other City partners. There is no budget impact resulting from this change.

Within the Business Services Group, a net increase of approximately \$150,000 is requested to accommodate additional expenses expected to be incurred to facilitate move-in to the Portland Building. Although most costs are covered by the Portland Building Reconstruction Project, some costs – such as document management, specialty furniture/equipment considerations and relocating staff in the Pioneer Tower – will not be paid for from Portland Building Reconstruction Project resources. This expense is expected to continue in FY 2020-21.

Also within the Business Services Group, the Requested Budget adds \$100,000 ongoing to continue prior, successful efforts to use Parks Bureau ranger staff (via interagency agreements) to patrol BES-owned properties around the Springwater Corridor to prevent unauthorized camping that damages sensitive watershed areas. This service was provided via a prior interagency agreement with the Parks Bureau and was extended via one-time funding in FY 2018-19. This continuation addresses the Bureau's strategic initiative to use interbureau partnerships to deliver services in the efficient and effective ways possible.

Within the Wastewater Group, the Requested Budget adds \$150,000 in ongoing allocation to make progress in addressing a major backlog of maintenance needs at the treatment plants. Modest progress is now feasible because a new Facilities Services Manager was hired in FY 2018-19. This funding also will be used to develop a proactive maintenance plan and schedule that is expected to be more cost-effective than the prior incomplete and wholly reactive approach to maintenance.

The Requested Budget also reflects changes to a variety of interagency agreements with other City bureaus (Risk Services, OMF-Facilities, Printing & Distribution, Technology Services) and government partners (Multnomah County Drainage District). All changes to Bureau Support Program interagency agreements in FY 2019-20 are at or below the amounts previously forecast by the Bureau.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
Capital Outlay	167,157	-2,868,127	2,613,107	538,500
External Materials and Services	2,025,654	735,853	1,921,709	2,237,144
Internal Materials and Services	5,514,619	7,212,132	6,905,317	8,040,320
Personnel	2,035,200	2,134,469	2,221,709	2,507,316
Fund Expense				
Debt Service	0	0	0	0
Sum:	9,742,630	7,214,326	13,661,842	13,323,280
	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	18.75	17.7	21	19.7
Sum:	18.75	17.7	21	19.7

Resources: Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

Expenses: Primary expenses for this program include personnel, capital outlay for fleet life-cycle replacements, facility repair and maintenance costs, lease expenses, and payment of utility costs. Internal service costs include certain centralized telecommunication charges, rental costs for facilities, and payments to Risk Management for liability insurance, worker's compensation, and property insurance.

The FY 2017-18 capital outlay reflects a central accounting adjustment made after the end of the fiscal year to reverse vehicle charges and move them to FY 2018-19.

Increases to Internal Materials and Services in FY2019-20 are primarily due to increases to interagency agreements with City Fleet, Procurement Services, and Parks.

Staffing: 22 positions support this program with approximately 2.3 FTE allocated to capital projects within the Project Management and Controls Program. Positions include Supervisors (2), Analysts (4), Risk Specialists (3), Storekeepers (3), Administrative Specialists (2), Office Support Specialists (2), Coordinators (5), and a Manager I.

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau: Bureau of Environmental Services
<https://www.portlandoregon.gov/bes/>

Program Contact: Ken Bartocci

Website: bes/

Contact Phone (503) 823-6022

Communications

Program Description & Goals

The Communications Program employs a variety of communication tools and methods to promote awareness of and involvement in the work of the Bureau. The program encourages public interest and engagement with the Bureau, to promote behaviors and activities that support stewardship of the public sewer and stormwater systems. The Communications Program is strongly aligned to the strategic goal area of Community Relationships, which aims to build strong community relationships and be a trusted service provider.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
Number of bureau education programs delivered	508	431	0	400	0

Explanation of Services

The Communications Program manages the Bureau’s internal and external communications, media relations, social media, graphic design, community outreach and science education programs. The team provides services directly to BES employees, assisting them in communicating with and engaging their target audiences to achieve Bureau, City and community goals. Activities include developing and implementing strategic communications plans, messages and communications content, as well as advising on appropriate methods of distributing information to BES and City employees, City Council and community audiences.

Frequent and open communication with the public has many benefits:

- Increased transparency about how BES uses ratepayer funding to build and maintain sewer and stormwater infrastructure and protect public health and the environment
- Increased public awareness of issues facing the Bureau and the sewer and stormwater system
- Better relationships and partnerships with the public
- More awareness of how the public can work with BES to protect sewer infrastructure and the environment (such as not dumping grease down the drain, reducing pesticide use on lawns, and reporting illegal dumping, pollution and spills)
- Increased support for Bureau efforts
- Provision of information about Bureau projects and programs directly to the public, so that people do not have to rely solely on the media and social media to learn about Bureau activities

Equity Impacts

The Communications Program works directly with Portland’s communities of color and people with disabilities to ensure and improve access to BES services.

Changes to Program

Changes in the media landscape, community expectations regarding access to information and potential changes in regulatory requirements necessitate ongoing review of communications strategies and tactics. In addition, implementing the Strategic Plan has required a significant increase in the amount and importance of internal communications.

Portland's demographics are changing, and consequently the Bureau's engagement and outreach efforts need to be responsive to the needs of a wide range of communities. This has resulted in a significant increase in the need for enhanced cultural responsiveness, language resources and culturally specific outreach and engagement.

There are no major discretionary budgetary changes to the Communications Program in the FY 2019-20 Requested Budget.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
Capital Outlay	0	0	35,000	0
External Materials and Services	104,129	160,043	373,571	373,571
Internal Materials and Services	60,946	78,932	80,530	34,745
Personnel	876,769	1,054,441	993,470	1,018,081
Sum:	1,041,844	1,293,416	1,482,571	1,426,397
	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	6	8.1	13	7.55
Sum:	6	8.1	13	7.55

Resources: Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

Expenses: Expenses for this program include personnel and funding for public service, awareness and outreach campaigns. Internal service costs are primarily attributable to printing and distribution of materials.

Staffing: 13 positions support this program with approximately 5.45 FTE allocated to capital projects within the Project Management and Controls Program Area for public outreach on construction projects. Positions include a Public Information Manager and Officer, Coordinators (10), and a Graphic Designer.

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau: Bureau of Environmental Services

Program Contact: Ken Bartocci

<https://www.portlandoregon.gov/>

Website: bes/

Contact Phone (503) 823-6022

Employee Development

Program Description & Goals

The Employee Development Program is aligned with the strategic goal area of Workforce Development, which involves developing, retaining and attracting highly skilled, diverse and knowledgeable employees that can meet the challenges ahead. This program identifies and coordinates training needs and solutions for managers and employees, manages the employee recognition program and ensures that employees complete required trainings. The Wastewater Group’s Learning and Development work unit is also budgeted within the Employee Development Program.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
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Explanation of Services

The Bureau’s Strategic Plan identifies Workforce Development as one of six key goal areas. To achieve its strategic outcomes, the Bureau needs a highly engaged and committed workforce. Nearly one-quarter of the Bureau’s workforce will be eligible to retire over the next five years. In addition, new ways of working require that employees be trained in current processes, best practices and technology. Cross training and information sharing, as well as training the new generation of workers, are critical to ensuring the Bureau’s long-term success.

Another critical goal is ensuring the safety of our employees and the public. The Employee Development Program works closely with the Bureau’s Risk Services Division to develop and update the Bureau’s list of required safety trainings. Trainings that are offered to employees are tracked and reported quarterly.

The Bureau’s Strategic Plan has identified professional development and cross-training opportunities as strategic initiatives. The Employee Development Program aims to research key training needs for each job classification and identify appropriate training opportunities.

The Wastewater Group’s Learning & Development work unit completes assessment and ongoing management of training needs for Wastewater Group staff and related functions. It also provides support for succession planning and employee transition through knowledge capture, skill development and program/work unit orientations, and supports advancement of workforce initiatives that can encourage workforce diversity and career advancement such as trainees, apprentices and interns.

BES has a successful onboarding program (implemented in FY 2017-18) and employee recognition program that help employees understand the Bureau’s varied, interconnected areas of work and how employees’ work supports our mission. The Bureau’s PEER program improves BES culture and empowers employees to address workplace and personal challenges.

Equity Impacts

This program monitors and reports on the BES Equity Plan's participation goal that all employees complete 8 hours of racial equity and workplace diversity training annually, to build their skills and understanding of these issues.

In addition, bureauwide efforts are underway to develop improved organizational initiatives and employee development tools to advance career opportunities and encourage a diverse workforce.

Changes to Program

There are no requested budgetary additions to the Employee Development Program in FY 2019-20. However, this year's budget folds the Wastewater Group Learning and Development unit into the Employee Development Program (from the Wastewater Services Program).

Future increases to the Employee Development Program are possible, given that the Bureau's Strategic Plan emphasizes workforce development as one of the six primary goal areas, with strategic initiatives that include expanding options for and implementing professional development and cross-training opportunities. Additionally, the City's Bureau of Human Resources (BHR) recently implemented a new training application for employees that has increased the Bureau's responsibilities to enter and track data within the system. The Employee Development Program will be working closely with BHR to (1) ensure that BES managers and employees know what trainings are required and whether they have been completed, and (2) provide training on how to use the new system.

Currently, some activities related to employee development are dispersed throughout various individual program budgets. The Bureau anticipates this to be reconsidered in future year budget requests.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
External Materials and Services	19,361	95,280	37,220	37,220
Internal Materials and Services	0	273	0	70,210
Personnel	718,240	718,722	0	116,357
Sum:	737,601	814,275	37,220	223,787
	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	0	0	0	1
Sum:	0	0	0	1

Resources: Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

Expenses: Expenses for this program include personnel, payment of professional licenses and an internal transfer to the Bureau of Human Resources for the Bureau's share of a professional development fund for the PTE-17 and DCTU unions.

Staffing: 1 Management Analyst supports this program and has been allocated from the Wastewater Services Program.

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau: Bureau of Environmental Services
<https://www.portlandoregon.gov/>

Program Contact: Ken Bartocci

Website: bes/

Contact Phone (503) 823-6022

Finance

Program Description & Goals

The Finance Program includes budget development, accounting, financial forecasting, debt management, rate and fee development, project tracking, year-end financial reporting, wholesale service contract administration, management of the Clean River Rewards stormwater discount program and support for the Nonconforming Sewer program (managed by the Systems Development Program). The Finance program budget also includes required Utility License Fee payments. The Finance Program monitors, manages and administers more than \$950 million in transfers for the payment of legally required debt service, transfers to and from the Rate Stabilization Fund, transfers to and from the Construction Fund and fund contingency.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
Maintain the bureaus first lien debt service coverage ratio at 1.5 or greater	2.51	2.63	0	2.85	0
Maintain bureaus combined first and second lien debt service coverage ratio at 1.3 or greater	1.43	1.51	0	1.40	0
Average single family household bill as a percent of median income	1.00%	1.43%	0	1.42%	0

Explanation of Services

The Finance Program (within the Business Services Group) consists of multiple centralized services and functions. The three primary components are Financial Planning, Revenue Programs and Accounting.

The Financial Planning Division manages tools and processes to ensure that resources are available to fund the core mission of BES. There are three key functions within Financial Planning. First, working with groups throughout the Bureau, Financial Planning is responsible for coordinating, assembling, monitoring, and adjusting the annual budget; this includes coordinating with other bureaus Citywide and communicating with the Portland Utility Board, Citizens' Utility Board and other public interests. The second function of the Financial Planning Division is to manage the system forecast to project revenue and spending over a long-term horizon, to ensure that current financial plans are sustainable and that the Bureau remains financially stable. The division's third key responsibility is annual development of rates and fees that allow the Bureau to recover certain costs and ensure that sufficient resources are available to meet operational and capital needs. In addition to the three key functions, Financial Planning provides financial policy analysis and recommendations, monitors cash flow, ensures payment of outstanding debt, provides legally required disclosure information for bonds, manages wholesale service contracts and performs ad hoc financial analysis as necessary.

The Revenue Programs Division provides technical and financial assistance related to the provision of stormwater and sewer services to internal customers (namely the Water Bureau, non-conforming sewer program, Capital Improvement Program [CIP] and City Auditor's Office) and external customers (e.g., ratepayers, property owners and neighboring sewer districts). The primary mission is to collect fees for service, to approve credits and loans and to accommodate conforming public sewer connections in a fair and equitable manner (e.g., correct billing errors, incentivize private stormwater management and remedy failed septic and nonconforming sewer connections). The Revenue Programs Division manages six distinct City-wide programs: Clean River Rewards (i.e., the stormwater discount program), GreenBucks (a green infrastructure maintenance program), stormwater measure/re-measure program, storm sewer urban services, required sewer connection and sewer loan programs. Additionally, this team is responsible for identifying and communicating to the Water Bureau all starts, stops and corrections to storm sewer provisions on utility bills. The Revenue Programs Division also conducts Administrative Reviews and facilitates hearings in response to customer appeals.

The BES Accounting Services Division provides for all the accounting needs of the Bureau. Major functions include maintaining the Bureau's financial structure, capital project and fixed assets accounting, grants accounting, revenue and accounts receivable, accounts payable and preparing BES audit assignments for the City's audited Comprehensive Annual Financial Report. The division is also responsible for payroll and time management for the Bureau and timekeeping for employees.

Equity Impacts

The Finance Program manages the Bureau's financial assistance programs, including low-interest, deferred loans to qualifying low-income homeowners for mandatory and nonconforming sewer connections. BES works with financially impacted communities to minimize any hardships or dislocations caused by sewer connection requirements.

Changes to Program

The primary budgetary change requested in the Finance Program for FY 2019-20 is an addition of \$250,000 in funding to continue work on a comprehensive rate study. The prior comprehensive rate study was completed nearly 20 years ago; since then, community demographics, Bureau priorities and rate methodology best practices have changed. The Bureau (via the Financial Planning Division) will be hiring an outside consultant to conduct the comprehensive rate study. A Request for Proposals process is currently underway, with an expectation that the consultant's work can begin in FY 2018-19. The study is expected to take place in three phases, with the bulk of the work being completed in FY 2019-20. Once due diligence is completed and consultant recommendations are developed, the final phase (anticipated in FY 2020-21) will include public discussions prior to implementation of a potentially updated rate structure for FY 2021-22. This budget request supports multiple strategic initiatives, including reforming the budget and financial process, delivering services equitably and engaging proactively with community stakeholders.

The FY 2019-20 Requested Budget also increases the Bureau's ongoing cost for purchases of Renewal Energy Credits by \$50,000, as a result of updated usage/cost calculations provided by the Bureau of Planning and Sustainability to comply with City Council Resolution No. 36983 and the 2015 Climate Action Plan. This request supports the Bureau's strategic initiative to integrate City goals into our culture, operations and decision-making.

There are no discretionary budget changes in FY 2019-20 for the Revenue Programs Division or Accounting Division.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
Capital Outlay	0	29,223	0	35,600,000
External Materials and Services	18,001,093	18,737,122	20,222,131	21,355,531
Internal Materials and Services	3,742,508	3,727,741	3,799,483	5,312,472
Personnel	2,121,660	2,099,256	2,314,820	3,485,642
Fund Expense				
Contingency	0	0	350,976,296	502,977,064
Debt Service	547,224,345	174,456,885	185,409,135	188,263,339
Fund Transfers - Expense	349,808,499	358,545,264	378,284,621	401,565,826
Ending Fund Balance	0	0	62,230,325	69,920,375
Ending Fund Balance	0	489,530,108	0	0
Sum:	920,898,105	1,047,125,600	1,003,236,811	1,228,480,249
	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	17	17	18	18
Sum:	17	17	18	18

Resources: Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

- Expenses:** Expenses for this program include:
- Financial Planning, Accounting, and Revenue division personnel
 - One-time capital outlay for the acquisition of 2 floors of the Portland Building
 - The utility license fee (recorded in External Materials and Services)
 - Bureau contingency
 - Debt service and related costs on new and outstanding bonds
 - Utility charges for wholesale contracts
 - Low income discount payments to Home Forward.
 - Funding for the Community Opportunity and Enhancements Program.
 - Fund level transfers to and from Rate Stabilization, Construction, and Debt Service funds
 - Inter-agency services for the payment of the Bureau's share of water meter costs and General Fund Overhead.

Fund Expenses:

- Actual Contingency amounts for FY 2016-17 and FY 2017-18 are not presented as they are an estimated figure. Actual fund balances can be found in the City's Comprehensive Annual Financial Report.
- The estimated increase in Contingency for FY 2019-20 is primarily from unspent proceeds from a planned FY 2019-20 bonds sale.
- FY 2016-17 debt service amounts reflect payments to refund outstanding bonds.

Staffing: 18 positions support this program. Positions include the Business Services Group Manager, Financial Analysts (5), Accountants (5), Administrative Specialists (3), Coordinators (3), and a Supervisor II.

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau:	Bureau of Environmental Services	Program Contact:	Ken Bartocci
	https://www.portlandoregon.gov/bes/	Contact Phone	(503) 823-6022

Information Management

Program Description & Goals

The Information Management Program comprises the Mapping, Data and Application Services (MDAS) Division within the Business Services Group and the Work and Asset Management System (WAMS) used by the Wastewater Group.

The Information Management Program provides high-level, 24/7/365 technical support and consulting for the Bureau’s information and technology solutions, including mapping, data, IT-related project management and comprehensive asset management software applications.

This program actively supports the Bureau’s strategic initiative to optimize IT and data management systems to prioritize responsive governance, information access and data security.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
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Explanation of Services

MDAS provides IT/data-related, business process review, consulting, project management, application development/maintenance and database services for the Bureau and a variety of Bureau-specific applications. The MDAS Division Manager works with the BES management team and subject matter experts to identify business needs, IT requirements and data management strategies; this person also liaises with the Bureau of Technology Services (BTS) and peers in other City Bureaus to plan for solutions and services related to the ongoing operations and improvements of the Bureau's technology infrastructure.

Although the focus of the Information Management Program is primarily to run and maintain the Bureau’s current IT systems, typically MDAS staff also evaluate and manage innovation(s) and proposed IT/data-related initiatives in collaboration with the requesting group and prioritize initiatives in accordance with BES’ Strategic Plan and Bureau leadership.

The MDAS Mapping unit creates and maintains asset-specific information related to BES’ Sanitary and Stormwater Collection System, which includes the mapping and attributing collection system assets and creating or chronicling As-Builts and other pertinent records. MDAS also helps to create and/or administer several other BES-related geographical information system (GIS) layers, which are both authoritative (i.e., distributed via the corporate GIS hub) or non-authoritative (i.e., work products in various stages of completeness).

The Wastewater Group uses a Work and Asset Management System (WAMS) daily by to manage the work and assets at two treatment plants and 98 pump stations. This includes maintaining an asset register with detailed attribution; defining, scheduling and triggering preventive, predictive, corrective and emergency maintenance work; recording labor hours; recording work accomplishments; tracking work history; managing parts inventory; procuring materials and services; and providing asset lifecycle costs, analysis and reporting capabilities.

Equity Impacts

The Information Management Program aims to deliver services equitably Citywide, in alignment with the BES Strategic Plan.

Changes to Program

In FY 2018-19, the MDAS Division hired for a newly created Data Strategist position to develop and manage a strategy to efficiently collect and use Bureauwide data. This multi-year effort will direct future Information Management priorities and budgetary decisions. Other initiatives in FY 2018-19 to improve Information Management decision-making and performance include formation of an IT Governance Committee (including representation from all work groups) and the introduction of new project management tools (e.g. Trello and SmartSheets).

General Fund decisions that impact the Bureau of Technology Services (BTS) inevitably affect the amount of Bureau-level effort and/or resources required of the Information Management Program. Although no major resource increases are submitted in this FY 2019-20 Requested Budget, reductions (or limited increases) to BTS resources negatively impact the ability of the BES Information Management Program to meet service expectations.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
Capital Outlay	78,523	102,073	35,000	587,980
External Materials and Services	452,209	640,279	1,616,228	1,037,325
Internal Materials and Services	3,187,377	3,090,196	3,210,820	3,537,574
Personnel	2,301,804	2,384,767	2,221,919	1,985,035
Sum:	6,019,913	6,217,315	7,083,967	7,147,914
	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	16.8	17.25	19	14.85
Sum:	16.8	17.25	19	14.85

Resources: Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

Expenses: Expenses for this program include personnel, data processing services for Heron and Hansen software packages, computer supplies and equipment, and various software licenses. Additionally, this program supports interagency agreements with the Bureau of Technology Services for bureau-wide life-cycle computer replacements, desktop support, and GIS applications.

The increase in Capital Outlay reflects the acquisition of the Environmental Compliance Information Management System. The project was budgeted as External Materials and Services in FY 2018-19 but was delayed to FY 2019-20.

Staffing: 17 positions support this program with 2.15 FTE allocated to capital projects within the Project Management and Controls Program. Positions include the Division Manager, a Mapping and GIS Supervisor, GIS and CAD Technicians (9), and Business Systems Analysts (6).

Two positions are transferred in FY2019-20 to the Bureau of Technology Services and will be paid for via interagency agreement (Internal Materials and Services).

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau:	Bureau of Environmental Services	Program Contact:	Ken Bartocci
	https://www.portlandoregon.gov/		
Website:	bes/	Contact Phone	(503) 823-6022

Engineering

Program Description & Goals

The Engineering Program is led by the Chief Engineer, the official agent of the Bureau who is responsible for public improvements. The Chief Engineer is responsible for establishing, maintaining and enforcing the technical standards for design and construction of public works projects necessary to maintain public health and the health of the environment. The Engineering Program also integrates the organizational management, human resources, budget and administrative support functions of the Engineering Services Group to ensure the smooth operation of the work group, which has just over 200 full-time employees or other staff distributed across four work locations. Project decisions, leadership and organizational work of the Chief Engineer across the five program areas within the Engineering Services Group impact the quality and output of projects to meet system needs, regulatory requirements and other drivers. This impacts many of the Bureau's performance measures, especially those related to the planning, design and construction of pipe, facility and natural assets.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
Construction management costs as a percentage of total construction costs	9%	14%	0	12%	0
Feet of streambank restored (not cumulative)	20,274	22,311	0	12,000	0
Number of sanitary sewer overflows	180	168	0	135	0
Number of combined sewer overflow events	7	3	0	4	0
Linear feet of sanitary and combined sewer pipe repaired or replaced to improve condition and capacity	109,745	93,006	0	57,000	0

Explanation of Services

The Engineering Program comprises the leadership, administration and operations functions for the Engineering Services Group. The program includes the office of the Chief Engineer and related group-wide support functions. The Chief Engineer is the signatory for all Bureau-related public works construction documents and provides management and leadership for the Engineering Services Group. This group consists of five programs that serve ratepayers and the community by managing the planning, design and construction of sewer and stormwater projects to protect public health and watersheds. Collectively, the Engineering Program and the five programs under the Chief Engineer (Asset Systems Management, Capital Program Management and Controls, Design Services, Construction Services, and Materials Testing Lab) provide the analysis, engineering design, construction management, technical standards and best management practices, and Capital Improvement Program (CIP) implementation and budget management to produce projects that improve, protect and enhance the Bureau's infrastructure.

Equity Impacts

The Engineering Program leads and directs the Engineering Services Group's implementation of the BES Equity Plan and BES Strategic Plan initiatives to ensure positive racial equity outcomes on all Engineering activities and projects.

Changes to Program

Increased challenges in employee movement, training/onboarding and turnover as a result of retirements and a highly competitive job market have increased the administrative, management and leadership workload of the Engineering Program. The operating environment also has changed significantly in the last year as a result of the prioritization of Bureau efforts, including CIP delivery increases, CIP process improvements, reorganization discussions and building moves/facility needs (which have affected the entire Engineering Services Group).

In FY 2018-19, the Systems Development Program (formerly within the Engineering Services Group) was restructured to report directly to the BES Director's Office. Additional changes to organizational structure are being considered to improve efficiency, oversight of work and customer service. Engineering operations and administration are undergoing systematic process improvements to increase efficiency. Staff are using technology in a much more significant way to improve productivity, communication and records management. The Chief Engineer has led the Engineering Services Organizational Development Project to improve collaboration, increase productivity and reduce turnover. The Program is implementing policy and practice updates related to teleworking, flexible schedules and other workplace culture improvements to attract and retain a highly talented workforce.

Other than adjustments to accommodate standard life-cycle vehicle replacement schedules, there has been no reallocation of resources to or from this program in recent years, and no major operational budget changes are requested for FY 2019-20.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
Capital Outlay	62,007	28,461	674,059	617,500
External Materials and Services	84,348	168,613	109,622	83,089
Internal Materials and Services	169,567	178,966	333,989	45,400
Personnel	857,493	965,485	1,022,138	1,112,445
Sum:	1,173,415	1,341,526	2,139,808	1,858,434
	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	8	9	9	9
Sum:	8	9	9	9

Resources: Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

Expenses: Expenses for this program include personnel, Capital Outlay for life-cycle vehicle replacement, training opportunities for Engineering staff, and specialty computer equipment. Additionally, this program supports interagency agreements with the Bureau of Transportation for Keep Portland Moving and survey markers used by the Bureau.

Staffing: 9 positions support this program. Positions include the Chief Engineer, an Analyst, Records Specialist, Administrative Specialists (3), and Office Support Specialists (3).

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau: Bureau of Environmental Services
Website: <https://www.portlandoregon.gov/bes/>

Program Contact: Ken Bartocci
Contact Phone (503) 823-6022

Asset Systems Management

Program Description & Goals

The Asset Systems Management (ASM) Program (within the Engineering Services Group) identifies and appropriately prioritizes BES asset system improvements and investment strategies needed to continue to maintain and improve the service levels and reliability of wastewater and stormwater system infrastructure, including balancing the need to meet regulatory requirements. The ASM Program identifies, clarifies and communicates the levels of service related to physical system assets and the related decision-making processes that are needed to put those assets into service for customers. This program directly impacts the performance measures listed below by providing the system planning and analysis (i.e., hydraulic and hydrologic modeling) that informs and prioritizes system investments to reduce the risk of sewer pipe failure, capacity-related flooding and combined and sanitary sewer overflows. The project-level modeling and analysis that the ASM Program provides also directly impacts performance measures by informing appropriate project design.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
Number of sanitary sewer overflows	180	168	0	135	0
Number of stormwater flooding events due to system capacity	111	60	0	100	0
Number of combined sewer overflow events	7	3	0	4	0
Linear feet of sanitary and combined sewer pipe repaired or replaced to improve condition and capacity	109,745	93,006	0	57,000	0

Explanation of Services

The Asset Systems Management Program provides analysis, interpretation and in-depth, functional understanding of how BES system assets interact with each other. This is done at all evaluation scales, from citywide down to the local project level. This function is necessary to identify and prioritize BES system improvements and asset investment strategies, to (1) maintain and improve the service and reliability of the City’s wastewater and stormwater infrastructure as cost-effectively as possible, and (2) protect public health and safety systemwide. ASM is the only program in the Bureau that performs this essential function. ASM is sometimes requested to support and assist other work groups by collaborating on new system-related initiatives or through technical review of work. This work depends on institutional knowledge and leveraging an intimate understanding by ASM staff of how the BES asset systems function. Developing these skills is an investment in time and mentorship of staff. This knowledge is gained through experience and work performed over years by ASM staff on highly technical, multi-faceted wastewater and stormwater infrastructure system and process analyses.

Equity Impacts

The ASM Program is responsible for incorporating equity considerations into the risk evaluation and project prioritization processes for the combined and sanitary sewer system assets. The current risk process uses U.S. Census information on vulnerable communities. The ASM Program is working with other Bureau work groups to expand how we incorporate equity into the broader system planning space, such as by establishing targets for levels of service.

Changes to Program

The demand for ASM resources has doubled since FY 2015-16, specifically in the areas of spatial analysis and modeling analysis, alongside major system planning efforts initiated over the past two fiscal years. As the limited-term consultant services to support the strategic planning efforts come to an end by FY 2020-21, the expectations and demand on internal staff resources will increase. Although limited-term contracts have helped initiate the strategic planning efforts, the internal staffing resources necessary to implement and sustain the improvements have not advanced. The increased workload burden on staff has demonstrably resulted in increased overtime and observed instances of sick time.

ASM looks to increase by one Engineering FTE in FY 2019-20 to support the modeling team, with more budget requests in the future to accommodate the increased demand. Where feasible, ASM has been using contracted resources to meet this workload. Contract staff are best used to level peak workload and perform one-off analyses or simple requests that would otherwise disrupt ASM staff workflow on more complex system analyses. Contract staff are also used to help initiate new project initiatives on a limited contract term (e.g., Resiliency Master Plan). Historically, contracting more of the strategic planning and complex system analysis work resulted in reduced product quality at a higher cost to the City. Additionally, the knowledge gained through the work does not stay in the City (i.e., contract turnover is typically higher than turnover among permanent City staff [FTE]). Adding in-house FTEs will create more productive and cost-effective outputs over the long-term and allow the City to retain the knowledge invested in FTEs. This is critical if the ASM Program is to perform its essential functions.

The FY 2019-20 Requested Budget decreases the allocation for spending on the multi-year Continuous Collection System Plan update as result of delays in contracting that occurred in FY 2018-19. The total cost of the multi-year project (anticipated for completion in FY 2020-21) remains unchanged at \$1.5 million.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
Capital Outlay	1,964,102	2,533,092	0	0
External Materials and Services	2,556,880	704,726	1,060,692	645,445
Internal Materials and Services	-9,615,178	-9,858,904	210,771	261,635
Personnel	1,998,795	1,601,754	1,942,190	2,194,680
Sum:	-3,095,402	-5,019,331	3,213,653	3,101,760
	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	18.25	12.05	24	13.5
Sum:	18.25	12.05	24	13.5

Resources: Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

Expenses: Primary expenses for this program are personnel, outside consultant costs for system plans (Resiliency, Pump Station, and Continuous Collection Master Plans), and specialty engineering software. Additionally, this program supports costs of laboratory services and field operations for sampling and monitoring from the Water Pollution Control Lab.

Actual Internal Materials and Services for FY 2016-17 and FY 2017-18 reflect an accounting entry that reduces operating expenses and allocates the expenses to capital projects representing the bureau overhead allocations.

Staffing: 25 positions support this program with approximately 11.5 FTE allocated to the Capital Program Management and Controls Program for capital improvement projects. Positions include Engineers (23) and GIS Technicians (2).

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau: Bureau of Environmental Services
<https://www.portlandoregon.gov/>

Website: bes/

Program Contact: Ken Bartocci

Contact Phone (503) 823-6022

Construction Services

Program Description & Goals

The Construction Services Program (within the Engineering Services Group) provides construction management and inspection services for BES capital projects, development projects and projects managed by other City bureaus for assets that become part of BES's infrastructure. The Construction Services Program ensures the construction of safe, high-quality and cost-effective projects that aim for completion on schedule and within budget, with minimum disruption to the public. This program directly impacts construction management costs as part of overall project costs and works to maintain those costs at or below the industry standard. The program's focus on job site safety impacts the Bureau's overall incident rate. Construction management for capital projects to improve Bureau assets such as sewer pipe repair and replacement, treatment facilities and stream restoration is responsible for delivery of those projects on schedule, which impacts all measures related to capital project output (including combined sewer and sanitary sewer overflows).

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
Amount of time loss, in hours per employee, due to injury	2.80	2.40	0	2.00	0
Construction management costs as a percentage of total construction costs	9%	14%	0	12%	0
Feet of streambank restored (not cumulative)	20,274	22,311	0	12,000	0
Linear feet of sanitary and combined sewer pipe repaired or replaced to improve condition and capacity	109,745	93,006	0	57,000	0

Explanation of Services

The Construction Services Program oversees installation of capital infrastructure, such as pipes and stormwater facilities, to ensure that they are installed properly and safely. The Bureau owns and maintains most constructed assets, so quality control during installation helps maximize asset life. The program has a comprehensive focus on safety for the protection of the public, City staff and the contractor's workers and to reduce injury or disability claims. The Construction Services Program is responsible for making progress payments to contractors, negotiating compensation for additional scopes of work added to existing contracts and helping to resolve any disagreements that ensue between the City and contractor.

Key activities include the following:

- Supporting development and management of project scopes, schedules and budgets
- Reviewing and determining the constructability of all projects during design
- Developing and executing project construction work plans
- Managing and documenting project decisions, meetings and changes
- Inspecting construction projects for safety and quality compliance
- Making construction contract progress payments to contractors
- Managing projects in accordance with BES's CIP Implementation Manual, Quality Control Manual and project management/document control software and process
- Preparing Council documents as needed for construction-related procurement processes, agreements, contracts and right-of-way acquisition and permits

In addition, Construction Services contributes cost estimating and budgeting functions via CIP development input, historical bid analysis, construction staff input, budget preparation and monitoring of economic conditions in the construction industry.

Equity Impacts

As part of its management of construction contracts, the Construction Services Program ensures that contractors comply with minority subcontracting requirements, including participation from Minority, Women, and Emerging Small Business (M/W/ESB) and other City equity-driven contracting opportunities.

Changes to Program

The program's focus and workload follow the overall CIP, with an increased focus on pipe rehabilitation projects and treatment plant and pump station facility projects. There has been an overall increase in project workload with the ramp-up of the CIP. In recent years, the combination of increased traffic and more street infrastructure that requires maintenance and upkeep has constrained construction activities, adding to the complexity of construction projects and the time needed to complete them.

With the relatively healthy economy, it has been difficult in recent years to retain qualified construction program staff. Staff turnover in the Construction Services Program has been high as staff seek the promotional opportunities and higher pay available in the private sector. Although the program has had modest FTE increases in recent years, it still relies on temporary contract staff to lead and complete many projects. However, contract staff training requirements, frequent turnover of contract staff and the lack of retained in-house knowledge and experience all hamper efficient project delivery.

BES recently started using an improved software solution (Heron) for capital project management that is eliminating paper-based redundancy and inefficiencies in the Construction Program. Also, outfitting construction inspectors with iPads has helped them use their time more efficiently in the field. The new management team is actively and more consistently monitoring performance and developing training and support resources to ensure that all staff can work as efficiently and effectively as possible.

Despite the staffing challenges and increases in delivery expectations described above, no major discretionary budget adjustments are requested in FY 2019-20.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
Capital Outlay	4,774	0	0	0
External Materials and Services	96,348	115,761	150,165	133,376
Internal Materials and Services	127,867	180,598	64,480	42,629
Personnel	1,656,714	1,914,095	1,778,562	2,148,060
Sum:	1,885,703	2,210,454	1,993,207	2,324,065
	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	7.55	14.3	57	14.6
Sum:	7.55	14.3	57	14.6

Resources: Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

Expenses: Primary expenses for this program are personnel. Supporting items include costs for protective equipment, uniforms, licenses, training, and parking permits for Inspector vehicles.

Staffing: 57 positions support this program with approximately 40.85 FTE allocated to the Capital Program Management and Controls Program for capital improvement projects and 1.55 FTE allocated to the Systems Development Program. Positions include Engineers (25), Capital Project Managers (3), Public Works Inspectors (27), a Manager I, and a Supervisor I.

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau:	Bureau of Environmental Services	Program Contact:	Ken Bartocci
	https://www.portlandoregon.gov/		
Website:	bes/	Contact Phone	(503) 823-6022

Design Services

Program Description & Goals

The Design Services Program (within the Engineering Services Group) provides project management and engineering design services for capital projects. The program includes two divisions: the Design Services Division and the Treatment and Pumping Systems Engineering Division. The goal of the Design Services Program is to plan and deliver projects that (1) improve the reliability and capacity of the Bureau’s treatment infrastructure and wastewater and stormwater conveyance system, and (2) protect and improve water quality and watershed health. Projects are identified through planning efforts Bureauwide, based on risk, condition and the consequence of failure for existing assets and on new requirements, such as regulatory or capacity needs. The Design Services Program impacts every Bureau performance measure related to capital project delivery and output. Most directly, project management and engineering for planned capital projects to address pipe repair and replacement and stream restoration impacts the output “units” of those measures annually. Design and delivery of projects related to treatment plant assets impacts the cost of operations and maintenance (O&M) of those assets, and the design and delivery of nearly all BES projects impacts water quality measures and other measures, such as occurrences of combined and sanitary sewer overflows.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
Amount of wastewater processed annually (in million gallons)	36,242	28,901	0	29,400	0
Feet of streambank restored (not cumulative)	20,274	22,311	0	12,000	0
Watershed Health Index for water quality	5.90	5.50	0	5.90	0
Linear feet of sanitary and combined sewer pipe repaired or replaced to improve condition and capacity	109,745	93,006	0	57,000	0

Explanation of Services

The Design Services Program provides project management and engineering design services for capital projects ranging from the Bureau’s wastewater conveyance (i.e., pipe) and treatment infrastructure to stormwater facilities and stream restoration. Activities include the following:

- Leading project scoping and work plans and managing projects through the design phase
- Completing designs in accordance with professional and BES standards
- Completing engineering calculations
- Meeting City and regulatory requirements (including technical analyses)
- Requesting, coordinating, securing and incorporating information gathered and provided by internal and external stakeholders and service providers
- Preparing and professionally sealing contract documents, including technical specifications and design plans and details

The Design Services Program encompasses the Treatment & Pumping Systems Engineering Division, which manages planning efforts for the wastewater treatment plants, manages the construction phase of project delivery, and provides technical engineering support for plant O&M staff.

Equity Impacts

The Design Services Program delivers projects that benefit human health and safety and the environment. Infrastructure investments are identified through planning efforts based on risk, condition and the consequence of failure for existing assets and on new requirements such as regulatory or capacity needs. An equity lens is applied to all projects to inform Bureau infrastructure decisions. This primarily occurs during system planning (Asset Systems Management Program) and the project prioritization process (Capital Program Management and Controls Program), but also occurs during project work planning and design.

Changes to Program

Despite process improvements currently underway, demand for work from the Design Services Program far exceeds available resources, as the Bureau aims to improve and increase collaborative project planning and delivery outcomes to ensure sustainable long-term capital investment. The number of identified capital projects requiring assignment of Design Services staff continues to grow, leading to project delay.

This program added four FTEs in the FY 2018-19 Adopted Budget in response to a need to improve Design Services delivery. However, constraints on further FTE additions, staff retirements and turnover have kept the anticipated program improvements from fully materializing. Staff are relying on consultant expertise for program delivery support when feasible and are using on-call contracts to be more responsive and timely in constructing design solutions. The Design Services Program also relies on temporary contracted staff, which is not optimally desirable. When appropriate, the Design Services Program is expanding its use of alternative project delivery methods (in lieu of the standard design-bid build process) to meet program goals. These adjusted solutions often require increased upfront effort and communication but are expected to shorten overall project delivery schedules.

Recently, the Design Services Wastewater Engineering Section became a new division called the Treatment & Pumping Systems Division (TPSD). The new division is included in the Design Services Program budget and includes staff from both Design Services and Construction Services that work on wastewater treatment plant, pump station and force main assets.

The Design Services Program is requesting three additional FTEs in FY 2019-20, as part of a multi-year need to increase staffing to deliver planned CIP projects:

- Structural Engineer within TPSD. BES does not have a structural engineer on staff, despite owning significant treatment and pumping facilities, and there has been an ongoing need for structural support for projects in the Repair, Rehabilitation & Modification (RR&M) and Pump Station Improvement programs. Historically, this need has been met with minimal success using on-call professional technical expert (PTE) contracts. However, these contracts have resulted in inconsistent service outcomes and significant project delays. Although increasing the existing on-call contract remains an alternative, it is an expensive option (current billing rates are \$135 to \$200/hour), and this remains an ongoing, long-term need. An in-house staff person is expected to maximize efficiency; this person will specialize in Bureau assets, processes and outcomes, thereby improving structural assessments and project delivery.
- Automation & Controls Engineer within TPSD. There is a current and ongoing need for project and O&M support related to controls and automation at the Columbia Boulevard and Tryon Creek wastewater treatment plants, and for the Bureau's 98 pump stations. This Engineering Associate will fill the long-term need via specialized management of the Automation and Control Narrative update and implementation process for capital projects, which includes coordinating with Wastewater Group operations staff and other engineering staff to develop revised control strategies and prepare documentation for approval and implementation. This need is currently being filled by contract staff, at approximately the same annual cost, but with the added risks and inefficiencies of high turnover, training needs and contract term limitations.
- Collection System Design Engineer within the High-Risk Rehab Program. This position will support delivery of projects in the Bureau's pipe rehabilitation program, including the Large Diameter Program and Downtown/Old Town Rehab projects, which have been identified as near-term priorities because of the high risk of failure within 5 years. This program encompasses more than \$250 million in capital projects over the next 10 years, with more than \$25 million in high-priority projects currently unassigned over the next 3 years because of limitations in staff resources.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
External Materials and Services	349,815	87,529	136,789	143,059
Internal Materials and Services	40,562	33,987	22,269	21,778
Personnel	2,049,938	1,948,577	2,158,648	2,703,954
Sum:	2,440,315	2,070,093	2,317,706	2,868,791
	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	7	8.7	51	15.95
Sum:	7	8.7	51	15.95

Resources: Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

Expenses: Primary expenses for this program are personnel and consultant charges for the Pump Station Design Manual. Supporting items include costs for training and training materials, specialty computer supplies and software, dues for member organizations, and continuing education.

Staffing: 54 Engineering positions support this program with approximately 38.05 FTE allocated to the Capital Program Management and Controls Program for capital improvement projects.

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau: Bureau of Environmental Services
<https://www.portlandoregon.gov/bes/>

Program Contact: Ken Bartocci

Website: bes/

Contact Phone (503) 823-6022

Materials Testing Lab

Program Description & Goals

The Materials Testing Lab (MTL) Program provides quality assurance (QA) and quality control (QC) of materials used in the construction of Bureau assets. QA/QC involves materials testing, code-mandated special inspection, confined space entry, and geotechnical services and evaluation of emerging technologies and products. In addition to providing these services for BES projects, the lab also provides services to other City bureaus (primarily the Water Bureau, Bureau of Transportation and Parks Bureau), typically on a fee-for-service basis. The MTL Program most directly impacts the performance measure for pipe repair and replacement, because of the MTL’s role in testing and evaluating materials in the design and construction of those capital projects.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
Linear feet of sanitary and combined sewer pipe repaired or replaced to improve condition and capacity	109,745	93,006	0	57,000	0

Explanation of Services

The MTL Program provides industry-standard testing and evaluation services for construction materials, to ensure that materials used in BES capital projects and other City bureau projects meet national and international standards. The program monitors the quality of pipe materials, asphalt mixes, concrete mixes and precast concrete products to ensure that City projects are using appropriate products in the construction of long-term public assets. For example, monitoring ensures that the type of pipe used in a sewer rehabilitation program is appropriate and durable for local conditions. This testing and monitoring is performed “real-time” in the field, for samples of actual products at the time of installation. The MTL Program also provides geotechnical analyses for BES and City projects and special inspections as required by local and state building codes.

Equity Impacts

This program is part of BES’s overall engineering design and construction approach for capital projects to ensure the same quality standards of design, construction, and materials for any capital project in the city, regardless of neighborhood or community demographics. The result is that no community bears a disproportionate burden because of inferior construction materials.

Changes to Program

Workload expectations within the MTL Program have increased as a result of increases in other work requests from partner bureaus – primarily the Water Bureau’s capital program, such as the Washington Park reservoir project.

Ongoing process improvement efforts such as the use of technology tools to schedule and track work requests and activities are underway. Allocation of resources to the Materials Testing Lab Program has stayed relatively consistent in recent years, and no major budget changes are requested. The MTL Program is requesting \$40,000 in ongoing budgetary resources beginning in FY 2019-20 to cover overtime for staff who are frequently called out for night work and other time-sensitive capital projects. Overtime expenses have averaged \$38,000 annually during the prior three years and have previously been unbudgeted.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
External Materials and Services	453,868	-8,428	513,622	482,292
Internal Materials and Services	-821,950	-594,686	-806,421	-790,591
Personnel	1,340,425	1,542,201	1,570,655	1,754,172
Sum:	972,343	939,086	1,277,856	1,445,873
	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	13	13	13	13
Sum:	13	13	13	13

Resources: Resources for this program come from ratepayer fees and charges for sewer and stormwater services which are offset by charges to other bureaus for testing work done on their behalf.

Expenses: Primary expenses for this program are personnel costs, outside lab services, repair, maintenance and calibration of equipment, ongoing operating supplies for equipment, and license renewals.

Materials testing done for BES capital improvement projects and other internal bureau work are reported as negative expenses in the Internal Services line item for this program (and positive expenses in the Internal Services line item for the requesting program).

Staffing: 13 positions support this program. Positions include Geotechnical Engineers (2), Engineers (2), Materials Testing Technicians (6), Public Works Inspectors (2), and an Office Support Specialist.

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau: Bureau of Environmental Services

Program Contact: Ken Bartocci

<https://www.portlandoregon.gov/>

Website: bes/

Contact Phone (503) 823-6022

Capital Program Management and Controls

Program Description & Goals

The Capital Program Management and Controls Program oversees the Bureau’s Capital Improvement Program (CIP). This program manages the capital program planning process, develops the annual capital budget, tracks project delivery performance and recommends long-range capital investment strategies that align with the Bureau’s Strategic Plan and ratepayer expectations. As the program responsible for scheduling and monitoring projects in the CIP and managing the overall CIP budget, Capital Program Management and Controls impacts all Bureau performance measures related to capital projects, including combined and sanitary sewer overflows and maintenance costs at the wastewater treatment plants.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
Construction management costs as a percentage of total construction costs	9%	14%	0	12%	0
Linear feet of sanitary and combined sewer pipe repaired or replaced to improve condition and capacity	109,745	93,006	0	57,000	0

Explanation of Services

The Capital Program Management and Controls Program has overall responsibility for the Bureau’s more than \$150 million annual CIP. The program is responsible for balancing funding across a variety of project types and risk drivers; examples include pipe rehabilitation due to degraded condition, stream restoration for water quality and habitat, and green street facility projects for system capacity. The Capital Program Management and Controls Program provides information that guides the processes for evaluating and prioritizing infrastructure investments with a balance of prioritized system needs and financial capacity. The projects in the CIP generally originate from the Asset Systems Management Program. Delivery of the capital projects (i.e., design engineering and construction management) is performed by the Design Services and Construction Services programs.

The Capital Program Management and Controls Program does the following:

- Develops BES’s annual capital budget and five-year CIP
- Monitors and adjusts the capital budget and program
- Provides project change control and other support functions for CIP delivery
- Coordinates the implementation of CIP projects with other BES work groups
- Provides technical standards, best practices documentation and training support

Equity Impacts

Equity impacts are a critical factor in the evaluation and prioritization process of the Bureau's capital improvement projects. In the system/facilities planning process for both the combined sewer collection system and the stormwater system, projects are ranked and prioritized against all other needs within that system, with the additional consideration of equity impacts. Then, when priority projects from each system plan or regulatory driver are evaluated against each other in the annual CIP development process, scoring includes impacts to human health and safety, business customers and residential customers, along with impacts to public infrastructure such as streets. New for FY 2019-20, a triple bottom line approach to scoring was performed by an independent team, made up of staff from various divisions. The scoring criteria included a section dedicated to Bureau and City Strategic Plan initiatives, with equity being the main focus. In the prioritization of projects, more consideration was given to projects in disadvantaged communities or communities of color.

Changes to Program

Collectively, the overall quality of sewer and stormwater infrastructure has declined as the Bureau prioritized completion of the \$1.4 billion Combined Sewer Overflow project from 1991-2011. Additionally, the market for materials and labor has recently been more volatile. Within a resource-constrained environment, the Bureau has been challenged in recent years to ensure that capital investment is optimized to prevent service interruptions and minimize inefficiencies. Beginning in FY 2017-18, the Bureau set a target to significantly increase CIP output to ensure sustainable reinvestment in infrastructure over the long term. The FY 2018-19 adopted CIP was \$133 million, a 17 percent increase over the prior year level. The FY 2019-20 annual CIP budget request is \$177.6 million, a 33 percent increase over budgeted FY 2018-19. Nearly all of the FY 2019-20 increase is driven by accelerating the Bureau's \$37 million contribution to the Portland Building Reconstruction project one fiscal year earlier, at the request of the Office of Management and Finance. The total 5-year CIP is currently targeted at \$783 million (approximately \$157 million annually on average). Despite the large portion for the Portland Building Reconstruction project, this also represents a significant increase in Bureau capital project work. The increase is straining a workforce that already relies on consultants and contracted staff to meet project planning, design and construction challenges.

As the Bureau improves its capital investment strategy, and in support of the Bureau's strategic initiative to align the budget, CIP and financial planning process with priorities in the Strategic Plan, we cannot expect to deliver services efficiently using the legacy program controls methodology. The Bureau needs more sophisticated project controls, which it is pursuing via a combination of major process improvements, reconsideration of responsibilities Bureauwide and staffing increases over multiple years. Beginning in FY 2018-19, dozens of process improvements were incorporated into the CIP implementation procedures, and an ongoing revamping of project scheduling is underway (as are multiple other process improvements).

Beyond specific capital project changes, the major budgetary change within the Capital Program Management and Controls Program in the FY 2019-20 Requested Budget is the addition of \$600,000 in ongoing resources to fund the Bureau's required contribution to the Citywide Community Opportunities Enhancement Program (COEP), as authorized by City Council via Resolution No. 37331, adopted on July 12, 2017. Resources contributed to the COEP are intended to increase diversity and equity in contracting Citywide and provide opportunities for minorities and women in the workforce and disadvantaged, minority-owned, women-owned, and emerging small businesses (D/M/W/ESB); these efforts are consistent with the Bureau's strategic priorities. Bureau contribution amounts are based on the total value of construction contracts, which BES estimates will be \$60 million for FY 2019-20. The Bureau will adjust the budgeted amount annually as needed to match CIP construction contract expectations and meet this City requirement.

Additionally, the Bureau requests conversion in FY 2019-20 of a limited-term employee (Training Coordinator) to an FTE. This position was originally created to focus on training needs related to implementation of the Bureau's capital project management software (i.e., Heron). However, as the Bureau aims to improve its capital project management processes – including optimal use of software – this position has been identified as critical to providing ongoing training support for the Heron tool, as well as implementing new processes and best practices.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
Capital Outlay	53,119,939	58,004,524	89,825,260	91,994,455
External Materials and Services	14,039,083	14,794,924	20,148,716	20,848,547
Internal Materials and Services	14,659,188	15,645,006	6,113,884	7,659,018
Personnel	11,726,515	12,459,377	17,680,346	20,566,018
Sum:	93,544,725	100,903,831	133,768,206	141,068,038

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	128.03	133.06	9	139.4
Sum:	128.03	133.06	9	139.4

Resources: Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

Expenses: The primary expense for this program is the Bureau’s Capital Improvement Program (the “CIP”). Personnel are allocated from other programs to support the CIP. External Materials and Services costs include contract staff, outside design and construction consultants, and other services necessary to develop and complete capital projects. Internal Services reflects costs of partner bureaus that assist in the implementation of the CIP and include PBOT, Parks, and the Water Bureau.

Staffing: 9 positions support this program with an additional 130.4 positions allocated from other programs to support the capital improvement portion of this program. Positions include Analysts (6), a Coordinator III, an Engineering Technician II, and a Manager II.

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau: Bureau of Environmental Services **Program Contact:** Ken Bartocci
<https://www.portlandoregon.gov/bes/>
Website: bes/ **Contact Phone** (503) 823-6022

Systems Development

Program Description & Goals

The Systems Development Program (moved from the Engineering Services and Pollution Prevention Groups to the Director's Office in FY2018-19) provides all private development-related services on behalf of BES, including early assistance, land use review, building permit review, stormwater facility inspection, public works projects and source control review—all to support City development goals and ensure consistency with regulatory requirements and BES's infrastructure system needs. The Systems Development Program includes the Transportation Interagency Program, the Sewer Extension Program, and the Nonconforming Sewer Program (with support from the Revenue Programs division within the Business Services Group).

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
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Explanation of Services

BES development review functions, which are provided by the Systems Development Program, are critical to ensuring the continued issuance of land use reviews, building permits and public works permits. BES ensures that adequate sanitary and stormwater services are available to serve proposed development.

Customer service to support applicants through the development review process is a critical component of the work of the Systems Development Program, as is ensuring that approved projects are adequately protective of the BES system, human health and the environment. Most Systems Development Program functions are co-located with the Bureau of Development Services and the other City development-related functions, allowing real-time coordination between bureaus and with customers, to best meet targets and goals related to supporting development.

The Nonconforming Sewer Program (NSP) assists Portlanders by resolving shared and private sewer situations. Many properties across the City share sewer laterals with neighboring properties or have a private sewer line in the right-of-way. Nonconforming sewer laterals become problematic when they fail and need to be repaired/replaced, or when properties are sold or redeveloped. The NSP is working to resolve as many of these situations as possible, cost-effectively, through the capital improvement CIP process. However, many nonconforming situations must be resolved more quickly than the CIP can accommodate, because of home sales or redevelopment schedules. These urgent situations require a high level of customer/public support if they are to be resolved in a timely way.

The Systems Development Program is responsible for the following activities:

- Review and evaluation of early assistance and land use reviews
- Implementation of the Bureau's drainageway protection rules
- Building permit review for sanitary connections, stormwater management, and pollution prevention/source controls
- Permitting and design oversight of public works projects related to new development or redevelopment
- Provision of broad liaison services to the regional transportation agencies while ensuring conformance with BES stormwater management requirements and design standards
- Design and project management of sewer service extensions
- Conversion of existing substandard sewer connections through customer service, outreach, permitting, design and construction of new sanitary sewers
- Private stormwater facility inspection
- Sewer connection permits
- Customer service to support the City's unified and co-located permitting system
- Advocacy for BES and its ratepayers through participation in broader Citywide planning projects and negotiation of development agreements

Equity Impacts

The Systems Development Program is a customer service-focused division that provides permit review functions and customer support, both face-to-face and by phone. Division staff routinely attend customer service and equity training and seek ways to improve assistance to home and property owners who have little experience with permitting.

An additional staffing request in FY 2019-20 aims to support the Nonconforming Sewer Program more efficiently by identifying and supporting potentially eligible candidates in accessing the available financial assistance and deferred payment options. Many NSP properties are on older, smaller and subdivided lots, and some NSP areas overlap with high percentage minority and/or low-income Census tracts. In addition, helping existing property owners resolve issues related to nonconforming sewers can help those residents stay in their homes and/or reap full value of home at sale, rather than being forced into selling at a lower price when their sewer is not in compliance.

Changes to Program

Because of the growing economy and desirable development factors, pressures on development review and the Systems Development Program have increased significantly over the past few years. BES has added staff and continued to refine and improve processes to reduce permitting timelines and ensure that customer service goals are met.

In February 2018, BES implemented an internal reorganization in response to Mayor Wheeler's request that permitting bureaus improve review turnaround times. This reorganization moved the Source Control Plan Review Section from the Environmental Compliance Division (within the Pollution Prevention Group) into the Systems Development Division. In addition, the Systems Development Division was moved into the Director's Office. At the time, Source Control Plan Review timelines were approximately 4 to 6 weeks behind in commercial plan review. Through continued process improvements and work load prioritization, timeline goals improved and were met for much of the remainder of 2018.

BES is finalizing the reorganization through a small handful of reclassifications, to ensure adequate supervisor/employee ratios, and providing key lead worker positions to guide day-to-day work. In addition, a new Customer Service Supervisor position will oversee a team focused on customer service in the Development Services Center (DSC), where up to five BES staff currently provide face-to-face customer support five days and one evening a week; this includes issuing Sewer Connection Permits. The nature of this work is demanding, with customers needing immediate attention and conflicts requiring timely resolution.

A total of \$299,500 in ongoing budgetary adjustments is requested in FY 2018-19 to accommodate (1) hardware/software costs to support implementation of the City's new Portland Online Permitting System (POPS), (2) increased bank card fees that facilitate customer ease of payment, and (3) interagency agreements with PBOT related to increased costs of service for Sewer Connection Inspections and the Public Works Permitting Program.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
Capital Outlay	0	0	0	382,235
External Materials and Services	454,298	630,799	239,896	728,896
Internal Materials and Services	949,418	1,127,915	749,274	868,257
Personnel	3,276,300	3,419,300	2,730,052	3,793,512
Sum:	4,680,016	5,178,014	3,719,222	5,772,900

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	23.7	22.05	27	28.55
Sum:	23.7	22.05	27	28.55

Resources: Resources for this program come from ratepayer fees and charges for Sewer and Stormwater services offset by system development permit fees and connections charges.

Expenses: The primary expenses in this program are personnel, Capital Outlay, bank card fees for customer permit payments, professional development and training costs, and ongoing costs related to the Portland Online Permitting System. Internal services include facility rental for the workspace in the 1900 Building and PBOT sewer connection inspection fees and permitting services.

The amount in Capital Outlay reflects a realignment of budget and actuals to this program which manages the permit project related work. The costs were previously reported in the Capital Program Management and Controls Program.

Staffing: 33 positions support this program with approximately 6 FTE allocated to the Capital Program Management and Controls Program for capital improvement projects. Positions include Engineers (22), Planners (5), Environmental Technicians (3), an Environmental Program Coordinator, a Manager I, and Supervisor II.

Staffing totals for FY 2019-20 reflects 6 Source Control Plan Review FTE moved from the Environmental Compliance Program as discussed above.

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau: Bureau of Environmental Services
<https://www.portlandoregon.gov/bes/>

Program Contact: Ken Bartocci

Website: bes/

Contact Phone (503) 823-6022

Portland Harbor

Program Description & Goals

The Portland Harbor Program provides expert services to manage and act on behalf of the City in its participation in the Portland Harbor Superfund cleanup, along with the Natural Resource Damage Assessment (NRDA) settlement process and related restoration efforts. Expert services include legal, policy and program administration, technical support and public involvement support. Because of the City's significant economic, environmental and cultural interest, along with its status as a potentially responsible party, the Portland Harbor Program works closely with other City bureaus to be a leader in accomplishing a successful cleanup as soon as possible.

The Portland Harbor Program goals include:

- protecting and enhancing environmental and human health
- maintaining a working harbor, and
- advocating for a fair allocation of cleanup costs among all potentially responsible parties.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
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Explanation of Services

The City is a steward and regulator of the Willamette River and is also one of more than 100 parties that are potentially responsible for cleanup costs. As such, the City has long been involved in the Portland Harbor Superfund project, working to ensure that the interests of Portlanders are represented. The Portland Harbor Program is made up of four main support areas that work closely together to achieve programmatic goals.

- Policy and program administration support provides leadership and strategic guidance for the Portland Harbor Program, along with services for stakeholder engagement, government relations, program development, operational oversight and coalition building to advance cleanup implementation.
- Legal support provides services in defending the City in its involvement and potential liability associated with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process, the allocation settlement process, the Natural Resource Damage Assessment settlement process and associated lawsuits. Legal support also provides services in developing partnership agreements to facilitate collective action toward cleanup implementation, and cleanup agreements with EPA.
- Technical support provides services by protecting City assets, preventing recontamination of the river, investigating and controlling sources of contamination, planning and implementing cleanup work, performing environmental risk assessments, coordinating with other technical programs throughout the Bureau and City and managing projects.
- Public involvement support provides services in developing, implementing and managing a community involvement program designed to build and strengthen relationships with diverse community stakeholders and encourage community involvement in the cleanup process. The public involvement support area also works closely with other government agencies on public health and risk communication, along with environmental justice issues related to the Superfund cleanup.

Equity Impacts

The Portland Harbor Program recognizes past inequities and is actively promoting equity and environmental justice through meaningful involvement of Portland's diverse communities in the cleanup. The new Portland Harbor Community Involvement Program is being developed in partnership with community groups to ensure that those who are disproportionately impacted by the contamination and/or cleanup itself have an opportunity to be involved in the cleanup process.

Changes to Program

Cleanup progress is heavily influenced by external factors, such as the availability of EPA and DEQ resources for oversight, and the willingness of other potentially responsible parties to move forward with various phases of the cleanup process. These external factors change frequently, which requires the program to maintain a high level of flexibility.

As the Portland Harbor Superfund Project moves into the remedial design phase, program expenditures are likely to increase in the near term.

Program Budget

Portland Harbor CERCLA (Superfund)

Program Description & Goals

The CERCLA Program area is dedicated to holding certain segregated funds related to the Portland Harbor Program for the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Please see the Portland Harbor Program narrative above.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
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Explanation of Services

Please see Portland Harbor Program narrative above.

Equity Impacts

Please see Portland Harbor Program narrative above.

Changes to Program

Please see Portland Harbor Program narrative above.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
External Materials and Services	0	167,112	2,210,812	1,910,812
Personnel	634	2,156	0	0
Sum:	634	169,268	2,210,812	1,910,812

Resources: Resources for this program come from ratepayer’s Willamette River/ Portland Harbor Superfund Charge.

Expenses: Expenses for this program reflect estimated costs for Post Record of Decision expenses. Post Record of Decision expenses may be adjusted as more information about potential City responsibilities become known.

Staffing: There is no staffing related to this program, see Portland Harbor Program.

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau: Bureau of Environmental Services

Program Contact: Ken Bartocci

<https://www.portlandoregon.gov/>

Website: bes/

Contact Phone (503) 823-6022

Portland Harbor NRDA

Program Description & Goals

The NRDA Program area is dedicated to holding certain segregated funds related to the Portland Harbor Program for the National Resource Damage Assessment (NRDA) process. Please see the Portland Harbor Program narrative above.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
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Explanation of Services

Please see Portland Harbor Program narrative above.

Equity Impacts

Please see Portland Harbor Program narrative above.

Changes to Program

Please see Portland Harbor Program narrative above.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
External Materials and Services	0	0	1,073,000	1,099,000
Sum:	0	0	1,073,000	1,099,000

Resources: Resources for this program come from ratepayer’s Willamette River/ Portland Harbor Superfund Charge.

Expenses: Expenses for this program reflect resources made available in the event National Resources Damage Assessment projects are identified.

Staffing: There is no staffing related to this program, see Portland Harbor Program.

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau: Bureau of Environmental Services
<https://www.portlandoregon.gov/bes/>

Program Contact: Ken Bartocci

Website: bes/

Contact Phone (503) 823-6022

Pollution Prevention Administration

Program Description & Goals

The Pollution Prevention Administration Program includes leadership and administrative services that support the Pollution Prevention Services Group (which includes the Environmental Compliance Division, Environmental Monitoring and Investigations Division and the Portland Brownfield Program), thus ensuring smooth operation of a work group that has just over 90 Full Time employees in two work locations.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
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Explanation of Services

The Pollution Prevention Administration Program is led by the Group Manager, who is responsible for high-level management and oversight of programs within the Pollution Prevention Services Group. The Pollution Prevention Administration Program integrates organizational management, human resources, financial planning, budget development and various administrative support functions of the Pollution Prevention Services Group, to ensure smooth operations of the work group and timely and appropriate responses to internal and external customers, the public, ratepayers and regulatory agencies. The Group Manager provides Bureauwide direction related to organizational operations and capital programs.

Equity Impacts

The Pollution Prevention Administration Program leads and directs the Pollution Prevention Group's implementation of the BES Equity Plan and BES Strategic Plan initiatives to ensure positive racial equity outcomes on all its programs and projects. The program has the authority to issue directives throughout the Pollution Prevention Services Group, and it participates in and supports efforts within the Bureau that further the Bureau's commitment to creating a diverse workforce and an equitable environment within the Bureau and the community. Activities include the following:

- Advocating and supporting efforts to develop multilingual communications to customers
- Participating at the Bureau level to determine recruitment strategies that support a diverse workforce
- Supporting and advancing efforts to employ people with disabilities
- Supporting and encouraging continued participation in career development activities with high school programs in underserved area
- Continuing development and consideration of activities to benefit communities of color or other underserved populations

Changes to Program

In FY 2018-19, a Management Analyst position was added to Pollution Prevention Administration Program to assist with project management and program administrative responsibilities. No major budget changes are requested for FY 2019-20.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
External Materials and Services	4,373	5,008	43,250	43,250
Internal Materials and Services	14,884	12,011	84,650	824
Personnel	375,313	402,019	532,229	574,127
Sum:	394,569	419,038	660,129	618,201
	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	3	3	4	4
Sum:	3	3	4	4

Resources: Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

Expenses: Primary expenses for this program include personnel, staff training, and office supplies for the Pollution Prevention Services Group (PPS).

Staffing: 4 positions support this program. Positions include the PPS manager, Analysts (2) and an Office Support Specialist III.

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau: Bureau of Environmental Services
<https://www.portlandoregon.gov/bes/>

Program Contact: Ken Bartocci

Website: bes/

Contact Phone (503) 823-6022

Environmental Compliance

Program Description & Goals

The Environmental Compliance Program manages, interprets and implements City-wide environmental permits and associated state and federal regulations. Through compliance inspections, investigations, technical analyses, data collection and management, program evaluations and policy development, this program helps protect the City’s storm and sanitary assets, watershed health and local water quality.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
Percentage of industrial enforcement tests in full compliance	99%	99%	0	99%	0
Average resources spent in site investigations and cleanup, per site investigated or remediated	\$9,386	\$10,629	0	\$10,000	0

Explanation of Services

The Environmental Compliance Program manages Citywide environmental programs and permits and performs the associated activities of developing codes and rules, permitting private dischargers, investigating complaints and illicit discharges, inspecting commercial and industrial facilities, establishing and implementing user charges and enforcing codes and rules.

The Environmental Compliance Program manages the following permits and environmental programs:

- Columbia Boulevard and Tryon Creek Wastewater Treatment Plant National Pollutant Discharge Elimination System (NPDES) Permits. These permits regulate the discharge of total suspended solids (TSS), biochemical oxygen demand (BOD) and E. coli to the Columbia and Willamette rivers.
- Phase I NPDES Municipal Separated Storm Sewer System (MS4) Permit. This permit is intended to reduce or eliminate stormwater pollution by directing the operation and management of drainage and roadway infrastructure, parks and natural areas, maintenance facilities and other features of the built and natural environments. The permit also influences construction development standards.
- Underground Injection Control Water Pollution Control Facility (UIC-WPCF) Permit. The UIC-WPCF permit protects beneficial uses of groundwater by reducing or preventing pollutants from public rights-of-way from entering approximately 9,000 City-owned injection wells, which manage stormwater throughout the City.
- Total Maximum Daily Load (TMDL) Program, which ensures that City discharges of certain pollutants (e.g., temperature, bacteria, mercury) to local rivers and streams do not exceed amounts allocated by the Oregon Department of Environmental Quality (DEQ). (DEQ has determined the maximum combined load from point and nonpoint sources that still meets water quality standards).
- Air Contaminant Discharge Permit (ACDP). This permit requires the Bureau to track and report sources of air contaminants. This was recently updated to include air toxics as part of Cleaner Air Oregon requirements.
- Solid waste permit for the management of biosolids at CBWTP. This is a permit to manage and

• Solid waste permit for the management of residuals at CBWTP. This is a permit to manage and close the Triangle Lake Monofill.

- Industrial Stormwater 1200Z permit at CBWTP. This is a permit to manage stormwater discharges from the CBWTP campus to the Columbia Slough.
- Regulation of industrial and commercial facilities through permitting, inspections, monitoring and enforcement of site practices, discharges to storm and sanitary systems and direct discharges to surface waters. This includes the Pretreatment and Industrial Stormwater programs.
- Regulation of nonpermitted industrial, commercial and residential facilities through complaint response, investigations, inspections, monitoring and enforcement of site practices, discharges to storm and sanitary systems and direct discharges to surface waters. This includes the Fats, Oils, and Grease (FOG), Maintenance Inspection (MIP), and Spill Prevention & Citizen Response (SPCR) programs.
- Oversight and assessment of monitored and class average Extra Strength sewer charges for the discharge of high-strength waste from commercial and industrial facilities.
- On-call environmental engineering, investigation, characterization and remediation services provided by Coordinated Site Analysis (managed under the Environmental Investigations and Monitoring Program).
- Technical and financial support for property owners, developers, community organizations, and neighbors who are interested in cleaning up brownfields and recovering neighborhood land. These services are provided by the Portland Brownfield Program (managed under the Pollution Prevention Program).

Equity Impacts

The Environmental Compliance Program has a direct, mandated responsibility to ensure that the environmental programs and permits it manages result in positive equitable outcomes for all communities. These programs provide significant benefits to underrepresented communities, particularly those living near industrial facilities and those relying on direct contact with surface water (e.g., through subsistence fishing).

The Portland Brownfield Program was created directly in response to an environmental justice initiative at the U.S. Environmental Protection Agency (EPA). From the Portland Brownfield Program's inception, a central goal has been to address the environmental burden that brownfields create in neighborhoods. According to a recent Metro report, brownfields are three times more likely to exist in underserved communities. The Portland Brownfield Program focuses on neighborhood brownfields: smaller commercial sites, like former gas stations and dry cleaners, that are often found close to homes, schools and businesses. The program provides financial assistance to clean up sites that will provide benefit to existing community. Project partners that have received assistance from the Portland Brownfield Program include Verde, Black United Fund, Oregon Food Bank, Hacienda CDC, Dharma Rain Zen Center, Albina Youth Opportunity School, Community Energy Project, Proud Ground and REACH CDC.

The Coordinated Site Analysis (CSA) team supports the equitable provision of utilities and watershed improvements, as well as remediation of contaminated areas that have the potential to pose unacceptable risk to human health and the environment.

Changes to Program

Environmental Compliance Program responsibilities and priorities depend greatly on changes to regulations at the federal, state and local level; new and reissued permits; and new permit conditions. Program expectations can change based on newly emerging pollutants and industries, changes to the City's sewer system and changes to practices and regulations that affect industrial and commercial facilities. More stringent state and federal requirements have led to a greater need for staffing and professional resources because City-held permits are more complex and prescriptive and have more stringent discharge standards. It is critical that the Bureau develop a more standardized and robust data management system to support compliance.

The Portland Brownfield Program uses U.S. Environmental Protection Agency (EPA) funding for many projects; however, EPA funding has become more competitive and less stable in the past year. At the state level, new and proposed legislation has created opportunities for new types of brownfield incentives in Oregon.

With the CBWTP on the 2019 NPDES permit issuance list, the Environmental Compliance Program has needed to carry out additional monitoring, develop more reports and submit more data and reports. DEQ air toxics regulations from 2018 will require more scrutiny of our system, more reporting to DEQ and potentially additional air control upgrades at CBWTP. The 1200Z Industrial Stormwater permit was issued in 2018 with additional monitoring requirements that affect compliance at the CBWTP and the Environmental Compliance Program's oversight of 500 regulated industrial facilities.

The Environmental Compliance Program has adapted to meet these new demands. Staff are actively engaged in legislative efforts to sustain and grow brownfield resources at both the state and federal levels, and the program is implementing process improvements to facilitate anticipated increases in BES capital improvement projects, utility coordination with the Bureau of Transportation and Water Bureau and support of broader City initiatives. The program is moving to a new data management system, which has been under development for approximately five years. This will greatly improve program efficiencies (e.g., inspections, enforcement, data management and cross-program activities). Additionally, the program is cross-training staff in multiple program areas to improve multimedia industrial inspections (e.g., Industrial Stormwater staff inspecting MIP facilities when possible), and it is developing program audits to evaluate the City's compliance with permit requirements.

In FY 2018-19, the Environmental Compliance Program added three new positions, including an Environmental Technician in Industrial Stormwater to keep up with the new DEQ 1200Z industrial stormwater permit, an Environmental Technician to keep up with the pace of development and growth in the City (monitoring about 400 new properties per year) and an Environmental Program Coordinator in Spill Prevention & Citizen Reponse to better manage large investigation and enforcement workloads.

The Environmental Compliance Program no longer has internal support for modeling, as that function is no longer available from the Asset System Management program. The primary budgetary addition in FY 2019-20 is adding a GIS Technician III to conduct data maintenance, data scrubbing, QA/QC, database tool maintenance, UIC registrations and monthly/annual database reporting in support of the UIC permit. The technician will also perform outfall mapping and management, maintain the MS4 outfall database and be the liaison between multiple Bureau program areas to ensure communication, coordination and correlation between databases and general system management related to UIC and MS4 asset data.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
Capital Outlay	3,815	123,381	112,500	120,000
External Materials and Services	907,523	907,206	1,729,295	1,719,102
Internal Materials and Services	635,935	587,009	803,517	828,731
Personnel	4,662,678	5,008,592	6,470,164	6,373,431
Sum:	6,209,951	6,626,187	9,115,476	9,041,264

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	49	51	55	50
Sum:	49	51	55	50

Resources: Resources for this program come from ratepayer fees and charges for Sewer and Stormwater services. Additionally, this program receives revenue from permit fees and civil penalties for environmental contamination.

Expenses: Expenses for this program include personnel, licenses and permit fees (including penalties), costs for contaminated site evaluation and reporting, Department of Environmental Quality cleanup oversight, staff training, and minor equipment and tools. Capital outlay reflects life-cycle replacement vehicles.

The increases in personal services since FY 2016-17 are attributable to several changes in regulatory program requirements for compliance with City of Portland permits as well as rapid increases in commercial and industrial development requiring review and ongoing regulatory oversight, permitting, inspections, and monitoring by Environmental Compliance staff.

Staffing: 50 positions support this program. Positions include Coordinators (4), Engineers (2), an Environmental Program Coordinator, Environmental Specialists (10), Environmental Supervisors (5), Environmental Technicians (25), a GIS technician III, a Hydrogeologist, and a Manager II.

Staffing totals for FY 2019-20 reflect 6 FTE from the Source Control Plan Review Section moved to the Systems Development Program.

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau: Bureau of Environmental Services **Program Contact:** Ken Bartocci

<https://www.portlandoregon.gov/>

Website: bes/

Contact Phone (503) 823-6022

Environmental Investigation and Monitoring

Program Description & Goals

The Environmental Investigation and Monitoring Program (within the Pollution Prevention Group) provides the City with cost-effective and customized environmental monitoring and laboratory services, along with high-quality data delivery and technical consultation that support the Bureau’s regulatory objectives and requirements, conveyance system data needs, watershed assessments and property investments.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
Number of lab analyses performed each year	61,243	53,340	0	60,000	0

Explanation of Services

The Environmental Investigation and Monitoring Program supports (1) the Bureau’s compliance with major environmental permits and regulations, and (2) programs managed by the Bureau to protect and improve surface water, groundwater, stormwater, sediment, soil and habitat quality. The program staff is specialized in the following areas:

- Investigations & Monitoring Services (IMS), which provides project design, project management, data analysis and data reporting services for BES monitoring projects, plus project management for non-City agencies that use the Water Pollution Control Laboratory
- Field Operations, which provides cost-effective, high-quality environmental monitoring services to internal BES stakeholders in support of the Bureau’s regulatory, engineering, and scientific programs
- The Water Pollution Control Laboratory (WPCL), which analyzes wastewater, stormwater groundwater, surface water, biosolids, sediment and soil in support of the City’s regulatory requirements, wastewater operations, Capital Improvement Program (CIP) and other environmental programs, such as watershed management and restoration
- Data Acquisition & Management (DA&M), which collects and communicates critical operational, environmental and emergency information related to the City’s wastewater and stormwater collection systems to support the Combined Sewer Overflow program and asset, operational, management and planning needs

Equity Impacts

BES applies an equity lens to all of its Bureau programs and services and is required by state and federal regulators to ensure the equitable distribution of its basic, sanitary and stormwater services that protect public health and the environment.

Changes to Program

The Environmental Investigation and Monitoring Program responsibilities and priorities depend greatly on changes to regulations at the federal, state and local level, including changes to environmental permits and regulatory standards or requirements. Additionally, workloads are influenced by (1) the nature and magnitude of work conducted by our utility partners and within the Bureau's own CIP, (2) emerging pollutants, and (3) new or evolving industries and/or industry sectors.

The Oregon Department of Environmental Quality (DEQ) has placed the Columbia Boulevard Wastewater Treatment Plant (CBWTP) on the 2019 National Pollutant Discharge Elimination (NPDES) permit issuance list. This has required additional monitoring to support compliance deliverables, along with increased monitoring in response to biosolids management challenges at the CBWTP. Additionally, new state and federal regulations to control specific pollutants, such as mercury, and increased demand for low-level pesticides analyses (compounded by the unreliability of timely services from contract laboratories) have compelled the Investigation and Monitoring Program to develop capability to provide these services from within. Lastly, demand for program services continues to be high, particularly for flow monitoring in the sanitary, combined and stormwater sewer systems to support system planning needs and Bureau improvements to the BES CIP process.

The Investigation and Monitoring Program identified service gaps in its data management systems. System improvements are necessary to increase data accessibility to support development standards for the Stormwater Management Manual, to maximize the value of Portland Area Watershed Monitoring and Assessment Program (PAWMAP) information and to enhance regulatory reporting for NPDES and Underground Injection Control (UIC) permit requirements. Some of this work is currently progressing via software acquisition, business process improvements and expansion of monitoring stations, radio networks and data centers to support new service areas and data gaps affiliated with stormwater system planning.

In FY 2018-19, the Investigation and Monitoring Program added an Electronic Systems Technician within Data Acquisition & Management to address HYDRA system installation, operation and maintenance requirements and a Laboratory Analytical Specialist to the WPCL to provide dedicated oversight in the Nutrients Section. A number of reclassifications were implemented in FY 2018-19 to improve data management and better support Field Operations projects, oversight and consistency.

Adjustments in the Requested FY 2019-20 Requested Budget include the addition of a two-person Field Operations team (and a vehicle) to manage increased demand for short-term flow monitoring data for modeling and predesign within the CIP. Additionally, the request adds a Business Systems Analyst (working closely with MDAS in the Bureau's Information Management Program) to address data challenges. This position was requested and initially supported for funding in FY 2018-19 but was removed very late in the budget process to limit total FTE requests.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
Capital Outlay	149,623	167,354	480,000	385,000
External Materials and Services	730,777	864,925	1,213,602	1,242,762
Internal Materials and Services	-2,611,880	-2,678,557	-3,348,095	-3,363,690
Personnel	4,188,234	4,317,685	4,781,298	5,434,754
Sum:	2,456,753	2,671,407	3,126,805	3,698,826

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	37	38	39	42
Sum:	37	38	39	42

Resources: Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

Expenses: Primary expenses for this program include personnel, costs for external laboratory work, training, chemicals, repair and maintenance of equipment, and utility charges for the Water Pollution Control Lab.

Laboratory testing and Field Operations sampling and monitoring done for BES capital improvement projects and other internal bureau work are reported as negative expenses in in the Internal Materials and Services line item for this program.

Capital Outlay reflects appropriation for replacement of life-cycle vehicles, sampling and monitoring equipment, and laboratory equipment.

Staffing: 42 positions support this program. Positions include Business Systems Analysts (2), a Communications Engineer, a Coordinator III, Electronic Systems Technicians (4), Environmental Specialists (2), Field Science Specialists (6), Field Science Technicians (5), Laboratory Analysts II (6), Laboratory Analytical Specialists (6), Laboratory Coordinators (3), a Laboratory Manager, a Manager I, a Manager II, a Statistician, a Storekeeper Specialist, and a Supervisor II.

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau: Bureau of Environmental Services

Program Contact: Ken Bartocci

<https://www.portlandoregon.gov/>

Website: bes/

Contact Phone (503) 823-6022

Watershed Services

Program Description & Goals

The Watershed Services Program provides leadership and administrative support to the employees in the Watershed Services Group and coordinates Citywide efforts to improve watershed health, support sewer system needs and comply with state and federal environmental regulations. The Watershed Services Program also coordinates the acquisition of natural areas to meet stormwater system objectives.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
Watershed Health Index for water quality	5.90	5.50	0	5.90	0

Explanation of Services

The Watershed Services Program provides management and administrative services for the Watershed Services Group. Staff in this program, reporting directly to the Watershed Group Manager, coordinate a variety of group and Citywide efforts, including land acquisition, the Watershed Investment Program, training and other special projects. Two administrative staff provide clerical, budget, administrative and purchasing support for the Group.

Primary functions include the following:

- Watershed program management: manage and direct watershed programs and activities
- Personnel management: plan, organize, direct and evaluate the performance of managers and staff, including their professional development
- Watershed portfolio management: provide leadership for policy and program development and implementation
- Interbureau, interagency, and stakeholder coordination
- Natural areas acquisition and restoration planning
- Budget management: develop and monitor budget, contract and transaction support
- Administrative, clerical, and purchasing support and training

Equity Impacts

Projects and activities within the Watershed Services Program provide multiple benefits to communities throughout Portland, and the work is increasingly planned and implemented using an equity lens. Land acquisition programs protect and restore natural areas in low-income, racially diverse and underserved communities throughout Portland, providing both watershed and public health benefits.

Changes to Program

Turnover in the Senior Administrative Specialist position during FY 2018-19 has left the position vacant for several months, impacting program productivity. This position will be filled temporarily as a limited-term hire to maintain flexibility for tailoring administrative needs to be responsive to ongoing discussions about potential bureau reorganization.

There have been no significant program changes to Watershed Services in the past year, and no budgetary changes are requested in FY 2019-20.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
Capital Outlay	0	0	35,000	35,000
External Materials and Services	52,806	70,341	90,840	90,840
Internal Materials and Services	60,213	95,626	80,742	45,207
Personnel	407,452	512,649	606,777	589,608
Sum:	520,471	678,616	813,359	760,655
	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	4.2	5	4	4
Sum:	4.2	5	4	4

Resources: Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

Expenses: Primary expenses for this program include personnel, capital outlay for a new vehicle, external costs for staff training, real estate professional services, and post stabilization property management. Internal services include printing and distribution, telecommunications, fleet motor pool, and PBOT Right of Way Services for land acquisition.

Staffing: 4 positions support this program. Positions include the Watershed Services Group manager, and Administrative Specialist II, an Analyst II, and an Environmental Specialist – Generalist.

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau: Bureau of Environmental Services **Program Contact:** Ken Bartocci
<https://www.portlandoregon.gov/bes/>
Website: bes/ **Contact Phone** (503) 823-6022

Science, Fish and Wildlife

Program Description & Goals

The Science, Fish and Wildlife Program (within the Watershed Services Group) provides expert scientific and technical assistance to all Bureau programs and the City on environmental policy, planning, projects, regulations and monitoring. This program also leads the City's Invasive Species Program and manages the City's compliance with the Endangered Species Act.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
Watershed Health Index for water quality	5.90	5.50	0	5.90	0

Explanation of Services

The Science, Fish and Wildlife Program (also known as the Science Integration Division) provides scientific and technical assistance through the work of two teams: the Biological Sciences Team and the Ecosystem Sciences Team. This program collects, analyzes, applies and communicates the best available science to ensure that City policies, programs and projects protect and restore watershed health and achieve regulatory compliance.

- The Biological Sciences Team is responsible for the City's Invasive Species Program, watershed planning, improvements in the mainstem Willamette River and integration of the Terrestrial Ecology and Enhancement Strategy (TEES) into BES operations. The team provides expert services to BES in botany, wetlands, wildlife, mitigation banking, fish passage and pesticides/herbicides.
- The Ecosystem Sciences Team is responsible for the City's Endangered Species Act compliance; federal, state and tribal fisheries partnerships; the City's Streamlining Team for coordinating federal, state and local environmental permits for any City project in water; watershed and project monitoring; and public engagement. The team provides BES with expert services related to hydrology, water quality, ecosystems, fisheries, and natural resource regulations.

Equity Impacts

The Science, Fish & Wildlife Program works closely with regional tribes and the Native American community on protecting and restoring health fish populations of significant cultural importance, including salmon and lamprey, and on opportunity areas for traditional First Foods. This includes partnerships on the Columbia River Treaty, the Lamprey Conservation Agreement and the Salmon in the City celebration at Westmoreland Park.

The program also aids in understanding and responding to environmental justice issues in Portland, including evaluating climate impacts across Portland and disparate impacts on low-income communities. The proposed budgetary addition in FY 2019-20 for gauges to establish flood warning systems are of particular value in the Johnson Creek floodplain area.

Changes to Program

There have been no major budgetary changes to the Science, Fish & Wildlife Program in the past year. However, in response to a changing regulatory climate, the program has taken the lead on exploring natural resource mitigation banking for the City, primarily to support BES' and other bureaus' natural assets. Based on needs throughout the Bureau and the focus on the BES Strategic Plan, the program expects to allocate more resources in the future to support the natural resources components of system planning, risk assessment and monitoring.

The only discretionary budget adjustment for this program in FY 2019-20 is an ongoing increase of \$82,000 for expansion and extension of a contract with the U.S. Geological Survey (USGS) for gauges to establish flood warning systems.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
External Materials and Services	289,857	554,123	459,258	470,800
Internal Materials and Services	610,764	490,628	524,677	475,533
Personnel	1,603,713	1,775,365	1,672,694	1,721,529
Sum:	2,504,334	2,820,115	2,656,629	2,667,862
	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	11.55	11.55	13	10.8
Sum:	11.55	11.55	13	10.8

Resources: Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

Expenses: The Primary expenses for this program include personnel, external costs for hydrologic and water quality assessment, project effectiveness monitoring, Salmon Safe Program implementation, invasive contract herbicide application, and fish monitoring.

Staffing: 13 positions support this program with approximately 2.2 FTE allocated to the Capital Program Management and Controls Program for capital improvement projects. Positions include a Botanic Specialist II- Generalist, a Coordinator III, an Environmental Program Coordinator, Environmental Specialists – Generalists (8), a Manager I, and a Manager II.

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau: Bureau of Environmental Services **Program Contact:** Ken Bartocci
<https://www.portlandoregon.gov/bes/>
Website: bes/ **Contact Phone** (503) 823-6022

Sustainable Stormwater

Program Description & Goals

The City’s stormwater system is a complex network of natural and constructed assets on public and private property and in the public right-of-way. The Sustainable Stormwater Program integrates stormwater system planning, stormwater polices and design guidelines with implementation, technical assistance and stewardship of the City’s stormwater assets.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
Number of trees planted	10,483	22,795	0	12,600	0
Number of stormwater flooding events due to system capacity	111	60	0	100	0

Explanation of Services

Although the City does not own all stormwater assets in the system, the City relies on the complete stormwater asset network to provide critical community functions, including conveyance, storage, treatment and habitat. The stormwater system includes tens of thousands of pollution-reduction and flow-control facilities like green streets, UICs and ponds; thousands of acres of wetlands; hundreds of miles of ditches and pipes; and hundreds of miles of streams and rivers. Major subprograms of the Sustainable Stormwater Program include Stormwater System Planning, Stormwater Management Manual and several implementation efforts.

- The BES Stormwater System Planning (SWSP) identifies and quantifies stormwater system risk within an asset management framework. This allows BES to compare stormwater system risk across all parts of the City, assign priorities based on risk and integrate stormwater projects with other infrastructure needs. Stormwater System Planning is an ongoing effort that guides Bureau investments in stormwater, prioritizing project areas, informing policies and practices to reduce risk, protect existing infrastructure, comply with regulations and improve watershed conditions to protect public health and the environment.
- BES’s Stormwater Management Manual (SWMM) provides policy and design requirements for stormwater management on all development, redevelopment and improvement projects in Portland on private land, public property and public rights-of-way. These requirements are in response to a number of regulations and system needs. Publishing the SWMM involves revising it regularly to reflect current system needs, regulatory requirements and technical standards. Design updates are informed by Sustainable Stormwater’s research and monitoring of stormwater facility performance.
- The Stormwater Implementation and Technical Assistance section provides technical assistance on stormwater facility design and operation to City staff, consultants and private property owners. The Private Property Retrofit program works with other Bureau programs and with private landowners to assess existing stormwater conditions and implement and support projects and programs on non-BES assets that advance the City’s stormwater goals.
- The Stormwater Stewards program manages stormwater sustainably by expanding and protecting Portland’s urban forest and maintaining green streets, through the Environmental Services Tree Program (ESTP) and the Green Street Stewards (GSS) Program.

Equity Impacts

The Sustainable Stormwater Program incorporates equity considerations into the risk evaluation and on-the-ground implementation programs to prioritize stormwater investments equitably. For example, the ESTP prioritizes its work in areas with low-tree canopy, low-income residents and communities of color. A minimum of 75 percent of ESTP's trees are planted in these equity geographies. Stormwater System Planning is using the Bureau of Planning and Sustainability's data on vulnerable communities from the City's Comprehensive Plan to inform where and how BES prioritizes stormwater investment.

Changes to Program

In the past year, the Sustainable Stormwater Program has experienced several changes that will be continuing in FY 2019-20 and beyond. The ongoing Stormwater System Planning effort has been ramping up in recent years and is expected to continue to be a major driver for resource requests in the coming years. A new subprogram, Stormwater Asset Inventory and Condition Assessment (AICA), will gather data and technical information about the condition of assets in the collective stormwater system Citywide. This is intended to bring the Bureau's knowledge about stormwater asset condition in line with its knowledge of other Bureau systems, like the sanitary system.

A combined increase in program funding of \$690,000 is requested in FY 2019-20 to accommodate a crew of two Engineering Technicians to collect field data and records research to support the AICA efforts, and to fund PTE contract support to inventory and assess both natural and constructed stormwater system components and assist with development of user-friendly mapping tools and other technology solutions.

Additionally, the Sustainable Stormwater Program budget makes a one-time increase of approximately \$350,000 to fund (via interagency agreements) staff in the Bureau of Planning and Sustainability (BPS) that support BES's strategic initiatives related to stormwater management and watershed health. BES supports BPSs' efforts to secure permanent funding for these important Citywide efforts that benefit multiple bureaus.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
Capital Outlay	24,036	29,629	0	0
External Materials and Services	742,833	845,862	3,118,909	3,415,569
Internal Materials and Services	90,429	92,922	175,334	525,646
Personnel	2,335,386	2,893,736	2,785,694	3,427,383
Sum:	3,192,684	3,862,149	6,079,937	7,368,598
	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	23	20.4	29	24.85
Sum:	23	20.4	29	24.85

Resources: Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

Expenses: The Primary expenses supporting this program include personnel, external costs for the Private Property Retrofit Program, Stormwater Management Manual assistance services, Stormwater System Plan consultant assistance, and tree planting expenses (including Street Trees). Internal services include laboratory and Field Operations for sampling and monitoring as well as a one-time interagency agreement with the Bureau of Planning and Sustainability.

Staffing: 31 positions support this program with approximately 6.15 FTE allocated to the Capital Program Management and Controls Program for capital improvement projects. Positions include Business Systems Analyst (2), Engineers (11), Environmental Program Coordinators (2), Environmental Specialists – Generalists (7), an Environmental Supervisor, Environmental Technicians (4), landscape Architects (3) and a Manager II.

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau: Bureau of Environmental Services
<https://www.portlandoregon.gov/bes/>

Program Contact: Ken Bartocci

Website: bes/

Contact Phone (503) 823-6022

Watershed Management

Program Description & Goals

The Watershed Management Program develops and implements projects in defined watersheds throughout the City to address stormwater deficiencies, improve water quality and hydrology, mitigate impacts from flooding, protect and restore riparian and shallow water habitat and address sediment contamination. The program leverages support from public and private entities, including grant funding, for watershed projects.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
Feet of streambank restored (not cumulative)	20,274	22,311	0	12,000	0
Watershed Health Index for water quality	5.90	5.50	0	5.90	0
Number of participants in community events, workshops, stewardship, and restoration events	12,595	19,140	0	10,000	0

Explanation of Services

The Watershed Management Program collaborates across work groups to implement restoration projects through BES’s capital program and other watershed enhancement projects. The program also includes community outreach for stewardship, cultivating partnerships with public and private entities, obtaining grant funding for watershed projects, conducting land use reviews and providing support for environmental permitting. Staff specialize in individual watersheds and become experts in their areas. Watershed Management Program staff members are divided into three teams:

- The Columbia Watersheds Team focuses on the Columbia Slough and areas of the Columbia River watershed that are within the City of Portland. This team coordinates with partners to improve water quality, address sediment contamination and enhance and restore riparian, wetland and shallow-water habitat.
- The Eastside Watersheds Team works to improve the ecological conditions of the Johnson Creek watershed and other watersheds east of the Willamette River, in collaboration with public and private partners. The team leads projects and programs that reduce impacts from flooding, improve surface water quality and hydrologic function and enhance habitat for fish and wildlife.
- The Westside Watersheds Section focuses on subwatersheds west of the Willamette mainstem, including Fanno and Tryon creeks and tributaries that drain directly to the Willamette and Tualatin rivers. This section works closely with City and other partners to address stormwater system deficiencies, support sanitary system improvements that will improve water quality and protect and restore instream habitat.

Equity Impacts

The projects and activities of the Watershed Management Program provide multiple benefits to communities throughout Portland, and the work is increasingly planned and implemented using an equity lens. Examples include:

- The Community Watershed Stewardship Program coordinates with the City's New Portlander Program to provide partnership outreach activities to immigrant and refugee communities.
- The Columbia Slough Sediment Program coordinates with Community Engagement Liaisons to do outreach about sediment contamination and fish consumption to immigrant and houseless communities who fish in the slough.
- Watershed Management partners with the Johnson Creek and Columbia Slough Watershed Councils, which serve racially diverse and low-income neighborhoods in N, NE and SE Portland.
- Johnson Creek floodplain restoration projects reduce the incidence of nuisance flooding in low-income neighborhoods in SE Portland.
- Neighborhood to the River projects integrate trees, green streets and rain gardens into capital project areas providing opportunities to provide the benefits associated with green infrastructure into historically underserved communities.
- Land acquisition programs protect and restore natural areas in low-income, racially diverse and underserved communities throughout Portland, providing both watershed and public health benefits.

Changes to Program

The Watershed Management Program did not undergo significant changes in FY 2018-19. The primary budgetary adjustment in the FY 2019-20 Requested Budget is an increase of \$150,000 to support contracts that will continue to identify project planning in priority areas for risk reduction via future capital or operational solutions. Additionally, the program budget increases by \$78,000 ongoing for source investigation sampling of pollutants in the Columbia Slough and \$40,000 one-time resources for participating in the Community Rating System (CRS) that encourages floodplain management activities and potentially reduces flood insurance rates.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
External Materials and Services	501,245	447,031	928,806	1,119,306
Internal Materials and Services	72,501	321,510	238,460	317,625
Personnel	1,621,944	1,814,415	1,909,047	2,180,707
Sum:	2,195,690	2,582,956	3,076,313	3,617,638
	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	14.2	13.87	14.8	14.58
Sum:	14.2	13.87	14.8	14.58

Resources: Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

Expenses: The Primary expenses supporting this program include personnel, external costs for watershed plan implementation, Community Stewardship Grants, technical services for risk assessment, residential and business outreach, and Street Trees for the Tabor to River project. Internal services include laboratory and Field Operations for sampling and monitoring for the Columbia Corridor Source Investigations.

Staffing: 15.8 positions support this program with approximately 1.22 FTE allocated to the Capital Program Management and Controls Program for capital improvement projects. Positions include a Coordinator III, Environmental Program Coordinators (3), Environmental Specialists – Generalists (4.8), Environmental Supervisors (3), Environmental Technicians (2), a Manager II, and a Planner.

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau: Bureau of Environmental Services
<https://www.portlandoregon.gov/>

Program Contact: Ken Bartocci

Website: bes/

Contact Phone (503) 823-6022

Watershed Revegetation

Program Description & Goals

The Watershed Revegetation Program provides vegetation management for stormwater management projects and natural area improvements. As part of the maintenance of City-owned stormwater facilities, the program provides landscape design services, supports stormwater system planning and oversees the maintenance of green streets. This program advances watershed health goals through vegetation and land management to protect and improve water quality, reduce pollutants, improve fish and wildlife habitat and enhance ecosystem services within riparian areas, wetlands and upland areas.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
Number of trees planted	10,483	22,795	0	12,600	0
Feet of streambank restored (not cumulative)	20,274	22,311	0	12,000	0

Explanation of Services

The work of the Watershed Revegetation Program falls into two primary areas:

- Watershed Revegetation Program Stormwater Operations and Maintenance is responsible for vegetation management of City-owned stormwater management facilities and all maintenance of green streets. The program provides landscape design services and general project support for capital improvement and public works permit projects. Maintenance services include facility inspections, work order management and general oversight and management of contractors responsible for performing field services related to maintenance, irrigation, pruning and planting. The program also provides support for stormwater system planning efforts, implementation of the Stormwater Management Manual and incorporation of green infrastructure into the Bureau’s asset management system.
- The Watershed Revegetation Natural Area Program is responsible for managing Bureau property acquired for the purpose of advancing BES’s watershed health goals through vegetation and land management projects that protect and improve water quality, reduce pollutants, improve fish and wildlife habitat and generally enhance other ecosystem services within riparian areas, wetlands and upland areas. The program may also enter into agreements to provide similar services on other public and private property. The program provides management and monitoring services on capital improvement projects related to vegetation services that are required to keep BES in compliance with state, local and federal permits. Program staff provide subject matter expertise related to natural area vegetation, natural resource management and habitat enhancement to partners and stakeholders within BES and throughout the City, and with outside entities.

Equity Impacts

Stormwater facilities are located in all areas of the City, and stormwater services are provided equitably to all communities.

Changes to Program

Workload expectations of the Watershed Revegetation Program have increased massively with the Bureau's continued investment in green street assets and growing needs in vegetated natural areas. In FY 2019-20, the Requested Budget for this program proposes shifting to a model that reduces currently contracted services in favor of four in-house FTEs to perform this same work. Although the budgetary increase (net of contract reductions) is approximately \$135,000 ongoing, the Bureau has done substantial analysis to identify that using a better mix of contract resources and FTE will significantly improve service outcomes and the Bureau's ability to fill the revegetation service gaps.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
Capital Outlay	0	0	0	0
External Materials and Services	2,503,208	3,019,120	1,228,671	1,030,243
Internal Materials and Services	82,533	118,049	59,894	35,043
Personnel	1,120,682	1,128,694	1,045,341	1,472,238
Sum:	3,706,423	4,265,863	2,333,906	2,537,524
	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	8.82	9.92	11	12.92
Sum:	8.82	9.92	11	12.92

Resources: Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

Expenses: The Primary expenses supporting this program include personnel, external costs for stormwater maintenance, natural area maintenance, native plant acquisition, and planting materials.

Staffing: 15 positions support this program with approximately 2.08 FTE allocated to the Capital Program Management and Controls Program for capital improvement projects. Positions include Botanic Specialists (7), Botanic Technicians (4), and Environmental Specialists – Generalists, a Landscape Architect, a Supervisor I and Supervisor II.

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau: Bureau of Environmental Services **Program Contact:** Ken Bartocci
<https://www.portlandoregon.gov/bes/>

Website: bes/ **Contact Phone** (503) 823-6022

Wastewater Services

Program Description & Goals

The Wastewater Services Program provides leadership and specialized operational and administrative support to approximately 200 employees within the Wastewater Group, whose programs provide the core services of wastewater collection and treatment. The Wastewater Services Program leads the BES Strategic Goal for service delivery, to optimize how BES delivers sanitary and stormwater services, and protects and recovers resources for all Portlanders.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
Amount of wastewater processed annually (in million gallons)	36,242	28,901	0	29,400	0
Cost to operate and maintain the treatment plants per million gallons treated	\$529	\$677	0	\$900	0
Percentage of urgent public health and safety related service requests responded to within two-hour timeframe	94%	96%	0	90%	0

Explanation of Services

The Wastewater Services Program provides high-level oversight and coordination of the wastewater operations staff within the Collection System, Treatment and Maintenance Programs (i.e., the Wastewater Group). Staff within the Wastewater Services Program provide high-level analytical and financial support to management, such as reporting and analysis of services. Areas of responsibility include performance measuring, financial and organizational analyses, information requests, benchmarking and survey responses, developing organizational policies and procedures, financial planning and budget management. The Wastewater Services Program includes Administrative Services for the Wastewater Group and the Work and Asset Management System.

Administrative Services include timekeeping, human resources support, records management, document production and editing, reception services/onsite access, payment processing, mail distribution, administrative and facility support (including keys & access cards) and development of Group-level policies, procedures and business processes. Administrative Services is also responsible for managing the Wastewater Group's Stores and Facilities work units (within the Bureau Support Program) and the Learning and Development work unit (within the Employee Development Program).

Wastewater Group employees use the Work and Asset Management System Administration (WAMSA), a work order and asset management system, daily to manage the work and assets at two treatment plants and 98 pump stations. This includes maintaining an asset register with detailed attribution; defining, scheduling and triggering preventive, predictive, corrective and emergency maintenance work; recording labor hours; recording work accomplishments; tracking work history; managing parts inventory; procuring materials and services; and providing asset lifecycle costs, analysis and reporting capabilities.

Equity Impacts

BES is required by state and federal regulators to ensure the equitable distribution of its basic, sanitary and stormwater services that protect public health and the environment. The Wastewater Services Program leads and directs the Wastewater Group's implementation of the BES Equity Plan and BES Strategic Plan initiatives to ensure positive racial equity outcomes on all its programs and projects.

Changes to Program

In recent years, the Wastewater Services Program has had a growing need for reliable records management, facilities management and reporting and analysis, including a need for improved coordination across the Bureau and City.

This program adds one permanent FTE position to fund a Community Service Aide II in support of the Project SEARCH program, which provides training and working opportunities for adults with developmental disabilities. BES's participation in an initial pilot of this City program led to identification of a candidate who has the ideal skills to meet an ongoing program need. The position was filled using one-time budget resources in FY 2018-19; the requested change converts this funding to ongoing.

Despite an increase in administrative burdens and deferred projects to accommodate more and new Bureau and City initiatives, no other new budgetary resources are requested for FY 2019-20.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
External Materials and Services	161,941	286,692	221,307	217,807
Internal Materials and Services	56,556	15,998	60,000	207
Personnel	1,001,712	1,035,415	973,142	1,018,660
Sum:	1,220,209	1,338,105	1,254,449	1,236,674
	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	8	8	8	8
Sum:	8	8	8	8

Resources: Resources for this program come from ratepayer fees and charges for Sewer and Stormwater services. Additional revenues are expected from the sale of Renewable Compressed Natural Gas generated at the Columbia Wastewater Treatment Plant.

Expenses: Primary expenses supporting this program are personnel and external services for common area maintenance and fees, County taxes, security, software licensing and other operational costs.

Staffing: 11 positions support this program with 1 FTE allocated to the Treatment Program, 1 FTE allocated to the Employee Development Program, and 1 FTE allocated to the Capital Program Management and Controls Program for capital improvement projects. Positions include the Wastewater Group Manager, Administrative Specialists (2), Analyst (3), a Manager I, Office Support Specialists (3), and an Instrument Technician. One newly created Administrative Specialist positions is being funded at 80%. The Bureau is working with Human Resources to develop an appropriate classification for the positions created as part of the Project Search program. This position is expected to be changed to the new classification when it is created.

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau: Bureau of Environmental Services
<https://www.portlandoregon.gov/bes/>

Program Contact: Ken Bartocci

Website: bes/

Contact Phone (503) 823-6022

Collection System

Program Description & Goals

The Collection System Program (within the Wastewater Group) oversees the complex operation, maintenance and repair of the City’s wastewater and stormwater collection system to minimize service interruptions and potential hazards to public health, safety, property and the environment. This program works toward the BES Strategic Goal of Service Delivery, to optimize how BES delivers sanitary and stormwater services, and protects and recovers resources for all Portlanders. The Collection System Program is critical to achieving the goals of minimizing the number of stormwater flooding events due to system capacity (less than 100 per year), and minimizing the number of combined sewer overflows (CSOs) and sanitary sewer overflows (SSOs).

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
Number of sanitary sewer overflows	180	168	0	135	0
Number of stormwater flooding events due to system capacity	111	60	0	100	0
Number of combined sewer overflow events	7	3	0	4	0

Explanation of Services

The Collection System Program prioritizes the day-to-day management and performance of the City's wastewater and stormwater collection and pumping facilities. The collection and pumping system includes 98 active pumping stations, 10 step systems, 3,040 miles of pipeline, 683 miles of lateral, 40,789 manholes, 8,625 stormwater sumps, 506,880 linear feet of ditches, 54,700 stormwater inlets and catch basins, 328 trash racks, 148 manufactured stormwater facilities and 2,096 green streets.

The Collection System Manager coordinates resources throughout BES, and from other bureaus and agencies, for effective management and maintenance of the collection system. Operation and maintenance activities include facility design, field inspections, preventative and predictive maintenance, repairs and the management of maintenance contractors and of support for Capital Improvement Program (CIP) projects, public works permitting and a variety of planning and implementation efforts related to the stormwater system. BES's primary operation and maintenance service provider (via interagency agreement) is the Portland Bureau of Transportation Maintenance Operations (PBOT-MO).

Other work units that provide critical, specialized operational and maintenance work for the collection and pumping systems are as follows:

- The Maintenance Engineering team provides expertise on the application of asset management principles to sewer and stormwater operation, maintenance and repairs to ensure that individual infrastructure assets reach an optimal useful service life at an overall least cost. Maintenance Engineers provide guidance and coordination to make decisions rapidly so that service interruptions and hazards to public health, safety, property and the environment are minimized.
- The Pump Station Operation and Maintenance work unit ensures the efficient, reliable operation and mechanical maintenance of 98 pump stations and related infrastructure.
- Electrical and Instrumentation installs, maintains, troubleshoots and repairs a variety of electrical equipment and instruments at the City's wastewater treatment plants and pump stations.
- Industrial Coatings provides corrosion/weathering protection of exposed surfaces and applies industrial labelling for proper identification of piping/equipment and the warning and/or elimination of hazardous conditions.
- The Automation Support Team (allocated between both the Collection System Program and the Treatment Program) develops strategies for automating hardware and software to improve the efficiency of collection and treatment facility operations. The team uses Programmable Logic Controllers and a complex communications network involving fiber-optic, radio airwave and copper media to integrate operations of the wastewater treatment plants, pump station and other elements of the CSO system.

Equity Impacts

BES is required by state and federal regulators to ensure the equitable distribution of its basic, sanitary and stormwater services that protect public health and the environment. Collection System Program facilities are equitably distributed across the City and the program provides equitable service levels to all communities.

Changes to Program

Collection System Program responsibilities are impacted by aging infrastructure and deferred maintenance and capital reinvestment, which can transfer an increased burden onto collection system operations.

In recent years, the program has increased already significant levels of condition assessment work to better understand the current state of assets (specifically, an increased focus on force mains and pump stations). This work continues via increases in FY 2019-20 to support condition assessment on Tier 1& 2 Force Mains. This inspection and assessment will provide the information needed to determine a long-term maintenance and/or replacement plan for these critical system assets.

Budgetary adjustments requested in FY 2019-20 include adding two Industrial Maintenance Millwrights in the Pump Station Operations & Maintenance work unit to support sustainable operations at the Bureau's 98 pump stations Citywide (including odor control facilities and other related infrastructure). Additionally, the FY 2019-20 Requested Budget includes increases in funding for odor control and reliability assessment work at various pump stations Citywide.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
Capital Outlay	306,132	1,460,330	4,154,124	1,640,000
External Materials and Services	3,735,893	3,745,084	4,174,843	4,450,344
Internal Materials and Services	19,908,311	19,177,179	23,936,665	23,538,936
Personnel	3,735,018	4,071,605	4,132,944	4,435,625
Sum:	27,685,353	28,454,199	36,398,576	34,064,905
	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	32.2	31.7	34	32.85
Sum:	32.2	31.7	34	32.85

Resources: Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

Expenses: Primary expenses for this program include personnel, Capital Outlay for vehicles and equipment, external costs for pipe inspection services and condition assessment, odor control. Internal services include the PBOT Maintenance Operations interagency agreement and right of way and survey services.

Staffing: 36 positions support this program with approximately 3.15 FTE allocated to the Capital Program Management and Controls Program for capital improvement projects. Positions include CAD Technicians (3), a Coordinator I, Electricians (5), Engineers (8), Environmental Technicians (3), Industrial Maintenance Millwrights (13), an Instrument Technician, a Manager II, and a Supervisor II.

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau: Bureau of Environmental Services

Program Contact: Ken Bartocci

<https://www.portlandoregon.gov/>

Website: bes/

Contact Phone (503) 823-6022

Maintenance

Program Description & Goals

The Maintenance Program (within the Wastewater Group) is responsible for (1) assessing the condition of more than 18,000 registered assets at the two large wastewater treatment plants, 98 pump stations and related facilities, and (2) planning their preventive, predictive and corrective maintenance needs. This program works toward ensuring the BES Strategic Goal of Service Delivery, to optimize how BES delivers sanitary and stormwater services, and protects and recovers resources for all Portlanders.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
Amount of wastewater processed annually (in million gallons)	36,242	28,901	0	29,400	0
Cost to operate and maintain the treatment plants per million gallons treated	\$529	\$677	0	\$900	0

Explanation of Services

The Maintenance Program ensures that assets are properly maintained, operate at required service levels, and minimize asset life-cycle costs while maintaining appropriate risk levels. The 2017 implementation of the Condition Assessment Program (CAP), a comprehensive utility asset management program, facilitates decision-making on the quality and quantity of infrastructure reinvestment that is needed to meet and sustain optimal levels of service at acceptable levels of system risk.

The Maintenance Program generates data using the CAP to make strategic reinvestment decisions by systematically decreasing unforeseen asset failures and reducing overall business risk exposure. CAP is a two-way conduit for communicating the condition of assets to field experts, engineers and decision makers. It tracks the condition of more than 18,000 registered assets at two large wastewater treatment plants, 98 pump stations and appurtenances. A critical aspect of the program is that decisions are made on current information using a multi-level approach. CAP provides information that optimizes maintenance and operation strategies and supports reliability-centered operations and maintenance practices and goals.

The Maintenance Program Manager also directs and supervises the work of the maintenance teams that maintain the collection system and treatment plant facilities.

Equity Impacts

BES is required by state and federal regulators to ensure the equitable distribution of its basic, sanitary and stormwater services that protect public health and the environment. The Maintenance Program delivers maintenance to the treatment plant and pump station facilities located in all areas of the City. All facilities are assessed and maintained according to the same criteria and standards, which benefit all communities.

Changes to Program

Maintenance Program responsibilities are impacted by aging infrastructure and deferred maintenance and capital reinvestment, which can transfer an increased burden onto collection system operations and maintenance obligations. Recent trends have increased the need for condition assessments, improved asset inventory management and updates to maintenance procedures. Development of the Maintenance Program CAP began in summer 2017 with implementation of Level 1 assessment services for treatment plants, and with assessment of pump stations beginning in October 2018.

The primary budgetary change for the Maintenance Program in FY 2019-20 is increasing consultant services to support condition assessment by \$150,000 ongoing. This will provide for technical analyses that are typically beyond the expertise of internal staff.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
External Materials and Services	230	73,733	594,853	403,200
Internal Materials and Services	324	0	0	0
Personnel	46,154	835,684	659,160	672,379
Sum:	46,707	909,417	1,254,013	1,075,579
	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	0	3	3	4
Sum:	0	3	3	4

Resources: Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

Expenses: Primary expenses supporting this program include personnel and external services for condition assessment consultant services.

The FY 2018-19 Revised Budget for this program reflects approximately \$340K carryover from the prior year for digester gas piping condition assessment.

Staffing: 4 positions support this program. Positions include a Manager II, a Coordinator I, an Engineer II, and an Engineering Technician II.

The increase in FTE for FY 2019-20 reflects a correction for a previously approved condition assessment position that was incorrectly allocated to the Watershed Revegetation Program.

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau: Bureau of Environmental Services

Program Contact: Ken Bartocci

<https://www.portlandoregon.gov/>

Website: bes/

Contact Phone (503) 823-6022

Treatment

Program Description & Goals

The Treatment Program (within the Wastewater Group) manages the operation and maintenance of two wastewater treatment plants that treat collected wastewater/stormwater from the City of Portland service area. The Columbia Boulevard Wastewater Treatment Plant (CBWTP) treats both combined and separated sewers with an annual daily average of 76 million gallons per day of municipal wastewater. The Tryon Creek Wastewater Treatment Plant (TCWTP) treats combined sewer flow with an annual daily average of 6.5 million gallons per day. The treatment process at each of the two treatment plants surpasses the performance measure required in the City’s National Pollutant Discharge Elimination System permits.

Measure Title	PM 2016-17 Actuals	PM 2017-18 Actuals	PM 2018-19 YTD Actual	PM 2019-20 Target	Strategic Target
Amount of wastewater processed annually (in million gallons)	36,242	28,901	0	29,400	0
Percentage of biochemical oxygen demand removed	96%	96%	0	85%	0

Explanation of Services

The Treatment Program plans, manages and performs the operations and maintenance of Portland’s two large sewage treatment facilities (CBWTP and TCWTP), the combined sewer overflow (CSO) reduction system, the resource recovery systems and beneficial reuse or disposal of biosolids and stormwater residuals.

Operating sewage and stormwater treatment facilities is highly technical work performed in a stringent regulatory environment. Operations requires 24/7 staffing and monitoring, with the ability to quickly adjust staffing levels and treatment processes in response to dramatic changes in weather conditions and flows. Staff routinely monitor treatment process at both CBWTP and TCWTP, respond to changing conditions, troubleshoot issues, and make real-time adjustments to ensure that regulatory requirements are met. Effective treatment involves coordinated efforts regarding the processing of both solids and liquids.

Maintenance Planning plans, schedules and coordinates the material, equipment and personnel required to implement maintenance projects at the treatment plants. Staff are responsible for project scoping and management, managing vendor/contractor service contracts and ensuring that projects meet standards. They also serve as project managers on small- to medium-sized capital improvement projects at the treatment plants.

Process Control provides the strategy, development and procedures for operating both treatment plants. This involves providing general and specific technical support to management and staff, as well as the many other stakeholders who regularly interface with Operations. In addition, Portland’s completed CSO reduction system is operated through integrating the operations of the CSO system, the collection system and the treatment system. This strategy is guided by nine prioritized operating objectives that seek to first protect the wastewater treatment system, protect public health from sewage releases and then minimize CSO discharges.

The City of Portland produces approximately 15,000 dry tons (~ 75,000 wet tons) of biosolids per year at the CBWTP. Biosolids are the nutrient-rich by-product of municipal wastewater treatment. The City treats raw sewage solids (often called sludge) to meet stringent EPA standards for

The City treats raw sewage solids (often called sludge) to meet stringent EPA standards for pathogen reduction, vector attraction reduction and pollutant levels before they can be classified as biosolids and used beneficially. Further, the biosolids must meet additional DEQ regulatory requirements, which are included in the City's Biosolids Management Plan and National Pollutant Discharge Elimination System permit.

Disposal of wastewater and stormwater collection and treatment residuals is another critical aspect of the Treatment Program. Stormwater residuals are delivered from around the City, and inorganic residuals are collected at treatment plants. This generates thousands of tons of material that is managed and disposed of and/or reused in the best manner. Grit & Screenings and Sanitary Collections System residuals are currently hauled and disposed of under BES contracts at the Wasco County Landfill. Additionally, City of Portland stormwater residuals from sedimentation sumps, catch basins, ditches, culverts and other stormwater facilities are beneficially reused as daily cover at the Wasco County Landfill. Conducting this program efficiently and effectively requires continuous compliance monitoring and reporting, diligent oversight of onsite services and offsite programs (e.g., land application) and management of several contracts for hauling, disposal and beneficial reuse.

The Treatment Program also manages maintenance of the treatment facilities and related systems, via specialized work units that include the following services:

- Mechanical Maintenance installs, maintains, troubleshoots and repairs the facilities and mechanical equipment at the City's wastewater treatment plants.
- Electrical and Instrumentation installs, maintains, troubleshoots and repairs a variety of electrical equipment and instruments at the City's wastewater treatment plants and pump stations.
- Industrial Coatings provides corrosion/weathering protection of exposed surfaces and applies industrial labelling for proper identification of piping/equipment and the warning and/or elimination of hazardous conditions.
- The Automation Support Team (allocated between both the Treatment Program and the Collection System Program) develops strategies for automating hardware and software to improve the efficiency of collection and treatment facility operations. The team uses Programmable Logic Controllers and a complex communications network involving fiber-optic, radio airwave and copper media to integrate operations of the wastewater treatment plants, pump station and other elements of the CSO system.

Equity Impacts

BES is required by state and federal regulators to ensure the equitable distribution of its basic, sanitary and stormwater services that protect public health and the environment. Treatment services are provided equitably to all ratepayers throughout the City.

The Columbia Boulevard Wastewater Treatment Plant Citizens Advisory Committee represents a variety of neighborhood, business, industry, environmental, recreational, educational and other interests. It is a community sounding board that reviews and provides advice to CBWTP to ensure that the plant is operated in accordance with the vision of the community.

Changes to Program

As the treatment plants continue to age, there have more frequent failures of equipment. In recent years, the Treatment Program has supported increased condition assessment work. Better understanding the condition of all assets at the treatment plants will help prioritize and properly sequence the specific work and inform reinvestment needs.

The City of Lake Oswego has asked that capital projects at TCWTP be delayed in order to explore the potential to build a new treatment plant at a different location nearby. However, there is a driving need to assess immediate, critical needs at TCWTP and implement projects to keep the plant functioning properly to meet regulatory requirements.

In July 2018, CBWTP began a massive two-year effort to reduce the solids inventory at the solids lagoon (a portion of the lagoon is unusable because of construction, and the remaining operating cells are overloaded). Although this effort is ongoing, options for managing incoming solids will be evaluated so that a plan can be developed for keeping up with incoming solids until the secondary process improvements project provides new solids handling process equipment. The Bureau received \$3.5 million in ongoing budgetary resources in the FY 2018-19 Fall budget monitoring process (BMP) to support the Biosolids Inventory Reduction Project. Additional budgetary adjustments of approximately \$150,000 are requested in FY 2019-20 to accommodate increases in the costs of the pre-existing biosolids hauling contracts as a result of inflationary and fuel increases.

The Renewable Compressed Natural Gas (RCNG) facility is scheduled to be completed in summer 2019 and will allow the conversion of waste to produce biogas for sale directly to NW Natural. Although the biogas reuse project will add assets to CBWTP that will require operation and maintenance, an operational facility will also generate revenue for the Bureau. In addition to approximately \$320,000 in annual ongoing O&M expense related to RCNG operations, the FY 2019-20 Requested Budget adds a new FTE to manage, coordinate, measure, track and optimize the delivery and sale of biogas and maximize potential for revenue generation. This project is anticipated to generate a minimum of \$3 million dollars in annual revenue, with the potential for a much higher amount if market conditions align.

Two additional new FTEs are requested to be added to this program in FY 2019-20. The first is an Automation Support Team Supervisor who will (1) better address the extreme span of control issues faced by the current Electrical and Instrumentation Supervisor (who currently supervises 27 employees), and (2) better manage the increased complexity of the automation systems and the speed of technological changes. In addition to supervising a staff of eight programmers, initial priorities will include determining a replacement cycle/reinvestment plan for automation equipment, evaluating the reliability and security of the automation systems, coordinating with Engineering to ensure that automation projects are delivered efficiently and working with Operations and Engineering to make process changes to existing systems to improve quality and process control. The second position is a budgetary addition of \$76,709 ongoing to make permanent a Wastewater Operator trainee position that currently is being funded as a double-fill. This has been a very successful approach to providing training and promotional opportunities, improve work force succession, rapidly improve operator qualifications and experience and advance equity outcomes.

Program Budget

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
Bureau Expense				
Capital Outlay	157,822	48,478	410,500	81,500
External Materials and Services	7,625,540	7,444,034	14,782,798	14,412,930
Internal Materials and Services	981,887	1,016,184	1,154,551	1,026,764
Personnel	10,535,555	10,683,141	10,876,885	11,920,675
Sum:	19,300,804	19,191,836	27,224,734	27,441,869
	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
FTE	94.75	92.25	102	94.7
Sum:	94.75	92.25	102	94.7

Resources: Resources for this program come from ratepayer fees and charges for sewer and stormwater services.

Expenses: Primary expenses supporting this program include personnel and external costs for biosolids land application and transportation, digester cleaning services, electricity, odor control, waste disposal, repair and maintenance supplies, treatment chemicals, and other operating supplies and expenses. Internal expenses include Field Operations and laboratory services for Lagoon monitoring.

Staffing: 102 positions support this program with approximately 8.3 FTE allocated to the Capital Program Management and Controls Program for capital improvement projects. Positions include Analysts (2), an Equipment Operator II, Coordinators (4), Electricians (8), Engineers (2), and Industrial Machinist, Industrial Maintenance Millwrights (19), an Industrial Painter, Instrument Technicians (11), a Manager II, Supervisors (7), Wastewater Operations Specialists (4), and Wastewater Operators (41).

Assets and Liabilities: This program supports Bureau-wide assets of \$13.5 billion.

Program Information

Bureau: Bureau of Environmental Services
<https://www.portlandoregon.gov/bes/>

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