

UB00
Maryland Environmental Service – Capital

Capital Budget Summary

Grant and Loan *Capital Improvement Program*
(\$ in Millions)

Program	2020 Approp.	2021 Approp.	2022 Request	2023 Estimate	2024 Estimate	2025 Estimate	2026 Estimate
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State Water and Sewer Infrastructure Improvement Fund	\$12.769	\$16.287	\$16.752	\$19.122	\$20.848	\$19.400	\$23.188
Total	\$12.769	\$16.287	\$16.752	\$19.122	\$20.848	\$19.400	\$23.188

Fund Source	2020 Approp.	2021 Approp.	2022 Request	2023 Estimate	2024 Estimate	2025 Estimate	2026 Estimate
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GO Bonds	\$9.290	\$11.576	\$16.752	\$6.856	\$10.600	\$12.450	\$9.330
Special Funds	3.479	4.711	0.000	12.266	10.248	6.950	13.858
Total	\$12.769	\$16.287	\$16.752	\$19.122	\$20.848	\$19.400	\$23.188

GO: general obligation

Note: The special funds reflect transfer tax special funds from the Department of Natural Resources' (DNR) Natural Resource Development Fund for DNR projects.

Key Observations

State National Pollutant Discharge Elimination System (NPDES) Violations: The Maryland Environmental Service (MES) has a greater number of local and corporate clients than State clients and, until recently, the incidence of local and corporate discharge permit violations was greater as a percentage of total overall violations. The trend reversed in fiscal 2019, when the incidence of State permit violations was greater as a percentage of total overall violations. This was due to the Eastern Correctional Institution (ECI) wastewater treatment plant (WWTP); MES is still working with the Maryland Department of the Environment (MDE) on a consent decree for WWTP. MES notes that the main treatment facilities at ECI are online as of mid-December 2020 and the violations are no longer occurring. The number of parameters tested decreased from 81,739 in fiscal 2019 to 76,846 in fiscal 2020. MES notes that it lost several clients during this period that reduced the number of parameters tested but that it has taken on the operation of several new facilities, therefore the number of parameters tested is anticipated to increase.

Summary of Recommended PAYGO Actions

1. Concur with Governor’s allowance.

Summary of Recommended Bond Actions

- 1 Infrastructure Improvement Fund
 - Approve the \$16,752,000 general obligation bond authorization for the Maryland Environmental Service’s Infrastructure Improvement Fund.
- 2 SECTION 13 – Maryland Environmental Service – Infrastructure Improvement Fund
 - Approve the \$6,524,000 general obligation bond preauthorization for fiscal 2023 for the Maryland Environmental Service’s Infrastructure Improvement Fund.
- 3 SECTION 14 – Maryland Environmental Service – Infrastructure Improvement Fund
 - Approve the \$3,082,000 general obligation bond preauthorization for fiscal 2024 for the Maryland Environmental Service’s Infrastructure Improvement Fund.

Summary of Issues

Sustainability of Funding MES Projects with Transfer Tax Funds: In fiscal 2020, a change was made to the funding plan for MES’s water and wastewater projects in State parks to replace

general obligation (GO) bond authorizations with transfer tax revenues from the Natural Resources Development Fund. There are, however, two problems with this change. First, it diverts resources from other Department of Natural Resources (DNR) State park facility needs and, second, it has compromised MES' ability to complete the projects because of the unreliability of the timing and amount of the transfer tax funds. MES notes that this process should be improved in the near future by an omnibus memorandum of understanding (MOU) between DNR, the Department of General Services (DGS), and MES. This will obviate the need for an annual agreement, but fund transfers will still need to be approved by the Board of Public Works (BPW), and funding probably will not be available until the second quarter of the fiscal year. **The Department of Legislative Services (DLS) recommends that MES comment on what additional changes could be made to streamline the Natural Resources Development Fund allocation process for water and wastewater projects in State parks, including whether the process would be improved by a modification to the BPW approval requirement and a modification to the transfer tax allocation formula to dedicate funding to MES projects so as not to compete with other State park projects.**

Program Description

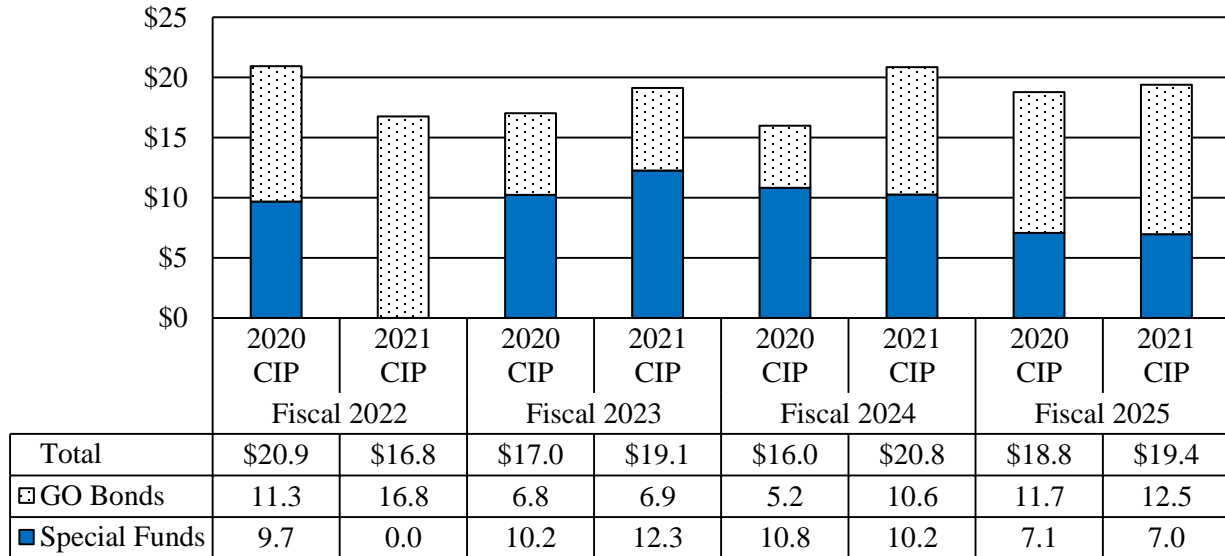
MES was created by statute (Chapter 240 of 1970) as an independent agency. Executive Order 01.01.1971.11 stipulated that MES has responsibility for the operation and maintenance of all State-owned sewage treatment and solid waste disposal facilities. MES was then incorporated into DNR in 1972. During the 1993 session, the General Assembly adopted legislation (Chapter 196) that created MES as an instrumentality of the State and a public corporation independent of DNR. MES provides technical services including engineering, design, financing, construction, and operation of water supply and wastewater treatment facilities, among other activities.

The State Water and Sewer Infrastructure Improvement Fund was established to provide for capital improvements of State-owned and operated water treatment plants (WTP), WWTPs, water distribution and sewer collection systems, and water towers. Since fiscal 1992, funding for capital maintenance projects relating to WTPs and WWTPs has been budgeted under MES. Prior to this, the State budgeted capital maintenance funds for these projects in the DGS Facilities Renewal Program. Facilities renewal funds pay for major rehabilitation activities at State-owned facilities. This change was made in order to more clearly display the capital cost of MES-operated State facilities. MES operates 274 water and wastewater facilities in Maryland, of which 97 are State-owned. The remaining facilities are operated by MES under contract with a local government or corporate owner.

Budget Overview

As shown in **Exhibit 1**, MES projects are funded through a combination of GO bond funds and special funds, shown as nonbudgeted funds, through an allocation of transfer tax revenue. The use of transfer tax revenues first started in fiscal 2020 and is determined by the number of wastewater and drinking water projects that MES annually undertakes at DNR facilities. For fiscal 2022, there is a one-time allocation of GO bonds instead of the special funds, and there is an overall reduced level of funding of \$4.1 million from what was programmed in the 2020 *Capital Improvement Program*.

**Exhibit 1
2020 and 2021 CIP Comparison
(\$ in Millions)**



CIP: *Capital Improvement Program*
GO: *general obligation*

Source: 2020 and 2021 *Capital Improvement Program*

In terms of the difference in the amount of funding proposed for fiscal 2022 compared to what was programmed last session, the largest change for the State projects funded with GO bonds is a decrease of \$2.9 million for the ECI WWTP and Reverse Osmosis Reject Treatment Systems Upgrade project due to a change in the scope of the biosolids facility upgrade. The largest change for the DNR projects is an increase of \$6.8 million for the Point Lookout Water Distribution and Sewer Collection System Upgrade project due to an expansion of the project, which is offset by smaller reductions for other projects. Of these smaller reductions, one reduction is \$2.0 million for the Elk Neck State Park WWTP enhanced nutrient removal (ENR) upgrade, which has been shifted to fiscal 2023 and thus makes funding available for the Point Lookout Water Distribution and Sewer Collection Systems Upgrade project.

Fiscal 2022 Funding and Projects

The fiscal 2022 capital budget provides \$16,752,000 in GO bonds. Of this amount, \$7,881,000 is provided for projects at State facilities and \$8,871,000 is provided for water and wastewater projects at DNR facilities. These projects have been budgeted with transfer tax special funds budgeted under the DNR Natural Resources Development Fund and reflected as nonbudgeted funds in recent years. In total, the funds support nine projects in seven jurisdictions. The capital budget bill also

includes language preauthorizing GO bond funds for fiscal 2023 and 2024 for projects with construction that span beyond fiscal 2022. This provides the funding authority for BPW to approve construction contracts without the authorization of the full construction costs in fiscal 2022. The projects are as follows.

State Projects

- ***Woodstock – WWTP Upgrades (Baltimore County):*** There is \$3,514,000 to complete construction of WWTP. The project cost increased from \$7,712,000 to \$9,312,000 due to project bids exceeding the estimate. This is related to the COVID-19 pandemic making it more difficult to acquire materials and the associated public health restrictions affecting workers. The construction start date slipped from October 2020 to a new notice to proceed date of March 8, 2021, but is ready for final construction funding in fiscal 2022. No future funding is requested.
- ***Victor Cullen – Upgrade WWTP and Collection System Upgrade (Frederick County):*** There is \$2,000,000 to complete construction of the upgrades to WWTP and wastewater collection system. The project cost increased from \$5,908,000 to \$6,913,000. This increase is due to the addition of the collection system to address inflow and infiltration issues and the need to upgrade the treatment plant to ENR to qualify for Bay Restoration Fund funding. Construction originally was estimated to begin in July 2020 and to be completed by September 2021. The project is now estimated to begin construction in late spring or summer 2021 and be completed by December 2023. The future funding request is \$1,976,000.
- ***Cheltenham Youth Center – WTP Upgrade (Prince George’s County):*** There is \$230,000 to begin design of the project, which involves upgrading the water supply, treatment, and storage and distribution systems to accommodate expansion of the youth center. Design is on track to begin in August 2021. The program plan for the project has been approved. The future funding request is \$5,960,000.
- ***ECI – WWTP and Reverse Osmosis Reject Treatment Systems Upgrade (Somerset County):*** The overall project constructs improvements to WWTP to comply with a consent decree over four phases. There is \$1,500,000 to construct upgrades to biosolids handling facilities (phase four). The project cost has decreased from \$41,283,000 to \$38,317,000, due to a change to the initial project scope. Upgrades to the biosolids facility have been revised based on a recent biosolids master plan study performed for MES. The new scope has eliminated sludge thickening, lime stabilization, and sludge storage facilities. Instead, the upgrade will only include installation of dewatering equipment. Design originally was planned to be completed by February 2021, but design of the biosolids facility upgrade is now expected to be completed in May 2021. The project is still on track to use fiscal 2022 construction funding. WWTP is now anticipated to be substantially complete in March 2021 instead of June 2021. The consent order for WWTP is still pending and has not been finalized. However, the ECI WWTP is currently in compliance. The program plan for the project has been approved. The future funding request is \$2,000,000.

- ***ECI Co-Generation Plant – Fuel Conversion to Natural Gas (Somerset County):*** There is \$637,000 to complete construction of a natural gas delivery pipeline to the cogeneration plant and convert from using woodchips as fuel to natural gas. The project cost has stayed the same at \$4,226,000. Design began in July 2020 and ended in January 2021 as estimated. The project is still on track to begin construction in April 2021 and for the ECI to receive natural gas for consumption by the end of calendar 2021. The program plan has been approved. No future funding is requested.

DNR Projects

- ***Cunningham Falls State Park – Route 77 Sewer Line Upgrade (Frederick County):*** There is \$500,000 to fund the design of the repair and upgrade to the Route 77 sewer collection line in order to reduce inflow/infiltration. The project is a continuation of sewer improvements related to the Cunningham Falls State Park. Work was completed inside the park, therefore now the project is addressing inflow and infiltration in the sewer connecting the park to the town of Thurmont. Design is ready to start in July 2021. A new program plan has been submitted and approved. The future funding request is \$2,500,000.
- ***Cunningham Falls State Park Water Treatment Plant – Microcystin Treatment System (Frederick County):*** There is \$256,000 to complete construction of the project, which involves the installation of equipment to remove seasonally occurring algal toxins in the source water. Design was estimated to be completed in October 2020 but is now 90% completed. The architect/engineer is focusing on other projects for MES because the project cannot be bid until the funding is provided. Construction is still estimated to start in July 2021. No future funding is requested.
- ***New Germany State Park – WTP and WWTPs and Water Collection System Upgrades (Garrett County):*** There is \$1,359,000 to continue constructing improvements to water supply, treatment, storage, and distribution systems and wastewater collection and treatment facilities. The project cost increased from \$4,070,000 to \$4,145,000 because of construction difficulties anticipated in the remote mountainous area and the absence of construction labor. Prices have also increased during the COVID-19 pandemic because of the difficulty obtaining equipment and construction materials. Design began in August 2020 as planned and is still on track to be completed in July 2021. The construction schedule has shifted from a September 2021 start date to November 2021. The future funding request is \$1,386,000.
- ***Point Lookout State Park – Water Distribution and Sewer Collection System Upgrade (St. Mary's County):*** There is \$6,756,000 for continuing construction of improvements to the water distribution system and wastewater collection system. The project cost increased from \$6,181,000 to \$9,436,000 because DNR requested a comprehensive upgrade of the water and sewer infrastructure. The additional funding was moved from the Elk Neck State Park project. Design was estimated to be completed by December 2020 but is now 90% completed because the scope of the design was expanded, causing the delay. Construction was estimated to begin in July 2021 but is now estimated to start in fall 2021 in order to avoid a conflict with the park's busy season. The future funding request is \$312,000.

Issues

1. Sustainability of Funding MES Projects with Transfer Tax Funds

In fiscal 2020, a change was made to the funding plan for MES’s water and wastewater projects in State parks. The change involved the replacement of GO bond authorizations with the use of transfer tax revenues from the Natural Resources Development Fund. The intent was to reduce MES’s reliance on GO bond funds, which could then be used for other purposes. However, this diverts resources from other DNR State Park facility needs, and it has compromised MES’ ability to complete the projects because of the unreliability of the timing and amount of the transfers. MES’s recent transfer experience has been as follows:

- **Fiscal 2020:** \$6,052,000 was authorized but only \$3,479,000 transferred; and
- **Fiscal 2021:** \$6,604,000 was authorized but only \$4,710,675 transferred.

In addition, the reduced transfers have taken months to complete, due to the number of steps involved. These steps are as follows: MES is notified about the funding amount, but not until after the fiscal year has started; DNR drafts correspondence requesting that DGS transfer the funds; an MOU between DNR, DGS, and MES is prepared for BPW approval; an agenda item is created requesting the actual fund transfer; and BPW approves the transfer. MES notes that this process should be improved in the near future by an omnibus MOU between DNR, DGS, and MES, but fund transfers will still need to be approved by BPW, and funding probably will not be available until the second quarter of the fiscal year. **DLS recommends that MES comment on what additional changes could be made to streamline the Natural Resources Development Fund allocation process for water and wastewater projects in State parks, including whether the process would be improved by a modification to the transfer tax allocation formula in order to dedicate funding or a modification to the BPW approval requirement.**

Preauthorizations and Deauthorizations

As shown in **Exhibit 2**, the fiscal 2022 capital budget bill includes a preauthorization of \$6,524,000 in GO bonds for fiscal 2023 and \$3,082,000 in GO bonds for fiscal 2024 for the MES Infrastructure Improvement Fund to design, construct, and equip water and wastewater facility improvements for State institutions. The preauthorizations allow for BPW to approve contracts on projects with expenditures and authorizations that span more than one fiscal year.

Exhibit 2
Preauthorizations
Fiscal 2023-2024
(in Millions)

<u>Project</u>	<u>2023</u>	<u>2024</u>	<u>Reason</u>
Infrastructure Improvement Fund Fiscal 2023 Preauthorization	\$6.524	\$3.082	Preauthorizations are required for the Board of Public Works to approve contracts for projects with expenditures and authorizations that span more than one fiscal year.

Source: Department of Budget and Management, 2021 *Capital Improvement Program*

The fiscal 2023 preauthorization funds the following projects:

- *New Germany Water and Wastewater System Improvements (Garrett County):* \$1,386,000;
- *Point Lookout Water Distribution and Sewer Collection System Upgrade (St. Mary’s County):* \$312,000;
- *Swallow Falls Wastewater Treatment and Water Treatment Upgrade (Garrett County):* \$2,850,000; and
- *Victor Cullen – Upgrade of Wastewater Treatment Plant and Collection System Upgrade (Frederick County):* \$1,976,000.

The fiscal 2024 preauthorization funds the following projects:

- *ECI – Wastewater Treatment Plant and Reverse Osmosis Reject Treatment Systems Upgrade (Somerset County):* \$2,000,000; and
- *Swallows Falls Wastewater Treatment and Water Treatment Upgrade (Garrett County):* \$1,082,000.

Encumbrances and Expenditures

The MES encumbrance and expenditure history for the State Water and Sewer Infrastructure Improvement Fund is shown in **Exhibit 3**. Overall, \$152.6 million in GO bonds and special funds have been authorized. Of this amount, MES has encumbered \$132.3 million; \$20.3 million remains to be encumbered. The majority of the funding remaining to be encumbered was authorized in fiscal 2021. MES notes that the balance of funds were authorized for several projects. The status of these projects is as follows.

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- ***Charlotte Hall WWTP:*** The project has been phased because the contractor’s price for some of the work was too high. This has not resolved MES’s challenges because it has not been able to find suitable material to redo the rapid infiltration basin #1, and there is not enough funding to dredge the lagoon. Therefore, the project funding will be moved to another project.

- ***Cheltenham WWTP:*** Design has recently been restarted, but the project was delayed because MES wanted to get a better estimate of current flows, which involved getting more information about the Department of Juvenile Services’ plans for growth at the site and repairing the collection system to ameliorate inflow and infiltration. MES was contacted by the Veteran’s Cemetery about connecting to the system.

- ***ECI WWTP Upgrade:*** Construction work is progressing and should be completed before the end of fiscal 2021.

- ***Female Detention Center Water and Sewer:*** The project was canceled, and MES needs to unencumber the funds remaining in the architect/engineering contract and move them to another project.

Exhibit 3
Infrastructure Improvement Fund Encumbrances and Expenditures
Program Inception through February 2021
(\$ in Millions)

<u>Fiscal Year</u>	<u>Funds</u>			<u>Balances</u>	
	<u>Authorization</u>	<u>Encumbered</u>	<u>Expended</u>	<u>To Be Encumbered</u>	<u>To Be Expended</u>
Prior Years	\$69.419	\$69.003	\$68.606	0.417	0.814
2017	24.825	24.455	24.361	0.370	0.464
2018	19.732	18.204	17.477	1.528	2.255
2019	9.590	9.267	6.271	0.323	3.319
2020	12.769	6.748	3.153	6.021	9.616
2021	16.287	4.647	1.220	11.640	15.067
Total	\$152.622	\$132.324	\$121.088	\$20.299	\$31.535

Note: The \$12.8 million authorization in fiscal 2020 includes \$3,479,000 in transfer tax special funds from the Department of Natural Resources (DNR). Similarly, the \$16.3 million authorization in fiscal 2021 includes \$4,711,000 in transfer tax special funds from DNR.

Source: Department of Budget and Management; Maryland Environmental Service

GO Bond Recommended Actions

1. Approve the \$16,752,000 general obligation bond authorization for the Maryland Environmental Service’s Infrastructure Improvement Fund to design, construct, and equip water and wastewater facility improvements for State institutions.
2. Approve the \$6,524,000 general obligation bond preauthorization for fiscal 2023 for the Maryland Environmental Service’s Infrastructure Improvement Fund to design, construct, and equip water and wastewater facility improvements for State institutions.
3. Approve the \$3,082,000 general obligation bond preauthorization for fiscal 2024 for the Maryland Environmental Service’s Infrastructure Improvement Fund to design, construct, and equip water and wastewater facility improvements for State institutions.

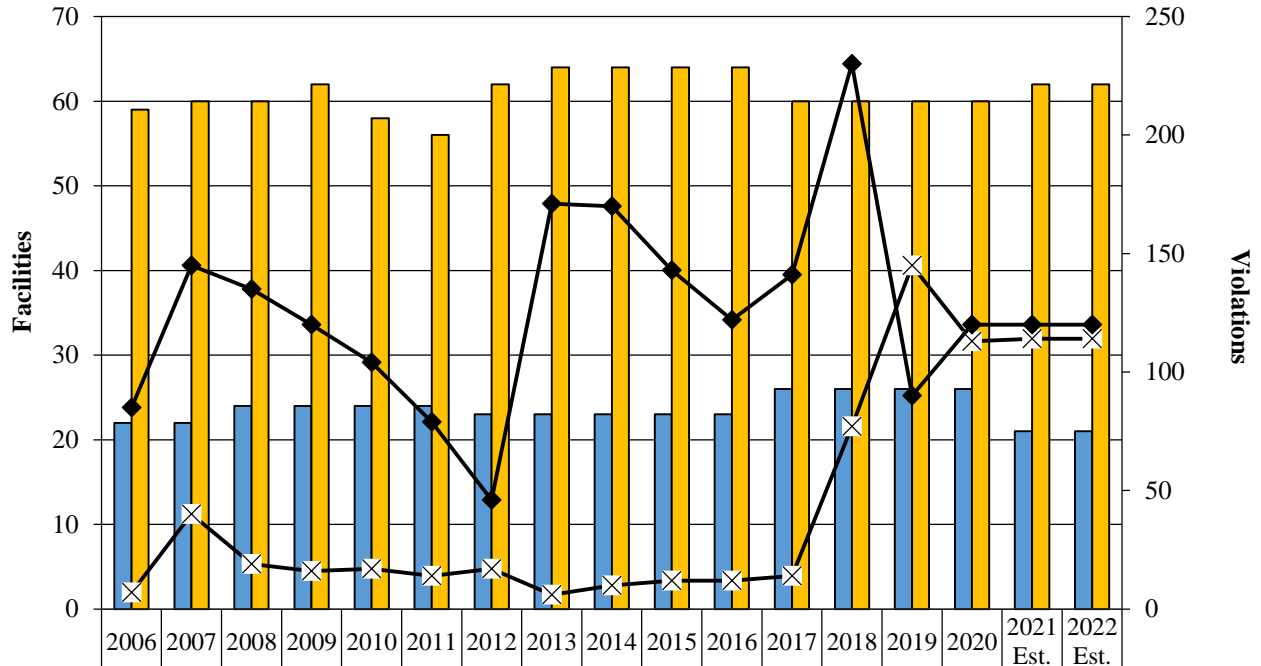
Performance Measures and Outputs

MES's first goal is to improve the environment through MES activities. Under this goal is the objective to manage and reduce nutrient discharge into the Chesapeake Bay. One of the measures for this objective is the number of corporate and State NPDES discharge permit violations. MES's annual capital budget planning process prioritizes projects that reduce the incidence of discharge violations at MES-operated facilities.

State NPDES

Exhibit 4 shows that MES has a greater number of local and corporate clients than State clients and that, until recently, the incidence of local and corporate discharge permit violations was greater as a percentage of total overall violations. The trend reversed in fiscal 2019, when the incidence of State permit violations was greater as a percentage of total overall violations. This was due to ECI WWTP; MES is still working with MDE on a consent decree for WWTP. Of note, the compliance level is directly related to the large number of potential violations or permits and does not necessarily reflect the severity of any one violation. In addition, MES notes that the main treatment facilities at ECI are online as of mid-December 2020 and the violations are no longer occurring. The number of parameters tested decreased from 81,739 in fiscal 2019 to 76,846 in fiscal 2020. MES notes that it lost several clients during this period, which reduces the number of parameters tested but that it has taken on the operation of several new facilities, therefore the number of parameters tested is anticipated to increase. The clients that were lost either connected to the local utility and were no longer discharging, had a local utility or another entity take over the operations, or, for the Southern Pre-Release facility, surrendered the spray irrigation permit.

**Exhibit 4
Local, Corporate, and State Discharge Permit Violations
Fiscal 2006-2022 Est.**



State Facilities	22	22	24	24	24	24	23	23	23	23	23	26	26	26	26	21	21
Local and Corporate Facilities	59	60	60	62	58	56	62	64	64	64	64	60	60	60	60	62	62
Discharge Permit Violations for State Facilities	7	40	19	16	17	14	17	6	10	12	12	14	77	145	113	114	114
Discharge Permit Violations for Local and Corporate Facilities	85	145	135	120	104	79	46	171	170	143	122	141	230	90	120	120	120

Source: Department of Budget and Management; Maryland Environmental Service; Governor's Fiscal 2008-2022 Budget Books