



The City of San Diego

Staff Report

DATE ISSUED: 11/9/2023
TO: City Council
FROM: Stormwater Department
SUBJECT: Annual Stormwater Department Update

Primary Contact: Todd Snyder

Phone: (858) 541-4318

Council District(s): Citywide

OVERVIEW:

The Stormwater Department (SWD) operates and maintains a vast, integrated stormwater conveyance system to help reduce flood risk and prevent pollution from reaching local streams, rivers, bays, and beaches. This annual update provides an overview of the SWD's accomplishments in FY23 and a look ahead to FY24, including preparation for the upcoming storm season and planned activities to achieve the SWD's Strategic Plan goals.

PROPOSED ACTIONS:

This item is for information only.

DISCUSSION OF ITEM:

Stormwater Department Provides Essential Services but Faces Needs that Greatly Exceed Available Resources

The SWD works in all weather conditions to build, maintain, and modernize efficient stormwater infrastructure, which lays the foundation for safe, sustainable, and thriving communities. Several factors, including a changing climate with more extreme weather events, aging and failing infrastructure, and urbanization, have exacerbated baseline needs for stormwater management and storm season preparation. More extreme weather patterns, like prolonged dry seasons where debris and trash accumulate in the stormwater system, and more intense rain events that trigger flash flooding, necessitate additional efforts to protect San Diego's natural resources, communities, and the environment. With limited available resources, the SWD continues to expand essential services in alignment with Citywide priority issues such as equity, drought resilience, sustainability, and homelessness.

As has been well-documented, the SWD continues to be underfunded on an annual basis, requiring prioritization of activities based on the most urgent needs and regulatory mandates. In FY24, the SWD has an operating budget of \$67.6 million and a Capital Improvement Program (CIP) budget of \$41.1 million. This represents only 30% of the average annual funding need of \$314 million, and it does not account for emergencies, such as sink holes, that continue to occur on a frequent basis due to aging and failed infrastructure. As stormwater needs continue to be underfunded, the safety of basic infrastructure, including roads and the stormwater system, will be further compromised. The SWD continues to address high priority needs within each of its service areas given these funding limitations.

This annual update highlights key accomplishments from FY23, reviews key challenges, and presents the SWD's plan to address the following key priority areas in the SWD Strategic Plan:

- Ensure Flood Safe Communities
- Improve & Protect Clean Water
- Provide Clean & Green Streets
- Enhance Our Communities & Protect Our Habitats
- Capture Stormwater for Use
- Prioritize Education, Outreach & Engagement

Ensure Flood-Safe Communities

San Diego is home to nearly 1.4 million people, who rely on a stormwater system that was originally designed – in some places over 100 years ago – to manage stormwater and control flooding for a far less dense and less urbanized city. In addition to aging and undersized infrastructure, climate change is expected to bring more intense storms as well as drier, hotter summers that increase the potential for fire, landslides, and clogging of infrastructure with debris. The SWD manages a stormwater system comprising the following:

- More than 1,000 miles of storm drain pipes,
- More than 46,000 inlets and associated drain structures,
- 69 miles of channels,
- 12 miles of levees,
- 15 pump stations, and
- 79 diversion structures.

Examples of ongoing and planned actions to provide flood-safe communities are provided below.

Example: Storm Preparation for the 2023-2024 Winter Season

The Climate Prediction Center is forecasting a greater than 95% chance of El Niño conditions continuing through March 2024, and a 71% chance of conditions being "strong". The more intense and unpredictable rainfall associated with El Niño conditions has the potential to put the City's aging infrastructure under great strain. The SWD is actively preparing to deal with significant flooding and more storm-related emergencies in FY24.

Throughout the 2023-2024 winter season, the SWD will monitor weather forecasts daily. If approaching weather systems are detected, the SWD will initiate "Storm Patrol" duties that consist of the following:

- Mobilize equipment and supplies in advance of the storm,
- Mobilize SWD and Transportation Department (TD) staff to patrol assigned areas with historical flooding concerns,

- Inspect and clean critical drains and locations prior to, during, and after storm events,
- Establish as-needed road closures at river crossings,
- Conduct pre- and post-storm engineering evaluations at failed storm drain locations that are on needs lists and waiting to be funded for capital improvements,
- Initiate bypass pumping at tidally influenced locations and low-lying areas, and
- Perform emergency activities as needed to protect life and safety.

During each storm, the full field team of employees from the SWD and TD (consisting of approximately 350 employees) are available to patrol our communities and are ready to mobilize as needed. For flooding concerns and other stormwater system-related emergencies, the public should immediately call the City's Public Works Dispatch Center at (619) 527-7500. The Dispatch Center team routes the appropriate response for all drainage emergency concerns. Customers are encouraged to report any other issues or concerns with any part of the stormwater conveyance system through the City's Stormwater Hotline at (858) 541-4300 or via the City's "Get It Done" mobile application, which can be downloaded at <http://getitdone.sandiego.gov>. All reports are assigned a service request number allowing the reporting party to track progress. The SWD ensures that service requests are completed within assigned timeframes by priority.

When rain is forecasted, the SWD utilizes its Think Blue public education program to emphasize wet weather preparation and flood safety. The SWD coordinates with the Communications Department to push out proactive media outreach to convey flood safety messaging. When critical life and safety concerns are identified before or during heavy rains, the SWD works with regulators to secure emergency permits and approvals to conduct emergency maintenance or infrastructure repairs.

A good example of storm mobilization was on display during the high intensity rain and wind forecasted for Hurricane Hilary, which impacted the City as a tropical storm on August 19, 2023. This was the first wet weather event of FY24, outside of the typical storm season. Storm Patrol teams successfully prepared by inspecting critical drains, pumps, and known issue areas, and had generators and bypass pumps ready for mobilization. Throughout the storm event, SWD and TD field crews were activated for dispatch to flooding or areas of concern. Between August and September of 2023, the City experienced 1.8 inches of rainfall (approximately 280% more than the total rainfall in August and September of 2022). This represents about 14% of the total rainfall experienced during the 2022-2023 rainy season.

Example: Channel Maintenance

The SWD operates and maintains more than 69 miles of stormwater channels (approximately 200 channel segments). These channels convey water through earthen and/or concrete conduits in critical areas. The City inspects all channels annually to assess channel conditions and capacity to safely convey floodwaters away from homes and businesses. As shown in Table 1 and Attachment 1, in FY23, the SWD performed major maintenance on eight channel segments (five via planned maintenance per FY23 budgeted funding, and three via emergency maintenance which required a mid-year budget adjustment). Major maintenance includes clearing vegetation, repairing damaged infrastructure, removing accumulated sediment containing pollution and trash, and coordinating with the Environmental Services Department (ESD) to address encampments in or around channel areas.

Based on available budget, four channel segments have been prioritized for major maintenance in FY24 and an additional four in FY25. Channel segments are prioritized based on variety of factors including

probability of flooding (e.g. channel substrate, structural damage, vegetation build-up, extent of sediment deposition), consequence of flooding (e.g. surrounding buildings and land uses, nearby housing density, and available freeboard), public input, and available baseline hydrology and hydraulic (H&H) modeling, which quantifies the capacity for a channel to convey flood waters.

Table 1 – SWD Channel Maintenance

Completed FY23	In-Progress FY24	Planned FY25
Routine Maintenance: <ul style="list-style-type: none"> • Los Peñasquitos Lagoon: Tripp 1 (CD1) • San Diego River: <ul style="list-style-type: none"> - Mission Gorge 1 (CD7) - Mission Gorge 2 (CD7) • Auburn Creek: Home 2 (Spillman) (CD9) • Green Valley Creek – Pomerado 2 (CD5) Emergency Maintenance: <ul style="list-style-type: none"> • South Chollas Creek: <ul style="list-style-type: none"> - Alpha 1 (CD9) - Ocean View 1 (CD9) • San Diego River: Texas Street (CD3) 	Planned Maintenance: <ul style="list-style-type: none"> • Alpha 1 (CD9) • Pomerado 1 (CD5) • Rolando 2 (CD4) • Titus 1 (CD3) 	Planned Maintenance (Tentative): <ul style="list-style-type: none"> • Cottonwood 2 (CD8) • Euclid 2 (CD4) • Baja 1 (CD9) • Smythe 1 (CD8)

H&H modeling is currently available for only 50% of the SWD’s channel inventory. Funding for additional modeling is needed to set baseline maintenance needs for the remaining 50% of the inventory and to improve the prioritization process. Based on current levels of funding, the SWD can only perform major maintenance on four channels annually. Approximately 60 channel segments have been identified as needing substantial maintenance. The SWD’s goal is to increase resources and staffing to enable maintenance of 12 channels per year – this would enable the current backlog of major maintenance to be addressed over the next five years.

Example: Storm Drain Repair & Replacement

The SWD manages approximately 1,148 miles of pipes that run throughout the City, under streets, along homes and businesses, and near recreation areas. Many of these pipes are over 100 years old and have deteriorated due to age and deferred replacement due to decades of underfunding. The impacts of these deteriorating and failing pipes are felt not only when it rains, but year-round as they can cause sinkholes, erosion, and pollution backing up into streets and alleys. In FY23, the SWD fully onboarded a second pipe repair team, effectively doubling the capacity to repair or replace pipes in high priority locations. With the new team fully onboarded, in-house crews replaced 5,476 linear feet (1 mile) during FY23. In addition, SWD crews improved 76 storm drain structures such as inlets and outfalls, replaced 1,210 square feet of sidewalk near storm drains, replaced 217 linear feet of curb and gutter, and installed 630 linear feet of fencing for safety.

While the onboarding of a second pipe team is notable, there are still thousands of vulnerable locations throughout the City in need of repair and replacement to lower the risk of failures and more costly emergency fixes in the future. Seventeen (17) emergency CIP projects were initiated in FY23 with a total cost of \$46.5 million to date. The cost of these emergency repairs consumed any funding for proactive planning and design of repairs and replacements identified in the SWD’s FY23 CIP budget, except for a few in-house repairs and projects in or near construction.

In FY24, the SWD plans to accomplish the following:

- Replace one (1) mile of pipe by the in-house SWD construction teams.
- Line 19 corrugated metal pipe locations with stabilizing material to prevent failures.

Example: Levee Maintenance & Floodplain Management

Levees provide critical flood protection along major waterways throughout the City. The SWD does not currently have dedicated funding for this program; however, the City is required to inspect and maintain San Diego River and Tijuana River Levees according to US Army Corps of Engineers (USACE) standards. A 2015 USACE audit identified hundreds of deficiencies that, if not corrected, would remove the City from the USACE's PL 84-99 Rehabilitation Program. Since 2015, there have been over 340 deficiencies identified in levees along the San Diego River and Tijuana River. While the SWD continues to address these deficiencies where possible (solely through staff overtime efforts), 86 deficiencies remain unresolved due to funding limitations and are a potential liability for the City moving forward. This list of deficiencies continues to grow each time an inspection is performed on the levee system and is currently estimated to cost approximately \$27.7 million in permitting and repairs. The SWD's Levee program also has a \$1.4 million unfunded annual operations and maintenance need.

The City is a participating member of FEMA's National Flood Insurance Program (NFIP)), which allows residents in federally designated flood hazard areas to receive subsidized insurance rates. The NFIP requires the City to regulate activities and development in the floodplain according to NFIP standards. In FY23, the City was accepted into FEMA's Community Rating System (CRS) incentive program that recognizes community floodplain management practices that exceed the minimum NFIP requirements. Participation in the CRS provides an additional 15% flood insurance discount to property owners. This benefits approximately 3,000 property owners throughout the city. CRS participation requires the City to follow protocols for intake, review, approval, and recordkeeping of floodplain development applications. Periodic spot checks and regular audits from FEMA are a requirement to maintain good standing in the CRS.

Improve & Protect Water Quality

The SWD strives to provide San Diego with clean water and clean beaches and works to meet and exceed the requirements of the Clean Water Act. Protecting local waters from pollution requires a multi-faceted approach. It starts in each neighborhood with efforts like trash management and inspections to identify and stop illicit discharges. It involves regular maintenance of the stormwater conveyance system to keep accumulated pollution out of rivers, lakes, bays, and the ocean. Finally, it involves water quality monitoring to assess progress. In addition to the following examples, projects highlighted in other sections such as green infrastructure and revitalization projects, also help address water quality.

Example: Street Sweeping and Storm Drain Cleaning

The SWD conducts street sweeping and storm drain cleaning year-round to remove pollutants and debris that can clog the system and/or transport these pollutants downstream into local waterways. In FY23, the SWD swept approximately 85,000 miles of streets, meeting the annual target of 85,000 core miles, and removing over 5,700 tons of pollution and trash from the environment. This additional effort in street sweeping was possible due to significant staff overtime. In addition, in FY23 the SWD hand-cleaned over 30,000 linear feet of pipe, removing over 430 tons of trash and debris from storm drains that otherwise

would have ended up in our waterways. While the SWD inspected over 20,600 storm drain inlets to ensure proper function, not all of the approximately 25,000 inlets could be cleaned and inspected due to limited staff resources and funding. These activities help reduce flood risk in addition to protecting water quality.

Example: Water Quality Response Team

The SWD has organized a multidisciplinary tactical team that uses cutting-edge technology to identify and track sources of harmful pollution that pose human health and water quality risks. The team has developed a new approach to help visualize and assess trends in monitoring and inspection data and locations of concern to deploy to the highest priority areas based on risk to human health and the environment. Forming cooperative partnerships with other departments, divisions, stakeholders, and jurisdictions is critical to streamlining resolutions of these complex pollution source investigations and eliminations. In FY23, the team closed 11 cases, including one that had been a persistently flowing location for approximately eight years. However, many areas are still left unaddressed due to funding and resource limitations, contributing to continued water quality exceedances and greater risk to public health, and leaving the City at risk of failure to comply with regulatory requirements. In FY24, the team is actively working to close out eight complex pollutant cases to identify and abate the sources that pose risk to our environment.

Example: Water Quality Monitoring

The monitoring program is integral to assessing the quality of water draining from the City's stormwater system and the health of local streams, rivers, bays, and ocean. The SWD collects samples from water and sediment during wet and dry weather conditions to support compliance with the Clean Water Act, and to help develop data-informed strategies to improving water quality and public health. In FY23, the monitoring team sampled over 600 sites during wet and dry weather, fulfilling State-mandated monitoring requirements. Monitoring efforts support assessment of water quality throughout the City and inform the prioritization of efforts to investigate and remove pollution, including optimization of street sweeping, pollutant source control, and code enforcement, among others.

Example: Stormwater Inspections

The Inspections program is required by the Municipal Stormwater Permit. There are two different programs that the Inspections Team implements, business inspections and structural treatment control best management practices (STCBMP) maintenance inspections. Business inspections are to ensure the adequate implementation of the City's minimum best management practices (BMP). In FY 23 the Inspections Team conducted stormwater inspections at 1,543 businesses. The STCBMP program inspects storm water treatment devices that have been built as a requirement on public and private development projects. This program inspects the BMPs to make sure they are being maintained and treating stormwater runoff as designed. In FY23, the Inspections Team inspected 1,330 STCBMPs. These inspections programs are meant to prevent pollutants from being discharged to the City's water bodies and by doing so improve water quality throughout the City. The Municipal Stormwater Permit defines minimum inspection frequencies. The SWD has identified the need for additional staffing in this program to achieve minimum inspection frequencies as inventories continue to grow year over year.

Example: Code Enforcement

The SWD's code enforcement efforts are central to minimizing pollution and trash citywide by responding to reports of illicit discharges and working directly with communities, businesses, and residents to fix identified issues. Teams respond to reports of discharges received through the City's "Get It Done" application and mobilize into communities to assess potential pollutant sources. The SWD code

enforcement team responded to 3,564 cases in FY23 and continued to complete weekly patrols through the Famosa Slough watershed to support identification and reduction of flows into Famosa Slough that negatively impact the environment and biota there.

Capture Stormwater for Use

Stormwater harvesting, or stormwater capture and use, is the practice of collecting and storing stormwater for eventual beneficial use. Depending on the extent of treatment, the captured stormwater can be used for a variety of applications, such as on-site reuse and watering, irrigation, wash water, use in water features like fountains, or conveying it to the sanitary sewer system for recycling and eventual potable use.

Example: Stormwater Harvesting Program Coordination with the Public Utilities Department (PUD)

In FY23, the SWD continued to investigate and implement stormwater harvesting opportunities by: (1) providing a draft update to the Municipal Code for Council consideration that would allow diversion of controlled stormwater to the sanitary sewer system; (2) assigning maintenance responsibilities between SWD and PUD; (3) finalizing the cost sharing/split for SWD and PUD; (4) developing groundwater recharge proofs-of-concept; and (5) identifying locations for industrial stormwater discharge monitoring (1-3 locations). In addition, the WIFIA loan is funding three stormwater capture project concepts to move forward. Ultimately, the ability to move forward with implementation of the stormwater capture projects being explored with PUD will depend on the outcome of regulatory "Local Limits" currently under review by the state's Division of Drinking Water, and whether discharges from the stormwater system can meet those limits. The Division of Drinking Water is scheduled to approve the Local Limits for the Pure Water program by Summer 2024.

Example: Rebate Expansion Program

The City has an existing water conservation program that offers rebates for several practices, including rain barrels, downspout redirects, sustainable landscaping and turf conversions, among others.

In FY23, the SWD, in collaboration with PUD, implemented several rebate program enhancements to increase participation and facilitate accessibility to residents across the City including: revising the rain barrel rebate to increase eligible tank size and rebate rates, providing larger cost savings for residents and increased water savings and pollution prevention benefits; implementing Spanish language and mail-in application options to increase accessibility to the rebates program; and providing expanded outreach to the community regarding the benefits of rainwater harvesting and the rebates program. The SWD also executed a three-year nonprofit agreement with the Solana Center for Environmental Innovation to provide rainwater harvesting educational workshops coupled with distribution of reduced-cost rain barrels to the community. These efforts also support the City's Climate Action Plan.

In FY24, the SWD anticipates receiving \$500,000 in California Department of Water Resources' (DWR) Proposition 1 Round 2 grant funding that was awarded in FY22 via the San Diego Integrated Regional Water Management Program to help administer and enhance the City's rebate program. The Stormwater Department will coordinate with SDCWA, DWR, and the IRWM program over the next year on establishing necessary grant sub-award agreements. In addition, the SWD plans to continue to expand outreach and education around rainwater harvesting and water conservation, explore development of rainwater harvesting demonstration projects, and explore development of a pilot project to provide up-front discounts on rain barrels and cisterns.

Prioritize Green Infrastructure

Green infrastructure is an approach to water management that protects and restores the natural water cycle. Green infrastructure cleans stormwater through filtering out pollutants and aligns with many other City goals.

Example: Integrated Engineering Plans

Identifying multi-benefit and green infrastructure opportunities throughout the City is a priority for the SWD to maximize benefits from infrastructure investments. The SWD has been developing integrated engineering plans for each watershed area using high-resolution geospatial data to inform the siting and sizing of projects to reduce flood risk, improve water quality, restore habitats, provide climate change resiliency, and divert stormwater runoff into sanitary sewer systems for reuse. These engineering plans also incorporate equity and climate resiliency in the prioritization process through inclusion of the City's Climate Equity Index. In FY23, the integrated engineering plans for Mission Bay Watershed (Tecolote and Scripps sub-watershed areas), San Diego River, and San Diego Bay were initiated. These plans will be key to developing data-driven opportunities for future projects. The effort continues in FY24 and is anticipated to be completed by the end of FY24.

Example: Green Infrastructure Projects in Design or Construction

A number of green infrastructure and multi-benefit projects are progressing through different phases of design and construction in FY23:

- *South Mission Beach Green Infrastructure Project* includes eight biofiltration/bioretenion basins and nine low-flow diversion (LFD) systems to divert stormwater to the sanitary sewer system for treatment. The project includes landscaped features using native vegetation, resurfacing of paved areas, and Americans with Disabilities Act (ADA) improvements. In FY23, the requisite permitting applications, including the assessment of potential environmental impacts under the California Environmental Quality Act (CEQA), were completed, and the design was finalized. In FY24, it is anticipated that the bidding and award process will be completed, and construction will commence. The construction phase is scheduled to run from the calendar year 2024 through 2026.
- *Streamview Drive Green Infrastructure Project* includes installation of a stormwater detention vault to address pollution from urban flows in the Chollas Creek Watershed. The project also includes connection to the existing stormwater system following treatment. The project includes roadway improvements to improve traffic and safety, including installation of roundabouts, driveways, resurfacing, curb ramps and traffic signal modification. The project is anticipated to complete final design in FY25 and be constructed by the end of FY27.
- *Southcrest Green Infrastructure Project* includes various improvements that aim to reduce the volume of runoff and reduce pollution from entering Chollas Creek. The improvements include installation of a water quality biofiltration basin, two Modular Wetland Systems to clean stormwater, a storage vault that will drain to one of the Modular Wetland Systems and pipe components that tie the project into the existing stormwater system. The project will also include replacement and addition of curbs to meet ADA requirements and planting of native trees and grasses. In FY23, the design was completed and in FY24, it is anticipated that the bidding and award process will be completed, and construction will commence.
- *Alamo Salvation Green Infrastructure Project* includes installation of precast biofiltration boxes along a commercial area on University Avenue between Aragon Drive and 68th Street and will treat stormwater flows from 25 acres of drainage area. The project includes improvements to the sidewalk, curbs, and driveway within the vicinity as well. Construction of the project began in FY22 and completed in FY23.

It should be noted that as these projects are constructed, the SWD will face additional challenges for operating and maintaining them. The department does not currently have staff available to allocate to these roles due to funding constraints.

Modernize Infrastructure

Many factors, including a changing climate with more extreme weather events, increasingly stringent water quality requirements, aging and failing infrastructure, and urbanization, have continued to drive the funding and resources needed to support the SWD. In the face of funding challenges, the SWD is prioritizing innovation and modernization.

Example: Pump Station Maintenance and Repair

Pump stations are vital to protecting communities from flooding as they quickly remove or reroute water away from people, property, and critical infrastructure during storm events. Some of the larger pump stations managed by the SWD can pump up to 135,000 gallons of water per minute during a large storm. In FY23, the pump station team ensured that critical pump station functions were kept online during storms, replaced/repared five diversion valves (DVs), integrated five electric actuator assemblies into the existing SCADA System, performed maintenance & repairs to 100% of permitted tide gates & outfalls, conducted 11 interceptor pump station (IPS) and diversion valve CCTV inspections to assess conditions of piping and valves, and performed structural testing of two pump stations.

For several years, the SWD has been developing pump station maintenance plans and at the beginning of FY23, all pump stations were fully integrated into the Citywide asset management system to ensure preventative maintenance is more easily tracked and maintained to further increase efficiencies. Four (4) of the 15 pump stations in the City currently have emergency infrastructure needs, which if all failed could cause over 160 acres of flooding, impacting businesses and homes. In FY24, the SWD is continuing repairs and maintenance at each of these critical pump stations and will complete full repairs at two. In addition, the pump station team will remove and install at least six pumps at IPS and pump stations, produce flood inundation maps for pumps stations with hydraulic and hydrology analyses, and produce traffic control plans for all pump stations, IPS and DVs for use in case of emergency failure or planned maintenance, and continue to focus on performing preventative maintenance to keep all pumps at 100% capacity to help provide flood-safe communities.

Example: Street Sweeping Optimization

Street sweeping is an essential pollution prevention service that protects local waterways and infrastructure by strategically addressing urban areas that generate trash and pollution. The SWD assessed different types of street sweeping technologies and evaluated what frequency was most impactful for removing trash and pollution from local roadways. Using available data, the SWD identified changes to parking in restricted areas and sweeping frequencies to enhance removal of trash and pollution. Select route frequencies were updated, and four additional routes were posted with limited parking signage in FY24, as sweepers are most effective when vehicles do not block the curb. The additional street sweeping services were made possible by hiring three new sweeper operators and two new parking enforcement officers in FY23. In order to fully implement the street sweeping optimization, as required by a 2018 audit, over 70 additional routes have been identified for increased service (either increasing frequency or adding parking restrictions) to increase trash and pollutant removal. Changes to these routes requires additional resources beyond those currently allocated. More information on the street sweeping program optimization changes can be found here: <https://www.sandiego.gov/streetsweeping>.

Example: New Closed-Circuit Television (CCTV) Team

In FY23, A CCTV team was fully onboarded to perform proactive video assessments of the stormwater drain pipe infrastructure system to assess the condition of the system and to support identification of illegal connections/discharges. In FY23, the team performed over 260 CCTV assessments of SWD assets, performed CCTV software and truck operations training, and certified 11 CCTV team members through NAASCO PACP to properly configure equipment, obtain the best quality video, and properly assess and categorize pipe condition data. In FY23, the team is aiming to perform one CCTV assessment per day and five CCTV assessments per week, to CCTV pipe connections to pump stations to inspect condition and presence of illegal connections, and to coordinate with the Pump Station section to conduct 10 IPS/DV CCTV inspections to assess conditions of pump station piping and valves.

Revitalize Our Waterways

Protection of local waters and the many diverse local habitats within the City are inherent to the outcomes of the other SWD goals. However, the SWD also dedicates resources to habitat and waterway revitalization to ensure the natural features that form the fabric of the City remain accessible and healthy for future generations.

Example: Restoration Projects

The SWD has a number of projects with environmental restoration or revitalization components that have made forward progress in FY23 and will continue to do so in FY24:

- *Los Peñasquitos Lagoon Restoration Project* will restore historical salt marsh habitat and native vegetation, provide transitional habitat to allow for the migration of salt marsh habitat as sea level rise continues, reduce the coarse sediment and trash loading to the lagoon, reduce flooding in the developed areas surrounding the lagoon, and improve flows within the lagoon to support the habitat and environment. The project will also include community enhancements, such as conversion of an access road to a multi-use recreational trail, addition of an observation road, and educational signage at trailheads. In FY23, the project reached the 90% design level and in FY24 the project will continue to be refined in design and submitted for permitting to various resource and regulating agencies. It is anticipated that design will be completed in FY25, and construction from calendar year 2026 through 2029.
- *Upper Auburn Creek Revitalization Project* and the *Chollas Creek Restoration Project between 54th Street and Euclid Avenue* will address channel degradation caused by erosion, improve stormwater conveyance, reduce flood risk to nearby properties, and incorporate water quality basins to provide treatment for previously untreated urban runoff which discharges into the creeks. Both projects will include improvements to increase habitat potential through planting of native vegetation and elements that will reduce damaging and erosive flows. Both projects will also include community enhancements like trails and linear park features, pedestrian bridges, educational signage/kiosks, trail markers, public art, and benches, among other features. Both projects initiated design in FY23 and design efforts will continue in FY24.
- *Maple Canyon Restoration Project* is a two-phase project to stabilize and restore Maple Canyon, including replacement of existing and creation of new stormwater system components to reduce scour and erosive impacts, streambed restoration and planting of new vegetation, and placement of drop structures and riprap to reduce erosion and impacts of high flows within the canyon itself. In FY23, the design and permitting of the project were completed, and construction began in FY24. Construction on the project is anticipated to be complete in FY26. This project was

awarded a \$5.9 million grant from the Economic and Development Administration which will fund a portion of the construction costs.

Example: Mitigation Program

The mitigation program provides compensatory mitigation for impacts to sensitive habitats and ecological systems associated with priority stormwater maintenance, improvement, and revitalization projects. In FY23, mitigation program staff completed permitting for three priority projects (Los Peñasquitos Phase II (Los Pen II), El Cuervo Del Sur Phase II and Smythe-Bandola); advanced three projects into the Bid-Award phase (Smythe-Bandola, 15/16 Mitigation Plan and Los Pen II); and continued to progress two mitigation sites toward resource agency permit authorization (Hollister Quarry and Otay Reed). In FY24, the following mitigation sites are expected to complete implementation:

- **South Chollas Creek and Paradise Canyon Open Space Wetland Mitigation Project** consists of enhancement and rehabilitation of riparian resources to provide compensatory mitigation for past emergency 2015/2016 SWD channel maintenance impacts. Portions of the “Wetland Mitigation Plan for the City of San Diego 2015/16 Emergency Channel Maintenance” have been previously implemented under separate contract by the Stormwater Department. The project will implement two rehabilitation sites: one at South Chollas Creek and another within Paradise Canyon. The project involves the removal and control of non-native vegetation, container plantings, and seeding.
- **Smythe Channel and Via de la Bandola Channel Mitigation Project** consists of the creation of compensatory mitigation for jurisdictional impacts to sensitive biological resources at the Smythe and Via de la Bandola channels, which were subject to emergency maintenance during the 2015–2016 winter season. The mitigation site, located in the Tijuana River Valley Regional Park, consists of approximately 6 acres of disturbed, mature southern willow riparian scrub. This enhancement project involves the removal and control of invasive non-native plant species through physical and chemical means.

Approximately 63 acres of mitigation has been completed to date; however, an additional 27 acres of mitigation is needed to provide critical maintenance needs for 52 facilities, over half of which are high priority channels for maintenance.

Example: Community Cleanups

The SWD partners with community organizations such as I Love a Clean San Diego, Coastkeeper, and the San Diego River Park Foundation, to conduct cleanups within communities and along streams, rivers, canyons, bays and ocean coastline. Key events from FY23 included Coastal Cleanup Day and Creek to Bay Cleanup. In FY23, there were over 40 cleanups with nearly 4,000 volunteers attending. It is estimated that through these cleanups over 45,000 pounds of trash were removed from the environment. Think Blue again supported Coastal Cleanup Day on September 17, 2022, achieving approximately 2.6 million impressions in the community to continue education on stormwater issues.

Sustain Education, Outreach, and Engagement

Effective education, outreach, and engagement are pillars of stormwater management and are integrated into the day-to-day activities and strategic efforts the SWD undertakes to achieve its goals. They are also integral to stormwater compliance efforts, including the Municipal Separate Storm Sewer System (MS4) Permit, Water Quality Improvement Plans (WQIPs), and Jurisdictional Runoff Management Plan (JRMP), through educating local businesses, industry, and residents about their role and responsibility in preventing stormwater pollution and increasing awareness about stormwater in general.

Example: Think Blue San Diego Relaunch

Think Blue San Diego continued to expand its education and outreach efforts in FY23 after a successful relaunch and rebranding of the program in FY22. Highlights include:

- Consistently updating consumer-friendly website that has strong calls-to-action for residents and community members and is accessible for all demographics: <https://www.thinkblue.org/>
- Prioritizing community-based social marketing through a foundational awareness campaign of “We All Think Blue” and including real people affecting positive environmental change
- Partnering with local community groups and stakeholders on key events and activities to increase awareness of Think Blue, including Coastal Cleanup Day, Earth Day, Creek to Bay Cleanup, December Nights and Bike to Work Day, among others
- Continuing strong coordination with Non-Governmental Organization (NGO) partners, such as for key events list above as well as through key programs such as Project SWELL focused on increasing education among K-6 students on stormwater issues
- Generated nearly 53 million impressions through public service announcements on radio, TV, social media, outdoor advertising as well as earned media, which included 160 feature stories for 2.8 million impressions.
- Establishing new partnerships with entities like the University of San Diego, San Diego State University and Walter Munk Foundation
- Negotiated an advertising partnership with the San Diego Wave Futbol Club that includes the Think Blue logo on the upper back of the team jerseys, in-stadium advertising and Fan Fest events for the 2023 season
- Engaging local leaders and City Council offices to be Think Blue partners

In FY24, the SWD will continue to invest in increasing awareness of stormwater issues and Think Blue San Diego and build upon the momentum gained last year. This will include the following activities:

- Ensure communication materials are easy to read, compelling, and improve storytelling
- Provide materials in other languages for distribution
- Regular, consistent communication about Think Blue initiatives and updates to City Council offices
- Continue social media and eblasts, identifying strategies to increase engagement
- Maximize earned media opportunities across TV, radio, and print
- Expand digital marketing and social media efforts to increase awareness of ThinkBlue.org and engagement with the website
- Identify value-added opportunities with paid media assets to expand reach
- Coordinate with existing partners and target new partnerships to support outreach and awareness

In November 2022, the SWD held a naming contest for the 100% electric mini sweeper to engage the community and promote further education on the types of services provided. The SWD received over 1,000 votes and gave the newly named SWEEP-E a Think Blue makeover. SWEEP-E has been a hit with the community, also making appearances at December Nights (December 2 – 3) and the San Diego Auto Show’s “Electric Avenue” (December 30 – January 2).

Example: Water Quality Compliance Annual Reporting Dashboards

In FY22, the SWD developed annual reporting dashboards for water quality compliance-related information to streamline and simplify the extremely complex information generated each year for annual reporting requirements. These interactive online dashboards provide transparency and a visually appealing means to review the annual information and were well received by the San Diego Regional Water Quality Control Board. The dashboards can be viewed here: <https://www.thinkblue.org/data-and-maps/>

Stormwater Funding and Resources Have Improved; but Massive Funding Gap and other Challenges Continue

Since the initiation of funding strategy development in FY19, the SWD has pursued additional funding from a variety of sources to help meet growing funding needs. For FY24, the total SWD budget is \$108.7 million (\$67.6 million for operations and maintenance activities and \$41.1 million for CIP). This is supplemented by the first installment of the WIFIA loan (\$225 million), which must be spent by FY27. The number of SWD staff has increased to 305 in FY24 (3% increase). While five key positions were added in FY24, additional staffing and resources are needed to support regulatory compliance and other critical needs, such as space expansion, a levee maintenance and repair team, continued ramp up of CIP delivery through the WIFIA program, additional inspectors, and expansion of channel maintenance activities, among others. The SWD still faces a significant funding gap and plans to continue to invest resources and time into pursuit of additional funding.

Current and Past Efforts:

- *Water Infrastructure Finance and Innovation Act (WIFIA)*: On Aug. 9, 2022, the City secured a \$733 million loan from the Environmental Protection Agency (EPA) for high-risk pipe replacements, green infrastructure projects, revitalization and restoration of natural waterways, pump station upgrades, and rehabilitation of stormwater features. The EPA will finance 49% of the loan (\$359 million) at a low interest rate that is locked in over the loan repayment period of 35 years and the City will match 51% of the loan (\$374 million). The first installment of funds will support high-priority projects that are estimated to cost \$459 million. In FY23, the SWD initiated a \$75 million contract with HDR Engineering, Inc. for program management and design services for the WIFIA program. In FY24, 73 WIFIA-funded projects are active and in either the planning, design, or construction phases.
- *Street Sweeping Parking Violation Citations*: Street sweeping citations serve as a deterrent for disruptions to SWD street sweeping operations as maximum effectiveness is only possible when sweepers have access to curbs that are clear of vehicles to collect trash and debris. The current violation amount was last updated in 2003 and does not support cost recovery of the program nor is it comparable to other local municipalities who administer similar violations. In FY23, the SWD proposed an increase to the current citation that is currently under review.
- *Stormwater Enforcement and Fines*: The current enforcement and fines penalty matrix for violations of the Municipal Code was developed in 2004. The SWD has reassessed the matrix to better reflect the impact of stormwater violations on public health and safety. Considerations included current regulatory priorities, illegal discharge types, and the impact of repeat offenders. In FY22, the SWD updated the proposed monetary penalty matrix, which is currently under review.
- *Stormwater Business and Structural Best Management Practice Inspection Program*: The SWD has assessed fees for the business and structural BMP inspection program to target full-cost recovery. In FY22, the SWD worked with the City Attorney on drafting proposed changes to the Municipal Code for an inspection-fee program, including an implementation plan and fee schedule. This program is currently under review.
- *Grants*: In FY23, the SWD obtained approximately \$1.47 million in grants. The SWD plans to continue to apply for grants in FY24, with a target of at least four applications per year.

City of San Diego Strategic Plan:

The Stormwater Department accomplishments over the past years and the focus of future efforts in upcoming year as summarized above align with the City of San Diego Strategic Plan's Priority Areas in the following ways:

- Protect & Enrich Every Neighborhood
 - Maintain and repair our stormwater infrastructure to provide flood-safe communities throughout the City.
 - Provide cleaner streets in our neighborhoods.
 - Provide clean water and flood-safe communities to every San Diegan.
- Advance Mobility & Infrastructure
 - Build or repair innovative stormwater infrastructure.
 - Provide cleaner streets and repair damaged infrastructure to help increase safe mobility.
- Champion Sustainability
 - Prevent pollution to better sustain our natural environment and protect public health.
- Foster Regional Prosperity
 - Provide clean water, flood-safe communities, and additional community benefits.
 - Our team of dedicated SWD employees are passionate about this work and provide the highest level of customer service.

Fiscal Considerations:

Not Applicable

Charter Section 225 Disclosure of Business Interests:

N/A; this item is for information only.

Environmental Impact:

Not Applicable

Climate Action Plan Implementation:

The City's stormwater system provides multiple additional community benefits including improved mobility, walking and bike paths supporting the Mobility and Land Use Strategy (Strategy 3). Year-round activities by the SWD help the Zero Waste Strategy (Strategy 4) through targeted source reduction and reducing waste and trash that reach the stormwater system.

Equal Opportunity Contracting Information (if applicable):

Not Applicable

Previous Council and/or Committee Actions:

There are no previous Council/Committee Actions.

Planning Commission Action:

Not Applicable

Key Stakeholders and Community Outreach Efforts:

Think Blue San Diego was revamped and relaunched after a nearly 10-year hiatus, with significant investments made in FY22 and FY23 for:

- Reestablishing the brand platform, master narrative, logo, key themes, and messaging platforms

- Developing a new, consumer-friendly website that has strong calls-to-action for residents and community members and is accessible for all demographics: <https://www.thinkblue.org/>
- Prioritization of community-based social marketing through a foundational awareness campaign of “We All Think Blue” and inclusion of real people affecting positive environmental change
- Partnering with local community groups and stakeholders on key events and activities to increase awareness of Think Blue, including Coastal Cleanup Day, Earth Day, Creek to Bay Cleanup, and Bike to Work Day, among others
- Continued strong coordination with NGO partners, such as for key events listed above as well as through key programs such as Project SWELL focused on increasing education on stormwater issues
- Disseminating the information about Think Blue with over 4,100 radio public service announcements, television public service announcements that reached approximately 6.6 million household impressions, digital and social media that reached nearly 825,000 individuals, billboards and bus shelters that delivered 10.1 million impressions and print publications that delivered approximately 1 million impressions
- Establishing new partnerships with entities like San Diego Wave Futbol Club, SeaWorld, San Diego Gulls, and Rubio’s
- Engaging local leaders, the Mayor, and City Council offices to be Think Blue partners

In FY24, the SWD will continue to invest in increasing awareness of stormwater issues and Think Blue San Diego and build upon the momentum gained in the last two years. This will include the following activities:

- Ensure communication materials are easy to read, compelling, and improve storytelling
- Provide materials in other languages for distribution
- Regular, consistent communication about Think Blue initiatives and updates to City Council offices
- Continue social media and eblasts, identifying strategies to increase engagement
- Maximize earned media opportunities across TV, radio, and print
- Expand digital marketing and social media efforts to increase awareness of ThinkBlue.org and engagement with the website
- Identify value added opportunities with paid media assets to expand reach
- Coordinate with existing partners and target new partnerships to support outreach and awareness

Todd Snyder

Kris McFadden

Department Director

Deputy Chief Operating Officer