

Orange County Sanitation District

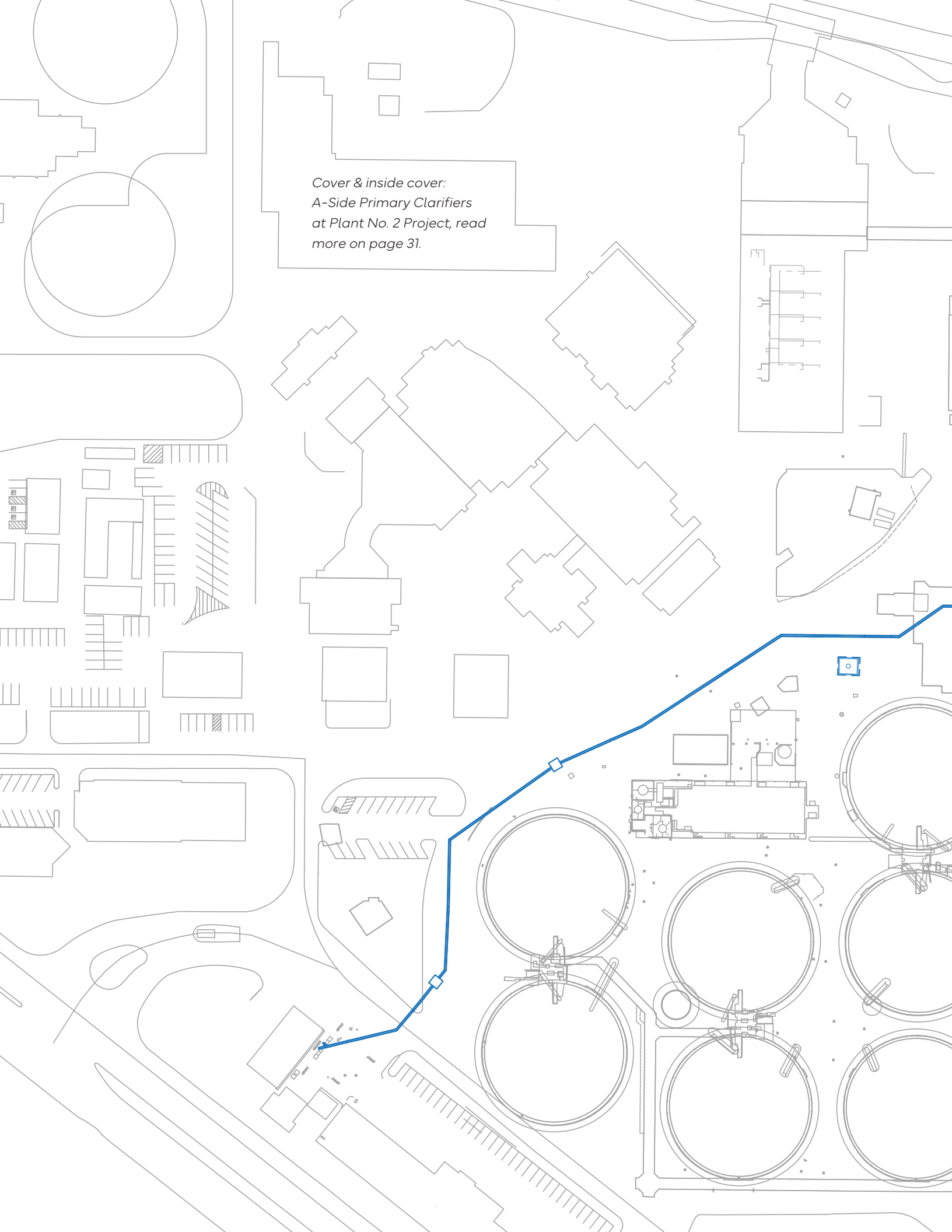
Capital Improvement Program

Annual Report 24/25

ENGINEERED FOR THE PUBLIC GOOD



Cover & inside cover:
A-Side Primary Clarifiers
at Plant No. 2 Project, read
more on page 31.



All data and project information in this report are current as of September 2025 and reflect the best available information at the time of publication.

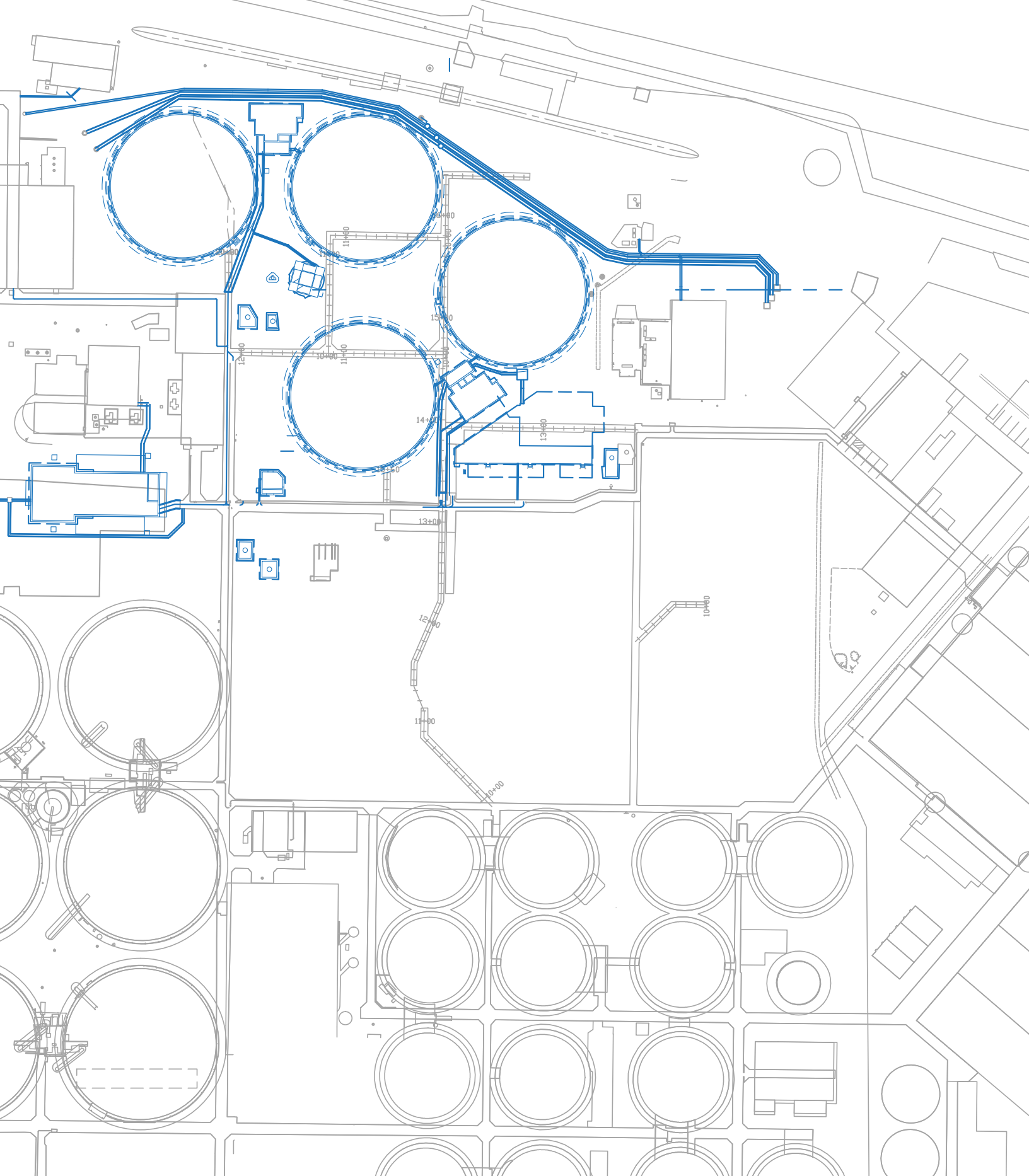


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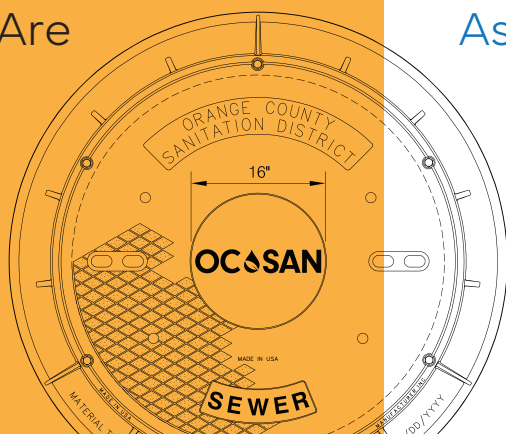


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A Message from the Director of Engineering



This past year, I've been incredibly proud of how OC San has continued to embrace innovation, collaboration, and leadership to move our Capital Improvement Program (CIP) forward. We are delivering projects and building the future of our region's wastewater infrastructure.

One major milestone was diving into the Progressive Design-Build procurement process, a more collaborative approach to delivering large-scale infrastructure. I am excited about what we have accomplished in a short

amount of time and the industry interest it's generated. I strongly feel that this method is a great fit for OC San's values. The dedication the team has put forward has been rewarding and we're already applying it to our Ocean Outfalls Rehabilitation and Plant No. 1 Headworks Electrical Distribution Improvements Projects. By working closely with design and construction teams from the beginning, we can move projects forward faster, manage risks more effectively, and use our internal resources wisely.

Looking ahead, our CIP is ramping up. Over the next four years, annual investment is expected to grow from \$245 million to more than \$350 million. To prepare, we've focused on strengthening our internal processes, refining team roles, and making sure we have the resources and support in place to meet this exciting challenge.

On behalf of the Engineering Department, I extend our gratitude to the Board of Directors for their continued support. We're proud to serve and remain committed to delivering CIP projects that are truly **engineered for the public good**.

A stylized, handwritten signature in black ink, appearing to read 'Mike Dorman'.

Mike Dorman, PE
OC San Director of Engineering

*Pedestrian bridge that connects OC San's
Headquarters to Plant No. 1.*

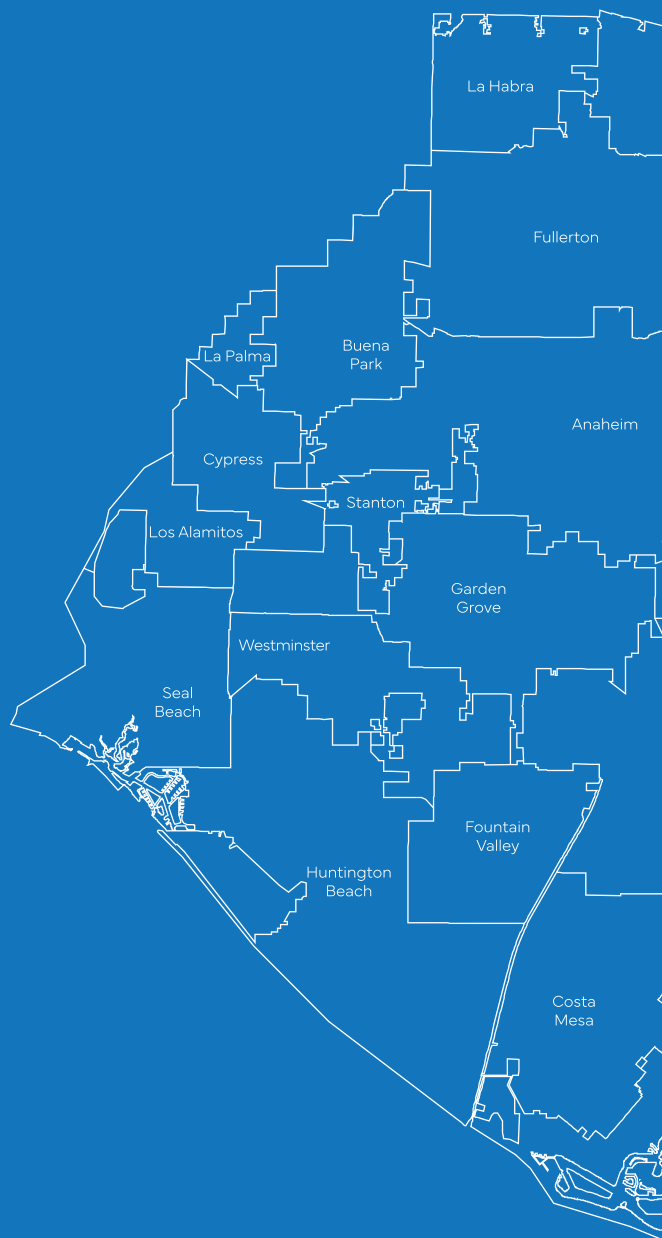


ORANGE COUNTY SANITATION DISTRICT

Who We Are

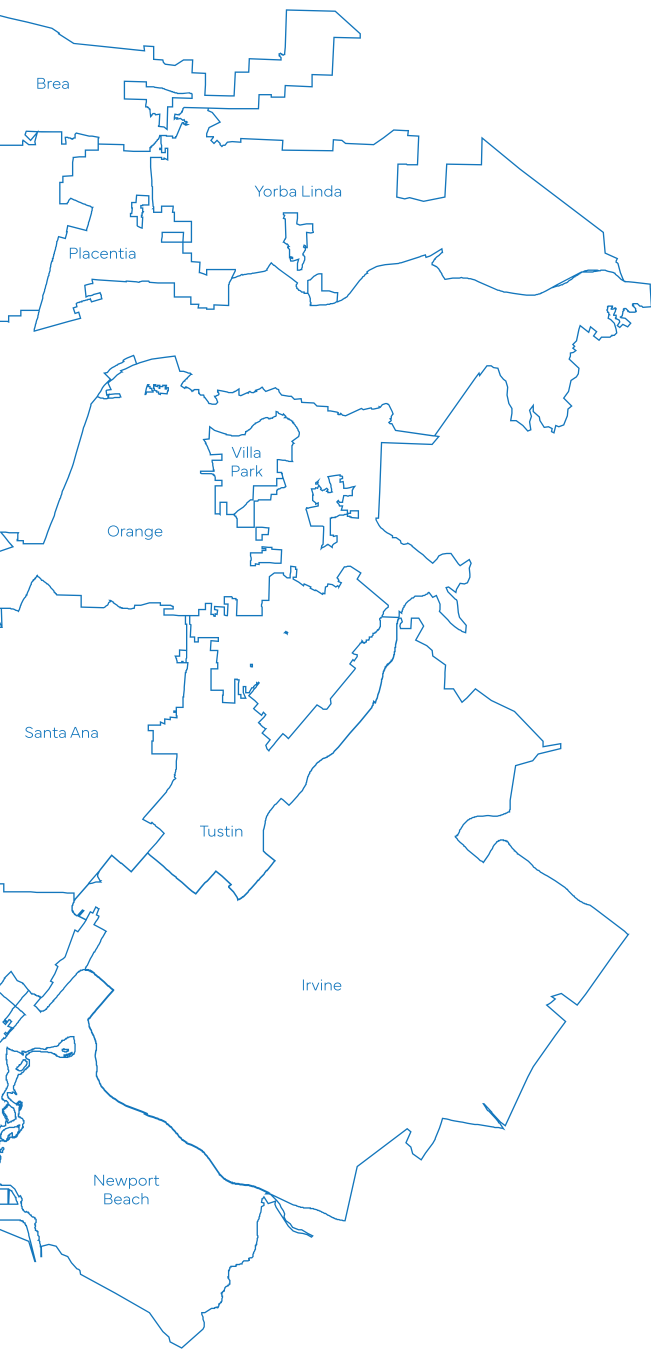
Sewer systems play a crucial role in public health by safely collecting and treating wastewater, preventing the spread of disease, and improving overall sanitation, which benefits the entire community.

The Orange County Sanitation District (OC San) is a public agency that provides wastewater collection, treatment, and recycling services for the northwest and central area of Orange County, California. The wastewater from OC San's 479-square-mile service area travels through nearly 400 miles of regional sewers to reclamation facilities Plant No. 1 in Fountain Valley and Plant No. 2 in Huntington Beach. Approximately 185 million gallons per day of wastewater collected from 2.6 million people are processed daily.



OUR MISSION

"To protect public health and the environment by providing effective wastewater collection, treatment and recycling."



OC San is a special district that is governed by a Board of Directors consisting of 25 members.

Board of Directors

CITIES

Anaheim

Brea

Buena Park

Cypress

Fountain Valley

Fullerton

Garden Grove

Huntington Beach

Irvine

La Habra

La Palma

Los Alamitos

Newport Beach

Orange

Placentia

Santa Ana

Seal Beach

Stanton

Tustin

Villa Park

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Christine Marick

Joyce Ahn

Scott Minikus

Glenn Grandis

Jamie Valencia

Stephanie Klopfenstein

Pat Burns

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Jordan Nefulda

Erik Weigand

Jon Dumitru (Vice Chairperson)

Chad Wanke

Johnathan Ryan Hernandez

Lisa Landau

David Shawver

Ryan Gallagher (Chairperson)

Jordan Wu

AGENCIES

Costa Mesa
Sanitary District

Robert Ooten

Midway City
Sanitary District

Andrew Nguyen

Irvine Ranch
Water District

John Withers

Yorba Linda
Water District

Tom Lindsey

Member of the
Board of Supervisors

Doug Chaffee



Capital Improvement Program Overview: **Engineered for the Public Good**

Since its founding in 1954, OC San has been dedicated to protecting public health and the environment through carefully planned and executed infrastructure investments. The Capital Improvement Program (CIP) reflects this commitment by maintaining and enhancing the infrastructure that delivers safe, reliable service to the community we serve.

As demands and conditions evolve, the CIP is designed to respond effectively. Over a decade ago, the program focused on expanding treatment capacity to achieve full secondary treatment, improving the quality of treated wastewater and safeguarding local waterways.

In 2023, the final expansion of the Groundwater Replenishment System was completed, a partnered accomplishment with the Orange County Water District, innovatively reusing a once wasted resource and maximizing water recycling efforts.

With facilities now producing high-quality secondary effluent and recycling 100 percent of reclaimable flows, current CIP efforts emphasize maintaining reliability by:

- Replacing and upgrading pipelines.
- Rehabilitating and replacing pump stations and plant facilities.
- Exploring new technologies that deliver innovative, cost-effective, and sustainable operations.

It's been an exciting and busy year for OC San. We are studying Deep Well Injection, moving along with our Supercritical Water Oxidation pilot facility, and have continued several construction projects throughout our service area and facilities. We also advertised the first of several projects identified using a delivery method called Progressive Design-Build.

The Engineering Department leads the delivery of this essential program. During Fiscal Year 2024/25, the team managed over **100 active projects**, with a net CIP spending of **\$245 million**. These investments reflect our commitment to infrastructure that is engineered for the public good, protects public health, preserves the environment, and serves our community for generations to come.

Community Outreach Program

At OC San, delivering essential infrastructure goes hand in hand with serving the people who rely on it every day. Recognizing that infrastructure improvements can impact daily life, our Community Outreach Program is designed to ensure the public remains a valued partner in the process.

We are dedicated to timely, accurate, and transparent communication, delivered with excellent customer service. Through our Construction Outreach Program, we keep stakeholders informed about project needs, benefits, and timelines, all while helping them prepare for potential impacts.

Our outreach team prioritizes clear, consistent, and proactive engagement. By collaborating closely with neighborhoods, communities, and cities, we work to build understanding and trust around critical infrastructure improvements.

FISCAL YEAR 24/25 OUTREACH BY THE NUMBERS

- **18.3K** people reached
- **38** electronic messages
- Supporting **8** projects in **11** cities

INNOVATIVE APPROACHES

- **Multilingual:**
Outreach materials were delivered in various languages including Spanish, Vietnamese, and Korean; serving members of our diverse communities.
- **Digital Outreach:**
Active social media online presence using a toolbox of platforms including Facebook, Instagram, and Nextdoor
- **Partnerships:**
Participated in city events and presented at city meetings, local organizations, and communities where construction projects are occurring.
- **Menu of Accessibility:**
Dedicated project web pages with the option to sign up for email notification and text alerts. Learn more at ocsan.gov/construction.

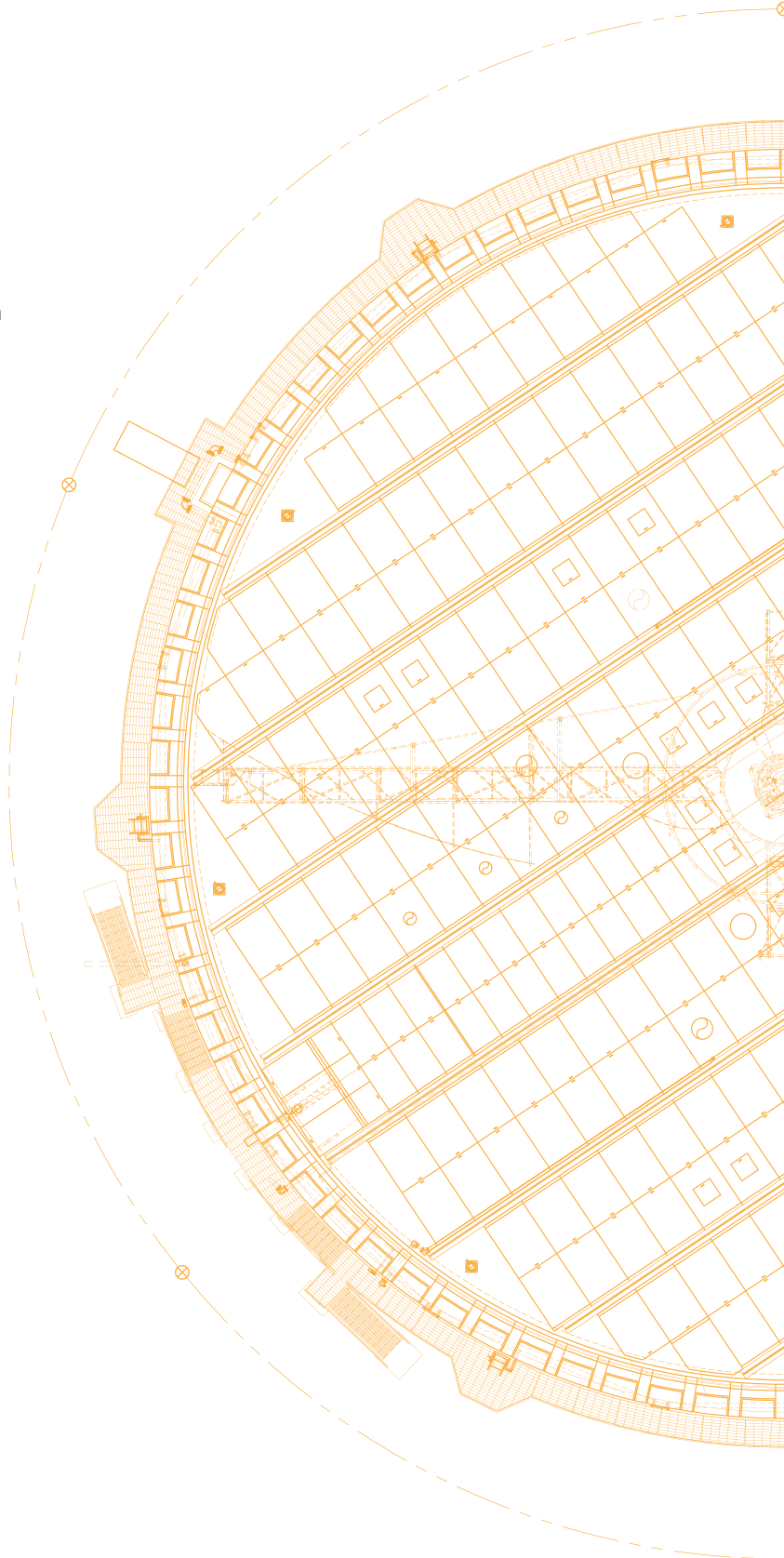


Outreach team presenting at a homeowner's association meeting.

Asset Management

OC San manages more than **\$15 billion** worth of facilities and pipelines that serve the public every day. Asset management planning helps us identify how to keep our system reliable and cost-effective.

Through annual asset management planning, the CIP serves as a roadmap for projects that maintain, enhance, and adapt our facilities to meet the region's long-term needs. Future projects may be accelerated, delayed, consolidated, canceled, or rescoped to ensure the 20-year CIP is implemented as efficiently as possible while upholding our mission to protect public health and the environment.





Project Highlights

The following sections feature a selection of studies and projects that made notable progress during Fiscal Year 2024/25. These highlights are meant to show the range and impact of our ongoing work.

For a list of all our active projects, go to the **Engineering CIP Projects** section at the end of this report.

Planning Studies

Planning studies help us prepare for the future by exploring new technologies and ideas, evaluating major needs, and identifying projects for our community. The findings from these studies provide the information and analysis needed to make smart decisions about what to build, when to build it, and how to deliver reliable, effective services to the public.

The following studies are examples of collaboration and innovation for the greater good.

Project No. PS21-06

Urban Runoff Optimization Study

This comprehensive study identified collaborative opportunities where additional urban runoff may be captured to increase water recycling and improve water quality throughout the county and our beaches. OC San partnered with the Orange County Water District and the County of Orange on this effort with the objective of identifying and developing new dry weather diversion projects, wet weather projects, and optimizing existing diversions.

The final report is expected by September 2025.

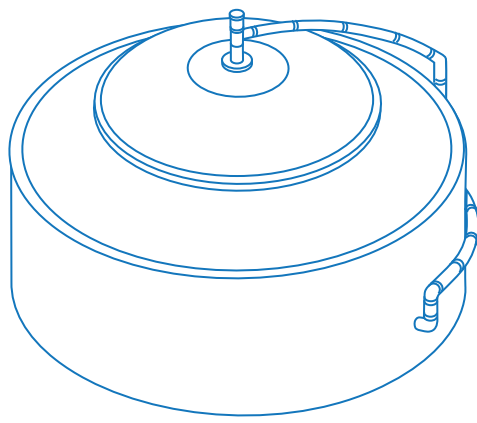
Project No. PS23-04

Digital Asset Management Study

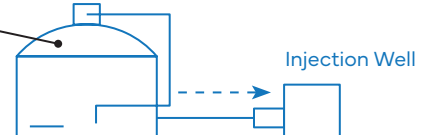
OC San is exploring ways to make asset management smarter and more data-driven. This study will help the asset management program into a digital framework, helping teams share information more easily, collaborate more effectively, and make stronger decisions about maintaining and replacing critical infrastructure.

Since 2019, the Asset Management Team has produced an annual Asset Management Plan that maps out 1-, 5-, and 10-year priorities for OC San's major assets. Moving to a digital system will enhance this process by providing better insight into asset conditions and risks, ensuring every investment delivers the greatest value to our customers.

The final report is expected in 2027.



Anaerobic Digester
Byproduct: Biosolids
(OC San Reclamation Plant)



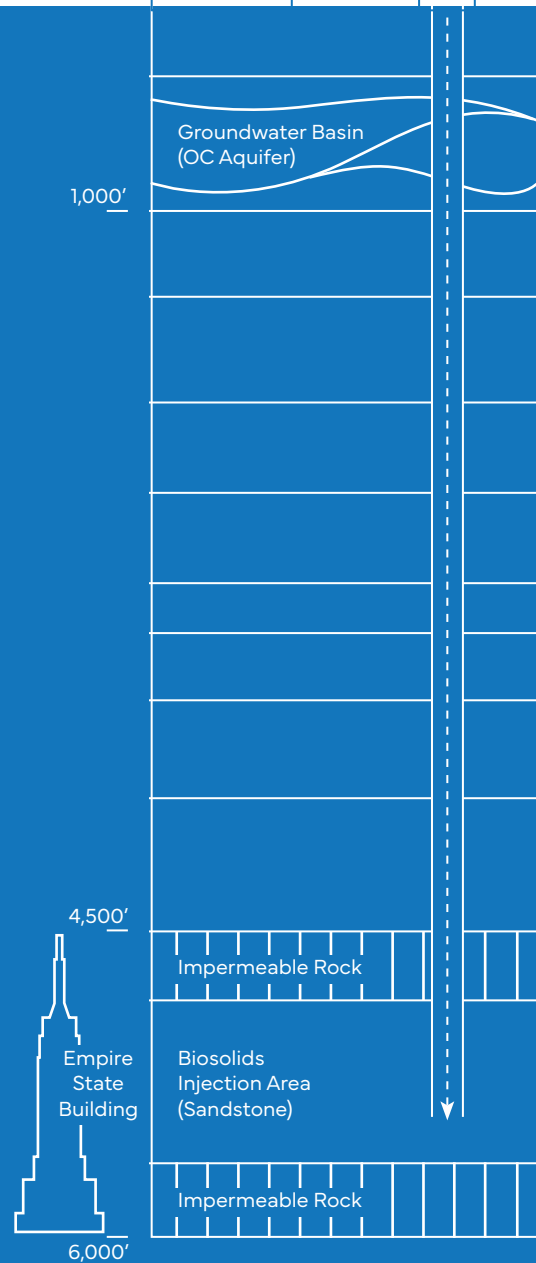
Project No. PS24-01

Deep Well Injection Feasibility Study

OC San is currently studying an innovative method called Deep Well Injection to manage biosolids – the nutrient-rich material left after wastewater treatment. This approach provides carbon sequestration and an environmentally safe way to handle these materials while reducing costs and emissions from long-distance trucking.

The proposed project involves injecting biosolids about 5,400 feet below OC San’s reclamation plant into a deep layer of sand sealed between rock formations, far beneath the groundwater basin. In this naturally warm environment, the biosolids break down into gases such as methane and carbon dioxide, safely contained deep underground and kept separate from the aquifer.

The feasibility study is currently underway, with a final report expected by December 2025.





Research Projects

OC San's Research Program is dedicated to finding practical solutions to current challenges while exploring emerging technologies that can improve our operations in the future. The program includes work on operational research, air quality and odor issues, current and future regulatory practices, renewable fuels usage, and planning for future infrastructure needs.

Project No. RE21-01

Supercritical Water Oxidation Demonstration

One exciting research project is testing a new technology called supercritical water oxidation. This process uses high temperature and pressure to break down wastewater solids and complex materials like per- and polyfluoroalkyl substances (PFAS), microplastics, and pharmaceuticals into simpler, safe compounds. The results from this pilot project demonstration could lead to more efficient and effective ways to manage wastewater solids in the future.

The pilot facility is expected to be in operation at our Plant No. 1 by early 2026.

The background of the page is a solid orange color with a white line-art map of Orange County, California, overlaid. The map shows the county's irregular border and internal city boundaries. A white rectangular box is positioned in the lower-left quadrant of the page, containing text. On the right side, the text 'ORANGE COUNTY SANITATION DISTRICT' is written vertically in white. The page number '17' is located in the bottom right corner in white.

Collection System

OC San's collection system is the backbone of our operations, carrying wastewater from homes and businesses to our reclamation plants for treatment and recycling. This system includes over 380 miles of regional pipelines and 15 off-site pump stations serving multiple cities across Orange County.

Several CIP projects are upcoming or currently underway to rehabilitate, replace, and expand portions of the collection system. Construction efforts are underway in cities such as Costa Mesa, Cypress, La Palma, Los Alamitos, Orange, Santa Ana, and Seal Beach. These projects reflect our continued investment in safe, reliable infrastructure for the community.

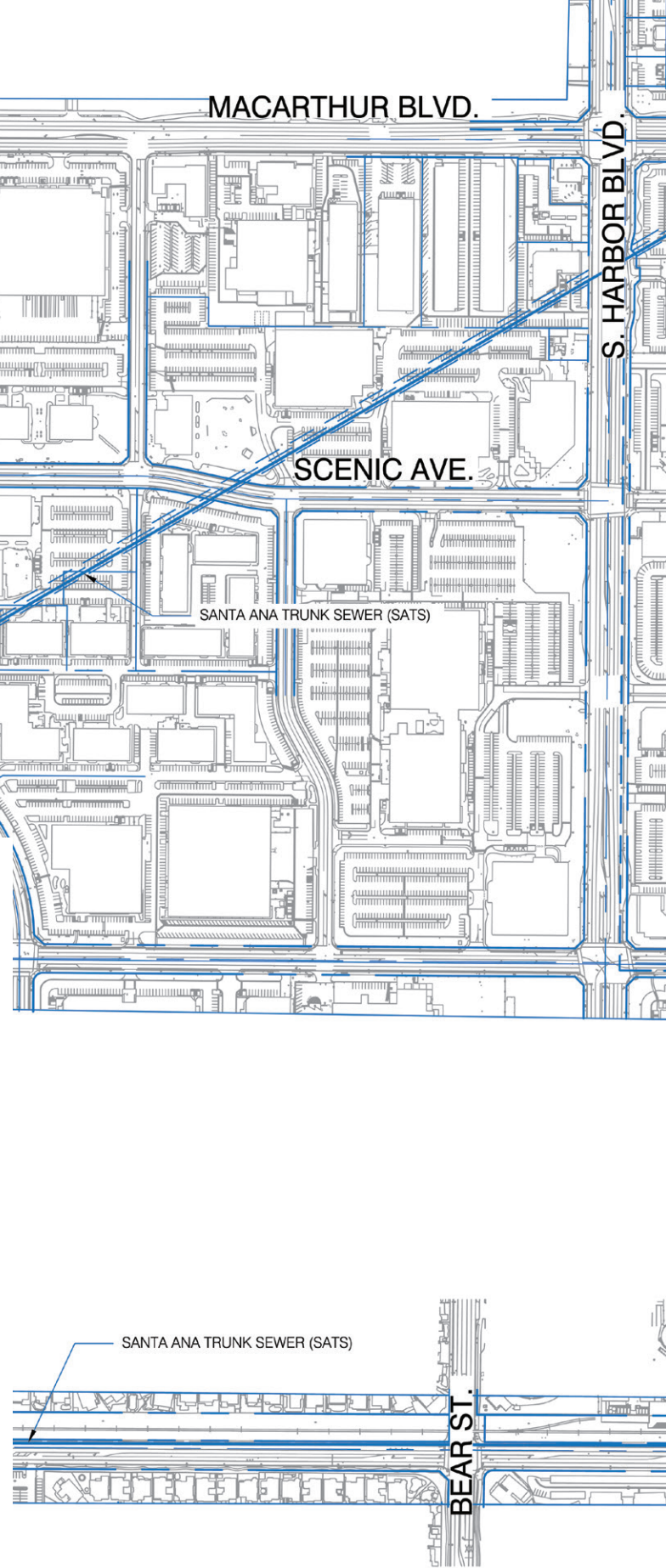
The projects highlighted are currently in design or in active construction.

Project No. 1-23**Santa Ana Trunk Sewer Rehabilitation**

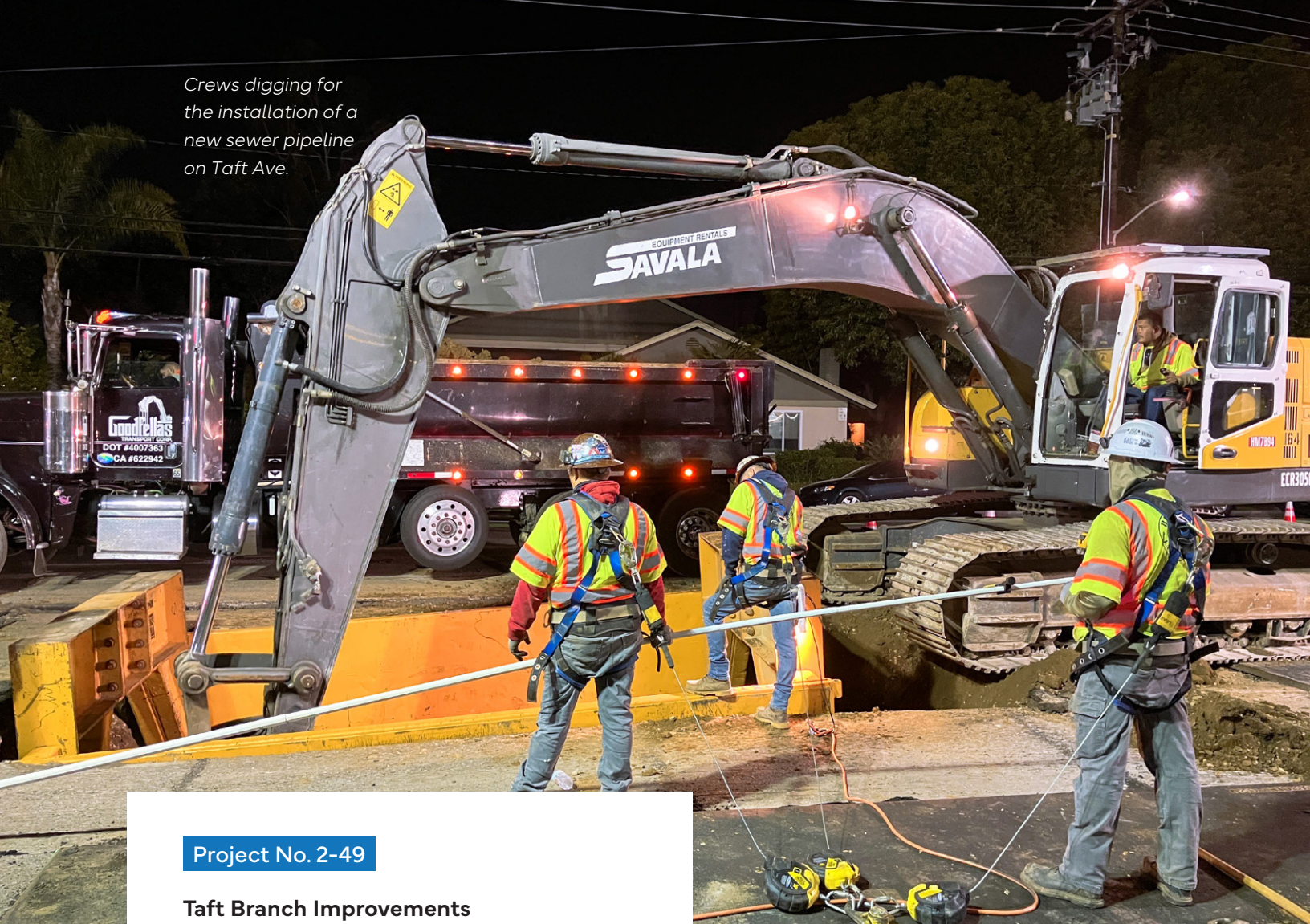
Location: Costa Mesa, Santa Ana
Construction Budget: \$34.2 million

Originally constructed in the 1950's, nearly three miles of the Santa Ana Trunk sewer and manholes will be rehabilitated in the cities of Costa Mesa and Santa Ana to extend its life for at least another 50 years and serve the community of generations to come.

Construction is anticipated to start early 2026 and continue through 2028.



Crews digging for the installation of a new sewer pipeline on Taft Ave.



Project No. 2-49

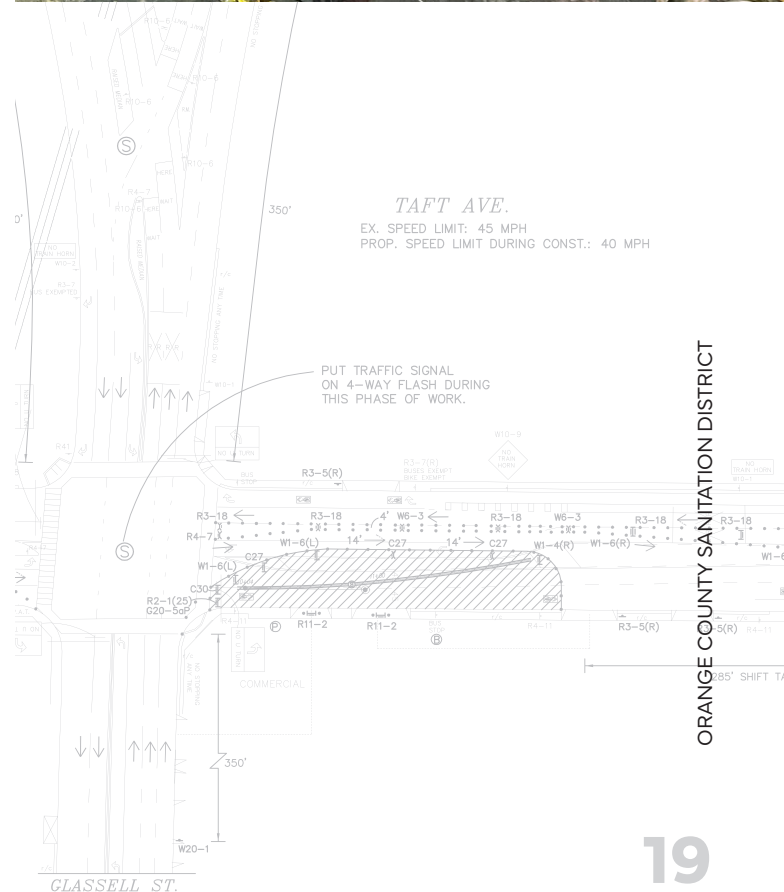
Taft Branch Improvements

Location: Orange

Construction Contract: \$20.5 million

OC San is improving the sewer on Taft Avenue in the City of Orange. Installed in 1960, this project will replace nearly two miles of pipeline with a larger diameter pipe, allowing the system to collect more wastewater from homes and businesses while reducing the risk of potential sewer overflows during wet weather.

Construction began in 2025 and will continue through 2027.



Long reach excavator digging the deep pump station wet well.



Project No. 3-67

Seal Beach Pump Station Replacement

Location: Seal Beach

Construction Contract: \$97.1 million

Replacing the Seal Beach Pump Station will modernize aging infrastructure, improve efficiency, and support future system upgrades.

The new Seal Beach Pump Station will include a 50-foot-deep wet well, new odor control facilities, a standby generator, and the demolition of the existing pump station.

A pump station is a facility that helps move wastewater to our reclamation plants. While most of our sewers rely on gravity, a pump station “lifts” water and pushes it forward when the land is flat or uphill, moving it through the collection system. The operations and maintenance of a pump station is more costly than gravity pipes—gravity moves wastewater for free—but are critical to ensuring uninterrupted sewer service.

Construction began in 2024 and will continue through 2028.





Architectural rendering of the new Seal Beach Pump Station.

LOOKING GOOD

The new Seal Beach Pump Station has been engineered with advanced features, but designed to look good above ground too! It's Spanish-inspired architecture is meant to complement the Seal Beach City Hall, blending a critical piece of infrastructure into the community.

ENGINEERING FOR THE FUTURE

This project also paves the way for future infrastructure improvements of new gravity sewers and the elimination of another pump station in the collection system. Although construction for this future project is still years away, this shows the intentional and long-term planning of OC San's CIP.

Cement-soil mixing drill rig used on the project.

Project No. 7-65**Gisler-Red Hill Interceptor and Baker Force Main Rehabilitation**

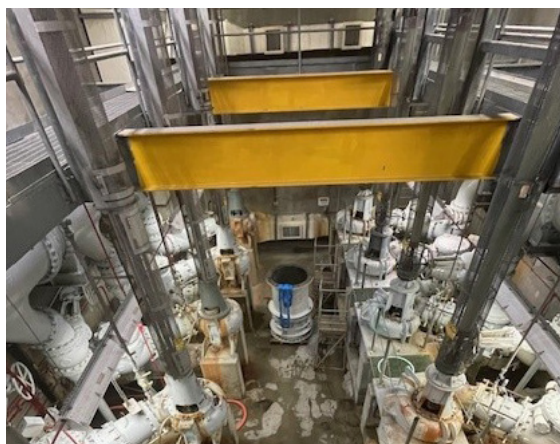
Location: Costa Mesa, Irvine

Construction Budget: \$43.6 million

OC San is rehabilitating two major pipelines that carry wastewater from Costa Mesa and surrounding areas to our facilities. These pipelines include the Gisler-Red Hill Interceptor, a large gravity-fed pipe that runs along the 405 freeway, and the Baker Force Main, a pressurized pipe along Airway Avenue and Airport Loop Drive that transports wastewater from the Main Street Pump Station.

In total, this project rehabilitates over five miles of gravity and force main pipelines and performs some upgrades at the Main Street Pump Station. These improvements will extend the life of critical infrastructure, increase system flexibility, and enhance reliability for the community.

Construction began in 2023 and is scheduled for completion by early 2026.

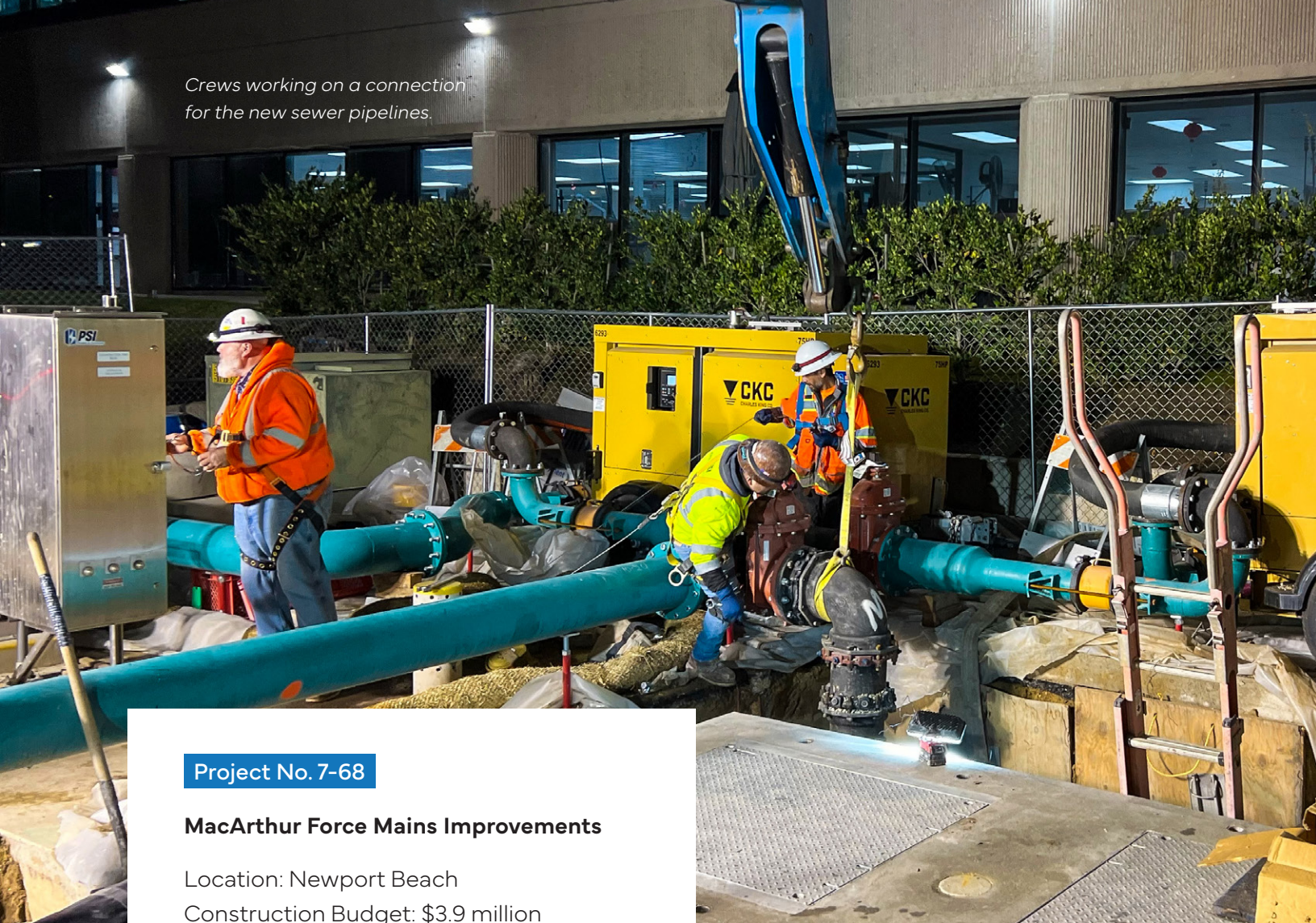


(TOP) Tower used to install a liner into the Baker Force Main for rehabilitation.

(MIDDLE) Inside the Main Street Pump Station.

(BOTTOM) Crews installing a bypass tee and valves.

Crews working on a connection for the new sewer pipelines.



Project No. 7-68

MacArthur Force Mains Improvements

Location: Newport Beach

Construction Budget: \$3.9 million

OC San improved the force main system connected to the MacArthur Pump Station in Newport Beach. Force mains are pressurized pipes that move wastewater from pump stations when gravity flow isn't possible.

The project replaced a single force main with two new parallel pipelines installed along the center median near John Wayne Airport. This dual system provides flexibility and ensures continuous service, even during maintenance or repairs.

Construction began in 2024 and was completed in 2025.

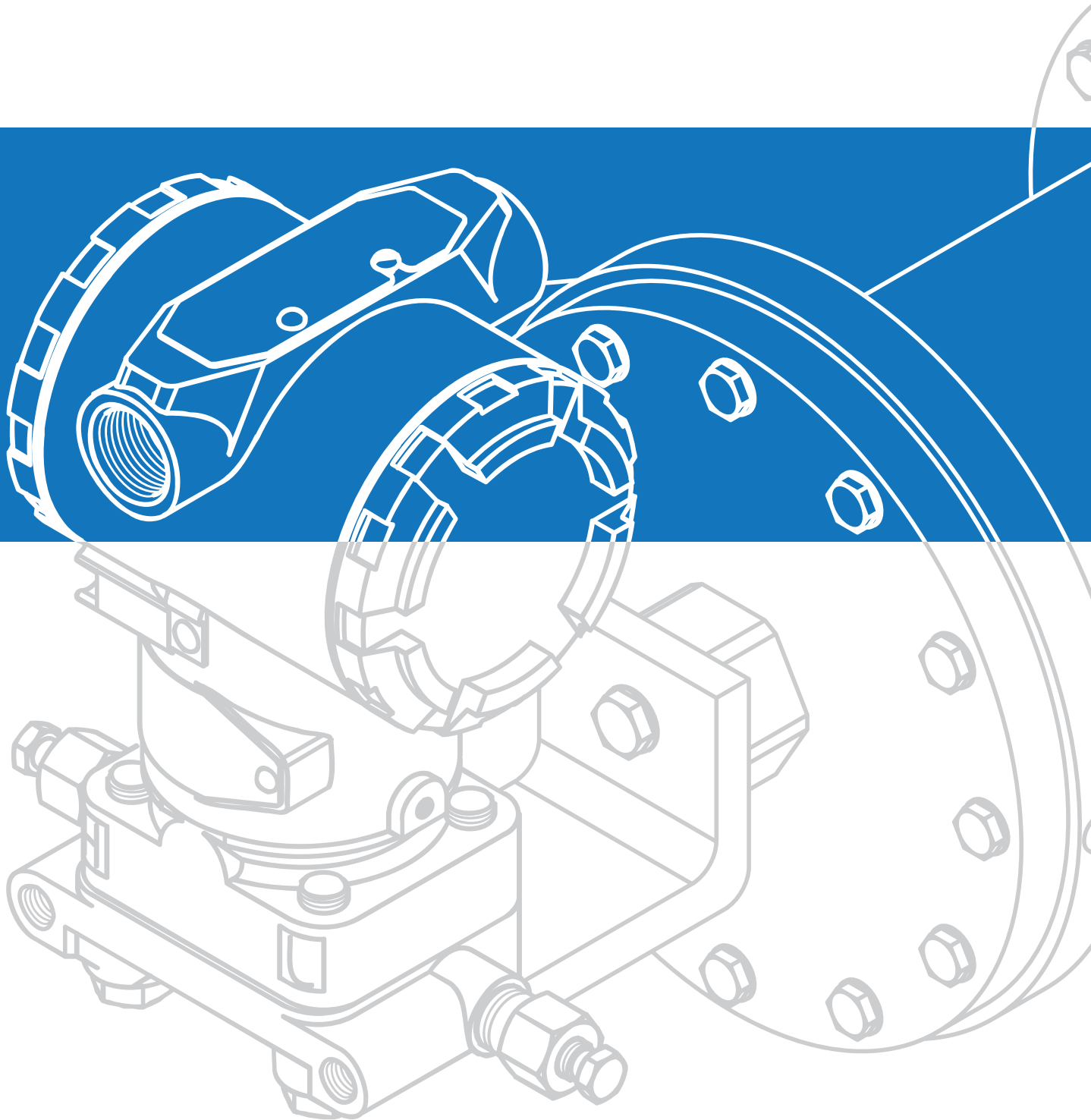
MINIMIZING DISRUPTION

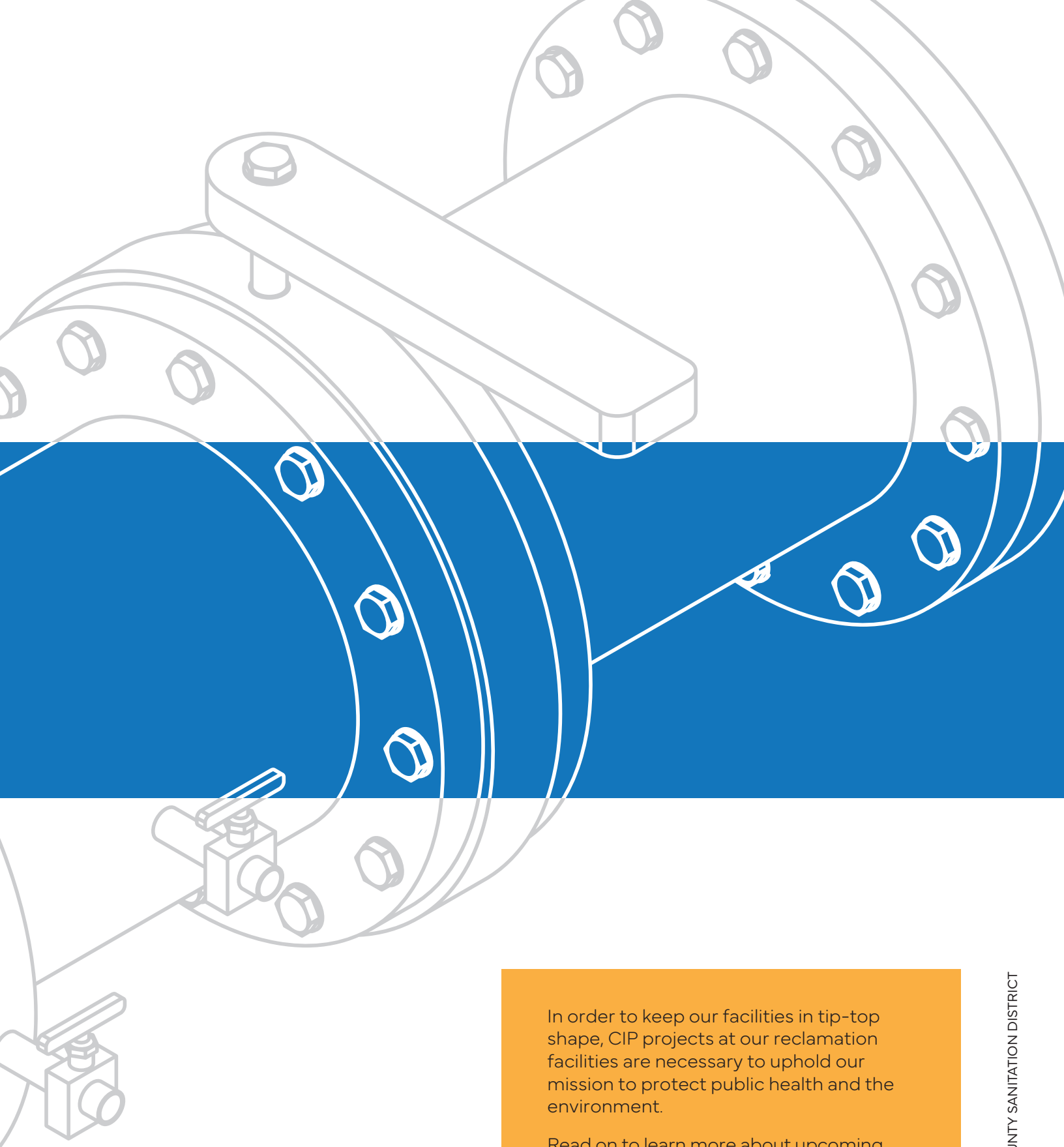
Due to the project's location near a busy daytime airport and non-residential area, most construction work occurred at night to avoid peak traffic and reduce daytime disruptions.

Reclamation Facilities

OC San has two 100-acre reclamation facilities: Plant No. 1 located in Fountain Valley and Plant No. 2 located in Huntington Beach.

Approximately 185 million gallons per day of wastewater are collected and treated at the two plants. After treatment, every drop of treated water that can be recycled is made available to the Orange County Water District for the Groundwater Replenishment System (GWRS) where it goes through a 3-step process of microfiltration, reverse osmosis, and ultraviolet light to produce enough water for 1 million people. For more information about GWRS, visit ocwd.com/gwrs.





In order to keep our facilities in tip-top shape, CIP projects at our reclamation facilities are necessary to uphold our mission to protect public health and the environment.

Read on to learn more about upcoming or active construction projects at our reclamation facilities.



Project No. P1-105

Headworks Rehabilitation at Plant No. 1

Construction Contract: \$229.7 million

OC San is currently modernizing the headworks at Plant No. 1. The headworks is where wastewater first enters the treatment process. It is the first line of defense, screening out large debris and grit to protect equipment as wastewater moves through the treatment process. The existing headworks at Plant No. 1 have been in service for over 30 years without a major rehabilitation effort—until now.

The project will rehabilitate four existing structures and construct seven new ones, while keeping plant operations,

utilities, and odor control fully functional throughout construction. Improvements will be made to the metering and diversion structure, bar screen building, bin loading building, main sewage pump station, grit basins, primary influent channels, odor control scrubbers, and electrical power distribution and control systems.

Once finished, the upgraded headworks will ensure reliable service and improved protection for OC San's treatment systems well into the future.

Construction began in 2021 and is anticipated to be completed by 2030.



(TOP) The entire headworks area at Plant No. 1 is undergoing construction while keeping the existing facilities in service.

(MIDDLE LEFT) New Headworks Standby Power Building for backup generators.

(MIDDLE RIGHT) Underground fuel storage tanks for standby generators.

(BOTTOM) New odor control scrubbers on the left will replace the old scrubbers shown on the right side.



Project No. P1-126

Primary Sedimentation Basins No. 3-5 Replacement at Plant No. 1

Construction Budget: \$136 million

Three primary sedimentation basins will be replaced at Plant No. 1 that were originally built between 1955 and 1965. These basins, also called primary clarifiers, have reached the end of their service life and will be rebuilt to improve reliability and maintain critical treatment capacity for decades to come.

Primary clarifiers are part of the primary treatment process, following the headworks. Primary clarifiers slow down the flow of wastewater allowing heavier

solids such as sand, grit, and organic matter to settle to the bottom and lighter materials such as fats, oils, and grease (FOG) to float. Both the organic material and FOG are sent to our digesters where they are treated and converted into renewable digester gas.

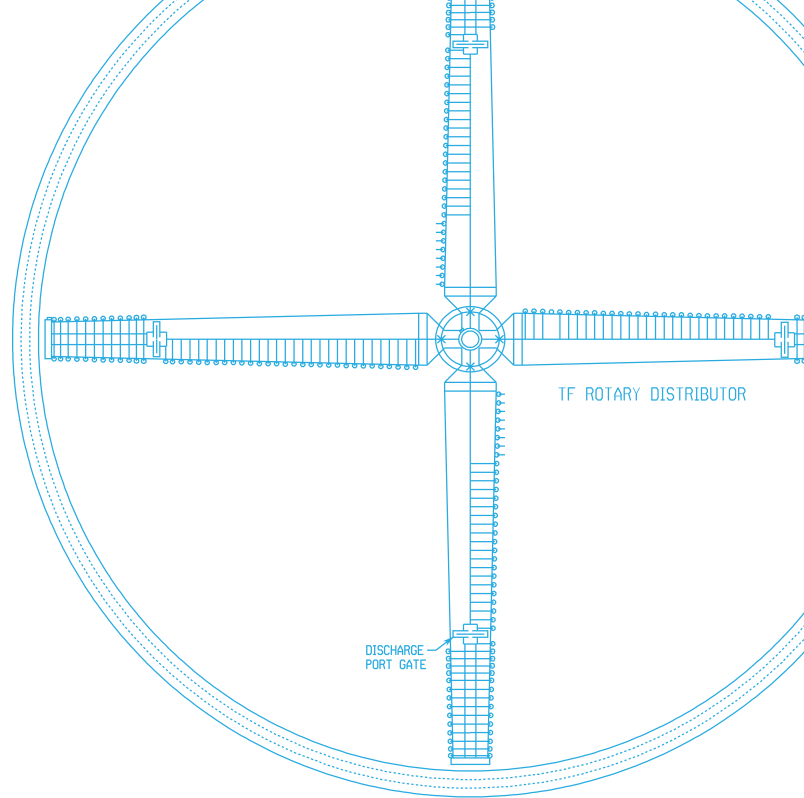
This project includes new clarifiers, associated facilities, new odor control system, and demolition of old structures. The completed project will provide greater efficiency by eliminating a pump station, delivering operational benefits, and ensuring continued compliance with environmental regulations.

Construction is expected to begin in 2027 and finish in 2031.

Trickling Filter Media Replacement at Plant No. 1

Construction Budget: \$29 million

OC San is replacing the trickling filter media at Plant No. 1. Trickling filters are part of the secondary treatment process. The trickling filters clean wastewater by spraying a thin layer of wastewater with the use of a rotating arm over 20 feet of media where beneficial microorganisms grow. These organisms consume and remove contaminants as the water flows through, similar to the naturally occurring green algae in rivers.



Construction of trickling filters.

This project will replace the aging trickling filter media, install new drainage grating below the media, and repair the corrosion-protection liners to ensure the filters operate efficiently.

The construction contract is expected to be awarded in late 2025, with construction anticipated to continue through 2028.



View overlooking the construction of four new primary clarifiers with the Santa Ana River and Newport Beach coast in the background.





Project No. P2-98A

A-Side Primary Clarifiers at Plant No. 2

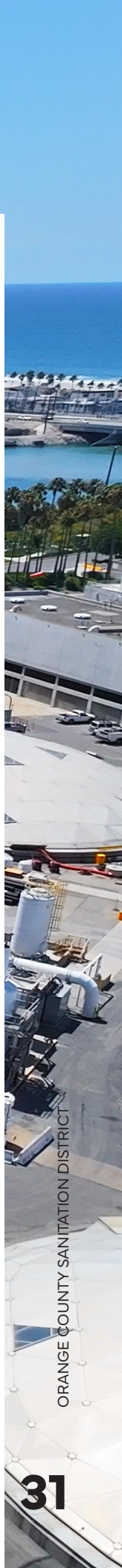
Construction Contract: \$115.1 million

While future construction at Plant No. 1 will replace the primary clarifiers (see Project No. P1-126 on page 28), construction of four new ones is currently underway at Plant No. 2. The four oldest primary clarifiers originally built in the 1960s have surpassed their useful life and will be replaced to maintain reclamation capacity.

This project includes new primary clarifiers, an upgraded odor control system, more resilient power distribution systems, updated utilities, and demolition of existing structures.

Once finished, the upgraded primary clarifiers will ensure reliable operations for many years.

Construction began in 2021 and is anticipated to be completed by 2027.





Project No. P2-128A

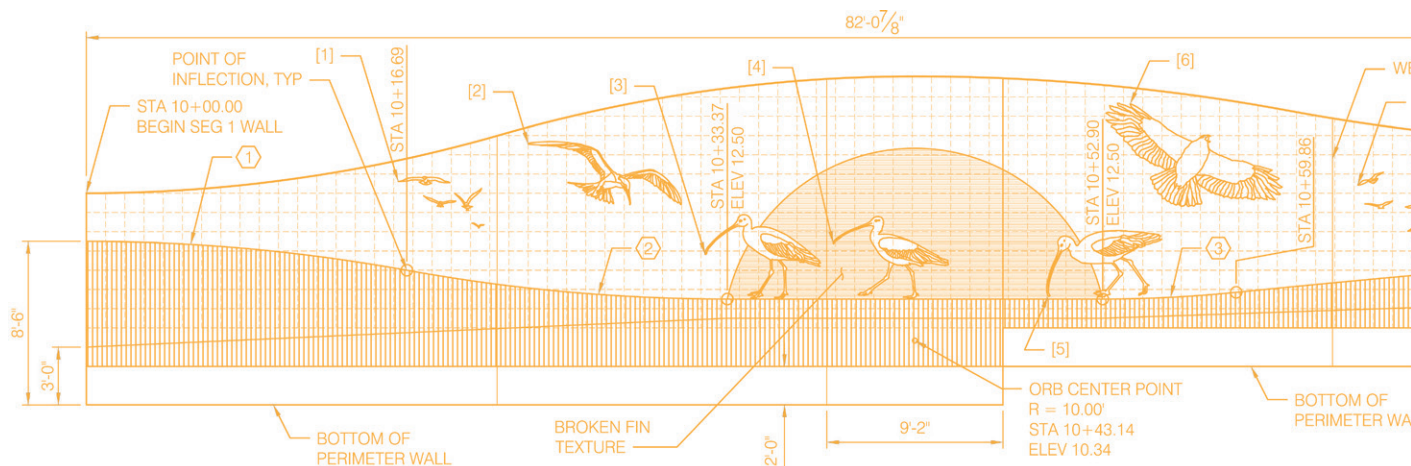
South Perimeter Wall and Soil Improvements at Plant No. 2

Construction Contract: \$25.3 million

OC San is strengthening the southern boundary of Plant No. 2 with the construction of a new concrete perimeter wall and soil improvements along the Talbert Marsh. This project will replace a chain-link fence, improving site security, climate resiliency, and visual screening of the reclamation facility.

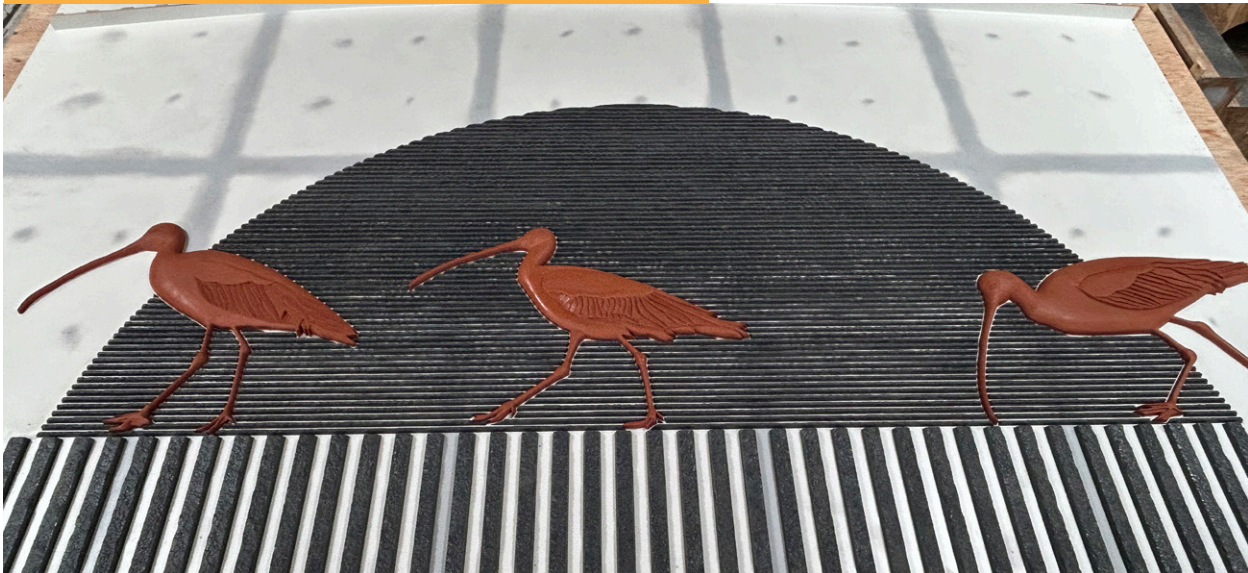
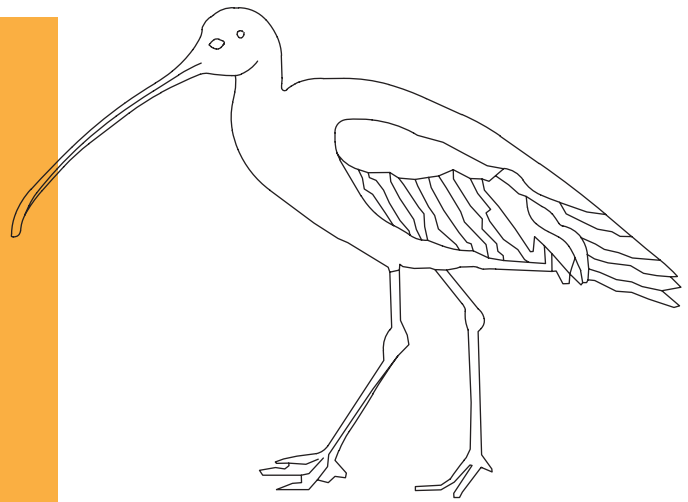
The new wall will stand between 8 and 11 feet tall, designed to withstand future sea level rise, flooding, and tsunami forces. Below ground, soil improvements will help prevent movement during seismic events ensuring key infrastructure stays in place and protected.

Construction began in 2025 and will be completed by 2027.

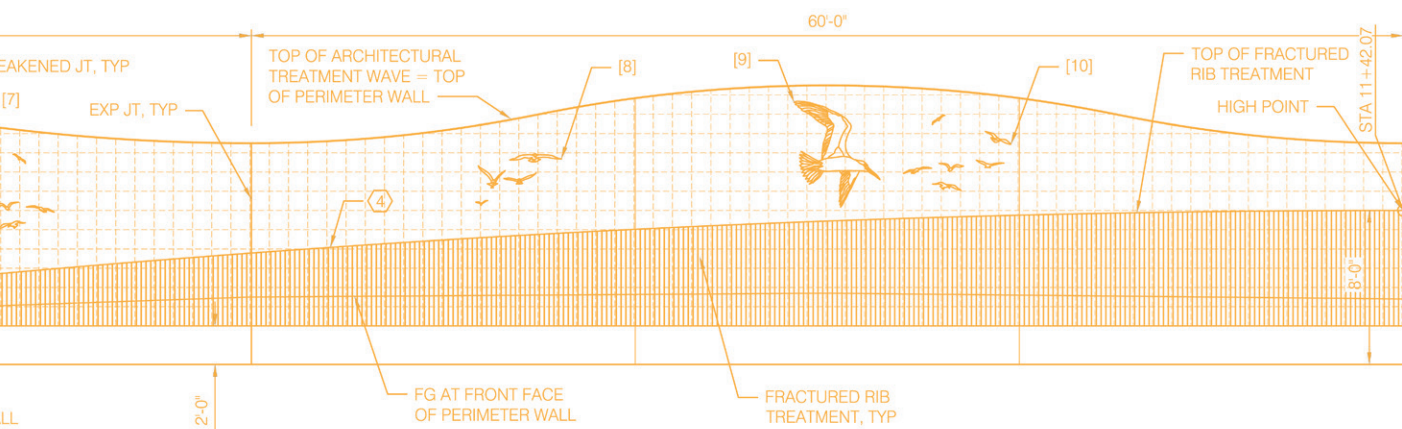


DESIGN INSPIRED BY NATURE

The new wall will feature a wave-like pattern and decorative silhouettes of native birds from the Talbert Marsh. This design, inspired by the surrounding environment, will help our facility blend more naturally with the nearby habitat.



Clay bird sculptures will be used to create decorative patterns on the new perimeter wall.



Project No. J-117B**Outfall Low Flow Pump Station**

Construction Contract: \$96.1 million

Improvements of the ocean outfall system are nearing completion. A new pump station with appropriately sized smaller pumps to handle reduced non-reclaimable flows will provide a properly sized outfall pumping system.

With the final expansion of GWRS and the ability to recycle all reclaimable flow from both plants to produce enough water for 1 million people, the amount of flow pumped through the ocean outfall is reduced.

This project includes a new low flow pump station, new plant water pump station, improved fiber optic network for a more robust industrial control system, and new server rooms.

Construction began in 2019 and is scheduled for completion by 2027.





Starting point where remaining flows of treated wastewater begins its 5-mile journey through the ocean outfall.

**Contract No. J-135B****Engine and Generator Overhauls at Plant No. 1 and 2**

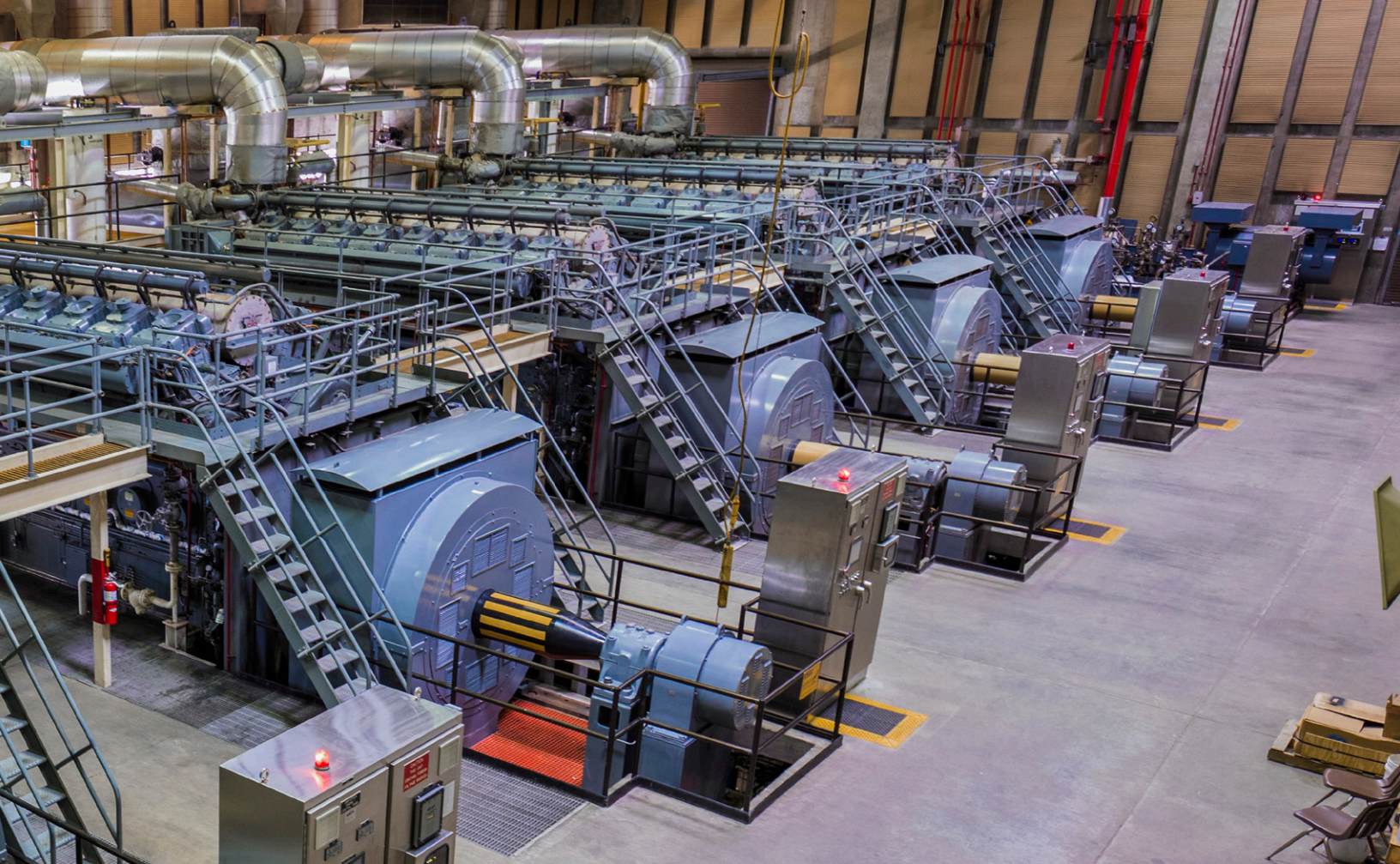
Construction Contract: \$33 million

In the early 1990s, OC San installed engines and generators at our central generation (CenGen) facilities at both our plants. CenGen converts digester gas generated from the treatment process into renewal energy, providing most of the power and heat for our operations and saving ratepayers millions of dollars each year. In 2024 alone, those savings were approximately \$11 million.

The project involves a major overhaul of four engines and generators to ensure reliable and cost-effective operation well into the future. By maintaining and upgrading this system, OC San can continue reducing energy costs and supporting sustainable operations.

Construction began in 2022 and will be completed in 2026. A future project will overhaul the remaining engines and generators.





SUSTAINABLE ENGINEERING

CenGen doesn't just power and heat OC San's reclamation facilities. It also provides heat to our administrative headquarters building, which opened in 2024 across the street from Plant No. 1. A pedestrian bridge safely connects the two sites for employees, and utility piping attached to the bridge carries residual hot water from CenGen to heat the building. It's a smart example of sustainable engineering in action.

The headquarters project is award-winning for its environmental sustainability principles in design. For a list of awards the project received this past year, see the **Awards & Honors** section on page 58.



Overhaul of the engines and generators at Plant No. 2.

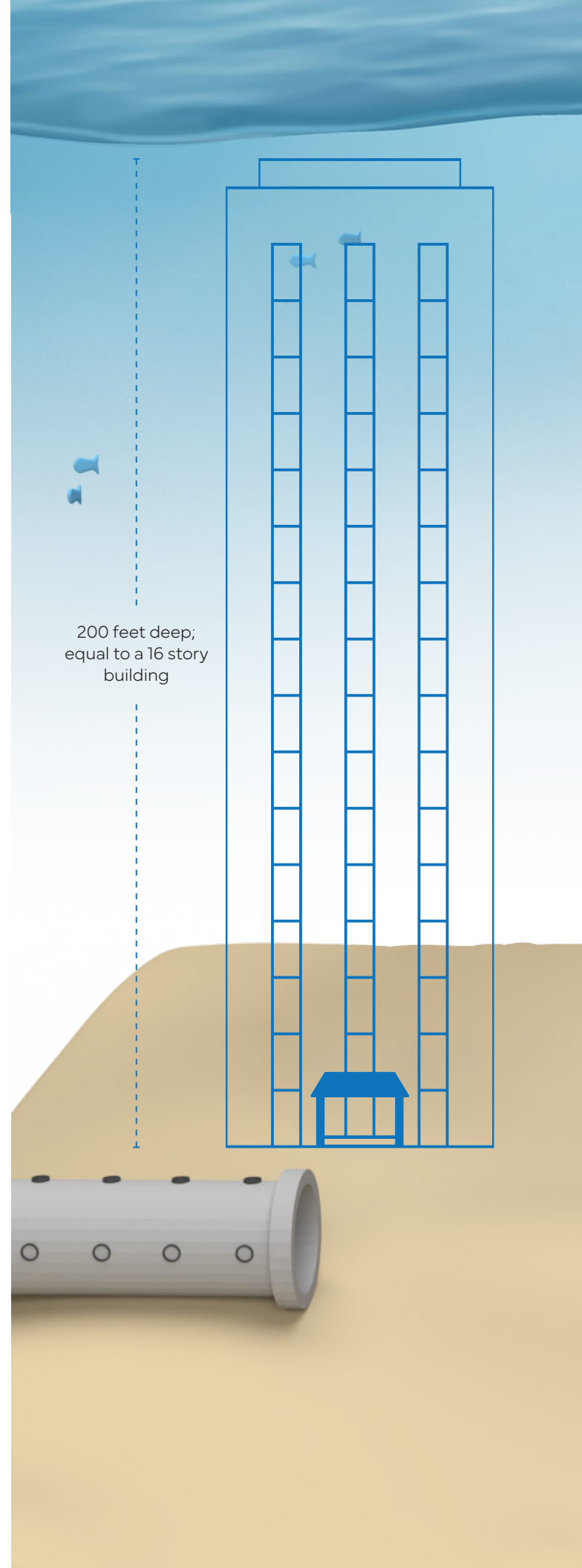
Project No. J-137**Ocean Outfalls Rehabilitation**

Project Budget: \$82 million

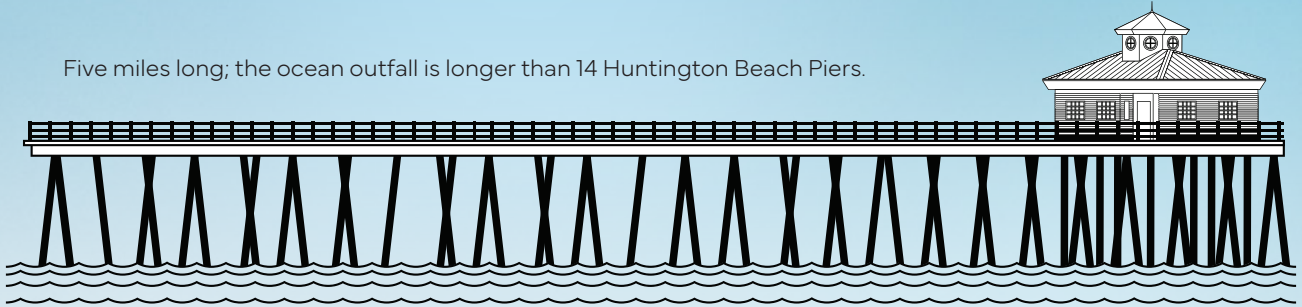
OC San will rehabilitate the ocean outfall pipeline, which safely discharges treated water that cannot be reused into the ocean. The pipeline extends five miles offshore and releases water through more than 500 portholes located 200 feet below the ocean surface, playing a crucial role in wastewater treatment and protecting public health and the environment.

The project will rehabilitate the 120-inch Long Outfall and conduct a detailed inspection and condition assessment of the 78-inch Emergency Short Outfall. Recommendations for both short- and long-term rehabilitation repairs will be provided.

Design and construction are anticipated to begin early 2026, with completion scheduled for 2029.



Five miles long; the ocean outfall is longer than 14 Huntington Beach Piers.



ENGINEERING WITH COLLABORATION

The Ocean Outfalls Rehabilitation is the first project to use Progressive Design-Build, a delivery method that allows design and construction teams to collaborate from the start in making important upgrades to critical infrastructure. This approach is a great value to the public to reduce construction-related risks, improve efficiency, and shorten project schedules compared to traditional delivery methods.

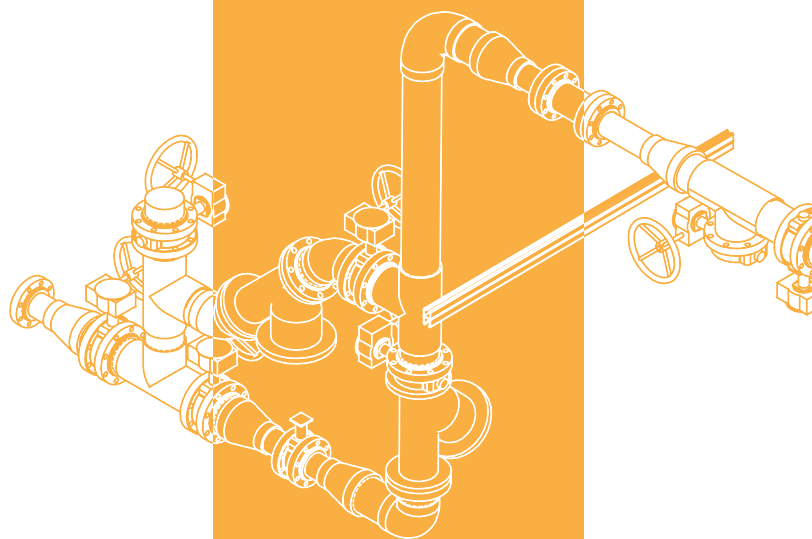
OC San traditionally uses the Design-Bid-Build method where the project is divided into distinct phases, with separate contracts for the designer and the contractor.

Small Projects

Not every project at OC San is a major multi-year effort. Some projects are smaller in size and cost but equally important to keeping our system running smoothly between the execution of the larger CIP projects. These types of projects focus on the immediate needs to maintain day-to-day reliability and extend the life of existing assets.

This section shows a variety of projects ranging in **budget**, **construction schedule**, and **scope**.

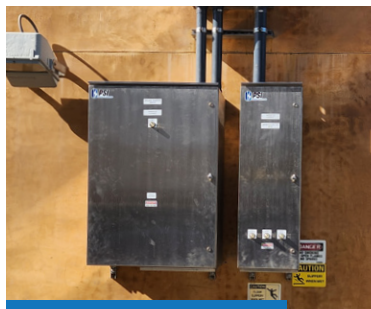
A list of the active CIP funded small projects during Fiscal Year 2024/25 begins on page 54.



Project No. FE18-13

Redhill Relief Sewer Relocation at State Route 55

- \$2.9 million
- 2024–2025
- Relocated an existing pipeline to accommodate the freeway widening project.



Project No. FE19-01

Pump Station Portable Generator Connectors

- \$1.3 million
- 2022–2025
- Installed electrical connectors for portable emergency generator sets at 13 pump stations.



Project No. FE20-04

CenGen Cooling Water Piping Replacement at Plant No. 2

- \$3.5 million
- 2023–2027
- Replaces 1,500 feet of central generation cooling water ductile iron piping.



Project No. FE20-08

Olive Sub-Trunk Siphon Rehabilitation at Santa Ana River

- \$1.9 million
- 2023–2025
- Repaired a 550-foot section of pipeline, replaced manholes, and installed an air jumper to help reduce odors.



Project No. FE21-04

Thickening and Dewatering Facility Handrail Installation at Plant No. 1

- \$110,000
- 2024–2025
- Installed safety guardrails adjacent to the Thickening and Dewatering Facility.



Project No. FE21-07

Liquid Oxygen Tank A Replacement at Plant No. 2

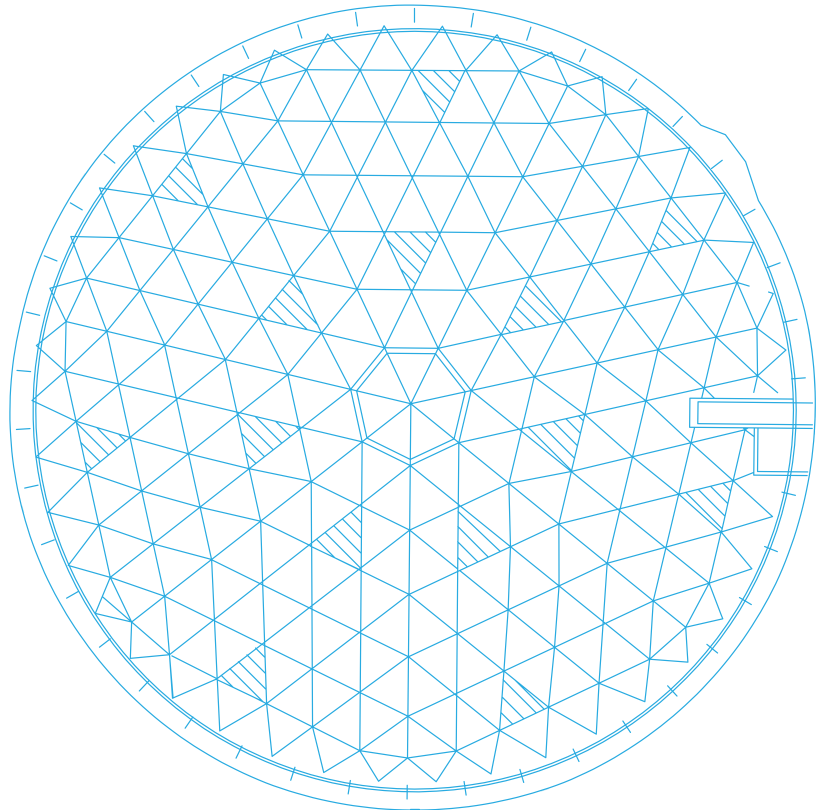
- \$2.6 million
- 2023–2025
- Replaced the 45,000 gallon steel liquid oxygen tank.



Project No. FE23-09

Primary Clarifiers F and G Rotating Mechanism Rehabilitation at Plant No. 2

- \$3.2 million
- 2024–2025
- Rehabilitated the rotating mechanisms inside two primary clarifiers.

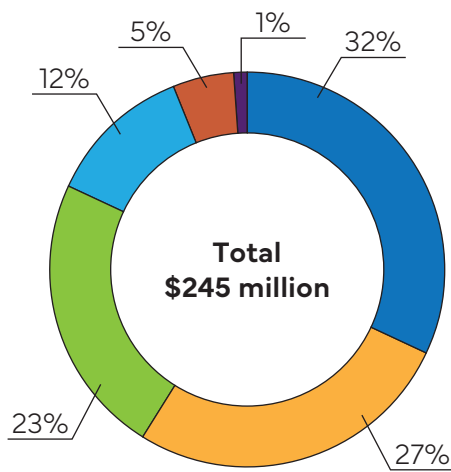


Financial Data

Every year, OC San reviews the scope, schedule, cost, resources, and risks of all current and upcoming CIP projects to verify budgets remain accurate and up to date. This annual validation process ensures that project plans reflect current conditions and projects deliver long-term value while meeting the needs of the community.

The updated CIP budget is then presented to and approved by the Board of Directors as part of OC San's overall annual budget process.

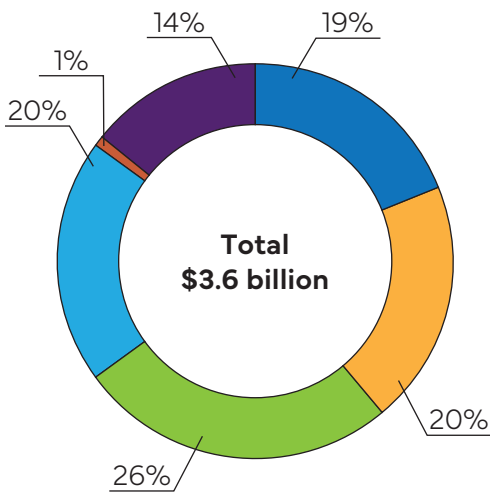
The charts and graphs in this section represent how much OC San has spent on capital improvement projects and how much is planned for investment in the coming years.



CIP Expenditures

Fiscal Year 2024/25

■ Collection System \$79.5 million	■ Joint Facilities \$28.1 million
■ Plant No. 1 \$66.9 million	■ Non-Engineering \$11.8 million
■ Plant No. 2 \$56.3 million	■ Study \$2.4 million



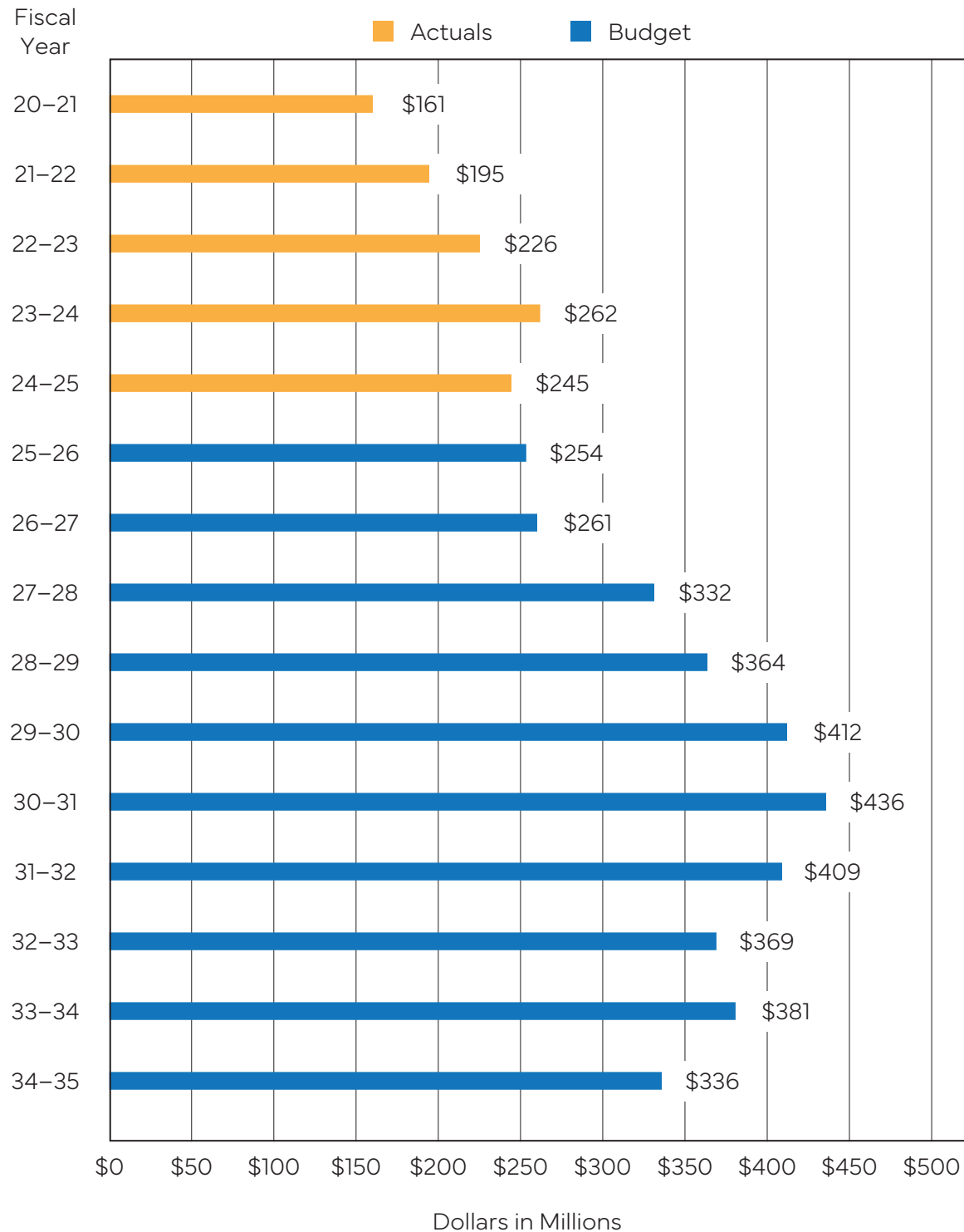
10-Year Net CIP Outlay

Fiscal Years 2025/26 through 2034/35

■ Collection System \$660.8 million	■ Joint Facilities \$699.0 million
■ Plant No. 1 \$715.1 million	■ Non-Engineering \$52.1 million
■ Plant No. 2 \$930.1 million	■ Future Rehabilitation and Replacement \$498.0 million

Annual Net CIP Outlay

This chart shows OC San's CIP spending over the past five years and how much we plan to spend over the next ten years.



Contract Activity

The Engineering Department works closely with Contracts and Purchasing during the procurement process to award design and construction contracts to consultants and contractors.

The following tables summarize contract activity during Fiscal Year 2024/25. They include new contract awards for planning studies and construction, as well as construction contracts that reached completion. With many projects already in design, no new design contracts were awarded during this period.

Non-engineering projects that include Information Technology and Maintenance projects are not detailed in this report.

Planning Studies Contracts Awarded

Date of Award	Project Number	Project Title	Consultant	Contract Amount	Location(s)
July 2024	PS23-03	Outfall Initial Dilution Model	Hazen and Sawyer	\$425,232	Plant No. 2
September 2024	PS23-01	Fleet Facilities Improvements Study	Stantec Consulting Services Inc.	\$243,543	Plant No. 1
November 2024	PS23-06	Seismic Resilience Study at Plant No. 2	Brown and Caldwell	\$488,959	Plant No. 2
December 2024	PS24-01	Deep Well Injection Feasibility Study	Jacobs	\$1,130,000	Plant Nos. 1 and 2
January 2025	PS24-02	Scrubber Fan and Transformer Failure Root Cause Analysis Study	Hazen and Sawyer	\$92,116	Plant Nos. 1 and 2
April 2025	PS23-04	Digital Asset Management Study	Black and Veach Corporation	\$799,917	Plant Nos. 1 and 2, service area

Planning Studies Contracts Awarded Continued

Date of Award	Project Number	Project Title	Consultant	Contract Amount	Location(s)
April 2025	PS23-05	Utility Water Planning Study at Plant Nos. 1 and 2	HDR Engineering, Inc.	\$670,000	Plant Nos. 1 and 2
Total				\$3,849,767	

Construction Contracts Awarded

Date of Award	Project Number	Project Title	Contractor	Contract Amount	Location(s)
July 2024	FE21-04	Thickening and Dewatering Facility Handrail Installation at Plant No. 1	J.R. Filanc Construction	\$110,400	Plant No. 1
July 2024	FE23-06	HVAC Replacements at Plant Nos. 1 and 2	ACCO Engineered Systems	\$1,698,204	Plant Nos. 1 and 2
July 2024	P2-137A	Digester P and R Dome Tendon Repair	Structural Preservation Systems, LLC	\$2,597,864	Plant No. 2
September 2024	FE20-05	Plant Water Piping Replacement at Secondary Clarifiers 1-26 at Plant No. 1	T.E. Roberts, Inc.	\$1,375,313	Plant No. 1

Construction Contracts Awarded Continued

Date of Award	Project Number	Project Title	Contractor	Contract Amount	Location(s)
September 2024	FE23-09	Primary Clarifiers F and G Rotating Mechanism Rehabilitation at Plant No. 2	Vicon Enterprise	\$3,150,000	Plant No. 2
October 2024	FE23-08	Power Buildings 7 and 8 HVAC Replacement at Plant No. 1	Trane U.S. Inc.	\$687,708	Plant No. 1
November 2024	P2-128A	South Perimeter Wall and Soil Improvements at Plant No. 2	Ames Construction, Inc.	\$25,270,000	Plant No. 2
December 2024	3-64C	Los Alamitos Sub-Trunk and Westside Relief Interceptor Rehabilitation	T.E. Roberts, Inc.	\$35,320,572	Cypress, La Palma, Los Alamitos
December 2024	FE21-08	Newhope-Placentia Sewer Manhole Replacements	Sancon Technologies Inc.	\$406,730	Fountain Valley, Garden Grove, Orange
December 2024	FE22-01	Platform Modifications for Process Areas at Plant No. 1 and No. 2	Tharsos, Inc.	\$494,494	Plant Nos. 1 and 2
February 2025	5-67	Bay Bridge Pump Station Replacement	J.F. Shea Construction, Inc.	\$87,321,000	Newport Beach

Construction Contracts Awarded Continued

Date of Award	Project Number	Project Title	Contractor	Contract Amount	Location(s)
February 2025	J-120A	Control Room Reconfiguration at Plant No. 1	Estate Design and Construction, Inc.	\$1,033,000	Plant No. 1
June 2025	J-98	Electrical Power Distribution System Improvements	Shimmick Construction Company, Inc	\$24,352,127	Plant Nos. 1 and 2
Total				\$183,817,412	

Construction Contracts Completed

Date of Completion	Project Number	Project Title	Consultant	Contract Amount	Location(s)
August 2024	FE20-01	Wastehauler Station Safety and Security Improvements	Leed Electric	\$1,953,454	Plant No. 1
November 2024	FE20-09	CenGen Smoke Detection Improvements at Plant No. 1 and No. 2	ADT Commercial, LLC	\$308,891	Plant Nos. 1 and 2
December 2024	FE18-14	Plant Water Pipeline Replacement in Kinnison, Lindstrom, and Scott Tunnels at Plant No. 2	Mehta Mechanical Co.	\$1,165,995	Plant No. 2

Construction Contracts Completed Continued

Date of Completion	Project Number	Project Title	Consultant	Contract Amount	Location(s)
January 2025	FE20-03	Return Activated Sludge Discharge Piping Replacement at Activated Sludge Plant No. 1	GSE Construction Company Inc.	\$4,030,013	Plant No. 1
March 2025	5-68	Newport Beach Pump Station Pressurization Improvements	Innovative Construction Solutions	\$1,035,256	Newport Beach
May 2025	3-64A & 3-64BB	Orange-Western Sub-Trunk and Los Alamitos Trunk Sewer Rehabilitation	Steve P. Rados, Inc.	\$18,800,000	Anaheim, Buena Park, Cypress, Los Alamitos, Seal Beach
May 2025	FE19-04	Sunflower Pump Replacement at Plant No.1	GSE Construction Company, Inc.	\$2,123,200	Plant No. 1
June 2025	FE21-04	Thickening and Dewatering Facility Handrail Installation at Plant No. 1	J. R. Filanc Construction Company, Inc.	\$110,400	Plant No. 1
Total				\$29,527,209	

Engineering CIP Projects

Tables of all active studies and projects during Fiscal Year 2024/25 and their project status and budget. The status is at the time of report publishing and project budgets are based on the adopted budget for fiscal years 2024/25 and 2025/26 and budget update for fiscal year 2025/26.

Planning Studies

Project Number	Project Title	Status	Project Budget (Rounded)
PS20-02	Collection System Flow Level Monitoring Study	Completed	\$743,000
PS20-09	Thickening & Dewatering Plant Water Study at Plant No. 1	Active	\$400,000
PS21-01	Exterior Lighting Study at Plant Nos. 1 and 2	Completed	\$346,000
PS21-04	Energy and Digester Gas Master Plan	Completed	\$1,785,000
PS21-05	CAD Design Manual Update for 3D Design	Completed	\$758,000
PS21-06	Urban Runoff Optimization Study	Active	\$1,100,000
PS21-07	Process Simulation Model Development for CenGen Facilities	Active	\$211,000
PS21-10	Integrated Nitrogen Management	Active	\$372,000
PS23-01	Fleet Facilities Improvements Study	Active	\$350,000
PS23-03	2025 Outfall Initial Dilution Model	Active	\$708,000
PS23-04	Digital Asset Management Study	Active	\$1,190,000
PS23-05	Utility Water Planning Study at Plant Nos. 1 and 2	Active	\$1,100,000
PS23-06	Seismic Resilience Study at Plant No. 2	Active	\$946,000
PS24-01	Deep Well Injection Feasibility Study	Active	\$1,130,000

Planning Studies Continued

Project Number	Project Title	Status	Project Budget (Rounded)
PS24-02	Bioscrubber Fan and Transformer Failure Root Cause Analysis Study	Active	\$150,000
PS24-03	Utility Tunnel Reliability Study at Plant No. 1 and No. 2	Active	\$1,080,000
PS24-04	Trickling Filter Odor Control Study at Plant No. 1	Active	\$1,110,000
PS24-05	Stormwater System Discharge Study at Plant No. 1 and No. 2	Active	\$540,000
PS24-06	Positive Sequence Load Flow Modeling for Central Generation at Plant No. 2	Active	\$60,000
PS25-01	Siphon Assessments in Anaheim, Newport Beach, and Orange	Active	\$3,200,000

Research Studies

Project Number	Project No.	Status	Project Budget (Rounded)
RE20-06	Co-Thickened Sludge Pump Trial at Plant No. 1	Active	\$160,000
RE21-01	Supercritical Water Oxidation Demonstration at Plant No. 1	Active	\$7,941,000

Collection System Projects

Project Number	Project Title	Status	Project Budget (Rounded)	Location(s)
1-23	Santa Ana Trunk Sewer Rehabilitation	Design	\$55,800,000	Costa Mesa, Santa Ana
2-49	Taft Branch Improvements	Construction	\$30,200,000	Orange
2-73	Fullerton - Placentia Sewer Facilities Demolition and Rehabilitation	Project Development	\$21,700,000	Fullerton, Yorba Linda
3-60	Knott - Miller Holder Artesia Branch Rehabilitation	Design	\$19,700,000	Buena Park, La Palma
3-64A & 3-64BB	Orange-Western Sub-Trunk and Los Alamitos Trunk Sewer Rehabilitation	Close-Out	\$27,304,000	Anaheim, Buena Park, Cypress, Los Alamitos, Seal Beach
3-64C	Los Alamitos Sub-Trunk and Westside Relief Interceptor Rehabilitation	Construction	\$52,700,000	Cypress, La Palma, Los Alamitos
3-67	Seal Beach Pump Station Replacement	Construction	\$132,500,000	Seal Beach
5-67	Bay Bridge Pump Station Replacement	Construction	\$171,397,000	Newport Beach
5-68	Newport Beach Pump Station Pressurization Improvements	Close-Out	\$2,700,000	Newport Beach
6-20	Fairview Sewer Rehabilitation	Design	\$25,000,000	Costa Mesa
7-63	MacArthur Pump Station Rehabilitation	Project Development	\$16,200,000	Newport Beach
7-65	Gisler-Red Hill Interceptor and Baker Force Main Rehabilitation	Construction	\$55,500,000	Costa Mesa, Irvine

Collection System Projects Continued

Project Number	Project Title	Status	Project Budget (Rounded)	Location(s)
7-68	MacArthur Force Main Improvements	Close-Out	\$6,400,000	Newport Beach
7-69	North Tustin-Orange Sewer Rehabilitation	Project Development	\$33,800,000	Orange, Tustin, Unincorporated
11-33	Edinger Pump Station Replacement	Design	\$36,500,000	Huntington Beach

Reclamation Facilities Projects

Project Number	Project Title	Status	Project Budget (Rounded)
P1-105	Headworks Rehabilitation at Plant 1	Construction	\$340,000,000
P1-126	Primary Sedimentation Basins No. 3-5 Replacement at Plant No. 1	Design	\$201,000,000
P1-128A	Headquarters Complex at Plant No. 1	Close-Out	\$167,819,000
P1-132	Uninterruptable Power Supply Improvements at Plant 1	Construction	\$9,600,000
P1-133	Primary Sedimentation Basins No. 6-31 Reliability Improvements at Plant No. 1	Construction	\$12,100,000
P1-134	South Perimeter Security and Utility Improvements at Plant No.1	Closed	\$8,150,000
P1-137	Support Buildings Seismic Improvements at Plant No. 1	Design	\$30,500,000
P1-138	Industrial Control System and IT Data Center Relocation at Plant No. 1	Project Development	\$16,500,000
P1-140	Activated Sludge-1 Rehabilitation at Plant No.1	Design	\$470,000,000

Reclamation Facilities Projects Continued

Project Number	Project Title	Status	Project Budget (Rounded)
P1-141	Administrative Facilities Demolition	Design	\$4,286,000
P1-142	Trickling Filter Media Replacement at Plant No. 1	Design	\$42,000,000
P2-98A	A-Side Primary Clarifiers Replacement at Plant 2	Construction	\$165,894,453
P2-124	Interim Food Waste Receiving Facility	Design	\$10,000,000
P2-127	Collections Yard Relocation and Warehouse Demolition at Plant No. 2	Close-Out	\$9,400,000
P2-128	Digester Replacement at Plant No. 2	Preliminary Design	\$555,000,000
P2-128A	South Perimeter Wall and Soil Improvements at Plant No. 2	Construction	\$33,000,000
P2-135	Chemical Systems Rehabilitation at Plant No. 2	Design	\$9,430,000
P2-136	Activated Sludge Aeration Basin Rehabilitation at Plant No. 2	Preliminary Design	\$65,600,000
P2-137	Digesters Rehabilitation at Plant No. 2	Design	\$47,520,000
P2-137A	Digester P and R Dome Tendon Repair	Construction	\$3,680,000
P2-138	Operations and Maintenance Complex at Plant No. 2.	Preliminary Design	\$178,000,000
P2-140	Truck Loading Bay Odor Control Improvements at Plant No. 2	Project Development	\$9,700,000
P2-141	Headworks Electrical Distribution Improvements at Plant No. 2	Project Development	\$34,652,000
J-98	Electrical Power Distribution System Improvements	Design	\$43,000,000
J-117B	Outfall Low Flow Pump Station	Construction	\$146,656,684
J-120	Process Control Systems Upgrades	Construction	\$28,700,000

Reclamation Facilities Projects Continued

Project Number	Project Title	Status	Project Budget (Rounded)
J-120A	Control Room Reconfiguration at Plant No.1	Construction	\$3,800,000
J-124	Digester Gas Facilities Rehabilitation	Design	\$190,000,000
J-128	Project Management Information System	Design	\$2,280,000
J-133	Laboratory Replacement at Plant No. 1	Project Development	\$129,300,000
J-135B	Engine and Generator Overhauls at Plant No. 1 and 2	Construction	\$36,638,000
J-135C	Engine and Generator Overhauls at Plant No. 1 and 2, Phase 2	Project Development	\$31,140,000
J-137	Ocean Outfalls Rehabilitation	Design	\$100,000,000
J-138	Central Generation Facilities and OOBs Seismic Upgrades	Project Development	\$17,500,000
J-139	Process Control System Alarm Optimization	Project Development	\$6,439,000

Small Projects

Project Number	Project Title	Status	Project Budget (Rounded)
FE18-06	CenGen Instrument Air Compressors Replacement at Plant No. 1	Design	\$1,150,000
FE18-13	Redhill Relief Sewer Relocation at State Route 55	Construction	\$5,010,000
FE19-01	Pump Station Portable Generator Connectors	Construction	\$2,730,000
FE19-02	Cengen Plant Water Pipe Replacement at Plant No. 1	Construction	\$5,725,000

Small Projects Continued

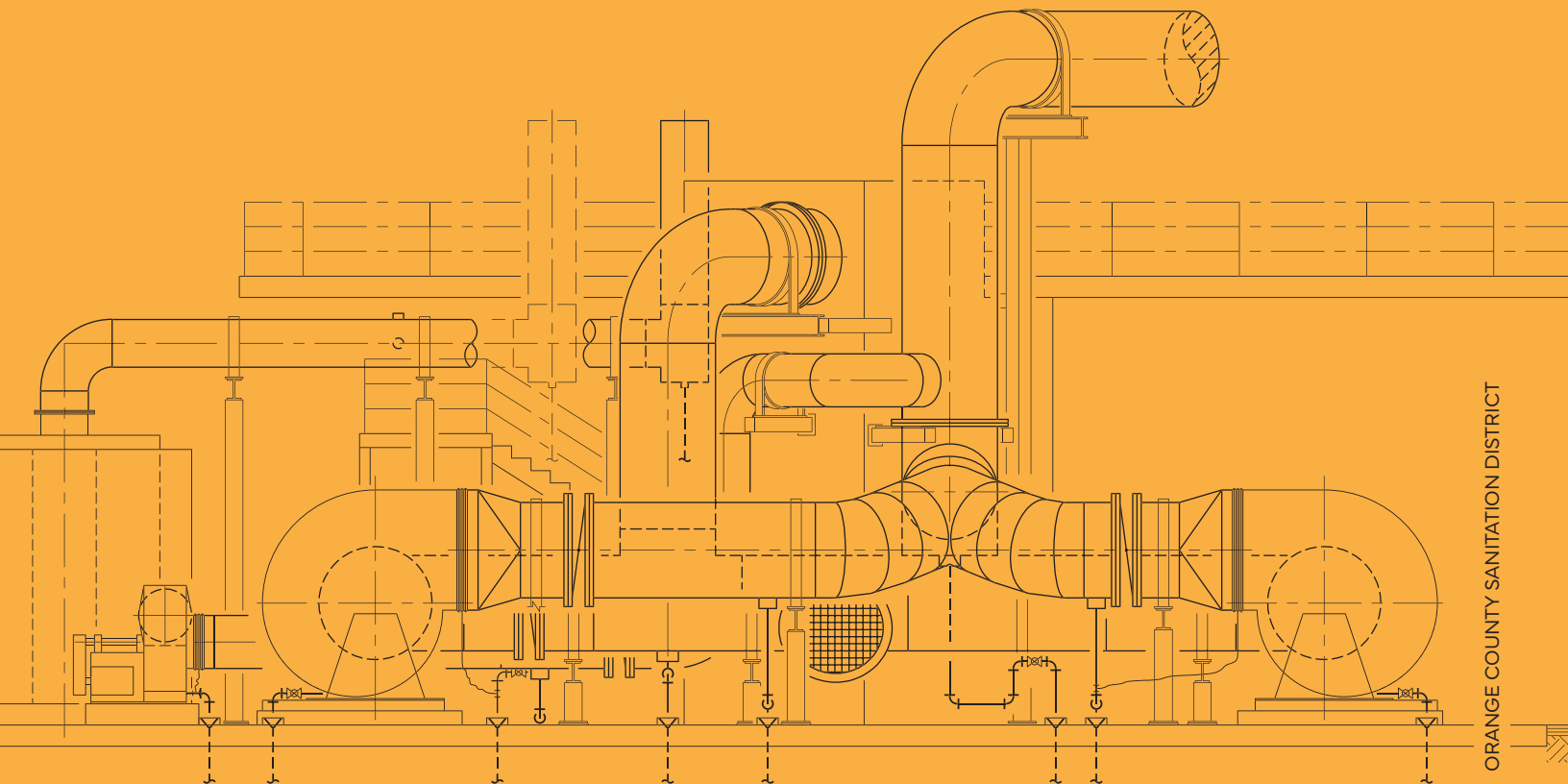
Project Number	Project Title	Status	Project Budget (Rounded)
FE19-03	Trickling Filter Sludge and Scum Pumps Replacement at Plant No. 1	Construction	\$2,400,000
FE19-04	Sunflower Pump Replacement at Plant No. 1	Close-Out	\$5,175,000
FE19-08	Secondary Treatment VFD Replacements at Plant No. 2	Construction	\$2,900,000
FE19-10	Digesters C, D, F, G and I Gas Balance Lines Replacement at Plant No. 2	Construction	\$176,000
FE19-11	Primary Clarifiers Nos. 6-31 Lighting and Alarm Improvements at Plant No. 1	Construction	\$440,000
FE20-02	Digester C, D, F, and G Mechanical Rehabilitation at Plant No. 2	Construction	\$6,622,000
FE20-04	Cengen Cooling Water Pipe Replacement at Plant No. 2	Construction	\$6,080,000
FE20-05	Plant Water Piping Replacement at Secondary Clarifiers 1-26 at Plant No. 1	Construction	\$2,485,000
FE20-08	Olive Sub-Trunk Siphon Rehabilitation at Santa Ana River	Construction	\$3,500,000
FE21-01	Plasma Cutting Fume Extractor installation at Plant No. 1 Rebuild Shop	Design	\$400,700
FE21-04	Thickening and Dewatering Facility Handrail Installation at Plant No. 1	Close-Out	\$510,000
FE21-07	Liquid Oxygen Tank A Replacement at Plant No. 2	Construction	\$3,800,000
FE21-08	Newhope-Placentia Sewer Manhole Replacements	Construction	\$1,225,000
FE22-01	Platform Modifications for Process Areas at Plant No. 1 and No. 2	Construction	\$1,300,000

Small Projects Continued

Project Number	Project Title	Status	Project Budget (Rounded)
FE22-02	Liquid Oxygen Tank B Replacement at Plant No. 2	Construction	\$4,200,000
FE23-01	Digester Gas Compressor Dryer Replacements at Plant Nos. 1 and 2	Construction	\$7,500,000
FE23-03	Wetwell Level Monitoring Upgrade at Collections Pump Stations	Design	\$2,660,000
FE23-04	Truck Loading Scale Replacement at Plant No. 2	Construction	\$916,000
FE23-05	Primary Clarifier Nos. 6-31 Scum Pump Replacement at Plant No. 1	Project Development	\$3,789,000
FE23-06	HVAC Replacements at Plant Nos. 1 and 2	Construction	\$2,840,000
FE23-07	Pipeline Utility Easement Clean Up in Huntington Beach	Design	\$5,198,000
FE23-08	Power Buildings 7 and 8 HVAC Replacement at Plant No. 1	Construction	\$850,000
FE23-09	Primary Clarifiers F and G Rotating Mechanism Rehabilitation at Plant No. 2	Construction	\$5,250,000
FE23-10	12 kV Switchgear Replacement for Power Building 5 at Plant No. 1	Project Development	\$3,420,000
FE24-01	Chopper Pump Trial for Digester Mixing at Plant No. 1	Construction	\$160,000
FE24-02	Gas Compressor Building Heat Exchanger Replacement at Plant No. 1	Design	\$640,000
FE24-05	Long Outfall Air Vent Valve Relocation at Plant No. 2	Project Development	\$400,000
FE24-06	Building 6, Control Center, & Laboratory Elevator Rehabilitation at Plant No. 1	Project Development	\$780,000

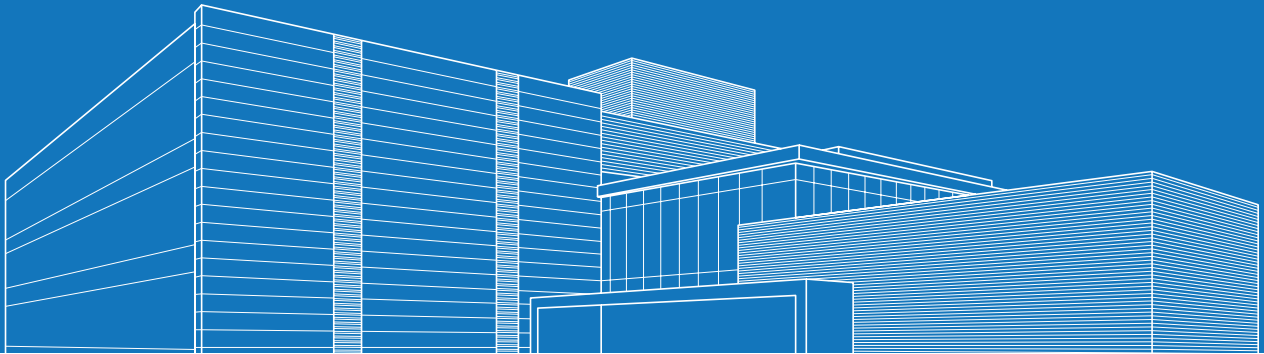
Small Projects Continued

Project Number	Project Title	Status	Project Budget (Rounded)
FE24-10	Activated Sludge Clarifier D, G, and J Equipment Replacement at Plant No. 2	Project Development	\$7,280,000
FE24-11	Steve Anderson Lift Station Variable Frequency Drive Replacement at Plant No. 1	Construction	\$680,000
FE25-02	Headquarters Pantry Electrical Improvements at Plant No. 1	Project Development	\$220,000
FE25-03	Headquarters' Interview and Conference Room Improvements	Project Development	\$500,000



AWARDS & HONORS

Headquarters Building



Golden Hub Award (2025)

Environmental Sustainability &
Energy Efficiency Category
*Association of California Cities –
Orange County*

Calibre Design Award (2025)

Public & Community Spaces
Category
*International Interior Design
Association – Southern
California Chapter*

Merit Award (2025)

Interior Lighting Design Category
Illuminating Engineering Society

Project of the Year (2024)

CA Green Building Awards
U.S. Green Building Council California



Honor Award (2024)

Energy/Operational Carbon Category, CA Green Building Awards
U.S. Green Building Council California

Design Award Winner (2024)

Civic | Culture Category
Southern California Development Forum

Los Alamitos Construction Project

Project of the Year - Silver (2025)

Community Engagement & Outreach Category
Santa Ana River Basin Section of the California Water Environment Association



Groundwater Replenishment System Final Expansion Event

Best in Show Award (2024)

California Association of Public Information Officers

Epic Award (2024)

California Association of Public Information Officers

CIP Annual Report Fiscal Year 2023-24, 70 Years of Environmental Excellence

Silver Award (2024)

Design & Print Collateral – Annual Report Category
Davey Awards



OC San Headquarters

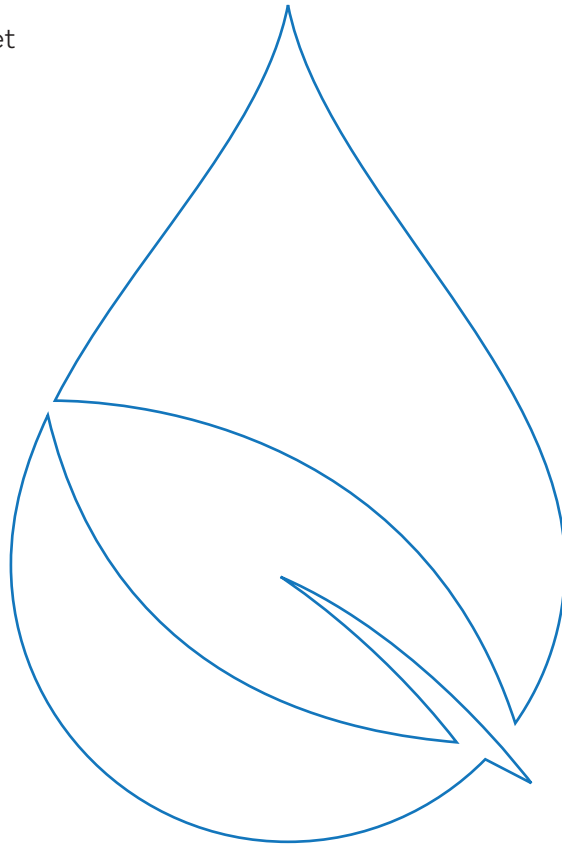
18480 Bandilier Circle
Fountain Valley,
California 92708

Reclamation Plant No. 1

10844 Ellis Avenue
Fountain Valley,
California 92708

Reclamation Plant No. 2

22212 Brookhurst Street
Huntington Beach,
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