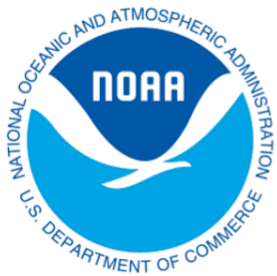




# El Niño Preparations & 2026 Annual Stormwater Department Update



## Rain Totals: Saturday Night - Monday Afternoon

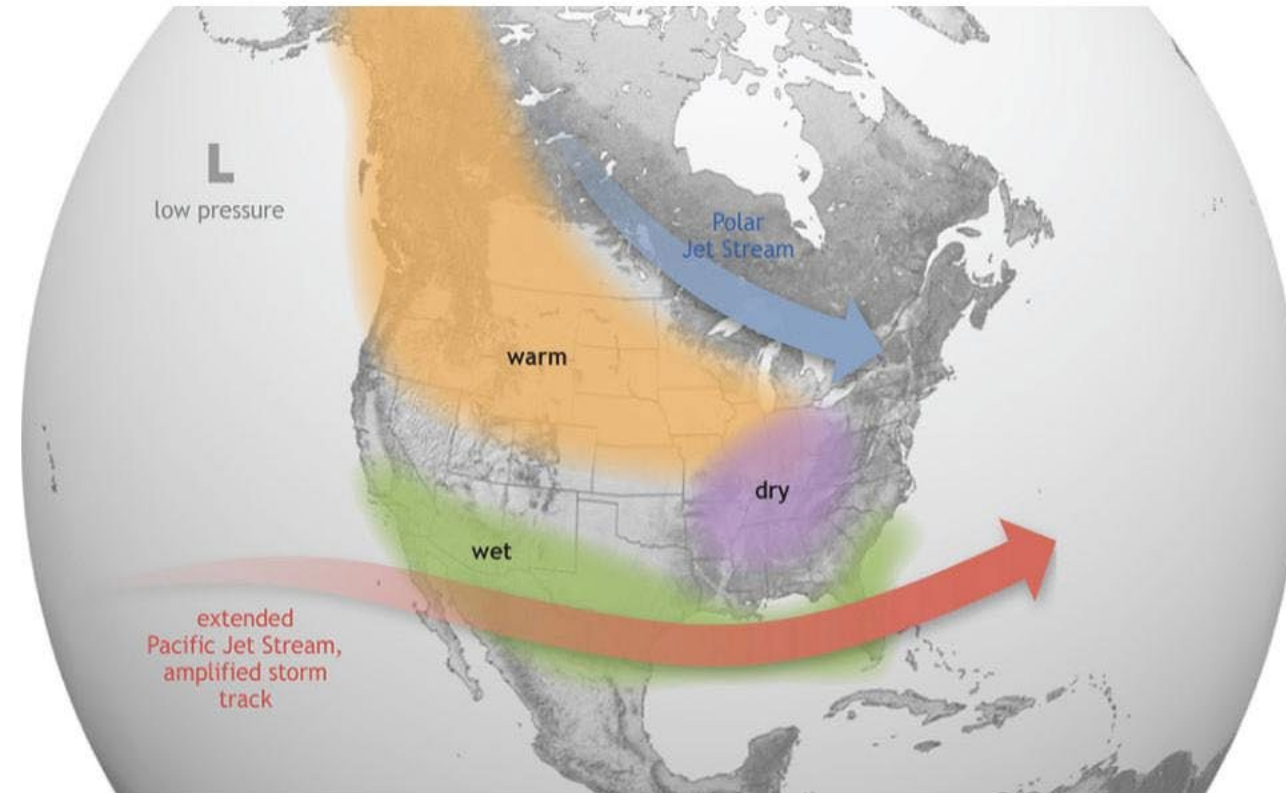
Weather Forecast  
San Diego  
2026 9:26 AM



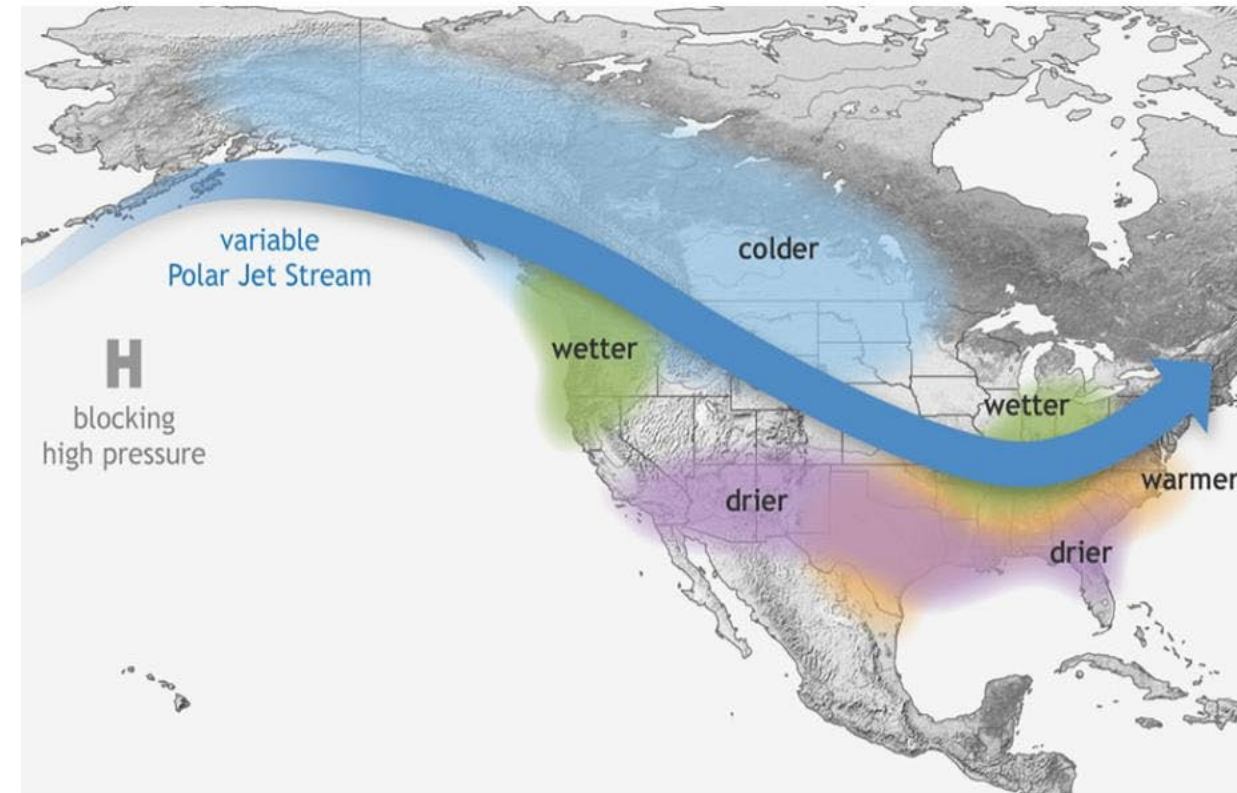
# National Weather Service – San Diego

# What are El Niño and La Niña?

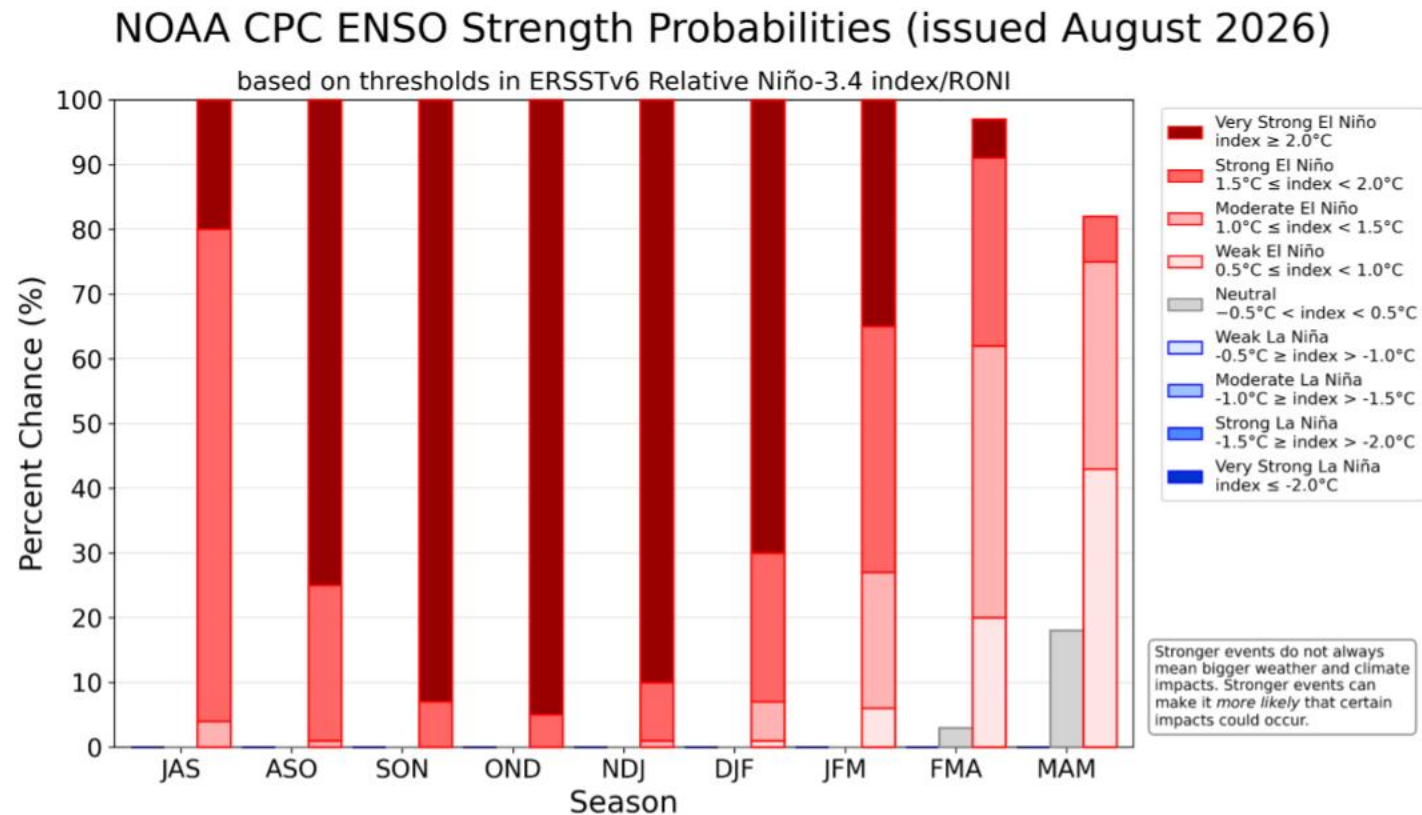
El Niño and La Niña are climate patterns in the Pacific Ocean that can affect weather worldwide.



During El Niño



During La Niña



**El Niño Advisory** is in effect. Alongside model forecasts, a strong coupling of the atmospheric and oceanic circulation across the Pacific contributes to very high confidence that El Niño will continue through early 2027. During the October-December 2026 season, **there is a 69% chance of a historic event** that would exceed the strength of previous El Niño events dating back to 1950 (+2.5°C or more for a 3-month RONI value). With an event of this magnitude, the chances of experiencing impacts consistent with El Niño are larger, but they are not guaranteed (see CPC outlooks for probabilities of seasonal anomalies). In summary, El Niño is strengthening, with a greater than 90% chance of a very strong event during the Northern Hemisphere fall and winter 2026-27.



# Office of Emergency Services

# Citywide El Niño Preparedness Objectives

1. Identify and analyze gaps in current capabilities, and deliver clear, actionable recommendations to resolve identified deficiencies.
2. Coordinate across City departments to develop integrated plans and procedures, and propose policy enhancements that support citywide preparedness.
3. Design and implement a comprehensive public communications campaign that promotes personal preparedness, informs the community of the City's readiness efforts, and highlights available resources.
4. Ensure all projects, initiatives, and communications adhere to City policies and meet standards for accessibility, equity, and inclusiveness.
5. Enhance interagency collaboration by strengthening coordination with external partners, including governmental agencies, NGOs, faith-based organizations (FBOs), and community-based organizations (CBOs).

# Citywide El Niño Preparedness Working Group

## Sub-Groups:

1. Communications / Webpage / Mapping
2. Community Engagement
3. Sandbags
4. Evacuation
5. Emergency Access Points
6. Extreme Temperature Response
7. EOC Logistics and Finance
8. Debris Removal
9. Shoreline and Bay Protective Berms

El Nino Working Group

+ New ▾ Page details Preview Analytics



CITY OF SAN DIEGO

### El Niño Working Group

This page was created to provide a collaborative space for City departments to coordinate preparedness efforts for El Niño activity in our city.

> General ▾ Share ... + Create or upload

All D... ▾

| Name ▾                               | Modified ▾         | Modified  |
|--------------------------------------|--------------------|-----------|
| Administration                       | Monday at 11:51 AM | Ivers, Du |
| Communications and Webpage Sub-Group | July 2             | Ivers, Du |
| Debris Management Sub-Group          | July 2             | Ivers, Du |
| Emergency Access Points Sub-Group    | July 2             | Ivers, Du |

Resources

- Planner\_El Nino Working Group
- Contact List
- Meeting Agenda Archive
- Email OES Program Manager
- 2\_Sub Group Project Charter
- 1\_Sub Group Work Plan

# Working Group Deliverables & Audit Recommendation Crosswalk

- ✓ Centralized communications strategy (Rec. 1.5, 1.8, 2.2, 2.3, 2.4)
- ✓ El Niño preparedness public outreach (Rec. 1.7, 1.8, 2.3)
- ✓ Emergency Operations Center training and exercises for City leadership and staff (Rec. 4.5, 4.6, 4.7, 4.8)
- ✓ Area-specific emergency response playbooks (Rec. 1.1, 1.2)
- ✓ Evacuation and sheltering coordination (Rec. 1.1, 1.6)
- ✓ Coordination and planning with partner agencies like SDG&E, the County of San Diego, and the American Red Cross (Rec. 1.9)



# Additional Working Group Deliverables

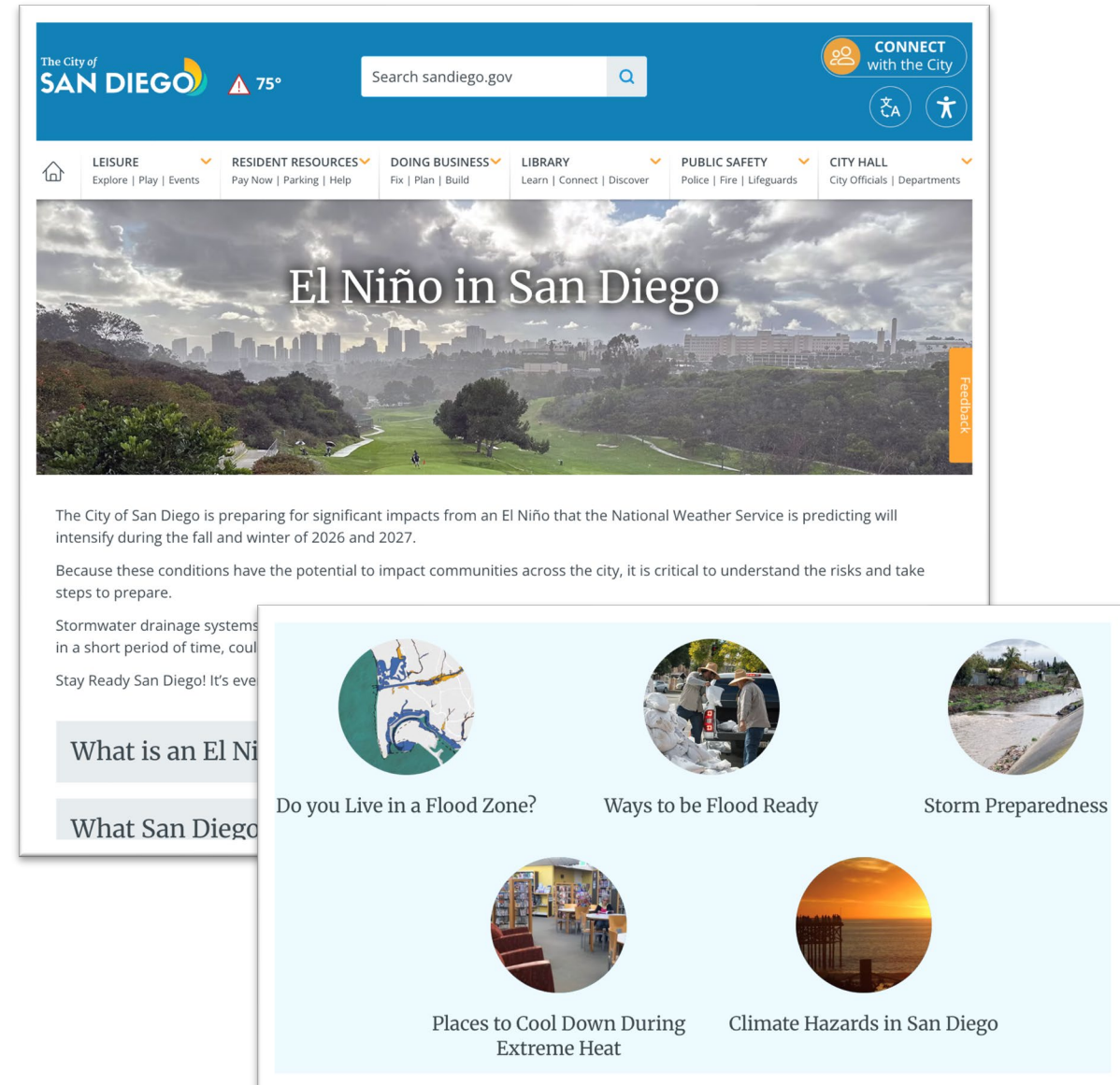
- Accessible River Access Points for Swiftwater Rescue Teams
- Winter Weather Workshop
- City Response Tabletop Exercise
- Emergency Operations Center Responder Training
- Public Sandbag Distribution
- Extreme Temperature Response Planning
- Critical Vendor & Contact Readiness Assessment



# El Niño Preparedness Public Outreach Campaign

## In collaboration with the City's Communications Department:

- Published [SanDiego.gov/elnino](https://www.sandiego.gov/elnino) to share information & resources available
- Educating and engaging with residents on how to prepare
- Providing preparedness information through digital platforms, flyers, handouts, news media, etc. in multiple languages
- Toolkit for Council offices to share information



# **Stay Ready San Diego!**

## **It's everyone's responsibility.**



**Make a Plan**



**Build a Kit**

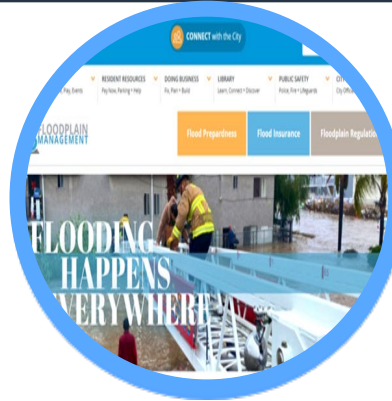
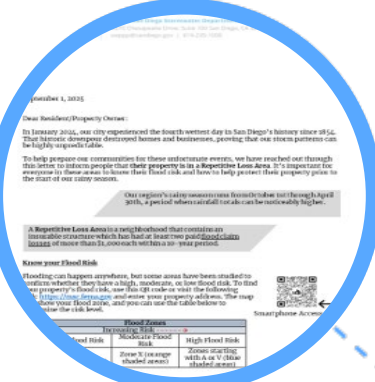


**Stay Informed**



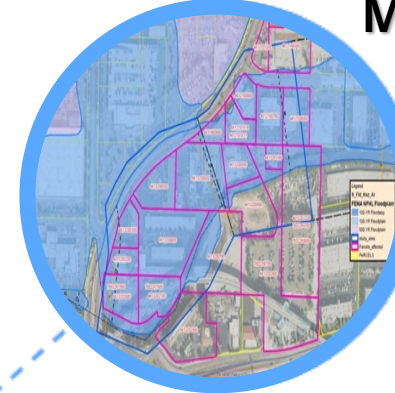
# Stormwater Department Communications

## REPETITIVE FLOOD LOSS NOTIFICATIONS



## WEBSITE/SOCIAL MEDIA UPDATES

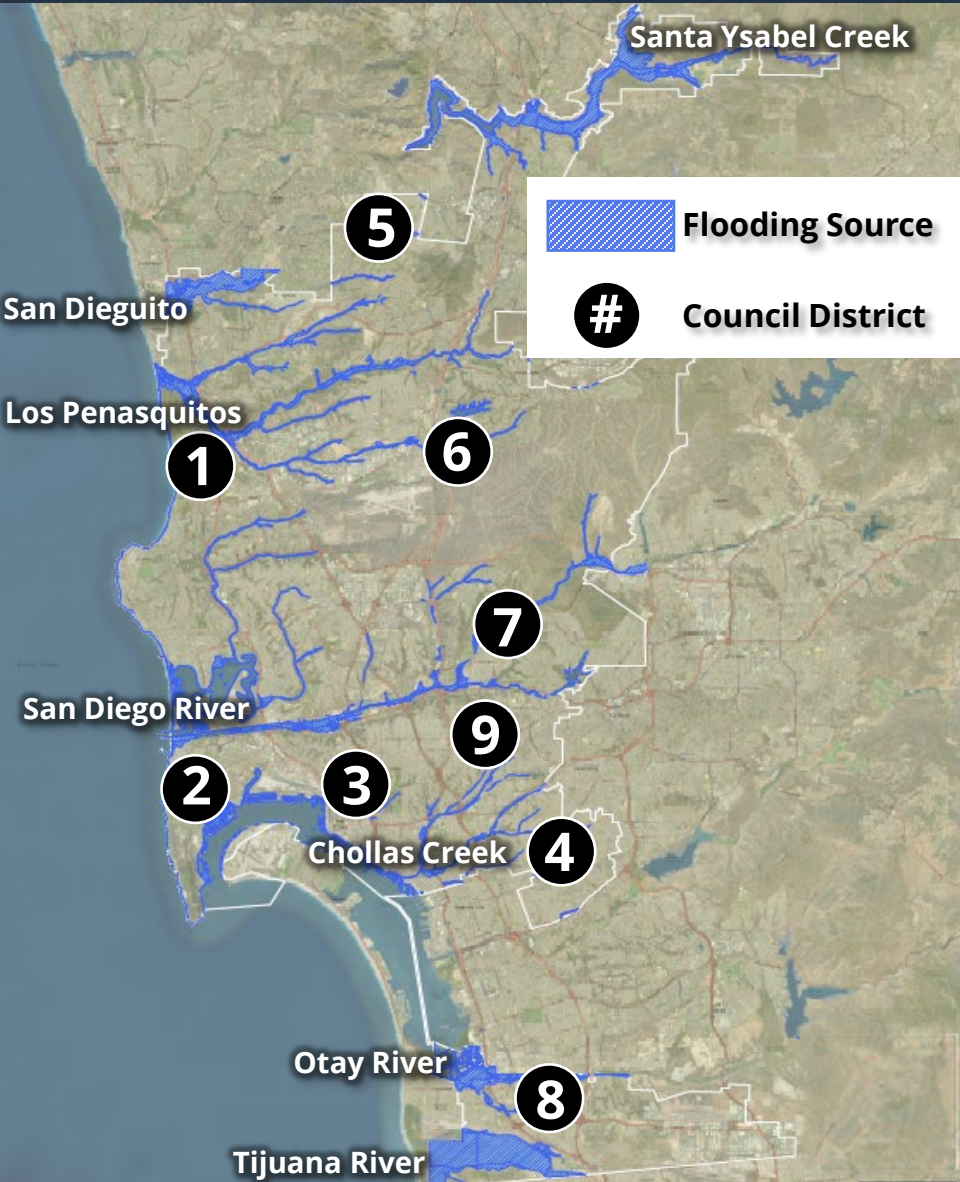
## PRIVATE CHANNEL MAINTENANCE LETTERS



## 7000+ ANNUAL FLOODPLAIN MAILERS



## LIBRARY & REC CENTER ACCESS TO FLOOD MATERIAL



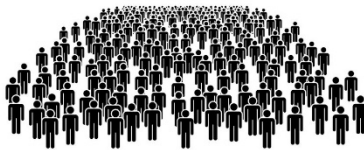
→ **15,000**

ACRES OF HIGH  
FLOOD RISK AREAS



→ **6,900**

PARCELS WITH INSURABLE  
STRUCTURES AT RISK



→ **11,000**

FAMILIES AND BUSINESS  
OWNERS AT RISK



→ **\$10B**

BILLIONS IN ASSESSED  
PROPERTY VALUE AT RISK

*APPROXIMATE VALUES BASED ON BEST AVAILABLE DATA AS OF SEPTEMBER 2025*



## Community Rating System Participant Since 2022/2023

### FEMA's CRS PROVIDES THE CITY

- UP TO A 45% DISCOUNT ON FLOOD INSURANCE

### CITY'S REGULATORY RESPONSIBILITIES

- MULTIPLE YEARLY OUTREACH EFFORTS
- STRICTER FLOOD PROTECTION STANDARDS
- FLOOD WARNING & RESPONSE STANDARDS
- ACCESSIBLE FLOOD ACTIVITY RECORDS
- YEARLY REGULATORY AUDITS



Average Yearly Residential Flood Insurance Premium = \$1,132

Current  
CRS Class

**7**

Current NFIP  
Premium Discount

**15%**

Current  
City of SD  
Class

72 points away

Targeted  
Future Class  
FY 2027

| CRS CLASS                          | 10  | 9    | 8     | 7     | 6     | 5     | 4     | 3     | 2     | 1     |
|------------------------------------|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|
| DISCOUNT                           | 0%  | 5%   | 10%   | 15%   | 20%   | 25%   | 30%   | 35%   | 40%   | 45%   |
| Approx. Average Savings per Policy | \$0 | \$56 | \$113 | \$169 | \$226 | \$283 | \$339 | \$395 | \$452 | \$500 |

## SAN DIEGO WATERSHEDS AND CITY JURISDICTION



**213k** Acres  
**86k** Storm Drain Assets  
**6** Watershed Areas

## CITY OF SAN DIEGO STORM DRAIN SYSTEM

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surfaces to receiving waters to protect the life and property of the City's citizens from potential flooding.

Federal, state, and local regulations require the City to meet specific water quality standards in receiving waters, and the City complies by conducting studies, developing plans, and implementing pollution prevention programs and MS4 improvement projects.

**DRAINAGE CHANNELS**  
**69+**miles  
Channels

**15**  
Stormwater  
Pump  
Stations

**LEVEES**  
**6+**miles  
USACE  
**6+**miles  
FEMA

**STORM DRAIN**  
**1k+**miles  
Storm  
Drain Pipe  
**55**  
Dry  
Weather  
Diversions

**391**  
Structural  
BMPs

# Storm Drains, Pipes & Components - Fiscal Year 2026

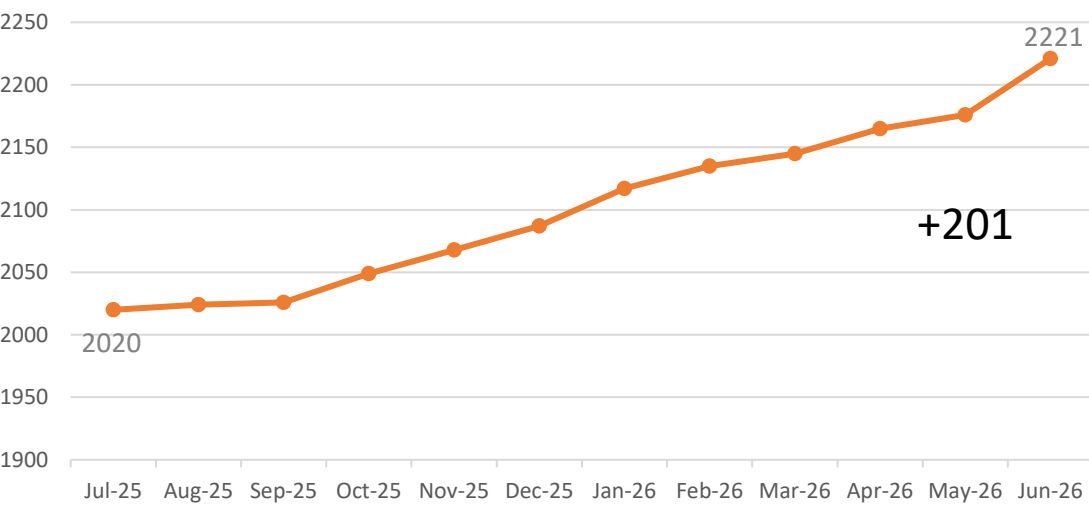
- Inspected all 32,811 storm drain inlets & clean outs July 2025 - May 2026
- Debris removal performed upon inspection or scheduled for cleaning by Vactor trucks
- Performed 1,594 additional inspections/cleanings in Tijuana River, Chollas Creek, San Diego Bay, San Diego River, and Los Peñasquitos Watersheds in June 2026
- Replaced 1.52 miles of deteriorated pipe through Capital Improvement Projects
- Responded to 4,176 service notifications related to pipes, drain components, hardscape, right-of-way



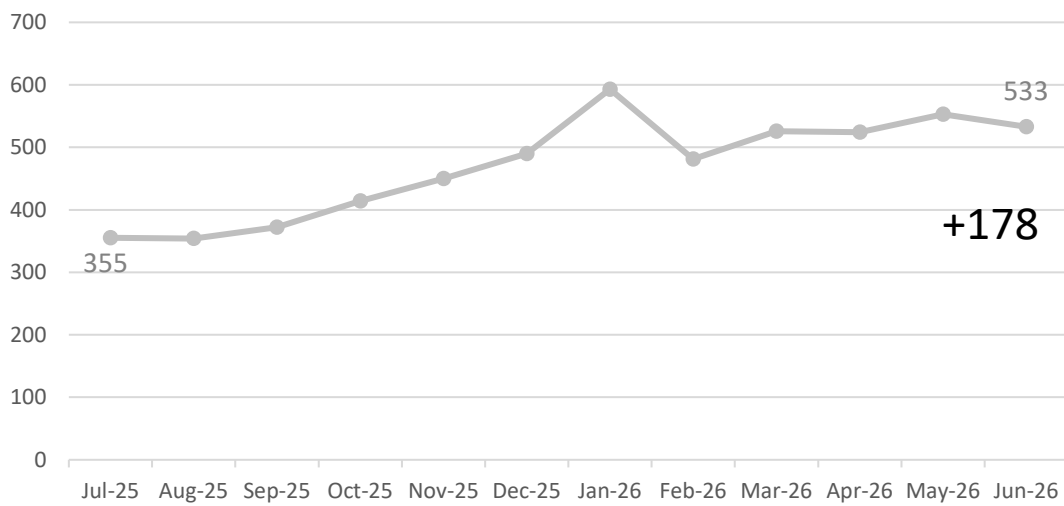
| CD1 | CD2 | CD3 | CD4 | CD5 | CD6 | CD7 | CD8 | CD9 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 506 | 563 | 801 | 408 | 304 | 270 | 335 | 443 | 545 |

# Service Notification Backlogs (Drain-Related Assets)

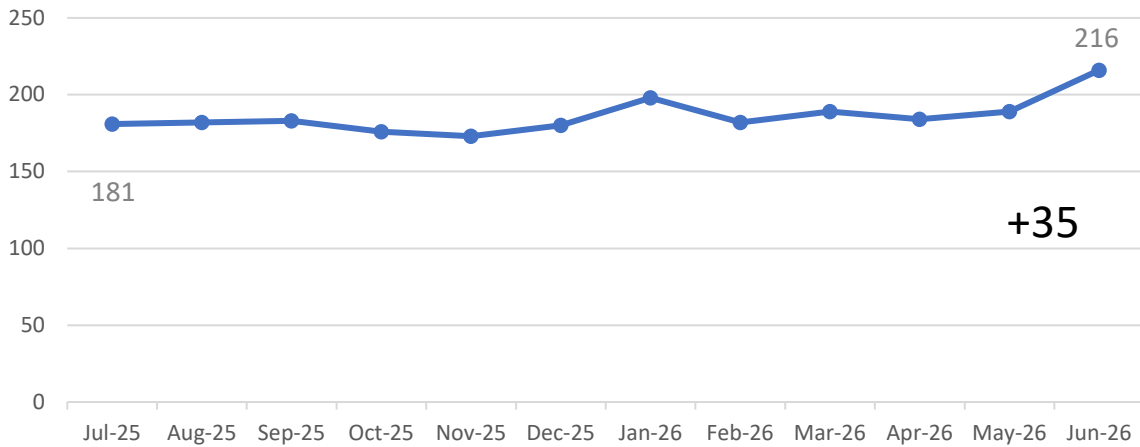
Hardscape Backlog



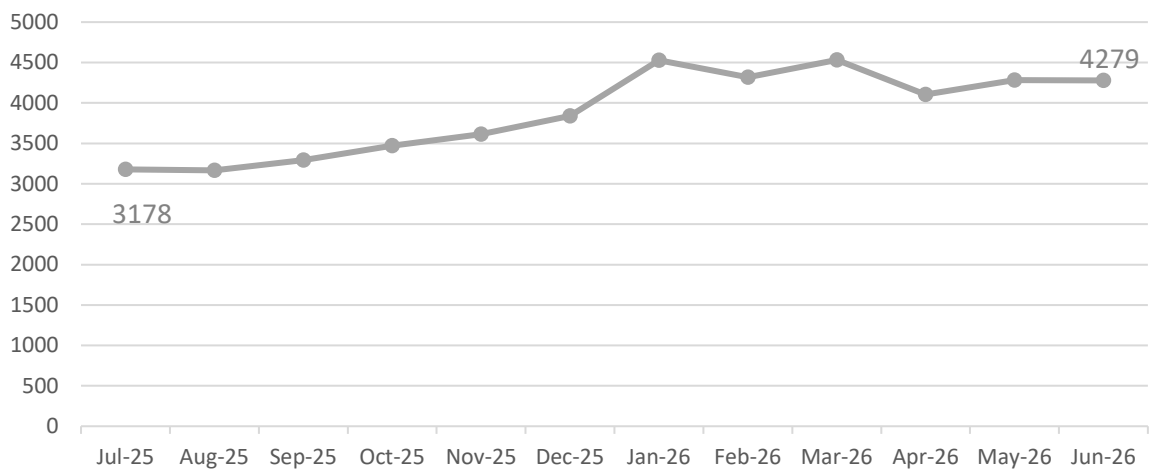
ROW Maintenance (Surface Drainage)



Pipes & Conveyances

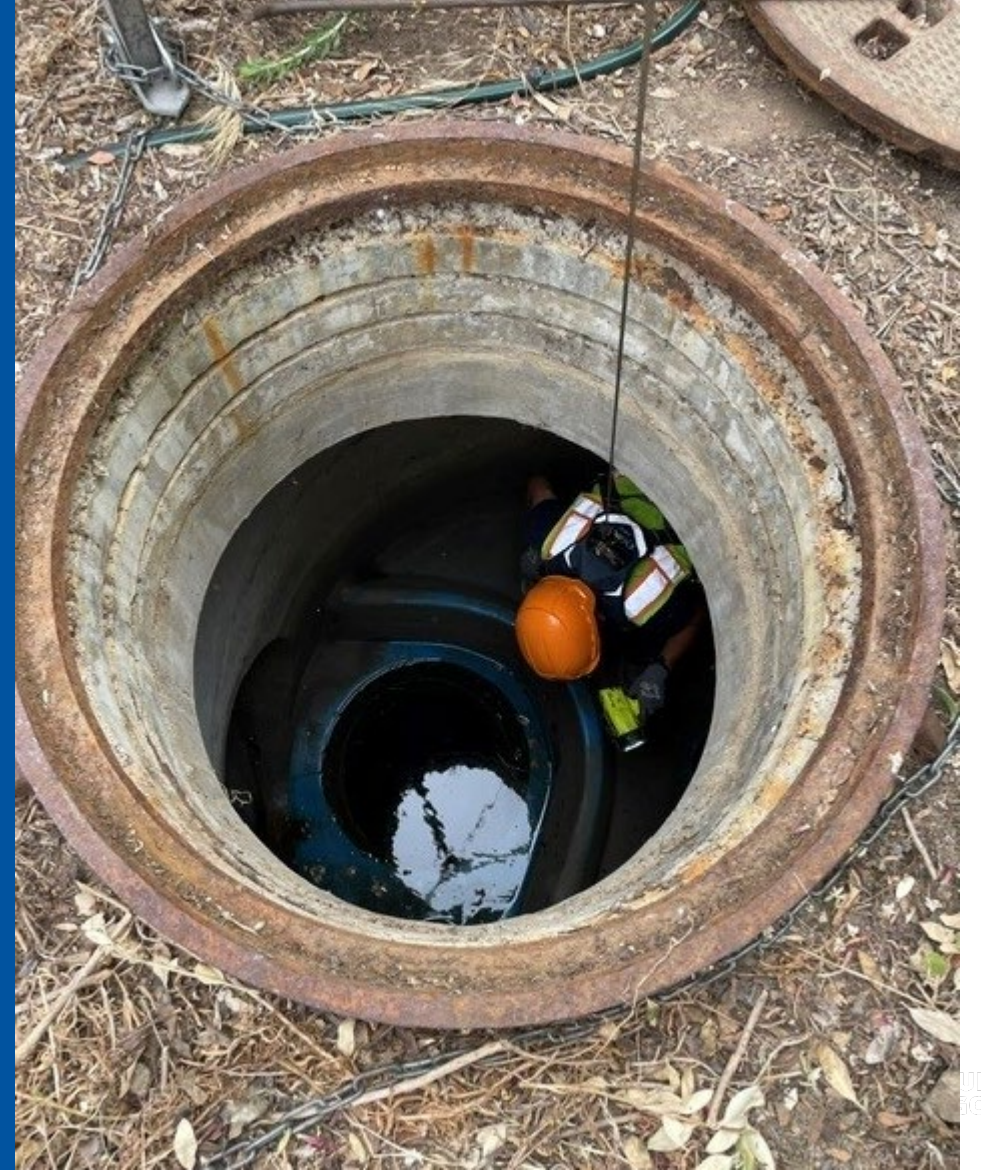


Drain Components (CO's, HW, CI, Outfalls, MH, etc.) Backlog



# Storm Drain Pipes & Components – Fiscal Year 2027

- New round of annual inspection & cleaning started in July/August (Chollas Creek/Tijuana River)
- San Diego Bay Watershed area is scheduled next
- Newly implemented efficiencies:
  - 500+ locations citywide that require frequent mechanical cleaning added to a regular maintenance schedule with dedicated Vactor team
  - Dedicated Vactor team now supports all channel clearing efforts to ensure inputs are clear
- Staffing Approach: OT will be limited to storm prep, storm response, and after-hours emergencies

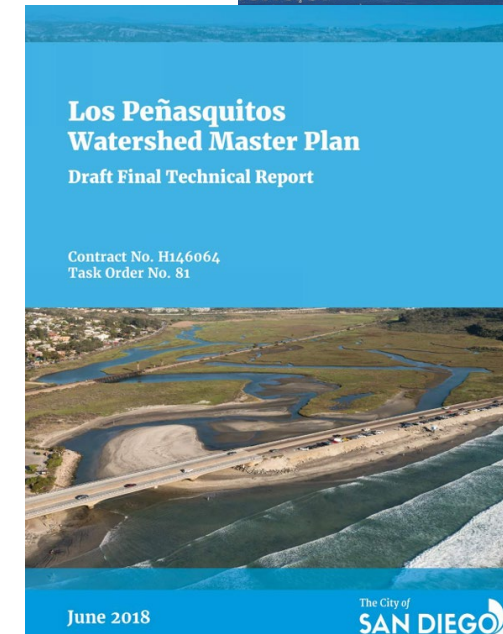


# Storm Drain Pipes & Components – Capacity Analysis

| Watershed                         | Estimated % of Pipes Sized to Convey 100-Year Storm |
|-----------------------------------|-----------------------------------------------------|
| San Diego Bay (excluding Chollas) | 34%                                                 |
| Chollas Creek                     | 66%                                                 |
| Mission Bay                       | 70%                                                 |
| Los Peñasquitos                   | 94%                                                 |

## Notes:

1. Chollas Creek and Los Peñasquitos: Analysis only included pipes and culverts with diameters of 18 inches and larger.
2. Interpreting pipe capacity: % Capacity alone does not necessarily indicate a deficient system. This means that a pipe reaching 100% capacity does not automatically indicate a risk of flooding. During heavy rainfall, water levels may increase within the pipe, but they can still stay below the established flooding threshold.

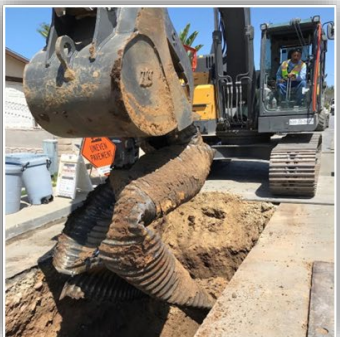
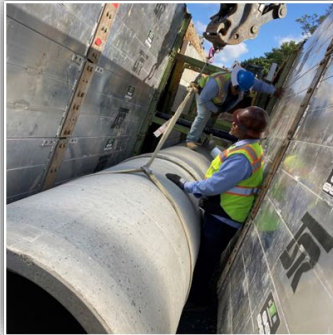


# High Risk Corrugated Metal Pipe (CMP) Inventory



Current CMP Inventory  
26 miles

CMP to be replaced with  
WIFIA investment  
6 miles

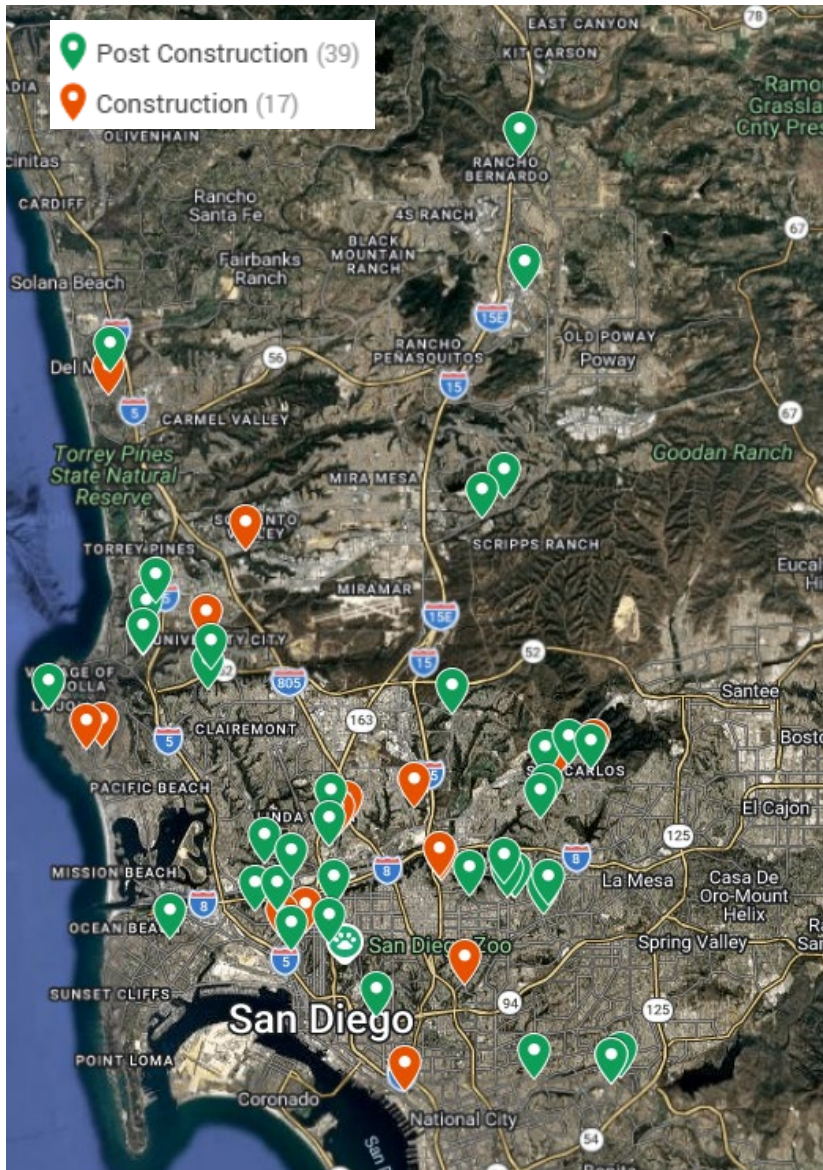


CMP Inventory after WIFIA  
20 miles

Further assessment is needed to better understand full CMP inventory

- Assess magnitude of the backlog
- Identify staff and resources required to clear backlog and maintain system
- As-Built digitization
- Real-time asset updates
- Update asset conditions and attributes
- Add new assets into our inventory

## Emergency Stormwater CIPs – Past 5 Years



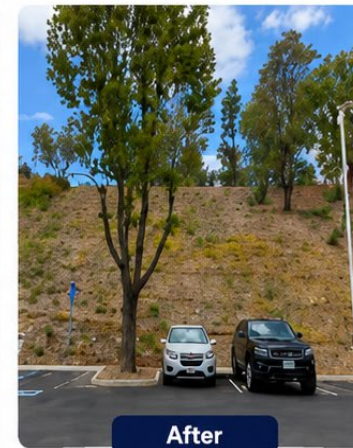
## Argonne Ct



## Syracuse Avenue



## World Trade Drive

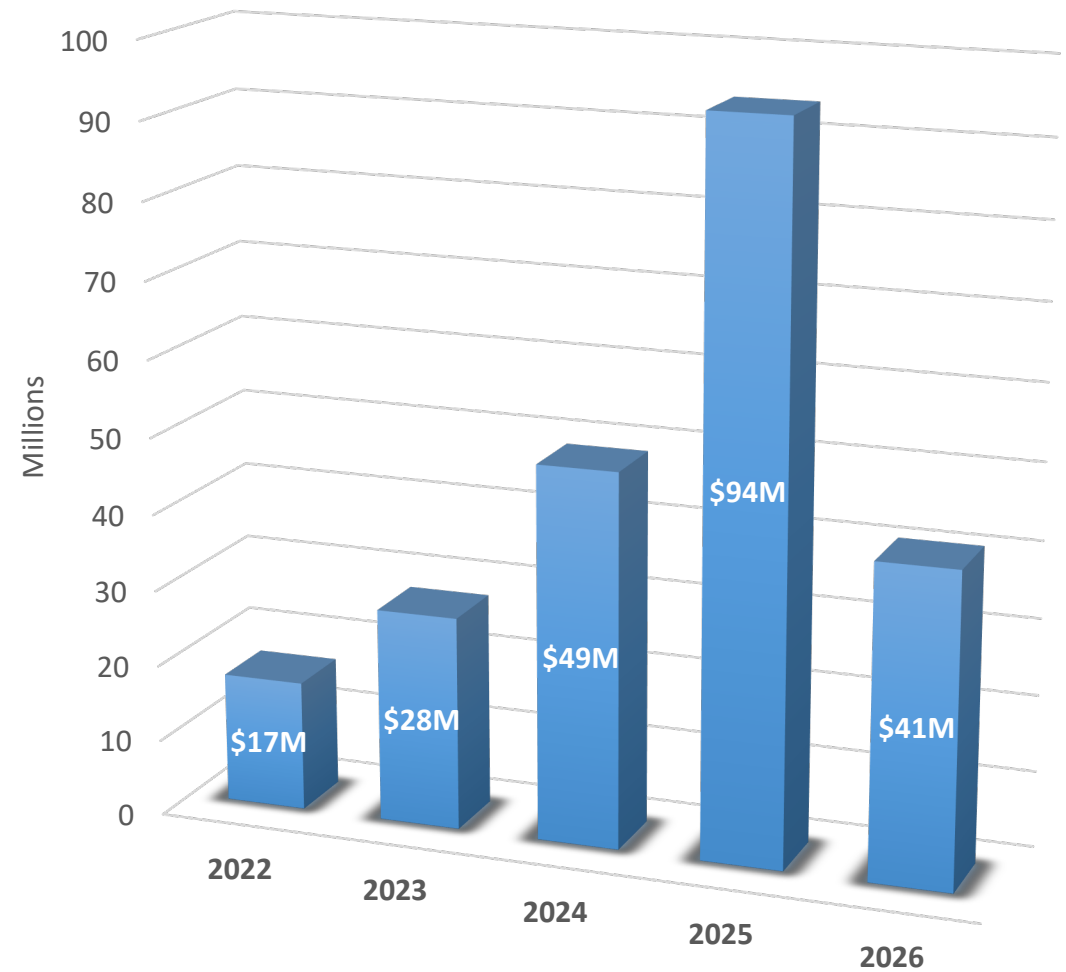


**7th Ave**



**\$230M in past 5 years**  
**\$30M allocated in FY27 adopted budget**

## Allocated Budget to Stormwater Emergency Projects



## SAN DIEGO WATERSHEDS AND CITY JURISDICTION



**213k** Acres  
**86k** Storm Drain Assets  
**6** Watershed Areas

# CITY OF SAN DIEGO STORM DRAIN SYSTEM

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surfaces to receiving waters to protect the life and property of the City's citizens from potential flooding.

Federal, state, and local regulations require the City to meet specific water quality standards in receiving waters, and the City complies by conducting studies, developing plans, and implementing pollution prevention programs and MS4 improvement projects.

**DRAINAGE CHANNELS**  
**69+** miles  
 Channels

**15**  
 Stormwater Pump Stations

**LEVEES**  
**6+** miles  
 USACE  
**6+** miles  
 FEMA

**STORM DRAIN**  
**1k+** miles  
 Storm Drain Pipe  
**55**  
 Dry Weather Diversions

**391**  
 Structural BMPs

# Channel Maintenance – Fiscal Year 2026

Oceanview Channel (CD4) – Before and After

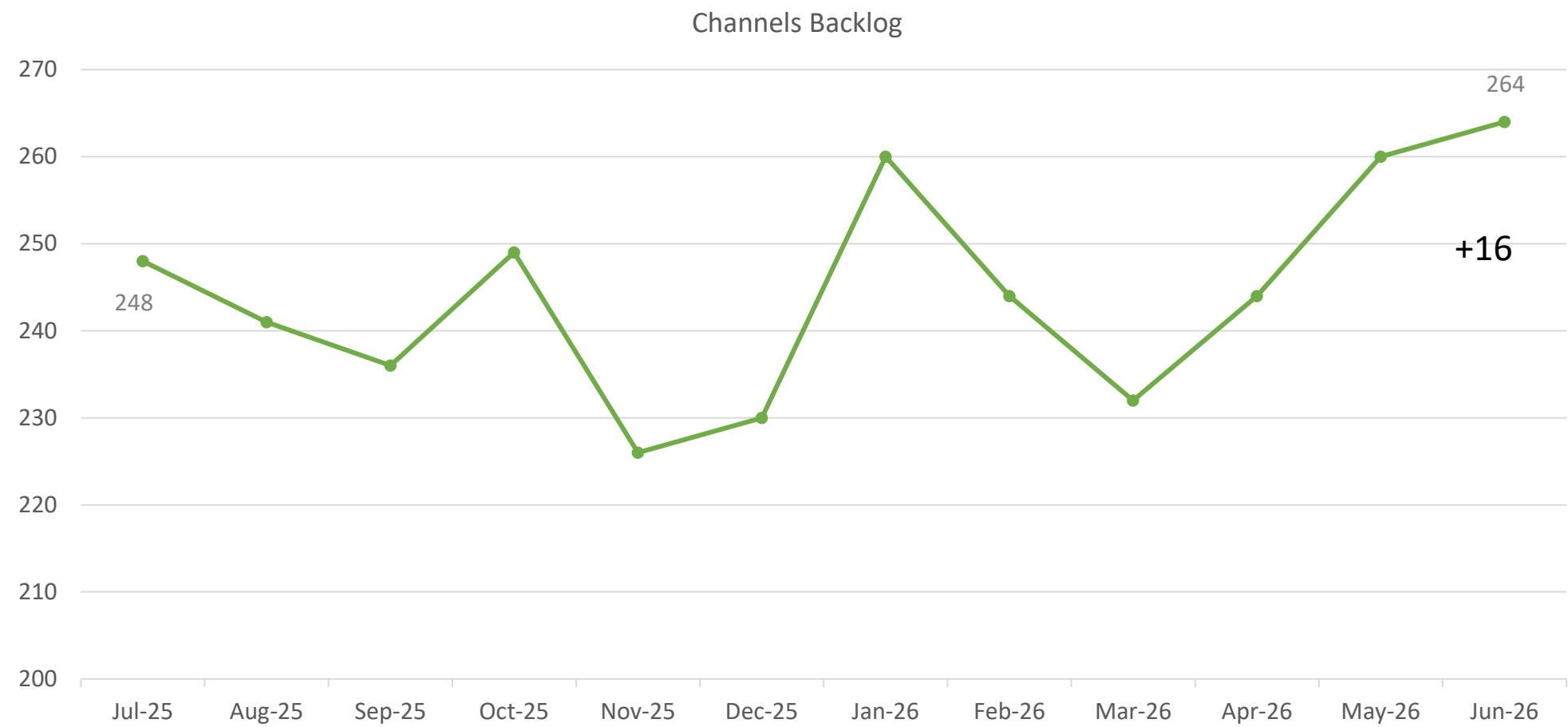


Iona 1 (CD4) – Before and After



- Maintenance performed on 30 channel segments (11.5 miles)
- Responded to 339 service notifications related to channels
- Visually inspected all City-maintained channels (180 segments, 69 miles)
- Created FY27 maintenance schedule based on available resources to prioritize:
  - Recently impacted areas (2024 floods)
  - Known problem areas
  - Potential capacity gains based on engineering analysis

# Service Notification Backlog (Channel Assets)



# Channel Maintenance – Fiscal Year 2027

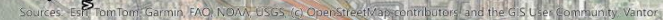
- 18 segments /4 miles maintained July 2026
- 67 segments, 20+ miles planned for FY27
- Staffing Approach: Re-assigned various operations staff to supplement channel crews. 12-hour days, 6 days per week.
- Expedited permitting requests sent to Army Corps of Engineers, Regional Water Quality Control Board, and Coastal Commission
- Additional budget approved for FY 2027 will be used for OT, material, equipment, supplies and contracted support for vegetation removal, engineering, environmental permitting, and other services

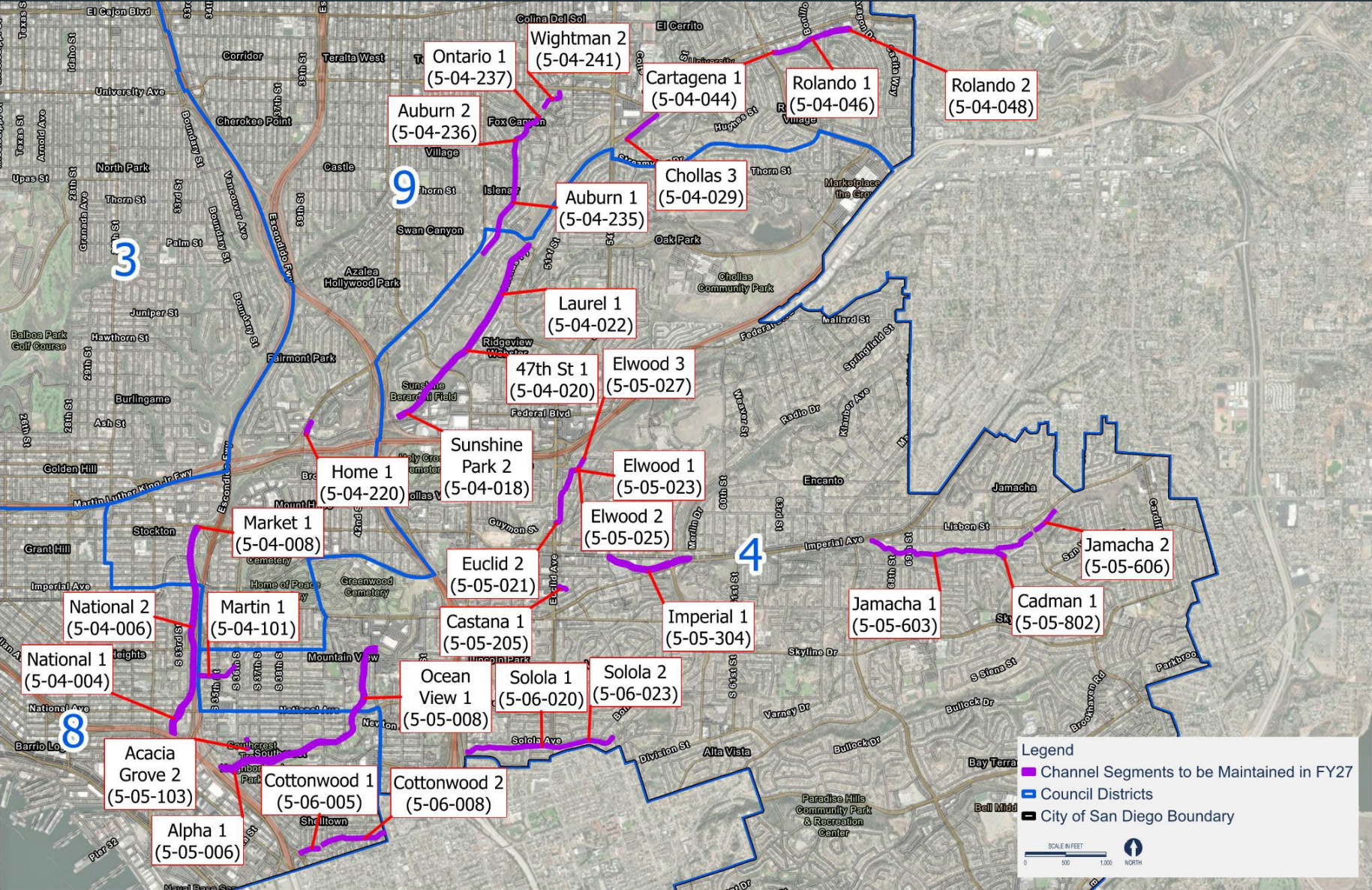
Acacia Grove Channel (CD8) – Before and After in July 2026

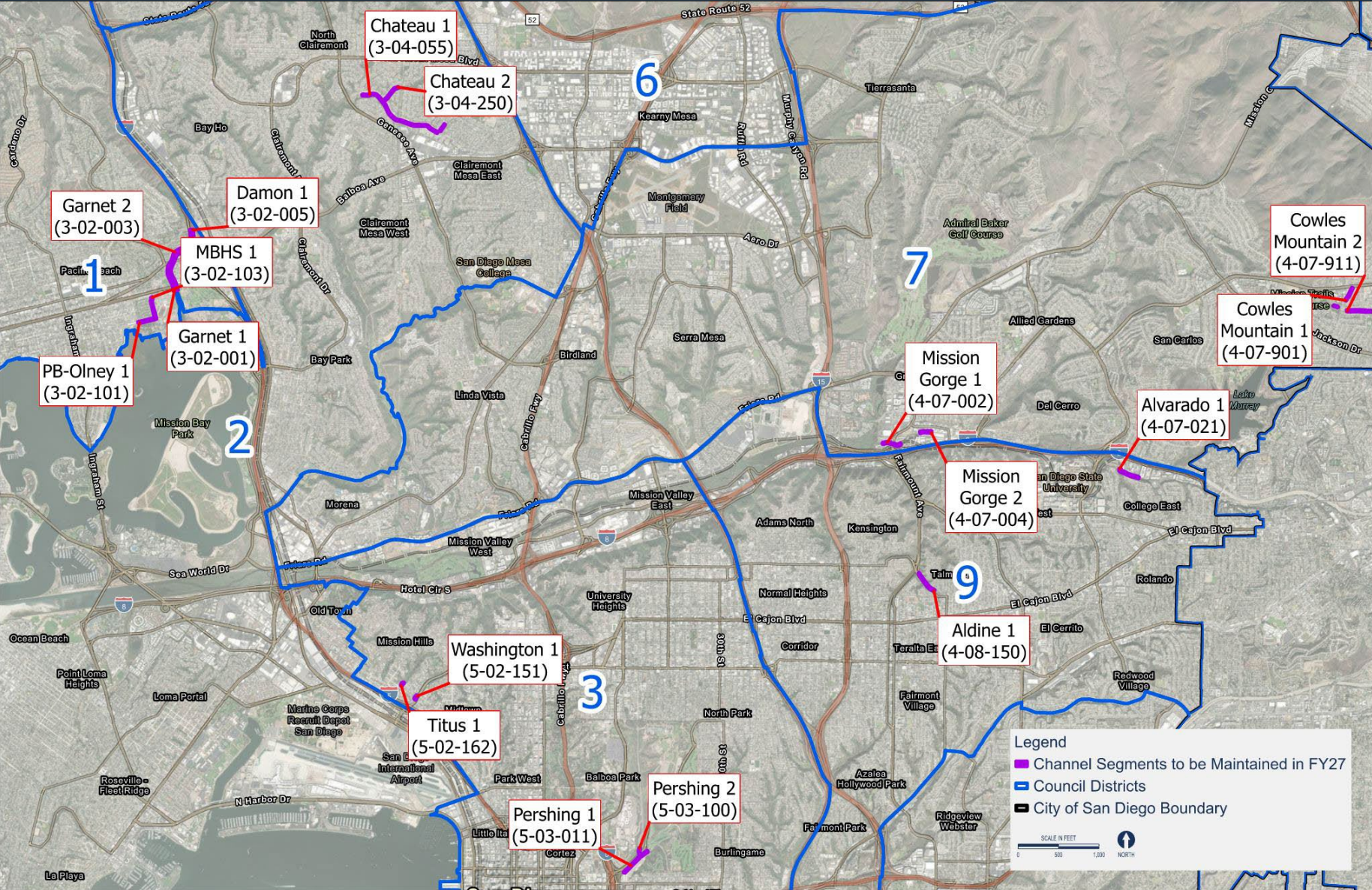


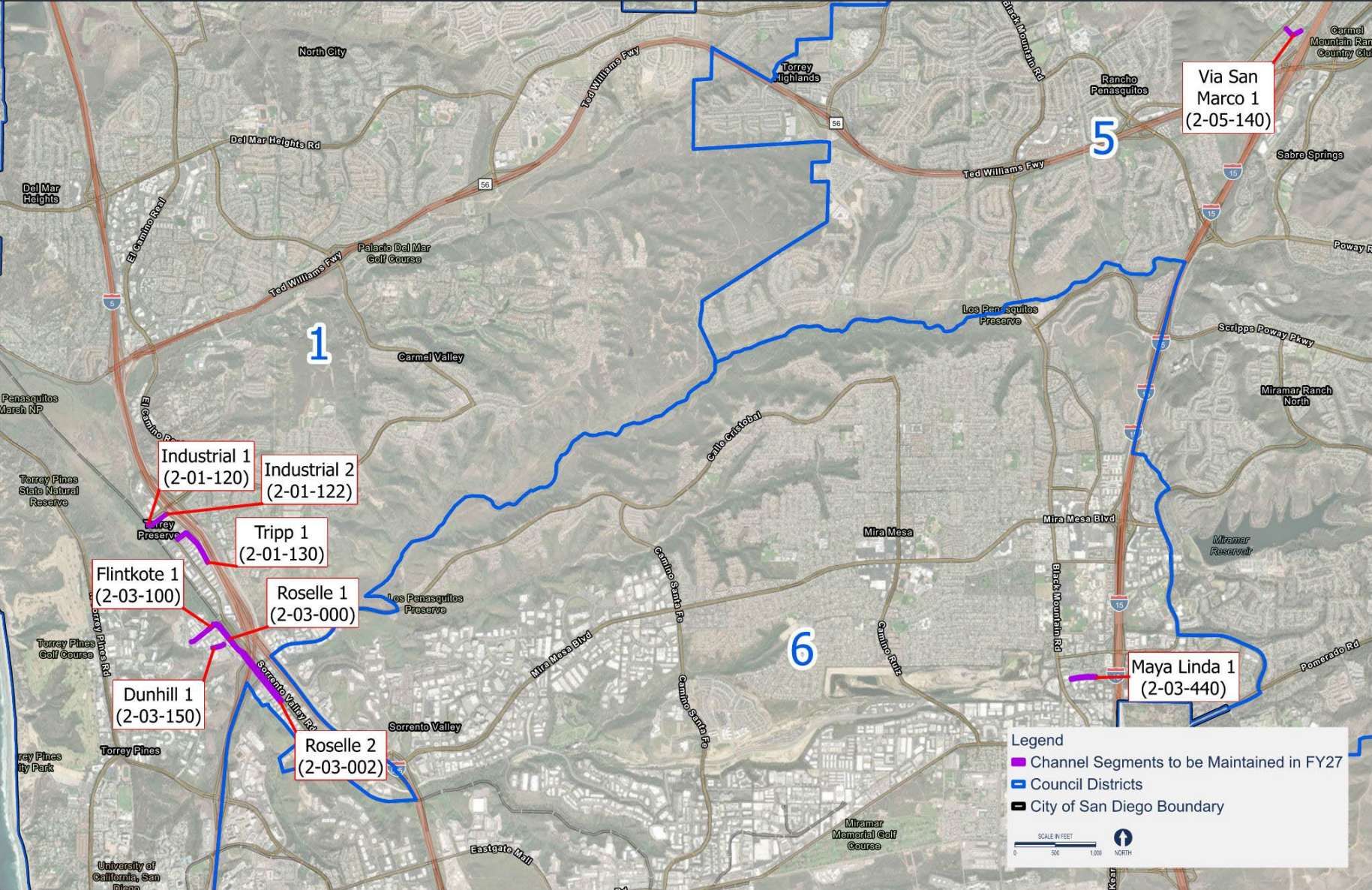
Alpha 1 Channel (CD8) – Before and After in July 2026











# Channel Maintenance - Wetland Mitigation Status

## Recently Completed

- South Chollas/Paradise Cyn Wetland Rehabilitation (1.9 acres)
- Otay Reed Mitigation Project (5 acres)
- Los Peñasquitos Wetland Enhancement – Phase II (8.8 acres)

## Under Construction

- Smythe Mitigation Site (3.9 acres)
- Hollister Quarry Mitigation Site (2.4 acres)
- El Cuervo Del Sur Phase II (1.7 acres)

## Projected Mitigation Need

- Approximately 36 acres through 2034



# Channel Capacity

- 17% of channels (32/180 segments) are sized to convey the 100-year storm
- Capacity enhancements for Jamacha and Beta Street Channels are in design as part of WIFIA investments



## SAN DIEGO WATERSHEDS AND CITY JURISDICTION



**213k** Acres

**86k** Storm Drain Assets

**6** Watershed Areas

**DRAINAGE CHANNELS**  
**69+**miles  
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**15**  
Stormwater Pump Stations

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**6+**miles

USACE

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FEMA

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**1k+**miles

Storm Drain Pipe

**55**

Dry Weather Diversions

**391**

Structural BMPs

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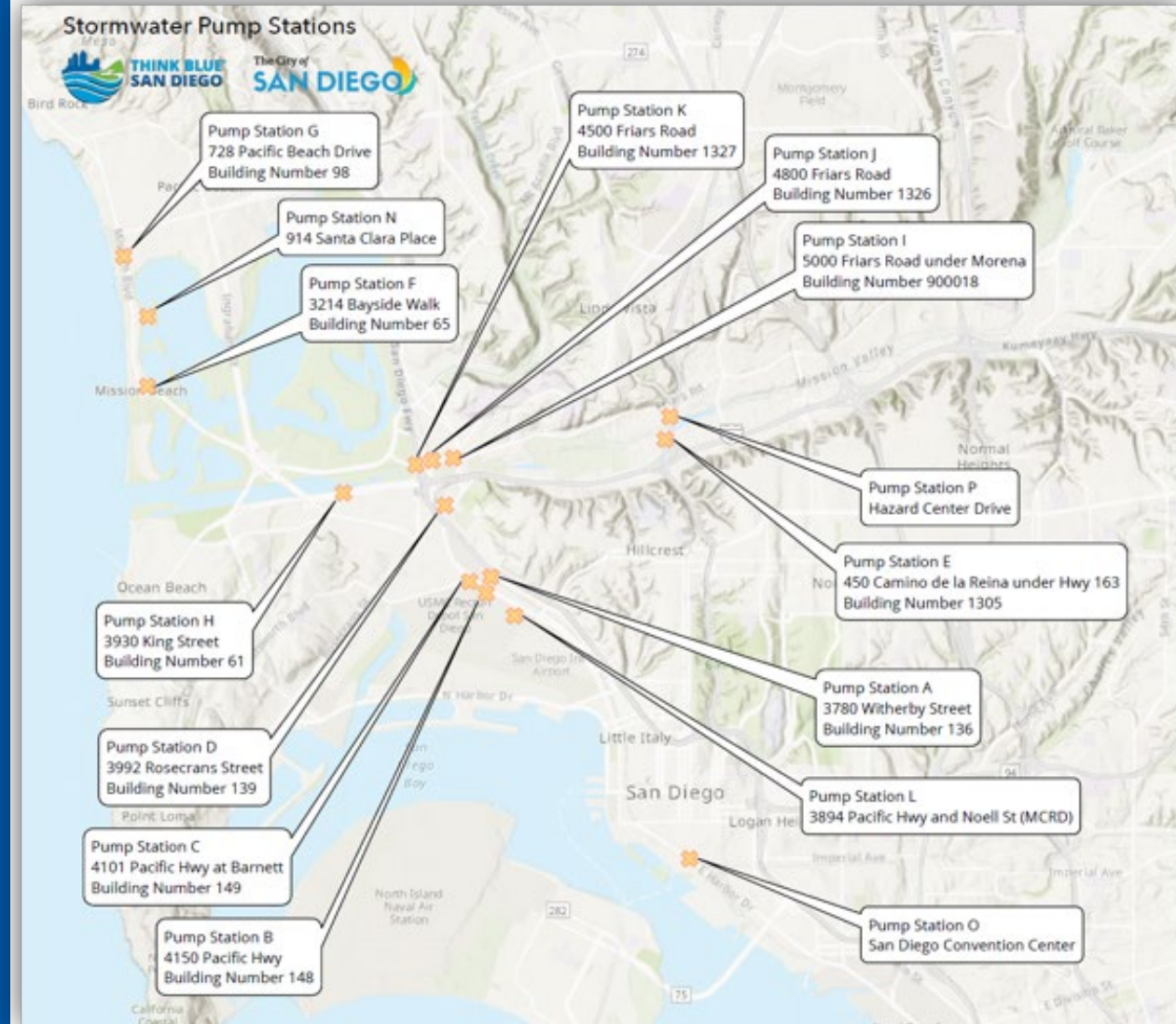
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Federal, state, and local regulations require the City to meet specific water quality standards in receiving waters, and the City complies by conducting studies, developing plans, and implementing pollution prevention programs and MS4 improvement projects.

# Stormwater Pump Stations – Fiscal Year 2026

- Year-round preventive maintenance at 15 pump stations, 24 interceptor stations, 54 diversion valves, and 6 tide gates
- Significant improvements made in FY26:
  - Installed flood warning signs at Pump Station C in Midway
  - Replaced tide gates at Nantasket and Balboa Court in Mission Beach
  - Installed Automatic Transfer Switch (ATS) at Pump Station H along San Diego River
  - Installed new Emergency Generator at Pump Station N at Santa Clara Place
- All pump stations will have access to backup power



# Stormwater Pump Stations – Fiscal Year 2027

- Electrical/mechanical components regularly inspected and repaired
- Pump Station L (MCRD San Diego) undergoing emergency repairs through rainy season
- Staffing Approach: OT will be utilized for storm prep/response, operating pumps during high tides/storms, and SCADA system monitoring
- Capacity Analysis: 14 of 15 stations are sized to convey less than 100-year storm. 7 were built in 1940s. 4 were built in 1970s.
- Pump Station D (Old Town) upgrades are in design and funded through WIFIA & grants



## SAN DIEGO WATERSHEDS AND CITY JURISDICTION



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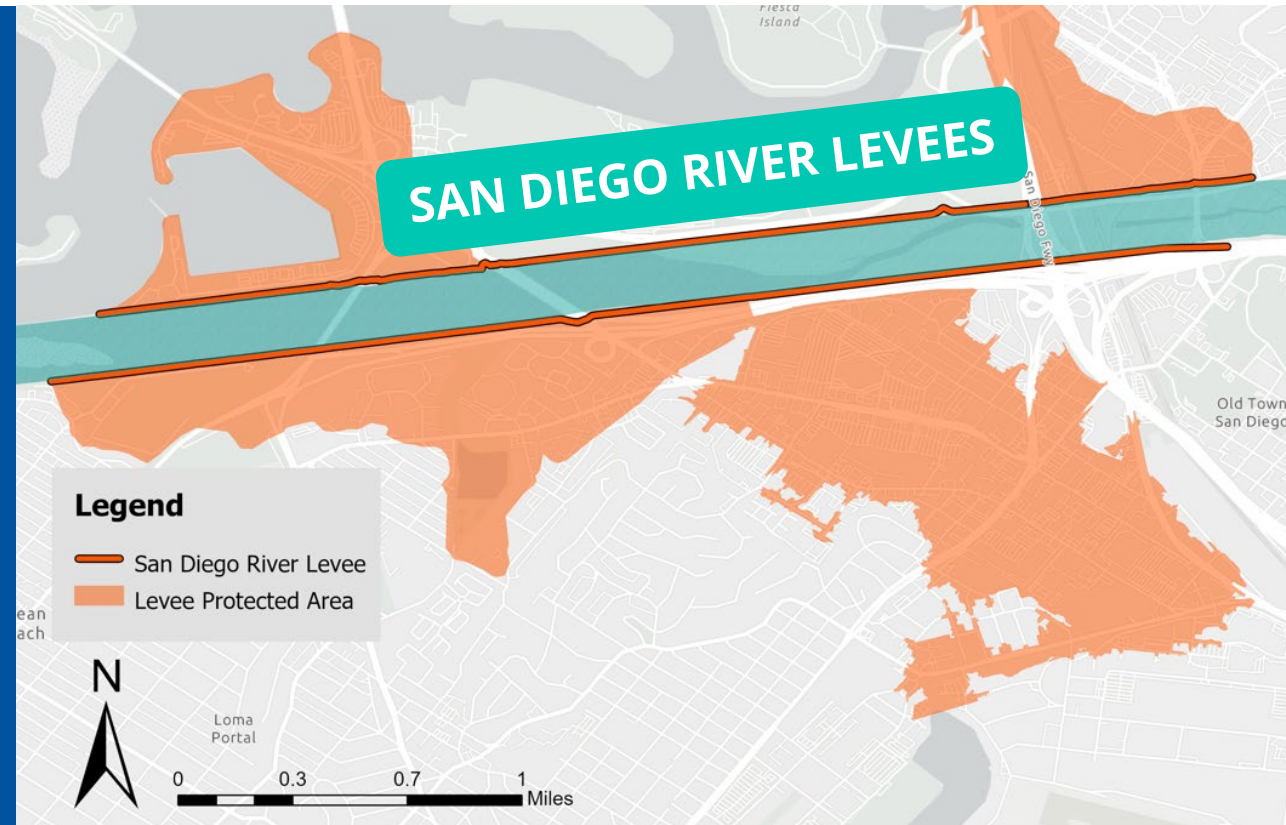
**LEVEES**  
**6+** miles  
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 FEMA

**STORM DRAIN**  
**1k+** miles  
 Storm  
 Drain Pipe  
**55**  
 Dry  
 Weather  
 Diversions

**391**  
 Structural  
 BMPs

# Levees – New O&M Program for FY 2027

- Properties protected by accredited levees are not required to purchase flood insurance
- In 2025, City initiated process to re-accredit and certify levees
- \$1.9M in new funding allocated in FY27 to:
  - Maintain and repair known deficiencies
  - Conduct survey and engineering analysis of current condition and capacity
  - Coordinate with OES on emergency response planning
- There is a much smaller, City-maintained levee along a portion of the Tijuana River



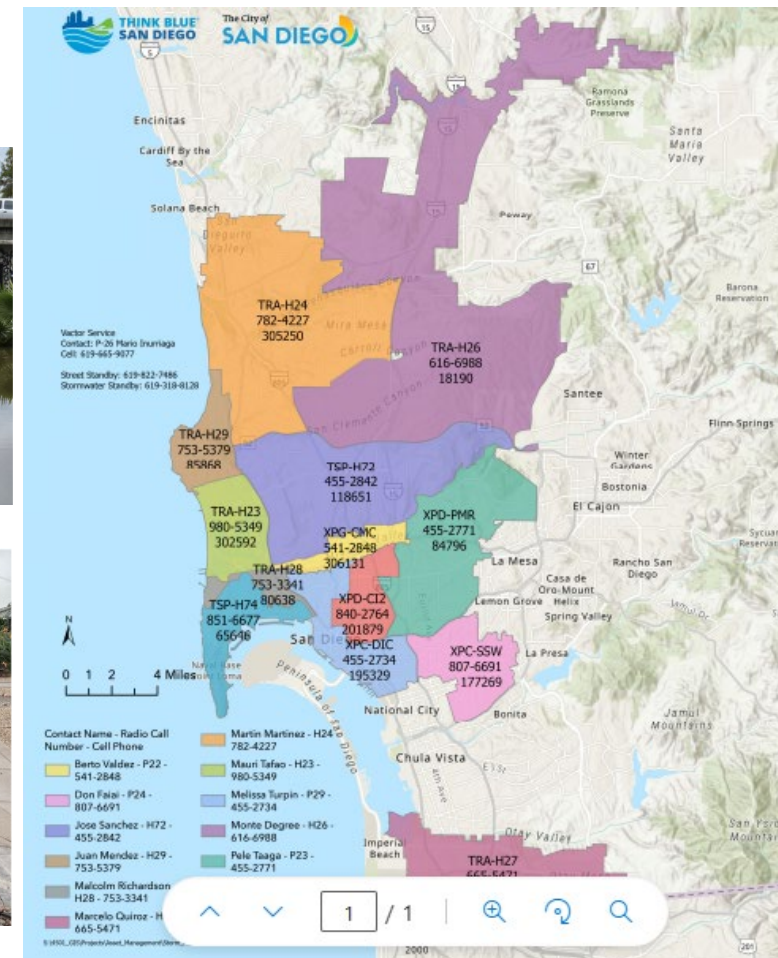
# Shoreline and Mission Bay Protective Sand Berms

- Each fall, Parks and Recreation installs sand berms at sandy beach areas along oceanfront and Mission Bay to prevent flooding of City assets.
- Work typically occurs in October with goal to complete prior to king tides in December. Inspection/maintenance continue through storm season.
- 40% reduction in Beach Mechanized Crew for FY27 will result in longer timeline to install and repair.
- Work will occur earlier this year (September) and include coordination with Lifeguards to maintain beach access and safe passage around the berms throughout the season.



# Storm Patrol

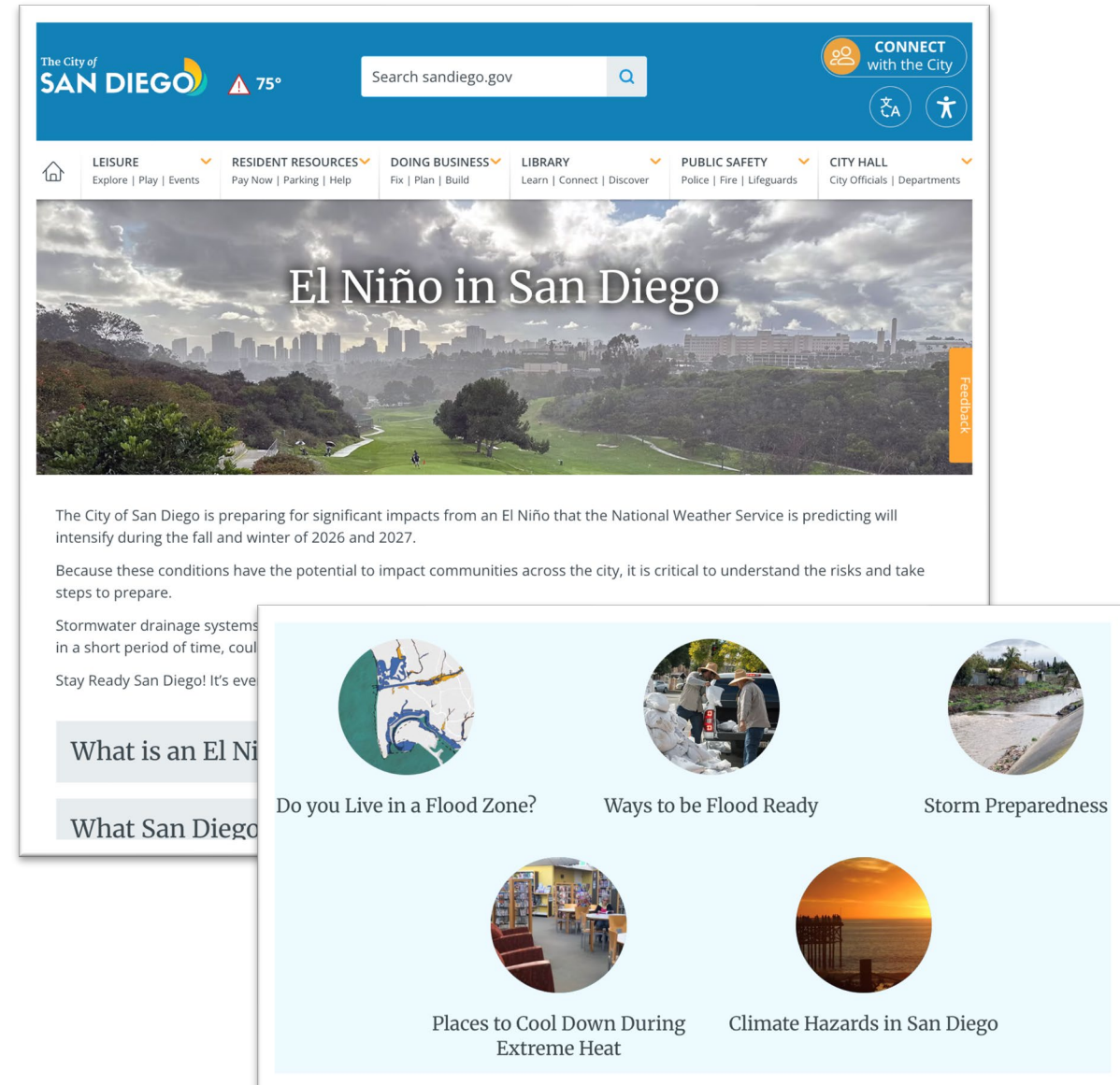
- Multi-department Storm Prep meetings 24-48 hours in advance of forecasted rain
- Storm Patrol response scaled based on forecast
- Staff deployed for pre-rain inspection and cleaning of critical drain locations
- During Storm Patrol, all storm-related reports (flooding, down trees, etc.) redirected to assigned Storm Patrol Area crew(s)
- Transportation & Stormwater crews continue active patrols of assigned zones until Storm Flag is lowered
- Storm Patrol mode was activated for 16 storm event days in FY26



| <b>ALERT<br/>LEVEL</b> | <b>Pre-Storm<br/>Condition</b><br>(percent chance of<br>precipitation) | <b>Amount of<br/>Precipitation<br/>Forecasted</b><br>(inches) | <b>Number of<br/>Crews<br/>Deployed*</b> | <b>Deployment time</b><br>(hours prior to<br>forecasted<br>precipitation) |
|------------------------|------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------|---------------------------------------------------------------------------|
| Low                    | 30% - 40%                                                              | 0.1 – 0.40                                                    | 1 crew per<br>Patrol Area                | 2 – 4 hours                                                               |
| Medium                 | 50%                                                                    | 0.40 – 0.75                                                   | 2 crews per<br>Patrol Area               | 3 – 5 hours                                                               |
| High                   | > 50%                                                                  | > 0.75                                                        | 3 crews per<br>Patrol Area               | 4 – 6 hours                                                               |

# PandA: Road Closure Tracking, Get It Done, El Niño Hub

- **Road Closure Tracking**
  - **Web:** [www.sandiego.gov/road-closures](http://www.sandiego.gov/road-closures)
  - **Waze/Google:** available in-app
- **Get It Done preparedness**
  - Launch of V7 app to support more phones; included at no additional cost to City
  - User Interface (UI) improvements to facilitate faster, easier reporting
  - Accessibility improvements to meet Federal regulations and avoid fines
- **El Niño Hub**
  - Storm preparedness resources before, during, and after storm events





# Discussion