

18. 25-54226 Recommendation to receive and file a presentation from the Public Works Department regarding local flood management and storm preparation and response. (Citywide)

Office or Department:

Suggested Action: Approve recommendation.

February 18, 2025

Honorable Mayor and City Council
City of Long Beach
California

RECOMMENDATION:

Recommendation to receive and file a presentation from the Public Works Department regarding local flood management and storm preparation and response. (Citywide)

DISCUSSION

On December 10, 2024, the City Council requested the City Manager work with the Public Works Department on a Council presentation regarding the department's localized flooding management response plan and report back to City Council in 45 days.

The request specifically identified localized flooding during the rainy season and associated impacts. Urban flooding occurs during a rain event when the ground and storm drain system are unable to drain the amount of rain that falls. The intent of the presentation is to provide the City Council with information regarding the Public Works Department's preparation for rain events, operations and response during rain events, and other critical services.

This matter was reviewed by Principal Deputy City Attorney Erin Weesner-McKinley and by Budget Development Officer Nader Kaamoush on January 14, 2025.

TIMING CONSIDERATIONS

City Council action to receive and file a presentation on local flood management by Public Works is requested on February 18, 2025, to respond to City Council's request for a presentation in a timely manner.

FISCAL IMPACT

There is no fiscal or local job impact associated with this recommendation. Implementation of any future recommendations may have a fiscal impact and would be determined based on the scope of directions received. This recommendation has no staffing impact beyond the normal budgeted scope of duties and is consistent with existing City Council priorities.

Honorable Mayor and City Council
February 18, 2025
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SUGGESTED ACTION:

Approve recommendation.

Respectfully submitted,



Eric Lopez
Public Works

ATTACHMENT - Presentation

APPROVED:



THOMAS B. MODICA
CITY MANAGER



Localized Flooding Management Response Plan

City Council Meeting

February 18, 2025



Presentation Overview

- Background
- Planning and Construction
- Preparation
- Operations and Response
- Conclusion
- Additional Information

Background

Rainfall

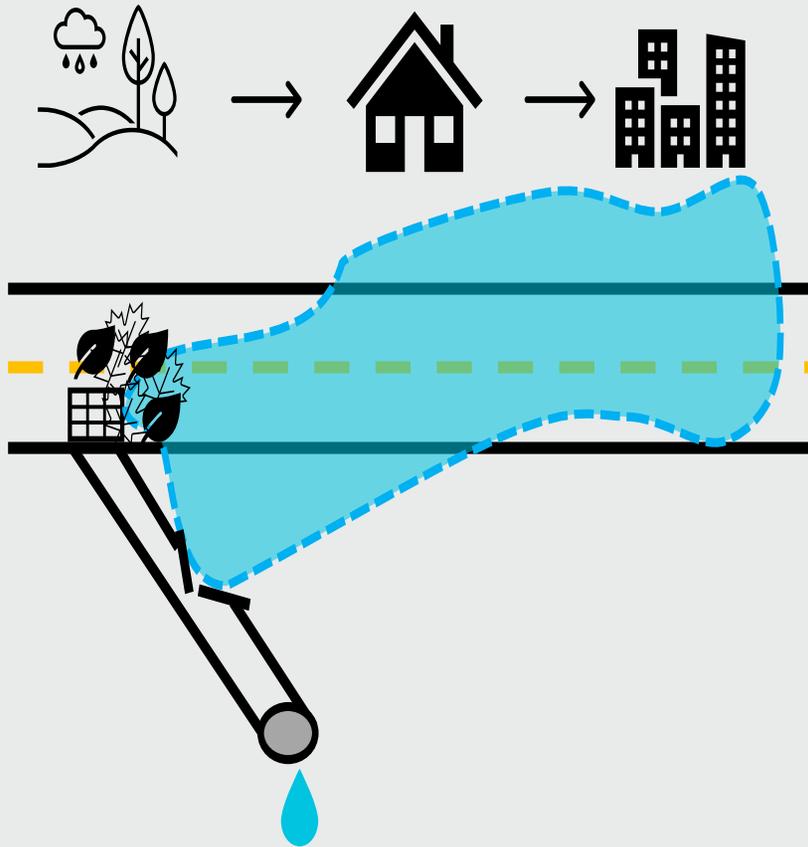
- Rainfall in 2023 and 2024 was above average.
- February 2024 had the most rain over the past 3 years and localized flooding was reported throughout the City.

Season (Oct 1 – Sept 30)	Total Inches of Rainfall	Percent of 30-year average
2021-2022	7.59	62%
2022-2023	23.75	194%
2023-2024	21.09	172%
2024- Jan 2025*	0.68	N/A

← February 2024 had almost 12 inches of rainfall.

Source: [National Oceanic and Atmospheric Administration \(NOAA\)](#)

Causes of Localized Flooding



- Changes in land use over time: increases in impervious and developed areas generate more runoff
- Drainage systems designed for past land uses
- Debris clogging of drains, pipes, pumps
- Damage to pipes, curbs, channels, pump stations

Background

Localized Flooding



Flooding near 58th Place



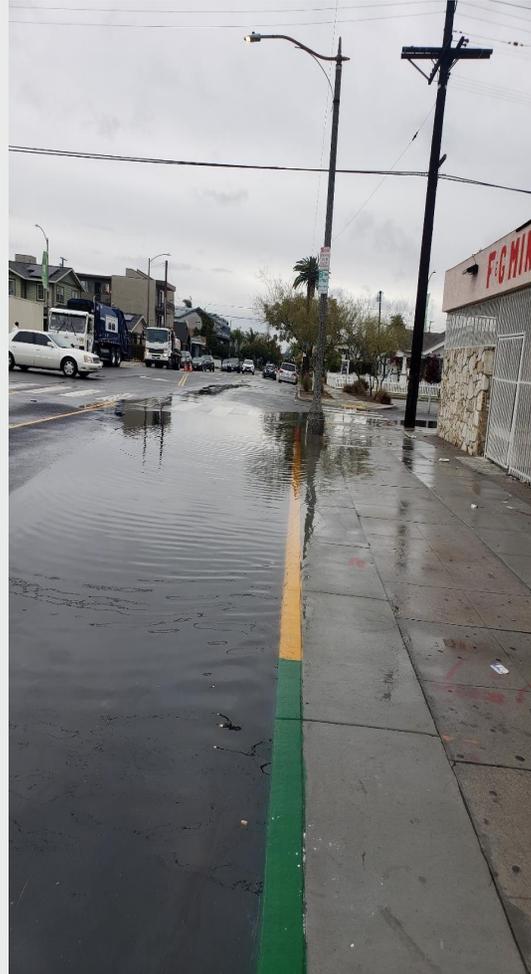
Storm Drain Debris Clogging

Background

Localized Flooding

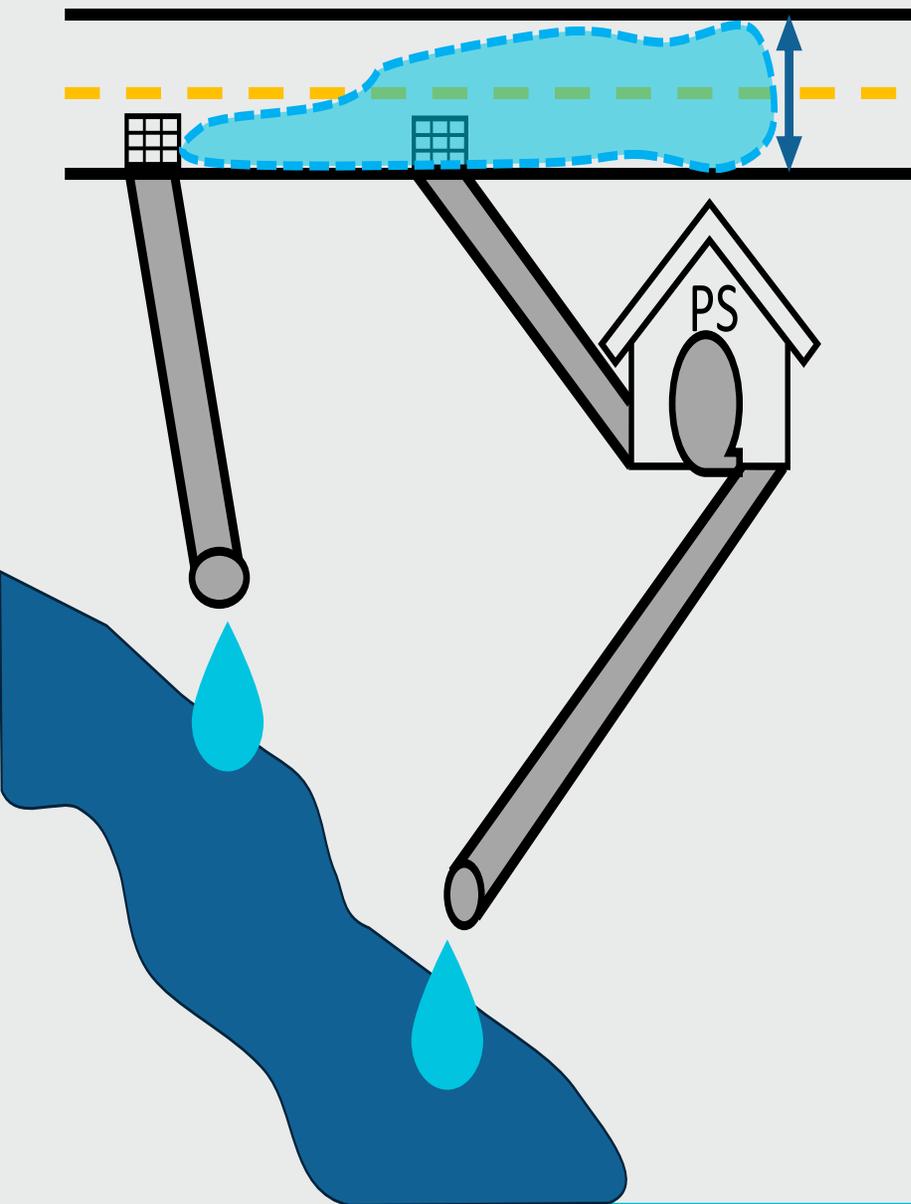


Flooding at the intersection of 14th Street and Pine Ave



Flooding at the intersection of 5th St and Lime Ave

Storm Drain System



- Streets are an important part of the storm drain system and are designed to convey water curb-to-curb during a storm
- Streets typically drain to catch basins and storm drains which convey water underground to channels, rivers, or the ocean
- Some storm drains require pump stations to pump water from low areas into channels, rivers, or the ocean

Planning

The Engineering Bureau of Public Works oversees floodplain management, drainage studies, and improvement of the storm drain system

- Projects in Planning:
 - 7th street drainage improvements at Cedar Ave and Chestnut Ave
 - Citywide storm drain master plan
- Projects in Design:
 - 7 storm drain improvements
 - 6 Pump Station standby generator locations
 - 4 Pump Station improvement projects
- Projects Recently completed:
 - 68th Place emergency storm drain repair
 - Crest Alley green drainage improvements



FEMA Hazard Mitigation Grant Program Pump Station Generators Project

- Goal: Install standby generators at six City pump stations to increase flood preparedness and maintain critical services during power outages
- Status: 90% design complete, Bid/Award anticipated Summer 2025 pending FEMA review.

Pump Station	CD	Improvement
SD-06	7	1250kW generator, ATS, switchboard, perimeter fencing
SD-13	9	1250kW generator, ATS, switchboard, perimeter fencing
SD-14	4	300kW generator, switchboard, and asphalt paving
SD-15	4	500kW generator, switchboard, and asphalt paving
SD-19	4	250kW generator and asphalt paving
SD-20	4	200kW generator and switchboard

Projects in Design

Economic Development Agency (EDA) Federal Grant Funded LB Flood Control Resiliency Project

- Goal: provide flood preparedness and mitigation throughout the City with improvements at four pump stations and seven storm drain locations
- Status: Preliminary design in progress, bid/award anticipated 2026

Pump Station	Storm Drain	CD
SD-04: Safety, Electrical, Structural, Wet well, Mechanical	Lew Davis St: New storm drain	5
SD-09: Safety, Electrical, Wet well, Structural, Mechanical	4th St and LB Blvd: New storm drain	1
SD-16: Electrical, Structural	Prospect Ave: Grading, new catch basin	3
SD-17: Safety, Electrical, Wet well, Structural, Mechanical	Marber Ave: New catch basin, driveway	4
	E. Colorado St: New storm drain	3
	Cerritos Ave: New catch basin	6
	9th Pl and Ocean Blvd: Line storm drain	2

7th Street at Cedar Ave and Chestnut Ave Drainage Issues

- Goal: mitigate localized flooding at these two intersections
- Tasks: Evaluate feasibility of a new storm drain system. Design and construct as part of a street improvement project.
- Status: scope development and start of preliminary design

Storm Drain Master Plan Update

- Goal: evaluate capacity and condition of current system assets. Create a framework for future design, construction, and maintenance projects including upgrades, improvements, and expansions of the storm drain system.
- Estimate costs and identify possible funding sources
- Needed to prioritize stormwater capital improvement projects
- Original Masterplan in 2005; minor section updates in 2018 recommended \$332M in total improvements
- Status: Request For Proposals (RFP) in development, advertisement anticipated Spring 2025

Projects Recently Completed

68th Place Emergency Storm Drain Repairs

- Replaced collapsed section of storm drain pipe
- Street and sidewalk restoration
- Completed December 2024



Construction – Crew working to install new drain pipe



After – Restored landscaping and hardscape with new storm drain

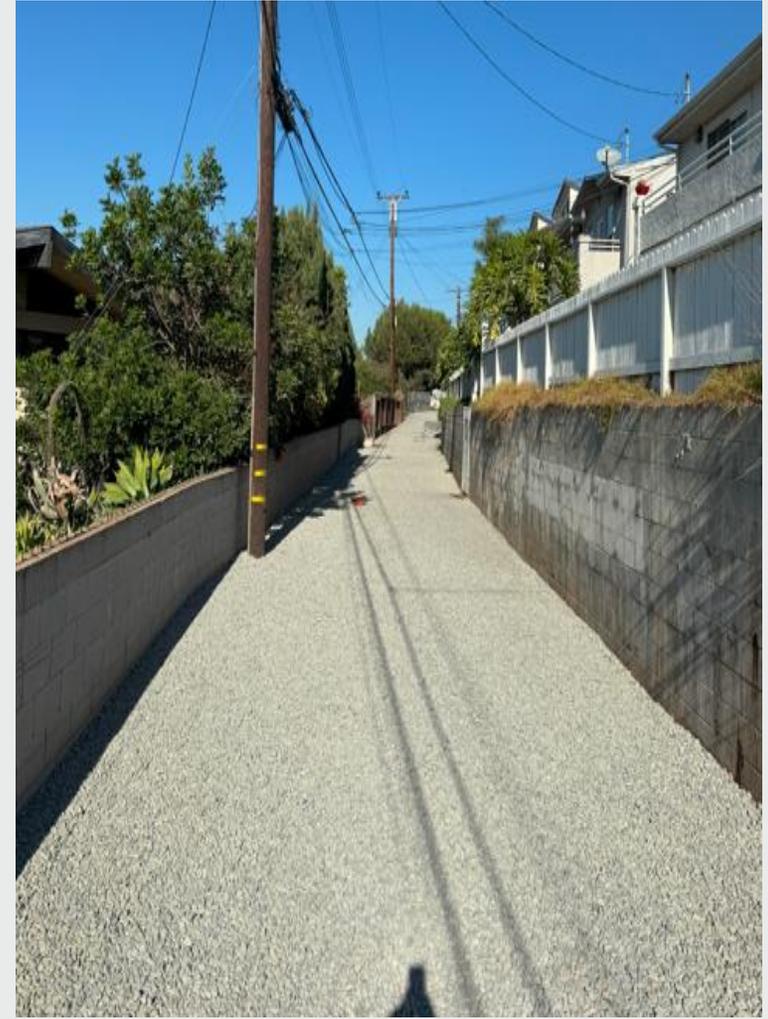
Projects Recently Completed

Crest Alley green drainage improvements

- Mitigated erosion due to existing drainage issues
- Unpaved alley improved with stabilized gravel bed and underdrain
- Completed November 2024



Prior drainage and erosion issues



Crest Alley with stabilized gravel pathway

Storm Drain System Funding

Needs exceed resources

- Unfunded Needs: The 2018 master plan update recommended \$332M in total improvements.
- Current Storm Drainage System Project Funding:
 - \$2.7M Measure W and Gas Tax
 - \$7.2M Measure A and General Fund
 - \$14.8M Grant Funding

Pre-Storm Preparation

- All-hands-on-deck approach
- Street sweeping reduces debris that can clog the storm drain system
- Routine cleaning of debris from 5,000 storm drains and 1.1 miles of open channels
- Routine inspection, maintenance, and cleaning of pump stations
- 714 tons of sand was made available for sandbags
- Acquire portable generators for power outages (pumps, traffic signals, etc.)
- Electrical quick disconnects were added to pump station SD-13 (CD9) and a generator was placed on standby to avoid potential power interruption

Pre-Storm Preparation

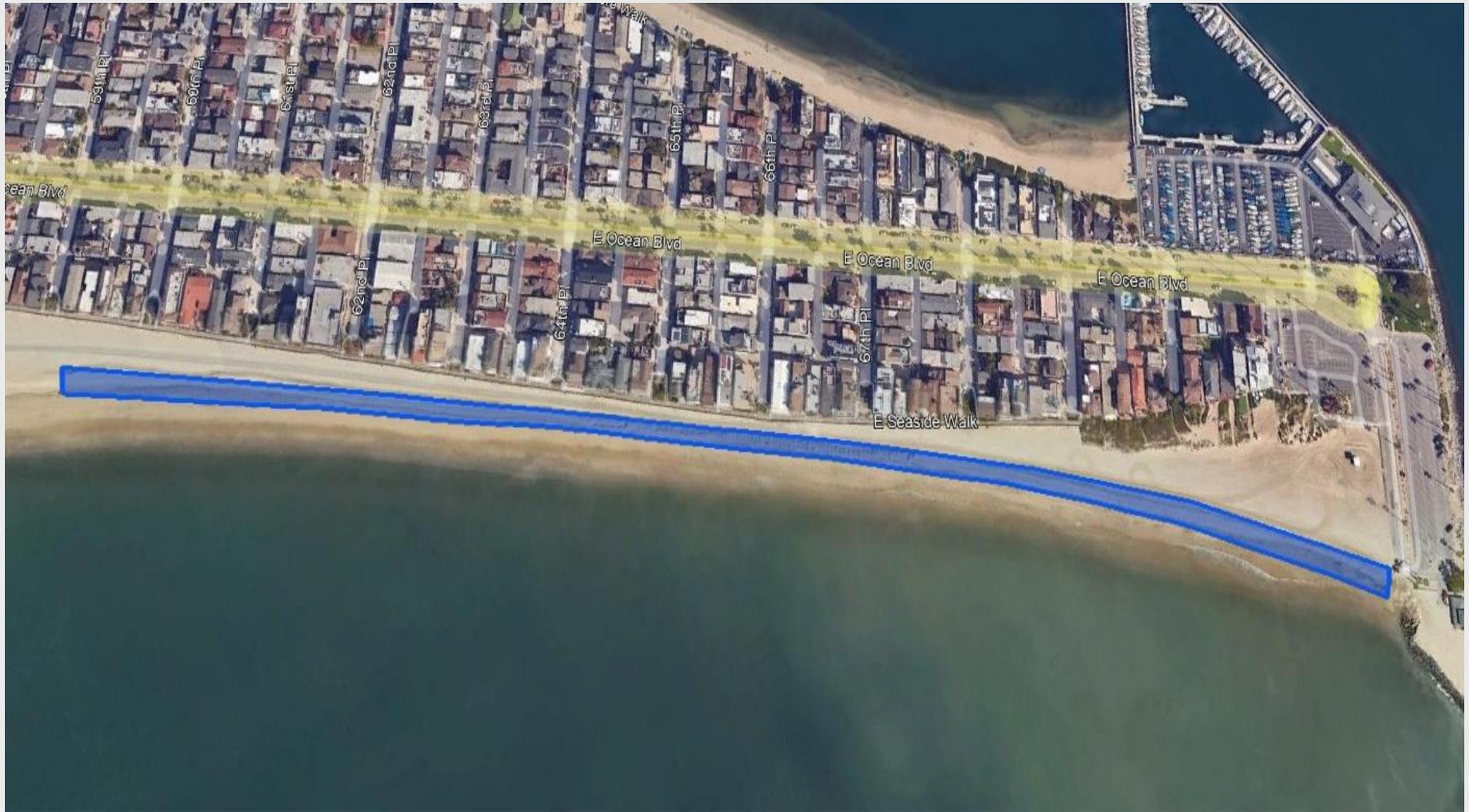
- Weather and rain forecasts are closely monitored
- Field staff are scheduled to prepare and respond to rain events
- 24/7 staffing during intense storm events
- Multi-agency and department coordination: LBPW, LBFD, LBPD, LA County PW, Port of LB, LB Utilities, Southern California Edison
- Emergency Operations Center and PW Departmental Operations Center activated for significant events
- Contractors/city staff on capital projects sweep, clean, and secure construction sites to prevent sediment and debris from entering the storm drain system
- During emergencies, City staff is reassigned to respond to major storm related impacts as necessary (temporary pumps, potholes, cleanups)

Pre-Storm Preparation



2 Megawatt Mobile Generator Deployed at Pump Station 13

Pre-Storm Preparation



Coastal storm Preparation - Peninsula Beach Berm Location

Pre-Storm Preparation



Coastal storm Preparation - Peninsula Beach Berm Construction

Pre-Storm Preparation



Rainstorm Preparation - Beach Storm Drain Opening

Active Storm Response

- Pump Stations are monitored remotely 24/7 and City crews respond to pump station alarms
- Emergency call center is staffed to receive phone calls, emails and GO Long Beach reports of flooding, downed trees and broken branches, as well as downed streetlights and traffic signals
- Mobile pumps are rented and deployed to flooded locations
- City crews and contractors are deployed to clear fallen trees and debris from streets and storm drains and respond to facility issues such as roof leaks
- City crews are deployed to handle downed streetlights and traffic signals

Storm Drain System

- 7 high-volume pumps were rented and deployed to address local flooding citywide
 - Locations include the Wilmore Community and Studebaker/Willow Ave intersection
- City staff and City Contractors cleaned catch basins before, during, and after the storms
- PW monitored catch basins in areas flood-prone and cleaned multiple catch basins proactively to mitigate flooding



Mobile pump at 7th St and Cedar Ave (2/6/2024)

Active Storm Response

Mobile Pump Deployment



Storm Drain System

- PW maintained an emergency call center from February 2 – 4, 2024 with 5 staff members
 - 55 phone calls and 4 GO Long Beach requests during these 72 hours
 - PW Emergency Field Command Center was deployed and operational



PW Crew in the Willmore Neighborhood

Pump Stations

20 out of 23 City pump stations remained fully operational:

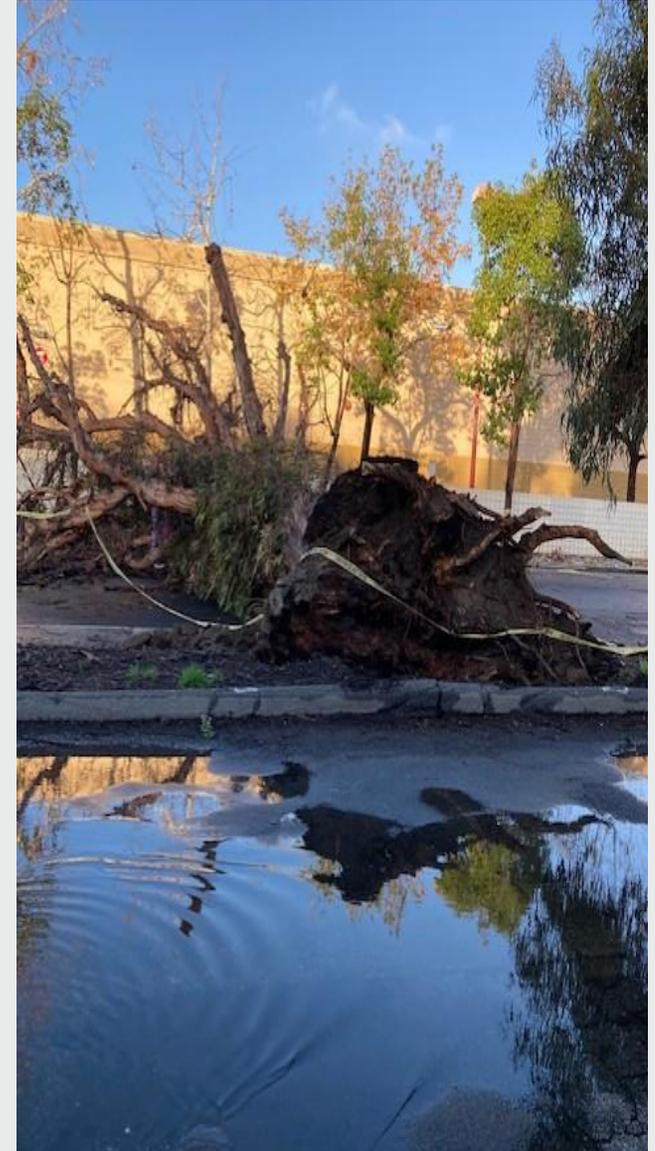
- SD-04 (CD7) operated without one of its four main pumps
- SD-07 (CD7) went offline due to a failed breaker
 - PW crews replaced the breaker to bring the station back online
 - 4 cars were stuck in the Willow St. underpass and required assistance from LBFD
- SD-09 (CD4) was temporarily offline
 - PW crews responded and the pump station was fully operational within 72 hours
- When fully operational, over 1.2 million gallons of water can be pumped per minute. Operated at approximately 90% capacity while pump stations were offline.

Post-Storm Response

- After rain events, City crews clean storm debris from roadways and storm drains, fill potholes, slurry seal streets, inspect pump stations and address overgrown vegetation
- City crews and contractors clean up between 15,000 and 25,000 pounds of palm fronds after major storm events
- City crews monitor and address streetlight and signal outages due to flooding and damage
- PW staff assists in seeking FEMA Reimbursements after major storm events
- PW staff discuss lessons learned and begin preparation for the next storm event

Post-Storm Response

Fallen Trees

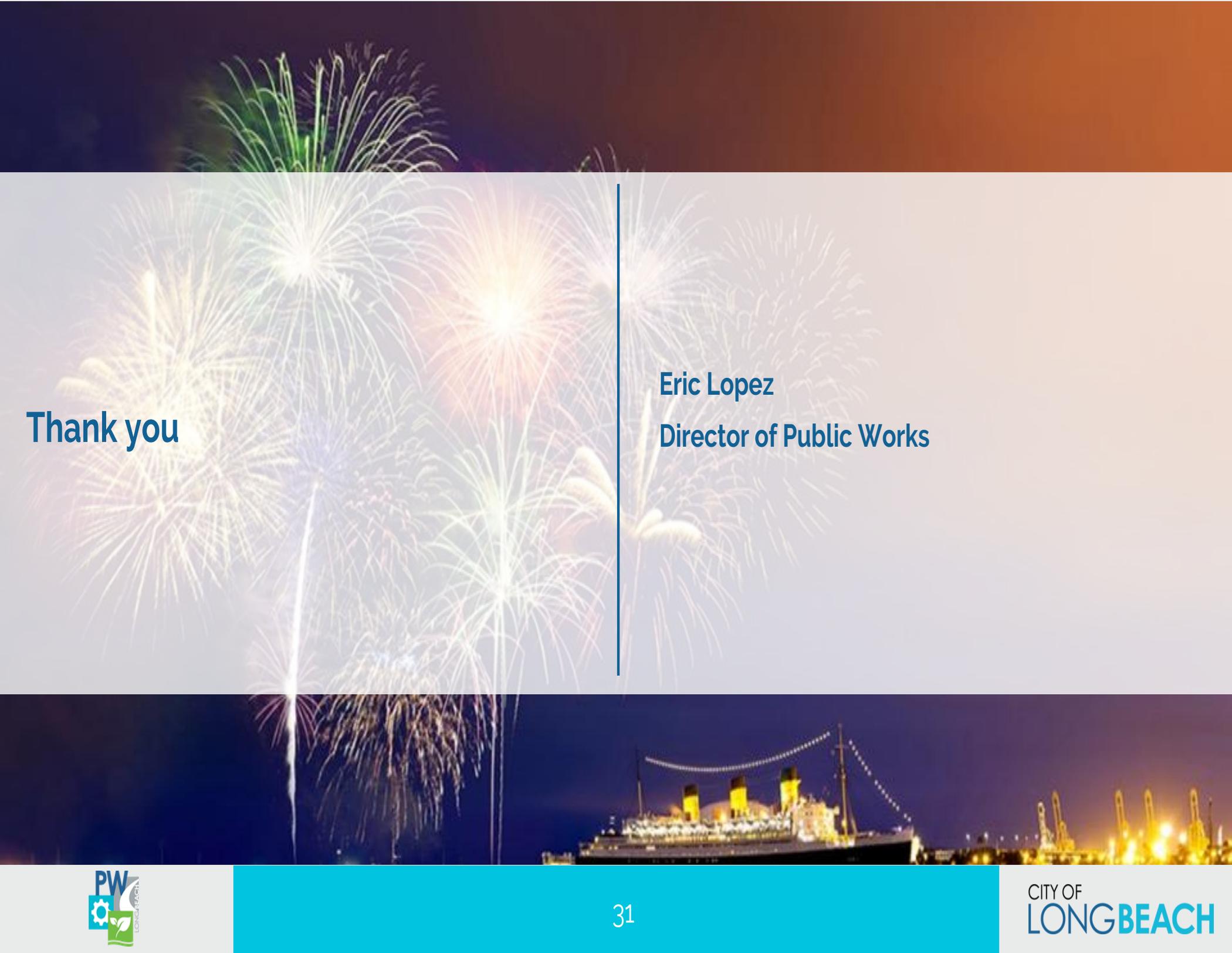


All Hands on Deck

- Preparation and Coordination with multiple City departments reduced property damage and no loss of life was associated with storms in the City
- A [City website](#) was launched to inform the public about critical information during a storm event and to promote awareness
- Post-storm response involves pothole repair and slurry sealing, debris removal and an increased need for weed abatement
- PW continues to implement projects that increase flood preparedness
- Storm Preparation is a year-round activity for PW
- Practice an “always-on” mentality to raise preparedness, awareness, support, and funding

More Information

- <https://www.longbeach.gov/pw/>
- <https://www.longbeach.gov/pw/resources/flood-zone/>
- Storm Advisory Website: <https://longbeach.gov/pages/city-news/storm>
- Submit a request: Go Long Beach App or Website https://golongbeach.my.site.com/s/?language=en_US
- Public Works: (562) 570-5000
- Flood Assistance: (562) 570-2700



Thank you

Eric Lopez
Director of Public Works