




THE CITY OF SAN DIEGO

TODD GLORIA
MAYOR

M E M O R A N D U M

DATE: January 7, 2025
TO: Councilmember Henry L. Foster III
FROM: Mayor Todd Gloria 
SUBJECT: Response to Request for Stormwater Management and Storm Preparedness in District Four

I received your November 18, 2024 memorandum requesting the Stormwater Department to prioritize proactive measures for stormwater management and storm preparedness in Council District Four.

Thank you for your memorandum advocating for enhanced stormwater management and preparedness measures for District Four. I share your commitment to safeguarding residents and ensuring the City of San Diego is equipped to mitigate flood risks effectively. The City is already taking steps in line with several of your proposals.

The Stormwater Department has been proactively implementing strategies to address flood risks and enhance storm preparedness citywide, with a particular focus on areas like the Chollas Creek watershed in District Four that have been disproportionately impacted by extreme weather events. Below is an overview of relevant ongoing or planned actions.

Response to January 22 Storm Event

Following the January 22nd storm event, the Stormwater Department mobilized all available internal resources and tapped into emergency contract support through the Engineering & Capital Projects Department (ECP) to clear stormwater channels and culverts impacted by the storm. A total of 18 miles of channel were cleared between late January and May 31, 2024. Twelve of these 18 miles were in the Chollas Creek Watershed, including in District 4, as depicted in yellow on the map below. The speed, extent, and magnitude of this work was made possible by an emergency declaration, which allowed Stormwater to clear channels first while seeking "after-the-fact" environmental permits with the Army Corps of Engineers, San Diego Regional Water Quality Control Board, and California Department of Fish & Wildlife. The City will ultimately need to fund mitigation for impacts to wetland vegetation resulting from the emergency channel clearing. The extent of mitigation required is currently being considered by the resource agencies.



In addition to channel clearing, 19 stormwater emergency CIP projects have been initiated to repair stormwater infrastructure that was damaged during the January storm and which threaten significant property damage and public safety if not addressed immediately. Through engineering assessments, Stormwater engineers have determined that these projects are beyond the means of in-house forces to address, and as such, emergency design and construction is being overseen by ECP.

In the immediate aftermath of the January event, Stormwater also completed extensive street sweeping to clear impacted streets from mud and debris caused by the storm, resulting in approximately 600 tons of debris removal. Stormwater Vector teams and hand crews inspected and cleaned 346 catch basins along the south fork of Chollas Creek between the 805 and 5 freeways.

Ongoing Stormwater Maintenance

Recognizing the critical importance of maintaining clear drainage pathways, the Stormwater Department has intensified efforts to clear storm drains, catch basins, and drainage channels across the city. Particular attention has been given to flood-prone areas, including those identified in District Four.

Regular maintenance of culverts, retention basins, and other critical infrastructure is an ongoing priority to ensure that these systems can handle increased runoff during heavy rains. The Stormwater Department implements year-round storm drain inspection and cleaning as well as street sweeping to keep drains clear of debris that can cause blockages. With current resource levels, the Stormwater Department is equipped to inspect, and, when necessary, clean

the over 46,000 structures that make up our storm drain system once annually. Staff also perform inspection and cleaning in response to inquiries received through Get It Done. The City sweeps more than 100,000 miles of streets annually to prevent debris from impacting the stormwater system.

Effective Storm Response Protocol

Ensuring timely deployment of resources during storms is also of paramount importance. The City implements longstanding Storm Event Response Plan Procedures that are updated and refined periodically to ensure appropriate deployment of City resources prior to and during storm events (see attached). In addition to detailing pre-storm and in-storm procedures, the document outlines the roles and responsibilities of various City "Storm Patrol" teams that are made up of personnel from the Stormwater and Transportation Departments.

When "Storm Patrol" protocol is activated (generally whenever significant rainfall is predicted), personnel are assigned to zones as shown on the attached map. During this time, all storm-related service notifications are routed to the corresponding Storm Patrol team based on geographic zone to enable efficient and timely response. Each zone has assigned staffing for patrol and response as well as designated staging areas for equipment. Resources can be shared across zones as needed.

When rain is predicted, the Stormwater Department initiates pre-storm coordination meetings with representatives from multiple departments including Stormwater, Transportation, Fire-Rescue, ECP, Parks & Recreation, and others. The purpose of these pre-storm meetings, which often involve close to 100 staff, is to discuss roles, responsibilities, and readiness prior to the onset of heavy rain.

While these efforts are robust, the reality is that citywide demands on our stormwater infrastructure far outpace available resources. With limited staffing and funding, we must prioritize high-risk areas based on data-driven assessments. This ensures that our interventions yield the greatest impact in preventing blockages and reducing flood risks.

Flood Risk Assessment and Real-Time Monitoring

The Stormwater Department leverages advanced Geographic Information System (GIS) mapping tools and flood modeling software to identify vulnerable areas. This proactive approach allows us to allocate resources more efficiently and implement targeted interventions. The Stormwater Department has completed Integrated Drainage Engineering Assessments (IDEAs) for several watersheds across the City. The IDEA plans are essentially comprehensive drainage studies that identify existing infrastructure that is either undersized or otherwise in need of upgrade, as well as opportunities to implement capital improvement projects to improve flood resilience and water quality. The Chollas Creek Watershed IDEA was the first completed by the Department in 2018. Subsequently, IDEA plans have been completed for the Los Peñasquitos Watershed, the Mission Bay Watershed, and the remainder of the San Diego Bay Watershed outside of Chollas Creek.

Real-time monitoring systems, where feasible, are being explored to enhance situational awareness during storm events and to facilitate timely responses. On November 26, 2024, Stormwater submitted an application for grant funding through the state Department of Water Resources' Stream Gage Improvement Program (CalSIP) to install stream gages that will support real-time monitoring of storm flows at seven high priority locations across the City, including four locations in the Chollas Creek Watershed. If awarded, these installations will provide important stream flow data to help inform water management decisions. Stormwater

Department management is also engaging with representatives from the National Weather Service and the San Diego County Flood Control District to explore the potential to integrate the City of San Diego into existing real-time monitoring systems operated by those agencies.

However, deploying such technologies on a wide scale requires significant upfront investments. To address this, we are actively pursuing external funding opportunities through state and federal grants. Partnerships with academic institutions and private sector organizations may also provide innovative solutions to enhance our monitoring capabilities.

Community Engagement and Preparedness

Empowering residents with knowledge and resources is a cornerstone of our storm preparedness strategy. The Stormwater Department has invested significant effort and resources into the dedicated “Think Blue” public outreach campaign. Building on existing storm season communications protocol, the Stormwater and Communications Departments are rolling out new public awareness tools to educate residents in flood-prone areas on effective mitigation measures, such as proper sandbagging techniques and home drainage maintenance. These efforts aim to reduce individual vulnerabilities and promote community-wide resilience.

As communicated in the Stormwater Department’s annual update to the Environment Committee on October 10, 2024, this year the Department will mail informational flyers to more than 10,000 property owners and residents who own or live on properties located within a 100-year floodplain as mapped by the Federal Emergency Management Agency (FEMA). Properties in the floodplain are some of the most vulnerable to flooding; a significant proportion of the damage caused by the January 2024 flood occurred within floodplain boundaries. The informational floodplain flyers will be mailed in December and provide recipients with critical information regarding preparing structures for flooding, how to obtain flood insurance, and other useful resources. The flyers also contain a QR code linking recipients to the same information in Spanish. Copies of the English and Spanish versions of the flyer are also posted for general public awareness on the City’s storm preparedness web pages at <https://www.sandiego.gov/storm-preparedness> and <https://www.sandiego.gov/floodprep>.

To ensure that property owners responsible for stormwater infrastructure maintenance know about their responsibilities, the City is also noticing property owners with stormwater channels that have been confirmed to be under private ownership. The notices will include an exhibit showing the specific location of the private drainage infrastructure identified by the City. It will also provide contact information for City staff who can answer property owners’ questions.

Stormwater is currently coordinating with community-based organizations such as Groundwork Chollas, San Diego Canyonlands, and San Diego Coastkeeper to help disseminate messaging on storm preparedness and to ensure that outreach efforts are culturally sensitive and accessible to all residents. We are open to coordinating with other community groups and partners.

In advance of the rainy season or any predicted storm event, the City Communications Department shares information to the public to help them prepare via press releases, social media, and other communications tools. Sandbag distribution is a key part of that messaging. Sandbag distribution stations are located at community recreation centers within each council district as follows:

- Council District 1 - Pacific Beach Recreation Center, 1405 Diamond St.
- Council District 2 - North Clairemont Recreation Center, 4421 Bannock Ave.
- Council District 2 - Robb Field Athletic Area, 2525 Bacon St.
- Council District 3 - Golden Hill Recreation Center, 2600 Golf Course Dr.
- Council District 4 - Martin Luther King, Jr. Recreation Center, 6401 Skyline Dr.
- Council District 5 - Scripps Ranch Recreation Center, 11454 Blue Cypress Dr.
- Council District 6 - Standley Recreation Center, 3585 Governor Dr.
- Council District 7 - Allied Gardens Recreation Center, 5155 Greenbrier Ave.
- Council District 8 - San Ysidro Community Activity Center, 179 Diza Rd.
- Council District 8 - Southcrest Recreation Center, 4149 Newton Ave.
- Council District 9 - City Heights Recreation Center, 4380 Landis St.

Educational materials on the effective use of sandbags will accompany these distributions to help residents safeguard their homes and properties. We are also working with community partners to amplify City efforts and extend their reach to underserved areas.

Emergency Response Coordination

Strengthening our emergency response capabilities is essential for mitigating the impacts of severe weather events. The department is enhancing coordination with the Office of Emergency Services, public works, and transportation teams to streamline responses to flooding incidents. Pre-storm staging of equipment and personnel in high-risk areas will further ensure a swift and effective deployment when needed.

Collaboration with community volunteers and local organizations is another avenue we are exploring to expand our capacity for real-time responses. These partnerships can provide invaluable support during critical moments, such as clearing debris or assisting with evacuation efforts.

Addressing Infrastructure Challenges

Your memorandum rightly highlights the need for upgrading aging stormwater infrastructure to improve resilience and drainage capacity. This is a priority that aligns with the city's long-term vision for sustainable urban development. However, the scale of the challenge is significant. Many components of our stormwater system were not designed to handle the increased intensity and frequency of storms resulting from climate change.

Upgrading this infrastructure requires substantial financial investment and careful planning. The city has been aggressively seeking funding through state and federal programs, including pending requests for more than \$145 million for the four large-scale infrastructure upgrades below, all in the Chollas Creek Watershed.

Beta St Channel and SD Improvement	\$28,195,399
Chollas Creek Restn 54th St & Euclid Ave	\$16,988,582
Upper Auburn Creek Flood Revitalization Project	\$50,000,000
Jamacha Drainage Channel Upgrade	\$50,000,000

Potential funding sources include FEMA's Hazard Mitigation Grant (HMG) and Building Resilient Infrastructure and Communities (BRIC) grant programs. We are also exploring innovative financing mechanisms, such as public-private partnerships, to supplement municipal funding.

As you know, in August 2022, the City of San Diego signed a low-interest loan agreement with the US Environmental Protection Agency through the Water Infrastructure and Financing Innovation Act (WIFIA) program, which is providing \$733 million in investment to upgrade stormwater infrastructure across the City. The scale of such a program exclusively devoted to stormwater is unprecedented anywhere in California, with most WIFIA loans being dedicated to wastewater and drinking water infrastructure. As reported to the Environment Committee in October, investments specific to stormwater infrastructure in the Chollas Creek Watershed represent approximately \$235 million of the total \$733 million WIFIA investment. The attached maps display the City's recent and planned investments in the communities of Chollas Creek, including 24 CIP projects in various stages of design and construction as part of WIFIA.

In addition to WIFIA, the City has secured low-interest loans through the State Revolving Fund (SRF) for various CIP projects. Both of these SRF loans include a component of \$5 million principal forgiveness, which is effectively a grant to the City.

Resource and Financial Constraints

As stewards of public funds, we are committed to making fiscally responsible decisions that balance immediate needs with long-term sustainability. While the recommendations outlined in your memorandum are both necessary and impactful, their full implementation would require significant increases in both operational capacity and budget allocations.

Measure E on the November ballot would have made significant new resources available for stormwater infrastructure. With the measure's failure in November, the City now faces a severe projected deficit. This challenging fiscal environment, compounded by competing priorities such as homelessness, housing, and other infrastructure maintenance, necessitates a strategic approach to resource allocation.

Conclusion

The challenges posed by extreme weather events require a well-coordinated, collective effort. I am confident that through collaboration and strategic planning, we can make meaningful progress in protecting our residents and enhancing the resilience of our stormwater systems. Thank you again for your thoughtful recommendations and ongoing partnership. I look forward to working with you and your team to implement these strategies effectively.

cc: Paola Avila, Chief of Staff, Office of the Mayor
Eric Dargan, Chief Operating Officer, Office of the Mayor
Charles Modica, Independent Budget Analyst
Kris McFadden, Deputy Chief Operating Officer of Infrastructure
Todd Snyder, Director of Stormwater, City of San Diego
Daniel Horton, Chief of Staff, Office of Councilmember Henry L. Foster III

STORM EVENT RESPONSE PLAN PROCEDURES

Dry Season (May 1 – September 30)

Rainy Season (October 1 – April 30)

SECTION 1.0: Normal Business Hours (7:00 am – 3:30 pm)

SECTION 1.1: Pre-Storm and During Storm Procedures

Citywide Standby Supervisor (Dry Season) or the Storm Water Standby Supervisor (Rainy Season) will initiate deployment based on the pre-storm condition as shown in the table below:

Table 1.A – Pre-Storm Condition Crew Deployment

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

*Street Division may adjust the number of crews that are deployed (in consultation with Stormwater Operations) provided that the duties outlined below are completed.

SECTION 1.1.1: Street Division Crew Duties:

1. Assess assigned Storm Patrol¹ areas and Critical Drains lists for flood risk – inspect streets, drains, channels and surrounding area for the potential of floating debris, construction BMPs, and vegetation that can clog storm drain
2. Remove debris and items that can float, or clog drain inlets
3. Pre deploy barricades where flooding or street closures may occur
4. Complete Critical Drains work log, Temporary Critical Sites work log, and Daily work logs
5. Reporting:
 - a. Report unresolved issues to Station 38 and direct Supervisor as soon as it is determined the crew is unable resolve the problem
 - b. At Handoff (12:00pm) - email unresolved issues that couldn't be corrected to:
 - i. 3 Storm Water Supervisors, Citywide Standby Supervisor, and 2 after hours Standby Street Supervisors with a copy to 3 Superintendents
 - c. Create Service Notification (SN) for unresolved issues by close of next business day
 - d. The Street Division Program Manager will submit critical drain inspection logs to

¹ See Attached Daytime Storm Patrol Area map.

the Stormwater Operations Superintendent within 1 business day of the storm patrol event.

SECTION 1.1.2: Stormwater Operations Crew Duties:

1. Sweep critical streets (list to be created)
2. Assess assigned Storm Patrol areas and Critical Drains lists for flood risk – inspect streets, drains and channels for mud, floating debris, construction BMPs, and vegetation that can clog storm drain
3. Inspect locations on list of sites to be Assessed During Rain Events (may involve Engineers)
4. Remove mud and debris and items that can float or clog drain inlets
5. Pre-deploy pumps
6. Ensure tide gates are open or closed depending on height of tides
7. Post No Parking signs
8. Complete Critical Drains work log, Temporary Critical Sites work log, and daily work logs
9. Respond to hazardous situations such as flooding, clogged drains, mud or dirt slides, or other dangers to public safety
10. Reporting:
 - a. Report unresolved issues to Station 38 and direct Supervisor as soon as it is determined the crew is unable resolve the problem
 - b. Create Service Notification (SN) for unresolved issues by close of next business day
 - c. Submit critical drain inspection logs to the Storm Water Division Superintendent within 1 business day of the storm patrol event.

SECTION 2.0: Night and Weekend Hours (3:30 pm – 7:00 am)

SECTION 2.1: Pre-Storm Procedures

Citywide Standby Supervisor (Dry Season) or Storm Water Standby Supervisor (Rainy Season) will call in Streets Division staff (staff on *mandatory standby*) for the following areas:

Table 2.A – Mandatory Streets Division Staff on Standby

Area	Mandatory Standby Staff
North of Interstate 8	TBD by SD
South of Interstate 8	TBD by SD

Citywide Standby Supervisor (Dry Season) or Storm Water Standby Supervisor (Rainy Season) will initiate deployment of the staff shown above based on the pre-storm condition listed below:

Table 2.B – Pre-Storm Condition Crew Deployment

Pre-storm Condition (percent chance of precipitation)	Amount of Precipitation Forecasted (inches)	Number of Crew Deployed*	Deployment time (hours prior to forecasted precipitation)
≥ 40%	0.25	1 crew per After Hours Patrol Area	3 - 4 hours

*Street Division may adjust the number of crews that are deployed (in consultation with Stormwater Operations) provided that the duties outlined below are completed.

SECTION 2.1.1: Street Division Crew Duties:

1. Assess assigned After Hours Storm Patrol ²areas and Critical Drains lists for flood risk – inspect streets, drains, channels and surrounding area for the potential of floating debris, construction BMPs, and vegetation that can clog storm drain
2. Remove debris and items that can float, or clog drain inlets
3. Pre deploy barricades where flooding or street closures may occur
4. Complete Critical Drains work log, Temporary Critical Sites work log, and Daily work logs
5. Reporting:
 - a. Report unresolved issues to Station 38 and direct Supervisor as soon as it is determined the crew is unable resolve the problem
 - b. At Handoff (If timed out or at start of next day shift) - email unresolved issues that couldn't be corrected to:
 - i. 3 Storm Water Supervisors, Citywide Standby Supervisor, and 2 after hours Standby Street Supervisors with a copy to 3 Superintendents
 - c. Create Service Notification (SN) for unresolved issues by close of next business day
 - d. The Street Division Program Manager will submit critical drain inspection logs to the Storm Water Division Superintendent within 1 business day of the storm patrol event.

SECTION 2.1.2: Storm Water Division Crew Duties:

1. Sweep critical streets (list to be created)
2. Assess assigned Storm Patrol areas and Critical Drains lists for flood risk – inspect streets, drains and channels for mud, floating debris, construction BMPs, and vegetation that can clog storm drain
3. Inspect locations on list of sites to be Assessed During Rain Events (may involve Engineers)
4. Remove mud and debris and items that can float or clog drain inlets
5. Pre-deploy pumps
6. Ensure tide gates are open or closed depending on height of tides

² See attached After Hours Storm Patrol map.

7. Post No Parking signs
8. Complete Critical Drains work log, Temporary Critical Sites work log, and daily work logs
9. Respond to hazardous situations such as flooding, clogged drains, mud or dirt slides, or other dangers to public safety
10. Reporting:
 - a. Report unresolved issues to Station 38 and direct Supervisor as soon as it is determined the crew is unable resolve the problem
 - b. Create Service Notification (SN) for unresolved issues by close of next business day
 - c. Submit critical drain inspection logs to the Storm Water Division Superintendent within 1 business day of the storm patrol event.

SECTION 2.2: During Storm Procedures

Citywide Standby Supervisor (Dry Season) or Storm Water Standby Supervisor (Rainy Season) will call in Streets Division staff (staff on *mandatory standby*) for the following areas:

Table 2.C – Mandatory Staff on Standby

Area	Mandatory Standby Staff
North of Interstate 8	TBD by SD
South of Interstate 8	TBD by SD

Citywide Standby Supervisor (Dry Season) or Storm Water Standby Supervisor (Rainy Season) will initiate deployment of the staff shown above based on the pre-storm condition listed below:

Table 2.D – Pre-Storm Condition Crew Deployment

Pre-storm Condition (percent chance of precipitation)	Amount of Precipitation Forecasted (inches)	Number of Crew Deployed	Deployment time (hours prior to forecasted precipitation)
≥ 40%	0.25	1 crew per After Hours Patrol Area	3 - 4 hours

*Street Division may adjust the number of crews that are deployed (in consultation with Storm Water Division) provided that the duties outlined below are completed.

SECTION 2.2.1: Streets Division Crew Duties:

1. Assess assigned Storm Patrol areas and Critical Drains lists for flood risk – inspect streets, drains, channels and surrounding area for the potential of floating debris, construction BMPs, and vegetation that can clog storm drain
2. Remove debris and items that can float or clog drain inlets or that is floating and

clogging drain inlets

3. Deploy barricades where street flooding is occurring. Assess sites where water is rising
4. Complete Critical Drains work log, Temporary Critical Sites work log, and Daily work logs
5. Reporting:
 - a. Report unresolved issues to Station 38 and direct Supervisor as soon as it is determined the crew is unable resolve the problem
 - b. At Handoff (If timed out or at start of next day shift) - email unresolved issues that couldn't be corrected to:
 - i. 3 Storm Water Supervisors, Citywide Standby Supervisor, and 2 after hours Standby Street Supervisors with a copy to 3 Superintendents
 - c. Create Service Notification (SN) for unresolved issues by close of next business day
 - d. The Street Division Program Manager will submit critical drain inspection logs to the Storm Water Division Superintendent within 1 business day of the storm patrol event.

SECTION 2.2.2: Stormwater Operations Crew Duties:

1. Respond to hazardous situations such as flooding, clogged drains, mud or dirt slides, or other dangers to public safety
2. Assess assigned Storm Patrol areas and Critical Drains lists for flood risk – inspect streets, drains and channels for mud, floating debris, construction BMPs, and vegetation that can clog storm drain
3. Remove mud and debris and items that can float or clog drain inlets
4. Activate pumps where necessary pumps
5. Ensure tide gates are open or closed depending on height of tides
6. Inspect locations on list of sites to be Assessed During Rain Events (may involve Engineers)
7. Review No Parking signs to determine if water is rising, if more signs needed, and if signs are being obeyed
8. Complete Critical Drains work log, Temporary Critical Sites work log, and daily work logs
9. Respond to hazardous situations such as flooding, clogged drains, mud or dirt slides, or other dangers to public safety
10. Reporting:
 - a. Report unresolved issues to Station 38 and direct Supervisor as soon as it is determined the crew is unable resolve the problem
 - b. Create Service Notification (SN) for unresolved issues by close of next business day
 - c. Submit critical drain inspection logs to the Storm Water Division Superintendent within 1 business day of the storm patrol event.

SECTION 2.3: Significant Storm Event Procedures

Citywide Standby Supervisor will initiate deployment of the following Chain Saw Crews during significant storm events where there is a potential for trees falling:

Chain Saw Crews

Area	Mandatory Standby Staff
Chollas	3 crew members (chain saw operator, ground person, equipment operator)
Rose Canyon	3 crew members (chain saw operator, ground person, equipment operator)
20 th and B	3 crew members (chain saw operator, ground person, equipment operator)

Citywide Standby Supervisor (Dry Season) or Storm Water Standby Supervisor (Rainy Season) will determine if additional staff is required.

SECTION 3.0: Post Storm Event Procedures

The Supervisor for each Storm Patrol Area is responsible for the following:

1. Ensuring their area is clean after each storm
2. Allocating staff with the appropriate equipment to clean their area after each storm event
3. Ensuring deficiencies in their assigned areas are completed in a timely manner
4. Ensuring each SN assigned to their area is completed in a timely manner

SECTION 4.0: Handoff Procedures

At 12:00 p.m. each workday, staff will adhere to the following procedures:

Streets Division Crew Duties:

1. Complete Critical Drains and Temporary Critical Sites work logs
2. Ensure all unresolved issues have been reported to Station 38 and direct supervisor
3. Supervisors
 - a. Email unresolved issues that couldn't be corrected to:
 - i. 3 Storm Water Supervisors, Citywide Standby Supervisor, and 2 after hours Standby Street Supervisors with a copy to 3 Superintendents
 - b. Create Service Notification (SN) for unresolved issues by close of next business day
4. Citywide Standby Supervisor (Dry Season) or Storm Water Standby Supervisor (Rainy Season) are responsible for indicating what efforts need to continue

SECTION 5.0: Assessing Pre-Storm Conditions

Every day at 7:00 a.m., 11:00 a.m., 4:00 p.m., and 9:00 p.m., the Citywide Standby Supervisor (Dry Season) or the Storm Water Standby Supervisor (Rainy Season) will adhere to the following procedures:

SECTION 5.1: Checking the National Weather Service Website

- a. Assess 7-day forecast for the percentage for chance of precipitation (see Section 5.4 for website links)
- b. Review the Hourly Weather Forecast Graph
 - i. How much precipitation?
 - ii. When will precipitation arrive?
 - iii. How long is precipitation predicted to last?
 - iv. Where will precipitation occur?
 - v. Are strong winds predicted?
 - vi. Is thunder predicted?
 - vii. Are high tides or high surf predicted?
- c. Save a copy of the Hourly Weather Forecast Graph in a shared drive

SECTION 5.2: Normal Business Hours

During Normal Business Hours, the Citywide Standby Supervisor (Dry Season) or the Storm Water Standby Supervisor (Rainy Season) will assess the pre-storm condition and deploy staff as shown in table 1.A below:

Table 1.A – Pre-Storm Condition Crew Deployment

ALERT LEVEL	Pre-Storm Condition (percent chance of precipitation)	Amount of Precipitation Forecasted (inches)	Number of Crews Deployed*	Deployment time (hours prior to forecasted precipitation)
Low	30% - 40%	0.25 – 0.40	1 crew per Patrol Area	2 – 4 hours
Medium	50%	0.40 – 0.75	2 crew per Patrol Area	3 – 5 hours
High	> 50%	> 0.75	3 crew per Patrol Area	4 – 6 hours

*Street Division may adjust the number of crews that are deployed (in consultation with Storm Water Division) provided that the duties outlined below are completed.

Storm Condition Operating Levels

During normal work hours condition levels will be established by the Public Works Superintendent. The Office Manager will monitor service activity to insure adequate Dispatch and Phone Staffing. Condition status will be relayed by pager, radio and telephone.

Condition changes are determined by the person currently in the leadership role. Other Emergencies can be handled using the same Condition Codes: Condition 2 would be a standby state with higher levels based on conditions as evaluated by person in leadership role.

Storm condition operating levels during an event are as follows:

- Condition 1 Designates normal operations
- Condition 2 Rain - Normal storm patrol
- Condition 3 Flooding occurring (usual roads closed)
- Condition 4 Significant flooding (unusual roads closed)
- Condition 5 Extreme conditions (major damage occurring)

Storm condition operating levels after an event are as follows:

- Condition B Normal clean up in Storm Patrol Areas (some crews affected)
- Condition C All crews clean-up in Storm Patrol Areas (some assistance needed between areas)
- Condition D Major clean up required in one or more areas (significant coordination needed)

Beyond Condition D level, remain in “During the event” status.

SECTION 5.3: Night and Weekend Hours

During Night and Weekend Hours, the Citywide Standby Supervisor (Dry Season) or the Storm Water Standby Supervisor (Rainy Season) will assess the pre-storm condition and will activate staff shown in table 2.A per the pre-storm condition listed in table 2.B.

Table 2.A – Mandatory Street Division Staff on Standby

Area	Mandatory Standby Staff
North of Interstate 8	TBD by SD
South of Interstate 8	TBD by SD

Table 2.B – Pre-Storm Condition Crew Deployment

Pre-storm Condition (percent chance of precipitation)	Amount of Precipitation Forecasted (inches)	Number of Crews Deployed*	Deployment time (hours prior to forecasted precipitation)
≥ 40%	0.25	2 crew per Patrol Area	4 hours

*Street Division may adjust the number of crews that are deployed (in consultation with Storm Water Division) provided that the duties outlined below are completed.

SECTION 5.4: National Weather Service Website Links

Use the following links to assess the forecast:

Lindbergh Field

<http://forecast.weather.gov/MapClick.php?lat=32.71532921300047&lon=-117.15725777599971#.VeiVVPIVhBc>

Rancho Bernardo

<http://forecast.weather.gov/MapClick.php?lat=33.018647297000484&lon=-117.06086732899968#.VeiVkPIVhBc>

Tijuana River Valley

<http://forecast.weather.gov/MapClick.php?lat=32.54894747700047&lon=-117.09057819299971>

SECTION 6.0: Activation

If the criteria is met in tables 1.A or 2.B, the Citywide Standby Supervisor (Dry Season) or the Stormwater Standby Supervisor (Rainy Season) will activate storm patrol

SECTION 7.0: Lead supervisor during storm conditions

The Citywide Standby Supervisor (Dry Season) or the Storm Water Standby Supervisor (Rainy Season) will serve as the lead supervisor during storm conditions

STORM EVENT RESPONSE PLAN PROCEDURES
TRAINING

1. Flood Prevention Training
 - a. What causes flooding?
 - i. Review of storm drain infrastructure
 - ii. Review of upstream and downstream drainage structures
 - b. How to recognize flooding and the potential for flooding?
 - i. Water rising
 - ii. Water level in the gutter
 - iii. Inlet bypass
 - iv. Material covering drain inlet
 - c. How can flooding be prevented?
 - i. Inspect areas upstream for the potential of floating debris, vegetation, and construction BMPs covering drain inlet
 - ii. Be aware of the surrounding area (transient camps, low points) and their potential for flooding
 - iii. Prevent by removing items that have the potential to clog drains
 - d. Site specific overview and ride along with Storm Water staff when possible (during light storm events)
 - i. Familiarize Streets Division staff with the Storm Patrol area and Critical Drains lists for which they are responsible
 - ii. Examples of problem sites pre-storm, during storm, and post-storm
 - e. Emphasize importance and significance of flood prevention
2. Cross-train internal Stormwater staff
 - a. Train utility workers for pump set up, operators to run vacuors

PRE-RAINY SEASON PREPARATION CHECKLIST

The following list should be reviewed and completed as appropriate by the Stormwater Operations Superintendent prior to each rainy season (between May 1 and September 30).

- Train and refresh staff – review responsibilities and communication processes, communication plan, Station 38, radios etc.
- Inspect and maintain fences along channels, storm drains, and channels
- Inspect and maintain trees
- Ensure equipment is repaired and prepared for use
- Install real time cameras (identify locations, create list, determine existing camera locations)
- Community outreach and education for storm preparedness on private property (clear leaves and debris, inspect trees, properly secure objects in yard)
- Consider utilizing private contractors for emergencies, pump vendors etc.
- Establish sufficient POs (pump contracts, pump vendors)
- Establish communication and protocols with other departments, that use the same equipment, for assistance and support during major events (create functional list and contacts)
- Establish criteria and staff thresholds for mandatory standby (set follow up meetings)
- Ensure Storm Patrol areas are supported by teams with equipment necessary to respond to issues within their assigned area
- Review and update emergency phone list and communication plan
- Create maps related to: barricade deployment associated with street flooding; tide gates; pump locations; and No Parking signs
- Create map for After Hours Storm Patrol areas
- Update Stormwater's storm related (pre/during) event checklist

During Event: During Normal Work Hours – Table

Storm Cond	Crew Operations	Dispatch Operations	Telephones	Leadership	Special Measures	Emerg Operations Center
1	Normal	Normal	Normal	Normal	None	Closed
2	Storm Patrol	Normal	Storm mode	Normal	Hold crew in yard or return crews to the yard if not needed in field	Closed
3	Storm Patrol	Minimum 2 Dispatchers	Additional staff as needed	Office: Traffic Electrical/ Superintendent, Field: Drain/Roadways Superintendents	Hold crews in station if not needed in field	Normally closed
4	As Assigned by Dispatch via Supervisor	Minimum 2 Dispatchers	Storm message	Office: Traffic/ Electrical Superintendent, Field: Drain/Roadways Superintendents	All crews must be radio dispatched	Open: Roadways/Traffic Superintendents
5	As Assigned by Dispatch via Supervisor	Minimum 2 Dispatchers	Storm message	Office: Traffic / Electrical Superintendent, Field: Drain/Roadways Superintendents	Allow crews to confirm safety of family	

After Event: During Normal Work Hours - Table

Storm Cond	Crew Operations	Dispatch Operations	Telephones	Leadership	Special Measures	Emerg Operations Center
B	As assigned by section Supervisor	Normal	Normal	Normal	Normal operations after clean-up	Varies
C	As assigned by section Supervisor	Minimum 2 Dispatchers	Additional staff as needed	Normal	Free up units to assist in areas of highest need	Varies
D	As assigned by section Supervisor	Minimum 2 Dispatchers	Additional staff as needed	Office: Traffic/ Electrical Super, Field: Drain/Roadways Superintendents	Free up units to assist in areas of highest need	Open: Roadways/Traffic Superintendents

During Event: After Normal Work Hours - Table

Storm Cond	Crew Operations	Dispatch Operations	Telephones	Leadership	Special Measures	Emerg Operations Center
1	None	Public Works Dispatch	Public Works Dispatch	Emerg unit / Night PWS / Duty PWS	None	Closed
2	Emergency call-out	Public Works Dispatch	Storm mode	Emerg unit / Night PWS / Duty PWS	None	Closed
3	Emergency call-out	Duty PWS calls in Dispatch Staff and switch from Public Works Dispatch	Storm Message / Additional staff as needed	Office: Duty PWS	None	Normally closed

4	Emergency call-out	Minimum 2 Dispatchers	Storm Message / Additional staff as needed	Office: Traffic/ Electrical Superintendent / DD Field: Drain/Roadways Superintendents	All crews must be radio dispatched	Open: Roadways/Traffic Superintendents
5	As Assigned by Dispatch via Supervisor	Minimum 2 Dispatchers	Storm message	Office: Traffic/ Electrical Superintendent / DD Field: Drain/Roadways Superintendents	Allow crews to confirm safety of family	Open: Roadways/Traffic Superintendents

After Event: After Normal Work Hours - Table

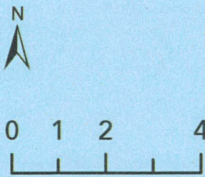
Storm Cond	Crew Operations	Dispatch Operations	Telephones	Leadership	Special Measures	Emerg Operations Center
B	Emergency call-outs	Public Works Dispatch	Public Works Dispatch	Duty PWS	None	Closed
C	Emergency call-outs	Duty PWS calls in Dispatch Staff and switch from Public Works Dispatch	Storm Message / Additional staff as needed	Office: Duty PWS	May call in additional PWS if needed	Normally Closed
D	Emergency call-outs	Minimum 2 Dispatchers	Storm Message / Additional staff as needed	Office: Traffic/ Electrical Super / DD Field: Drain/Roadways Superintendents	Call in additional PWS as needed	Open: Roadways/Traffic Superintendents

STORM PATROL AREA ASSIGNMENTS



Vector Service
 Contact: P-26 Mario Inurriaga
 Cell: 619-665-9077

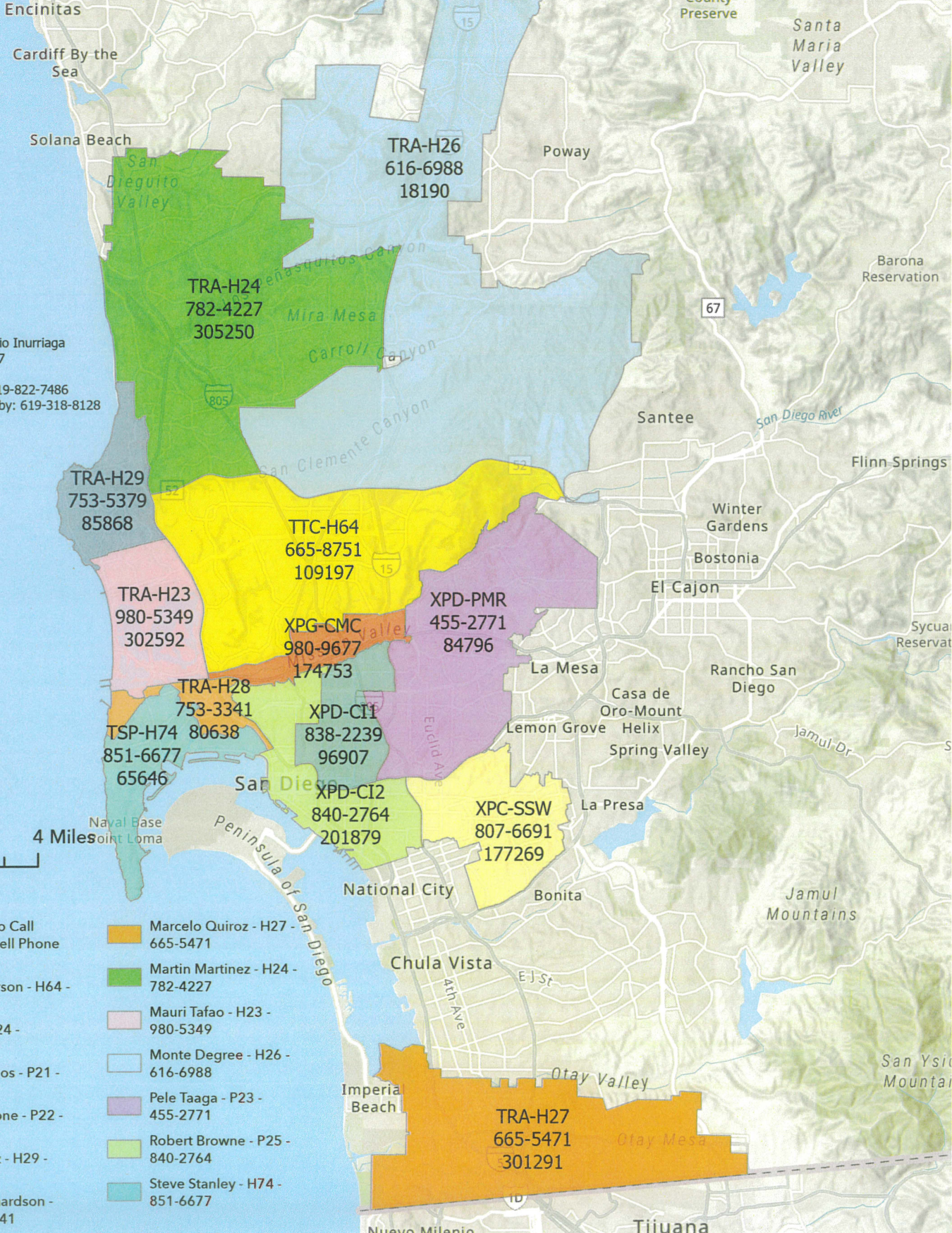
 Street Standby: 619-822-7486
 Stormwater Standby: 619-318-8128



Contact Name, Radio Call Numbers, Contact Cell Phone Number

- Danny Finnerson - H64 - 665-8751
- Don Faiai - P24 - 807-6691
- Gerardo Ramos - P21 - 838-2239
- John Scampono - P22 - 980-9677
- Juan Mendez - H29 - 753-5379
- Malcolm Richardson - H28 - 753-3341

- Marcelo Quiroz - H27 - 665-5471
- Martin Martinez - H24 - 782-4227
- Mauri Tafao - H23 - 980-5349
- Monte Degree - H26 - 616-6988
- Pele Taaga - P23 - 455-2771
- Robert Browne - P25 - 840-2764
- Steve Stanley - H74 - 851-6677



Completed Stormwater Capital Improvements - Chollas Creek Watershed



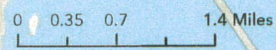
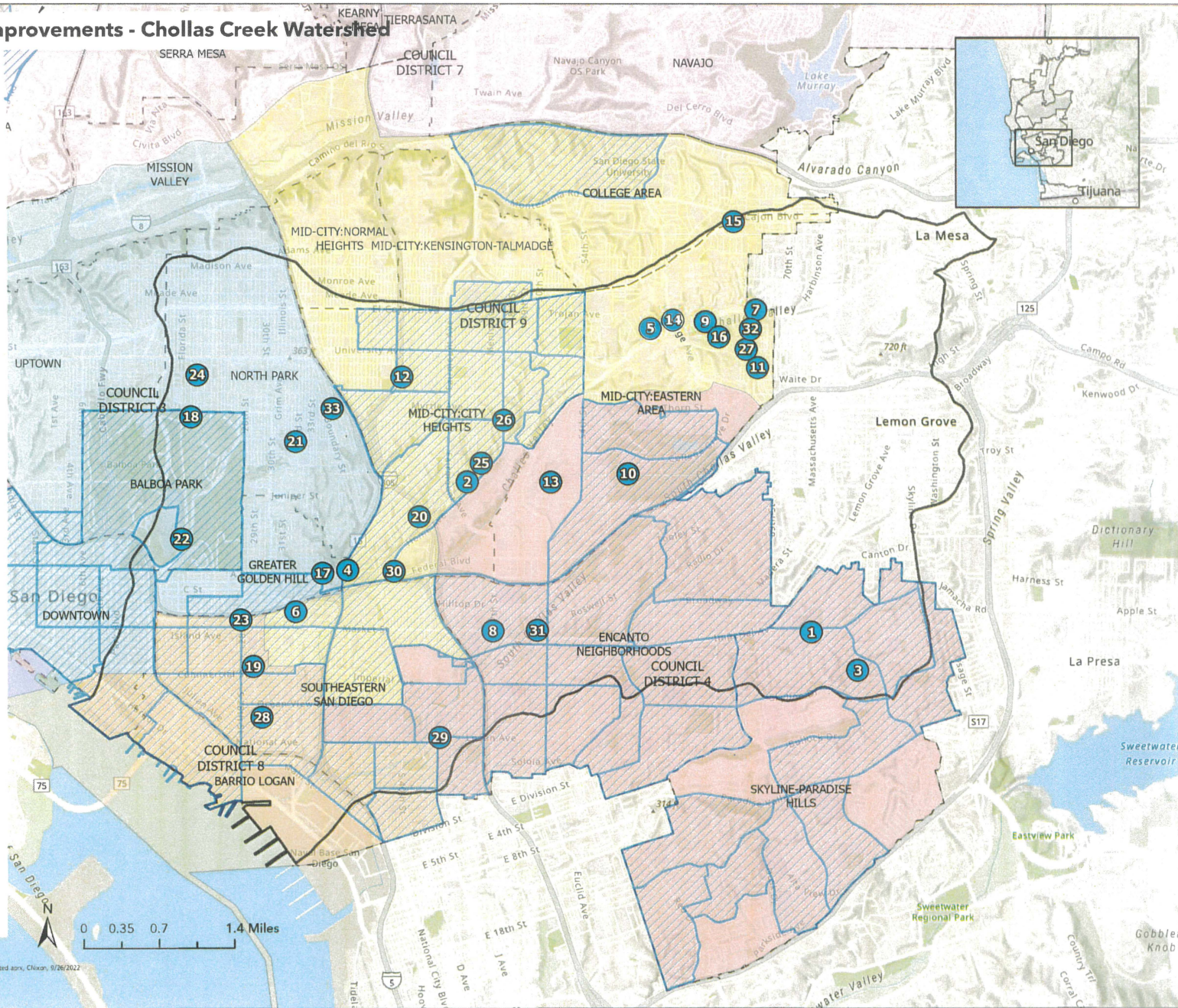
- Council District 1
- Council District 2
- Council District 3
- Council District 4
- Council District 5
- Council District 6
- Council District 7
- Council District 8
- Council District 9

Project Status

- Completed
- Communities of Concern
- Chollas Creek Watershed Boundary

Project Name

- 1 - Lobrico Ct (615) Storm Drain
- 2 - Storm Drain Group 968
- 3 - 7649 Shorewood Drive SD Emergency
- 4 - CMP Storm Drain Lining III
- 5 - 4182 60th St & 5973 Alta Mesa Way Emergency
- 6 - F St and 32nd Storm Drain Improvement SWD
- 7 - Alamo, Salvation, 68th Street Basins LID
- 8 - 47th St Storm Drain Pipe Replacement
- 9 - Bonillo Dr (4150) Storm Drain Replacement
- 10 - South Chollas Wash Rack Replacement
- 11 - Storm Drain Group 1006
- 12 - Castle Storm Drain Replacement
- 13 - Bevner Ct Emergency
- 14 - As Needed Storm Drain Pipe Lining Group 17
- 15 - El Cajon Blvd Storm Drain Replacement
- 16 - Judy Lee Place Storm Drain Replacement
- 17 - 34th Street Storm Drain
- 18 - City Heights & Morley Field Storm Drain
- 19 - 29th St and Imperial Ave SD Improvement SWD
- 20 - 1932 Springer Rd Storm Drain Replacement SWD
- 21 - 3030 32nd Street Storm Drain Emergency
- 22 - Florida Drive Storm Drain Emergency
- 23 - Inlet Restoration Group 697A (S)
- 24 - 3730 Mississippi Street (CMP) Storm Drain Emergency
- 25 - 46th Street Slope Restoration
- 26 - 3014-Storm Drain (Euclid & Thorn)
- 27 - 4051 Loma Alta Dr Storm Drain Replacement SWD
- 28 - Memorial Park Infiltration System
- 29 - 43rd & Logan Pretreatment Retrofit
- 30 - Stormwater Permanent BMP Retrofit Project
- 31 - Chollas Creek Water Quality & Habitat Enhancement
- 32 - Casita Way Storm Drain Replacement
- 33 - 3575 Nile Street Storm Drain Emergency



Stormwater Capital Improvements - Chollas Creek Watershed



- Communities of Concern
- Chollas Watershed Boundary
- Council District 1
- Council District 2
- Council District 3
- Council District 4
- Council District 5
- Council District 6
- Council District 7
- Council District 8
- Council District 9

Project Status

- Advertisement/Bid
- Construction
- Design-WIFIA
- Partially Funded
- Unfunded

Project Name

- 1 - Sunshine Bernardini Restoration
- 2 - Jamacha Drainage Channel Upgrade
- 3 - Storm Drain Group 1013
- 4 - Storm Drain Group 1023
- 5 - Golden Hill & South Park Storm Drain Replacement
- 6 - Cherokee Point South Storm Drain
- 7 - Jamacha Lomita Storm Drain
- 8 - Oak Park Storm Drain
- 9 - University Avenue Culvert Reconstruction
- 10 - El Cerrito & Rolando Park Storm Drain
- 11 - 4275 48th St Improv (Storm Drain)
- 12 - Green Infrastructure Group 1027
- 13 - Green Infrastructure Group 1024
- 14 - Green Infrastructure Group 1014
- 15 - Cherokee Point South Green Infrastructure
- 16 - Streamview Drive Green Infrastructure
- 17 - Oak Park Green Infrastructure
- 18 - El Cerrito & Rolando Park Green Infrastructure
- 19 - Green Infrastructure Group 1012
- 20 - Upper Auburn Creek Revitalization Project
- 21 - Chollas Creek Restoration 54th St and Euclid Ave
- 22 - Beta St Channel and Storm Drain Improvement
- 23 - 38th St at Franklin Ave Storm Drain SWD
- 24 - Auburn Creek Trash Capture Devices
- 25 - Logan Heights Low Impact Development (South)
- 26 - South Crest Green Infrastructure (GI)

