

AGENDA

**ENGINEERING COMMITTEE MEETING
LEUCADIA WASTEWATER DISTRICT**

Wednesday, March 3, 2021 – 9:00 a.m.

Via Teleconference

Pursuant to the State of California Executive Order N-29-20, and in the interest of public health, the District is temporarily taking actions to mitigate the COVID-19 pandemic by holding meetings by teleconference. The general public may not attend this meeting at the District's office due to social distancing requirements.

Members of the public attending via teleconference will be provided with an opportunity to comment on each agenda item prior to Committee discussion.

To join this meeting via Teleconference, please dial: 1-669-900-6833

Meeting ID: 869 3444 3745

Password: 788317

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1. **Call to Order**
 2. **Roll Call**
 3. **Public Comment**
 4. **New Business**
 - A. Receive and file the 2021 Update of the Hazard Preparedness & Mitigation Plan completed by Titan Engineering & Consulting, LLC. (Pages 2 - 7)
 5. **Information Items**
 - A. Development Projects Summary (Page 8)
 - B. Leucadia Pump Station Rehabilitation Project Update (verbal)
 - C. FY20 Gravity Sewer Repair / Quebrada Realignment Project Update (verbal)
 6. **Directors' Comments**
 7. **General Manager's Comments**
 8. **Adjournment**

MEMORANDUM

Ref: 21-7526

DATE: February 25, 2021
TO: Engineering Committee
FROM: Paul J. Bushee, General Manager 
SUBJECT: Update of the District's Hazard Preparedness and Mitigation Plan

RECOMMENDATION:

Staff requests that the Engineering Committee recommend that the Board of Directors:

1. Receive and file the 2021 Update of the Hazard Preparedness & Mitigation Plan completed by Titan Engineering & Consulting, LLC.
2. Discuss and provide direction as appropriate.

DISCUSSION:

Tactical Goal: Infrastructure and Technology / Hazard Mitigation Plan Update

Natural disasters such as floods, earthquakes and tsunamis occur with little warning and have the potential to be very destructive. Low laying coastal areas are especially susceptible to these catastrophes. Because wastewater collection systems primarily use gravity to perform their function efficiently, collection nodes are typically in areas of low elevation which are at high risk for natural disasters. For example, Batiquitos Pump Station which is located between the Pacific Ocean and Batiquitos Lagoon is at high risk to sustain considerable damage from a tsunami. Other assets are vulnerable to earthquakes, flooding and wildfire. To reduce the risk and minimize the effects of a natural disaster, staff retained Kristin Norton (Titan Engineering & Consulting, LLC) to assist with updating the District's Hazard Preparedness & Mitigation Plan (HMP). It should be noted that Ms. Norton developed the initial HMP in May 2015.

To accomplish this task, baseline data of the natural hazards that could affect the District's infrastructure and asset vulnerability was updated and reviewed. Then mitigation strategies were developed to reduce the risks resulting from those natural hazards. Finally, the recommended mitigation measures were prioritized for implementation. Attached please find the HMP's Executive Summary for your review. A copy of the complete HMP is available upon request.

Ms. Norton will present an overview of the HMP at the upcoming meeting.

rym:PJB

Attachment

1. EXECUTIVE SUMMARY

The Leucadia Wastewater District (District) originally developed a Hazard Preparedness and Mitigation Plan in 2015 in order to identify potential natural hazard vulnerabilities and prioritize hazard mitigation action items on a hazard-level, vulnerability and probability basis. The overall goal of the Plan is to reduce the potential for damage to District assets from natural hazards, which provides protection for the environment and public health due to wastewater discharges.

Hazard mitigation planning is a dynamic process built on realistic assessments of past and present information that enables the District to anticipate future hazards and provide mitigation strategies to address possible impacts and identified needs. The overall approach to the Hazard Preparedness and Mitigation Plan included developing a baseline understanding of the natural hazards to the District, determining ways to reduce those risks, and prioritizing mitigation recommendations for implementation.

Since the 2015 plan development, mapping for sea level rise has improved as data has become more readily available. This plan update incorporates this new data, as well as the most recent GIS data for natural hazards from the San Diego Geographic Information Source (SanGIS). Additionally, this plan update also includes the ongoing projects the District has implemented to mitigate natural hazards, including installation of submersible pumps, vegetation management, and installation of flexible couplings at railroad crossings.

Hazard Identification and Risk Assessment

Located in a Southern California coastal community, the District is vulnerable to a wide range of natural hazards. In order to conduct a risk assessment, the following steps were followed:

1. Identifying Hazards – Reviewing past natural hazard incidents, available disaster archives, technical studies, etc. to determine which hazards pose a threat to the service area.
2. Profiling Hazards – Mapping identified hazards and their geographic extent.
3. Identifying Vulnerable Assets – Identifying District facilities that are located within identified hazard vulnerability zones.

Hazard Vulnerability Analysis

Vulnerability describes how exposed or susceptible to damage a facility is, and is dependent upon the facility construction, location, and the percentage of service area served. The vulnerability analysis predicts the extent of damage and environmental impact that may result from a hazard event of a given intensity in a given area on the existing District facilities. Each facility located within an area vulnerable to natural hazards was evaluated to determine the potential impact to the facility (e.g., inundation can damage facility electrical and controls, earthquake can cause physical damage and/or collapse, loss of

function can result in environmental sewer system overflow, etc) and the environmental impact in terms of fines.

The table on the following page provides an overview of the District facilities and the associated vulnerability to natural hazards.

Leucadia Wastewater District

Facility	Earthquake	Liquefaction	Wildfire	Tsunami	Severe Storm / Flood	Sea Level Rise	Dam Failure	Rain Induced Landslide
Avocado Pump Station	X							
Batiquitos Pump Station	X	X		X		X		
Diana Pump Station	X							
Encinitas Estates Pump Station	X							
La Costa Pump Station	X	X						
Leucadia Pump Station	X							
Rancho Verde Pump Station	X							
Saxony Pump Station	X		X			X		
Village Park 5 Pump Station	X							
Village Park 7 Pump Station	X							
Piping / Force Mains	X	X						X

Mitigation Strategies

Mitigation strategies are administrative and engineering project recommendations to reduce the vulnerability to the identified hazards and/or reduce the damage and environmental impact of the hazard. It was imperative to have engineers and vital District employees involved in this phase of the plan in order to develop strategies and projects that will mitigate the hazard and solve the problem cost-effectively, as well as ensure consistency with the District's long-term mitigation goals and capital improvements. The potential mitigation projects were reviewed in a team-setting to ensure the projects are aligned with District objectives.

The priority for implementing the mitigation recommendations depends upon the overall priority for the hazards mitigated by implementing the recommendation (and associated potential losses). Therefore, projects that provide all-hazard mitigation are prioritized above recommendations that provide mitigation for select hazards. To prioritize the hazard specific recommendations, each recommendation was assigned a priority rank based timeframe for implementation (high priority, medium priority, and long-term mitigation).

The table below provides a list of mitigation projects for consideration:

Mitigation Recommendations		
Recommendations	Facilities Protected	Hazard Mitigated
High Priority Recommendations		
<p>1. Evaluate the feasibility of dry flood-proofing the Batiquitos Pump Station, including the installation of flood-proof doors and ensuring all hatches are water tight. Also, consider flood-proofing the area around the pump station vents to minimize water carryover through the vents.</p> <p><i>Note: The BPS Rehabilitation Project is currently scheduled for Spring 2021, which includes the installation of dry pit submersible pumps and relocation of the emergency generator.</i></p>	Batiquitos Pump Station	Tsunami, Flood, Sea Level Rise, Severe Storm

Leucadia Wastewater District

Mitigation Recommendations		
Recommendations	Facilities Protected	Hazard Mitigated
2. Provide flood protection for the electrical / control components at the Saxony Pump Station.	Saxony Pump Station	Tsunami, Flood, Sea Level Rise, Severe Storm
3. Develop detailed site specific flood response and contingency plans Batiquitos and Saxony Pump Stations.	Batiquitos & Saxony Pump Stations	Tsunami, Flood, Sea Level Rise, Severe Storm
Medium Priority Recommendations		
None identified.		
Long Term Recommendations		
1. Evaluate more robust long-term flood-proofing solutions for the Batiquitos Pump Station, possibly including building a wall around the pump station (may be subject to political and environmental limitations) or relocation of the pump station.	Batiquitos Pump Station	Tsunami, Flood, Sea Level Rise, Severe Storm
2. Evaluate elevating pump stations and emergency generators as they are rehabilitated or in new construction to account for potential sea level rise.	Batiquitos, Saxony, La Costa & Leucadia Pump Stations	Sea Level Rise
3. Review detailed engineering analysis for the force mains at the railroad crossing and Pacific Coast Highway Bridge and L2 Force Main on the La Costa Avenue railroad bridge to ensure the design considered seismic hazards and follows good engineering practices (e.g., flexible restrained joints, lateral supports, anchorage redundancy, etc.).	Force Mains	Earthquake

New projects this week: 0
Total active projects: 14

LEUCADIA WASTEWATER DISTRICT
Development Services Greater than 5 EDUs
Feb-2021

District Location Code		Project Name	Project Description	Status
3252-	0929	CASCADA VERDE	Development with Sewer Connection	In-Review.
3252-	0943	LEUCADIA STREETScape	Streetscape Plan Check	In Review.
3252-	0996	ENCINITAS BEACH HOTEL	Development with Sewer Connection	Lateral connections complete. Storm drain inspection complete. Finalizing punch list.
3252-	1006	Jason Street Storm Drain	Utility Conflict	Waiting on mylars. Project on hold pending funding.
3252-	1015	Orpheus Avenue Drainage Improvements	Utility Conflict	In Review. Provided PC1 and now waiting on City of Encinitas.
3252-	1032	Weston Annexation	Annexation/Subdivision with Sewer Connection	In Review. Waiting on plan submittal.
3252-	1033	1528 N. Coast Highway	Development with Sewer Connection	Plans approved. Inspection ongoing.
3252-	1058	El Camino Real Building	Development with Sewer Connection	Plans approved. Construction start (lateral inspection) pending.
3252-	1074	City of Encinitas-Morning Sun & Woodside Lane	City CIP Project	Plans signed. Construction/inspection pending.
3252-	1079	City of Encinitas - Leucadia Blvd & Hygeia Roundabout	Public Street Improvement	In-Review
3252-	1104	City of Encinitas - N Coast Highway 101 Streetscape Pedestrian Crossing	City CIP Project	In-review.
3252-	1108	Segovia Way Pavement Project	City CIP Project	In-review.
3252-	1110	Shake Shack	Tenant Improvement	In-review.
3252-	1111	Marea Village 1900 & 1950 N Coast Hwy 101	Development with Sewer Connection.	In-review.