

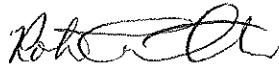
AGENDA

**ENGINEERING COMMITTEE MEETING
LEUCADIA WASTEWATER DISTRICT
Wednesday, May 6, 2015 – 8:30 a.m.
1960 La Costa Avenue, Carlsbad, CA 92009**

- 1. Call to Order**
- 2. Roll Call**
- 3. Public Comment**
- 4. New Business**
 - A. Receive and file the Hazard Preparedness & Mitigation Plan completed by Titan Engineering & Consulting, LLC. (Pages 2 - 8)
 - B. Authorize the General Manager to execute a proposed change order with Burtech Pipeline, Incorporated for additional work to adjust the alignment of the B1/B2 Force Mains for an amount not to exceed \$37,980. (Page 9)
 - C. Authorize the General Manager to execute a two-year extension to the DUDEK Professional Services Agreement for as needed engineering consulting services. (Pages 10 - 12)
 - D. Challenges posed by Storm Water Regulations. (Pages 13 - 15)
 - E. Discuss and provide direction on potential District security issues. (Page 16)
- 5. Information Items**
 - A. B1/B2 Force Mains Replacement Project update. (verbal)
 - B. Leucadia Pump Station Generator Replacement Project update. (verbal)
 - C. L2 Force Main Anode Replacement Project update. (verbal)
- 6. Director's Comments**
- 7. General Manager's Comments**
- 8. Adjournment**

MEMORANDUM

Ref: 15-4507

DATE: May 1, 2015
TO: Engineering Committee
FROM: Paul J. Bushee, General Manager  for PJB
SUBJECT: Hazard Preparedness and Mitigation Plan

RECOMMENDATION:

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

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

DISCUSSION:

The development of a Hazard Preparedness & Mitigation Plan is included as a goal under the Technology and Infrastructure Strategy in the Fiscal Year 2015 (FY15) Tactics & Action Plan.

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 use gravity to perform their function efficiently, collection points are typically in areas of low elevation which are at high risk for natural disasters. For example, District infrastructure around the 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 selected Kristin Norton (Titan Engineering & Consulting, LLC) to assist with developing a Hazard Preparedness & Mitigation Plan.

To accomplish this task, a baseline understanding of the natural hazards that could affect the District's infrastructure and asset vulnerability was established. Then mitigation strategies were developed to reduce the risks resulting from those natural hazards. Finally, the recommended mitigation measures were prioritized for implementation. The Executive Summary, attached, describes each of these steps and the results. It is provided for your review. A copy of the Plan is available upon request.

Ms. Norton will present the Hazard Preparedness & Mitigation Plan to the committee.

rym:PJB

Attachment

1. EXECUTIVE SUMMARY

The Leucadia Wastewater District has developed a Hazard Preparedness and Mitigation Plan 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.

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.

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).

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	Flood	Sea Level Rise	Dam Failure	Rain Induced Landslide
Avocado Pump Station	X							
Batiquitos Pump Station	X	X		X	X	X		
Diana Pump Station	X							
Encinitas Estates Pump Station	X							
La Costa Pump Station	X	X				X	X	
Leucadia Pump Station	X					X	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

4

Mitigation Strategies

Mitigation strategies are administrative and engineering project recommendations to reduce the vulnerability to the identified hazards. 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		
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.	Batiquitos Pump Station	Tsunami, Flood, Sea Level Rise, Severe Storm
2. Provide flood protection for the electrical / control components at the Saxony and La Costa Pump Stations.	Saxony & La Costa Pump Stations	Tsunami, Flood, Sea Level Rise, Severe Storm
3. Develop detailed site specific flood response and contingency plans for vulnerable facilities.	Batiquitos, Saxony, La Costa & Leucadia Pump Stations	Tsunami, Flood, Sea Level Rise, Severe Storm

Leucadia Wastewater District

Mitigation Recommendations		
Recommendations	Facilities Protected	Hazard Mitigated
Medium Priority Recommendations		
1. Conduct training for sewer system overflow scenarios at stations susceptible to flooding, possibly coordinating with local agencies that may assist with response.	Batiquitos, Saxony, La Costa & Leucadia Pump Stations	Tsunami, Flood, Sea Level Rise, Severe Storm
2. Implement vegetation management practices at the Saxony Pump Station (if possible due to environmental constraints) to provide an appropriate firebreak for the electrical and control equipment.	Saxony Pump Station	Wildfire
3. Survey the Batiquitos and Saxony Pump Station structures with respect to both datums (NAVD88 and NGVD29) to determine correlation to the sea level data.	Batiquitos & Saxony Pump Stations	Flood, Sea Level Rise
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. Incorporate sea level rise into planning into master planning and capital improvement programs to account for projected sea level rise.	Batiquitos, Saxony, La Costa & Leucadia Pump Stations	Sea Level Rise

Leucadia Wastewater District

Mitigation Recommendations		
Recommendations	Facilities Protected	Hazard Mitigated
4. Ensure that new sewer mains and manholes in low lying areas are sealed against floodwater inflow and groundwater infiltration. Expand programs to reduce inflow and infiltration through rehabilitation of sewer mains and manholes, prioritizing areas where risk of flooding is highest.	Force Mains & Manholes	Tsunami, Flood, Sea Level Rise, Severe Storm
5. Review detailed engineering analysis for the force mains at the railroad crossing and Pacific Coast Highway 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
6. Ensure the pipeline capital improvements program includes considerations for replacing piping vulnerable to earthquakes and/or other natural hazards.	Force Mains & Collection Pipelines	Earthquake
7. Evaluate whether the segment of the L1 force main located west of I-5 and east of the Pacific Coast Highway, in the area subject to landslide or cliff failure should be upgraded with materials more resistant to landslide (e.g., fusible PVC joints).	L1 Force Main	Landslide

2. INTRODUCTION

Hazard preparedness and mitigation planning is a dynamic process built on realistic assessments of past and present information that engages the Leucadia Wastewater District to anticipate future hazards and provide meaningful strategies to address possible impacts and identified needs. The overall approach to the hazard preparedness and mitigation plan development includes developing a baseline understanding of the natural hazards, identifying the potential risks to critical assets, determining ways to reduce those risks, and prioritizing those recommendations for implementation when considering both risk and benefit.

3. PLAN GOALS & OBJECTIVES

The primary goals and objectives of the plan are outlined below:

- Quantify the risk of public health impacts due to sewer system overflows and/or backing up into residences and businesses.
- Quantify the risk of discharge of untreated sewage into a receiving water due to loss of function of the collection system.
- Quantify the potential direct damage (and associated economic loss) due to a major hazard event.

4. DISTRICT OVERVIEW

4.1. SERVICE AREA DESCRIPTION

The Leucadia Wastewater District covers a total service area of 10,200 acres (16 square miles) which includes southern portions of the City of Carlsbad and northern portions of the City of Encinitas. The District provides wastewater collection, treatment, disposal and service to a population of approximately 60,000. The Leucadia Wastewater District's existing wastewater system encompasses approximately 200 miles of gravity sewer pipeline, 5,000 manholes, ten pump stations and 16 miles of force mains, and a water recycling plant.

MEMORANDUM

DATE: May 1, 2015
TO: Engineering Committee
FROM: Paul J. Bushee, General Manager *Robert O. for PJB*
SUBJECT: **Batiquitos (B1/B2) Force Main Replacement Project Proposed Change Order**

RECOMMENDATION:

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

1. Authorize the General Manager to execute a change order with Burtech Pipeline, Incorporated for additional work to adjust the alignment of the B1/B2 Force Mains for an amount not to exceed \$37,980.
2. Discuss and take other action as appropriate.

DISCUSSION:

On October 20, 2014, Burtech Pipeline, Incorporated (Burtech) commenced construction of the Batiquitos (B1/B2) Force Main Replacement Project. The project alignment called for B1/B2 to cross diagonally through the middle of the intersection of Coast Highway 101 (Hwy 101) and Breakwater Lane (Breakwater) from the abandoned roadway west of Hwy 101 to Ponto Drive (the frontage road west of Lanikai Lane Mobile Home Park). Prior to construction through the intersection, Burtech potholed the area to accurately locate identified underground utilities in accordance with contract requirements. Based on the results of the potholing, the B1/B2 alignment through the intersection required modification to resolve conflicts caused by the actual location of buried utilities. The modification added six additional angle points (restrained joints), four for horizontal realignment and two for vertical realignment. The configuration and design of the B1/B2 realignment required quick action to prevent project delay. The change order is for the additional fittings and labor required for installation. The time and material costs for this work is \$37,978.26.


The work and costs associated with this change order have been reviewed by staff and are considered to be fair and reasonable. Therefore, staff requests Board approval of the change order to adjust the alignment of the B1/B2 Force Mains to avoid conflicts with buried utilities. To date, three (3) change orders have been approved for a total of \$18,671. The approval of this change order will result in a new change order total of \$56,649 which is 1% of the original contract amount of \$4,590,000.

FISCAL IMPACT:

There are sufficient funds in the Batiquitos B1/B2 Force Mains Replacement Project construction account to cover this change order.

rym:PJB

MEMORANDUM

DATE: May 1, 2015
TO: Engineering Committee
FROM: Paul J. Bushee, General Manager  for PJB
SUBJECT: DUDEK Contract Extension for Engineering Services

RECOMMENDATION:

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

1. Authorize the General Manager to execute a two-year extension to the DUDEK Professional Services Agreement for as needed engineering consulting services.
2. Discuss and provide direction as appropriate.

DISCUSSION:

In June 2012, the District entered into a Professional Services Agreement with DUDEK for District Engineer services. The initial contract period was for 3 years with an option to extend for 2 additional years. These terms were selected for efficiency and to allow for continuity of service beyond the initial term should it be warranted by DUDEK's performance.

The initial three-year period of the DUDEK agreement will expire on June 30, 2015. Based on DUDEK's performance and commitment to the District, staff is recommending that the option for a two-year contract extension be executed. The proposed Amendment No. 1 is attached for your review.

Overall, DUDEK has performed well and they are recognized as a valuable asset to our District.

Therefore, staff requests that the Engineering Committee recommend that the Board of Directors authorize the General Manager to execute a two-year extension to the DUDEK Professional Services Agreement for engineering consulting services.

cal:PJB

Attachment

**AMENDMENT NO. 1
TO THE AGREEMENT BETWEEN
THE LEUCADIA WASTEWATER DISTRICT
AND
DUDEK
FOR ENGINEERING CONSULTING SERVICES**

This Amendment No. 1 to the AGREEMENT is made and entered into this _____ day of May, 2015 by and between the Leucadia Wastewater District, hereinafter referred to as DISTRICT, and DUDEK, hereinafter referred to as CONSULTANT.

WHEREAS, the DISTRICT and CONSULTANT entered into a three (3) year AGREEMENT for **Engineering Consulting Services** on June 21, 2012; and

WHEREAS, said AGREEMENT expires on June 30, 2015; and

WHEREAS, said AGREEMENT includes an option to renew or extend the AGREEMENT for two (2) additional years; and

WHEREAS, DISTRICT has determined it would be most efficient to amend the AGREEMENT to extend the period of services from July 1, 2015 to June 30, 2017 or a period of two (2) years.

NOW THEREFORE, in consideration of their mutual promises, obligations, and covenants hereinafter contained, DISTRICT and CONSULTANT agree to amend the AGREEMENT as follows:

ARTICLE 1. TERM OF CONTRACT

Article 1: TERM OF CONTRACT, Section 1.01 shall be amended to read as follows:

1.01 The term of this AGREEMENT shall be extended for a two (2) year period commencing on July 1, 2015 and ending on June 30, 2017, or until terminated as provided under Article 7.

ARTICLE 4: COMPENSATION

4.01 Compensation for all work performed under Amendment No. 1 shall be calculated on a time and materials basis. Compensation for the services performed during this extension period shall not exceed Two Hundred Forty Thousand dollars (\$240,000). This amount shall be added to the initial AGREEMENT amount to bring the total not to exceed amount for the AGREEMENT to \$600,000. This amount shall not be exceeded unless there is a change in scope of work, in writing and agreed to by both parties.

EXHIBIT A SCOPE OF WORK

As allowed in the AGREEMENT, the hourly rates for Steve Deering and Michael Metts have been reviewed and have mutually been agreed to increase from \$205 per hour to \$215 per hour for the two-year extension commencing July 1, 2015.

All other terms and conditions of the AGREEMENT shall remain unchanged.

IN WITNESS WHEREOF, the parties hereto caused this AGREEMENT to be executed the day and year first above written.

DUDEK

LEUCADIA WASTEWATER DISTRICT

By: _____
Frank Dudek, President

By: _____
Paul J. Bushee, General Manager

MEMORANDUM

Ref: 15-4509

DATE: May 1, 2015
TO: Engineering Committee
FROM: Paul J. Bushee, General Manager *Robt Bushee for PJB*
SUBJECT: **Challenges Posed by Storm Water Regulations**

RECOMMENDATION:

1. Discuss and provide direction as appropriate

DISCUSSION:

During the discussion of future District challenges at the February 2015 Board Strategic Planning session, District Engineer Steve Deering (DE Deering) raised the issue of storm water regulations as a possible future challenge to the District. DE Deering has identified three potential storm water issues that may impact the District as follows:

- General Permit for Industrial Storm Water Discharge
- Sewer Overflow Monitoring Plan
- Municipal Separate Storm Sewer System (MS4) Priorities

The attached summary provides further detail on these issues. DE Deering will present this item for discussion by the Engineering Committee prior to discussion and consideration by the Board of Directors.

rym:PJB

Leucadia Wastewater District – NPDES Stormwater Considerations Summary

At the Board workshop of February 18, 2015, the District Engineer offered that there is increasing attention being paid to non-point source pollution statewide. There are new stormwater regulations that do not currently require immediate additional compliance by LWD, however, it is anticipated that there may be increasing regulation and review of wastewater agency facilities related to stormwater management. As LWD already has a pro-active Sewer System Monitoring Plan and wastewater system asset management and replacement program in place, this will simply be an area to monitor and comply if additional sewer system data requests or requirements arise in the future.

In the past there has been a national and statewide focus on National Pollutant Discharge Elimination System (NPDES) point-source treatment plant discharges. More recently, there is a national and statewide focus on non-point source pollution. Wastewater collection systems may become a target for review by agencies responsible for stormwater NPDES compliance. LWD has a proactive condition assessment and asset management program in place to limit risk of pollution and liability in this area.

A review of stormwater related NPDES regulatory requirements that may impact the Leucadia Wastewater District was made. Following is a brief summary of the three areas of stormwater regulation that may be of future interest.

Industrial General Permit. There have been ongoing reporting requirements related to the Industrial General Permit for the District Headquarters and Gafner Water Recycling Facility property. In the past, the District filed a Storm Water Pollution Prevention Plan (SWPPP) on line and completed on-line required sampling and reporting at periodic intervals. There is little change to past procedure to continue compliance. Preparation of an updated filing by staff is in process and is due July 1, 2015.

What is new: Information will now be available to the public through the Storm Water Multi-Application Reporting and Tracking System (SMARTS) website. Having the required reporting on the SMARTS website opens up potential for third-party lawsuits for non-compliant agencies. Since the District already complies with reporting requirements, and monitoring results have been within required limits, there is no anticipated need for change to ongoing procedures.

Sewer Overflow Monitoring Plan. The District has a Sewer System Management Plan (SSMP) dated July 31, 2014. The SSMP has an existing Overflow Emergency Response Plan that is based on the size of a spill. The plan requires coordination with the regulatory agencies to determine sample number, locations, frequency, and type of analyses to determine environmental impact of a spill. The “small spill” plan must be a written, include protocol, and be carried out within the first 24 hours. If a spill occurred in the future greater than 50,000 gallons, the existing LWD SSMP SSO Water Quality Monitoring Program (WQMP) would be implemented in accordance with the SSO Technical Report Outline. The SSO Technical Report for a large spill would require:

1. Baseline water quality data, monitoring, and protocol documentation
2. Sampling design to account for spill travel time and access

Leucadia Wastewater District – NPDES Stormwater Considerations Summary

3. Field and laboratory quality assurance / quality control measures
4. Spill response monitoring within 48 hours of a 50,000+ gallon spill

What is a new: Stormwater and other interested parties have already collected background surface water quality data at various surface water sampling locations. As needed, these data may be used to support the existing LWD SSO Water Quality Monitoring Program by helping to establish existing baseline receiving water quality data. If the receiving water is already bacteriologically impaired, then this data may already be on file and could be provided by LWD as background information with required SSO reporting.

Municipal Separate Storm Sewer System (MS4) Priorities. The new Municipal Separate Storm Sewer System (MS4) NPDES regulatory framework focuses City and County agencies responsible for stormwater on identifying and addressing priority pollutants in each watershed. Throughout the County, bacterial indicator pollutants have been identified as a top priority. Stormwater agency compliance for this constituent will be based on reducing bacteria concentrations in receiving waters. LWD already has a proactive sewer system condition assessment and asset management strategy to limit potential for bacterial waterways impairment. Nevertheless, it is possible that the local stormwater agencies, Encinitas and Carlsbad, may request assistance in the future with taking a closer look at sewer pipelines/infrastructure as a potential source of bacteria contribution to waterways. This does not require any current LWD action.

MEMORANDUM

Ref: 15-4485

DATE: May 1, 2015
TO: Engineering Committee
FROM: Paul J. Bushee, General Manager
SUBJECT: Potential District Security Issues

Robert O. [unclear] for PJB

RECOMMENDATION:

1. Discuss and provide direction as appropriate

DISCUSSION:

During the April 2015 Board meeting, President Juliussen requested that the May Engineering Committee Agenda include an item to discuss potential security issues at the District.

The purpose of this agenda item is to allow the Engineering Committee to discuss this item prior to consideration by the Board of Directors and provide direction to staff as appropriate.

rym:PJB