Climate Change Policy

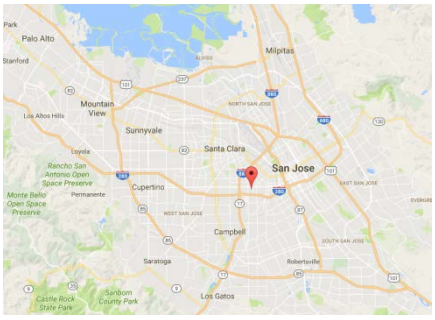
Burbank Sanitary District

December 2018

TABLE OF CONTENTS

1.0 Introduction

1.1 Background



The Burbank Sanitary District (BSD) consists of two non-contiguous unincorporated areas of Santa Clara County which are surrounded by the City of San Jose. BSD is located north of I-280 and east of I-880 and serves properties in an area mainly from Forest Avenue south to Moorpark Avenue and from Bascom Avenue east to Richmond Avenue.

Established in 1940, the Burbank Sanitary District is a special district organized under the California Health and Safety Code and the Sanitary Act of 1923. The District is governed by a Board of five members, elected to four-year terms, which meets monthly at regular board meetings and with special meetings being called as necessary.

Services Provided: Solid waste removal, sewer collection, and disposal services within the District's boundaries. The District contracts with GreenWaste Recovery for the disposal of solid waste and with City of San Jose for the treatment and disposal of waste water at the San Jose-Santa Clara Regional Wastewater Facility.

Estimated Service Population: 3,756 and approximately 1,623 rate payers

Service Area: 0.28 square miles

Service Collection Sewer Lines: 8 miles

Gallons of Sewage Transports: 336,000 gallons/day

District's Collection System: 95% installed prior to 1955

Collection System Served Years: 61 years

2016 Collection System Conditions: Bad, in need of repairs/rehabilitation

Proposed Rehabilitation Pipe Length: 1.135 mile (5,994 ft)

1.2 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (GHG) emissions, particularly those generated from the production and use of fossil fuels.

There are typically two terms used when discussing the impacts of climate change: “Greenhouse Gas Mitigation” and “Adaptation.” "Greenhouse Gas Mitigation" is a term referring to the reduction or mitigation of GHG emissions to mitigate the impact of climate change. “Adaptation" refers to the effort of planning for and adapting to the impact resulting from climate change, such as adjusting design standards to withstand more intense storms and higher

sea levels.

There are two primary strategies for reducing GHG emissions from wastewater sources: 1) improving the wastewater system and its operational efficiencies and 2) construction phase.

To be most effective, these strategies must be pursued cooperatively.

Wastewater System and Operational Efficiencies

An individual project generates insufficient GHG emissions to significantly influence global climate change. Rather, global climate change results from cumulative impact. This means that a project may contribute to a potential impact through its *incremental* change in emissions when combined with the contributions of all other sources of GHG. Operational efficiencies include reducing travel time activities by employees, transitioning to lower GHC-emitting fuels and improving wastewater technologies.

Construction Phase

Greenhouse gas emissions for wastewater projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by on-site construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

Additionally, innovations such as the use of equipment and material with greater durability, improved operation management plans, and changes in materials, the GHG emissions produced during construction can be mitigated by longer intervals between maintenance and rehabilitation events. Currently, Burbank Sanitary District has not adopted GHG significance thresholds that apply to construction activities.

1.3 Policy

Although the full impact of climate change has yet to be realized, the District must plan for climate change to ensure that it can continue to provide reliable, high quality wastewater services to its customers. It is therefore a necessary component of the District's Long-Term Strategic Plan to ensure the District prepares for the impact of climate change and mitigates its activities to reduce any potential negative effect on climate change.

This document provides the District with a background understanding of potential climate change threats. It also supports the preparation of adaptation strategies while guiding the mitigation of the District's greenhouse gas emissions that contribute to climate change.

The science of climate change is still developing; consequently, the District's work to address climate change will continue to evolve as the science of climate change is better understood, and

the District will adapt to changes in the environment.

The District's work on climate change is an interdepartmental effort led by the Management, Operations and Maintenance Department.

1.4 Accomplishments

The District leads the sewer industry in its implementation of a climate change policy and the subsequent impact of that policy in sewer construction activity. Burbank Sanitary District fully supports an ecologically sustainable approach (going green) in fulfilling its mission and has initiated a planning effort for mitigating climate change. The following highlights some of its accomplishments.

- BSD is partnering with City of San Jose for the sewer treatment and disposal facility. The District has supported the City of San Jose with the adoption of the 2013 San Jose-Santa Clara Wastewater Facility Master Plan which includes many of the features discussed above to improve wastewater and operational efficiencies.

- The District has implemented a clean recycling program with GreenWaste, its recovery provider.

- A 10-year Capital Improvement Plan (CIP) has been developed to improve the district infrastructure in order to minimize soil contamination by sewer extraction, avoid excess diluted sewers from infiltration, groundwater contamination, and sanitary sewer overflows causing discharges of untreated sewage into the nearby creeks. As part of the District's adopted 10-year CIP program, two projects have been completed to date with a 15% rate increase per year for the next five-year period. The Olive Street Project and the Arleta/Irving Street Project corrected infiltration and inflow issues by replacing the existing pipes via pipe bursting, and correcting offsets at pipe joints and manholes. There are eight more projects that are needed to complete repairs. However, the District, even with the 15% per year rate increases, cannot fund the needed projects to completion and is seeking financing sources.

1.5 Action Plan Overview

The District's overall climate change strategy includes developing a plan to inform the District's future wastewater supply, water quality, and infrastructure planning, as well as supporting resilient, durable infrastructure investment decisions, while mitigating District GHG emissions that contribute to climate change. This strategy will be accomplished through the following objectives:

- Assess climate change science and develop scenarios that illustrate a range of impacts from key variables including temperature rise, sea level rise, precipitation, and runoff

- Use the scenarios to identify critical infrastructure vulnerabilities and make

cost-effective infrastructure investments adaptable to a range of foreseeable conditions (i.e., “no regrets” investments)

- Support the City of San Jose’s efforts towards reducing operational and infrastructure greenhouse gas emissions and participating in carbon credit generating programs
- Support the City of San Jose in promoting the cost-effective use and generation of renewable energy within the District’s water and wastewater system operations consistent with District Policies
- Educate policymakers on District and industry climate change concerns and interests, and advocate for appropriate legislation and regulatory changes
- Inform the public how the District is affected by and responding to climate change

2.0 Impacts and Vulnerabilities

This section evaluates the District’s services and operations that could potentially be affected by climate change and identifies potential vulnerabilities to the District’s critical facilities.

Overview of Operations and Services Provided by the District

The District provides two types of services: solid waste collection and wastewater collection/treatment.

Potential Impacts on Climate Change

Climate change may have the following impacts:

- Increasing average atmospheric temperature
- Increasing or decreasing precipitation
- Sea level rise
- Increased variability in runoff patterns
- Increasing heat wave duration, frequency, and intensity
- Increase in water demand
- Increasing growing season length
- Shifting jet stream
- Increasing forest fires

These effects may result in the following changes:

- Increased average annual atmospheric temperatures and heat wave days
- Increased water temperatures

- Changes in the timing, intensity, location, and amount of precipitation
- Increased evaporation
- Long-term changes in vegetation
- Changes in source water quality – increased recycling

Potential Impacts and Consequences to Operations and Services provided by the District

Potential Impacts	Expected Consequences	
	Operations & Services	**Expected Consequences**
Increased temperatures & heat wave days	Demand - Non-residential	Increases in commercial landscape irrigation and commercial and industrial cooling Changes in season demand patterns (food processing, irrigation)
	Demand - Residential	Increases in water demand (due to increased net evapotranspiration) Changes in seasonal demand patterns (primarily irrigation)
• Change in the timing, intensity, location & amount of precipitation • Sea level rise	Operations	Increased difficulty and cost in treatment due to degraded water quality (taste & odor; sediment) More stringent regulations Increase in O&M cost to prevent/treat invasive species Increase in potential for intrusion into drinking aquifers (groundwater) Greater challenges for reservoir management and balancing the competing concerns of flood protection and water supply Shorten facility life cycles due to higher usage - to treat and to deliver - to meet higher demands Changes in demand patterns potentially offsetting storage to demand ratio Increase in energy usage and costs to meet higher seasonal demand

Potential Impacts	Expected Consequences	
	Operations & Services	**Expected Consequences**
• Sea Level Rise • Change in the timing, intensity, location & amount of precipitation	Wastewater Collection	Increase in energy usage due to increased infiltration and inflow Increase in corrosion rates due to lower wastewater flows and longer residence times in collection systems Increased vulnerability to sanitary sewer overflows due to increased intensity of precipitation events
• Increased temperatures • Change in the timing, intensity, location & amount of precipitation	Wastewater Treatment	Increase in wastewater contaminant concentrations, possibly impacting biological treatment processes, due to reduction in wastewater flows caused by decreased runoff and water conservation under drought conditions Increase in stormwater infiltration and inflow, caused by increases in rainfall intensity during wet weather, resulting in higher peak flows at treatment plants

3.0 Mitigation and Adaptation

The sources of GHG emissions are primarily related to electrical energy generation, transportation, industrial and agricultural processes, and land use practices (e.g., deforestation). According to the IPCC Fifth Assessment Report, mitigation, in the context of climate change, is human intervention to reduce the sources or enhance the sinks of GHGs. The goal is to achieve the stabilization of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.

3.1 BSD Mitigation Goals

The District's emissions are very small compared to those of many other industries, and compared to state, national, and global emissions; therefore, by itself, the District cannot have a significant or measurable impact on global climate change. Nevertheless, BSD will take steps to reduce its carbon footprint because:

3.1.1 BSD is an environmentally responsible agency and as such seeks to minimize any potentially negative impact fulfilling its mission may have on the environment.

3.1.2 The District has policies on water efficiency, sustainability and renewable energy to minimize and mitigate our environmental impacts.

3.1.3 The District endorses reducing energy use and making operations more efficient, both of which mitigate climate change and ultimately reduce operating costs.

3.2 Construction Phase – Climate Change Mitigations

During construction, short-term degradation of air quality may occur due to the release of particulate emissions (airborne dust) generated by excavation, hauling, backfilling and various other activities. Emissions from construction equipment also are anticipated and would include CO, NOx, volatile organic compounds (VOCs), PM10 and PM2.5, and toxic air contaminants such as diesel exhaust particulate matter. Ozone is a regional pollutant that is derived from NOx and VOCs in the presence of sunlight and heat.

In addition to dust-related PM10 emissions, construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NOx, VOCs and some soot particulate (PM10 and PM2.5) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction site.

Construction mitigation includes strategies that reduce engine activity or reduce emissions per unit of operating time. District operational specifications requires reducing or redirecting work, or shifting work times, to avoid community exposures when sites are near vulnerable populations. For example, specifications that stress work activity outside normal hours of an adjacent school campus would be operations-oriented mitigation.

The District will require implementation of the following measures to reduce any air quality impacts resulting from construction activities:

- The construction contractor shall submit the following certification before performing the work:

  > I am aware of the emissions reduction regulations being mandated by the California Air Resources Board. I will comply with such regulations before commencing the performance of the work and maintain compliance and records throughout the duration of the Construction Contract.

- Water or a dust palliative will be applied to the site and equipment as frequently as necessary to control fugitive dust emissions.
- Soil binder will be spread on any unpaved trench used for construction purposes, and all project construction parking areas.

- Trucks will be washed off as they leave the right-of-way as necessary to control fugitive dust emissions.
- Construction equipment and vehicles shall be properly tuned and maintained. Low-sulfur fuel shall be used in all construction equipment as provided in California Code of Regulations Title 17, Section 93114.
- Develop a dust control plan documenting sprinkling, temporary paving, speed limits, and expedited trench paving to minimize construction impacts to existing communities.
- Locate equipment and materials storage sites as far away from residential and park uses as practical. Keep construction areas clean and orderly.
- Use track-out reduction measures such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic.
- Cover all transported loads of soils and wet materials prior to transport, or provide adequate freeboard (space from the top of the material to the top of the truck) to reduce PM10 and deposition of particulate during transportation.
- Remove dust and mud that are deposited on paved, public roads due to construction activity and traffic to decrease particulate matter.
- To the extent feasible, route and schedule construction traffic to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.

3.3 Best Management Practices – Climate Change Mitigations

District policy for Best Management Practices includes the following elements:

- Wind erosion control practices
- Temporary inlet, entrances and outlet tire wash
- Non-storm water management
- Dewatering
- Water conservation
- Spill prevention control
- Solid waste disposal and management
- Illicit discharges and connections
- Material manufacturing

3.4 Post-Consumer Waste – Climate Change Adaptation

The District supports technological options to reduce GHG emissions from post-consumer waste. Composting can eliminate greenhouse gas emissions from landfill and reduce overall GHGs from solid waste. It is the organic material in landfill that produces methane. Contrary to the

decomposition that happens in a landfill which emits methane, composting is aerobic, which emits carbon dioxide which has comparatively lesser greenhouse gas potential per atom of carbon emitted. Additionally, the use of compost increases carbon sequestration, decreases the need for irrigation by as much as 70%, and reduces the need for chemical fertilizers.

Among the causes of climate change, food waste is perhaps the easiest to manage, the one where everyone can make an impact in their daily lives. The District encourages planning meals, buying locally, and composting food scraps to reduce our carbon footprint.

3.5 Post-Consumer Clean Recycling – Climate Change Adaptation

The District and GreenWaste Recycling are working to achieve zero contamination of recycling materials. GreenWaste has added automated Artificial Intelligence (AI) equipment, additional staff to the sorting line, and inspects the loads that come into the Material Recovery Facility. In addition, the District and GreenWaste are bolstering education of residents and businesses by launching the "Keep it Clean" campaign.

3.6 Insect and Cockroach Infestation – Climate Change Adaptation

With elevated temperatures, insect and cockroach infestations will increase. The District is committed to providing routine annual maintenance and cleaning of the sewer pipes to reduce infestation without the use of chemicals. Moving forward, it is anticipated that more frequent cleaning of the sewer mains could achieve infestation reduction.

4.0 Public Outreach and Education

The District recognizes that ratepayers' participation is a critical component of healthy sewer and solid waste management. Providing the opportunity for ratepayers' input encourages citizens to be invested in the future of the Burbank community and helps ensure that recommendations developed as part of the Comprehensive Master Plan Update are implemented and sustained over time.

This Public Outreach Plan (POP) describes how ratepayers, project partners, and stakeholders will be engaged. The POP serves as a guide for community involvement and is subject to change as opportunities for additional community participation arise.

Goals and objectives of the outreach process are:

- Engage ratepayers both in the collection of solid waste disposal and sewer collection and treatment
    - Participate and provide input/feedback for the improvements to the San Jose-Santa Clara Wastewater Facility Master Plan

implementation

  - Partner with Community to reduce solid waste and e-waste by promoting donations prior to Spring Clean Up Day
  - Partner with GreenWaste Recovery and ratepayers to promote composting

- Generate feedback from ratepayers that can be used to inform District-wide campaigns, goals, and objectives
- Generate feedback that will guide goal-setting and prioritization within the District
- Identify key project participants and groups to be engaged as part of the process
- Integrate early outreach to stakeholders to serve as the foundation for public engagement
- Identify preliminary issues and opportunities within the community
- Identify appropriate levels and methods of public engagement

BSD continues to work to inform the public and ratepayers about climate change, potential impacts to the District, and actions the District is taking. As part of the District's ongoing outreach initiatives, information regarding our response to climate change will be made available on the District's website as it is developed.