

RESOLUTION NO. 2020-417

**A RESOLUTION OF THE BOARD OF SOUTH SAN LUIS OBISPO COUNTY SANITATION
DISTRICT ADOPTING THE 2020 UPDATE TO THE LOCAL HAZARD MITIGATION PLAN**

WHEREAS, on August 05, 2020, pursuant to Federal Disaster Mitigation Act of 2000, the District has prepared an updated 2020 Local Hazard Mitigation Plan to identify the risks to lives and property created by natural and artificial hazards to the District, and to formulate a set of goals, objectives and actions to mitigate risks created by these hazards; and

WHEREAS, an adopted Local Hazard Mitigation Plan is required as a condition of future funding for mitigation projects under multiple Federal Emergency Management Agency (FEMA) pre- and post-disaster mitigation grant programs;

WHEREAS, the District, in coordination with the County of San Luis Obispo, all local Municipalities, Community Service Districts, and local Sanitation Districts participated in the FEMA-prescribed mitigation planning process to prepare a Multi-Jurisdictional Hazard Mitigation Plan; and

WHEREAS, the California Office of Emergency Services and FEMA officials have reviewed the San Luis Obispo County Multi-Jurisdictional Hazard Mitigation Plan and approved it contingent upon this official adoption of the participating governing bodies;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of South San Luis Obispo County Sanitation District:

1. The Board adopts the San Luis Obispo County Multi-Jurisdictional Hazard Mitigation Plan, and in particular, the Local Hazard Mitigation Plan for the South San Luis Obispo County Sanitation District as outlined in Annex T; and
2. The District will submit this adoption resolution to the County of San Luis Obispo to be included with the submissions to the California Office of Emergency Services and FEMA officials to enable the plan's final approval in accordance with requirements of the Disaster Mitigation Act of 2000.

PASSED AND ADOPTED at a regular meeting of the South San Luis Obispo County
Sanitation District held August 5, 2020.


BOARD CHAIR

ATTEST:



APPROVED AS TO FORM:

BY: 
DISTRICT COUNSEL

CONTENTS:

BY: 
DISTRICT ADMINISTRATOR



T.1 District Profile

T.1.1 Mitigation Planning History and 2019 Process

This Annex was created during the development of the 2019 San Luis Obispo County Hazard Mitigation Plan Update. The South San Luis Obispo County Sanitation District was previously part of the Multi-Jurisdictional Local Hazard Mitigation Plan for the cities of Grover Beach, Arroyo Grande, and Lucia Mar Unified School District which was approved by FEMA in December 2015. The previous mitigation plan was not incorporated into other District planning mechanisms.

The Plant Superintendent of the South San Luis Obispo County Sanitation District (South SLO County Sanitation District, or the District) was the representative on the county Hazard Mitigation Planning Committee and took the lead for developing the plan and this annex in coordination with the South SLO District Local Planning Team (Planning Team). The local (District) Planning Team will be responsible for implementation and maintenance of the plan.

Table T.1 South San Luis Obispo County Sanitation District Hazard Mitigation Plan Planning Team

Department or Stakeholder	Title
South SLO County Sanitation District	Plant Superintendent
South SLO County Sanitation District	District Administrator

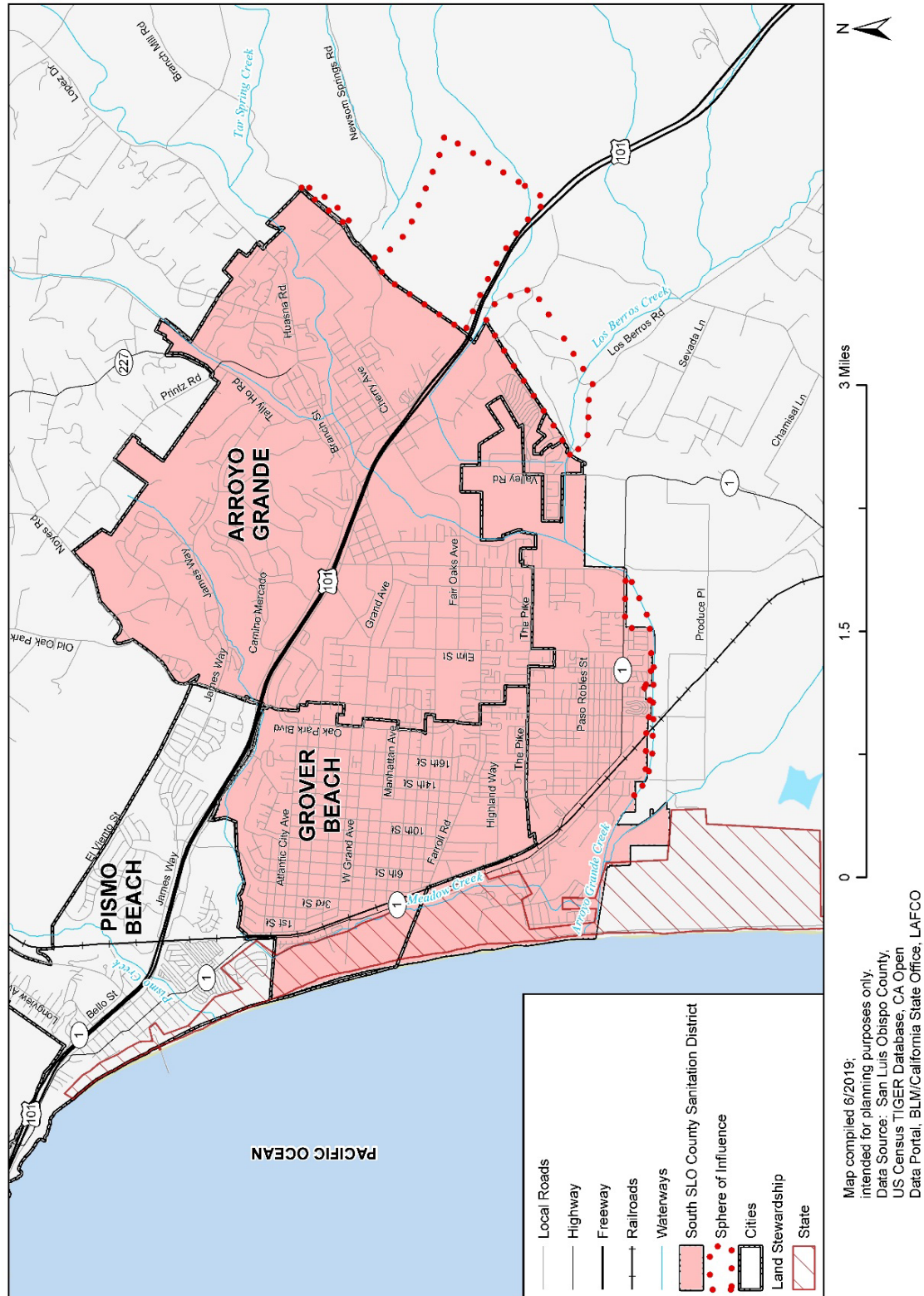
More details on the planning process followed and how the jurisdictions, service districts and stakeholders participated can be found in Section 3 of the Base Plan, along with how the public was involved during the 2019 update.

Figure T.1 below is a map showing the South SLO County Sanitation District including its sphere of influence and nearby areas.





Figure T.1 South San Luis Obispo County Sanitation District





T.1.2 District Overview

In 1958 the Grover City County Water Board commissioned several engineering studies aimed at investigating the rising nitrate levels observed in the local groundwater sources. At that time both Grover City and the Oceano community were entirely unsewered and depended on individual septic tanks. While Arroyo Grande had sewer systems at that time, said systems led to a wastewater treatment facility located at the "sewer farm," and the partially treated wastewater was disposed onto nearby lands. Because of the studies carried out upon that engineering commissioning, it was determined there was a need to better address the septic tank and sewer farm impacts on nearby lands and groundwater resources. To solve these issues, the South San Luis Obispo County Sanitation District was founded on September 3, 1963. Upon this new sanitation district development, nine miles of trunk sewer lines were built, as well as a new wastewater treatment plant and an ocean outfall line to get rid of the treated wastewater. To date, further improvements have taken place as well expansions in the wastewater systems. Key years when improvements, additions, or other constructions were incorporated into the District's infrastructure include 1978, 1979, 1986, 1990, and 2005.

Currently, the District provides wastewater collection, treatment and disposal services to the three-member agencies of Arroyo Grande, Grover Beach, and the Oceano Community Services District (CSD). The District is governed by a District Board composed of three members appointed by each of the member agencies. This Board makes policy and operational decisions based on recommendations of the District Administrator, engineers, and District staff, and establishes policies, goals, and objectives in the best interest of the District. It additionally approves budgets, expenditures, and related District functions.

The District's commitment to public health is focused on sound environmental design, educational opportunities, effectively working with homeowners and businesses, and appropriate and responsible construction mechanisms. The District engages in a fats, oils, and grease (FOG) safe release program as well as a pretreatment of chemicals and substances program to prevent the introduction of pollutants into the water and land, while protecting personnel from hazardous materials exposure. Currently the District's staff is composed of the District Administrator, a bookkeeper/secretary, and six operational staff.

T.1.3 Development Trends

Since the Sanitation District encompasses and provides services for Arroyo Grande, Grover Beach, and the Oceano Community Services District it is expected that development and changes in the community will follow those of the two cities and Service District (i.e. the Sanitation District's members). For more information on these member communities refer to the Base Plan as well as Annex A (Arroyo Grande), Annex C (Grover Beach), and Annex M (Oceano).

T.1.4 Other Community Planning Efforts

Coordination and synchronization with other community planning mechanisms and efforts are vital to the success of this Plan. To have a thorough evaluation of hazard mitigation practices already in place, appropriate planning procedures should also involve identifying and reviewing existing plans, policies, regulations, codes, tools, and other actions are designed to reduce a community's risk and vulnerability from natural hazards.

As an unincorporated community, the South SLO County Sanitation District is referenced in other County and City planning documents and regulated by County policies and planning mechanisms. Integrating existing planning efforts, mitigation policies, and action strategies into this annex establishes a credible, comprehensive document that weaves the common threads of a community's values together. The development of this Special District annex involved a comprehensive review of existing plans, studies, reports, and initiatives from San Luis Obispo County and the Sanitation District that relate to hazards or hazard mitigation. A high-level summary of





the key plans, studies and reports is summarized in Table T.2. Information on how they informed the update are noted and incorporated where applicable.

In addition to the development standards within the existing Local Hazard Mitigation Plans by Arroyo Grande and Grover Beach, there are County planning mechanisms that regulate future and existing development within the District's planning area. Refer to Sea Level Rise as well as Section 6 of the Base Plan for more information on the plans, policies, regulations and staff that govern the South SLO County Sanitation District.

Table T.2 Summary of Review of Key Plans, Studies, and Reports for the Sanitation District

Plan, Study, Report Name	How Document Informed the Annex
County of San Luis Obispo Local Hazard Mitigation Plan (2014)	Informed past hazard event history, hazard profile and background, and mitigation strategy information.
South SLO County Sanitation District 2018 Strategic Plan	Obtained current District information, ongoing efforts, water use information, etc.
San Luis Obispo County 2014 Integrated Regional Water Management Plan	Obtained information on water use in Nipomo, water management regions, and the drought/water scarcity hazard.
State of California's Hazard Mitigation Plan – Updated 2018	General information on hazards, events, and vulnerability assessments.
San Luis Obispo County Dam and Levee Failure Evacuation Plan – Updated 2016	Flooding, dam, and levee hazard information and recent studies.
2014-2016 Resource Summary Report for San Luis Obispo County's General Plan	Pulled information about water resources, reliability, and ongoing efforts to increase resilience in the county and District of Nipomo as related to drought.
Multi-Jurisdictional Local Hazard Mitigation Plan for the City of Arroyo Grande, City of Grover Beach, Lucia Mar Unified School District, and the South San Luis Obispo County Sanitation District - 2015	General background information on the Sanitation District and its member communities as well as hazards, events, mitigation capabilities, goals, etc.
Oceano Community Services District Local Hazard Mitigation Plan – 2018	General background information on the community as well as hazards, events, mitigation capabilities, goals, etc.

T.2 Hazard Identification and Summary

The Sanitation District Planning Team identified the key hazards that affect the District, and summarized their frequency of occurrence, spatial extent, potential magnitude, and overall significance specific to the District (see Table T.3). There are no hazards that are unique to this Sanitation District.



**Table T.3 South SLO County Sanitation District Hazard Risk Summary**

Hazard	Geographic Area	Probability of Future Occurrence	Magnitude/Severity (Extent)	Overall Significance
Agricultural Pest Infestation and Disease	Limited	Highly Likely	Negligible	Medium
Coastal Flood/Coastal Erosion/Sea Level Rise	Limited	Likely	Critical	Medium
Dam Incidents and Failure	Extensive	Unlikely	Catastrophic	Medium
Drought and Water Shortage	Significant	Likely	Limited	Low
Earthquake and Liquefaction	Significant	Highly Likely	Critical	High
Flood	Significant	Highly Likely	Limited	Medium
Tsunami and Seiche	Limited	Occasional	Limited	Low
Wildfire	Significant	Occasional	Limited	Low
Geographic Area Limited: Less than 10% of planning area Significant: 10-50% of planning area Extensive: 50-100% of planning area Probability of Future Occurrences Highly Likely: Near 100% chance of occurrence in next year or happens every year. Likely: Between 10 and 100% chance of occurrence in next year or has a recurrence interval of 10 years or less. Occasional: Between 1 and 10% chance of occurrence in the next year or has a recurrence interval of 11 to 100 years. Unlikely: Less than 1% chance of occurrence in next 100 years or has a recurrence interval of greater than every 100 years.		Magnitude/Severity (Extent) Catastrophic—More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths Critical—25-50 percent of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability Limited—10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability Negligible—Less than 10 percent of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid Significance Low: minimal potential impact Medium: moderate potential impact High: widespread potential impact		

T.3 Vulnerability Assessment

The intent of this section is to assess the Sanitation District's vulnerability separately from that of the County, which has already been assessed in Section 5 Hazard Identification and Risk Assessment of the Base Plan. This vulnerability assessment analyzes the population, property, and other assets (e.g. critical facilities, historic assets) at risk to hazards ranked of medium or high significance, or that may vary from other parts of the planning area.

The key information to support the Hazard Identification and Risk Assessment (HIRA) for this Annex was collected through a Data Collection Guide document, which was distributed to each participating municipality, community services district, or special district to complete during the planning process. Information was collected for the Oceano CSD as well as the cities of Arroyo Grande and Grover Beach, and was analyzed and summarized to identify and rank all the hazards that could impact anywhere within the County, as well as to rank the hazards and identify the related vulnerabilities unique to this District. In addition, the Sanitation District planning team was asked to share information on past hazard events that have affected the District.





Each participating jurisdiction or district was in support of the main hazard summary identified in the Base Plan (See Section 5.1). However, the hazard summary rankings for each jurisdictional annex may vary slightly due to specific hazard risk and vulnerabilities unique to that jurisdiction. Identifying these differences helps the reader to differentiate the Sanitation District's risk and vulnerabilities from that of the overall County.

The hazard summaries in Table T.3 reflect the hazards that could potentially affect the District in major ways. Based on this analysis, the priority hazard (High Significance) for mitigation is Earthquake/Liquefaction. The second priority hazards (Medium Significance) are Agricultural Pest Infestation/Disease, Dam Incidents/Failure, and Flood. The discussion of vulnerability for each of the assessed hazards is contained in the following sections. Those of Medium or High significance for the Sanitation District are identified below.

- Agricultural Pest Infestation/Disease
- Coastal Flood/Coastal Erosion/Sea Level Rise
- Dam Incidents/Failure
- Earthquake/Liquefaction
- Flood

Other Hazards

Hazards assigned a significance rating of Low or Not Applicable may not be assessed within this annex. The hazards to the planning area which were rated by the Planning Committee are summarized under Section T.2 herein (Hazard Identification and Summary). The majority were given minimum priority due to a lack of exposure, vulnerability, and/or no probability of occurrence or previous history or losses, though some may contain a loss estimate discussion and further information, based again on potential risk to the District, under Section 5 of the Base Plan.

T.3.1 Assets at Risk

This section considers the District's assets at risk, including values at risk, critical facilities and infrastructure, historic assets, economic assets, and growth and development trends.

Values at Risk

The following data on property exposure is derived from San Luis Obispo County Assessor's data. This data should only be used as a guideline to overall values in the Sanitation District (which is again composed of the Cities of Arroyo Grande and Grover Beach as well as the Oceano CSD), given the information has some limitations. Table T.4 shows the exposure of properties (e.g., the values at risk based on improvement and content values only) broken down by property type for the South SLO County Sanitation District. Refer to the Base Plan Section 5.2 (HIRA Asset Summary) for more details on value information, content calculations, and overall parcel analysis methodology.

Table T.4 Property Exposure Values for the Sanitation District by Parcel Type

Property Type	Parcel Count	Improved Value	Content Value	Total Value
Agricultural	11	\$968,849	\$968,849	\$1,937,698
Commercial	615	\$258,747,007	\$258,747,007	\$517,494,014
Government/ Utilities	159	\$89,487	--	\$89,487
Other/Exempt/Misc.	430	\$95,164,067	--	\$95,164,067
Residential	9,574	\$1,839,157,626	\$919,578,813	\$2,758,736,439
Multi-Family Residential	1,480	\$311,791,472	\$155,895,736	\$467,687,208
Mobile/Manufactured Homes	69	\$19,177,930	\$9,588,965	\$28,766,895
Residential: Other	1,161	\$252,818,098	\$126,409,049	\$379,227,147





Property Type	Parcel Count	Improved Value	Content Value	Total Value
Industrial	32	\$12,647,758	\$18,971,637	\$31,619,395
Vacant	69	\$16,911,610	--	\$16,911,610
TOTAL	13,600	\$2,807,473,904	\$1,490,160,056	\$4,297,633,960

Source: San Luis Obispo County 2019 Assessor data; ParcelQuest; Wood Plc analysis

Note: these values contain a combination of properties found within the Cities of Arroyo Grande and Grover Beach, and the Oceano CSD. Refer to the respective annexes and Base Plan documents for additional information.

Critical Facilities and Infrastructure

A critical facility is one that is essential to providing utility or direction either during the response to an emergency or during the recovery operation. See Section 5 of the Base Plan for more details on the definitions and categories of critical facilities.

An inventory of critical facilities in the Sanitation District based on San Luis Obispo County GIS data as well as structures obtained from the Homeland Infrastructure Foundation-Level Dataset (HIFLD) is provided in Table T.5 and Table T.6, as well as illustrated in Figure T.2. The four types of Critical Facilities categorized by San Luis Obispo County and its jurisdictions' and Districts' planning teams are: Emergency Services, High Potential Loss Facilities, Lifeline Utility Systems, and Transportation Systems. Note that the Sanitation District has identified 49 critical facilities total, although there are no High Potential Loss Facilities within the District's boundaries. In addition, 10 of the 49 total facilities in the Sanitation District are found within the Oceano boundaries alone but are accounted for as part of the South SLO County District for reference; these Oceano facilities will be marked with asterisks (*) in Table T.6. Refer to Section 5.2 of the Base Plan for more information on the Assets used throughout this annex and the county-wide analyses.

Table T.5 Summary of Sanitation District's Critical Facilities

Facility Category	Facility Type	Count
Emergency Services	Day Care Facilities	14
	Emergency Medical Service Stations	4
	Fire Stations	3
	Hospitals	2
	Local Law Enforcement	3
	Nursing Homes	2
	Private Schools	5
	Public Schools	9
	Urgent Care	1
Lifeline Utility Systems	FM Transmission Towers	1
	Microwave Service Towers	1
	Paging Transmission Towers	1
	Wastewater Treatment Plants	1
	Water Treatment Facilities	1
Transportation Systems	Airports	1
TOTAL		49

Source: San Luis Obispo County Planning and Building; LAFCO; HIFLD; Wood Plc analysis





Table T.6 Details about Sanitation District's Critical Facilities

Facility Type	Name
Airport	Oceano County Airport
Day Care Facilities	Arroyo Grande Montessori School
	Arroyo Grande United Methodist Children's Center
	California State Preschool at Grover Beach
	Capslo - Oceano Migrant Children's Center
	Capslo - Five Cities Head Start
	Child's Smile Day Care
	Dandy Lion Montessori School
	Oceano First 5
	Open Door Pre-School
	Peace Christian Preschool
	St Patrick's Mercy Preschool
	Valley View Children's Center
	Village Preschool
	YMCA South County Preschool
Emergency Medical Service Stations	Arroyo Grande Fire Department
	Grover Beach Fire Department
	Oceano Community Services District
	San Luis Ambulance Service - Arroyo Grande
Fire Stations	Arroyo Grande Fire Department
	Grover Beach Fire Department
	Oceano Community Services District
FM Transmission Towers	--
Hospitals	Arroyo Grande Community Hospital
	Marian Regional Medical Center, Arroyo Grande
Local Law Enforcement	Arroyo Grande Police Department
	Grover Beach Police Department
	San Luis Obispo County Sheriff's Department - South Station
Microwave Service Towers	--
Nursing Homes	Alder House
	Wyndham Residence
Paging Transmission Towers	--
Private Schools	Arroyo Grande Montessori School
	Coastal Christian School
	Dandy Lion Montessori School
	St. Patrick's Catholic School
	Valley View Adventist Academy
Public Schools	Arroyo Grande High
	Fairgrove Elementary
	Grover Beach Elementary
	Grover Heights Elementary
	Harloe Elementary
	Ocean View Elementary
	Oceano Elementary





Facility Type	Name
	Paulding Middle
	Santa Lucia ROP
Urgent Care	Doctors Office - Urgent Care
Water Treatment Facilities	Central Coast Water Treatment
Wastewater Treatment Plant	South San Luis Obispo Sd Wastewater Treatment Plant

Source: San Luis Obispo County Planning and Building; LAFCO; HIFLD

Critical Processes at Wastewater Treatment Plant

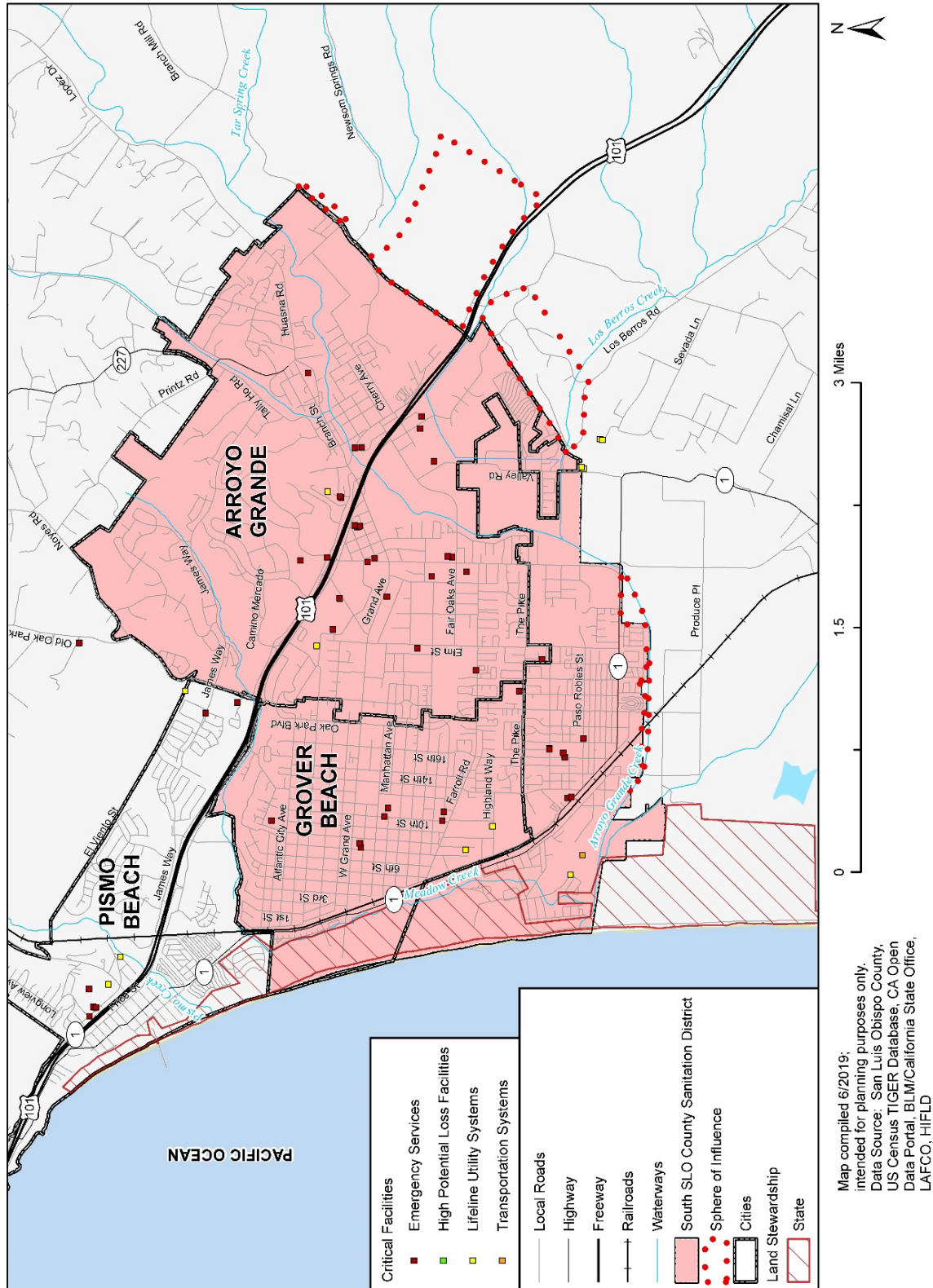
Additional Essential Infrastructures to the District noted by the Planning Team are noted below and fall under the Lifeline Utility System category:

- Headworks
- Main Control Center
- Primary Clarifiers (2)
- Fixed Film Reactor
- Secondary Clarifier
- Chlorine Contact Tank
- Emergency Generator





Figure T.2 Critical Facilities in the Sanitation District





Emergency Service Facilities

The Sanitation District contains 43 Emergency Services facilities aimed at providing for the health and welfare of the entire community. These include day care facilities, emergency medical service stations, fire stations, hospitals/urgent care facilities, local law enforcement, nursing homes, and schools as noted in Table T.5 and Table T.6.

Transportation Systems and High Potential Loss Facilities

One critical transportation facility is present within the boundaries of the Sanitation District. This is the Oceano County Airport located within the Oceano CSD.

No high potential loss facilities such as power plants were identified by the County, HIFLD dataset, or the Planning Team.

Lifeline Utility Systems

A potential of five lifeline facilities have been identified for the South SLO County Sanitation District. These are noted in Table T.5 and Table T.6. Other facilities or structures falling within the lifeline utility systems category may be present in or nearby the District (e.g. oil/gas, electric power, communication systems), but those were not found to serve a critical purpose or function to the Sanitation District.

Historic and Cultural Resources

Historical assets include local, county, state, and potentially federally listed historic sites. Based on data provided by the County of San Luis Obispo and LAFCO, it was found that there are three historic and cultural resources in the Sanitation District boundaries. These are summarized in Table T.7 below.

Table T.7 Sanitation District's Historic and Cultural Resources

Area Plan Where Noted	Property Name	Year	Description	At Risk of These Hazards
San Luis Bay Area Plan – Inland	South Pacific Railroad Depot	1904	South Pacific Railroad Depot	Dam inundation (by Lopez Dam); Moderate liquefaction risk; Tsunami inundation
	Temple of the People, Halcyon	1903	Built by a utopian religious group	Dam inundation (by Lopez Dam); Moderate liquefaction risk
San Luis Bay Area Plan - Coastal	Coffee T. Rice House	1886	--	Dam inundation (by Lopez Dam); Moderate liquefaction risk

Source: San Luis Obispo County Planning and Building; LAFCO

Natural Resources

Natural assets may include wetlands, threatened and endangered species, or other environmentally sensitive areas. Natural and environmental resources are important to include in benefit-cost analyses for future projects and may be used to leverage additional funding for projects that also contribute to community goals for protecting sensitive natural resources. Awareness of natural assets can lead to opportunities for meeting multiple objectives. For instance, protecting wetlands areas protects sensitive habitat as well as attenuates and stores floodwaters. Because the Sanitation District encompasses the Cities of Arroyo Grande and Grover Beach as well as the Oceano CSD, referring to these respective annexes as well as the documents within the Base Plan is recommended to get more details on natural resources of interest within this special district.





Economic Assets

Because the Sanitation District encompasses the Cities of Arroyo Grande and Grover Beach as well as the Oceano CSD, referring to these respective annexes as well as the documents within the Base Plan is recommended to get more details on economic assets within this special district. However, below is some key information about the economic assets in these three Sanitation District member communities:

- Grover Beach has recently experienced growth in Wholesale Trade and the Manufacturing sectors; some amount of land is available in the business park area of the city for business expansion and relocation. Because of this, certain hazards such as those affecting the landscape (e.g. earthquake, liquefaction) could be important if choosing to develop in these available areas.
- Arroyo Grande contains two of the largest employers in the County, such as the Arroyo Grande Community Hospital which employs over 400 people. This facility is located within a dam inundation zone, which could have devastating impacts on the local economy due to financial losses as well as affect the community's ability to respond to and recover from potential dam failure events.
- The Oceano CSD's top two industries are retail trade and agriculture. A natural disaster that affected these and forced shops or commercial spaces to close would have significant impacts on the local economy, as would events such as severe weather, flooding, or earthquakes on the agricultural and tourism industries.

T.3.2 Estimating Potential Losses

This section details vulnerability to specific hazards of medium or high significance, where quantifiable, noted by the Planning Team. Impacts of past events and vulnerability to specific hazards are further discussed below, though Section 5 of the Base Plan should be referenced for more details on the County's HIRA findings and hazard profiles.

Agricultural Pest Infestation and Disease

Due to Arroyo Grande, Grover Beach, and Oceano CSD containing relatively large amounts of agricultural fields, this hazard was ranked as a **Medium Significance** hazard in the District. Pests and related diseases/pathogens have the potential to affect the local economy and agricultural landscapes by hurting or destroying crops and livestock. The number of invasive pests and pathogens newly detected in California and the rest of the United States has increased at alarming rates in recent years, and that trend is projected to continue into the future. A specific concern of the County is tree vulnerability and mortality. Over 100 million trees have died and more continue to die due to many years of drought that have weakened trees, and left millions of acres of forestland highly susceptible to insect attacks. The drought stress is exacerbated in forests with too many trees competing for limited resources, especially water. Forest pests (insects and diseases) annually destroy ten times the volume of timber lost to due to forest fires. For more information and details on this hazard and its effects on the county and the communities refer to Section 5.3.2 Agricultural Pest and Disease.

Dam Incidents and Failure

The Sanitation District is at risk of dam failure incidents based on its location downstream of the Lopez Dam. The Lopez Dam is a high hazard earthen dam located just southwest of the Lopez Lake, about eight miles northeast of Arroyo Grande. If this dam were to fail and flood through the Arroyo Grande River into the Sanitation District or any of its three-member communities, major damages could be expected; it could inundation more than half of Grover Beach and Arroyo Grande, as well as the vast majority of the Oceano CSD. Refer to the Arroyo Grande, Grover Beach, and Oceano Annexes in this Plan. Table T.8 summarizes the critical facilities that fall within the Lopez Dam's inundation extents as determined by the GIS overlay analysis.



**Table T.8 Critical Facilities in the Sanitation District within the Lopez Dam Inundation Extents**

Critical Facility Type	Facility Total
Day Care Facilities	9
Emergency Medical Service Stations	2
Fire Stations	2
Hospitals	2
Local Law Enforcement	1
Microwave Service Stations	2
Nursing Homes	2
Private Schools	2
Public Schools	6
Wastewater Treatment Plants	1
Water Treatment Facilities	1
Airports	1
TOTAL	31

Source: San Luis Obispo County Planning and Building Dept., HIFLD, Wood Plc Analysis

A failure of the Lopez Dam would also affect Highway 101 and other important local roads, hence impeding or reducing flows of goods, people, and resources into and out of the cities and CSD, potentially impacting the entire region. Refer to Section 5.3.5 Dam Incidents for more details on the hazard and the analysis performed at the County level. This hazard holds **Medium Significance** for the Sanitation District.

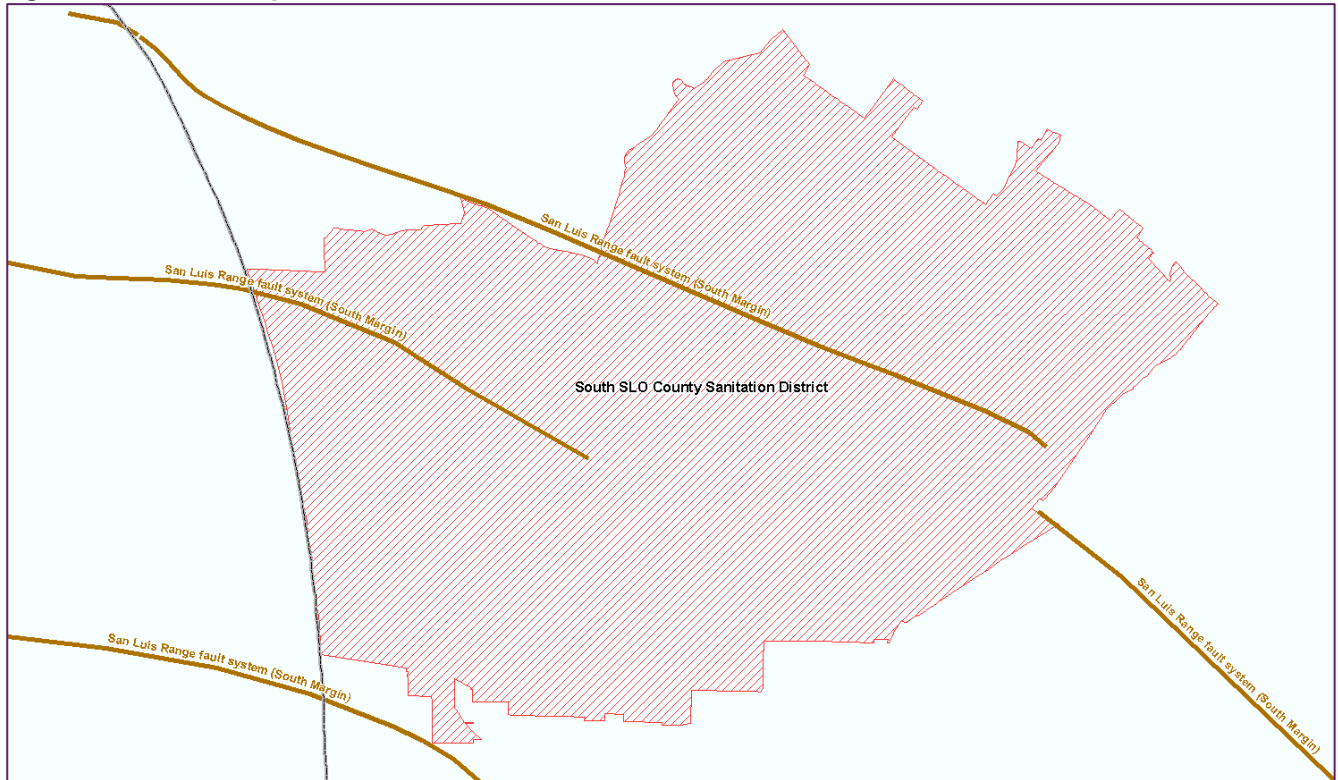
Earthquake and Liquefaction

The Sanitation District is underlaid by several earthquake faults such as those part of the San Luis Range/South Margin fault system. (See a very basic layout of the District and surrounding faults in Figure T-3). The seismic hazards of earthquake coupled with liquefaction (both of which are discussed in more detail in Section 5.3.7 of the Base Plan) are ranked as **High Significance** hazards due to the large degree of liquefiable soil risk in the Grover Beach, Arroyo Grande, and Oceano communities (see each respective City or CSD Annex for more information).





Figure T.3 Earthquake Faults near the Sanitation District



Source: USGS; San Luis Obispo County Planning and Building; LAFCO

Many people and properties would be expected to be affected by a moderate or major seismic event in the area, as noted in the Base Plan and three community Annexes. Additionally, 44 of the Sanitation District's 49 critical facilities are located within moderately liquefiable soils (based on GIS analysis). Table T.9 summarizes these facilities based on type and count.



**Table T.9 Critical Facilities in Moderate Liquefaction Risk Areas in the Sanitation District**

Critical Facility Type	Facility Total
Day Care Facilities	12
Emergency Medical Service Stations	4
Fire Stations	3
Hospitals	2
Local Law Enforcement	3
Microwave Service Stations	2
Nursing Homes	2
Private Schools	3
Public Schools	8
Wastewater Treatment Plants	1
Water Treatment Facilities	1
Airports	1
Paging Transmission Towers	1
Urgent Care	1
TOTAL	44

Source: San Luis Obispo County Planning and Building Dept., HIFLD, Wood Plc Analysis

Flood

The Sanitation District is at risk of riverine flooding based on FEMA data last updated for San Luis Obispo County in February of 2019. Per the maps and analysis available in Section 5.3.8 of the Base Plan, as well as the Arroyo Grande, Grover Beach, and Oceano CSD Annexes, major sources of flooding in the District include the 100- and 500-year flood events as well as coastal flooding. These major sources of flooding are summarized in the bullet list below based on the three member communities. The main areas that would experience major flooding are the Oceano CSD (on the west, south, and east), the west and north of Grover Beach, and the northwest, south, central-east, and north/northeast of Arroyo Grande. Based on the information summarized in this chapter as well as the Planning Team's recommendations, flood is ranked as a **Medium Significance** hazard for the Sanitation District.

The Sanitation District is not required to participate separately in the National Flood Insurance Program (NFIP) but will continue to support the County's participation in and compliance with the NFIP.

Major Sources of Flooding in the District:

- Arroyo Grande Creek
- Pismo Creek
- Tar Spring Creek
- Meadow Creek
- Los Berros Creek
- Smaller tributaries of the five waterways named above
- Coastal flooding (of type VE based on FEMA flood zone designations) on the beach front

Flood Control Zones

The San Luis Obispo County Flood Control and Water Conservation District was founded in 1945, and this entity provides general funding to help communities identify flooding problems, recommend solutions, and help





implement projects while establishing zones to benefit the funding of specific mitigation projects. The following two zones encompass portions of the Sanitation District:

- Zone 1: Arroyo Grande Creek Channel/Zone 1A – Los Berros Diversion Channel of Arroyo Grande Creek
- Zone 3: Arroyo Grande Creek

Refer to Section 5.3.8 of the Base Plan for more details on these flood control zones as well as past or ongoing projects that affect or relate to this Sanitation District.

Levees

There is one levee system that provides flood protection and hence reduces the risk to people and structures in the Sanitation District, per the San Luis Obispo County Dam and Levee Failure Evacuation Plan completed in 2016. The Arroyo Grande Creek Levee System is especially vulnerable to flooding, and severe riverine-based inundation occurred from the Arroyo Grande Creek back in the 1950s, causing damages on farmlands and nearby infrastructure. The Arroyo Grande Creek Flood Control Project was established as a result of these flooding events to confine the Arroyo Grande Creek from its confluence with Los Berros Creek downstream. While this levee confines water and potential losses just south of the Oceano CSD, south and east of the Oceano Airport (refer to Figure 5-4 Arroyo Grande Levee System of the Section 5.3.8 in the Base Plan), future potential damages or losses could be greatly avoided to the Sanitation District's members, particularly between Highway 1 and the 22nd Street bridges, thanks to this levee system.

A main failure of this levee system was noted in March of 2001 when a heavy rain event caused breaching on the south side of the levee, between the Arroyo Grande Creek and the Union Pacific railroad bridge. Hundreds of acres of farmland, as well as residences and properties, were flooded and damaged.

Critical Facilities at Risk

Based on GIS overlay analysis of the Sanitation District's boundaries with the FEMA flood hazard areas, a total of five critical facilities were found to overlap with the District's floodplains. Two are located in the Oceano CSD, while three are in parts of Arroyo Grande or Grover Beach. Table T.10 below summarizes these facilities.

Table T.10 Critical Facilities in FEMA Flood Hazard Areas in the Sanitation District

Critical Facility Type	Name	Flood Event	Total Facilities
Day Care Facilities	YMCA South County Preschool	500-Year	5
Public Schools	Arroyo Grande High School		
	Santa Lucia ROP		
Airports	Oceano County Airport	100-Year	
Wastewater Treatment Plants	South San Luis Obispo SD Wastewater Treatment Plant		

Source: San Luis Obispo County Planning and Building Dept., HIFLD, FEMA NFHL, Wood Plc Analysis

Coastal Storm/Coastal Erosion/Sea Level Rise

As part of the 2019 HMP planning effort, a sea level rise risk assessment was completed to determine how sea level rise may affect coastal jurisdictions and critical facilities and how coastal flooding might be exacerbated in the future. The only critical facility that would be affected by sea level rise is the wastewater treatment plan, and there is no risk until the 300 cm scenario. Table T.11 and Table T.12 summarize the other properties at risk of inundation by sea level rise and sea level rise combined with a 1% annual chance coastal flood. The area of inundation by sea level rise and sea level rise combined with the 1% coastal flood are shown in Figure T.4 and





Figure T.5, respectively. See Section 5.3.4 Coastal Storm/Coastal Erosion/Sea Level Rise in the base plan for more details on the scenarios and data sources used for this analysis.

Table T.11 Properties Inundated by Sea Level Rise and Sea Level Rise with 1% Annual Chance Flood

Property Type	25-cm SLR	75-cm SLR	300-cm SLR	25-cm SLR w/ 1% Flood	75-cm SLR w/ 1% Flood	300-cm SLR w/ 1% Flood
Agricultural	--	--	1	--	--	1
Commercial	--	--	15	--	--	19
Government/Utilities	--	--	13	--	--	16
Other/Exempt/Misc.	--	--	21	--	--	29
Residential	--	--	147	--	--	177
Multi-Family Residential	--	--	74	--	--	85
Mobile/Manufactured Homes	--	--	1	--	--	2
Residential: Other	--	--	20	--	--	24
Industrial	--	--	1	--	--	3
Vacant	--	--	2	--	--	2
Total	--	--	295	--	--	358

Source: Wood analysis with USGS CoSMoS 3.1 data

Table T.12 Improved Values of Properties Inundated by Sea Level Rise and Sea Level Rise with 1% Annual Chance Flood*

Property Type	25-cm SLR	75-cm SLR	300-cm SLR	25-cm SLR w/ 1% Flood	75-cm SLR w/ 1% Flood	300-cm SLR w/ 1% Flood
Agricultural	--	--	\$165,701	--	--	\$165,701
Commercial	--	--	\$2,392,580	--	--	\$2,929,341
Government/Utilities**	--	--	\$0	--	--	\$0
Other/Exempt/Misc.**	--	--	\$6,073,385	--	--	\$6,928,953
Residential	--	--	\$23,571,351	--	--	\$28,460,496
Multi-Family Residential	--	--	\$7,721,566	--	--	\$12,459,912
Mobile/Manufactured Homes	--	--	\$281,303	--	--	\$586,646
Residential: Other	--	--	\$2,792,785	--	--	\$4,238,793
Industrial	--	--	\$62,392	--	--	\$107,956
Vacant	--	--	\$242,315	--	--	\$242,315
Total	\$0	\$0	\$43,303,378	\$0	\$0	\$56,120,113

*South SLO Sanitation District encompasses the Cities of Grover Beach and Arroyo Grande as well as the majority of the Oceano CSD. As such, the totals for the Sanitation District may be duplicative when compared to the other cities' and the CSD's totals.

**Values may be underestimated as some values not available in parcel data due to being exempt from tax assessment; Port San Luis values represent pier valuations provided by the District.

Source: Wood analysis with USGS CoSMoS 3.1 data





Figure T.4 South SLO Sanitation District Sea Level Rise Scenario Analysis: Tidal Inundation Only

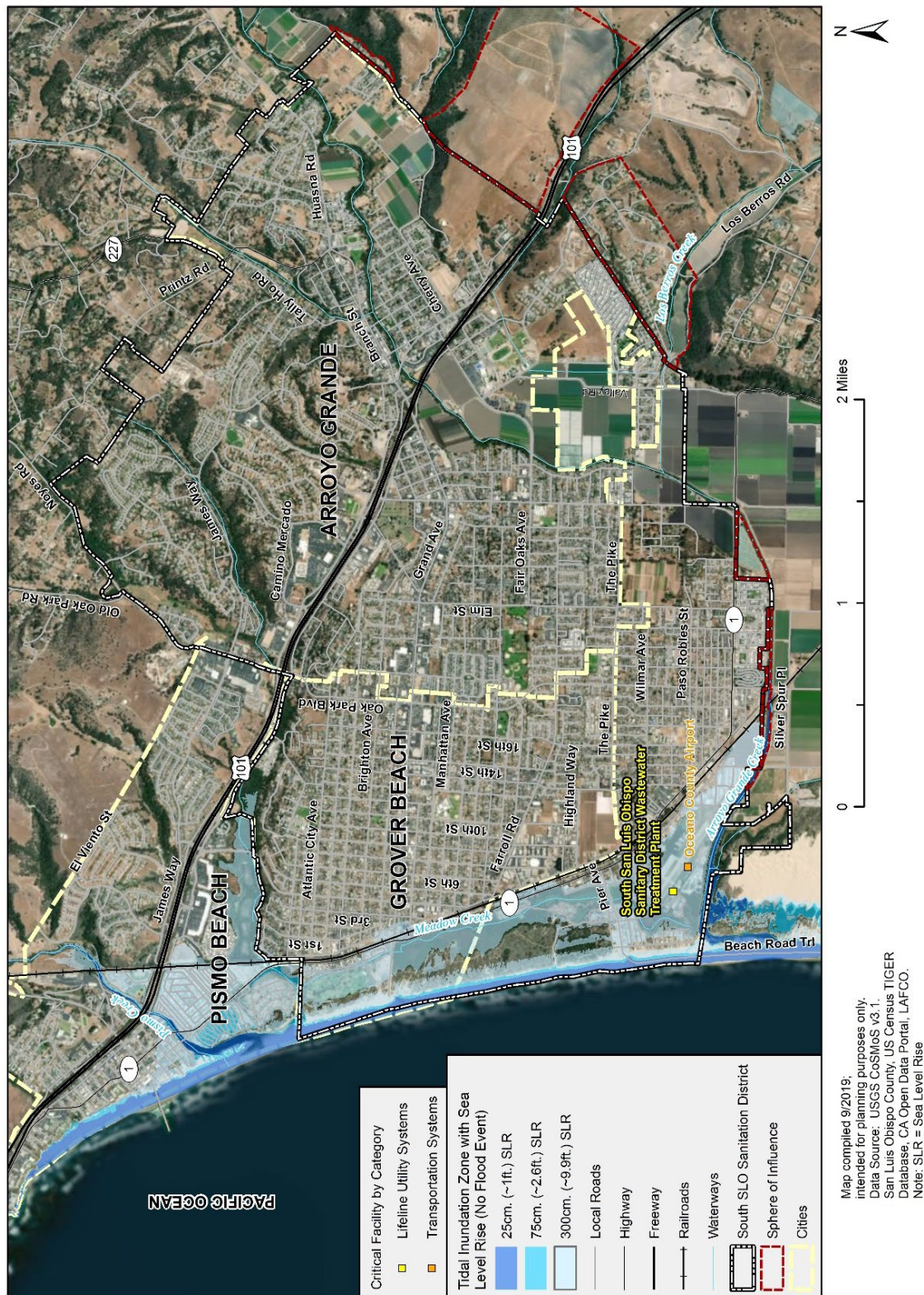
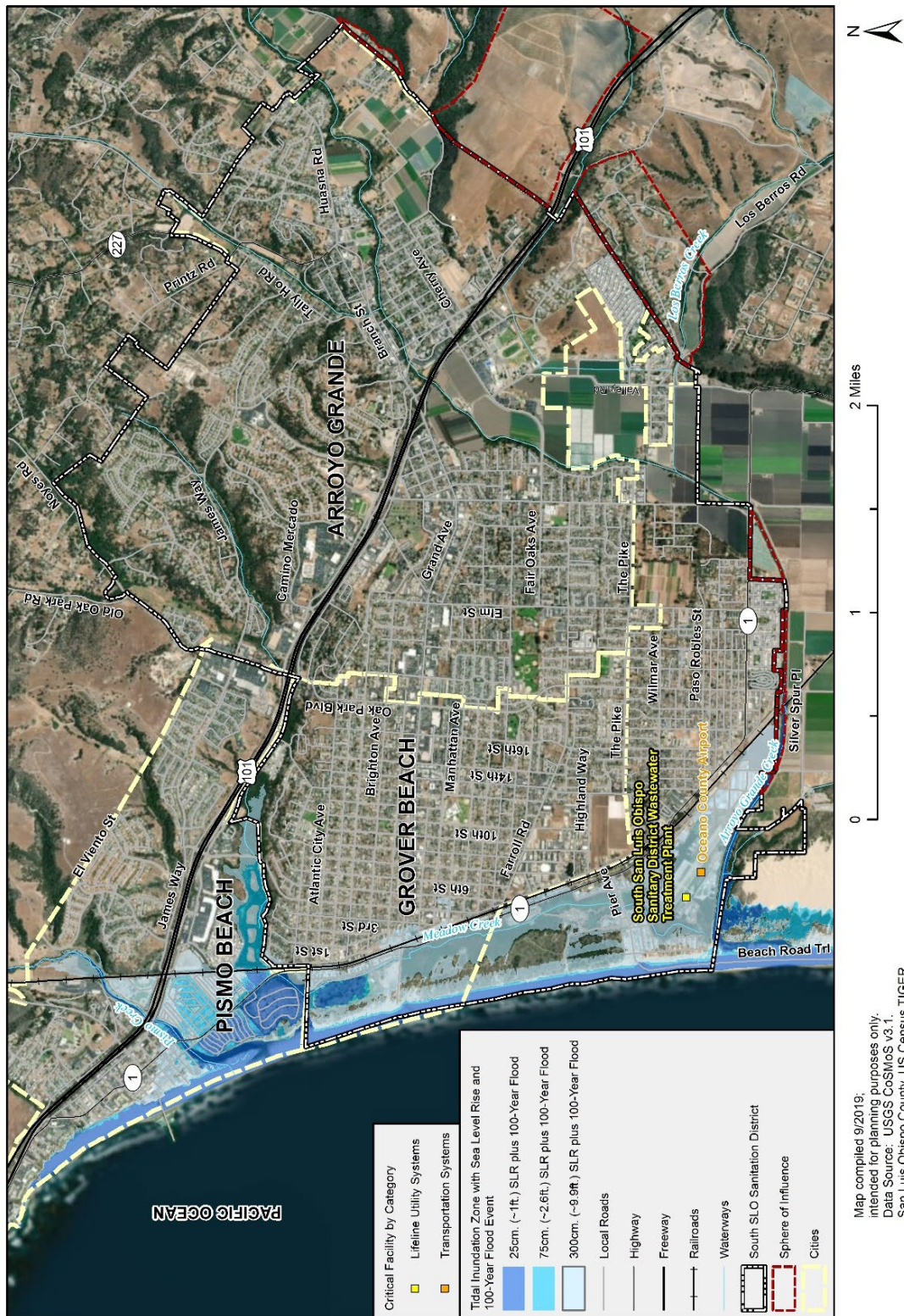




Figure T.5 South SLO Sea Level Rise Scenario Analysis: Tidal Inundation and 1% Annual Chance Flood





T.4 Capability Assessment

Capabilities are the programs and policies currently in use to reduce hazard impacts, or that could be used to implement hazard mitigation activities. This capability assessment is divided into five sections: regulatory mitigation capabilities, administrative and technical mitigation capabilities, fiscal mitigation capabilities, mitigation outreach and partnerships, and other mitigation efforts.

To develop this capability assessment, the jurisdictional and District planning representatives used a matrix of common mitigation activities to inventory policies or programs in place. The team then supplemented this inventory by reviewing additional existing policies, regulations, plans, and programs to determine if they contributed to reducing hazard-related losses.

During the plan update process, this inventory was reviewed by the jurisdictional and district planning representatives and Wood consultant team staff to update information where applicable and note ways in which these capabilities have improved or expanded. In summarizing current capabilities and identifying gaps, the jurisdictional planning representatives also considered their ability to expand or improve upon existing policies and programs as potential new mitigation strategies. The Sanitation District capabilities are summarized below.

T.4.1 Regulatory Mitigation Capabilities

Table T.11 identifies existing regulatory capabilities the District has in place to help with future mitigation efforts. Note: many of the regulatory capabilities that can be used for the District are within the County's jurisdiction. Refer to the Base Plan's Section 6 Capability Assessment for specific information related to the County's mitigation capabilities as well as more details on this topic.

Table T.13 Sanitation District Regulatory Mitigation Capabilities

Regulatory Tool	Yes/No	Comments
General plan	No	
Zoning ordinance	No	
Subdivision ordinance	No	
Growth management ordinance	No	
Floodplain ordinance	No	
Other special purpose ordinance (stormwater, water conservation, wildfire)	Yes	Sanitary Sewer System Use Ordinance 2011-1 and Pretreatment Ordinance 1994-1
Building code	No	
Fire department ISO rating	No	
Erosion or sediment control program	No	
Stormwater management program	No	
Site plan review requirements	No	
Capital improvements plan	No	
Economic development plan	No	
Local emergency operations plan	No	
Other special plans	No	
Flood Insurance Study or other engineering study for streams	No	
Elevation certificates (for floodplain development)	No	

Source: Wood Data Collection Guide, 2019; Sanitation District





T.4.2 Administrative/Technical Mitigation Capabilities

Table T.12 identifies the personnel responsible for activities related to mitigation and loss prevention in the South SLO County Sanitation District.

Table T.14 Sanitation District Administrative/Technical Mitigation Capabilities

Personnel Resources	Yes/No	Department/Position/Comments
Planner/engineer with knowledge of land development/land management practices	Yes	District Administrator
Engineer/professional trained in construction practices related to buildings and/or infrastructure	Yes	District Administrator
Planner/engineer/scientist with an understanding of natural hazards	Yes	District Administrator
Personnel skilled in GIS	Yes	Operators
Full time building official	No	
Floodplain manager	No	
Emergency manager	No	
Grant writer	No	
Other personnel	Yes	District Administrator (Professional Engineer), Certified Wastewater Treatment Plant Operators, ELAP Certified Laboratory Technician, Secretary/Bookkeeper
GIS Data Resources (Hazard areas, critical facilities, land use, building footprints, etc.)	Yes	Arc GIS of Trunk Sewer Line
Warning systems/services (Reverse 9-11, outdoor warning signals)	No	

Source: Wood Data Collection Guide, 2019; Sanitation District

T.4.3 Fiscal Mitigation Capabilities

Table T.13 identifies financial tools or resources that the District could potentially use to help fund mitigation activities.

Table T.15 Sanitation District Fiscal Mitigation Capabilities

Financial Resources	Accessible/Eligible to Use (Yes/No)
Community Development Block Grants	No
Capital improvements project funding	Yes
Authority to levy taxes for specific purposes	No
Fees for water, sewer, gas, or electric services	Yes
Impact fees for new development	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	No
Incur debt through private activities	No
Withhold spending in hazard prone areas	No



T.4.4 Mitigation Outreach and Partnerships

The South SLO County Sanitation District runs a responsible water use outreach program to encourage conservation and efficiency by sending out public notices via quarterly newsletters, school outreach efforts, and bill stuffers for water conservation, responsible water use, and sewer misuse examples. Other outreach, partnership, and general District efforts include those stated in existing planning mechanisms such as the Local Hazard Mitigation Plan shared by the participating jurisdictions (Arroyo Grande and Grover Beach) and the special district (Oceano), last updated in 2015.

T.4.5 Other Mitigation Efforts

The following mitigation projects were noted by the Planning Team as being completed since the 2015 plan.

- Completed August 2016: Sea Level Rise Analysis. To assess the existing and future flood exposure of the wastewater treatment facility, including estimates of the flood elevations and frequencies, which will be used to inform the environmental review, permitting, and design of the District's Redundancy Project.
- Completed December 2018: Coastal Hazards Monitoring Plan. Study to prepare a Coastal Hazards Monitoring Plan that can be implemented by the District to track how hazards change over time, and to document actions and responses for managing those hazards.
- Completed January 2019: SSLO Sanitation District Wastewater Treatment Plant Redundancy Project Geotechnical Report. This report provides geotechnical recommendations for the design of a new clarifier, aeration basin, blower building, equipment pads and associated piping. The proposed improvements if implemented according to the recommendations in the report will add redundancy to the existing wastewater treatment plant and add resiliency to the plan relative to flooding, seismic, and coastal hazards, notably soil liquefaction.

T.4.6 Opportunities for Enhancement

Based on this capability assessment and the noted information from existing plans and efforts (e.g., those noted in the District's Strategic Plan from 2018), the South SLO County Sanitation District has several existing mechanisms in place that help to mitigate hazards. There are also opportunities for the District to expand or improve on these policies and programs to further protect the community. Future improvements may include: providing training for staff members related to hazards or hazard mitigation grant funding in partnership with the County and Cal OES; or obtaining official certification such as Storm Ready or FireWise certifications. Additional training opportunities will help to inform District staff and board members on how best to integrate hazard information and mitigation projects into the District policies and ongoing duties of the District. Continuing to train District staff on mitigation and the hazards that pose a risk to the South SLO County Sanitation District will lead to more informed staff members who can better communicate this information to the public and prevent or respond to changes in development and the District makeup overall. Furthermore, the Planning Team for the District noted that South SLO Sanitation District often seeks to find opportunities to reinforce and strengthen its infrastructure during the initial design of facilities planned to be built. The District has developed a robust Coastal Hazards Monitoring Plan. A review process that involves assessing existing facilities against hazards to determine their vulnerability has not been fully cataloged, so the District hopes to continue these ongoing efforts in the future.

T.5 Mitigation Strategy

T.5.1 Mitigation Goals and Objectives

The Sanitation District adopts those hazard mitigation goals and objectives developed by the County Planning Team and described in Section 7 of the Base Plan: Mitigation Strategy.





T.5.2 Completed 2015 Mitigation Actions

The South SLO County Sanitation District has completed two mitigation actions identified in the 2015 plan. These completed actions have reduced vulnerability to hazards and increased local capability to implement additional mitigation actions. The following are the completed mitigation actions:

- SD.3 Sea Level Rise Analysis. To assess the existing and future flood exposure of the wastewater treatment facility, including estimates of the flood elevations and frequencies, which will be used to inform the environmental review, permitting, and design of the District's Redundancy Project.
- SD.4 Coastal Hazards Monitoring Plan. Study to prepare a Coastal Hazards Monitoring Plan that can be implemented by the District to track how hazards change over time, and to document actions and responses for managing those hazards.

T.5.3 Mitigation Actions

The Planning Team for the South SLO County Sanitation District identified and prioritized the following mitigation actions based on the conducted risk assessment (see Table T.1). Actions were prioritized using the process described in Section 7.2.1 of the Base Plan. Background information and information on how each action will be implemented and administered, such as ideas for implementation, responsible office, potential funding, estimated cost, and timeline are also included. Actions with an asterisk (*) are those that mitigate losses to future development.



**Table T.14 South SLO County Sanitation District's Mitigation Action Plan**

ID	Hazard(s) Mitigated	Description/Background/Benefits	Lead Agency and Partners	Cost Estimate	Potential Funding	Priority	Timeline	Status/ Implementation Notes
SD.1	Coastal Flood/ Coastal Erosion/ Sea Level Rise	Coastal Monitoring Program. Regularly monitoring flood and other coastal hazards at the site and management responses to those hazards both on and off site. Identifying how those hazards are impacting and affecting operations of the wastewater treatment plant. Identifying changes necessary to allow continued appropriate and required functioning of the plant. Identifying flood/hazard "triggers" to establish when actions (such as retrofits, upgrades, and including plant relocation) need to be pursued in response to specific flood/hazard events or flood management activities.	SSLOCSD	\$10,000 to \$50,000	SSLOCS/ FEMA HMA	High	Annual implementation	New. Benefits would include reduced coastal flooding impacts
SD.2	Flood; Coastal Flood/ Coastal Erosion/ Sea Level Rise; Earthquake, Dam incident	Redundancy Project - Flood Risk Mitigation Strategy. All critical new and existing facilities will be installed or upgraded to be protected from the 100-year flood event on Arroyo Grande Creek as defined by Flood Insurance Rate Map (FIRM) maps. This would also protect these facilities from floods caused by sea level rise for the design life of the facilities and provide additional protection from dam incident flooding.	SSLOCSD	\$10,000 to \$50,000	SSLOCS/ Redundancy Project	High	2-3 yrs.	New Benefits include Protection of critical structures, equipment, continued operations of the wastewater treatment plant during a 100-year flood event. Redundant facilities will also be designed according to current state seismic design standards.
SD.3	Earthquake	Wastewater Treatment Plant Redundancy Project – Implementation of liquefaction hazard mitigation measures per	SSLOCSD	\$10,000 to \$50,000	SSLOCSD/ Redundancy Project	High	More than 5 yrs.	New Benefits: Ability to conceptualize the





ID	Hazard(s) Mitigated	Description/Background/Benefits	Lead Agency and Partners	Cost Estimate	Potential Funding	Priority	Timeline	Status/ Implementation Notes
		the 2019 Redundancy Project Geotechnical Report during construction of additional treatment infrastructure.						cost of relocating the plant if necessary, in the future. (\$130,000,000 in 2016 dollars to relocate); relocation would incorporate current seismic design and provide added dam incident mitigation benefits.





T.6 Implementation and Maintenance

Moving forward, the South SLO County Sanitation District will use the mitigation action table in the previous section to track progress on implementation of each project. Implementation of the plan overall is discussed in Section 8 Implementation and Monitoring of the Base Plan.

T.6.1 Incorporation into Existing Planning Mechanisms

The information contained within this annex and the Base Plan, including results from the Vulnerability Assessments and the Mitigation Strategy, will be used by the District to help inform updates of the Sanitation District's existing plans (e.g. Strategic Plan) as well as in the development of additional local plans, programs, regulations, and policies. Understanding the hazards that pose a risk and the specific vulnerabilities to the District and its sphere of influence will help in future capital improvement planning and development for the District. The San Luis Obispo County Planning & Building Department may utilize the hazard information when reviewing a site plan or other type of development applications within or nearby the boundaries of the South SLO County Sanitation District area. As noted in Section 8 Implementation and Monitoring, the Planning Team representative/s from the South SLO County Sanitation District will report on efforts to integrate the hazard mitigation plan into local plans, programs, regulations, and policies and will report on these efforts at the annual Hazard Mitigation Plan and Planning Team review meeting.

T.6.2 Monitoring, Evaluation and Updating the Plan

The South SLO County Sanitation District will follow the procedures to monitor, review, and update this plan in accordance with San Luis Obispo County as outlined in Section 8 of the Base Plan. The District will continue to involve the public in mitigation, as described in Section 8.3 of the base plan. The CSD General Manager will be responsible for representing the Community Services District in related County Hazard Mitigation Plan meetings or events, and for coordination with County staff and departments during plan updates. The Sanitation District realizes it is important to review the plan regularly and update it every five years in accordance with the FEMA Disaster Mitigation Act Requirements as well as other State of California requirements.

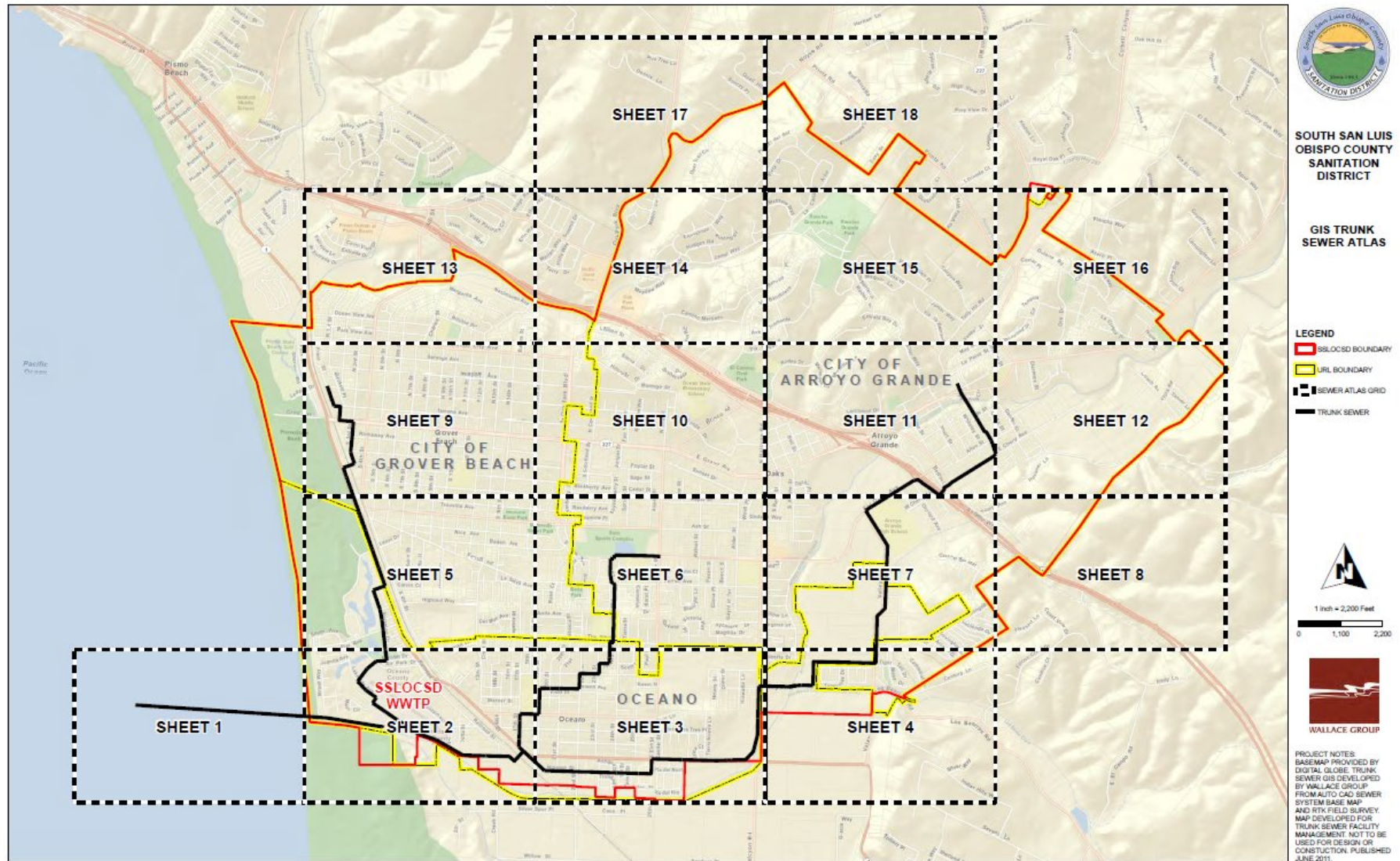




T.7 Attachments









T.1 District Profile

T.1.1 Mitigation Planning History and 2019 Process

This Annex was created during the development of the 2019 San Luis Obispo County Hazard Mitigation Plan Update. The South San Luis Obispo County Sanitation District was previously part of the Multi-Jurisdictional Local Hazard Mitigation Plan for the cities of Grover Beach, Arroyo Grande, and Lucia Mar Unified School District which was approved by FEMA in December 2015. The previous mitigation plan was not incorporated into other District planning mechanisms.

The Plant Superintendent of the South San Luis Obispo County Sanitation District (South SLO County Sanitation District, or the District) was the representative on the county Hazard Mitigation Planning Committee and took the lead for developing the plan and this annex in coordination with the South SLO District Local Planning Team (Planning Team). The local (District) Planning Team will be responsible for implementation and maintenance of the plan.

Table T.1 South San Luis Obispo County Sanitation District Hazard Mitigation Plan Planning Team

Department or Stakeholder	Title
South SLO County Sanitation District	Plant Superintendent
South SLO County Sanitation District	District Administrator

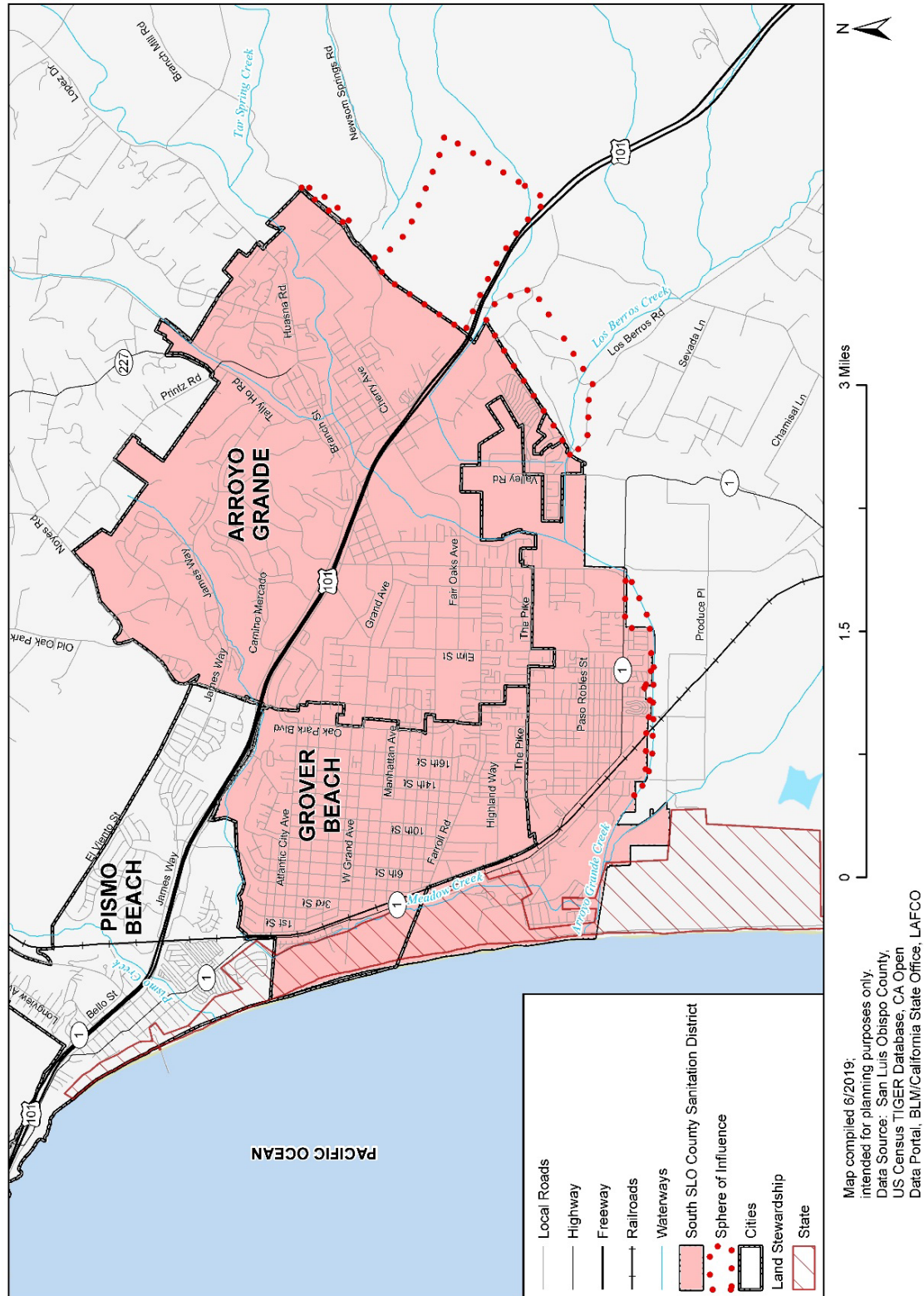
More details on the planning process followed and how the jurisdictions, service districts and stakeholders participated can be found in Section 3 of the Base Plan, along with how the public was involved during the 2019 update.

Figure T.1 below is a map showing the South SLO County Sanitation District including its sphere of influence and nearby areas.





Figure T.1 South San Luis Obispo County Sanitation District





T.1.2 District Overview

In 1958 the Grover City County Water Board commissioned several engineering studies aimed at investigating the rising nitrate levels observed in the local groundwater sources. At that time both Grover City and the Oceano community were entirely unsewered and depended on individual septic tanks. While Arroyo Grande had sewer systems at that time, said systems led to a wastewater treatment facility located at the "sewer farm," and the partially treated wastewater was disposed onto nearby lands. Because of the studies carried out upon that engineering commissioning, it was determined there was a need to better address the septic tank and sewer farm impacts on nearby lands and groundwater resources. To solve these issues, the South San Luis Obispo County Sanitation District was founded on September 3, 1963. Upon this new sanitation district development, nine miles of trunk sewer lines were built, as well as a new wastewater treatment plant and an ocean outfall line to get rid of the treated wastewater. To date, further improvements have taken place as well expansions in the wastewater systems. Key years when improvements, additions, or other constructions were incorporated into the District's infrastructure include 1978, 1979, 1986, 1990, and 2005.

Currently, the District provides wastewater collection, treatment and disposal services to the three-member agencies of Arroyo Grande, Grover Beach, and the Oceano Community Services District (CSD). The District is governed by a District Board composed of three members appointed by each of the member agencies. This Board makes policy and operational decisions based on recommendations of the District Administrator, engineers, and District staff, and establishes policies, goals, and objectives in the best interest of the District. It additionally approves budgets, expenditures, and related District functions.

The District's commitment to public health is focused on sound environmental design, educational opportunities, effectively working with homeowners and businesses, and appropriate and responsible construction mechanisms. The District engages in a fats, oils, and grease (FOG) safe release program as well as a pretreatment of chemicals and substances program to prevent the introduction of pollutants into the water and land, while protecting personnel from hazardous materials exposure. Currently the District's staff is composed of the District Administrator, a bookkeeper/secretary, and six operational staff.

T.1.3 Development Trends

Since the Sanitation District encompasses and provides services for Arroyo Grande, Grover Beach, and the Oceano Community Services District it is expected that development and changes in the community will follow those of the two cities and Service District (i.e. the Sanitation District's members). For more information on these member communities refer to the Base Plan as well as Annex A (Arroyo Grande), Annex C (Grover Beach), and Annex M (Oceano).

T.1.4 Other Community Planning Efforts

Coordination and synchronization with other community planning mechanisms and efforts are vital to the success of this Plan. To have a thorough evaluation of hazard mitigation practices already in place, appropriate planning procedures should also involve identifying and reviewing existing plans, policies, regulations, codes, tools, and other actions are designed to reduce a community's risk and vulnerability from natural hazards.

As an unincorporated community, the South SLO County Sanitation District is referenced in other County and City planning documents and regulated by County policies and planning mechanisms. Integrating existing planning efforts, mitigation policies, and action strategies into this annex establishes a credible, comprehensive document that weaves the common threads of a community's values together. The development of this Special District annex involved a comprehensive review of existing plans, studies, reports, and initiatives from San Luis Obispo County and the Sanitation District that relate to hazards or hazard mitigation. A high-level summary of





the key plans, studies and reports is summarized in Table T.2. Information on how they informed the update are noted and incorporated where applicable.

In addition to the development standards within the existing Local Hazard Mitigation Plans by Arroyo Grande and Grover Beach, there are County planning mechanisms that regulate future and existing development within the District's planning area. Refer to Sea Level Rise as well as Section 6 of the Base Plan for more information on the plans, policies, regulations and staff that govern the South SLO County Sanitation District.

Table T.2 Summary of Review of Key Plans, Studies, and Reports for the Sanitation District

Plan, Study, Report Name	How Document Informed the Annex
County of San Luis Obispo Local Hazard Mitigation Plan (2014)	Informed past hazard event history, hazard profile and background, and mitigation strategy information.
South SLO County Sanitation District 2018 Strategic Plan	Obtained current District information, ongoing efforts, water use information, etc.
San Luis Obispo County 2014 Integrated Regional Water Management Plan	Obtained information on water use in Nipomo, water management regions, and the drought/water scarcity hazard.
State of California's Hazard Mitigation Plan – Updated 2018	General information on hazards, events, and vulnerability assessments.
San Luis Obispo County Dam and Levee Failure Evacuation Plan – Updated 2016	Flooding, dam, and levee hazard information and recent studies.
2014-2016 Resource Summary Report for San Luis Obispo County's General Plan	Pulled information about water resources, reliability, and ongoing efforts to increase resilience in the county and District of Nipomo as related to drought.
Multi-Jurisdictional Local Hazard Mitigation Plan for the City of Arroyo Grande, City of Grover Beach, Lucia Mar Unified School District, and the South San Luis Obispo County Sanitation District - 2015	General background information on the Sanitation District and its member communities as well as hazards, events, mitigation capabilities, goals, etc.
Oceano Community Services District Local Hazard Mitigation Plan – 2018	General background information on the community as well as hazards, events, mitigation capabilities, goals, etc.

T.2 Hazard Identification and Summary

The Sanitation District Planning Team identified the key hazards that affect the District, and summarized their frequency of occurrence, spatial extent, potential magnitude, and overall significance specific to the District (see Table T.3). There are no hazards that are unique to this Sanitation District.



**Table T.3 South SLO County Sanitation District Hazard Risk Summary**

Hazard	Geographic Area	Probability of Future Occurrence	Magnitude/Severity (Extent)	Overall Significance
Agricultural Pest Infestation and Disease	Limited	Highly Likely	Negligible	Medium
Coastal Flood/Coastal Erosion/Sea Level Rise	Limited	Likely	Critical	Medium
Dam Incidents and Failure	Extensive	Unlikely	Catastrophic	Medium
Drought and Water Shortage	Significant	Likely	Limited	Low
Earthquake and Liquefaction	Significant	Highly Likely	Critical	High
Flood	Significant	Highly Likely	Limited	Medium
Tsunami and Seiche	Limited	Occasional	Limited	Low
Wildfire	Significant	Occasional	Limited	Low
Geographic Area Limited: Less than 10% of planning area Significant: 10-50% of planning area Extensive: 50-100% of planning area Probability of Future Occurrences Highly Likely: Near 100% chance of occurrence in next year or happens every year. Likely: Between 10 and 100% chance of occurrence in next year or has a recurrence interval of 10 years or less. Occasional: Between 1 and 10% chance of occurrence in the next year or has a recurrence interval of 11 to 100 years. Unlikely: Less than 1% chance of occurrence in next 100 years or has a recurrence interval of greater than every 100 years.		Magnitude/Severity (Extent) Catastrophic—More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths Critical—25-50 percent of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability Limited—10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability Negligible—Less than 10 percent of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid Significance Low: minimal potential impact Medium: moderate potential impact High: widespread potential impact		

T.3 Vulnerability Assessment

The intent of this section is to assess the Sanitation District's vulnerability separately from that of the County, which has already been assessed in Section 5 Hazard Identification and Risk Assessment of the Base Plan. This vulnerability assessment analyzes the population, property, and other assets (e.g. critical facilities, historic assets) at risk to hazards ranked of medium or high significance, or that may vary from other parts of the planning area.

The key information to support the Hazard Identification and Risk Assessment (HIRA) for this Annex was collected through a Data Collection Guide document, which was distributed to each participating municipality, community services district, or special district to complete during the planning process. Information was collected for the Oceano CSD as well as the cities of Arroyo Grande and Grover Beach, and was analyzed and summarized to identify and rank all the hazards that could impact anywhere within the County, as well as to rank the hazards and identify the related vulnerabilities unique to this District. In addition, the Sanitation District planning team was asked to share information on past hazard events that have affected the District.





Each participating jurisdiction or district was in support of the main hazard summary identified in the Base Plan (See Section 5.1). However, the hazard summary rankings for each jurisdictional annex may vary slightly due to specific hazard risk and vulnerabilities unique to that jurisdiction. Identifying these differences helps the reader to differentiate the Sanitation District's risk and vulnerabilities from that of the overall County.

The hazard summaries in Table T.3 reflect the hazards that could potentially affect the District in major ways. Based on this analysis, the priority hazard (High Significance) for mitigation is Earthquake/Liquefaction. The second priority hazards (Medium Significance) are Agricultural Pest Infestation/Disease, Dam Incidents/Failure, and Flood. The discussion of vulnerability for each of the assessed hazards is contained in the following sections. Those of Medium or High significance for the Sanitation District are identified below.

- Agricultural Pest Infestation/Disease
- Coastal Flood/Coastal Erosion/Sea Level Rise
- Dam Incidents/Failure
- Earthquake/Liquefaction
- Flood

Other Hazards

Hazards assigned a significance rating of Low or Not Applicable may not be assessed within this annex. The hazards to the planning area which were rated by the Planning Committee are summarized under Section T.2 herein (Hazard Identification and Summary). The majority were given minimum priority due to a lack of exposure, vulnerability, and/or no probability of occurrence or previous history or losses, though some may contain a loss estimate discussion and further information, based again on potential risk to the District, under Section 5 of the Base Plan.

T.3.1 Assets at Risk

This section considers the District's assets at risk, including values at risk, critical facilities and infrastructure, historic assets, economic assets, and growth and development trends.

Values at Risk

The following data on property exposure is derived from San Luis Obispo County Assessor's data. This data should only be used as a guideline to overall values in the Sanitation District (which is again composed of the Cities of Arroyo Grande and Grover Beach as well as the Oceano CSD), given the information has some limitations. Table T.4 shows the exposure of properties (e.g., the values at risk based on improvement and content values only) broken down by property type for the South SLO County Sanitation District. Refer to the Base Plan Section 5.2 (HIRA Asset Summary) for more details on value information, content calculations, and overall parcel analysis methodology.

Table T.4 Property Exposure Values for the Sanitation District by Parcel Type

Property Type	Parcel Count	Improved Value	Content Value	Total Value
Agricultural	11	\$968,849	\$968,849	\$1,937,698
Commercial	615	\$258,747,007	\$258,747,007	\$517,494,014
Government/ Utilities	159	\$89,487	--	\$89,487
Other/Exempt/Misc.	430	\$95,164,067	--	\$95,164,067
Residential	9,574	\$1,839,157,626	\$919,578,813	\$2,758,736,439
Multi-Family Residential	1,480	\$311,791,472	\$155,895,736	\$467,687,208
Mobile/Manufactured Homes	69	\$19,177,930	\$9,588,965	\$28,766,895
Residential: Other	1,161	\$252,818,098	\$126,409,049	\$379,227,147





Property Type	Parcel Count	Improved Value	Content Value	Total Value
Industrial	32	\$12,647,758	\$18,971,637	\$31,619,395
Vacant	69	\$16,911,610	--	\$16,911,610
TOTAL	13,600	\$2,807,473,904	\$1,490,160,056	\$4,297,633,960

Source: San Luis Obispo County 2019 Assessor data; ParcelQuest; Wood Plc analysis

Note: these values contain a combination of properties found within the Cities of Arroyo Grande and Grover Beach, and the Oceano CSD. Refer to the respective annexes and Base Plan documents for additional information.

Critical Facilities and Infrastructure

A critical facility is one that is essential to providing utility or direction either during the response to an emergency or during the recovery operation. See Section 5 of the Base Plan for more details on the definitions and categories of critical facilities.

An inventory of critical facilities in the Sanitation District based on San Luis Obispo County GIS data as well as structures obtained from the Homeland Infrastructure Foundation-Level Dataset (HIFLD) is provided in Table T.5 and Table T.6, as well as illustrated in Figure T.2. The four types of Critical Facilities categorized by San Luis Obispo County and its jurisdictions' and Districts' planning teams are: Emergency Services, High Potential Loss Facilities, Lifeline Utility Systems, and Transportation Systems. Note that the Sanitation District has identified 49 critical facilities total, although there are no High Potential Loss Facilities within the District's boundaries. In addition, 10 of the 49 total facilities in the Sanitation District are found within the Oceano boundaries alone but are accounted for as part of the South SLO County District for reference; these Oceano facilities will be marked with asterisks (*) in Table T.6. Refer to Section 5.2 of the Base Plan for more information on the Assets used throughout this annex and the county-wide analyses.

Table T.5 Summary of Sanitation District's Critical Facilities

Facility Category	Facility Type	Count
Emergency Services	Day Care Facilities	14
	Emergency Medical Service Stations	4
	Fire Stations	3
	Hospitals	2
	Local Law Enforcement	3
	Nursing Homes	2
	Private Schools	5
	Public Schools	9
	Urgent Care	1
Lifeline Utility Systems	FM Transmission Towers	1
	Microwave Service Towers	1
	Paging Transmission Towers	1
	Wastewater Treatment Plants	1
	Water Treatment Facilities	1
Transportation Systems	Airports	1
TOTAL		49

Source: San Luis Obispo County Planning and Building; LAFCO; HIFLD; Wood Plc analysis




Table T.6 Details about Sanitation District's Critical Facilities

Facility Type	Name
Airport	Oceano County Airport
Day Care Facilities	Arroyo Grande Montessori School
	Arroyo Grande United Methodist Children's Center
	California State Preschool at Grover Beach
	Capslo - Oceano Migrant Children's Center
	Capslo - Five Cities Head Start
	Child's Smile Day Care
	Dandy Lion Montessori School
	Oceano First 5
	Open Door Pre-School
	Peace Christian Preschool
	St Patrick's Mercy Preschool
	Valley View Children's Center
	Village Preschool
	YMCA South County Preschool
Emergency Medical Service Stations	Arroyo Grande Fire Department
	Grover Beach Fire Department
	Oceano Community Services District
	San Luis Ambulance Service - Arroyo Grande
Fire Stations	Arroyo Grande Fire Department
	Grover Beach Fire Department
	Oceano Community Services District
FM Transmission Towers	--
Hospitals	Arroyo Grande Community Hospital
	Marian Regional Medical Center, Arroyo Grande
Local Law Enforcement	Arroyo Grande Police Department
	Grover Beach Police Department
	San Luis Obispo County Sheriff's Department - South Station
Microwave Service Towers	--
Nursing Homes	Alder House
	Wyndham Residence
Paging Transmission Towers	--
Private Schools	Arroyo Grande Montessori School
	Coastal Christian School
	Dandy Lion Montessori School
	St. Patrick's Catholic School
	Valley View Adventist Academy
Public Schools	Arroyo Grande High
	Fairgrove Elementary
	Grover Beach Elementary
	Grover Heights Elementary
	Harloe Elementary
	Ocean View Elementary
	Oceano Elementary





Facility Type	Name
	Paulding Middle
	Santa Lucia ROP
Urgent Care	Doctors Office - Urgent Care
Water Treatment Facilities	Central Coast Water Treatment
Wastewater Treatment Plant	South San Luis Obispo Sd Wastewater Treatment Plant

Source: San Luis Obispo County Planning and Building; LAFCO; HIFLD

Critical Processes at Wastewater Treatment Plant

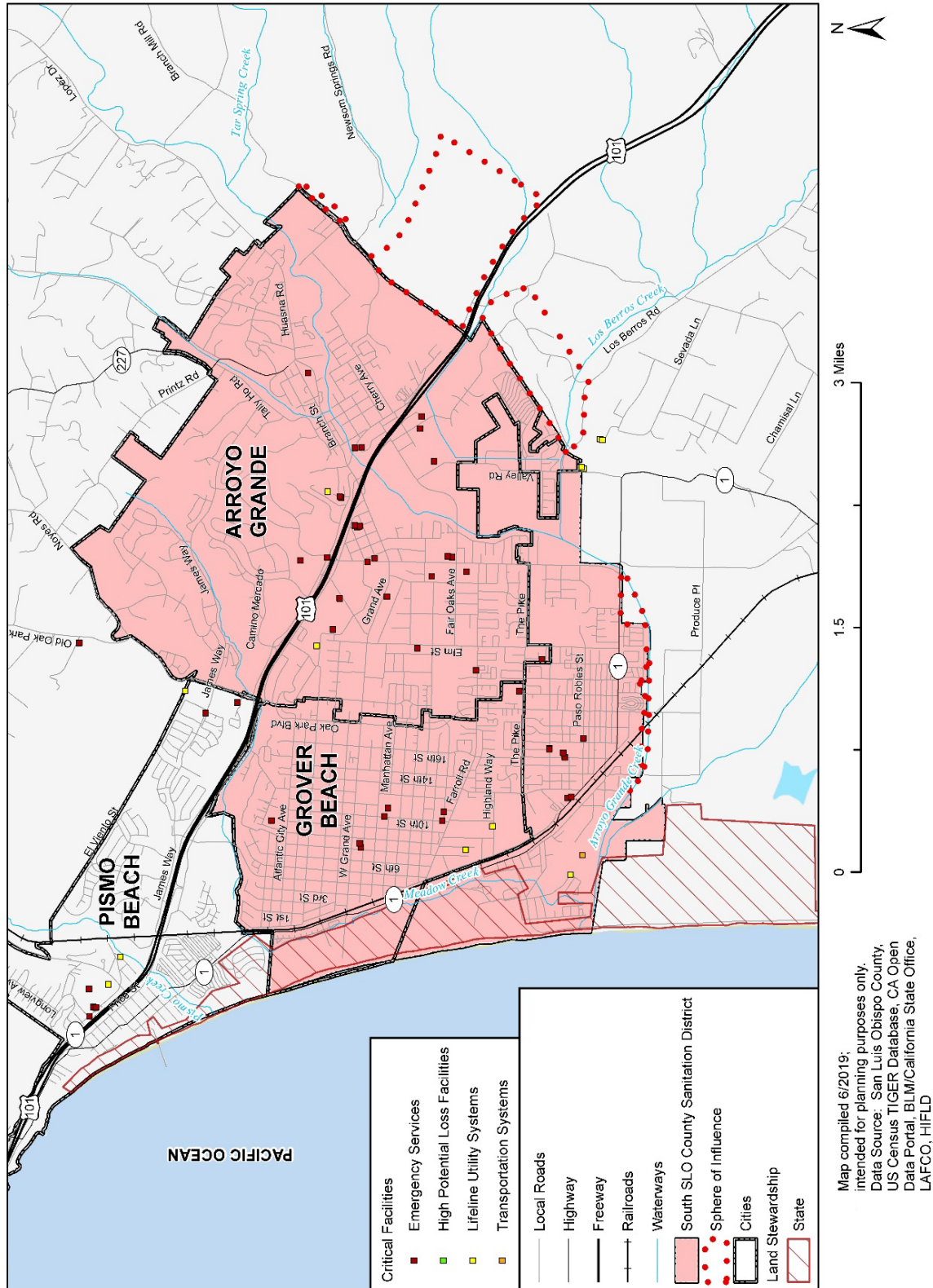
Additional Essential Infrastructures to the District noted by the Planning Team are noted below and fall under the Lifeline Utility System category:

- Headworks
- Main Control Center
- Primary Clarifiers (2)
- Fixed Film Reactor
- Secondary Clarifier
- Chlorine Contact Tank
- Emergency Generator





Figure T.2 Critical Facilities in the Sanitation District





Emergency Service Facilities

The Sanitation District contains 43 Emergency Services facilities aimed at providing for the health and welfare of the entire community. These include day care facilities, emergency medical service stations, fire stations, hospitals/urgent care facilities, local law enforcement, nursing homes, and schools as noted in Table T.5 and Table T.6.

Transportation Systems and High Potential Loss Facilities

One critical transportation facility is present within the boundaries of the Sanitation District. This is the Oceano County Airport located within the Oceano CSD.

No high potential loss facilities such as power plants were identified by the County, HIFLD dataset, or the Planning Team.

Lifeline Utility Systems

A potential of five lifeline facilities have been identified for the South SLO County Sanitation District. These are noted in Table T.5 and Table T.6. Other facilities or structures falling within the lifeline utility systems category may be present in or nearby the District (e.g. oil/gas, electric power, communication systems), but those were not found to serve a critical purpose or function to the Sanitation District.

Historic and Cultural Resources

Historical assets include local, county, state, and potentially federally listed historic sites. Based on data provided by the County of San Luis Obispo and LAFCO, it was found that there are three historic and cultural resources in the Sanitation District boundaries. These are summarized in Table T.7 below.

Table T.7 Sanitation District's Historic and Cultural Resources

Area Plan Where Noted	Property Name	Year	Description	At Risk of These Hazards
San Luis Bay Area Plan – Inland	South Pacific Railroad Depot	1904	South Pacific Railroad Depot	Dam inundation (by Lopez Dam); Moderate liquefaction risk; Tsunami inundation
	Temple of the People, Halcyon	1903	Built by a utopian religious group	Dam inundation (by Lopez Dam); Moderate liquefaction risk
San Luis Bay Area Plan - Coastal	Coffee T. Rice House	1886	--	Dam inundation (by Lopez Dam); Moderate liquefaction risk

Source: San Luis Obispo County Planning and Building; LAFCO

Natural Resources

Natural assets may include wetlands, threatened and endangered species, or other environmentally sensitive areas. Natural and environmental resources are important to include in benefit-cost analyses for future projects and may be used to leverage additional funding for projects that also contribute to community goals for protecting sensitive natural resources. Awareness of natural assets can lead to opportunities for meeting multiple objectives. For instance, protecting wetlands areas protects sensitive habitat as well as attenuates and stores floodwaters. Because the Sanitation District encompasses the Cities of Arroyo Grande and Grover Beach as well as the Oceano CSD, referring to these respective annexes as well as the documents within the Base Plan is recommended to get more details on natural resources of interest within this special district.





Economic Assets

Because the Sanitation District encompasses the Cities of Arroyo Grande and Grover Beach as well as the Oceano CSD, referring to these respective annexes as well as the documents within the Base Plan is recommended to get more details on economic assets within this special district. However, below is some key information about the economic assets in these three Sanitation District member communities:

- Grover Beach has recently experienced growth in Wholesale Trade and the Manufacturing sectors; some amount of land is available in the business park area of the city for business expansion and relocation. Because of this, certain hazards such as those affecting the landscape (e.g. earthquake, liquefaction) could be important if choosing to develop in these available areas.
- Arroyo Grande contains two of the largest employers in the County, such as the Arroyo Grande Community Hospital which employs over 400 people. This facility is located within a dam inundation zone, which could have devastating impacts on the local economy due to financial losses as well as affect the community's ability to respond to and recover from potential dam failure events.
- The Oceano CSD's top two industries are retail trade and agriculture. A natural disaster that affected these and forced shops or commercial spaces to close would have significant impacts on the local economy, as would events such as severe weather, flooding, or earthquakes on the agricultural and tourism industries.

T.3.2 Estimating Potential Losses

This section details vulnerability to specific hazards of medium or high significance, where quantifiable, noted by the Planning Team. Impacts of past events and vulnerability to specific hazards are further discussed below, though Section 5 of the Base Plan should be referenced for more details on the County's HIRA findings and hazard profiles.

Agricultural Pest Infestation and Disease

Due to Arroyo Grande, Grover Beach, and Oceano CSD containing relatively large amounts of agricultural fields, this hazard was ranked as a **Medium Significance** hazard in the District. Pests and related diseases/pathogens have the potential to affect the local economy and agricultural landscapes by hurting or destroying crops and livestock. The number of invasive pests and pathogens newly detected in California and the rest of the United States has increased at alarming rates in recent years, and that trend is projected to continue into the future. A specific concern of the County is tree vulnerability and mortality. Over 100 million trees have died and more continue to die due to many years of drought that have weakened trees, and left millions of acres of forestland highly susceptible to insect attacks. The drought stress is exacerbated in forests with too many trees competing for limited resources, especially water. Forest pests (insects and diseases) annually destroy ten times the volume of timber lost to due to forest fires. For more information and details on this hazard and its effects on the county and the communities refer to Section 5.3.2 Agricultural Pest and Disease.

Dam Incidents and Failure

The Sanitation District is at risk of dam failure incidents based on its location downstream of the Lopez Dam. The Lopez Dam is a high hazard earthen dam located just southwest of the Lopez Lake, about eight miles northeast of Arroyo Grande. If this dam were to fail and flood through the Arroyo Grande River into the Sanitation District or any of its three-member communities, major damages could be expected; it could inundation more than half of Grover Beach and Arroyo Grande, as well as the vast majority of the Oceano CSD. Refer to the Arroyo Grande, Grover Beach, and Oceano Annexes in this Plan. Table T.8 summarizes the critical facilities that fall within the Lopez Dam's inundation extents as determined by the GIS overlay analysis.



**Table T.8 Critical Facilities in the Sanitation District within the Lopez Dam Inundation Extents**

Critical Facility Type	Facility Total
Day Care Facilities	9
Emergency Medical Service Stations	2
Fire Stations	2
Hospitals	2
Local Law Enforcement	1
Microwave Service Stations	2
Nursing Homes	2
Private Schools	2
Public Schools	6
Wastewater Treatment Plants	1
Water Treatment Facilities	1
Airports	1
TOTAL	31

Source: San Luis Obispo County Planning and Building Dept., HIFLD, Wood Plc Analysis

A failure of the Lopez Dam would also affect Highway 101 and other important local roads, hence impeding or reducing flows of goods, people, and resources into and out of the cities and CSD, potentially impacting the entire region. Refer to Section 5.3.5 Dam Incidents for more details on the hazard and the analysis performed at the County level. This hazard holds **Medium Significance** for the Sanitation District.

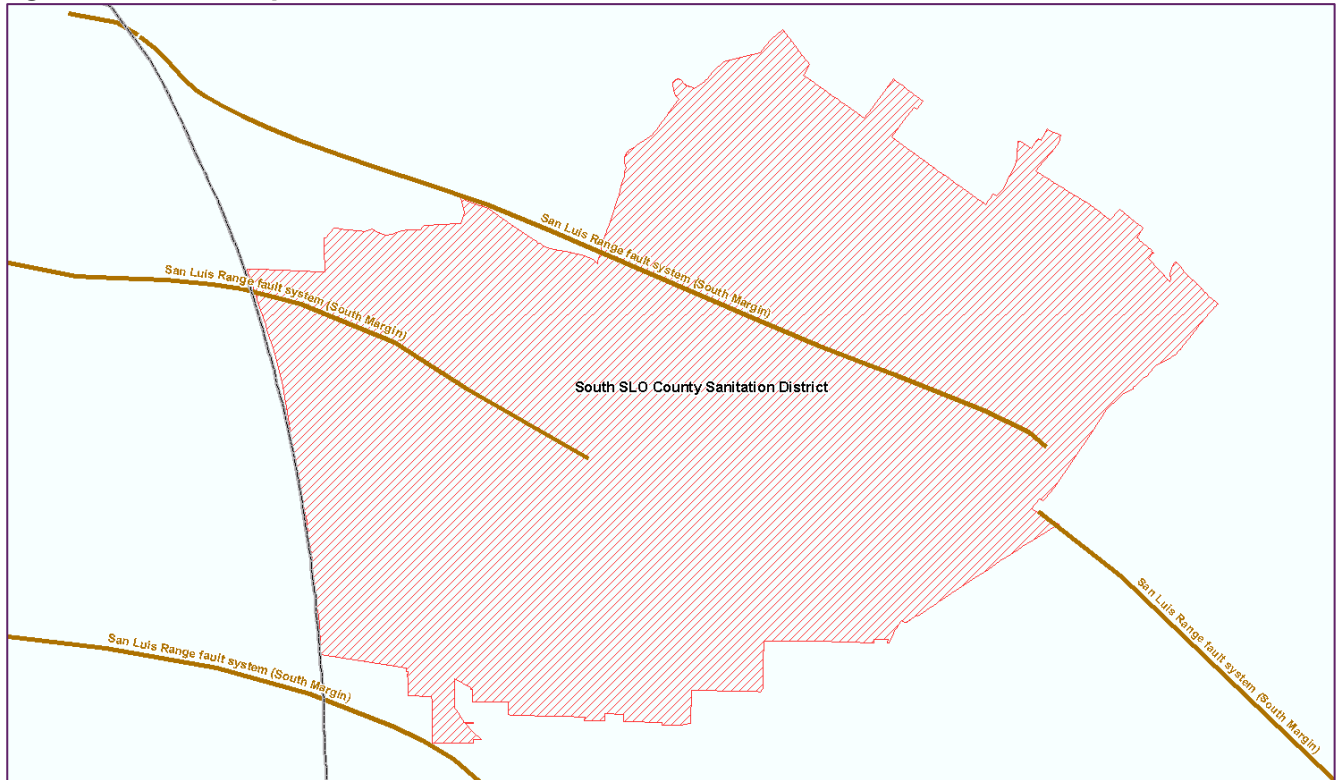
Earthquake and Liquefaction

The Sanitation District is underlaid by several earthquake faults such as those part of the San Luis Range/South Margin fault system. (See a very basic layout of the District and surrounding faults in Figure T-3). The seismic hazards of earthquake coupled with liquefaction (both of which are discussed in more detail in Section 5.3.7 of the Base Plan) are ranked as **High Significance** hazards due to the large degree of liquefiable soil risk in the Grover Beach, Arroyo Grande, and Oceano communities (see each respective City or CSD Annex for more information).





Figure T.3 Earthquake Faults near the Sanitation District



Source: USGS; San Luis Obispo County Planning and Building; LAFCO

Many people and properties would be expected to be affected by a moderate or major seismic event in the area, as noted in the Base Plan and three community Annexes. Additionally, 44 of the Sanitation District's 49 critical facilities are located within moderately liquefiable soils (based on GIS analysis). Table T.9 summarizes these facilities based on type and count.



**Table T.9 Critical Facilities in Moderate Liquefaction Risk Areas in the Sanitation District**

Critical Facility Type	Facility Total
Day Care Facilities	12
Emergency Medical Service Stations	4
Fire Stations	3
Hospitals	2
Local Law Enforcement	3
Microwave Service Stations	2
Nursing Homes	2
Private Schools	3
Public Schools	8
Wastewater Treatment Plants	1
Water Treatment Facilities	1
Airports	1
Paging Transmission Towers	1
Urgent Care	1
TOTAL	44

Source: San Luis Obispo County Planning and Building Dept., HIFLD, Wood Plc Analysis

Flood

The Sanitation District is at risk of riverine flooding based on FEMA data last updated for San Luis Obispo County in February of 2019. Per the maps and analysis available in Section 5.3.8 of the Base Plan, as well as the Arroyo Grande, Grover Beach, and Oceano CSD Annexes, major sources of flooding in the District include the 100- and 500-year flood events as well as coastal flooding. These major sources of flooding are summarized in the bullet list below based on the three member communities. The main areas that would experience major flooding are the Oceano CSD (on the west, south, and east), the west and north of Grover Beach, and the northwest, south, central-east, and north/northeast of Arroyo Grande. Based on the information summarized in this chapter as well as the Planning Team's recommendations, flood is ranked as a **Medium Significance** hazard for the Sanitation District.

The Sanitation District is not required to participate separately in the National Flood Insurance Program (NFIP) but will continue to support the County's participation in and compliance with the NFIP.

Major Sources of Flooding in the District:

- Arroyo Grande Creek
- Pismo Creek
- Tar Spring Creek
- Meadow Creek
- Los Berros Creek
- Smaller tributaries of the five waterways named above
- Coastal flooding (of type VE based on FEMA flood zone designations) on the beach front

Flood Control Zones

The San Luis Obispo County Flood Control and Water Conservation District was founded in 1945, and this entity provides general funding to help communities identify flooding problems, recommend solutions, and help





implement projects while establishing zones to benefit the funding of specific mitigation projects. The following two zones encompass portions of the Sanitation District:

- Zone 1: Arroyo Grande Creek Channel/Zone 1A – Los Berros Diversion Channel of Arroyo Grande Creek
- Zone 3: Arroyo Grande Creek

Refer to Section 5.3.8 of the Base Plan for more details on these flood control zones as well as past or ongoing projects that affect or relate to this Sanitation District.

Levees

There is one levee system that provides flood protection and hence reduces the risk to people and structures in the Sanitation District, per the San Luis Obispo County Dam and Levee Failure Evacuation Plan completed in 2016. The Arroyo Grande Creek Levee System is especially vulnerable to flooding, and severe riverine-based inundation occurred from the Arroyo Grande Creek back in the 1950s, causing damages on farmlands and nearby infrastructure. The Arroyo Grande Creek Flood Control Project was established as a result of these flooding events to confine the Arroyo Grande Creek from its confluence with Los Berros Creek downstream. While this levee confines water and potential losses just south of the Oceano CSD, south and east of the Oceano Airport (refer to Figure 5-4 Arroyo Grande Levee System of the Section 5.3.8 in the Base Plan), future potential damages or losses could be greatly avoided to the Sanitation District's members, particularly between Highway 1 and the 22nd Street bridges, thanks to this levee system.

A main failure of this levee system was noted in March of 2001 when a heavy rain event caused breaching on the south side of the levee, between the Arroyo Grande Creek and the Union Pacific railroad bridge. Hundreds of acres of farmland, as well as residences and properties, were flooded and damaged.

Critical Facilities at Risk

Based on GIS overlay analysis of the Sanitation District's boundaries with the FEMA flood hazard areas, a total of five critical facilities were found to overlap with the District's floodplains. Two are located in the Oceano CSD, while three are in parts of Arroyo Grande or Grover Beach. Table T.10 below summarizes these facilities.

Table T.10 Critical Facilities in FEMA Flood Hazard Areas in the Sanitation District

Critical Facility Type	Name	Flood Event	Total Facilities
Day Care Facilities	YMCA South County Preschool	500-Year	5
Public Schools	Arroyo Grande High School		
	Santa Lucia ROP		
Airports	Oceano County Airport	100-Year	
Wastewater Treatment Plants	South San Luis Obispo SD Wastewater Treatment Plant		

Source: San Luis Obispo County Planning and Building Dept., HIFLD, FEMA NFHL, Wood Plc Analysis

Coastal Storm/Coastal Erosion/Sea Level Rise

As part of the 2019 HMP planning effort, a sea level rise risk assessment was completed to determine how sea level rise may affect coastal jurisdictions and critical facilities and how coastal flooding might be exacerbated in the future. The only critical facility that would be affected by sea level rise is the wastewater treatment plan, and there is no risk until the 300 cm scenario. Table T.11 and Table T.12 summarize the other properties at risk of inundation by sea level rise and sea level rise combined with a 1% annual chance coastal flood. The area of inundation by sea level rise and sea level rise combined with the 1% coastal flood are shown in Figure T.4 and





Figure T.5, respectively. See Section 5.3.4 Coastal Storm/Coastal Erosion/Sea Level Rise in the base plan for more details on the scenarios and data sources used for this analysis.

Table T.11 Properties Inundated by Sea Level Rise and Sea Level Rise with 1% Annual Chance Flood

Property Type	25-cm SLR	75-cm SLR	300-cm SLR	25-cm SLR w/ 1% Flood	75-cm SLR w/ 1% Flood	300-cm SLR w/ 1% Flood
Agricultural	--	--	1	--	--	1
Commercial	--	--	15	--	--	19
Government/Utilities	--	--	13	--	--	16
Other/Exempt/Misc.	--	--	21	--	--	29
Residential	--	--	147	--	--	177
Multi-Family Residential	--	--	74	--	--	85
Mobile/Manufactured Homes	--	--	1	--	--	2
Residential: Other	--	--	20	--	--	24
Industrial	--	--	1	--	--	3
Vacant	--	--	2	--	--	2
Total	--	--	295	--	--	358

Source: Wood analysis with USGS CoSMoS 3.1 data

Table T.12 Improved Values of Properties Inundated by Sea Level Rise and Sea Level Rise with 1% Annual Chance Flood*

Property Type	25-cm SLR	75-cm SLR	300-cm SLR	25-cm SLR w/ 1% Flood	75-cm SLR w/ 1% Flood	300-cm SLR w/ 1% Flood
Agricultural	--	--	\$165,701	--	--	\$165,701
Commercial	--	--	\$2,392,580	--	--	\$2,929,341
Government/Utilities**	--	--	\$0	--	--	\$0
Other/Exempt/Misc.**	--	--	\$6,073,385	--	--	\$6,928,953
Residential	--	--	\$23,571,351	--	--	\$28,460,496
Multi-Family Residential	--	--	\$7,721,566	--	--	\$12,459,912
Mobile/Manufactured Homes	--	--	\$281,303	--	--	\$586,646
Residential: Other	--	--	\$2,792,785	--	--	\$4,238,793
Industrial	--	--	\$62,392	--	--	\$107,956
Vacant	--	--	\$242,315	--	--	\$242,315
Total	\$0	\$0	\$43,303,378	\$0	\$0	\$56,120,113

*South SLO Sanitation District encompasses the Cities of Grover Beach and Arroyo Grande as well as the majority of the Oceano CSD. As such, the totals for the Sanitation District may be duplicative when compared to the other cities' and the CSD's totals.

**Values may be underestimated as some values not available in parcel data due to being exempt from tax assessment; Port San Luis values represent pier valuations provided by the District.

Source: Wood analysis with USGS CoSMoS 3.1 data





Figure T.4 South SLO Sanitation District Sea Level Rise Scenario Analysis: Tidal Inundation Only

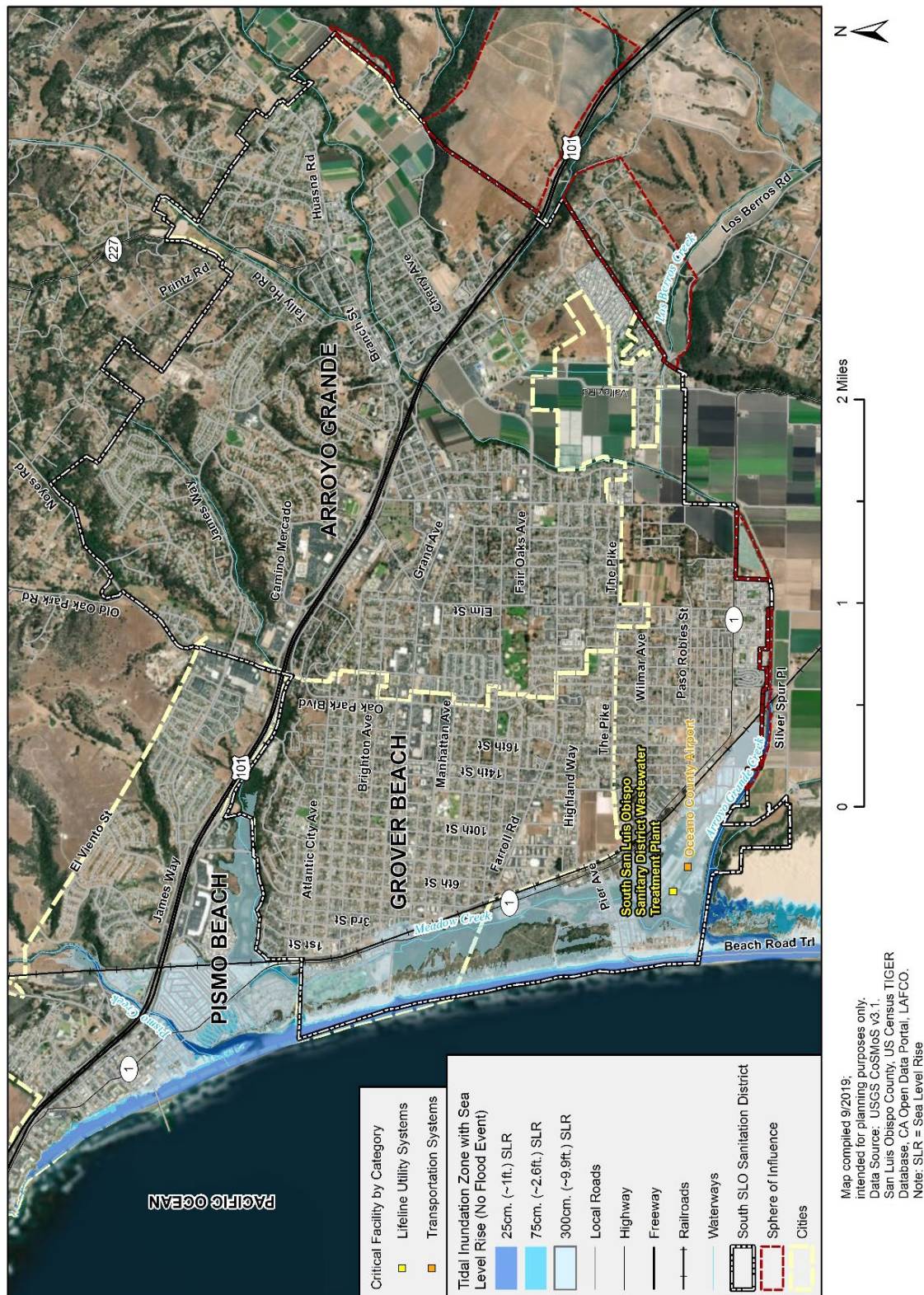
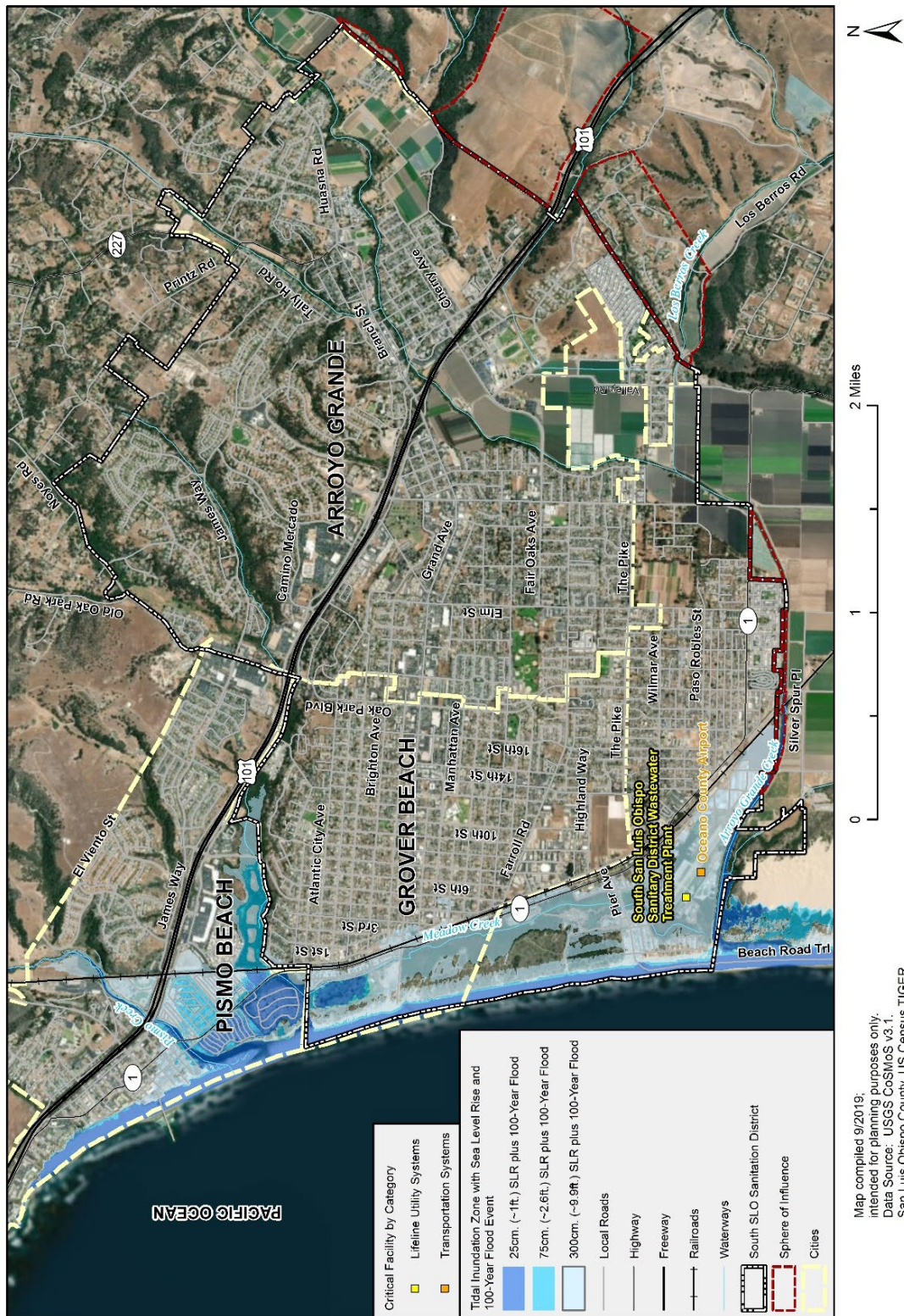




Figure T.5 South SLO Sea Level Rise Scenario Analysis: Tidal Inundation and 1% Annual Chance Flood





T.4 Capability Assessment

Capabilities are the programs and policies currently in use to reduce hazard impacts, or that could be used to implement hazard mitigation activities. This capability assessment is divided into five sections: regulatory mitigation capabilities, administrative and technical mitigation capabilities, fiscal mitigation capabilities, mitigation outreach and partnerships, and other mitigation efforts.

To develop this capability assessment, the jurisdictional and District planning representatives used a matrix of common mitigation activities to inventory policies or programs in place. The team then supplemented this inventory by reviewing additional existing policies, regulations, plans, and programs to determine if they contributed to reducing hazard-related losses.

During the plan update process, this inventory was reviewed by the jurisdictional and district planning representatives and Wood consultant team staff to update information where applicable and note ways in which these capabilities have improved or expanded. In summarizing current capabilities and identifying gaps, the jurisdictional planning representatives also considered their ability to expand or improve upon existing policies and programs as potential new mitigation strategies. The Sanitation District capabilities are summarized below.

T.4.1 Regulatory Mitigation Capabilities

Table T.11 identifies existing regulatory capabilities the District has in place to help with future mitigation efforts. Note: many of the regulatory capabilities that can be used for the District are within the County's jurisdiction. Refer to the Base Plan's Section 6 Capability Assessment for specific information related to the County's mitigation capabilities as well as more details on this topic.

Table T.13 Sanitation District Regulatory Mitigation Capabilities

Regulatory Tool	Yes/No	Comments
General plan	No	
Zoning ordinance	No	
Subdivision ordinance	No	
Growth management ordinance	No	
Floodplain ordinance	No	
Other special purpose ordinance (stormwater, water conservation, wildfire)	Yes	Sanitary Sewer System Use Ordinance 2011-1 and Pretreatment Ordinance 1994-1
Building code	No	
Fire department ISO rating	No	
Erosion or sediment control program	No	
Stormwater management program	No	
Site plan review requirements	No	
Capital improvements plan	No	
Economic development plan	No	
Local emergency operations plan	No	
Other special plans	No	
Flood Insurance Study or other engineering study for streams	No	
Elevation certificates (for floodplain development)	No	

Source: Wood Data Collection Guide, 2019; Sanitation District





T.4.2 Administrative/Technical Mitigation Capabilities

Table T.12 identifies the personnel responsible for activities related to mitigation and loss prevention in the South SLO County Sanitation District.

Table T.14 Sanitation District Administrative/Technical Mitigation Capabilities

Personnel Resources	Yes/No	Department/Position/Comments
Planner/engineer with knowledge of land development/land management practices	Yes	District Administrator
Engineer/professional trained in construction practices related to buildings and/or infrastructure	Yes	District Administrator
Planner/engineer/scientist with an understanding of natural hazards	Yes	District Administrator
Personnel skilled in GIS	Yes	Operators
Full time building official	No	
Floodplain manager	No	
Emergency manager	No	
Grant writer	No	
Other personnel	Yes	District Administrator (Professional Engineer), Certified Wastewater Treatment Plant Operators, ELAP Certified Laboratory Technician, Secretary/Bookkeeper
GIS Data Resources (Hazard areas, critical facilities, land use, building footprints, etc.)	Yes	Arc GIS of Trunk Sewer Line
Warning systems/services (Reverse 9-11, outdoor warning signals)	No	

Source: Wood Data Collection Guide, 2019; Sanitation District

T.4.3 Fiscal Mitigation Capabilities

Table T.13 identifies financial tools or resources that the District could potentially use to help fund mitigation activities.

Table T.15 Sanitation District Fiscal Mitigation Capabilities

Financial Resources	Accessible/Eligible to Use (Yes/No)
Community Development Block Grants	No
Capital improvements project funding	Yes
Authority to levy taxes for specific purposes	No
Fees for water, sewer, gas, or electric services	Yes
Impact fees for new development	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	No
Incur debt through private activities	No
Withhold spending in hazard prone areas	No



T.4.4 Mitigation Outreach and Partnerships

The South SLO County Sanitation District runs a responsible water use outreach program to encourage conservation and efficiency by sending out public notices via quarterly newsletters, school outreach efforts, and bill stuffers for water conservation, responsible water use, and sewer misuse examples. Other outreach, partnership, and general District efforts include those stated in existing planning mechanisms such as the Local Hazard Mitigation Plan shared by the participating jurisdictions (Arroyo Grande and Grover Beach) and the special district (Oceano), last updated in 2015.

T.4.5 Other Mitigation Efforts

The following mitigation projects were noted by the Planning Team as being completed since the 2015 plan.

- Completed August 2016: Sea Level Rise Analysis. To assess the existing and future flood exposure of the wastewater treatment facility, including estimates of the flood elevations and frequencies, which will be used to inform the environmental review, permitting, and design of the District's Redundancy Project.
- Completed December 2018: Coastal Hazards Monitoring Plan. Study to prepare a Coastal Hazards Monitoring Plan that can be implemented by the District to track how hazards change over time, and to document actions and responses for managing those hazards.
- Completed January 2019: SSLO Sanitation District Wastewater Treatment Plant Redundancy Project Geotechnical Report. This report provides geotechnical recommendations for the design of a new clarifier, aeration basin, blower building, equipment pads and associated piping. The proposed improvements if implemented according to the recommendations in the report will add redundancy to the existing wastewater treatment plant and add resiliency to the plan relative to flooding, seismic, and coastal hazards, notably soil liquefaction.

T.4.6 Opportunities for Enhancement

Based on this capability assessment and the noted information from existing plans and efforts (e.g., those noted in the District's Strategic Plan from 2018), the South SLO County Sanitation District has several existing mechanisms in place that help to mitigate hazards. There are also opportunities for the District to expand or improve on these policies and programs to further protect the community. Future improvements may include: providing training for staff members related to hazards or hazard mitigation grant funding in partnership with the County and Cal OES; or obtaining official certification such as Storm Ready or FireWise certifications. Additional training opportunities will help to inform District staff and board members on how best to integrate hazard information and mitigation projects into the District policies and ongoing duties of the District. Continuing to train District staff on mitigation and the hazards that pose a risk to the South SLO County Sanitation District will lead to more informed staff members who can better communicate this information to the public and prevent or respond to changes in development and the District makeup overall. Furthermore, the Planning Team for the District noted that South SLO Sanitation District often seeks to find opportunities to reinforce and strengthen its infrastructure during the initial design of facilities planned to be built. The District has developed a robust Coastal Hazards Monitoring Plan. A review process that involves assessing existing facilities against hazards to determine their vulnerability has not been fully cataloged, so the District hopes to continue these ongoing efforts in the future.

T.5 Mitigation Strategy

T.5.1 Mitigation Goals and Objectives

The Sanitation District adopts those hazard mitigation goals and objectives developed by the County Planning Team and described in Section 7 of the Base Plan: Mitigation Strategy.





T.5.2 Completed 2015 Mitigation Actions

The South SLO County Sanitation District has completed two mitigation actions identified in the 2015 plan. These completed actions have reduced vulnerability to hazards and increased local capability to implement additional mitigation actions. The following are the completed mitigation actions:

- SD.3 Sea Level Rise Analysis. To assess the existing and future flood exposure of the wastewater treatment facility, including estimates of the flood elevations and frequencies, which will be used to inform the environmental review, permitting, and design of the District's Redundancy Project.
- SD.4 Coastal Hazards Monitoring Plan. Study to prepare a Coastal Hazards Monitoring Plan that can be implemented by the District to track how hazards change over time, and to document actions and responses for managing those hazards.

T.5.3 Mitigation Actions

The Planning Team for the South SLO County Sanitation District identified and prioritized the following mitigation actions based on the conducted risk assessment (see Table T.1). Actions were prioritized using the process described in Section 7.2.1 of the Base Plan. Background information and information on how each action will be implemented and administered, such as ideas for implementation, responsible office, potential funding, estimated cost, and timeline are also included. Actions with an asterisk (*) are those that mitigate losses to future development.



**Table T.14 South SLO County Sanitation District's Mitigation Action Plan**

ID	Hazard(s) Mitigated	Description/Background/Benefits	Lead Agency and Partners	Cost Estimate	Potential Funding	Priority	Timeline	Status/ Implementation Notes
SD.1	Coastal Flood/ Coastal Erosion/ Sea Level Rise	Coastal Monitoring Program. Regularly monitoring flood and other coastal hazards at the site and management responses to those hazards both on and off site. Identifying how those hazards are impacting and affecting operations of the wastewater treatment plant. Identifying changes necessary to allow continued appropriate and required functioning of the plant. Identifying flood/hazard "triggers" to establish when actions (such as retrofits, upgrades, and including plant relocation) need to be pursued in response to specific flood/hazard events or flood management activities.	SSLOCSD	\$10,000 to \$50,000	SSLOCS/ FEMA HMA	High	Annual implementation	New. Benefits would include reduced coastal flooding impacts
SD.2	Flood; Coastal Flood/ Coastal Erosion/ Sea Level Rise; Earthquake, Dam incident	Redundancy Project - Flood Risk Mitigation Strategy. All critical new and existing facilities will be installed or upgraded to be protected from the 100-year flood event on Arroyo Grande Creek as defined by Flood Insurance Rate Map (FIRM) maps. This would also protect these facilities from floods caused by sea level rise for the design life of the facilities and provide additional protection from dam incident flooding.	SSLOCSD	\$10,000 to \$50,000	SSLOCS/ Redundancy Project	High	2-3 yrs.	New Benefits include Protection of critical structures, equipment, continued operations of the wastewater treatment plant during a 100-year flood event. Redundant facilities will also be designed according to current state seismic design standards.
SD.3	Earthquake	Wastewater Treatment Plant Redundancy Project – Implementation of liquefaction hazard mitigation measures per	SSLOCSD	\$10,000 to \$50,000	SSLOCSD/ Redundancy Project	High	More than 5 yrs.	New Benefits: Ability to conceptualize the





ID	Hazard(s) Mitigated	Description/Background/Benefits	Lead Agency and Partners	Cost Estimate	Potential Funding	Priority	Timeline	Status/ Implementation Notes
		the 2019 Redundancy Project Geotechnical Report during construction of additional treatment infrastructure.						cost of relocating the plant if necessary, in the future. (\$130,000,000 in 2016 dollars to relocate); relocation would incorporate current seismic design and provide added dam incident mitigation benefits.





T.6 Implementation and Maintenance

Moving forward, the South SLO County Sanitation District will use the mitigation action table in the previous section to track progress on implementation of each project. Implementation of the plan overall is discussed in Section 8 Implementation and Monitoring of the Base Plan.

T.6.1 Incorporation into Existing Planning Mechanisms

The information contained within this annex and the Base Plan, including results from the Vulnerability Assessments and the Mitigation Strategy, will be used by the District to help inform updates of the Sanitation District's existing plans (e.g. Strategic Plan) as well as in the development of additional local plans, programs, regulations, and policies. Understanding the hazards that pose a risk and the specific vulnerabilities to the District and its sphere of influence will help in future capital improvement planning and development for the District. The San Luis Obispo County Planning & Building Department may utilize the hazard information when reviewing a site plan or other type of development applications within or nearby the boundaries of the South SLO County Sanitation District area. As noted in Section 8 Implementation and Monitoring, the Planning Team representative/s from the South SLO County Sanitation District will report on efforts to integrate the hazard mitigation plan into local plans, programs, regulations, and policies and will report on these efforts at the annual Hazard Mitigation Plan and Planning Team review meeting.

T.6.2 Monitoring, Evaluation and Updating the Plan

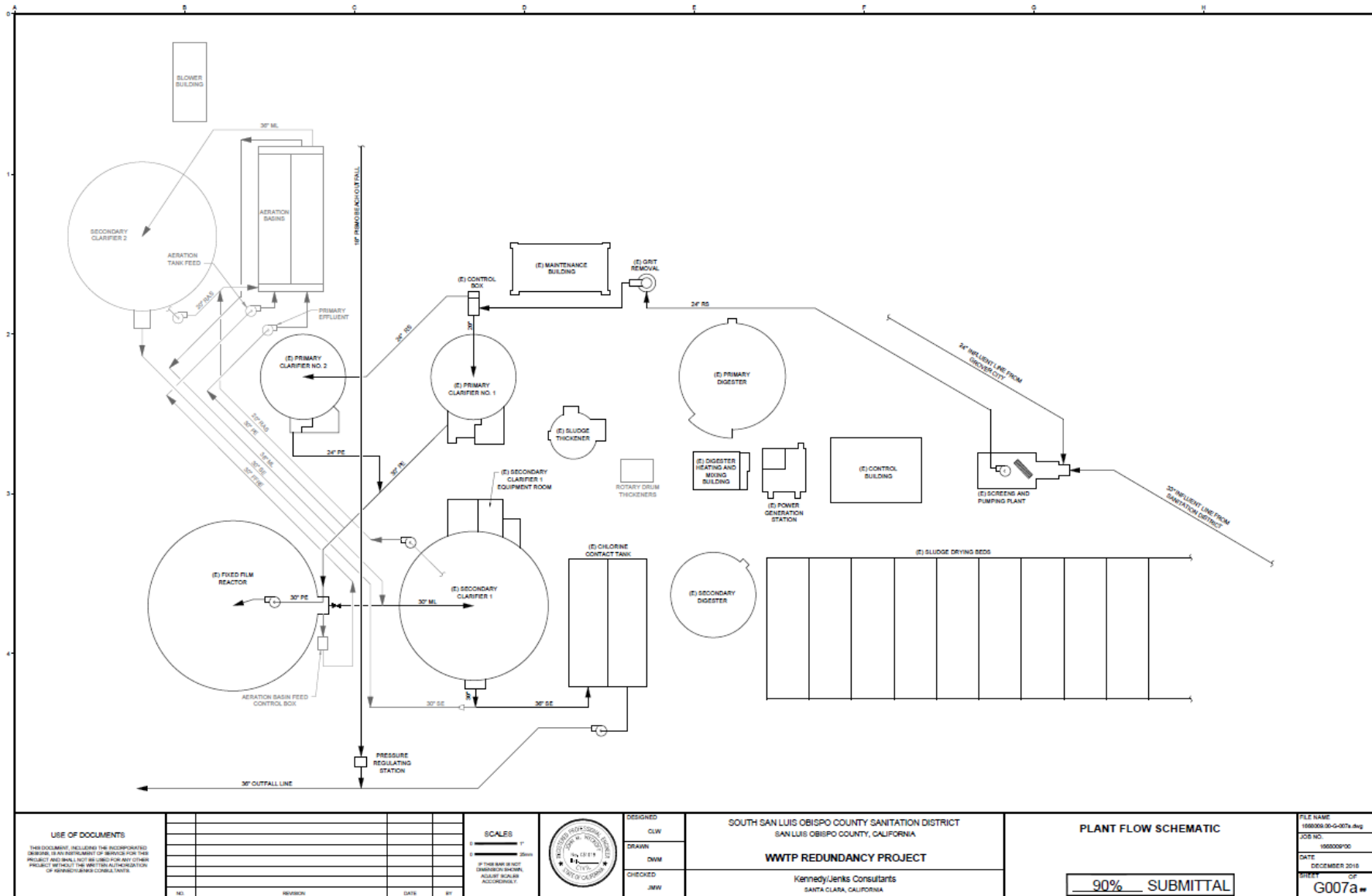
The South SLO County Sanitation District will follow the procedures to monitor, review, and update this plan in accordance with San Luis Obispo County as outlined in Section 8 of the Base Plan. The District will continue to involve the public in mitigation, as described in Section 8.3 of the base plan. The CSD General Manager will be responsible for representing the Community Services District in related County Hazard Mitigation Plan meetings or events, and for coordination with County staff and departments during plan updates. The Sanitation District realizes it is important to review the plan regularly and update it every five years in accordance with the FEMA Disaster Mitigation Act Requirements as well as other State of California requirements.

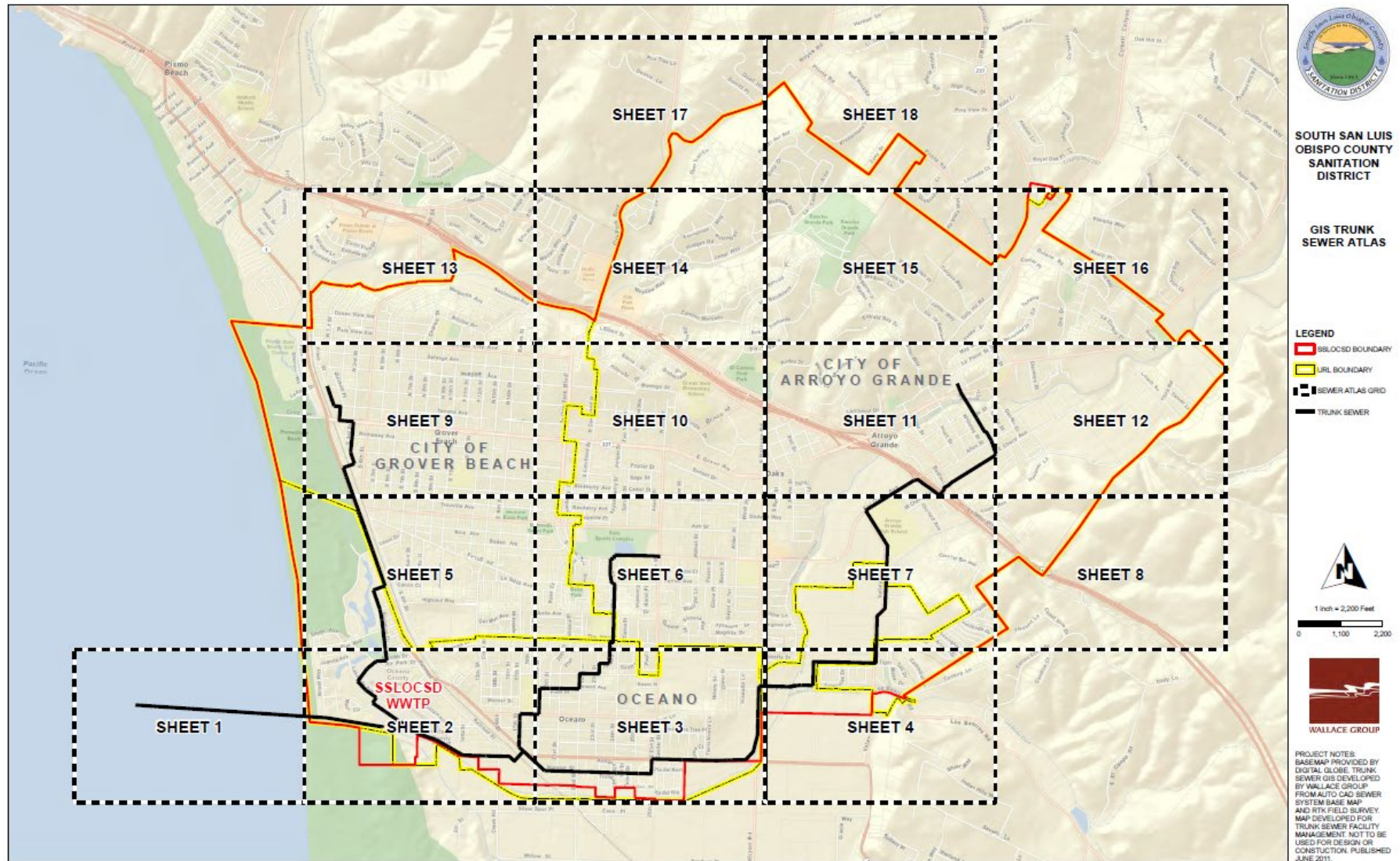




T.7 Attachments









U.S. Department of Homeland Security
FEMA Region IX
1111 Broadway, Suite 1200
Oakland, CA 94607

FEMA

September 3, 2020

Scott Milner
Emergency Services Coordinator
County of San Luis Obispo Office of Emergency Services
1055 Monterey Street, D430
San Luis Obispo CA 93408

Dear Mr. Milner:

We have received documentation from the Cayucos Sanitary District, the Heritage Ranch Community Service District, the Nipomo Community Service District, and the Templeton Community Service District, confirming their adoption of the *San Luis Obispo County Multi-Jurisdictional Hazard Mitigation Plan*. These jurisdictions are now in compliance with the planning requirements of the Disaster Mitigation Act of 2000.

The *San Luis Obispo County Multi-Jurisdictional Hazard Mitigation Plan* is valid for five years from the approval date, June 22, 2020, for all approved participants. The plan must be reviewed, updated and submitted to FEMA Region IX for approval at least once every five years. An updated list of the current status of participating jurisdictions is enclosed with this letter.

The approval of this plan ensures the Cayucos Sanitary District, the Heritage Ranch Community Service District, the Nipomo Community Service District, and the Templeton Community Service District's continued eligibility for project grants under FEMA's Hazard Mitigation Assistance programs, including the Hazard Mitigation Grant Program, Building Resilient Infrastructure and Communities Program, and Flood Mitigation Assistance Program. All requests for funding, however, will be evaluated individually according to the specific eligibility, and other requirements of the particular program under which applications are submitted.

If you have any questions regarding the planning or review processes, please contact the FEMA Region IX Hazard Mitigation Planning Team at fema-r9-mitigation-planning@fema.dhs.gov.

Sincerely,

for Juliette Hayes
Director
Mitigation Division
FEMA Region IX

cc: Victoria LaMar-Haas, Hazard Mitigation Planning Chief, California Governor's Office of
Emergency Services
Jennifer Hogan, State Hazard Mitigation Officer, California Governor's Office of Emergency
Services

Status of Participating Jurisdictions as of September 3, 2020

Jurisdictions – Adopted and Approved

#	Jurisdiction	Date of Adoption
1	San Luis Obispo County	6/16/2020
2	Grover Beach, City of	6/22/2020
3	Paso Robles, City of	5/19/2020
4	San Luis Obispo, City of	6/2/2020
5	Ground Squirrel Hollow Community Services District	5/13/2020
6	Los Osos Community Service District	6/4/2020
7	San Luis Obispo County Flood Control and Water Conservation District	6/16/2020
8	San Miguel Community Services District	5/28/2020
9	Cayucos Sanitary District	8/20/2020
10	Heritage Ranch Community Service District	7/16/2020
11	Nipomo Community Service District	6/24/2020
12	Templeton Community Service District	8/4/2020

Jurisdictions – Approvable Pending Adoption

#	Jurisdiction
1	Arroyo Grande, City of
2	Atascadero, City of
3	Morro Bay, City of
4	Pismo Beach, City of
5	Avila Beach Community Service District
9	Port San Luis Harbor District
7	San Simeon Community Service District
8	South San Luis Obispo County Sanitation District