

# 19. STAR SEWER AND WATER DISTRICT

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## 19.1 MULTI-HAZARD MITIGATION PLAN POINT OF CONTACT

### Primary Point of Contact

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## 19.2 JURISDICTION PROFILE

### 19.2.1 Overview

The Star Sewer & Water District (District) receives its operating authority from Idaho State Code, Title 42, Chapter 32, Sections 43-3201 to 42-3238. The District was created 1966 in response to a need for central water and sewer service. A five-member elected Board of Directors governs the District. The District's current service area is bounded by Ada/Canyon County line and Kingsbury Road to the west, Highway 16 on the east, the Boise River to the south, and the foothills to the north. The District's impact area was established based on topographic and natural boundaries.

The District provides both sewer and water services to an area which includes the City of Star and unincorporated lands in Ada and Canyon County. The area's economic base consists of agriculture, commercial, and some light industrial districts. The District is committed to providing the service area with quality water and sewer service for residential, commercial, and most industrial/public needs.

Star Sewer & Water District operates a wastewater treatment plant consisting of a membrane bioreactor mechanical plant, and a partially aerated treatment and polishing lagoon treatment system. The combined effluent from the lagoon and mechanical plant discharges to the Lawrence-Kennedy Canal under an NPDES permit that has been in effect since September 1999.

Sewer lift stations serve as a central point of collection for gravity sewer lines. The raw sewage is conveyed by gravity to these collection points and the lift stations pressurize and lift the sewage either into other gravity collection lines or push the flow directly to the wastewater treatment plant. The District currently owns three lift stations located on Big Wood Way (River Ranch), WWTP property, and W State Street (Western Regional).

The District owns five operable wells and one water storage tank. Three wells are primary wells that are used to fill the tank with groundwater and or serve water to the public directly. Water flows by gravity out of the tank and provides pressurized domestic and fire flows to the service area. The District also maintains a distribution system including approximately 50 miles of pipeline and nearly 500 fire hydrants.

Star Sewer & Water District operates almost exclusively on revenue from new connections and current user fees. A small amount is also levied on property taxes to pay for the District’s operation and maintenance costs and the property and administrative liability insurance.

## 19.2.2 Service Area and Trends

The District serves a population of approximately 6,500 as of 2013. Its service area covers an area of 22 square miles, which has a total market value (including occupancy rolls) is \$1,182,833,889.

Population trends used to estimate future population of the Star Sewer & Water District service area can be approximated by utilizing existing population projections created for the District in the 2015 Wastewater Facility Planning Study. From 1990 to 2013, the City of Star experienced a ten-fold increase in population. Even during the recent downturn in the housing market, the City of Star maintained a fairly steady growth rate. For example, in fiscal year 2014, the Star Sewer & Water District issued 213 new sewer/water connections, in 2015 that number was 200 new sewer/water connections. Through May of 2016 the District had issued 80 new sewer/water connections.

If a growth percentage of 5% (as selected by District officials for the 2015 Wastewater Facility Planning Study) is used, the estimated population served by the Star Sewer & Water District will be approximately 10,200 by 2025.

## 19.2.3 Assets

Table 19-1 summarizes the critical assets of the district and their value.

<b>Asset</b>	<b>Value</b>
<b>Property</b>	
10 acres of land	\$600,000
<b>Critical Infrastructure and Equipment</b>	
Approximately 51 miles of water pipe throughout District	\$26,928,000
Approximately 51 miles of sewer pipe throughout District	\$26,928,000
Operations & Maintenance Vehicles	\$250,000
<b>Total:</b>	<b>\$54,106,000</b>
<b>Critical Facilities</b>	
District Office	\$150,000
Wastewater Treatment Facility	\$25,000,000
River Ranch Lift Station	\$500,000
Western Regional Lift Station	\$1,000,000
Well 1	\$1,000,000
Well 2	\$50,000
Well 3	\$1,200,000
Trellis Wells	\$1,200,000
Water Tank	\$750,000
<b>Total:</b>	<b>\$30,850,000</b>

## 19.3 PLANNING AND REGULATORY CAPABILITIES

The following existing codes, ordinances, policies or plans are applicable to this Multi-Hazard Mitigation Plan:

- Clean Water Act
- Endangered Species Act
- Idaho Department of Environmental Quality
- U.S. Environmental Protection Agency
- Idaho Administrative Code
- Idaho Administrative Procedure Act
- Wastewater Facility Planning Study (2015)
- Water System Master Plan Update (2014)
- Idaho Statewide Implementation Plan
- All other applicable laws, ordinances, codes and policies enforced by federal, state and local authorities with a sphere of influence over the District’s service area.

## 19.4 FISCAL, ADMINISTRATIVE AND TECHNICAL CAPABILITIES

An assessment of fiscal capabilities is presented in Table 19-2. An assessment of administrative and technical capabilities is presented in Table 19-3.

**Table 19-2. Fiscal Capability**

<b>Financial Resources</b>	<b>Accessible or Eligible to Use?</b>
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	No
Incur Debt through Private Activity Bonds	No
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Other: LID, CID	Yes

**Table 19-3. Administrative and Technical Capability**

<b>Staff/Personnel Resources</b>	<b>Available?</b>	<b>Department/Agency/Position</b>
Planners or engineers with knowledge of land development and land management practices	Yes	Contract engineer
Engineers or professionals trained in building or infrastructure construction practices	Yes	Contract engineer
Planners or engineers with an understanding of natural hazards	Yes	Contract engineer
Staff with training in benefit/cost analysis	Yes	Contract engineer
Surveyors	Yes	Contract engineer
Personnel skilled or trained in GIS applications	Yes	Contract engineer
Scientist familiar with natural hazards in local area	Yes	Contract engineer
Emergency manager	Yes	Ada County Emergency Management (ACEM)
Grant writers	Yes	Contract engineer

## 19.5 EDUCATION AND OUTREACH CAPABILITIES

An assessment of education and outreach capabilities is presented in Table 19-4.

**Table 19-4. Education and Outreach**

Criteria	Response
Do you have a Public Information Officer or Communications Office?	No
Do you have personnel skilled or trained in website development?	No
Do you have hazard mitigation information available on your website? • If yes, please briefly describe.	No
Do you utilize social media for hazard mitigation education and outreach? • If yes, please briefly describe.	No
Do you have any citizen boards or commissions that address issues related to hazard mitigation? • If yes, please briefly specify.	No
Do you have any other programs already in place that could be used to communicate hazard-related information? • If yes, please briefly describe.	No
Do you have any established warning systems for hazard events? • If yes, please briefly describe.	Yes Code Red/ISAWS – residents may sign up to receive emergency notifications and critical community alerts. Both systems are IPAWS enabled and may additionally access that integrated system for public warnings.

## 19.6 INTEGRATION WITH OTHER PLANNING INITIATIVES

The following describe the jurisdiction’s process for integrating the Multi-Hazard Mitigation Plan into existing plans and programs.

### 19.6.1 Existing Integration

The following plans and programs currently integrate the goals, risk assessment and/or recommendations of the Multi-Hazard Mitigation Plan:

- City of Star Comprehensive Plan—The 2008 Star Comprehensive Plan includes mitigation related policies as they relate to the protection of human life and property from flood events.
- Ada County Wildfire Response Plan—The Wildfire Response Plan for Ada County includes procedures that will mitigate risk to human life and property from a wildfire.

### 19.6.2 Opportunities for Future Integration

The following plans and programs do not currently integrate the goals, risk assessment and/or recommendations of the Multi-Hazard Mitigation Plan, but provide an opportunity for future integration:

- Star City, Star Sewer & Water District, and Star Joint Fire Protection District Joint Emergency Operation Plan (EOP)—This joint plan has not been developed, but the Multi-Hazard Mitigation Plan will be significantly affected when an EOP is developed.
- Star Sewer & Water District Continuity of Operation Plan (COOP)—This plan has not been developed, but the Multi-Hazard Mitigation Plan will be significantly affected when a COOP is developed.

## 19.7 JURISDICTION-SPECIFIC NATURAL HAZARD EVENT HISTORY

Table 19-5 lists all past occurrences of natural hazards within the jurisdiction.

**Table 19-5. Natural Hazard Events**

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Flooding	n/a	May 30, 2011	\$4,500

## 19.8 JURISDICTION-SPECIFIC VULNERABILITIES

Noted vulnerabilities to the jurisdiction include:

- Trellis wells have no backup power source
- Sewer manholes below the 100-year floodplain are not sealed
- WWTP, Regional lift station, and River Ranch lift station have not been evaluated for flood risk based on new FIRM maps

## 19.9 HAZARD RISK RANKING

Table 19-6 presents the ranking of the hazards of concern.

**Table 19-6. Hazard Risk Ranking**

Rank	Hazard Type	Risk Rating Score (Probability x Impact)	Category
1	Flood	45	High
2	Severe Weather	32	High
3	Earthquake	32	High
4	Dam Inundation	18	Medium
5	Wildfire	18	Medium
6	Drought	9	Low
7	Volcano	6	Low
8	Landslide	0	Low

## 19.10 STATUS OF PREVIOUS PLAN INITIATIVES

The Star Sewer & Water District did not participate in the previous version of the hazard mitigation plan, and has no previous plan initiatives status updates to report.

## 19.11 HAZARD MITIGATION ACTION PLAN AND EVALUATION OF RECOMMENDED ACTIONS

Table 19-7 lists the actions that make up the Star Sewer & Water District hazard mitigation action plan.

Table 19-8 identifies the priority for each action. Table 19-9 summarizes the mitigation actions by hazard of concern and the six mitigation types.

**Table 19-7. Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline
<b>SSW -1—Add Backup Generators to Trellis Wells:</b> The groundwater wells in the Trellis Subdivision currently have no backup power source to continue operating in the case of a power outage. To continue to provide service during hazards, both wells will be equipped with backup generators.						
New and Existing	All Hazards	3, 7, 10	District	High	District Funds, HMGP	Short-term
<b>SSW-2—Add Backup Generator to River Ranch Lift Station:</b> The lift station currently has no backup power source to continue operating in the case of a power outage. To continue to provide service during hazards, the lift station will be equipped with a backup generator.						
New and Existing	All Hazards	3, 7, 10	District	High	District Funds, HMGP	Short-term
<b>SSW-3—Waterproof Manholes in 100-year Floodplain:</b> The sewer collection system has many pipes and manholes that are in the 100-year floodplain. The manhole lids and structures are not waterproof and could pose significant risk to other facilities if flood water were to enter through the manholes.						
Existing	Flood, Severe Weather, Dam Failure	1,10	District	High	District Funds, HMGP	Long-term
<b>SSW-4—Assess Flood Risk of WWTP, Western Regional Lift Station, and River Ranch Lift Station:</b> The risk to these facilities has not been evaluated since new FIRM maps were created. In order to prevent possible damage from flood events, a flood risk evaluation should be completed.						
Existing	Flood, Severe Weather, Dam Failure	1, 2, 10	District	Medium	District Funds, HMGP	Short-term
<b>SSW-5—Develop a Joint Emergency Operation Plan with Star City and Star Joint Fire Protection District:</b> This plan is necessary to establish a single, comprehensive framework for the management of domestic incidents. The City of Star will lead this all-discipline action, but Star Sewer & Water District will aid in planning for all hazards.						
New and Existing	All Hazards	All	Star City	Medium	City Funds, District Funds, HMGP	Short-term
<b>SSW-6—Develop a Continuity of Operation Plan:</b> This plan will provide specific policies and procedures that will be carried out in the event of an emergency, including localized acts of nature, accidents, and technological or attack-related emergencies. The plan will address how the District will continue to perform essential functions in the event of compromised facilities or leadership, and how the District will return to normal operations.						
New and Existing	All Hazards	All	District	Medium	District Funds, HMGP	Short-term
<b>SSW-7—Support County-wide Initiatives Identified in Volume 1 of the Multi-Hazard Mitigation Plan</b>						
New and Existing	All Hazards	All	Ada County	Low	All county districts and municipalities, HMGP	Short-term
<b>SSW-8—Actively Participate in the Plan Maintenance Protocols Outlined in Volume 1 of the Multi-Hazard Mitigation Plan</b>						
New and Existing	All Hazards	All	Ada County	Low	All county districts and municipalities, HMGP	Short-term
<b>SSW-9—SCADA System at Trellis Wells:</b> The wells in the Trellis subdivision currently don't have any emergency alert system or automatic operational controls in place. In order to receive emergency alerts from these wells, a SCADA system must be installed and this system must have cable or satellite communication with the District operations office.						
New and Existing	Severe Weather, Wildfire	1, 2, 3, 7, 10	District	Medium	District Funds, HMGP	Short-term
<b>SSW-10—Water Tank Power &amp; SCADA (Supervisory Control and Data Acquisition):</b> The water tank currently receives power from solar panels and batteries. In addition, there is no SCADA system. In case of an emergency, a backup primary power supply would provide more reliability in operations for the water tank; primary power supply will be extended to the tank as part of this project. In order to receive emergency alerts from the tank, a SCADA system must be installed and this system must have cable or satellite communication with the operations office.						
New and Existing	Severe Weather, Wildfire	1, 2, 3, 7, 10	District	Medium	District Funds, HMGP	Short-term

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline
<p><b>SSW-11—Add Backup Generator at the WWTP:</b> The WWTP currently has one backup power generator, but this generator is not capable of powering the entire plant. A second backup generator is recommended to improve redundancy and expand backup power to full plant operations.</p>						
New and Existing	All Hazards	3, 7, 10	District	High	District Funds, HMGP	Short-term

**Table 19-8. Mitigation Strategy Priority Schedule**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Implementation Priority <sup>a</sup>	Grant Priority <sup>a</sup>
SSW-1	3	High	High	Yes	Yes	No	Medium	High
SSW-2	3	High	High	Yes	Yes	No	Medium	High
SSW-3	2	High	High	Yes	Yes	No	Medium	High
SSW-4	3	High	Medium	Yes	Yes	No	Medium	High
SSW-5	10	Medium	Medium	Yes	Yes	No	Medium	Medium
SSW-6	10	Medium	Medium	Yes	Yes	No	Medium	Medium
SSW-7	10	Low	Low	Yes	No	Yes	High	Low
SSW-8	10	Low	Low	Yes	No	Yes	High	Low
SSW-9	5	High	Medium	Yes	Yes	No	Medium	High
SSW-10	5	High	Medium	Yes	Yes	No	Medium	High
SSW-11	3	High	High	Yes	Yes	No	Medium	High

a. See the introduction to this volume for explanation of priorities.

**Table 19-9. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>					
	1. Prevention	2. Property Protection	3. Public Education and Awareness	4. Natural Resource Protection	5. Emergency Services	6. Structural Projects
Dam Failure	SSW-5, SSW-6, SSW-7, SSW-8	SSW-1, SSW-2, SSW-3, SSW-4, SSW-7, SSW-8, SSW-9, SSW-10, SSW-11	SSW-5, SSW-6, SSW-7, SSW-8		SSW-1, SSW-2, SSW-5, SSW-6, SSW-9, SSW-10, SSW-11	
Drought	SSW-1, SSW-2, SSW-7, SSW-8, SSW-9, SSW-10	SSW-9, SSW-10	SSW-5, SSW-6, SSW-7, SSW-8		SSW-1, SSW-2, SSW-5, SSW-6, SSW-9, SSW-10, SSW-11	
Earthquake	SSW-7, SSW-8		SSW-5, SSW-6, SSW-7, SSW-8		SSW-1, SSW-2, SSW-5, SSW-6, SSW-9, SSW-10, SSW-11	
Flood	SSW-5, SSW-6, SSW-7, SSW-8	SSW-1, SSW-2, SSW-3, SSW-4, SSW-7, SSW-8, SSW-11	SSW-5, SSW-6, SSW-7, SSW-8		SSW-1, SSW-2, SSW-5, SSW-6, SSW-9, SSW-10, SSW-11	
Landslide	SSW-7, SSW-8		SSW-7, SSW-8		SSW-1, SSW-2, SSW-5, SSW-6, SSW-9, SSW-10, SSW-11	
Severe weather	SSW-5, SSW-6, SSW-7, SSW-8	SSW-1, SSW-2, SSW-3, SSW-4, SSW-7, SSW-8, SSW-9, SSW-10, SSW-11	SSW-5, SSW-6, SSW-7, SSW-8		SSW-1, SSW-2, SSW-5, SSW-6, SSW-9, SSW-10, SSW-11	
Volcano	SSW-7, SSW-8		SSW-7, SSW-8		SSW-1, SSW-2, SSW-5, SSW-6, SSW-9, SSW-10, SSW-11	
Wildfire	SSW-7, SSW-8	SSW-1, SSW-2, SSW-9, SSW-10	SSW-5, SSW-6, SSW-7, SSW-8	SSW-1, SSW-9, SSW-10	SSW-1, SSW-2, SSW-5, SSW-6, SSW-9, SSW-10, SSW-11	

a. See the introduction to this volume for explanation of mitigation types.