

Cal OES - Hazard Mitigation Assistance

- [Close Window](#)
- [Print This Page](#)
- [Expand All](#) | [Collapse All](#)

PA-00002019

Information

Pre-App Number	PA-00002019	Owner	
First Name of Person Completing NOI	Kim	Last Name of Person Completing NOI	Pugel
Subapplicant Name (Entity)	Stantec	Subapplicant Type	City
EIN (For Private Non-Profits)		DUNS	169211554
FIPS	047-46898		

NOI Status

Application Status	Pending Review	Sub-Applicant Eligible	
Status Reason		Activity Eligible	

NOI Information

Subapplication Type	Project	Project Type	Seismic Retrofitting
Hazard	Earthquake	HMA Program	HMGP

Address Information

Street Address	678 West 18th Street	County	Merced
City	Merced	Region	Inland
State	CA	Zip Code	95340

Project/Plan Information

Project / Plan Title	Merced Aeration Basin Seismic Improvements Project - Prepare California Match	Brief Summary	Subapplicant: City of Merced. Project is to seismically retrofit the existing aeration basin capacity and blower building located at the City of Merced Wastewater Treatment Facility (WWTF). The WWTF serves 90,000 people and is subject to damages and service disruptions from seismic events. The project will result in the aeration basin and blower building being retrofitted to comply with or exceed the 2022 CA Building Code and withstand forces that are 57% greater than the 1976 code in effect when originally constructed. Prepare CA: The WWTF serves the entire City of Merced, comprising more than 20 census tracts. The majority of tracts have an SVI above 0.70, a median household income less than 80% of the statewide median, and are
----------------------	---	---------------	---

above the 85th percentile for at least one hazard risk.

Activity Location 37°15'11"N 120°31'31"W

Project Duration (in Months) 36

Previous Subapplication Information

Subapplication previously submitted? No

Previously Submitted under this Program:

Project number of previous submission

Potential for Duplication of Programs

Another Federal entity has authority? No

If yes, identify the Federal Entity

Work Started/Authority

Physical project work already started? No

Description of work started/completed

Subapplicant is responsible for asset? Yes

Entity Responsible For Operation

Feasibility

Independent mitigation activity? Yes

Mitigation is dependent on

Planning studies or feasibility reports? Yes

If yes, what is available?

"City of Merced Wastewater Treatment Facility Phase VI Preliminary Draft Design Report, February 2021" and "City of Merced Wastewater Treatment Facility Phase VI Improvements Project Report, December 2022"

Design documents for this project? Yes

If yes, what is available?

"Seismic Evaluation of Merced WWTF Aeration Basins No. 1 and 2, Merced, California, April 2023" and the "90% Complete "City of Merced WWTF Phase VI Improvements Design Drawings and Specifications". Blower Building: 90% design to be completed by 8/2023

Is activity repair or maintenance? Yes

Is there increased level of protection?

Yes

Problem Statement

Describe the problem to be mitigated

Note: Subapplicant is the City of Merced. This NOI has been submitted on the City's behalf by Stantec.

A recent seismic evaluation has found "the facility is judged to have a high seismic risk with portions susceptible to collapse in a strong earthquake" (2023 Seismic Evaluation page 2.1). The existing aeration basins and blower building were constructed in the 1970s in compliance with the 1976 Uniform Building Code. The anticipated impacts of a seismic event to the basins and blower building include damages up to and including collapse. Following a seismic event, the damage or collapse of the aeration basin and/or blower building would result in an extended downtime and loss of wastewater treatment services for the 90,000 people of Merced served by the facility.

The WWTF is a critical facility listed in the Merced County Multi-Jurisdictional Hazard Mitigation Plan. Seismic risks are also identified. While the project is not listed by name in the HMP, the project would address priorities in the Plan.

Solution Description

What is the mitigation action?	The project will design and construct a seismic retrofit to the existing WWTF aeration basin facilities, along with retrofitting the existing blower building to comply with or exceed 2022 California Building Code standards.		
	The seismic evaluation of the existing aeration basin states “there is no practical retrofit option for the (existing) FRP wall system.” The project will therefore require the replacement of the existing aeration basin foundations and walls systems in order to retrofit the existing capacity of the facility.		
	Given the facility services cannot be paused or turned off during project implementation, the project will be implemented over several stages. The existing 100% design plans will be finalized and competitive procurement will occur to select a construction contractor firm.		
	Construction Stage One will focus on Aeration Basin #2. The existing aeration capacity of Basin #2 will be bypassed, the basin will be removed, and replaced with a seismically resilient basin constructed to 2022 California Building Code standards. Upon completion of Stage One, Aeration Basin #2 capacity will reengaged and the project will move to Stage Two.		
	Construction Stage Two will involve the bypassing, removal, and installation of seismically code compliant Aeration Basin #1. Additionally, Stage Two will involve seismically retrofitting the existing blower building to comply with or exceed the 2022 California Building Code.		
Protection From Future Natural Hazards	Upon completion of construction activities, project close out activities will occur.		
	The project will result in seismic upgrades to the existing blower building and the aeration basin capacity. The project will not result in additional aeration capacity being added to the facility, but the capacity will become seismically mitigated and future losses from disaster events will be prevented.		
Implementation Plan For Mitigation	The seismically retrofitted aeration basin capacity and blower building will be designed to comply with or exceed the 2022 California Building Code. Retrofitting these critical WWTF functions to 2022 California Building Code standard will reduce future disaster damages and loss of service to the 90,000 persons served by the wastewater treatment facility. The current 2022 building code withstands forces that are 57% greater than the 1976 code.		
	Carbon emissions: The project will fuel the aeration basin blowers using natural, renewable digester gas that is generated at the facility, reducing carbon emissions using a nature-based solution.		
	The project is proposed to be implemented in several stages over the course of 36 months.		
	Following project approval and obligation, designs and permitting activities will be finalized, competitive procurement/selection of a construction contractor will be undertaken, and construction activities will be scheduled to begin. It is anticipated these activities can be completed within 9 months or less.		
	Construction Stage One will occur over the course of 12 months and focus on Aeration Basin #2. The existing aeration capacity of basin #2 will be taken offline, the basin will be removed, and replaced with a seismically resilient basin constructed to 2022 California Building Code standards. Upon completion of Stage One aeration basin #2 capacity will be reengaged and the project will move to Stage Two.		
	Construction Stage Two will occur over 12 months and involve Aeration Basin #1. The basin will taken offline, removed, and a seismically code compliant basin will installed. Stage Two will also involve seismically retrofitting the existing blower building to comply with or exceed the 2022 California Building Code.		
	Following completion of construction activities, project close out will occur over the course of 3 months.		

Phase Determination

Is (are all) Project Site(s) identified?	Yes	What is the percentage level of design?	100%
Is this project phased?	No		

Benefit Cost Analysis

Do you have documented past damage/loss?	No	If yes, what is available?	
Do you have data on the extent of risk?	Yes	If yes, what is available?	Structural/Seismic Evaluation of Merced WWTF Aeration Basins No. 1 and 2,

Activity Cost

Total Activity Cost	\$29,846,000.00	Non-Federal Cost Share	\$7,461,500.00
Federal Request Share	\$22,384,500.00	Percentage of Subapplicant Match	25.0%
Percentage of Federal Request Share	75.0%	Source of subapplicant match	Prepare California Match

Local Hazard Mitigation Plan Information

Does your entity have an active LHMP?	Yes	LHMP Approval Date	5/20/2022
LHMP Development Status	Adopted	Activity in Mitigation Plan	Yes
Created By	Kim Pugel, 4/3/2023, 8:47 AM	Last Modified By	Kim Pugel, 5/5/2023, 3:01 PM

Contact Roles

CR-00008425

Contact **Kim Pugel**
Role **Primary Contact**
Type **Primary**

CR-00008426

Contact **Ken Elwin**
Role **Primary Contact**
Type **Primary**

CR-00008427

Contact **Steven Beck**
Role **Primary Contact**
Type **Primary**

CR-00008428

Contact **Stephanie Dietz**
Role **Responsible Representative**
Type **Primary**

Files

Merced_WWTF_Aeration_Basins_Structural_Seismic_Evaluation_Report_Ver-4_with_appendices

Last Modified **5/5/2023, 1:52 PM**
Created By **Kim Pugel**