CITY OF SANTA CRUZ Water Department

Our Water, Our Future

212 Locust Street, Suite C, Santa Cruz, CA 95060 ◆ (831) 420-5200

March 16, 2020

Notice of Preparation of an Environmental Impact Report and Public Scoping Meeting Notice

RE: Laguna Creek Diversion Retrofit Project

To Interested Agencies and Persons:

The City of Santa Cruz (City) as the Lead Agency for the Laguna Creek Diversion Retrofit Project (Proposed Project) has issued this Notice of Preparation (NOP) pursuant to the California Environmental Quality Act (CEQA) to notify interested parties that an Environmental Impact Report (EIR) for the Proposed Project will be prepared. The EIR will evaluate potential environmental impacts of the Proposed Project. The City is soliciting public input regarding the scope and content of environmental information to be included in the EIR.

The NOP provides information about the public review and comment period, project location, project description and the probable environmental effects of the Proposed Project, and is posted on the City's website at cityofsantacruz.com/waterenvdocs.

Public Review and Comment

Because your agency may need to use the EIR prepared by our agency when considering your permit or other approval for the Proposed Project, if any is required, please respond with written comments regarding the proposed scope and the intended content of the EIR as it relates to your agency's area of statutory responsibility or your areas of concern or expertise. We are requesting that all comments be provided in writing to enable us to address the comments as intended in the EIR. Written comments are also requested from organizations and other interested parties regarding the scope and evaluation of potential environmental issues associated with the Proposed Project.

Written responses are due within 30 days of the receipt of this notice, as provided by state law. As such, a 30-day public review and scoping period is established from **March 16, 2020, to April 15, 2020**. Comments may be submitted by mail, email, or by attending the Public Scoping Meeting (see details below) and submitting a written comment. All comments should indicate a contact person for the agency or organization, if applicable.

All written responses are requested to be received by 5:00 p.m. on Monday, April 15, 2020, and should be sent to the following address:

Jessica Martinez-McKinney, Associate Planner II
City of Santa Cruz Water Department
212 Locust Street, Suite C
Santa Cruz, CA 95060
Email: jmartinezmckinney@cityofsantacruz.com

One public scoping meeting regarding the Proposed Project and EIR will be held. You or members of your agency or organization are invited to attend to provide written comments on the scope and content of environmental information to be included in the EIR. The meeting will be held as follows:

Tuesday, March 31, 2020 at 5:30 p.m. at Santa Cruz Police Department Community Room, 155 Center Street, in Santa Cruz

Project Location and Existing Facilities

The Proposed Project, located in the Davenport Quadrangle (U.S. Geological Survey), involves the City's Laguna Creek Diversion Facility (Facility), which serves as an important source of raw water for the City's North Coast System. The Facility directs water from Laguna Creek into the North Coast System by way of the Laguna Pipeline, just north of the Smith Grade roadway in unincorporated Santa Cruz County, in the community of Bonny Doon and approximately 12 miles northwest of downtown Santa Cruz (see Figure 1 in attachments to this NOP). The Facility is one of four surface water collection/diversion sources supplying raw water to the City's North Coast System. The Facility is approximately 0.1 mile upstream of the confluence with Reggiardo Creek and 4.0 miles upstream of the Pacific Ocean. The North Coast System provides approximately 15% to 35% of City's overall water supply, and enhances systemwide operational flexibility due to its favorable water quality and year-round reliability.

Access to the Facility is provided by unimproved roads off Smith Grade. The Facility is located on privately owned land (Assessor's Parcel Number 062-101-03) with deeded access and rights to the City for the Facility per an agreement from January 1889. The Facility is near the northwestern section of Wilder Ranch State Park (in a section closed to the public), and is surrounded by forested land and scattered residential development.

The Facility was originally constructed circa 1890 as a stone masonry dam and minor improvements have been installed subsequently, including the screened intake structure, a cover on the diversion flume, sediment control bypass valves in the dam, and a control building.

The dam is approximately 60 feet long and 12 feet high and spans the entire width of the creek channel. The dam creates an impoundment upstream that passively directs water into a screened intake structure connected to a diversion flume. A schematic diagram of the existing Facility is shown in Figure 2.

The diversion flume is approximately 100 feet long and channels diverted water into the Laguna Pipeline, a transmission pipeline that conveys water via gravity to the City's Coast Pump Station from which it is pumped for treatment at the City's Graham Hill Water Treatment Plant.

The Facility includes two sediment control bypass valves in the dam that are operated pneumatically to move sediment movement past the dam. The rate at which water is diverted from the creek to the Laguna Pipeline is controlled either manually or via the City's SCADA system by an electronic diversion control valve and measured by a propeller-type flowmeter. This system allows adjustments to the diversion rate to ensure adequate flow is maintained downstream of the Facility. A control building houses operational equipment. Piping from the flume also allows for flow to be returned to the stream to meet in-stream flow requirements, as needed. The creek passes under Smith Grade approximately 400 feet downstream from the Facility through a culvert maintained by Santa Cruz County.

As shown in Figure 1, the Proposed Project site consists of the Facility—the existing dam, intake structure, diversion flume, pipeline, control building, and downstream plunge pool—as well as the surrounding area, including the three existing unimproved access roadways from Smith Grade.

Existing Water Diversion Operations

The City has historically diverted water from Laguna Creek as needed throughout the year based on established pre-1914 senior water rights. However, since 2013, the City has limited its diversions in order to maintain beneficial in-stream flows suitable for various salmonid life stages within the downstream anadromous reaches of Laguna Creek, based on ongoing agreements with the California Department of Fish and Wildlife. While the City is capable of diverting up to approximately 7 cubic feet per second based on current infrastructure, during the various salmonid life stages water is limited and often unavailable, as flows naturally recede below agreed in-stream flow levels. There is no typical diversion rate or diversion season, as the available flows are highly dependent on rainfall volume and timing.

Purpose and Need for the Project

While the Facility has several operational deficiencies related to management of sediment, fisheries protection, and maintenance challenges—issues that have been studied by the City—the overall condition of the Facility is satisfactory, with no signs of major deterioration, and it has adequate strength and stability for continued service.[1,2] Even so, since the early 2000s, the California Department of Fish and Wildlife has corresponded with the City requesting improvements to sediment management and fisheries protection at the Facility. To that end, the City's draft Anadromous Salmonid Habitat Conservation Plan includes improvements at the Facility as a biological objective and as a covered activity, and improvements were analyzed at a programmatic level in the 2005 Program EIR for the North Coast System Repair and Replacement Project.[3]

To address the aforementioned operational and maintenance issues, the City has developed the project-level definition of the Proposed Project, which is the subject of this project-level EIR. A description of these operational and maintenance issues and how the Proposed Project would address them is outlined as follows:

- In-stream Transport of Sediment. The dam impedes natural movement of sediment downstream. While two sediment control bypass valves can be operated during periods of sediment transport (e.g., during storms) to allow sediment to pass through the dam, they are intermittently clogged and have limited capacity, resulting in sediment buildup behind the dam.

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1 Black & Veatch. 2018. Laguna and Majors Diversions Condition Assessment Report. October 22, 2018.
2 Wood Rodgers. 2002. North Coast Rehabilitation Project Laguna and Majors Creeks Diversion Facilities. November 18, 2002.
3 Entrix. 2005. *Program Environmental Impact Report for the North Coast System Repair and Replacement Project*. Final. October 2005.

Periodic dredging and sediment removal is required to conduct maintenance activities and to clear the intake screens of sediment. The Proposed Project would address this issue by changing the type and orientation of the water intake so that sediment would not obstruct water intake through the screen and sediment would be able to pass downstream unimpeded. The new system would be designed to transport sediment past the dam in sync with the hydrology of the creek by using the stream energy present during high stream flows.

- Fish Protection Consistent with Regulatory Requirements. The existing intake screen is aged, buried in sediment, and near structural failure. The screen was designed to prevent entrainment of debris within the diverted water and has a woven-wire opening of approximately 0.5 inch. Weekly maintenance and cleaning of the existing intake screen is required to clear sediment from the intake structure when the Facility is in service.

  The existing screen panels do not meet current regulatory requirements for screening of non-anadromous fish species. While federally or state-listed anadromous fish species are not present in the Proposed Project area due to several downstream natural barriers, Laguna Creek does contain rainbow trout *(Oncorhynchus mykiss)* populations, and therefore appropriate fish screening will be provided by the Proposed Project.

  The Proposed Project would provide better controls of the water levels downstream so that fish are not stranded by rapid changes in water levels when the City diverts Laguna Creek and maintains the water intake.

- Maintenance, Safety, and Access. The Proposed Project would address operational and maintenance issues by providing a flexible approach to manage the quantity and quality of water that can be diverted, minimize the use of power, and provide for economical and operational feasibility. The Proposed Project would also allow for better remote control of diversions and would include improvements for safe access to the Facility.

Project Description

The Proposed Project would retrofit the existing Facility to provide for natural sediment transport past the diversion and to protect fish species and habitat, as described above. As shown in Figures 2 and 3, the Proposed Project would be comprised of the following primary components:

- New Intake Structure and Screen. The Proposed Project would use Coanda screen technology. A Coanda screen consists of finely spaced wedge-shaped wires that deflect a portion of the water to a collection chamber below the screen. The Coanda screen would be placed at the downstream side of the dam with the face of the screen sloped downward such that water would pass over it at high velocity. The Coanda screen technology involves no moving parts, provides screening of fine materials, and is self-cleaning, which minimizes issues with clogging and cleaning maintenance (see Figure 3 for images of the Coanda screen technology).

- New Intake Structure Appurtenances. New control valves would allow for diversion rates to be regulated at fine intervals. Water would be diverted into new diversion piping that would connect to the existing Laguna Pipeline. A water collection chamber would be installed to collect water for diversion into the new diversion piping. The water collection chamber would likely accumulate fine sediments, so a bypass piping system and control valve would be installed to clear the water collection chamber of sediment for either return to the creek or for manual removal.

- New Valve Control Vault. A concrete vault and other minor structures would be installed along the creek bank to house the new intake structure appurtenances. The valve vault would be installed in a location that is accessible by staff for maintenance and operation.
- Riprap Apron. Limited reinforcement of the dam and streambank may be necessary and may entail installation of a riprap apron at the base of the dam and/or placement of riprap or armoring materials along the creek to protect the vault and Facility.
- New Monitoring and Control Equipment. New monitoring and control equipment including water quality sensors, water meters, valve actuators, and telecommunications would be connected to the existing electrical distribution system on site.
- Existing Intake and Sediment Control Bypass Valves. The existing intake structure would be retained with modifications to allow for emergency diversion of water around the dam if needed for future maintenance activities. The proposed modifications would include installing piping inside the intake and backfilling with concrete around it. The sediment control bypass valves may be abandoned in place or capped to allow flexibility for future use.
- New Access and Safety Provisions. The Proposed Project may include access and safety improvements such as stairways and guard rails at various locations within the Facility including along the streambank, at the new intake structure, across the dam, and at the valve vault.

The Proposed Project would not increase the diversion rates at the Facility, which would remain consistent with those described above for the existing Facility (see Existing Water Diversion Operations above). The Proposed Project would continue to allow the City to operate its diversion while enhancing its ability to meet its in-stream flow requirements.

Construction

Upon completion of this environmental review and approval by the City of the Proposed Project, construction is anticipated to occur in 2021 and would take place over approximately 2 to 3 months during the low-flow period (June to October). Construction activities would generally include the following phases: pre-construction and site mobilization; construction of a cofferdam and stream flow bypass system; dam preparation and foundation work; concrete formwork and installation of the intake screen, piping, and valves; modification of existing intake and sediment control valves; startup and testing; site restoration; and commissioning.

A temporary cofferdam would be placed upstream and downstream of the dam with temporary connecting piping allowing for the bypass of steam flow around the dam so that the construction area is isolated from the flowing creek. Minor channel grading and sediment removal may be required upstream and downstream of the dam. Grading and contouring may be required along the streambank. The new intake structure, screen, and associated appurtenances would be constructed in the creek channel and streambank. The Proposed Project may require demolition of a portion of the dam or modifications to the dam for the installation of the new intake structure, appurtenances, and monitoring equipment. Improvements to the existing access roads from Smith Grade may entail limited tree removal for widening of the roads, compaction, grading, and placement of aggregate. Construction staging areas would generally be along the existing access roads on the site.

Probable Environmental Effects of the Proposed Project

After completing a preliminary review of the Proposed Project, as described in Section 15060(d) of the CEQA Guidelines, the City has determined that an EIR should be prepared to assess the potentially significant environmental impacts of the Proposed Project. Because the preparation of an EIR is clearly required for the Proposed Project, an Initial Study will not be prepared.

The EIR will address environmental impacts of the Proposed Project's construction and operation activities, and will propose mitigation measures to address significant impacts that are identified. The following describes the anticipated environmental issues that will be addressed in the EIR.

- Air Quality and Greenhouse Gas Emissions. Effects on air quality and greenhouse gas emissions would primarily be associated with construction activities and would be temporary and short term. However, both construction and operational emissions of criteria pollutants and greenhouse gasses will be estimated using the California Emissions Estimator Model emissions model and compared to the Monterey Bay Air Resources District emissions-based thresholds to assess potential impacts.
- Biological Resources. Potential impacts on biological resources could result from construction of a cofferdam and stream flow bypass system; installation of the intake screen, piping, and valves; modification of existing intake and sediment control valves; minor channel grading, contouring, and sediment removal upstream and downstream of the dam; dewatering activities; and access road improvements. Potential direct and indirect impacts to sensitive vegetation communities, special-status plant and wildlife species, and jurisdictional aquatic resources associated with both construction and operation of the Proposed Project will be assessed. A general biological survey of the study area, focused habitat assessments, aquatic resources jurisdictional delineation, and preparation of a technical biological resources report will be completed to support the EIR analysis.
- Cultural and Tribal Resources. Potential impacts to cultural and tribal resources could occur during ground-disturbing construction activities. In addition, the dam will be evaluated under all applicable federal, state, and local significance criteria. If found eligible, potential impacts from proposed modifications to the dam will be assessed and mitigation will be recommended, if warranted. Potential impacts to archaeological and tribal resources will also be evaluated. A cultural resources inventory and evaluation report will be prepared to support the EIR analysis.
- Energy. A temporary increase in the consumption of energy would be required during construction and limited use of power would be required for operations. The impact analysis will assess if the Proposed Project would result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation, or conflict with or obstruct a state or local plan for renewable energy or energy efficiency.
- Geology and Soils. Construction of the Proposed Project could result in site-specific impacts on or from local geology and soils conditions. Potential impacts related to geologic, seismic, and soils constraints will be assessed based on information provided in project geotechnical studies. Potential impacts to paleontological resources will also be evaluated.
- Hazards and Hazardous Materials. Potential impacts related to hazards and hazardous materials will be evaluated including the potential hazardous materials associated with

transport, use, and disposal of hazardous materials during construction and potential hazardous emissions or hazardous materials use during construction and operations.

- Hydrology and Water Quality. Potential impacts related to hydrology and water quality will be assessed including temporary and permanent impacts to hydrology and water quality as a result of in-stream construction and access road improvements.
- Land Use and Planning. Potential land use and planning impacts will be assessed. The analysis will evaluate potential conflicts with the County's Local Coastal Program and/or California Coastal Act, as relevant to the Proposed Project.
- Noise and Vibration. Potential construction-period noise and vibration impacts to sensitive receivers (residences) in the vicinity of the Proposed Project will be assessed with modeling based on noise measurements taken at the site and review of construction phases and equipment usage. Operational noise would not be expected to change with the Proposed Project and therefore will not be analyzed in detail in the EIR.
- Transportation. Construction-related vehicle trips will be estimated and temporary construction-related traffic will be evaluated to identify any hazardous conditions on roadways or inadequacies in emergency access that may result during construction of the Proposed Project. Given that operation of the Proposed Project would not result in substantial changes in staffing at the site, vehicle miles traveled will not be evaluated in detail in the EIR. Vehicle miles traveled is the new transportation metric for evaluating changes in project vehicle trips developed in response to Senate Bill 743 and the associated revisions to the CEQA Guidelines that became effective December 2018.
- Impacts Not Found Significant. The EIR will also explain why other effects were determined to not be potentially significant and were not discussed in detail in the EIR. For example, the Facility is not visible from public viewpoints, would not damage scenic resources, or produce light and glare; therefore, no significant aesthetic impacts are anticipated. The retrofit would not result in additional service/utility demands related to police or fire protection, schools, parks and recreation, water demand/supply, or wastewater generation. Agriculture and forestry resources, population and housing, mineral resources, and wildfire are also expected to not be significant and therefore will be discussed in this section.
- Other Sections. The EIR will include additional topics as required by the CEQA Guidelines including growth inducement, cumulative impacts, and alternatives.

  The Proposed Project would not expand the City's service area and would not increase the capacity to deliver water to meet the water supply needs in the existing service area. Therefore, construction of the Proposed Project would not likely result in growth-inducing impacts. Nevertheless, the potential for these types of impacts to result will be examined. In addition, the EIR will address whether the Proposed Project could result in cumulative impacts that are significant when combined with the impacts of other City projects or projects occurring in the area at the same time.

  The EIR will describe and evaluate a reasonable range of alternatives to the Proposed Project. The alternatives would feasibly attain most of the Proposed Project's basic objectives while simultaneously avoiding or substantially lessening any significant effects of the Proposed Project. The "No Project" alternative will also be evaluated as required by CEQA.

Further Information

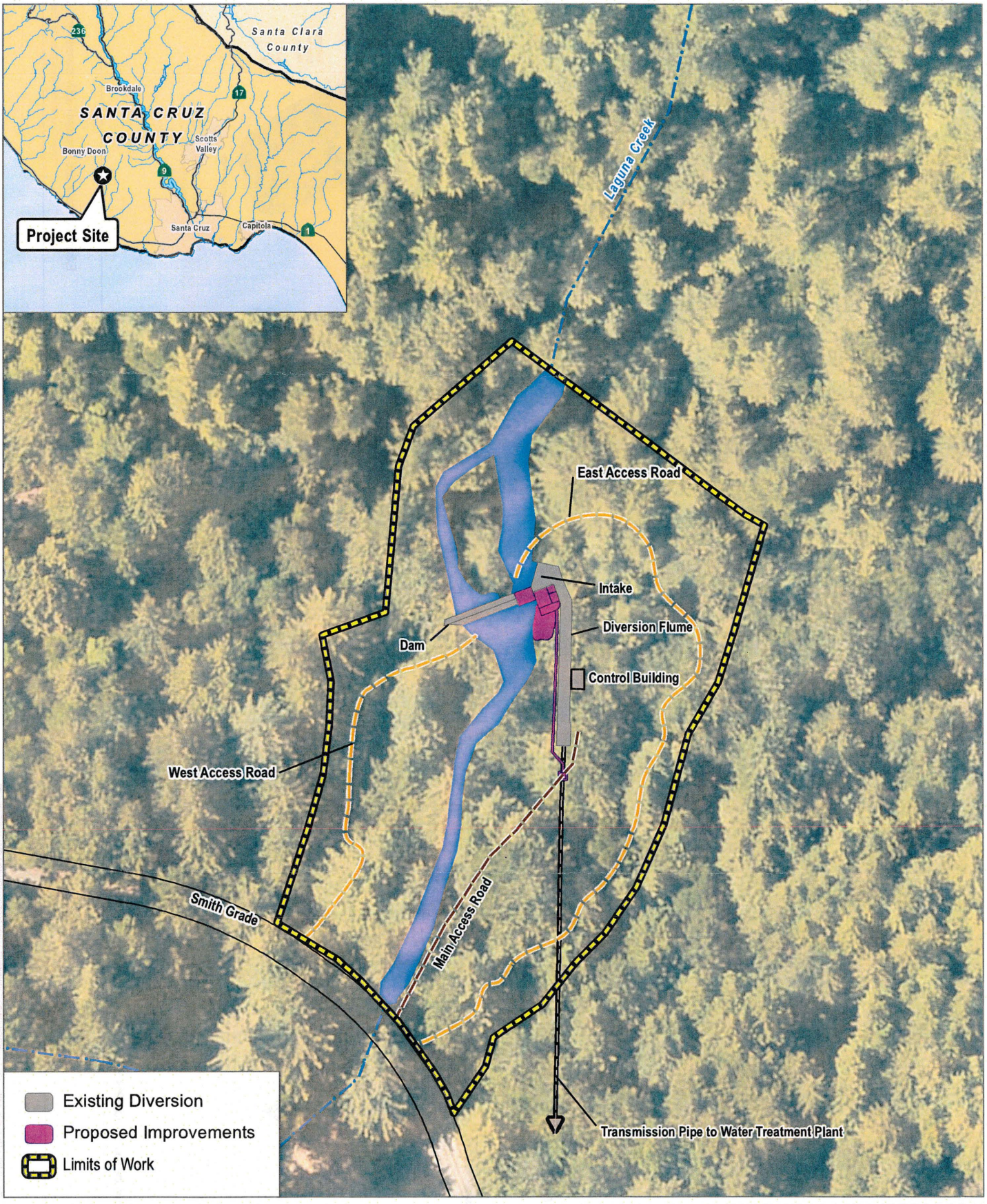
For environmental review information or questions about the Proposed Project, please contact Jessica Martinez-McKinney at jmartinezmckinney@cityofsantacruz.com.

Sincerely,

Jessica Martinez-McKinney
Associate Planner II

Attachments

Figure 1: Project Location and Vicinity
Figure 2: Existing Schematic and Proposed Facility Improvements (Plan View)
Figure 3: Coanda Screen Examples and Proposed Facility Improvements (Cross-section)



SOURCE: ESRI 2020, City of Santa Cruz 2019, USGS 2019

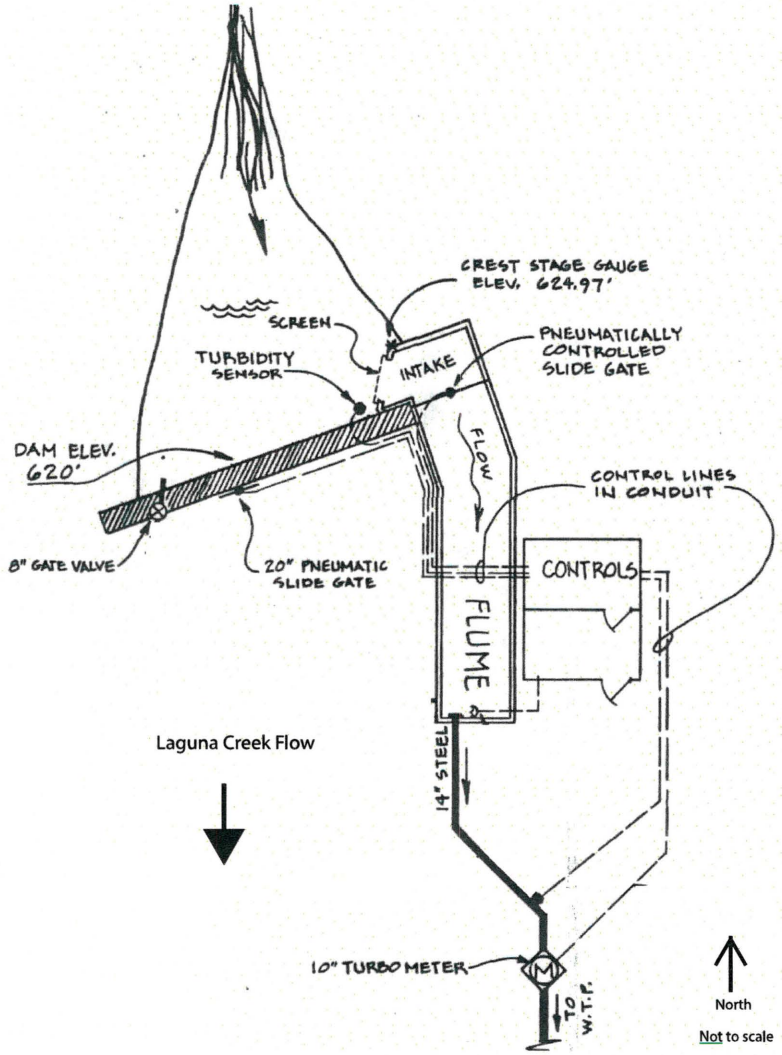
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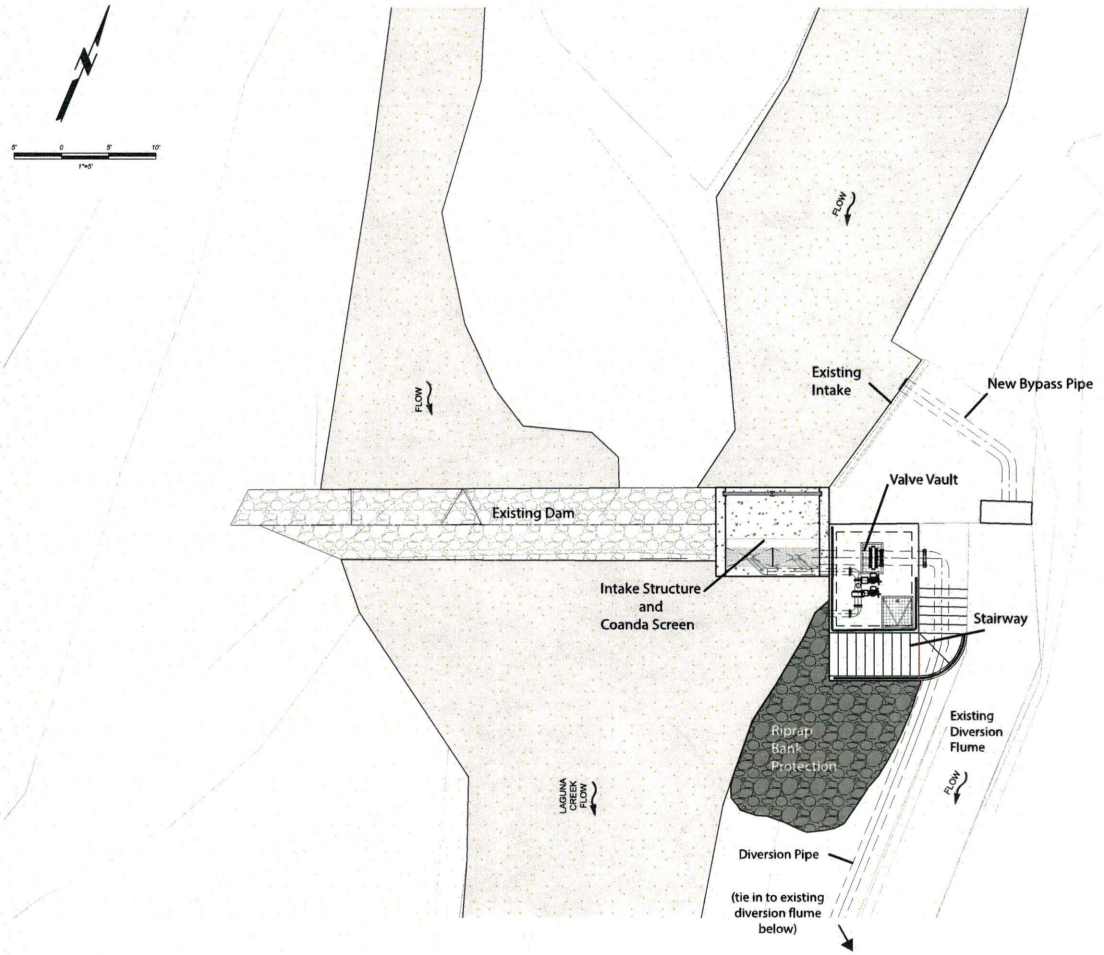
FIGURE 1

Project Location and Vicinity

Laguna Creek Diversion Retrofit Project - EIR Notice of Preparation



Existing Schematic for the Facility, circa 1964 (subsequent minor modifications not shown)



Proposed Improvements (Plan View)

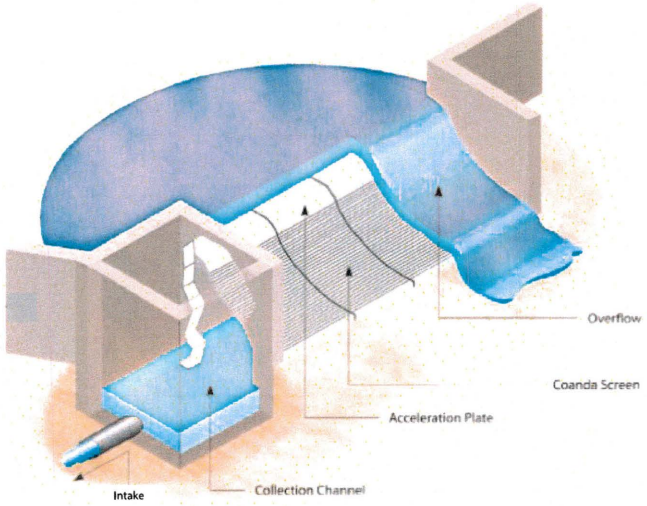
SOURCE: City of Santa Cruz 2019

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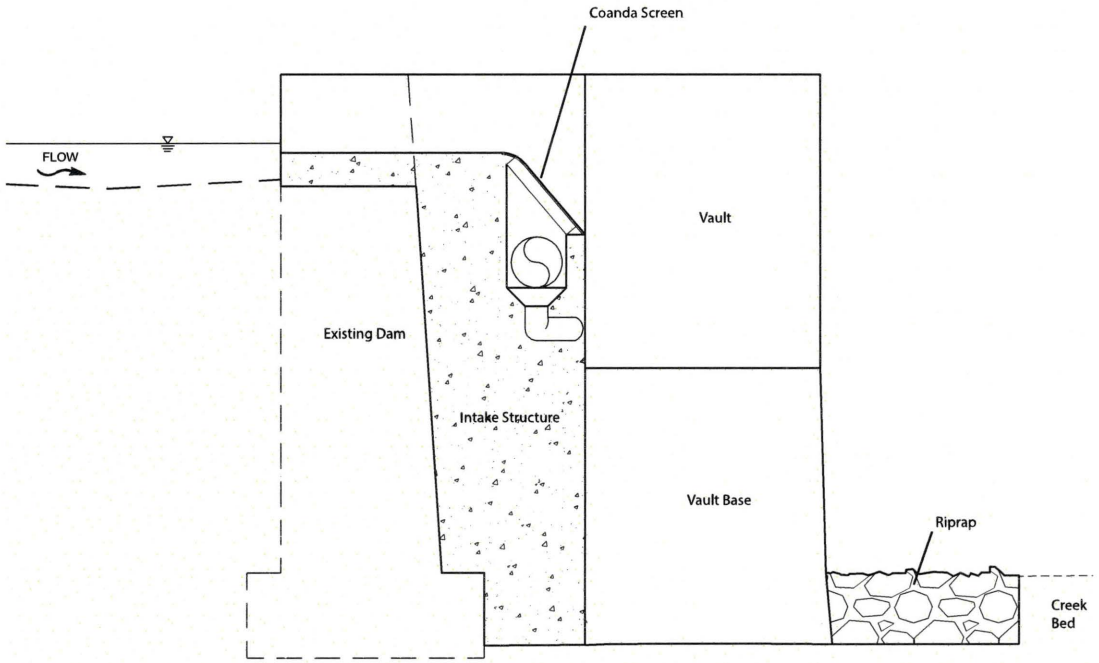
FIGURE 2

Existing Schematic and Proposed Facility Improvements (Plan View)





Coanda Screen Examples Photo and Schematic Diagram



Proposed Facility Improvements (Cross-section)

SOURCE: City of Santa Cruz 2019

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FIGURE 3

Coanda Screen Examples and Proposed Facility Improvements (Cross-section)

Laguna Creek Diversion Retrofit Project - EIR Notice of Preparation

In light of recent concerns around COVID-19 the City of Santa Cruz Water Department is taking extra safety precautions and modifying the format of the Laguna Creek Diversion Retrofit Project Scoping Meeting to provide alternative methods for public participation.

We will continue to hold the Scoping Meeting on March 31, 2020 at 5:30 p.m. at the Santa Cruz Police Department Community Room, 155 Center Street, in Santa Cruz. We are also providing a call-in number for remote participation and the posting the presentation on our website prior to the meeting.

Call-In Number: +1 (312) 757-3121
Access Code: 589-227-645
Presentation Location: www.cityofsantacruz.com/waterenvdocs