RECLAMATION

Managing Water in the West

Environmental Assessment

South Sutter Water District Pleasant Grove Canal Fish Screen Project

U.S. Department of the Interior
Bureau of Reclamation
Mid-Pacific Region

August 2014

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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List of Acronyms and Abbreviations

AES	Analytical Environmental Services
AF	Acre-feet
AFSP	Anadromous Fish Screen Program
CAA	Clean Air Act
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
cfs	cubic feet per second
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
DBH	diameter at breast height
District	South Sutter Water District
EA	Environmental Assessment
FWA	Family Water Alliance
GHG	Greenhouse Gas
ISI	Intake Screens, Inc.
ITA	Indian Trust Assets
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
PG&E	Pacific Gas & Electric
Reclamation	Bureau of Reclamation
SIP	State Implementation Plan
SSWD	South Sutter Water District
USFWS	U.S. Fish and Wildlife Service

Section 1.0 Introduction

1.1 Background

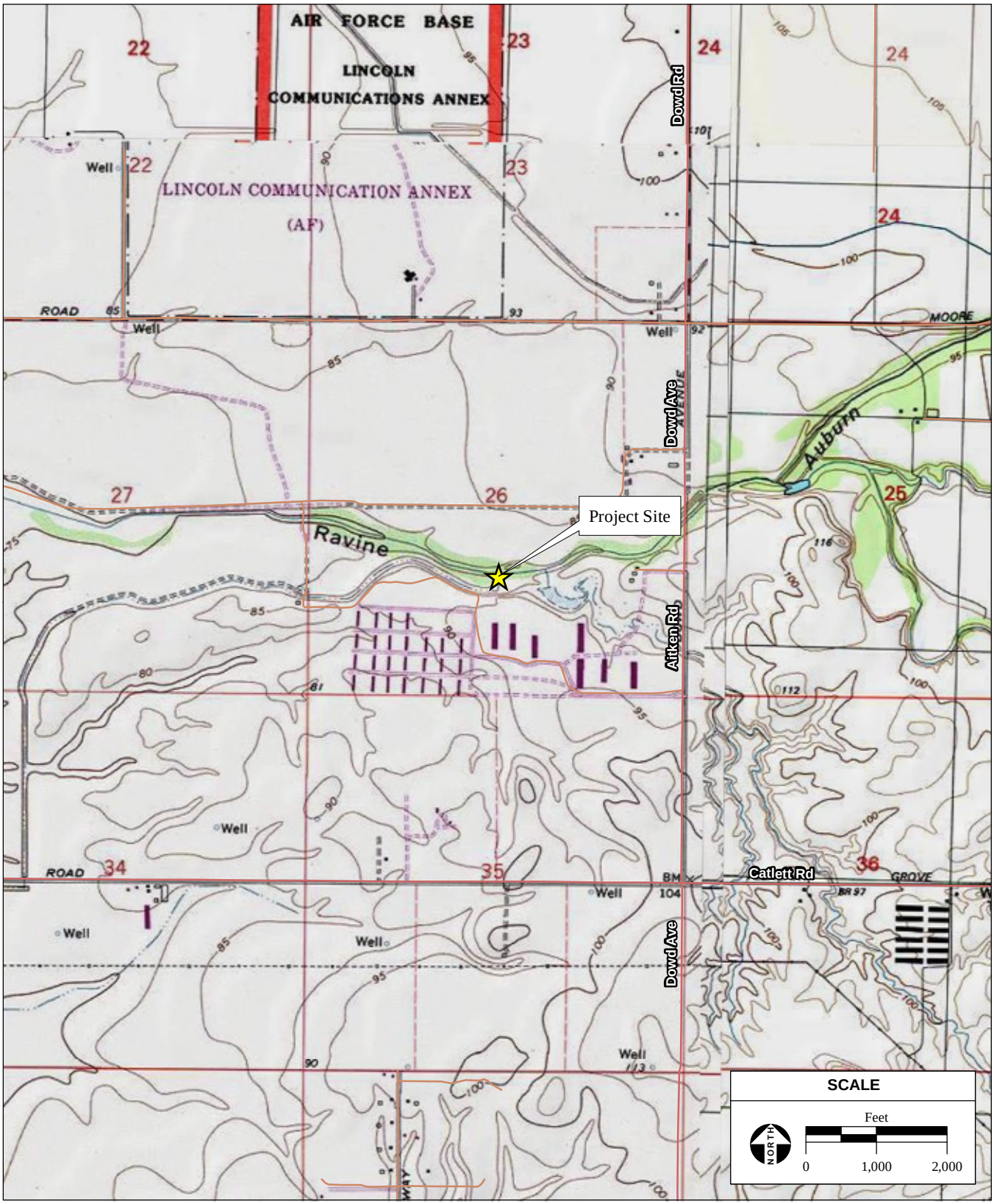
The Bureau of Reclamation (Reclamation), through the Anadromous Fish Screen Program (AFSP), proposes to provide federal funding to the South Sutter Water District (SSWD) to screen their existing unscreened 80 cubic feet per second (cfs) gravity diversion along Auburn Ravine, located approximately 5.4 miles west of the City of Lincoln, Placer County, California. The Proposed Action is a cooperative effort between the AFSP [co-managed by Reclamation and U.S. Fish and Wildlife Service (USFWS)], California Department of Fish and Wildlife (CDFW), Family Water Alliance (FWA) and SSWD. The Proposed Action consists of the installation of two cone fish screens at the entrance of SSWD's existing Pleasant Grove Canal (Canal) to improve fish passage in Auburn Ravine (Figure 1). Installation of the fish screens would help to prevent listed and other migratory or resident fish species in Auburn Ravine from being diverted into the Canal, which is used to provide irrigation water to SSWD customers.

SSWD operates a flashboard dam and the Canal on Auburn Ravine for groundwater replenishment and agricultural purposes. The Canal diverts up to 80 cfs from the impounded water that is typically about three to four feet deep at the Canal's entrance. There is no structure at the Canal's entrance and all water flow and elevations are controlled at both the flashboard structure (Aitkin Ranch Dam) on Auburn Ravine and a check structure about 1,500 feet downstream of the Canal. The flashboard dam is generally installed in April of each year and removed by mid-October to coincide with the irrigation season. However, the flashboard dam is not installed during some dry water years such as in 2014. The dam installation and regulation is necessary for the Canal to operate.

During the winter months when the dam is removed, the Canal invert is generally above the river surface elevation, except during high flow or flood events. The top of the Canal's banks are located below the high flow or flood water elevations so access to the site in the winter is not always possible. During the irrigation season, flows and water depths in Auburn Ravine are generally regulated so the Canal water surface elevation is relatively constant.

1.2 Need for the Proposal

The loss of juvenile anadromous fish at water diversions in the Central Valley of California has been identified as contributing to the decline of anadromous fish populations. The Central Valley Project Improvement Act (CVPIA), Section 3406 b(b)(21), authorized the Secretary of Interior (Secretary to implement measures to avoid losses of juvenile anadromous fish. These measures funded through the AFSP include construction, rehabilitation, and replacement of fish screens and relocation of diversions to less fishery sensitive areas.



SOURCE: "Pleasant Grove, CA" USGS 7.5 Minute Topographic Quadrangle, T12N R5E, Section 26, Mt. Diablo Baseline & Meridian; AES, 2012

Figure 1
Site and Vicinity

1.3 Potential Resource Issues

This EA analyzes the Proposed Action and No Action alternatives in order to determine the potential impacts and cumulative effects to the following environmental resources:

- Air Quality
- Biological Resources
- Cultural Resources

1.4 Resources Not Analyzed in Detail

Effects on several environmental resources were examined and found to be minor. For the reasons noted below, the following resources were eliminated from further review in this EA.

Indian Trust Assets

The Proposed Action does not have a potential to affect Indian Trust Assets (ITA). The nearest ITA is the Auburn Rancheria approximately 18 miles southeast of the project site.

Environmental Justice

The Proposed Action would result in no significant changes in agricultural communities or practices and is therefore not likely to affect agricultural employment, which employs a higher proportion of low-income and minority workers than are employed in the general workforce. Accordingly, the Proposed Action would not have any significant or disproportionately negative impact on low-income or minority individuals within the project area.

Section 2.0 Alternatives

2.1 No Action Alternative

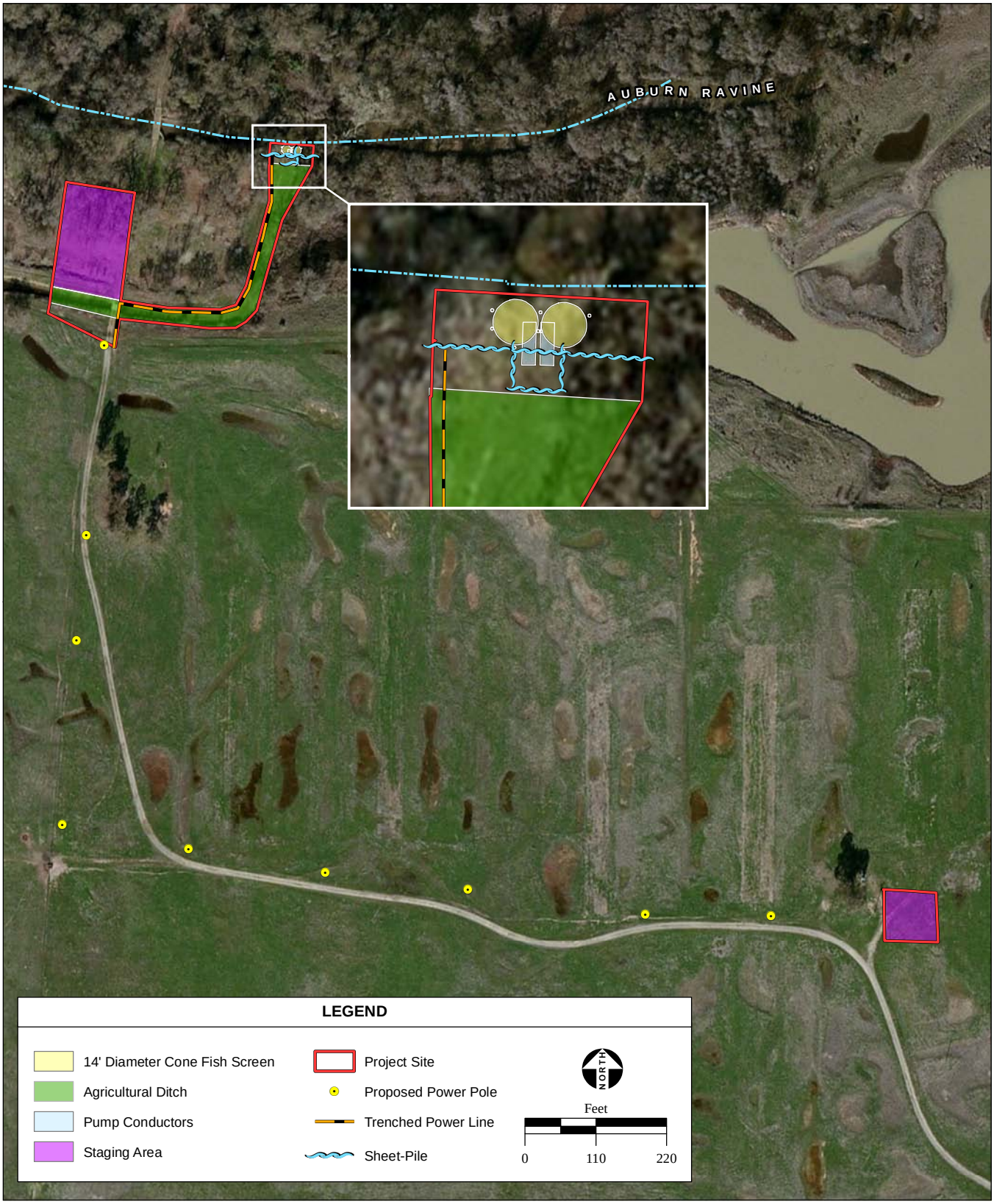
Under the No Action Alternative, AFSP would not provide funding to screen the Canal's diversion and fish would continue to be entrained at this location.

2.2 Proposed Action Alternative

Fish Screen:

The two self-cleaning conical fish screens, bases, culverts, sheetpile wall, and controls will be designed and installed by Intake Screens, Inc. (ISI). The new intake structure will protect the Canal's current unscreened diversion with a state-of-the-art fish screen.

Power required for fish screen operations will be provided through an underground trench dug along the Canal's existing access road from Pacific Gas & Electric's (PG&E) existing meter and termination point on the access road to the proposed fish screen site (Figure 2). The trench will be approximately 40 inches deep, 2 feet wide and 400 feet long and include at least one pull box along the alignment between the two locations. Once the power line is installed, the trench will be filled with native soils and returned to pre-existing conditions. SSWD's power line will terminate at the fish screen control pad area.



SOURCE: ISI Intake Screens, Inc. 10/17/2012;
USDA NAIP Aerial Photograph, 2/2/2012; AES, 2014

Figure 2
Project Design

ISI's staging area will be on the existing access road and is expected to be less than 100 feet by 100 feet. No materials are expected to be stored on-site except during fish screen installation.

Two, 14-foot diameter, cone-shaped fish screens with self-cleaning brush cleaners will be placed at the Canal's existing intake at Auburn Ravine. Each screen will be placed on a 15-foot by 15-foot pile-supported steel base and connected to a four-foot diameter culvert pipe to convey the screened water into the canal. A sheetpile headwall driven across the Canal's entrance will separate the Canal from the Auburn Ravine. The two culvert pipes from the screens will pass through this sheetpile wall and discharge as shown on the plans (Appendix A). The screened pipes will discharge into a common outfall area behind the sheetpile wall to dissipate the pipe velocity before flowing into the unlined canal ditch.

A minimum area of 240 square feet of screen area must be provided to meet the fish screen velocity criteria of 0.33 feet per second. The two cones will provide about 280 square feet of screen surface when they are located in 2.5 feet of water. If the screen is fully submerged, or in at least four feet of water depth, there will be about 360 square feet of surface area available. The base of the screen will be placed just above the current sandy river bottom elevation which is about the current intake channel invert elevation. The large surface area is necessary to reduce headlosses so the canal can achieve its full gravity diversion capability when necessary.

The Canal's intake will be widened slightly to place the screens. The river and Canal bank slopes will be excavated down to the existing river bed elevation. Additional excavations will also be necessary to place the screen bases and pipes. In order to reduce impacts, excavations will occur when the flashboard dam is removed and Auburn Ravine flows are minimal. A cofferdam is not required to perform the work since the Canal's invert is generally higher than the Auburn Ravine riverbed elevation.

A silt curtain, or temporary barrier, will be placed at the Canal's intake to isolate the Canal from the main river during the culvert and screen site installation to prevent turbidity or water quality issues in Auburn Ravine. This barrier will not be designed to prevent seepage or to dewater the Canal as the culverts will likely be dug in the wet.

The screen's pile supported bases will be supported by five, eight-inch diameter piles. Each pile will be driven about 15 feet or to refusal. The base will be clamped and bolted to these piles at the proper elevation. The sheetpile headwall will also be driven into the canal bottom about twice as deep as it is tall. A walkway may be provided on top of the sheetpiles for better access to the screen area.

When the screens are installed and operational, screen access will be via the existing embankment road along the Canal. The screens will be designed to be in-place year round; however, a crane or long reach excavator can be used to remove the screens if desired, or if necessary for screen repair or maintenance.

The screen's brush cleaning system is operated by a hydraulic power system. A hydraulic power unit will be placed in an outdoor cabinet near the Canal's intake site and located above the flood elevation. Hydraulic hoses will be laid in conduits to each screen unit.

The fish screen system will be installed after the normal fall irrigation season and when flows are expected to be lowest in the ravine (between October and December). The diversion normally operates from April through September annually. The initial work will consist of placing a silt barrier and excavating the banks and Canal's bottom. The sheetpile headwall and culverts will be placed first, followed by the screen bases, pilings, and finally the screen units.

The sequence of work for fish screen installation is proposed as following:

1. Mobilize crane, excavator, and current installation materials on-site;
2. Install silt barrier along the river channel;
3. Excavate, install, and backfill electrical conduits along the access road to the project site;
4. Excavate the river channel and Canal sections for the culverts, screen bases, and intake headwall as necessary;
5. Install main culverts and backfill;
6. Drive sheetpile headwall (with culvert opening);
7. Fish screen base installation;
8. Pile driving for screen bases;
9. Installation of control panel slab;
10. Place screen units on base;
11. Place hydraulic lines between the screen and control panel;
12. Installation of control panel and hydraulic system; and
13. Connect to electrical and test system

ISI's intake screen system will be fabricated and installed to meet federal and State fish screen design requirements. The fish screen system will be designed to minimize headloss at the Canal's intake. This will be accomplished by reducing screen slot velocities, providing a larger diameter screen to decrease screen slot velocities, and enlarging the intake piping as much as possible.

The fish screen project is scheduled for installation between September 1 and December 31. In-water activities are scheduled between September 1 and November 30, when Auburn Ravine flows are minimal and expected to be less than a foot deep. The work is expected to take about three weeks following the initiation of work.

PG&E Power Line:

Power will be supplied to the project site by PG&E. Power poles will be located along the existing access road that runs through the property to the south of the site (Figure 2). Nine fiberglass poles will be installed along the road, sited to avoid impacting vernal pools in the area. The poles locations were identified based on site visits with U.S. Fish and Wildlife Service (USFWS), Wildlands, Wildlife Heritage Foundation and PG&E. From the northernmost power pole, where the PG&E meter and termination point is located, a power line will be trenched along the Canal's existing access road to the fish screen site.

Construction activities include the installation of a new 12 kV line supported by nine new fiberglass poles approximately 50 feet long and two feet in diameter. The new 12 kV line will support 120/240 volt, single phase, and 200 amp service. The poles will be installed approximately seven feet deep. Five anchors will also be installed with each anchor being located approximately 15 feet from the base of the pole. Temporary work areas for each pole are anticipated to be five foot in diameter. A staging area for the PG&E power lone will be located in the southeastern portion of the project Site and will be used by PG&E crew to install the power lines and poles. Power line construction will begin in August or September 2014 and take approximately two weeks to complete.

Section 3.0 Affected Environment & Environmental Consequences

This section identifies the potentially affected environment and the environmental consequences involved with the No Action and the Proposed Action alternatives.

3.1 Air Quality

3.1.1 Affected Environment

Section 176 (C) of the Clean Air Act [CAA] (42 USC 7506 (C)) requires any entity of the federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable State Implementation Plan (SIP) required under Section 110 (a) of the Federal Clean Air Act (42 USC 7401 (a)) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of those standards. Each federal agency must determine that any action that is proposed by the agency and that is subject to the regulations implementing the conformity requirements would, in fact conform to the applicable SIP before the action is taken.

The Proposed Action is under the jurisdiction of the Placer County Air Quality Management District (PCAQMD). Air quality in the area is a function of the criteria air pollutants emitted locally, the existing regional ambient air quality, and the meteorological and topographic factors that influence the intrusion of pollutants into the area from sources outside the immediate vicinity.

3.1.2 Environmental Consequences

No Action Alternative

Air quality within the Proposed Action area would remain unchanged without the Proposed Action.

Proposed Action Alternative

Potential air quality impacts are limited to those resulting from short-term construction activities involved with the development of the Proposed Action. Any material released from the actual pumping is on-going during the irrigation season and will not change as a result of this project. The PCAQMD provides construction and operational significance thresholds for criteria pollutants designated as non-attainment of 82 pounds per day of ROG and NOx (ozone precursors) and PM_{10}. ROG and NOx emissions are estimated to be 2.54 and 19.95 pounds per day, respectively. PM_{10} emissions were estimated at 0.63 pounds per day from equipment exhaust. Therefore, project-related construction emissions would not exceed the PCAQMD significance thresholds. The following assumptions and emission factors were used to estimate project-related emissions:

- Construction of the fish screen would occur over a 60 day period;
- OFFROAD2007 emission factors were used to estimate construction emissions;
- Construction equipment included one crane and one excavator , four haul or construction trucks (flat-bed delivery, welding, dump, etc.) and 10 worker vehicles;
- Workers would travel 25 miles one-way per day;
- Haul and construction trucks would travel 400 miles per day; and
- Emission factors are based on construction year 2014.

Operation of the Proposed Action would include periodic vehicle trips by the maintenance staff and maintenance equipment that would emit far less ROG, NOx and PM_{10} than emitted during construction, given the scale of the project.

The nearest sensitive receptor is approximately 2,600 feet northeast of the Proposed Action area. Construction equipment has the potential to emit odor in the vicinity of the project site. Generally, construction odors are not expected to be detected beyond the project boundaries. Given the agricultural nature of the surrounding land use and the distance to the nearest sensitive receptor, construction-related odors would not affect a substantial number of people and will significantly dissipate before reaching any sensitive receptors.

The Proposed Action would directly generate Greenhouse Gas (GHG) during installation of the fish screen and power line. GHG emissions are estimated to be 549 metric tons of CO2 equivalent. The same assumptions used to determine NOx and ROG emissions were used to estimate project-related GHG emissions. Operation of the Proposed Action would include periodic vehicle trips by the maintenance staff and maintenance equipment that would emit far less GHG emissions than the 549 metric tons of CO2 equivalent emitted during construction given the scale of the project. Construction and operational project-related GHG emissions are less than the threshold of 900 metric tons per year; therefore, the Proposed Action would not affect the environment through GHG emissions.

3.2 Biological Resources

3.2.1 Affected Environment

An initial site visit was conducted by Analytical Environmental Services (AES) in April 2012. A site visit was also conducted with Reclamation and the USFWS in December 2014. Habitat types in the vicinity of the Proposed Action area include valley riverine aquatic, oak woodland riparian, upland cropland, and ruderal/disturbed (Figure 3). AES also conducted a search of the USFWS species list and California Natural Diversity Database (CNDDB) for potential listed species within the Proposed Action area. The following federally listed species have the potential to occur in the Proposed Action area based on habitat found in the area:

- Conservancy fairy shrimp
- Vernal pool fairy shrimp
- Vernal pool tadpole shrimp
- California Central Valley steelhead (and critical habitat)
- Central Valley spring-run Chinook salmon
- Sacramento River winter-run Chinook salmon

3.2.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative, the District's diversion would continue to potentially impact juvenile fish species.

Proposed Action Alternative

The Proposed Action Alternative includes the placement of new power poles along the existing access road as well as the construction of the new fish screen.

Fish Species:

All listed fish species described within this EA that have the potential to be in the area of the Proposed Action have similar life histories and biological and habitat requirements. The main difference is the time of year when each of these species, as juveniles or adults, will migrate to and from the ocean. Although the timing of migration is different, these listed fish species may use Auburn Ravine, including the Proposed Action area, as a migratory corridor. According to federal and state biologists familiar with this area, Auburn Ravine is not known to support spawning for salmon or steelhead (Healy & Campbell, pers. comm. 2014).

The potential environmental consequences resulting from construction and operations and maintenance of the Proposed Action are expected to be similar for Central Valley spring-run and Sacramento River winter-run Chinook salmon, and California Central Valley steelhead. Critical habitat for and Essential Fish Habitat (EFH) overlap at the Proposed Action area and therefore effects analysis for critical habitat and EFH will be discussed collectively below.

SOURCE: ISI Intake Screens, Inc. 10/17/2012;
USDA NAIP Aerial Photograph, 2010; AES, 2012

Figure 3
Habitat Types

Direct effects associated with in-water construction work would involve equipment and activities that would produce pressure waves, and create underwater noise and vibration, thereby temporarily altering in-water conditions. The Proposed Action would involve the installation of piles to be constructed in-water at the screen location. In-water work would consist of the installation of the piles and supports that would be necessary for the installation of the fish screen components. Based on the type of piles to be used for installation (8-inch steel pipe pile assumed for the Proposed Action noise analysis), shallow site conditions and usage of a vibratory hammer, the peak and accumulated sound pressures are anticipated to be 192 dB (peak) and 177 dB (accumulated). These levels are below NMFS approved criteria for injury to fish from pile driving activities (206 dB peak and 187 dB accumulated for fish greater than 2 grams) (see Appendix B for further detail regarding noise impacts resulting from pile driving).

Construction activities will produce both pulsed (i.e., impact pile driving) and continuous (i.e., vibratory pile driving) sounds. Fish react to sounds which are especially strong and/or intermittent low-frequency sounds. Short duration, sharp sounds can cause overt or subtle changes in fish behavior and local distribution. Hastings and Popper (2005, 2009) identified several studies that suggest fish may relocate to avoid certain areas of noise energy (Caltrans 2009). Additional studies have documented effects of pile driving (or other types of continuous sounds) on fish, although several are based on studies in support of large, multi-year bridge construction projects (Scholik and Yan 2001, 2002; Govoni et al. 2003; Hawkins 2005; Hastings 1990, 2007; Popper et al. 2006; Popper and Hastings 2009 – referenced in Caltrans 2009). Sound pulses (SPL) at received levels of 160 dB may cause subtle changes in fish behavior while SPLs of 180 dB may cause noticeable changes in behavior (Chapman and Hawkins 1969; Pearson et al. 1992; Skalski et al. 1992 – referenced in Caltrans 2009). SPLs of sufficient strength have been known to cause injury to fish and fish mortality (CALTRANS 2001; Longmuir and Lively 2001 – referenced in Caltrans 2009). The most likely impact to fish from pile driving activities within the Proposed Action area would be temporary behavioral avoidance of the area. The duration of fish avoidance of the area after pile driving stops is unknown, but a rapid return to normal recruitment, distribution and behavior is anticipated.

In addition, pile driving impacts associated with fish screen installation within the Proposed Action area is expected to be relatively small. Avoidance by potential prey (i.e., fish) of the immediate area due to the temporary loss of this foraging habitat is also possible. The duration of fish avoidance of this area after pile driving ends is unknown, but a rapid return to normal recruitment, distribution and behavior is anticipated.

To further reduce potential impacts to fish, construction will incorporate a soft start. The use of a soft-start procedure is believed to provide additional protection to fish species by warning, or providing fish species a chance to leave the area prior to the hammer operating at full capacity. The pile driving engineer will utilize soft-start techniques (ramp-up and dry fire) recommended by NMFS for impact and vibratory pile driving. The soft-start requires contractors to initiate noise from vibratory hammers for fifteen seconds at reduced energy followed by a one minute waiting period. This procedure will be repeated two additional times. In addition, pile driving will only be conducted between two hours post-sunrise through two hours prior to sunset (civil twilight), between the periods of September 1 and October 31. Should fish species be detected

during pile driving, all pile driving activities will be ceased until fish exit the Proposed Action area.

Underwater installation activities could temporarily create minor sediment plumes by releasing gill occluding sediments which could directly affect salmonids. The turbidity plume resulting from site preparation is not expected to extend across the entire waterway and salmonids would be able to effectively avoid the plume and their upstream or downstream migration would not be blocked. The period of increased turbidity would be limited to the period of installation of the intake structure (in-water activities for the project are scheduled between September 1 and October 31). The potential effects of construction activities on water quality is expected to be intermittent and temporary, return rapidly to baseline conditions, and be localized within the channel (approximately 100 feet wide and 100 feet or less downstream of the site). No long term turbidity-related effects are expected.

All listed salmonid species are known to occur in the Proposed Action area during their respective periods of juvenile and adult migration to and from the ocean. However, an analysis of the different migration periods and survey data shows that salmonids are unlikely to be using the area when construction would occur during the proposed time period. It is important to note that there is a lack of significant cover or other important habitat features in the immediate Proposed Action area that could attract juvenile salmonids and other fishes and increase the likelihood of impacts. If salmonid species do enter the Proposed Action area, they would likely exhibit avoidance behavior in response to construction and associated activities and actively move away from the area.

For Section 7 consultation with NMFS, Reclamation determined that implementation of the Proposed Action may affect, but is not likely to adversely affect Central Valley spring-run Chinook salmon, Sacramento River winter-run Chinook salmon, and California Central Valley steelhead. Any disturbance to these salmonids would be temporary and localized and would be discountable. These determinations were made based on the limited scope of the Proposed Action, the concise installation period and survey data indicating that the species would not be present during project implementation.

Placement of the fish screen would provide a long-term beneficial effect to the species and their associated critical habitat as it creates a safer passageway for migrating Central Valley spring-run Chinook salmon, Sacramento River winter-run Chinook salmon, and California Central Valley steelhead. The Proposed Action will substantially, if not entirely, reduce fish entrainment at the site.

Vernal Pools:
The Proposed Action area is in the California Department of Transportation's (CALTRANS) State Route 65-Lincoln Bypass Aitken Ranch Mitigation Site (Aitken Ranch Site). The Aitken Ranch Site consists of approximately 310 acres of annual grassland, freshwater emergent marsh, vernal pool/swale complex, oak woodland and riparian forest through which flows a 1.15-mile stretch of Auburn Ravine. As part of the Aitken Ranch Mitigation Site, habitat was created and is managed for threatened and endangered species, including vernal pool fairy shrimp (*Branchinecta lynchi*). Construction of 10.35 acres of vernal pool/swale complex was completed

in January 2003. This complex was created south of Auburn Ravine atop intact hardpan and low terrace soils and was placed near existing pools and swales. The majority of the annual grasslands are grazed by cattle to control weedy plants and to promote native plants and vernal pool species throughout the grassland/vernal pool complex. Vegetation in created pools has consisted of coyote thistle, Italian ryegrass, popcorn flower, Mediterranean barley, spikerush, rabbitsfoot grass, and Hawkbit. The average absolute cover of locally recognized vernal pool plant species is 48.6 percent in created pools and 71.94 percent in onsite reference pools and relative percent cover is 94.02 percent and 100 percent, respectively. Surveys for large branchiopods were conducted on February 14, March 20, and April 5, 2012 identifying the presence of California linderiella (*Linderiella occidentalis*) in multiple created pools and California clam shrimp (*Cyzicus californicus*) in one created pool throughout the property. (Wildlands 2012)

The PG&E power line alignment was identified in the field with USFWS, Reclamation and PG&E biologists, Wildlands, Inc. and Wildlife Heritage Foundation to avoid impacts to vernal pools that exist along the existing access road. The Proposed Action will not impact the vernal pools.

Avoidance and Minimization Measures:
The following Avoidance and Minimization Measures will be implemented by SSWD prior to and during construction to further ensure that the Proposed Action's potential impacts will be minimized:

- Staging areas shall be located on the existing graded access road at least 150 feet from the Canal. Temporary stockpiling of imported material, spoils, or fill shall occur only in approved construction staging areas. Equipment shall be operated within the construction footprint as identified in this EA at all times. When not in use, all construction equipment shall be confined to existing access roads and construction staging areas.

- Any trees proposed for removal should occur between September and November. Any trees that must be removed as a result of the construction of the Proposed Action shall be replanted at a replacement ratio of no less than 2:1 for trees over 4 inches diameter at breast height (DBH), and shall be replanted in kind. This tree replacement ratio may vary to meet permit conditions.

- Construction activities shall occur between the months of September 1 and October 31, when the number of anadromous fishes will be lowest in the Canal.

- A litter control program shall be instituted at the entire project site. The contractor will provide closed garbage containers for the disposal of all food-related trash items (e.g., wrappers, cans, bottles, food scraps). All garbage will be removed daily from the project site. Construction personnel will not feed or otherwise attract fish or wildlife to the action area.

- After construction, staging areas must be returned to their original state and any impacted riparian forest must be replanted using native vegetation with the goal of mirroring the control area designated at an undisturbed area near the site within five years.

- To reduce the potential for accidental releases, fuel, oil, and hydraulic fluids shall be transferred directly from a service truck to construction equipment tanks and shall not otherwise be stored on site.

- Personnel shall follow written Standard Operating Procedures (SOPs) for filling and servicing construction equipment and vehicles and any additional requirements of the permits issued by CDFW, U.S. Army Corps of Engineers (USACE), Central Valley Regional Water Quality Control Board (CVRWQCB), and Placer County. The SOPs, which are designed to reduce the potential for incidents involving hazardous materials, shall include the following:

    - Refueling shall be conducted only with approved pumps, hoses, and nozzles;
    - Catch pans shall be placed under equipment to catch potential spills during servicing;
    - All disconnected hoses shall be placed in containers to collect residual fuel from the hose;
    - Vehicle engines shall be shut down during refueling;
    - No smoking, open flames, or welding shall be allowed in refueling or service areas;
    - Refueling shall be performed away from bodies of water to prevent contamination of water in the event of a leak or spill;
    - Service trucks shall be provided with fire extinguishers and spill containment equipment, such as absorbents;
    - Should a spill contaminate soil, the soil shall be put into containers and disposed of in accordance with local, State, and Federal regulations;
    - All containers used to store hazardous materials shall be inspected at least once per week for signs of leaking or failure. All maintenance and refueling areas shall be inspected monthly. Results of inspections shall be recorded in a logbook that would be maintained on site; and
    - The amount of hazardous materials used in project construction and operation shall be consistently kept at the lowest volumes needed.

- If suspected soil contamination is encountered during excavation and grading activities, all work shall be halted and a qualified individual, in consultation with the CVRWQCB, shall determine the appropriate course of action.

- During construction, staging areas, welding areas, or areas slated for development using spark-producing equipment shall be cleared of dried vegetation or other materials that could serve as fire fuel. To the extent feasible, the contractor shall keep these areas clear of combustible materials in order to maintain a firebreak.

- Any construction equipment that normally includes a spark arrester shall be equipped with an arrester in good working order. This includes, but is not limited to, vehicles and heavy equipment.

- If vernal pools are present within 300 feet of the proposed pole installation site, a qualified biologist will stake and flag an exclusion zone prior to work activities. The exclusion zone will provide a 250 foot buffer from the edge of the vernal pool. If an exclusion zone cannot extend to the specified distance from the habitat, the biologist will stake and flag a restricted activity zone of the maximum practicable distance from the exclusion zone and habitat.

- This exclusion zone distance may be modified by a qualified biologist, based on site-specific topography, hydrology and intervening features. Project activities will be prohibited or greatly restricted within restricted activity zones. However, vehicle operation on existing roads and foot travel will be permitted.

- A qualified biologist will monitor activities near flagged exclusion areas and restricted activity zones. Within 60 days after PG&E activities have been completed at the worksite, all staking and flagging will be removed.

- Any work closer than 250 feet from vernal pools will be avoided after the first significant rain until June 1, or until vernal pools remain dry for 72 hours. If work cannot be postponed to the dry season, a qualified biologist shall determine the safest route and areas within which activities can occur and a full-time monitor shall be present for all work performed in the vernal pool habitat.

- Erosion control measures will be implemented during maintenance of the power line, as necessary to prevent water quality degradation to the vernal pools. Non-ground disturbing activities (i.e., line installation, arm repair/upgrades, etc.) associated with the existing poles will be conducted either via a bucket located on a road outside of the exclusion zone, or by linemen who will walk to the site and perform the work on the top of the poles using hand tools.

3.3 Cultural Resources

Cultural resources is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. The National Historic Preservation Act (NHPA) of 1966 is the primary Federal legislation that outlines the Federal Government's responsibility to cultural resources. Section 106 of the NHPA requires the Federal Government to take into consideration the effects of an undertaking on cultural resources listed on or eligible for inclusion in the National Register of Historic Places; such resources are referred to as historic properties.

3.3.1 Affected Environment

The historic property identification efforts included a cultural resources record search report prepared by Origer and Associates, a pedestrian survey of the APE, and a cultural resources inventory report prepared by Reclamation. One resource, the Pleasant Grove Canal (Canal), was documented within the project APE. The canal is assumed eligible under Criterion A for the

National Register of Historic Places for local contributions to the history of early 20th-century settlement, reclamation, and agriculture in western Placer County. The proposed project will not affect those qualities which make the Canal eligible. In addition, Reclamation entered into Tribal consultation with Shingle Springs Rancheria and the United Auburn Indian Community of the Auburn Rancheria. No sites of religious or cultural significance were identified within the APE.

The Section 106 process of the NHPA for the proposed project is ongoing. Based on the information obtained regarding the project, Reclamation has determined that no historic properties will be adversely affected by this undertaking (36 CFR Part 800.5(a)(1)). Utilizing these identification efforts, Reclamation will enter into consultation with the California State Historic Preservation Officer (SHPO) to seek their concurrence on a finding of "no adverse effect" to historic properties pursuant to 36 CFR Part 800.5(b).

3.3.2 Environmental Consequences

No Action Alternative

Under the No Action alternative, there would be no impacts on cultural resources because the proposed improvements would not be constructed, and there would be no change in operations. Conditions related to cultural resources would remain the same as existing conditions.

Proposed Action Alternative

The Proposed Action is the type of activity that has the potential to affect historic properties. Cultural resource investigations identified one historic property within the APE. Reclamation determined that the proposed project will not adversely affect any historic properties if implemented.

Section 4.0 Consultation and Coordination

Federal Endangered Species Act

On May 15, 2014, Reclamation submitted a Biological Assessment to the National Marine Fisheries Service (NMFS) requesting concurrence on the conclusion that the project "may affect, is not likely to adversely affect" federally listed salmonids, "is not likely to adversely affect" Central Valley steelhead designated critical habitat and have no effect on Pacific Salmon EFH. Reclamation is awaiting the consultation letter from NMFS and will not proceed with the Proposed Action until it is received.

National Historic Preservation Act

The NHPA of 1966, as amended (16 U.S.C. 470 et seq.), requires that federal agencies give the Advisory Council on Historic Preservation an opportunity to comment on the effects of an undertaking on historic properties, properties that are eligible for inclusion in the National Register. The 36 CFR Part 800 regulations implement Section 106 of the NHPA.

Section 106 of the NHPA requires federal agencies to consider the effects of federal undertakings on historic properties, properties determined eligible for inclusion in the National Register. Compliance with Section 106 follows a series of steps that are designed to identify interested parties, determine the APE, conduct cultural resource inventories, determine if historic properties are present within the APE, and assess effects on any identified historic properties.

Section 5.0 References

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