

# CASTLEWOOD TANKS REPLACEMENT

Draft Initial Study Mitigated Negative Declaration



August 2017

Prepared by  
Alameda County Public Works Agency

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## Castlewood Tank Replacement

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**DRAFT MITIGATED NEGATIVE DECLARATION**  
Alameda County Public Works Agency (Lead Agency)

1. **Project Name:** Castlewood Tanks Replacement.
2. **Description and Location:** The project proposes to replace two deteriorating 100,000-gallon redwood water tanks that provide water for domestic consumption and emergency fire control. San Francisco Public Utilities District (SFPUC) supplies water to the CSA. The tanks are part of a gravity-based water system situated at 895-foot elevation within the Castlewood County Service Area (CSA) Zone 2. The two tanks are approximately 6 feet apart and set back 9-10 feet from the downhill top of slope with approximately 5-foot high retaining wall. The new steel tanks will be located within the same footprint of the existing tanks after demolition. The tank replacement would meet American Water Works Association (AWWA) Section 13-2 seismic standards. The tanks are accessible from private driveways of Castlewood Drive in unincorporated area of Pleasanton, Alameda County.
3. **Responsible Agency:** Alameda County Public Works Agency, 399 Elmhurst Street, Hayward, California 94544

4. **Findings:** Based on the attached Initial Study, the Lead Agency has found that:

- The project will not have a significant effect on the environment.
- The significant effects of the project noted in the attached Initial Study have been eliminated or mitigated by revisions to the project so that the potential adverse effects are reduced to a level where no significant effects would occur.

5. **Mitigation Measures (Biological Resources):**

Implementation of the relevant avoidance and minimization measures would reduce impacts to Alameda whipsnake (AWS), to less than significant. Prior to the commencement of construction activities, a pre-construction survey for nesting birds will be conducted within two weeks of commencement of construction activities. If active nests are found near the site that could be directly affected by or are within 250 feet of the construction and will be subject to prolonged construction related noise, a no-disturbance buffer zone would be established around the active nest site and/or until a biologist determined that all young have fledged.

6. **Date of Public Notice of Negative Declaration:** August 23, 2017

7. **End of Review Period:** September 23, 2017

\*\*\*\*\*  
ISSUANCE OF THIS  
MITIGATED NEGATIVE  
DECLARATION DOES NOT IMPLY  
APPROVAL OF THE PROJECT

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Environmental Services Manager

\_\_\_\_\_  
Date

\*\*\*\*\*

**CHAPTER 1 PROJECT SPECIFICS**

<b>Project Title:</b>	Castlewood Tank Replacement
<b>Lead Agency's Name and Address:</b>	Alameda County Public Works Agency 399 Elmhurst St., Hayward Ca 94544
<b>Lead Agency Contact:</b>	Kwablah Attiogbe, Phone 510- 6705772
<b>Sponsor's Name and Address</b>	Same as above
<b>Project Location:</b>	Castlewood Country Club CSA, unincorporated Pleasanton Alameda County
<b>General Plan Land Use Designation:</b>	Public Open Space – Resource Conservation
<b>Zoning:</b>	Large Lot Residential
<b>Description:</b>	See Project Description Page 2
<b>Surrounding land Use</b>	The two tanks are accessed from a private driveway approximately 0.5 miles uphill beyond the end of Castlewood Drive in unincorporated area of the City of Pleasanton. The country club is located westerly of Foothill Road and the <i>Arroyo de la Laguna</i> ; the City of Pleasanton, Golden Eagle Subdivision is located directly north and adjacent to the CSA. East Bay Regional Park District (EBRPD) Pleasanton Ridge Regional Park is located to the south, west and north of the country club. The Augustin Bernal Park (in the City of Pleasanton) is just to the northwest of the county club.
<b>Other Public Agencies Required approval</b>	State Water Resources Board - funding Department of fish and wildlife.
<b>Native American Consultation (Section 21080.3.1)</b>	No request received. The Native American Commission was consulted on August 15, 2016. The Commission provided a list of Native American Contacts that were also contacted

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## CHAPTER 2.0 PROJECT DESCRIPTION

The project proposes to replace two deteriorating 100,000-gallon redwood water tanks that provide water for domestic consumption and emergency fire control. San Francisco Public Utilities District (SFPUC) supplies water to the CSA. The tanks are part of a gravity-based water system situated at 895-foot elevation within the Castlewood County Service Area (CSA) Zone 2. The two tanks are approximately 6 feet apart and set back 9-10 feet from the downhill top of slope with approximately 5-foot high retaining wall. The new steel tanks will be located within the same footprint of the existing tanks after demolition. The tank replacement would meet American Water Works Association (AWWA) Section 13-2 seismic standards. The tanks are accessible from private driveways of Castlewood Drive in unincorporated area of Pleasanton, Alameda County.

The footprint of the project construction is approximately 60 ft. x 150 ft. (9,000 square feet) (Figures 1, 5a, and 5b). The project construction would take 275 days. Construction would include demolition of the wood tanks, site preparation, grading, and minor excavation activities and the installation of 17 concrete piles per tank to support a steel mat/base for the installation of each steel tank. The cast-in-drilled-hole pile (CIDH) diameters would range from 30-36 inches with depths ranging from 35-45 feet into conglomerate bedrock. One tank at a time would be demolished and replaced in order to avail water supply to the residences at all times.

Other activities would include forming and pouring of concrete structures, installation of mechanical equipment, trenching for installation of connecting pipelines, connection of electrical supplies and controls, and backfill and restoration. Construction staging, including temporary materials & storage of excavated materials, would occur in the existing parcel footprint or within the adjacent public road right of way. No additional grading is expected.

The purposes of the project are to replace the deteriorating wood tanks and to meet the California Code of Regulation CCR Section 64554 (b) (2) requiring water system tanks with less than 1000 service connection have storage capacity equal to or greater than the maximum day demand. The two 150,000 gallons tank sizes were based on this regulation.

**Construction Site Management.** Summarized below are Best Management Practices incorporated in the project construction to ensure that environmental impacts are kept to a minimum or eliminated:

- Construction would occur during dry weather.
- Minimal exaction work is expected.
- Install temporary perimeter fiber role and/or silt fencing to prevent silt discharges and tracking.
- Minimal disturbance of surrounding vegetation disturbance.
- Secure exposed cut slopes during construction to prevent fugitive dust by spraying water.
- Hand broadcast seed site post construction as need.
- Stockpile equipment at appropriate location within containment barrier.
- Temporary cover stockpile of drill hole tailing until reuse or off-haul rom the site.
- Concrete grout will be trucked in and poured.
- Equipment fuel will not be allowed on site except for emergency.
- Sanitary facilities will be appropriately located and secured to prevent spills.
- Dumpsters would be covered and regularly checked during construction.
- Spill prevention plan would be on hand.
- Accidental spill will be reported to Public Works Agency at 510-670-5500.
- Vehicle and equipment will be regularly inspected for leaks.
- Fire prevention: Spark arrester on all internal combustion engines.

- Daily sweep of the road to prevent tracking.
- Dust control measures and speed control through the residential corridor.

## References

State Water Resource Control Board (SWRCB) General Permit for Storm Water Discharges Associated With Construction Activity

[http://www.waterboards.ca.gov/water\\_issues/programs/storm\\_water/](http://www.waterboards.ca.gov/water_issues/programs/storm_water/)

SWRCB General Permit for Storm Water Discharges Associated with Construction Activities from Small Linear Underground/Overhead Projects (State).

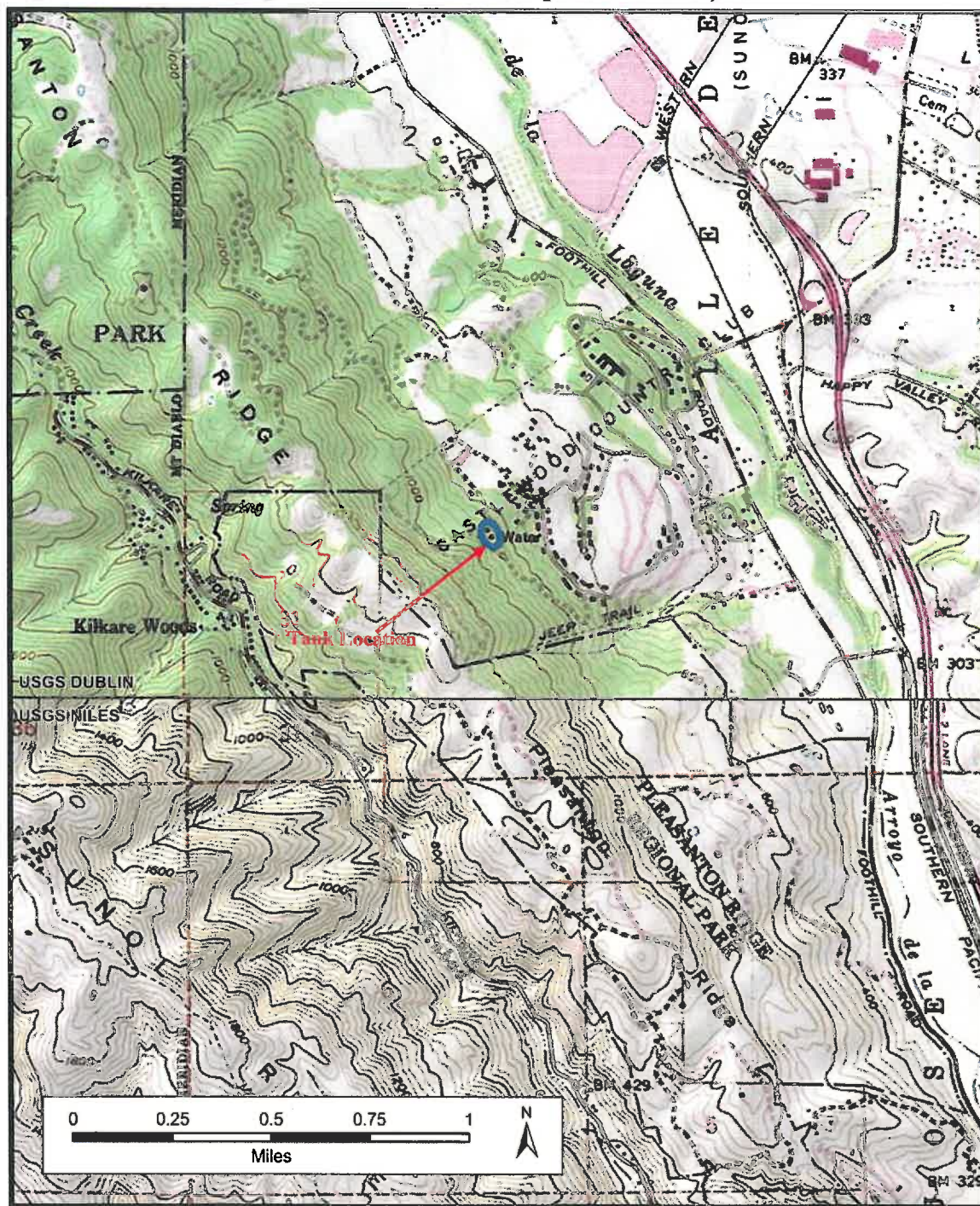
[http://www.waterboards.ca.gov/water\\_issues/programs/storm\\_water/](http://www.waterboards.ca.gov/water_issues/programs/storm_water/)

California Stormwater Quality Association (CASQA) Storm Water Program

<https://www.casqa.org/>

Pakpour, Joubin P.E Civil Engineer Consulting Castlewood County Service Area Zone 2 Redwood Tank Replacement 2016

Figure 1. Location Map: Castlewood Tank Replacement Project



(USGS Dublin, Calif. 1980 and Niles, Calif. 1980)

**CHAPTER 3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED**

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> Aesthetics                      | <input type="checkbox"/> Agriculture and Forestry Resources | <input checked="" type="checkbox"/> Air Quality    |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources      | <input type="checkbox"/> Geology /Soils            |
| <input type="checkbox"/> Greenhouse Gas Emissions        | <input type="checkbox"/> Hazards & Hazardous Materials      | <input type="checkbox"/> Hydrology / Water Quality |
| <input type="checkbox"/> Land Use / Planning             | <input type="checkbox"/> Mineral Resources                  | <input type="checkbox"/> Noise                     |
| <input type="checkbox"/> Population / Housing            | <input type="checkbox"/> Public Services                    | <input type="checkbox"/> Recreation                |
| <input type="checkbox"/> Transportation/Traffic          | <input type="checkbox"/> Tribal Cultural Resources          | <input type="checkbox"/> Utilities/Service Systems |
- Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date



**CHAPTER 3.1 AESTHETICS**

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion**

The two tanks are accessible from a private driveway approximately 0.5 miles uphill beyond the end of Castlewood Drive on a turn adjacent to the Castlewood Country Club in unincorporated area of the City of Pleasanton. The country club is located west of Foothill Road and the *Arroyo de la Laguna*; the City of Pleasanton, Golden Eagle Subdivision is directly north and adjacent to the CSA. East Bay Regional Park District (EBRPD) Pleasanton Ridge Regional Park is located on the west, north and south of the country club; the Augustin Bernal Park (in the City of Pleasanton) is just to the northwest of the county club.

The Existing tanks are not visible from any vantage point as they are surrounded by matured trees. Therefore temporary construction work would not be visible for any direction of the tank location. There are no scenic resources that may be affected from the project implementation. The existing view shed in all directions would remain intact. Existing light and glare consist of residential homes and street lightings which would not be affected.

**Items a, b, c, and d: No Impact. No mitigation is warranted**

The Tank replacement would not result in adverse impacts to aesthetic resources.

**References**

California Department of Transportation (Caltrans). Accessed August, 2017  
[http://www.dot.ca.gov/hq/LandArch/16\\_livability/scenic\\_highways/](http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/)

**CHAPTER 3.2 AGRICULTURE AND FORESTRY RESOURCES**

Potentially Significant Impact    Less Than Significant with Mitigation    Less Than Significant Impact    No Impact

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Would the project:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on <u>the maps prepared pursuant to the Farmland Mapping and Monitoring Program</u> of the California Resources Agency, to non-agricultural use?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a <u>Williamson Act</u> contract?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in <u>Public Resources Code section 12220(g)</u> ), timberland (as defined by <u>Public Resources Code section 4526</u> ), or timberland zoned Timberland Production (as defined by <u>Government Code section 51104(g)</u> )? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**Discussion**

**a-e) No Impact.** The project site does not have formally designated Prime Farmland, Unique Farmland, Farmland of Statewide Importance, lands with Williamson Act contracts, or other forest lands, timberland, or agricultural zoning within the CSA limits. Therefore, the proposed project would not impact these agriculture or forestry resources. No mitigation is required.

**References**

County of Alameda [ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Alameda\\_14\\_15\\_WA.pdf](ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Alameda_14_15_WA.pdf). Assessed August 2017

California Department of Conservation Land Evaluation & Site Assessment Model (LESA) [http://www.conservancy.ca.gov/dlrp/Pages/qh\\_lesa.aspx](http://www.conservancy.ca.gov/dlrp/Pages/qh_lesa.aspx) Assessed August 2017

California Department of Conservation <http://maps.conservancy.ca.gov/dlrp/ciftimeseries/> Assessed August 2017

## CHAPTER 3.3 AIR QUALITY

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Would the project:

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Expose sensitive receptors to substantial pollutant concentrations?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Create objectionable odors affecting a substantial number of people?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

### Discussion

Air quality is determined by measuring ambient concentrations of six criteria pollutants (Ozone Carbon Mono Oxide, Nitrogen dioxide, Sulfur dioxide, Particulate Matter PM<sub>2.5</sub> and PM<sub>10</sub>). The U.S. Environmental Protection Agency (U.S. EPA) established the National Ambient Air Quality Standards (NAAQS) and the California Air Resources Board established the more stringent California Ambient Air Quality Standard (CAAQS). Ambient concentrations of these pollutants are evaluated under the two standards.

The project area located in unincorporated east Alameda County, is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The project area is currently in nonattainment of the California standards for ozone, PM<sub>10</sub>, and PM<sub>2.5</sub>. The bay area is in attainment of the California standards for carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), and sulfur dioxide (SO<sub>2</sub>)

The BAAQMD CEQA Air Quality Guidelines identify a three-step methodology for determining a project's consistency with the current clean air plan (BAAQMD, 2017b). If the responses to these three questions can be concluded in the affirmative and those conclusions are supported by substantial evidence, then BAAQMD considers the project consistent with air quality plans prepared for the Bay Area. The questions are:

*Does the project support the goals of the current (2017) CAP Air Quality Plan?* The BAAQMD-recommended measure for determining project support for these goals is to assess its consistency with BAAQMD thresholds of significance. Projects that would not result in significant and unavoidable air quality impacts, following inclusion of all feasible mitigation measures would be consistent with the goals of the 2017 CAP. Both construction and operation of the project would result in less-than-significant air quality impacts. The project would be considered to support the primary goals of the 2017 CAP and, therefore, consistent with the 2017 CAP.

*Does the project include applicable control measures from the CAP?* The 2017 CAP contains 85 control measures aimed at reducing air pollution in the Bay Area. Projects that incorporate all feasible air quality plan control measures are considered consistent with the 2017 CAP. GHG emissions is discussed below in Chapter 3.10, Greenhouse Gas Emissions. The proposed project would not hinder the implementation of the 2017 CAP measures.

*Does the project disrupt or hinder implementation of any control measures from the CAP?* The proposed project would not create any barriers or impediments that would prevent implementation of the 2017 CAP control measures.

Project-specific construction activity was estimated using similar tank replacement project called the Santa Rosa Station project. The Santa Rosa Station project would result in demolition and removal of an existing tank, and installation of an approximately 575,770-gallon concrete or steel tank. The proposed project would result in demolition and removal of existing tanks, and installation of tanks with a combined capacity of 300,000 gallons. A comparison of the tank sizes, area of disturbance, and installation of appurtenant structures shows that the Santa Rosa Station construction activity represent construction activity that would occur with implementation of the Castlewood Tank Replacement project; consequently, the detailed construction activity for the Santa Rosa Station project was utilized to estimate project generated construction emissions. See Appendix A

The California Emissions Estimator Model (CalEEMod) version 2016.3.1 was used for analysis. CalEEMod output with detailed construction activity is provided as project's estimated construction and operational emissions are summarized in Table 1, would not exceed the applicable de Minimis thresholds during construction or operation. Therefore, additional conformity analysis is not required; the project would conform to the applicable implementation plan for the project area.

**a-c) – Less than significant.** The project would not conflict with or obstruct implementation of the 2017 CAP.

**Table 1 Project Construction and Operational Emissions**

Criteria Pollutant	Fed Status Nonattainment, Maintenance or Unclassified	Nonattainment Rate (i.e. Moderate, severe or extreme)	Threshold of significant for project Air Basin If applicable	Construction Emission Tons/year (Tpy)	Operational Emission
Ozone (O <sub>3</sub> ) <sup>a</sup>	Non attainment	Marginal	See note a		
Carbon monoxide CO			Not applicable	0.97	0
Oxides of Nitrogen dioxide (NO <sub>x</sub> ) <sup>a</sup>	See note a		100	1.49	0
<i>Volatile Organic Compounds (VOC)</i> <sup>a</sup>	See note a		50	0.15	0
Lead (Pb)	Attainment		Not applicable	0.00	0
PM <sub>2.5</sub>	Nonattainm ent	moderate	100	0.13	0
PM <sub>10</sub>	Unclassified		Not applicable	0.18	0
Sulfur dioxide (SO <sub>2</sub> )			Not applicable	<0.01	0
Notes: a. There are no de Minimis thresholds for O <sub>3</sub> ; de Minimis thresholds apply to the ozone precursors NO <sub>x</sub> and VOC. NO <sub>x</sub> and VOC thresholds are applicable to O <sub>3</sub> conformity. Source					

**References**

Bay Area Air Quality Management District (BAAQMD), 2017a. Bay Area 2017 Clean Air Plan. <http://www.baaqmd.gov>. assessed August, 2017.

Bay Area Air Quality Management District (BAAQMD), 2017b. CEQA Air Quality Guidelines rev 2017 <http://www.baaqmd.gov>

BAAQMD. 2016. Air Quality Standards and Attainment Status. Accessed Oct. 2016. <http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status>.

EPA. 2016. General Conformity De Minimis Levels. Accessed Oct. 2016. <https://www.epa.gov/general-conformity/de-minimisemission-levels>.

Office of Environmental Health Hazard Assessment (OEHHA) 2015 Guidance Manual for Preparation of Health Risk Assessments Feb 15

GHD, Nov 2016 Air Quality Conformity Documentation, Zone 2 Redwood Tanks Replacement Prepared for Alameda County Public works Agency.

**CHAPTER 3.4 BIOLOGICAL RESOURCES**

	Potentially Significant Impact	Less Than Significant with Mitigation	Less than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the <u>California Department of Fish and Game</u> or <u>U.S. Fish and Wildlife Service</u> ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted <u>Habitat Conservation Plan</u> , <u>Natural Community Conservation Plan</u> , or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion**

The latest version of the California Natural Diversity Database (CNDDB 2016) was reviewed for the project area. The intent of the database review was to document all occurrences of special-status species in the project area and to determine their location relative to the project site. Commercially available orthorectified aerial photography was also reviewed to generally identify habitat types and features occurring on and near the project site.

Josh Phillips, Principal Biologist of Pacific Biology, conducted a site visit on October 21, 2016. The site visit included walking the project site to achieve 100 percent visual coverage, recording the dominant plant species present, characterizing the habitat types present on and near the project site, and identifying all wildlife species observed. A search was conducted for the presence of jurisdictional habitats (e.g., wetlands, creeks), sensitive habitats (e.g., native grasslands), and habitat features (e.g., ponds, small mammal burrows) used by special-status species known from the project region. A windshield survey of the surrounding area was also conducted.

The project site is located to the west of the Castlewood County Club Golf Course. There are several large acreage single-family homes to the north and west of the project site. Development in the area is sparse and large areas of undeveloped land dominated by oak-bay woodland (including Pleasanton Ridge Regional Park) occur to the west of the project site (**Figures 3 and Table 3**).

The project site currently contains two water tanks and associated infrastructure. The existing tanks are on a graded portion of the project site and vegetation immediately bordering the tanks is sparse and includes non-native species characteristic of disturbed areas, such as dogtail grass (*Cynosurus echinatus*), horseweed (*Erigeron canadensis*), bull thistle (*Cirsium vulgare*), smilo grass (*Stipa miliacea*), stinkwort (*Dittrichia graveolens*), and a non-native (cultivar) iris. The existing tanks are currently leaking water and there are several moist areas bordering the tanks.

**(i) Special-Status Wildlife Species**

For the purpose of this evaluation, special-status wildlife species include those taxa listed or proposed for listing as Threatened or Endangered under the federal or state Endangered Species Acts, state or federal candidates for listing, state Species of Special Concern, state Fully Protected

Species, federal Birds of Conservation Concern, and other species included on the California Department of Fish and Wildlife (CDFW) Special Animals List<sup>1</sup>.

Based on a review of the CNDDDB and as shown in **Figure 3**, the following federally and/or state listed wildlife species have been documented in the project area (i.e., within three miles) of the project site:

Alameda whipsnake (*Masticophis lateralis euryxanthus*), California red-legged frog (*Rana draytonii*), and California tiger salamander (*Ambystoma californiense*). Other special-status wildlife species known from the project region include Cooper's hawk (*Accipiter cooperii*), western pond turtle (*Actinemys marmorata*), pallid bat (*Antrozous pallidus*), yuma myotis (*Myotis yumanensis*), San Francisco dusky-footed wood rat (*Neotoma fuscipes annectens*), and tricolored blackbird (*Agelaius tricolor*). The potential occurrence of each of these species is further discussed below.

## **Impact Summary.**

### **Item a. Less than significant with mitigation.**

#### **(i) Special-Status Wildlife Species**

For the purpose of this evaluation, special-status wildlife species include those taxa listed or proposed for listing as Threatened or Endangered under the federal or state Endangered Species Acts, state or federal candidates for listing, state Species of Special Concern, state Fully Protected Species, federal Birds of Conservation Concern, and other species included on the California Department of Fish and Wildlife (CDFW) Special Animals List<sup>1</sup>.

**Alameda whipsnake (*Masticophis lateralis euryxanthus*)**, California red-legged frog (*Rana draytonii*), and California tiger salamander (*Ambystoma californiense*). Other special-status wildlife species known from the project region include Cooper's hawk (*Accipiter cooperii*), western pond turtle (*Actinemys marmorata*), pallid bat (*Antrozous pallidus*), yuma myotis (*Myotis yumanensis*), San Francisco dusky-footed wood rat (*Neotoma fuscipes annectens*), and tricolored blackbird (*Agelaius tricolor*). The potential occurrence of each of these species is further discussed below.

**Item b. Less than significant.** The project site is within an oak-bay woodland, with coast live oak (*Quercus agrifolia*) and California bay (*Umbellularia californica*) being the dominant tree species. Other trees present include black oak (*Quercus kelloggii*) and western sycamore (*Platanus racemosa*). The trees generally occur on the ungraded portions of the project site. Many of these trees are large and mature, with some of the oak trees showing potential signs of sudden oak death. Understory vegetation in the ungraded portion of the project site is sparse and contains native species such as poison oak (*Toxicodendron diversilobum*), goldback fern (*Pentagramma triangularis*), and sticky monkey flower (*Mimulus aurantiacus*). The soils on the project site have a moderate to high clay content and no small mammal burrows were observed.

The project site currently contains two water tanks and associated infrastructure. The existing tanks are on a graded portion of the project site and vegetation immediately bordering the tanks is sparse and includes non-native species characteristic of disturbed areas, such as dogtail grass (*Cynosurus echinatus*), horseweed (*Erigeron canadensis*), bull thistle (*Cirsium vulgare*), smilo grass (*Stipa miliacea*), stinkwort (*Dittrichia graveolens*), and a non-native (cultivar) iris. The existing tanks are currently leaking water and there are several moist areas bordering the tanks.

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<sup>1</sup> The CDFW maintains a Special Animals List. "Special Animals" is a general term that refers to all of the taxa the CNDDDB is interested in tracking, regardless of their legal or protection status. The CDFG considers the taxa on this list to be those of greatest conservation need.

### ***State and/or Federally Listed Species***

**Alameda whipsnake** (*Masticophis lateralis euryxanthus*) is a federally and state Threatened species. This snake is generally found in open-canopied shrub communities, including coastal scrub and chaparral, and adjacent habitats including oak woodland/savanna and grassland areas (Swaim 1994). Rock outcrops with deep crevices or abundant rodent burrows are important habitat components for overnight dens, refuges from predators and excessive heat, and foraging (Swaim 1994). Recent studies have shown that Alameda whipsnake can be found in a wider variety of habitats than previously thought. For example, whipsnakes have been found in grasslands with very little scrub present, in coastal scrub with dense canopy cover, and in patches of scrub less than one-half acre in size (Swaim 2003). Therefore, habitat associations for this subspecies should include those that co-occur in the general chaparral/scrub habitat mosaic (Alvarez 2005). The Alameda whipsnake is non-migratory. There is little information on site fidelity and patterns of dispersal in this species; however, Swaim (1994) observed evidence of individual snakes using the same home range in successive years.

### ***Status on Project Site***

Core habitat (i.e., scrub and chaparral habitat) is not present within or near the project site. Given the absence of core habitat on and near the site, that there are several homes and actively used roads near the site, that the site is partially developed with existing water tanks, the absence of rodent burrows and rock outcrops with deep crevices (which provide den habitat and refuge from heat and predators), and the sparse understory, the site provides low quality habitat for Alameda whipsnake. Because the project site is on the easterly margins of know habitat to the west, although unlikely it is possible that the species may move through the site.

### ***Direct Impacts***

There is some potential for Alameda whipsnake to move across the project site. In the unlikely event that the species is present at the time of construction, in the absence of avoidance measures, construction activities could result in the harm of Alameda whipsnake. Habitat loss associated with the proposed project is not considered substantial because the site is already used for water tanks and only small areas of ungraded habitat bordering the tanks would be developed, and because the project would not result in the loss of core habitat or primary habitat components for the species.

### ***Proposed Alameda Whipsnake Avoidance Measures***

The following avoidance measures are recommended to prevent harm to Alameda whipsnake during construction activities:

**BIO-1A:** A qualified biologist would survey the construction area immediately before the installation of exclusionary fencing and vegetation removal (see BIO-1B, below) for Alameda whipsnake and other special-status wildlife species. The survey area shall include all onsite habitats in which Alameda whipsnake could occur, as well as any moist areas from tank leakage which could attract amphibians. If Alameda whipsnake (or any other state or federally listed species is found), all construction activities will be halted and the U.S. Fish and Wildlife Service (Service) and California Department of Fish and Wildlife (CDFW) would be contacted. Construction activities would not recommence until authorization to proceed has been issued by the Service and CDFW. If Alameda whipsnake (or any other listed species) are not observed during the clearance survey, then BIO-1B would be implemented and construction may proceed.

**BIO-1B:** If Alameda whipsnake (or any other listed species) are not found within the proposed project footprint, immediately following the site survey, ground cover vegetation will be removed using hand tools and temporary exclusion fencing will be installed around the construction footprint. The fencing shall be designed to prevent Alameda whipsnake from entering areas where construction would occur and shall include features to prevent animals from climbing over the fencing (e.g., fence posts on the inside of the fencing material) or moving under the fencing (e.g.,

the bottom of the fencing would be buried). The fencing shall be maintained and monitored for the duration of the construction period.

**BIO-1C:** Before any construction activities begin on the project, a qualified biologist shall conduct a training session for all construction personnel. At a minimum the training shall include a description of the Alameda whipsnake, California red-legged frog, California tiger salamander, other sensitive species known from the project area, the measures that are being implemented to protect species as they relate to the project, and the boundaries within which the project may be accomplished.

**BIO-1D:** A qualified biologist shall be present at the work site until all initial habitat disturbances have been completed. If necessary to inspect all moist areas from seepage from the tanks (which could attract special-status amphibians), the biologist will be onsite during demolition of the tanks as needed. After this time, the biologist shall designate a person to monitor on-site compliance with all avoidance measures. The biologist shall ensure that this individual receives training outlined above in measure BIO-1C, and any additional training required. The monitor and the biologist shall have the authority to halt any action that could adversely affect sensitive biological resources.

#### *Effects of Project on Alameda Whipsnake*

With the implementation of the above avoidance measures, the proposed project would not harm Alameda whipsnake. This conclusion is based on the low potential of the species to occur on the site, that construction would be halted should the species be observed, that any snakes moving across the site could be excluded from the construction zone through the implementation of the specified avoidance measures, and that there would be no substantial project-related loss of habitat or primary habitat components.

**California red-legged frog** (*Rana draytonii*) is a federally Threatened species. The species occurs from sea level to elevations of 1,500 meters (5,200 feet). Breeding occurs in streams, deep pools, backwaters within streams and creeks, ponds, marshes, sag ponds, dune ponds, lagoons, and stock ponds. Breeding adults are often associated with deep (greater than 0.7 meter [2 feet]) still or slow moving water and dense, shrubby riparian or emergent vegetation (Hayes and Jennings 1988), but frogs have been observed in shallow sections of streams and ponds that are devoid of vegetative cover. The species also utilizes non-aquatic habitats for refuge and dispersal. The species is known to rest and feed within riparian vegetation and it is believed that the moisture and cover of the riparian zone provides foraging habitat and facilitates dispersal. The species has also been documented dispersing through areas with sparse vegetative cover and dispersal patterns are considered dependent on habitat availability and environmental conditions (N. Scott and G. Rathbun *in litt.* 1998).

#### *Status on Project Site*

The CNDDDB does not include any documented occurrences of California red-legged frog from the nearby golf course or from within 3 miles of the project site. There is also no aquatic or riparian habitat on the project site. These factors limit the potential of the species to occur. However, should undocumented populations occur in nearby areas, individual California red-legged frogs could be attracted to moist areas from leakage around and under the existing tanks. Given the above, there is a low potential for California red-legged frogs to occur on the project site.

#### *Potential Impacts*

For the reasons discussed above, there is a low potential that California red-legged frog would occur on the site. Therefore, in the event that California red-legged frogs are present, and in the absence of avoidance measures, construction activities could harm individual California red-legged frogs.



#### *Proposed California Red-Legged Frog Avoidance Measures*

It is unlikely that California red-legged frog occurs on the project site. However, conservatively, a preconstruction clearance survey and other avoidance measures would be conducted concurrently with the required Alameda whipsnake measures (see Bio-1A to Bio-1D, above).

#### *Effects of Project on California Red-Legged Frog*

The potential of California red-legged frog to occur on the project site is limited by the absence of aquatic habitat and because the species is not known from nearby areas. However, should undocumented populations occur in nearby areas, individual California red-legged frogs could be attracted to moist areas from leakage around and under the existing tanks. Given the above, there is a low potential for California red-legged frogs to occur on the project site. Conservatively, measures to protect California red-legged frog would be implemented and construction would be halted if a California red-legged frog is observed during the required preconstruction surveys and monitoring. Therefore, it is not expected that California red-legged frog would be harmed by the proposed project.

#### **California tiger salamander** (*Ambystoma californiense*).

The California tiger salamander (*Ambystoma californiense*) is a federally and state Threatened species. This species is rarely seen outside of its nocturnal breeding migrations, which typically begin with the first heavy rains of the season (generally in November or December). Sexually mature adults move at night from underground refugia (e.g., squirrel burrows, pocket gopher burrows) to breeding ponds from late November to early March. Vernal pools, seasonal ponds, and stock ponds are used for breeding. The species has been reported to move distances up to 1.3 miles from upland refugia to a breeding pool (USFWS 2015). This distance is normally less when there are large numbers of refuge sites in close proximity to breeding sites. After breeding, the adults return to their underground burrows. The eggs then hatch and the resulting gilled aquatic larvae metamorphose into juveniles that also move at night from aquatic habitat into terrestrial habitats in late spring or early summer with peak dispersal events occurring from May to July (Zeiner 1988, USFWS 2015). Barriers including road berms, buildings, or walls can impede migration and roads with high levels of traffic are a major source of mortality.

#### *Status on Project Site*

The CNDDDB/USFWS Species list does not include any documented occurrences of California tiger salamander from the golf course or from areas within the known dispersal distance of the species (1.3 miles). There is no aquatic habitat on or bordering the site and suitable refuge habitat (small mammal burrows, large soil cracks) are not present on the site. Therefore, California tiger salamander is not expected to occur on the project site.

#### *Potential Impacts*

For the reasons discussed above, California tiger salamanders are not expected to occur on the project site. Therefore, no impacts to the species would occur.

#### *Proposed California Tiger Salamander Avoidance Measures*

For the reasons discussed above, California tiger salamander is not expected to occur on the project site. However, conservatively, a preconstruction clearance survey and other avoidance measures would be conducted concurrently with the required Alameda whipsnake measures (see Bio-1A to Bio-1D, above).

#### *Effects of Project on California Tiger Salamander*

Given the absence of aquatic habitat and refuge habitat (e.g., small mammal burrows, large soil cracks) on the site, and that the project site is not within the dispersal distance of a known population, California tiger salamander is not expected to occur on the site. Additionally, measures to protect California tiger salamander would be implemented to further protect the species.

Therefore, it is not expected that California tiger salamander would be harmed by the proposed project.

### ***Other Special-Status Wildlife Species***

**Special-Status bird species** could nest on or bordering the project site. The trees on the project site provide suitable nesting habitat for Cooper's hawk (*Accipiter cooperii*), which is included on CDFW's Special Animals List. Additionally, numerous common bird species, including raptors, could nest on or near the site; the active nests of most native bird species are protected by the Migratory Bird Treaty Act (16 U.S.C. 704) and the California Fish and Game Code (Section 3503). The proposed project could require the removal of one or more trees. Therefore, depending on the timing of the proposed construction activities, it is possible that an active bird nest could be disturbed by tree removal or construction-related noise. The implementation of Avoidance Measure BIO-2 would ensure that a protected bird nest is not disturbed during construction.

**BIO-2** If construction activities would commence anytime during the nesting season of native bird species potentially nesting near the site (typically February through August in the project region), a pre-construction survey for nesting birds would be conducted by a qualified biologist within two weeks of the commencement of construction activities. The survey would determine if active nests of special-status bird species or other species protected by the Migratory Bird Treaty Act and/or the California Fish and Game Code are present within the construction zone or within 250 feet of the construction zone.

If active nests are found in areas that could be directly affected or are within 250 feet of construction and would be subject to prolonged construction-related noise, a no-disturbance buffer zone should be created around active nests during the breeding season or until a qualified biologist determines that all young have fledged. The size of the buffer zones and types of construction activities restricted within them will be determined by a qualified biologist, taking into account factors such as the following:

- Noise and human disturbance levels at the construction site at the time of the survey and the noise and disturbance expected during the construction activity;
- Distance and amount of vegetation or other screening between the construction site and the nest; and
- Sensitivity of individual nesting species and behaviors of the nesting birds.

Limits of construction to avoid an active nest should be established in the field with flagging, fencing, or another appropriate barrier, and construction personnel should be instructed on the sensitivity of nest areas.

**Special-Status bat species**, such as pallid bat (*Antrozous pallidus*) and yuma myotis (*Myotis yumanensis*), are known from the project area. These species are not state or federally listed, but are otherwise considered to be of special-status under CEQA. There are several large trees on the project site, which contain cavities that could be used by roosting bats. The proposed project could require the removal of one or more large trees. Therefore, in the absence of implementing avoidance measures, it is possible that roosting by special-status bat species could be disturbed. The implementation of Avoidance Measure BIO-3 would ensure that roosting bats are not harmed during construction.

**BIO-3** Prior to any tree removal, a qualified biologist shall conduct a focused tree habitat assessment of all trees that will be removed or impacted by construction activities. Trees containing suitable potential bat roost habitat features would then be clearly marked. The habitat assessments should be conducted enough in advance (i.e., 3-6 months) to ensure tree removal can be scheduled during

seasonal periods of bat activity. Removal of trees identified as providing suitable roosting habitat should only be conducted during seasonal periods of bat activity, including:

- Between March 1 (or after evening temperatures rise above 45 degrees Fahrenheit and/or no more than ½ inch of rainfall within 24 hours occurs) and April 15
- Between September 1 and about October 15 (or before evening temperatures fall below 45 degrees Fahrenheit and/or more than ½ inch of rainfall within 24 hours occurs)

Appropriate methods (using a two-step tree removal process) shall be used to minimize the potential of harm to bats during tree removal. This method is conducted over two consecutive days, and works by creating noise and vibration by cutting non-habitat branches and limbs from habitat trees using chainsaws only (no excavators or other heavy machinery) on Day 1. The noise and vibration disturbance, together with the visible alteration of the tree, is very effective in causing bats that emerge nightly to feed, to not return to the roost that night. The remainder of the tree is removed on Day 2. A qualified biologist should be on-site during Day 1 to supervise and instruct the tree-cutters.

**Western pond turtle** (*Actinemys marmorata*) is a California Species of Special Concern. This turtle primarily inhabits aquatic habitats, including ponds, slow moving streams, lakes, marshes, and canals. The species frequently basks on logs or other objects out of the water. Western pond turtles also require upland oviposition (i.e., egg laying) sites in the vicinity (typically within 200 meters, but as far as 400 meters) of the aquatic site. This species has not been documented in the project vicinity (**Figure 3**) and the project site does not contain aquatic habitat. Therefore, this species is not expected to occur or to be harmed by the project.

**Tricolored blackbird** (*Agelaius tricolor*) is a federal Bird of Conservation Concern and California Species of Special Concern. This communally nesting species is associated with freshwater marshes and riparian habitats. Suitable habitat does not occur on or bordering the project site and this species is not expected to occur or to be harmed by the project.

**San Francisco dusky-footed woodrat** (*Neotoma fuscipes annectens*) is a California Species of Special Concern. The dusky-footed woodrat (*N. fuscipes*) is fairly common and widespread throughout the Coast Range and the northern interior of California. The subspecies, the San Francisco dusky-footed woodrat, is believed to be restricted to the San Francisco Bay Area. Dusky-footed woodrats are highly arboreal (Kelly 1990). Evergreen or live oaks and other thick-leaved trees and shrubs are important habitat components for this species (Kelly 1990, Williams *et. al.* 1992). Woodrats build nests (i.e., stick houses), which are often the result of work by several generations of woodrats, by piling up sticks, rocks, and other available material. No woodrat nests were observed on or bordering the project site, and therefore, the species is not expected to occur or to be harmed by the project.

#### **(ii) Special-Status Plant Species**

Two rare plant species have been documented within five miles of the project site, including Santa Clara red ribbons (*Clarkia concinna* ssp. *automixa*) and Congdon's tarplant (*Hemizonia parryi* ssp. *congonii*). Santa Clara red ribbons has a CNPS Rare Plant Rank of 4.3 (meaning it is a "watch list" species and "not very threatened" in California), and does not have any other state or federal rarity designation. Given the species' low sensitivity status, it may not be of special-status under CEQA. This species is known to occur in habitat types similar to the onsite oak-bay woodland. However, given that the construction area and adjacent areas have been subject to disturbance from the existing water tanks, and the low sensitivity status of the species, potential impacts to Santa Clara red ribbons are considered less than significant.

Congdon's tarplant (CNPS Rare Plant Rank 1.B.1) is associated alkaline grassland habitats, which do not occur on the project site; therefore, this species is not expected to occur.

### (iii) Sensitive and Jurisdictional Resources

There are no potentially jurisdictional wetlands, riparian, or other aquatic or sensitive habitats within the project's disturbance area. Therefore, the proposed project would not affect sensitive or jurisdictional habitats.

- c. **No impact.** There are no wetlands and associated riparian corridor at the project site.
- d. **Less than significant.** There are no designated wildlife corridor. Therefore any temporary impacts from the project would be less than significant.
- e. **No Impact.** The project would not conflict with any local policies or ordinances protecting biological resources. The project site is designated County Service Area (CSA hosting high income residential homes. East Bay Regional Park District operates a part to the south and north of the CSA. Alameda County Tree ordinance only protects trees in public road right of way.
- f. **Less than significant Impact.** There is an approved East Alameda County Conservation Strategy (EACCS) for eastern Alameda County.

### References

Alameda County Tree Ordinance <https://www.acpwa.org/pas/urban-forestry>

California Department of Fish and Wildlife (CDFW), California Natural Diversity Database query for USGS 7.5 minute topographic quadrangle Dublin Commercial Version, accessed August 2017.

Natural Communities –Natural Communities List Arranged Alphabetically by Life Form, Sept 2010. <https://www.wildlife.ca.gov/Data/VegCAMP/NaturalCommunities/List>. Accessed Aug., 2017.

CNPS, Online Inventory of Rare and Endangered Plants. Version 8-02 (2015) <http://www.rareplants.cnps.org/advanced.html> accessed June 2017.

East Alameda County Conservation Strategy, Final Draft. October 2010

Pacific Biology Nov 2016 Castlewood Service Area Zone 2 Redwood Tanks Replacement Project Biological Habitat Evaluation prepared for the alameda County Public Works Agency

**CHAPTER 3.5 CULTURAL RESOURCES**

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a <u>historical resource</u> as defined in § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique palontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion**

CEQA guideline Section 15064.5 required the lead agency to consider the effects of a project on historical resources defined as any building, structure site or object listed in or determined to be eligible for inclusion in the California Register or determined by the lead agency to be of significant in architectural engineering, scientific economic, agricultural educational social political or cultural annals of California. In accordance with Section 15064.5, the proposed project site and the existing tanks researched and pedestrian survey was performed to assess the significance and potential effects if nay that may result from the proposed replacement,

The regulations implementing Section 106 of the NHPA define an effect as any action that would alter the characteristics of the property that may qualify the property for inclusion in the NRHP; and, diminish the integrity of a property's location, setting, design, materials, workmanship, feeling or association (36 CFR Part 800.5(a)(1-2)). A determination of *No Historic Properties Affected* is applicable since no properties are within or adjacent to the APE that are listed, eligible or appear to be eligible for inclusion on the NRHP.

A reasonable and good faith effort has been made to identify prehistoric and historic archaeological properties listed, determined, or potentially eligible for inclusion on the NRHP (36 CFR Part 800.4) within or immediately adjacent to the APE pursuant to the NHPA of 1966 (as amended) (54 U.S.C. § 306108) and its implementing regulations 36 CFR Part 800. The identification effort included a records search, literature review, field reviews and consultation with local Native Americans.

**a. No impact:**

No prehistoric or historic archaeological resources have been recorded within or adjacent to the APE. The two existing 100,000 gallon redwood water tanks, were evaluated as not significant either as individual structures or as a contributor to a historic district under any of the NRHP and/or CRHR criteria.

**b-d. Less than Significant Impact.** Although there appears to be a very low potential for unexpected discoveries of unique archaeological discoveries during construction based on the archaeological data as well as previous disturbance associated with the initial tank installation the following additional measures have been incorporated into the project in the invent that resources are uncounted during project construction.

- i. Alameda County shall note on any plans that require ground disturbing excavation that there is a potential for exposing buried cultural resources including prehistoric Native American burials.
- ii. Alameda County shall retain a Professional Archaeologist on an “on-call” basis during ground disturbing construction for the project to review, identify and evaluate cultural resources that may be inadvertently exposed during construction. The archaeologist shall review, identify and evaluate any discoveries to determine if they are historical properties.

- iii. If the Professional Archaeologist determines that any cultural resources exposed during construction constitute a historical resource and/or unique archaeological resource, he/she shall notify the project proponent and other appropriate parties of the evaluation and recommend mitigation measures. Mitigation measures may include avoidance, preservation in-place, recordation, additional archaeological testing and data recovery among other options. The completion of a formal *Archaeological Monitoring Plan* (AMP) may be recommended by the Professional Archaeologist if significant archaeological deposits are exposed during ground disturbing construction. Development and implementation of the AMP will be determined by Alameda County and treatment of any significant cultural resources shall be undertaken with the approval of Alameda County.
- iv. A *Monitoring Closure Report* shall be filed with Alameda County at the conclusion of ground disturbing construction if archaeological and Native American monitoring of excavation was undertaken.
- v. Protection *Measure CUL-2*  
The treatment of human remains and any associated or unassociated funerary objects discovered during any soil-disturbing activity within the project site shall comply with applicable State laws. This shall include immediate notification of the Alameda County Medical Examiner and the responsible agency of Alameda County.

In the event of the coroner's determination that the human remains are Native American, the Native American Heritage Commission, will be notified to appoint a Most Likely Descendant (MLD) (PRC Section 5097.98).

Alameda County, the archaeological consultant, and MLD shall make all reasonable efforts to develop an agreement for the treatment, with appropriate dignity, of human remains and associated or unassociated funerary objects (CEQA Guidelines Section 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. The California PRC allows 48 hours to reach agreement on these matters. If the MLD and the other parties do not agree on the reburial method, the project will follow PRC Section 5097.98(b) which states that ". . . the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance."

## References

- Alameda County 1994 General Plan. Conservation Element. Adopted November 23, 1976 by the Alameda County Board of Supervisors. Amended May 5, 1994 by Board Resolution 94-272.
- Alameda County 2002 East County Area Plan. May 2002 (date of last major revision).
- Alameda County 2012 Title 17, Section VI, General Ordinance Code of the County of Alameda. Chapter 17.62, Historic Preservation Ordinance.
- Alameda (County of) Public Works Agency 2016 Background Information for Castlewood County Service Area Zone 2 Redwood Tanks Replacement, Castlewood Drive, Pleasanton, Unincorp. Alameda County. On file, Basin Research Associates, San Leandro.
- Allardt, G.F. 1874 Official Map of Alameda County, California. Compiled from Official Surveys and Records and Private Surveys. Board of Supervisors of Alameda, County. Britton and Rey Co., Lith, San Francisco.

Basin Research Aug 2017. Historic Property Survey Report/Finding of No Effect Castlewood Service Area Zone 2 Tanks Replacement Unincorporated Pleasanton Area, Alameda County  
Bazar, Chris 1993 [Typescript] Preliminary Inventory of Historical Resources: Eastern Alameda County. Prepared for the Alameda County Planning Department. December.

## CHAPTER 3.6 GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to <u>Division of Mines and Geology Special Publication 42</u> .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on <u>expansive soil</u> , as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion

The USDA Natural Resource Conservation Service (NRCS) has a single mapped soil type for the site: Reyes clay, drained. In a decision issued in 2015, the California Supreme Court ruled CEQA generally does not require that public agencies analyze the impact existing environmental conditions might have on a project's future users or residents. *California Building Industry Association v Bay Area Air Quality Management District*, 62 Cal. 4th 369 (2015). An agency must analyze how environmental conditions might adversely affect a project's residents or users only where the project itself might worsen existing environmental hazards in a way that will adversely affect them, or if one of the provisions of CEQA which require such an analysis for certain airport, school, and housing projects applies. In addition to stating this general rule, the court invalidated provisions of the CEQA Guidelines that state exposure of people or structures to seismic hazards were an impact under CEQA.

### a-e) No impacts

### References

- Association of Bay Area Governments (ABAG), 2016. Resilience Program, Shaking Hazard Map. <http://resilience.abag.ca.gov/earthquakes/>, accessed June, 2017.
- United States Geological Survey (USGS), 2006. Map of Quaternary Deposits and Liquefaction Susceptibility in the Central San Francisco Bay Region, California.
- United States Geological Survey (USGS), 2008. Working Group on California Earthquake Probability (WG07), Fact Sheet 2008-3027, Forecasting California's Earthquakes – What Can We Expect in the Next 30 Years?, available online at [pubs.usgs.gov/fs/2008/3027/fs2008-3027.pdf](http://pubs.usgs.gov/fs/2008/3027/fs2008-3027.pdf).
- Association of Bay Area Governments. <http://gis.abag.ca.gov/website/Hazards/?hlyr=femaZones>



## CHAPTER 3.7 GREENHOUSE GAS EMISSIONS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Discussion

Gases that trap heat in the atmosphere are referred to as greenhouse gases (GHGs) because they capture heat radiated from the sun as it is reflected back into the atmosphere, similar to a greenhouse. The most abundant GHGs in the earth's atmosphere are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O). General consensus of the causes of changes in the earth's climate is human activities principally that is causing accumulation of GHGs. The increasing accumulation is resulting changes in the earth's atmosphere. Global climate change is a change in the average weather on earth that can be measured by wind patterns, storms, precipitation and temperature.

Potential global warming impacts in California may include, but are not limited to, loss in snow pack, sea level rise, increase in frequency, duration and intensity of heat days per year, increased number of high ozone days, extreme frequency of large forest fires, increased frequency and duration of drought years. The associated effects include global rise in sea level, impacts to agriculture, changes in disease vectors distribution, and in habitat and biodiversity. GHG-related impacts are considered to be exclusively cumulative impacts; there are no significant noncumulative GHG emissions impacts from a climate change perspective (CAPCOA, 2008).

**a & b) Less than Significant.** The Bay Area Air Quality Management District (BAAQMD) has adopted GHG significance thresholds of 10,000 metric tons of carbon dioxide equivalent (CO<sub>2</sub>e) per year for stationary source projects and 1,100 metric tons CO<sub>2</sub>e per year for projects non-stationary source projects (BAAQMD, 2017a). Project construction would not generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment.

### References

- Bay Area Air Quality Management District (BAAQMD), 2017ba. Bay Area 2017 Clean Air Plan, adopted April 19, 2017. Available at <http://www.baaqmd.gov>.
- County of Alameda, 2014. Community Climate Action Plan. Adopted February 4, 2014. <http://www.acgov.org/sustain/next/plan.htm>
- California Air Pollution Officers Association (CAPCOA), 2008. CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act. <http://www.capcoa.org/>
- U.S. Environmental Protection Agency, 2017. eGRID2014v2 GHG Annual Output Emission Rates. <https://www.epa.gov/energy/egrid-2014-subregionghg-output-emission-rates>

## CHAPTER 3.8 HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Discussion

Project construction activities would require the use of small quantities of fuels, oils, lubricants, and solvents. Improper use, storage, handling, transport, or disposal of hazardous materials during construction could result in an accidental release exposing construction workers, the public, and the environment, including soil and/or ground or surface water, to potential adverse effects. California Occupational Safety and Health Administration (Cal/OSHA) enforces workplace safety standards, including the handling and use of hazardous materials. Transportation of hazardous materials is regulated by the federal Department of Transportation (DOT)/Caltrans and California Department of Toxic Substances Control (DTSC). Federal and State agencies determine driver-training requirements, load labeling procedures, and container specifications designed to minimize the risk of accidental release.

**a -b. Less than Significant.** The project would comply with laws and regulations that govern the transport, use, storage, handling and disposal of hazardous materials reducing the potential hazards associated with these activities.

**c -g. No Impacts:** There would be no impact related to potential exposure.

The project is not located on a state listed hazardous materials site. None reported on SWRCB Geotracker. The project has no private airstrip within two miles of the project site. The project would not conflict with adopted emergency plan.

**g. Less than Significant.** Although the project site is adjacent to wildland that may be susceptible to wildland fire, it is unlikely to result in fire because of the nature and limited scope of the work.

### References

Department of Toxic Substances Control (DTSC) <http://www.dtsc.ca.gov/HazardousWaste/index.cfm>

Geotracker. <http://geotracker.waterboards.ca.gov/map/>

Association of Bay Area Governments <http://gis.abag.ca.gov/website/Hazards/?hlyr=femaZones>

## CHAPTER 3.9 HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Violate any <u>water quality standards or waste discharge requirements</u> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion

The project is located at approximate 840 feet elevation on the east slopes of the Pleasanton ridge. The nature and limited scope of the project is not anticipated to result in water quality impacts that would violate Section 402 of the Clean Water Act and the National Pollution discharge Elimination System (NPDES) (i.e. Municipal Regional Permit (MRP)). Although the proposed project construction area of disturbance is less than an acre and is exempt under the Construction General Permit (CGP), the Agency has incorporated substantial measures to further reduce any potential impacts. See Section 2.0 Project Description above.

a) **Less than significant**

b-i) **No impacts**

### References

Association of Bay Area Governments <http://gis.abag.ca.gov/website/Hazards/?hlyr=femaZones>  
<https://msc.fema.gov/portal>

## CHAPTER 3.10 LAND USE AND PLANNING

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion

The project is replacement of existing tanks that supplies domestic water to an established community. It has no likelihood to affect or conflict with existing land use or conservation plans.

**a-c) No Impacts:** The project would replace existing deteriorating wooden tanks on the same footprint of the existing. There are no existing HCP associated with the Castlewood CSA Zone 2.

### References

County of Alameda <http://www.acgov.org/cda/planning/generalplans/index.htm>

Alameda County 2002 East County Area Plan. May 2002 (date of last major revision).

<http://www.acgov.org/cda/planning/generalplans/documents/EastCountyAreaPlancombined.pdf>

## CHAPTER 3.11 MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known <a href="#">mineral resource</a> that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion

**a, b) No Impact.** The project site is located in an area classified as MRZ-1, with no known significant mineral deposits present (CDMG, 1987). In addition, there are no mines, mineral plants, oil, gas, or geothermal wells located at the project site (USGS, 2003; CDC, 2017). The local land use plans do not indicate presence of locally important mineral resources for the project site (Alameda County, 1994). The proposed project would not involve mining onsite. Therefore, the construction or operation of the proposed project would not result in the loss of availability of any existing significant mineral resources.

### References

Alameda East County Area Plan, 1994. <http://www.acgov.org/cda/planning/generalplans/index.htm>

California Department of Conservation, Division of Mines and Geology (CDMG), 1987.

Mineral Land Classification: Aggregate Materials in the San Francisco-Monterey Bay Area, Special Report 145146, Part II, Plate 2.23 <http://archive.org/stream/minerallandandclass00stin#page/n121/mode/1up>

USGS Mineral Resources Map <https://minerals.usgs.gov/minerals/pubs/mapdata/tile5.pdf>

## CHAPTER 3.12 NOISE

Would the project result in:	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion

**a, b, d, e) Less than Significant.** The proposed project is located within the unincorporated area of Alameda County. The County's municipal code, Article 6.60.070 (Exceptions), exempts projects that are constructed between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday and between the hours of 8:00 a.m. and 5:00 p.m. weekends. The project construction would not violate the County's noise standards and therefore would result in a less-than-significant impact. Ambient noise level will be same following construction.

Type of Equipment	L <sub>max</sub> , dBA	Hourly Leq, dBA/Use <sup>1</sup>
Grader	85	81/40%
Pneumatic tools	85	81/40%
Concrete mixer	85	82/50%
Air compresor	85	81/40%
crane	85	77/16%
Excavator	85	81/40%
NOTES:		
<sup>1</sup> Percent used during the given time period (usually an hour – hourly Leq) were obtained from the FHWA Roadway Construction Noise Model User's Guide.		

**c, f) No Impact.** The proposed project would not be located within the vicinity of a private airstrip. Therefore, there would be no impact with regard to exposure of people residing or working to excessive noise levels from a private airstrip

### References

Federal Highway Administration (FHWA), 2006.

[http://www.fhwa.dot.gov/environment/noise/noise\\_barriers/abatement/insulation/index.cfm](http://www.fhwa.dot.gov/environment/noise/noise_barriers/abatement/insulation/index.cfm)

U.S. Environmental Protection Agency (USEPA), 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. March 1974.

Federal Highway Administration (FHWA)

[https://www.fhwa.dot.gov/environment/noise/noise\\_effect\\_on\\_wildlife/effects/wild04.cfm](https://www.fhwa.dot.gov/environment/noise/noise_effect_on_wildlife/effects/wild04.cfm)

Noise Quest <http://www.noisequest.psu.edu/noiseeffects-wildlife.html>

## CHAPTER 3.13 POPULATION AND HOUSING

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion

**a, b, c) No Impact.** The proposed project would not displace people or existing housing units or necessitate construction of replacement housing. The proposed project would have no impact.

### Reference

ABAG. [http://www.abag.ca.gov/planning/interregional/pdf/projections/IRP\\_Projections-Alameda\\_County.pdf](http://www.abag.ca.gov/planning/interregional/pdf/projections/IRP_Projections-Alameda_County.pdf)

Alameda County East County General Plan  
<http://www.acgov.org/cda/planning/generalplans/index.htm>



**CHAPTER 3.14 PUBLIC SERVICES.**

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion**

**a.i) No Impact.** The Alameda County Fire Department provides fire protection and emergency services to the unincorporated Alameda County. The proposed project would not increase demand for fire protection services. Construction activities would not affect response times or service rations for fire response. There would be no impact.

**a.ii) No Impact.** The Alameda County Sheriff's Department provides police services to the project area (Alameda County Sheriff, 2017. Construction of the proposed project would not substantially induce population growth nor result in increased demand for police protection services such that new or physically altered facilities would be needed.

**a.iii) No Impact.** There are no schools within 0.5 mile of the project site. There would be no direct effect on local schools. The proposed project would not result in an increase of employees or otherwise substantially induce population growth requiring increased used of school facilities.

**a.iv) No Impact.** The proposed project would not result in an increase of employees, therefore it would not result in an increase in the use of recreational facilities, nor contribute to the need to build new recreational facilities.

**a.v) No Impact.** The proposed project is not expected to increase the use of other public facilities such as libraries or hospitals.

**References**

Alameda County Fire Department, 2016. <https://www.acgov.org/fire/about/station22.htm>

**CHAPTER 3.15 RECREATION.**

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion**

**a, b) No Impact.** The project site is located near East Bay Regional Park District Pleasanton Ridge Park but separated from the Castlewood CSA. The Park and its parking lot is on Foothill Road about 1 mile south of the Castlewood Drive. The proposed project would not result in increased use or affect access to the park. The proposed project not include a residential component that could contribute to a direct increase in the use of existing recreational facilities in the area or require the expansion or construction of new facilities. In addition, the proposed project does not propose new recreational facilities and would not result in the alteration or deterioration of existing recreational facilities. No impact cumulative or otherwise is expected.

**References**

Alameda Countywide General Plan.

<http://www.acgov.org/cda/planning/generalplans/documents/EastCountyAreaPlancombined.pdf>

## CHAPTER 3.16 TRANSPORTATION/TRAFFIC

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion

The project is located on Castlewood Drive that intersect the two-lane Foothill Road to the east. Access to the site is possible from North South running 680 Freeway. Highway 580 is several miles to the north of the site.

**a, b). Less than Significant.** Direct traffic impacts from construction of the project would be short-term and temporary. The duration of short-term disruption of traffic flow and potential increased congestion generated by construction vehicles would be limited to the period of time needed to complete construction of the project.

**c, d, e ) No Impact.** The project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. There would be no impact. Neither project construction nor project operations would alter the physical configuration of the existing roadway network serving the area, and would not introduce unsafe design features. The project would not introduce uses that are incompatible with existing uses. The project construction would not alter the physical configuration of the existing roadway network serving the area, and would have no effect on access to local streets or adjacent uses including access for emergency vehicles. Implementation of the project would not directly or indirectly eliminate existing or planned alternative transportation corridors or facilities (e.g., bike paths, lanes, bus turnouts, etc.), include changes in policies or programs that support alternative transportation, nor construct facilities in locations in which future alternative transportation facilities are planned. The project would not conflict with adopted policies, plans and programs supporting alternative transportation.

### References

California Department of Transportation (Caltrans), 2016. 2015 Annual Average Daily Truck Traffic on the California State Highway System

Alameda Countywide General plan.

<http://www.acgov.org/cda/planning/generalplans/documents/EastCountyAreaPlancombined.pdf>

**CHAPTER 3.17 TRIBAL CULTURAL RESOURCES**

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion**

Tribal cultural resources are: 1) sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are listed, or determined to be eligible for listing in the California Register of Historical Resources (California Register), or local register of historical resources, as defined in PRC Section 5020.1(k); or, 2) a resource determined by the CEQA lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c). For a cultural landscape to be considered a tribal cultural resource, it must be geographically defined in terms of the size and scope of the landscape (PRC Section 21074[b]). Historical resource, as defined in PRC Section 21084.1, unique archaeological resource, as defined in PRC Section 21083.2(g), or non- unique archaeological resource, as defined in PRC Section 21083.2(h), may also be a tribal cultural resource. Native American Heritage Commission (NAHC) was consulted November 2016.

**ai, ii, iii) No Impacts.** Also see Section 3.5 Cultural Resources above.

**References**

Basin Research Aug 2017. Historic Property Survey Report/Finding of No Effect Castlewood Service Area Zone 2 Tanks Replacement Unincorporated Pleasanton Area, Alameda County

## CHAPTER 3.18 UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable <u>Regional Water Quality Control Board</u> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with <u>federal, state, and local statutes and regulations</u> related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion

**a-g) No Impact.** As described in Chapter 2, Project Description, the purpose of the project is replace old deteriorating wooden tanks with concrete tanks to provide water supply to the existing CSA.

### References

Alameda Countywide General plan.

<http://www.acgov.org/cda/planning/generalplans/documents/EastCountyAreaPlancombined.pdf>

**CHAPTER 3.19 MANDATORY FINDINGS OF SIGNIFICANCE**

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion**

- a. **Less Than Significant with Mitigation.** The proposed tank replacement does not have the potential to cause fish and wildlife to populations to drop below self-sustaining levels or threaten to eliminate a plant or animal community. The proposed project has the potential to have adverse impacts on special status wildlife species. The impact has been reduces to less than significant with incorporation of mitigation measures discussed under chapter 3.4. Biological Resources.
- b, c. **No impacts.** The project impacts would be temporary and limited to project construction. There is no possibility of cumulative impacts associated with the project.

## FIGURES

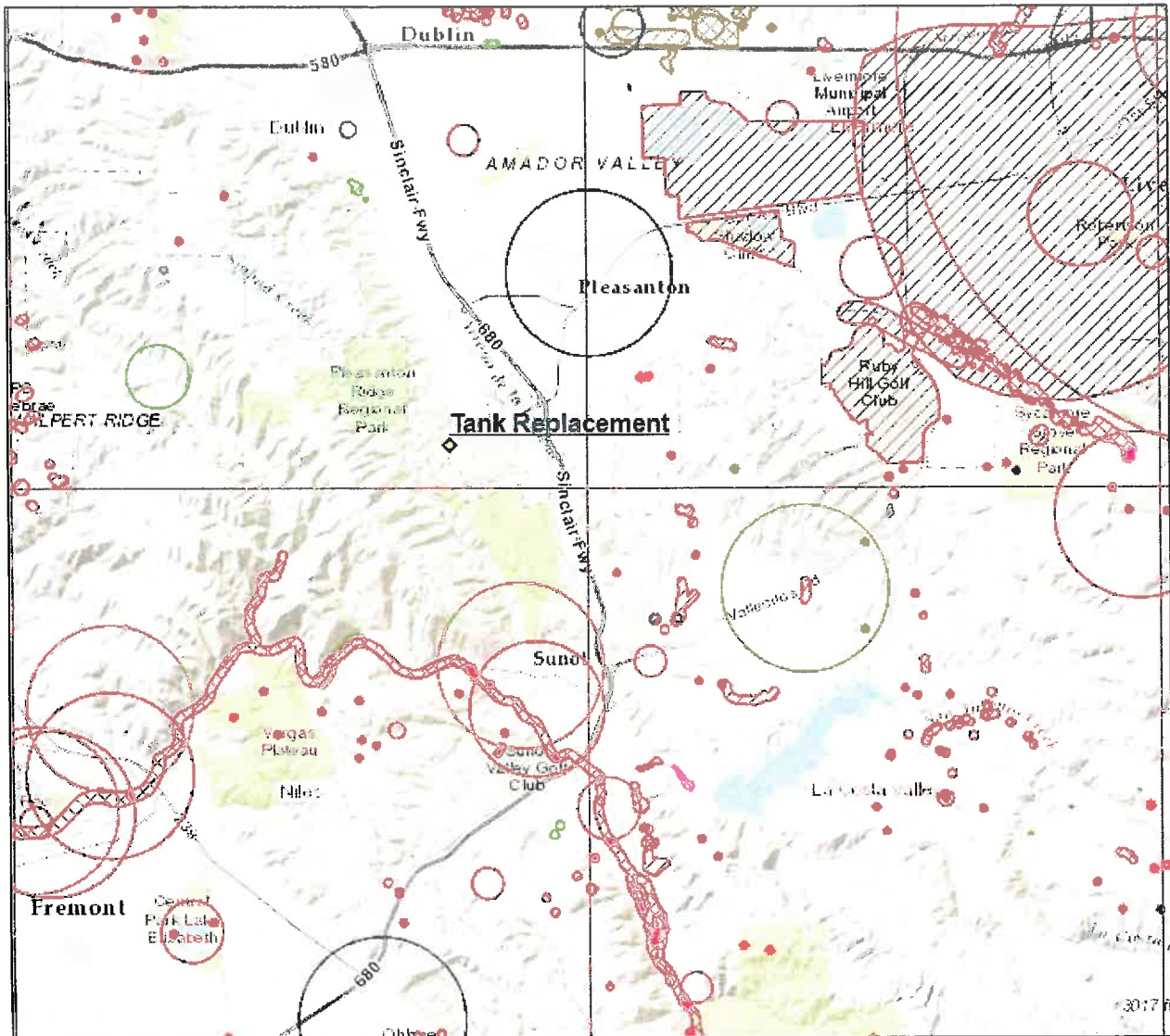
Figure 2a. Existing Tanks Site - Castlewood Tank Replacement Project



Figure 2b Surrounding Vegetation at the Castlewood Tank Replacement Site



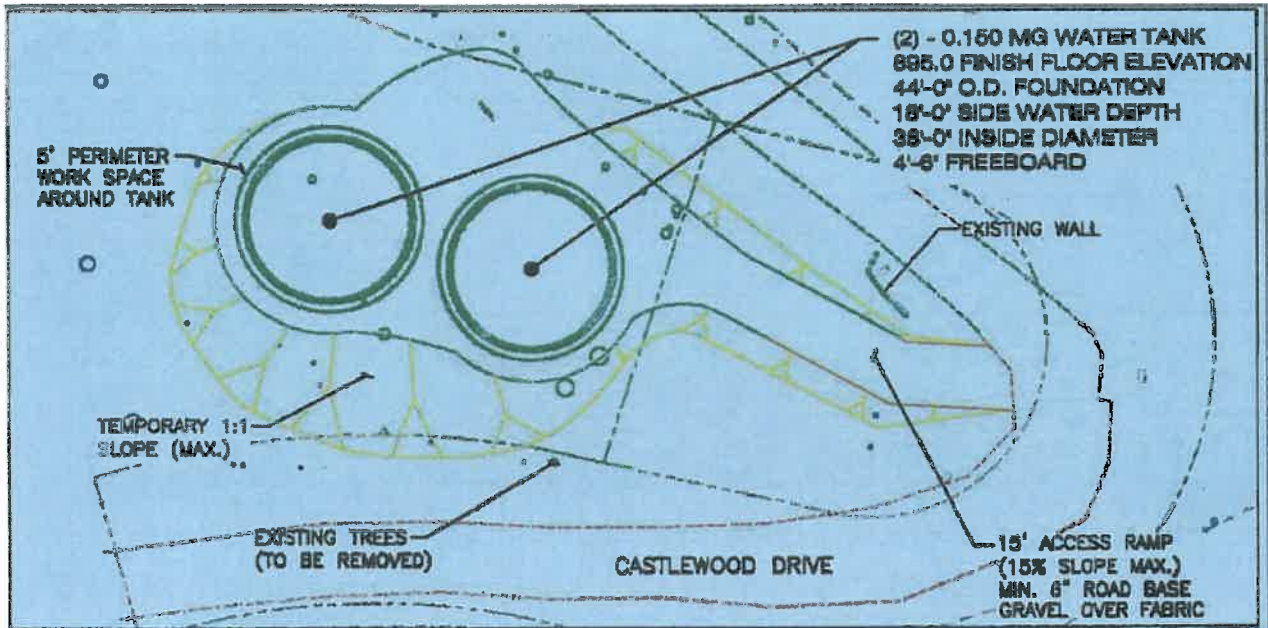
Figure 3. CDFW CNDDDB (2017) Special Status Species Occurrence Map In the Vicinity of Project Site <https://map.dfg.ca.gov/bios/?al=ds45>



USGS Quadrangles: Dublin, Niles, La Costa, and Livermore

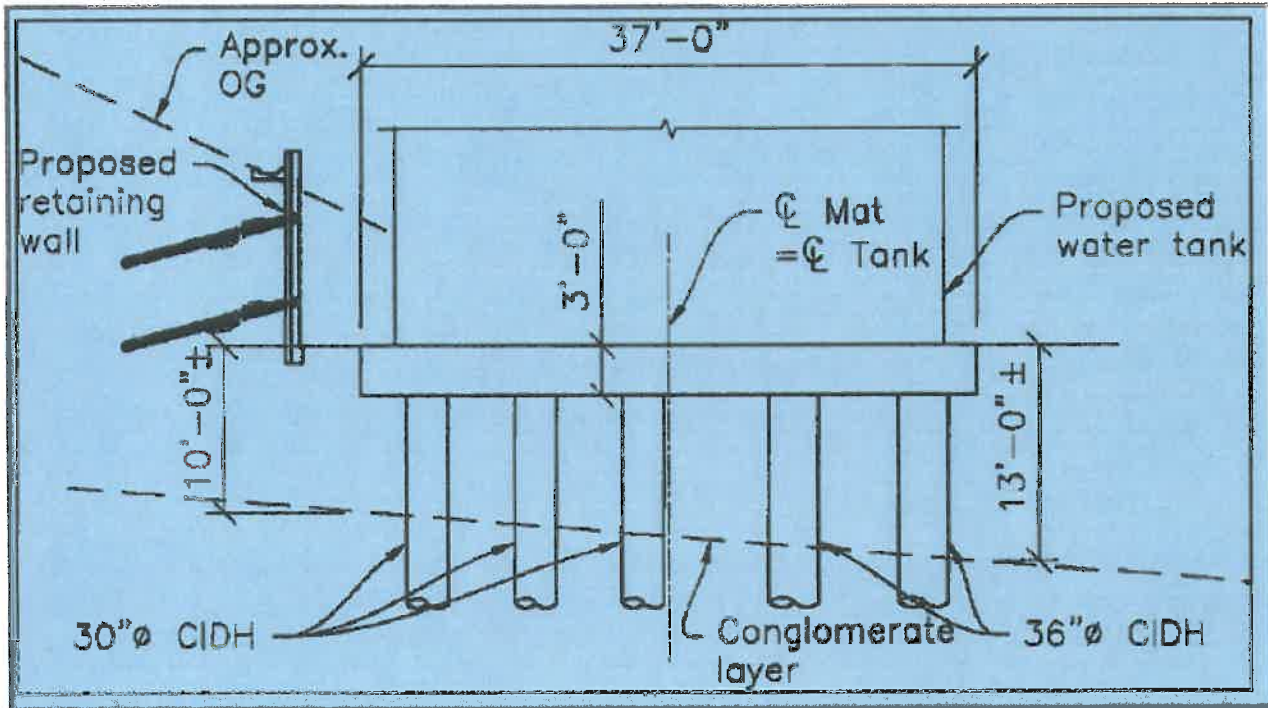


Figure 4a Plan View: Steel Tank Installation Footprint - Castlewood Tank Replacement



Note: Construction area is approximately 9,000 square feet.

Figure 4b Cross Section View: Steel Tank Foundation Piers - Castlewood Tank Replacement



**Table 3. Special Status Species Listing in the Vicinity of the Castlewood Tank Replacement Site**

Common Name	Scientific Name	Status (FE/CA)	Occurrence on Site?
<b>Mammals</b>			
American badger	<i>Taxidea taxus</i>	None	No
Hoary Bat	<i>Lasiurus cinereus</i>	None	No
Pallid Bat	<i>Antrozous pallidus</i>	None	No
San Francisco Dusky-footed Woodrat	<i>Neotoma fuscipes annectens</i>	None	No
San Joaquin Kit Fox	<i>Vulpes macrotis mutica</i>	Endangered (FE) / Threatened (CA)	No
Townsend's Big-eared Bat	<i>Corynorhinus townsendii</i>	None	No
Yuma Myotis	<i>Myotis yumanensis</i>	None	No
<b>Birds</b>			
American Peregrine Falcon	<i>Falco peregrinus anatum</i>	Delisted (FE/CA)	No
Alameda Song Sparrow	<i>Melospiza melodia pusillula</i>	None	No
Burrowing Owl	<i>Athene cunicularia</i>	None	No
California Black Rail	<i>Laterallus jamaicensis coturniculus</i>	Threatened (CA)	No
California Horned Lark	<i>Eremophila alpestris actia</i>	None	No
California Least Tern	<i>Sterna antillarum browni</i>	Endangered (FE)	No
Cooper's Hawk	<i>Accipiter cooperii</i>	None	No
Ferruginous Hawk	<i>Buteo regalis</i>	None	No
Golden Eagle	<i>Aquila chysaetos</i>	None	No
Great Blue Heron	<i>Ardea herodias</i>	None	No
Prairie Falcon	<i>Falco mexicanus</i>	None	No
Sharp-shinned Hawk	<i>Accipiter striatus</i>	None	No
Tricolored Blackbird	<i>Agelaius tricolor</i>	Candidate Endangered (CA)	No
White-tailed Kite	<i>Elanus leucurus</i>	None	No
<b>Reptiles</b>			
Alameda Whipsnake (striped Racer)	<i>Masticophis lateralis euryxanthus</i>	Threatened (FE/CA)	Potential
Western Pond Turtle	<i>Emys marmorata</i>	None	No
<b>Amphibians</b>			
California Red-legged Frog	<i>Rana draytonii</i>	Threatened (FE)	Potential
California Tiger Salamander	<i>Ambystoma californiense</i>	Threatened (FE/CA)	No
Foothill Yellow-legged Frog	<i>Rana boylei</i>	Candidate Threatened (CA)	No
<b>Fishes</b>			
Delta Smelt	<i>Hypomesus transpacificus</i>	Threatened (FE)	No
Steelhead – Northern California DPS	<i>Oncorhynchus (=Salmo) mykiss</i>	Threatened (FE)	No

**Table 3. Special Status Species Listing in the Vicinity of the Castlewood Tank Replacement Site  
(Continued)**

Common Name	Scientific Name	Status (FE/CA)	Occurrence on Site?
<i>Insects</i>			
San Bruno Elfin Butterfly	<i>Callophrys mossii bayensis</i>	Endangered (FE)	No
Western Bumble Bee	<i>Bombus occidentalis</i>	None	No
<i>Crustaceans</i>			
California Linderiella	<i>Linderiella occidentalis</i>	None	No
Vernal Pool Fairy Shrimp	<i>Branchinecta lynchi</i>	Threatened (FE)	No
Vernal Pool Tadpole Shrimp	<i>Lepidurus packardii</i>	Endangered (FE)	No
<i>Dicots</i>			
Brittlescale	<i>Atriplex depressa</i>	None	No
California Seablite	<i>Suaeda californica</i>	Endangered (FE)	No
Caper-fruited Tropicocarpum	<i>Tropicocarpum capparideum</i>	None	No
Chaparral Harebell	<i>Campanula exigua</i>	None	No
Congdon's Tarplant	<i>Centromadia parryi</i> ssp. <i>congonii</i>	None	No
Diablo Helianthella	<i>Helianthella castanea</i>	None	No
Hairless Popcornflower	<i>Plagiobothrys glaber</i>	None	No
Lesser Saltscale	<i>Atriplex minuscula</i>	None	No
Most Beautiful Jewelflower	<i>Streptanthus albidus</i> ssp. <i>peramoenus</i>	None	No
Oregon Polemonium	<i>Polemonium carneum</i>	None	No
Palmate-bracted Salty Bird's-beak	<i>Chloropyron palmatum</i>	Endangered (FE/CA)	No
Prostrate Vernal Pool Navarretia	<i>Navarretia prostrata</i>	None	No
Saline Clover	<i>Trifolium hydrophilum</i>	None	No
San Joaquin Spearscale	<i>Extriplex joaquinana</i>	None	No
Santa Clara Red Ribbons	<i>Clarkia concinna</i> ssp. <i>automixa</i>	None	No
<i>Monocots</i>			
California Alkali Grass	<i>California alkali grass</i>	None	No
Slender-leaved Pondweed	<i>Stuckenia filiformis</i> ssp. <i>alpina</i>	None	No
<i>Riparian</i>			
Sycamore Alluvial Woodland	Sycamore Alluvial Woodland	None	No
<i>Scrub</i>			
Valley Sink Scrub	Valley Sink Scrub	None	No

Designated Critical habitat.

FE = Federally Listed Species

CA = State Listed Species

Attachment A  
Zone 2 Redwood Tanks Replacement  
Construction Emissions Output

Trips and VMT - Default trip lengths retained. Hauling trips from proxy project.  
 Vehicle Trips - No Increase in operational activity

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	120.00
tblConstructionPhase	NumDays	10.00	25.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	PhaseEndDate	1/29/2017	7/14/2017
tblConstructionPhase	PhaseEndDate	1/29/2017	3/3/2017
tblConstructionPhase	PhaseEndDate	1/29/2017	2/24/2017
tblConstructionPhase	PhaseEndDate	1/29/2017	2/3/2017
tblGrading	AcresOfGrading	7.50	0.00
tblGrading	AcresOfGrading	6.56	0.50
tblGrading	MaterialExported	0.00	1,200.00
tblLandUse	LotAcreage	0.05	0.50
tblOffRoadEquipment	HorsePower	231.00	113.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets

tbOffRoadEquipment	UsegeHours	1.00	7.00
tbOffRoadEquipment	UsegeHours	1.00	6.00
tbOffRoadEquipment	UsegeHours	6.00	7.00
tbOffRoadEquipment	UsegeHours	7.00	4.00
tbOffRoadEquipment	UsegeHours	1.00	7.00
tbOffRoadEquipment	UsegeHours	6.00	7.00
tbProjectCharacteristics	OperationalYear	2018	2019
tbProjectCharacteristics	UrbanizationLevel	Urban	Rural
tbTripsAndVMT	Hauling TripNumber	0.00	34.00
tbTripsAndVMT	Hauling TripNumber	0.00	4.00
tbTripsAndVMT	Hauling TripNumber	0.00	150.00
tbTripsAndVMT	PhaseName		Trenching
tbTripsAndVMT	WorkerTripNumber	1.00	2.00
tbTripsAndVMT	WorkerTripNumber	18.00	5.00
tbTripsAndVMT	WorkerTripNumber	5.00	8.00
tbVehicle Trips	ST_TR	1.32	0.00
tbVehicle Trips	SU_TR	0.66	0.00
tbVehicle Trips	WD_TR	6.97	0.00

## 2.0 Emissions Summary

### 2.1 Overall Construction Unmitigated Construction

Year	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	MSW-CO2	Total CO2	CH4	N2O	CO2e
2017	0.1543	1.4899	0.9720	1.7400e-003	0.0845	0.0826	0.1771	0.0487	0.0788	0.1276	0.0000	156.2627	156.2627	0.0315	0.0000	157.0504
Maximum	0.1543	1.4899	0.9720	1.7400e-003	0.0845	0.0826	0.1771	0.0487	0.0788	0.1276	0.0000	156.2627	156.2627	0.0315	0.0000	157.0504

### 2.2 Overall Operational Not Applicable

Site Clearing and Demolition	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Temporary Storage	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Site Restoration	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Site Prep/Grading/Excavation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Tank Construction	Aerial Lifts	1	6.00	63	0.31
Tank Construction	Rough Terrain Forklifts	1	6.00	100	0.40
Tank Construction	Generator Sets	1	7.00	84	0.74
Tank Construction	Air Compressors	1	7.00	78	0.48
Temporary Storage	Graders	1	6.00	187	0.41
Site Prep/Grading/Excavation	Excavators	1	7.00	158	0.38
Site Prep/Grading/Excavation	Graders	1	7.00	187	0.41
Site Prep/Grading/Excavation	Generator Sets	1	6.00	84	0.74
Trenching	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Trenching	Excavators	1	6.00	158	0.38
Temporary Storage	Cranes	1	1.50	113	0.28
Trenching	Plate Compactors	1	4.00	8	0.43
Site Restoration	Paving Equipment	1	5.00	132	0.36

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Prep/Grading/Excavation	5	13.00	0.00	150.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Tank Construction	5	2.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Clearing and Demolition	6	15.00	0.00	34.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Temporary Storage	4	10.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Restoration	7	5.00	0.00	4.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	8.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

**3.3 Site Clearing and Demolition - 2017**  
**Unmitigated Construction On-Site**

Category	tons/yr											MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bic-CO2	NBic-CO2	Total CO2	CH4	N2O	CO2e	
Fugitive Dust					3.4500e-003	0.0000	3.4500e-003	5.2000e-004	0.0000	5.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0323	0.3131	0.1951	3.2000e-004	0.0179	0.0179	0.0169	0.0169	0.0169	0.0169	0.0000	28.9921	28.9921	6.5500e-003	0.0000	29.1558	
<b>Total</b>	<b>0.0323</b>	<b>0.3131</b>	<b>0.1951</b>	<b>3.2000e-004</b>	<b>0.0179</b>	<b>0.0179</b>	<b>0.0169</b>	<b>0.0169</b>	<b>0.0169</b>	<b>0.0174</b>	<b>0.0000</b>	<b>28.9921</b>	<b>28.9921</b>	<b>6.5500e-003</b>	<b>0.0000</b>	<b>29.1558</b>	

**Unmitigated Construction Off-Site**

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bic-CO2	NBic-CO2	Total CO2	CH4	N2O	CO2e
Hauling	1.5000e-004	6.0000e-003	9.9000e-004	1.0000e-005	2.9000e-004	3.0000e-005	3.2000e-004	8.0000e-005	3.0000e-005	1.1000e-004	0.0000	1.3391	1.3391	7.0000e-005	0.0000	1.3409
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.8000e-004	7.1000e-004	7.0300e-003	2.0000e-005	1.4800e-003	1.0000e-005	1.4800e-003	3.9000e-004	1.0000e-005	4.6000e-004	0.0000	1.4397	1.4397	5.0000e-005	0.0000	1.4409
<b>Total</b>	<b>1.0700e-003</b>	<b>6.7100e-003</b>	<b>8.0200e-003</b>	<b>3.0000e-005</b>	<b>1.7700e-003</b>	<b>4.0000e-005</b>	<b>1.8100e-003</b>	<b>4.7000e-004</b>	<b>4.0000e-005</b>	<b>5.1000e-004</b>	<b>0.0000</b>	<b>2.7787</b>	<b>2.7787</b>	<b>1.2000e-004</b>	<b>0.0000</b>	<b>2.7818</b>



**3.5 Site Restoration - 2017**  
**Unmitigated Construction On-Site**

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Off-Road Paving	8.4000e-04	8.8400e-03	6.9600e-03	1.0000e-05	5.4000e-04	5.4000e-04	5.4000e-04	4.9000e-04	4.9000e-04	4.9000e-04	0.0000	0.9435	0.9435	2.9000e-04	0.0000	0.9507
Total	8.4000e-04	8.8400e-03	6.9600e-03	1.0000e-05	5.4000e-04	5.4000e-04	5.4000e-04	4.9000e-04	4.9000e-04	4.9000e-04	0.0000	0.9435	0.9435	2.9000e-04	0.0000	0.9507

**Unmitigated Construction Off-Site**

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Hauling	2.0000e-05	7.1000e-04	1.2000e-04	0.0000	3.0000e-05	0.0000	4.0000e-05	1.0000e-05	0.0000	1.0000e-05	0.0000	0.1575	0.1575	1.0000e-05	0.0000	0.1578
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-05	5.0000e-05	4.7000e-04	0.0000	1.0000e-04	0.0000	1.0000e-04	3.0000e-05	0.0000	3.0000e-05	0.0000	0.0960	0.0960	0.0000	0.0000	0.0961
Total	8.0000e-05	7.6000e-04	5.9000e-04	0.0000	1.3000e-04	0.0000	1.4000e-04	4.0000e-05	0.0000	4.0000e-05	0.0000	0.2535	0.2535	1.0000e-05	0.0000	0.2538

**3.7 Trenching - 2017**  
**Unmitigated Construction On-Site**

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Off-Road	2.6100e-003	0.0267	0.0220	3.0000e-005	1.6100e-003	1.6100e-003	1.6100e-003	1.4800e-003	1.4800e-003	1.4800e-003	0.0000	2.9568	2.9568	8.9000e-004	0.0000	2.9791
Total	2.6100e-003	0.0267	0.0220	3.0000e-005	1.6100e-003	1.6100e-003	1.6100e-003	1.4800e-003	1.4800e-003	1.4800e-003	0.0000	2.9568	2.9568	8.9000e-004	0.0000	2.9791

**Unmitigated Construction Off-Site**

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.5000e-004	1.5000e-003	0.0000	3.2000e-004	0.0000	3.2000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.3071	0.3071	1.0000e-005	0.0000	0.3074
Total	1.9000e-004	1.5000e-004	1.5000e-003	0.0000	3.2000e-004	0.0000	3.2000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.3071	0.3071	1.0000e-005	0.0000	0.3074

**3.2 Tank Construction - 2017**  
**Unmitigated Construction On-Site**

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0789	0.7094	0.5470	9.1000e-004	0.0429	0.0429	0.0429	0.0417	0.0417	0.0417	0.0000	80.9728	80.9728	0.0145	0.0000	81.3360
Total	0.0789	0.7094	0.5470	9.1000e-004	0.0429	0.0429	0.0429	0.0417	0.0417	0.0417	0.0000	80.9728	80.9728	0.0145	0.0000	81.3360

**Unmitigated Construction Off-Site**

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7000e-004	4.5000e-004	4.5000e-003	1.0000e-005	9.5000e-004	1.0000e-005	9.6000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.9214	0.9214	3.0000e-005	0.0000	0.9222
Total	5.7000e-004	4.5000e-004	4.5000e-003	1.0000e-005	9.5000e-004	1.0000e-005	9.6000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.9214	0.9214	3.0000e-005	0.0000	0.9222

**3.4 Temporary Storage - 2017**  
**Unmitigated Construction On-Site**

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0168	0.1890	0.0725	1.4000e-004	9.1900e-003	9.1900e-003	9.1900e-003	8.4500e-003	8.4500e-003	8.4500e-003	13.2343	13.2343	13.2343	4.0500e-003	0.0000	13.3357
<b>Total</b>	<b>0.0168</b>	<b>0.1890</b>	<b>0.0725</b>	<b>1.4000e-004</b>	<b>0.0452</b>	<b>9.1900e-003</b>	<b>0.0544</b>	<b>0.0248</b>	<b>8.4500e-003</b>	<b>0.0333</b>	<b>13.2343</b>	<b>13.2343</b>	<b>13.2343</b>	<b>4.0500e-003</b>	<b>0.0000</b>	<b>13.3357</b>

**Unmitigated Construction Off-Site**

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7000e-004	3.8000e-004	3.7500e-003	1.8000e-005	7.9000e-004	1.0000e-005	8.9000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.7678	0.7678	3.0000e-005	0.0000	0.7685
<b>Total</b>	<b>4.7000e-004</b>	<b>3.8000e-004</b>	<b>3.7500e-003</b>	<b>1.8000e-005</b>	<b>7.9000e-004</b>	<b>1.0000e-005</b>	<b>8.9000e-004</b>	<b>2.1000e-004</b>	<b>1.0000e-005</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>0.7678</b>	<b>0.7678</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>0.7685</b>

**3.5 Site Restoration - 2017**  
**Unmitigated Construction On-Site**

Category	tons/yr										MT/yr				CO2e	
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4		N2O
Off-Road	8.4000e-004	8.8400e-003	6.9600e-003	1.0000e-005	5.4000e-004	5.4000e-004	5.4000e-004	4.9000e-004	4.9000e-004	4.9000e-004	0.0000	0.9435	0.9435	2.9000e-004	0.0000	0.9507
Paving	0.0000				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>8.4000e-004</b>	<b>8.8400e-003</b>	<b>6.9600e-003</b>	<b>1.0000e-005</b>	<b>5.4000e-004</b>	<b>5.4000e-004</b>	<b>5.4000e-004</b>	<b>4.9000e-004</b>	<b>4.9000e-004</b>	<b>4.9000e-004</b>	<b>0.0000</b>	<b>0.9435</b>	<b>0.9435</b>	<b>2.9000e-004</b>	<b>0.0000</b>	<b>0.9507</b>

**Unmitigated Construction Off-Site**

Category	tons/yr										MT/yr				CO2e	
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4		N2O
Hauling	2.0000e-005	7.1000e-004	1.2000e-004	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1575	0.1575	1.0000e-005	0.0000	0.1578
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	5.0000e-005	4.7000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0960	0.0960	0.0000	0.0000	0.0961
<b>Total</b>	<b>8.0000e-005</b>	<b>7.6000e-004</b>	<b>5.9000e-004</b>	<b>0.0000</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>1.4000e-004</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>0.2535</b>	<b>0.2535</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.2538</b>

**3.6 Site Prep/Grading/Excavation - 2017**  
**Unmitigated Construction On-Site**

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					0.0399	0.0000	0.0399	0.0218	0.0000	0.0218	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0192	0.2075	0.1021	1.9000e-004		0.0104	0.0104		9.6600e-003		0.0000	17.4785	17.4785	4.6400e-003	0.0000	17.5945
<b>Total</b>	<b>0.0192</b>	<b>0.2075</b>	<b>0.1021</b>	<b>1.9000e-004</b>	<b>0.0399</b>	<b>0.0104</b>	<b>0.0502</b>	<b>0.0218</b>	<b>9.6600e-003</b>	<b>0.0314</b>	<b>0.0000</b>	<b>17.4785</b>	<b>17.4785</b>	<b>4.6400e-003</b>	<b>0.0000</b>	<b>17.5945</b>

**Unmitigated Construction Off-Site**

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Hauling	8.2000e-004	0.0285	4.3800e-003	6.0000e-005	1.2700e-003	1.4000e-004	1.4100e-003	3.5000e-004	1.3000e-004	4.8000e-004	0.0000	5.9076	5.9076	3.3000e-004	0.0000	5.9157
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.7000e-004	3.6600e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.8000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.7486	0.7486	3.0000e-005	0.0000	0.7493
<b>Total</b>	<b>1.2800e-003</b>	<b>0.0288</b>	<b>8.0400e-003</b>	<b>7.0000e-005</b>	<b>2.0400e-003</b>	<b>1.5000e-004</b>	<b>2.1900e-003</b>	<b>5.6000e-004</b>	<b>1.4000e-004</b>	<b>6.9000e-004</b>	<b>0.0000</b>	<b>6.6562</b>	<b>6.6562</b>	<b>3.6000e-004</b>	<b>0.0000</b>	<b>6.6650</b>

**3.7 Trenching - 2017**  
**Unmitigated Construction On-Site**

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	2.6100e-003	0.0267	0.0220	3.0000e-005	1.6100e-003	1.6100e-003	1.6100e-003	1.4800e-003	1.4800e-003	1.4800e-003	0.0000	2.9568	2.9568	8.9000e-004	0.0000	2.9731
Total	2.6100e-003	0.0267	0.0220	3.0000e-005	1.6100e-003	1.6100e-003	1.6100e-003	1.4800e-003	1.4800e-003	1.4800e-003	0.0000	2.9568	2.9568	8.9000e-004	0.0000	2.9731

**Unmitigated Construction Off-Site**

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.5000e-003	0.0000	0.0000	3.2000e-004	3.2000e-004	3.2000e-004	8.0000e-005	8.0000e-005	9.0000e-005	0.0000	0.3071	0.3071	1.0000e-005	0.0000	0.3074
Total	1.9000e-004	1.5000e-003	0.0000	0.0000	3.2000e-004	3.2000e-004	3.2000e-004	8.0000e-005	8.0000e-005	9.0000e-005	0.0000	0.3071	0.3071	1.0000e-005	0.0000	0.3074

Trips and VMT - Default trip lengths retained. Hauling trips from proxy project.  
 Vehicle Trips - No increase in operational activity

Table Name	Column Name	Default Value	New Value
tbiConstructionPhase	NumDays	100.00	120.00
tbiConstructionPhase	NumDays	10.00	25.00
tbiConstructionPhase	NumDays	2.00	20.00
tbiConstructionPhase	NumDays	2.00	15.00
tbiConstructionPhase	PhaseEndDate	1/29/2017	7/14/2017
tbiConstructionPhase	PhaseEndDate	1/29/2017	3/3/2017
tbiConstructionPhase	PhaseEndDate	1/29/2017	2/24/2017
tbiConstructionPhase	PhaseEndDate	1/29/2017	2/3/2017
tbiGrading	AcresOfGrading	7.50	0.00
tbiGrading	AcresOfGrading	6.56	0.50
tbiGrading	MaterialExported	0.00	1,200.00
tbiLandUse	LotArea	0.05	0.50
tbiOffRoadEquipment	HorsePower	231.00	113.00
tbiOffRoadEquipment	LoadFactor	0.38	0.38
tbiOffRoadEquipment	LoadFactor	0.31	0.31
tbiOffRoadEquipment	LoadFactor	0.38	0.38
tbiOffRoadEquipment	LoadFactor	0.41	0.41
tbiOffRoadEquipment	OffRoadEquipmentType		Excavators
tbiOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tbiOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tbiOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tbiOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts
tbiOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tbiOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tbiOffRoadEquipment	OffRoadEquipmentType		Graders
tbiOffRoadEquipment	OffRoadEquipmentType		Excavators
tbiOffRoadEquipment	OffRoadEquipmentType		Graders
tbiOffRoadEquipment	OffRoadEquipmentType		Generator Sets



tbOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	
tbOffRoadEquipment	OffRoadEquipmentType	Excavators	
tbOffRoadEquipment	OffRoadEquipmentType	Cranes	
tbOffRoadEquipment	OffRoadEquipmentType	Plate Compactors	
tbOffRoadEquipment	OffRoadEquipmentType	Paving Equipment	
tbOffRoadEquipment	OffRoadEquipmentUnitAmount		4.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount		1.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount		1.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount		2.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount		2.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount		1.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount		2.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount		0.00
tbOffRoadEquipment	PhaseName	Tank Construction	
tbOffRoadEquipment	PhaseName	Tank Construction	
tbOffRoadEquipment	PhaseName	Tank Construction	
tbOffRoadEquipment	PhaseName	Tank Construction	
tbOffRoadEquipment	PhaseName	Temporary Storage	
tbOffRoadEquipment	PhaseName	Trenching	
tbOffRoadEquipment	PhaseName	Trenching	
tbOffRoadEquipment	PhaseName	Temporary Storage	
tbOffRoadEquipment	PhaseName	Trenching	
tbOffRoadEquipment	PhaseName	Site Restoration	
tbOffRoadEquipment	UsageHours		8.00
tbOffRoadEquipment	UsageHours		4.00

tblOffRoadEquipment	UsageHours	1.00	7.00
tblOffRoadEquipment	UsageHours	1.00	6.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	1.00	7.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblProjectCharacteristics	OperationalYear	2018	2019
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	0.00	34.00
tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	150.00
tblTripsAndVMT	PhaseName		Trenching
tblTripsAndVMT	WorkerTripNumber	1.00	2.00
tblTripsAndVMT	WorkerTripNumber	18.00	5.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.66	0.00
tblVehicleTrips	WD_TR	8.97	0.00

## 2.0 Emissions Summary

### 2.1 Overall Construction Unmitigated Construction

Year	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
2017	0.1543	1.4899	0.9720	1.7400e-003	0.0945	0.0826	0.1771	0.0487	0.0788	0.1276	0.0000	156.2627	156.2627	0.0315	0.0000	157.0504
Maximum	0.1543	1.4899	0.9720	1.7400e-003	0.0945	0.0826	0.1771	0.0487	0.0788	0.1276	0.0000	156.2627	156.2627	0.0315	0.0000	157.0504

### 2.2 Overall Operational Not Applicable

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Tank Construction	Building Construction	1/30/2017	7/14/2017	5	120	
2	Site Cleaning and Demolition	Demolition	1/30/2017	3/3/2017	5	25	
3	Temporary Storage	Grading	1/30/2017	2/24/2017	5	20	
4	Site Restoration	Paving	1/30/2017	2/3/2017	5	5	
5	Site Prep/Grading/Excavation	Grading	1/30/2017	2/17/2017	5	15	
6	Trenching	Trenching	1/30/2017	2/10/2017	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Prep/Grading/Excavation	Concrete/Industrial Saws	0	8.00	81	0.73
Site Restoration	Cement and Mortar Mixers	0	6.00	9	0.56
Site Cleaning and Demolition	Concrete/Industrial Saws	1	7.00	81	0.73
Site Cleaning and Demolition	Excavators	1	7.00	158	0.38
Tank Construction	Cranes	1	3.00	231	0.28
Site Cleaning and Demolition	Aerial Lifts	1	5.60	63	0.31
Site Prep/Grading/Excavation	Rubber Tired Dozers	1	7.00	247	0.40
Site Restoration	Pavers	0	7.00	130	0.42
Site Restoration	Rollers	0	7.00	80	0.38
Site Cleaning and Demolition	Rubber Tired Dozers	1	7.00	247	0.40
Temporary Storage	Rubber Tired Dozers	1	6.00	247	0.40
Site Cleaning and Demolition	Generator Sets	1	5.28	84	0.74

Site Cleaning and Demolition	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Temporary Storage	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Site Restoration	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Site Prep/Grading/Excavation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Tank Construction	Aerial Lifts	1	6.00	63	0.31
Tank Construction	Rough Terrain Forklifts	1	6.00	100	0.40
Tank Construction	Generator Sets	1	7.00	84	0.74
Tank Construction	Air Compressors	1	7.00	78	0.48
Temporary Storage	Graders	1	6.00	187	0.41
Site Prep/Grading/Excavation	Excavators	1	7.00	158	0.38
Site Prep/Grading/Excavation	Graders	1	7.00	187	0.41
Site Prep/Grading/Excavation	Generator Sets	1	6.00	84	0.74
Trenching	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Trenching	Excavators	1	6.00	158	0.38
Temporary Storage	Cranes	1	1.50	113	0.28
Trenching	Plate Compactors	1	4.00	8	0.43
Site Restoration	Paving Equipment	1	5.00	132	0.36

### Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Prep/Grading/Excavation	5	13.00	0.00	150.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Tank Construction	5	2.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Cleaning and Demolition	6	15.00	0.00	34.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Temporary Storage	4	10.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Restoration	7	5.00	0.00	4.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	8.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction