

## **City of Pittsburg**

Community Development Department – Planning Division 65 Civic Avenue, Pittsburg, CA 94565 | Tel: (925) 252-4920 | Fax: (925) 252-4814

# NOTICE OF INTENT TO CONSIDER ADOPTION OF A MITIGATED NEGATIVE DECLARATION

County Clerk Please Stamp Here

Project Name:Diablo Energy StorageApplication No(s)::AP-17-1270 (UP, DR, RZ, DA)Date:February 9, 2018

Notice is hereby given that the City of Pittsburg finds that no significant effect on the environment, as prescribed by the California Environmental Quality Act of 1970 (CEQA), as amended, will occur for the following proposed project:

- 1. <u>Project Proponent</u>: Kevin Johnson, Diablo Energy Storage, LLC., 5000 Hopyard Road, Suite #480, Pleasanton, CA 94588
- 2. <u>Project Description</u>: This is a request for approval of: 1) an amendment to the existing 'Empire Business Park Overlay' zoning district (Ordinance Nos. 07-1284 and 04-1214; 2) a use permit; and 3) design review of plans to establish a battery storage project on a currently vacant site. The purpose of the proposed development is to reliably receive, store and discharge electric energy from the California Independent System Operator-controlled electric grid, including renewable energy produced by existing solar and wind resources in the region. The project would consist of up to three buildings (each 60,000 square feet) constructed on a graded and vacant approximately 12 acre site, representing a portion of the property designated as the 35 acre Empire Business park. The buildings would house advanced energy storage equipment including inverters, transformers and a small onsite electric substation. The facility would be connected via a new electric tie-in line to the existing Pacific Gas & Electric Company (PG&E) Pittsburg Substation located approximately 0.6 mile north of the site. Three alternative routes are under consideration for the tie-in line to the PG&E Substation. The facility would be unoccupied and is designed for full remote operation.
- 3. <u>Project Location</u>: 701 Willow Pass Road, Pittsburg, CA. 94565 (Assessor's Parcel No. 085-280-010)
- 4. <u>Findings</u>: The Initial Study prepared for the project identified potentially significant impacts if the West Tie-in alignment is selected in the following categories: Biological Resources, and Tribal Cultural Resources. Mitigation measures have been identified to reduce each of the potentially significant impacts to a less-than-significant level.

- a. All other impacts in the categories of Aesthetics, Agriculture and Forest Resources, Air Quality, Biological Resources, Geology/Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, and Land Use/Planning, Mineral Resources, Noise, Population/Housing, Public Services, Recreation, Transportation/Traffic, Utilities/Service Systems, and Mandatory Findings of Significance were found to be less than significant. Based on the Initial Study, the Planning Manager has determined that preparation of a Mitigated Negative Declaration is appropriate for the project described above.
- 5. The 35-acre parcel on which the Site occurs is included in the Regional Walter Quality Control Board's (RWQCB's) GeoTracker online data base (Case No. T0601300095) and the Department of Toxic Substance Control (DTSC) Envirostor online database (Case No. 07260001), which both stem from Government Code Section 65962.5. The Geotracker shows that the RWQCB case being closed in October 1997. The Environstor case is open.
- 6. <u>Initial Study</u>: The Initial Study, proposed Mitigated Negative Declaration, and project plans may be reviewed during normal business hours at the City of Pittsburg Planning Division, located at 65 Civic Avenue, Pittsburg, CA 94565, or on the City's website via the Environmental Review page at <u>http://www.ci.pittsburg.ca.us/index.aspx?page=217</u>. As noted in the Initial Study, background or reference materials related to the Initial Study can be reviewed upon request to the City of Pittsburg Planning Division.
- Public Review: The 30-day public review and comment period for this environmental determination will begin on Friday, February 9, 2018. Anyone who wishes to comment on the findings of this environmental analysis must submit these comments in writing to Joan Lamphier, Consulting Planner for the City of Pittsburg at the address noted above, by email to <u>JLamphier@ci.pittsburg.ca.us</u>, or by fax to (925) 252-4814. Comments must be received by 5:00 p.m. on Monday, March 12, 2018.
- 8. <u>Notice of Intent to Adopt a Mitigated Negative Declaration</u>: Notice is hereby given that the Pittsburg Planning Commission is tentatively scheduled to consider this proposed Mitigated Negative Declaration at a public hearing scheduled for March 27, 2018, at 7:00 p.m., in the third floor Council Chamber at 65 Civic Avenue in Pittsburg.
  - a. This proposed Mitigated Negative Declaration does not signify approval or disapproval of this project by City decision-making bodies. The Planning Commission will consider the proposed Mitigated Negative Declaration together with any comments received during the public review process to determine whether the project will have a significant impact on the environment.

Kristin Pollot, AIC

Planning Manager

## California Environmental Quality Act Initial Study Diablo Energy Storage Project

February 2018



Prepared For: City of Pittsburg 65 Civic Avenue Pittsburg, CA 94565

Prepared By: CTRC 17911 Von Karman Avenue, Suite 400 Irvine, CA 92614

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Prepared By:



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#### APPENDICES

Appendix A Appendix B Appendix C Appendix D Appendix E Detailed Project Description CalEEMod Input and Output Summary Sensitive Species Occurrences within Three Miles Noise Technical Report NAHC Correspondence

Acronym	Name
ABAG	Association of Bay Area Governments
AC	Alternating Current
Applicant	Diablo Energy Storage, LLC
BAAQMD	Bay Area Air Quality Management District
BC	Business Commercial
BCC	USFWS Bird of Conservation Concern
BMPs	Best Management Practices
CaA	Capay Clay
CalEEMod	California Emission Estimator Model
CAISO	California Independent System Operator
CASQA	California Stormwater Quality Association
Cc	Clear Lake Clay
CCCFPD	Contra Costa County Fire Protection District
CEQA	California Environmental Quality Act
CDFW	California Department of Fish and Wildlife
CHRIS	California Historical Resources Information System
CNDDB	California Natural Diversity Data Base
CO2	Carbon Dioxide
CWA	Clean Water Act
dB	Decibel
DC	Direct Current
DOT	Department of Transportation
DTSC	Department of Toxic Substances Control
ESA	Endangered Species Act
FE	Federal Endangered
FEMA	Federal Emergency Management Agency
FT	Federal Threatened
FC	Candidate for Federal Listing
GhG	Greenhouse Gas
GQ	Governmental and Quasipublic
HCP/NCCP	Habitat Conservation Plan/Natural Community Conservation Plan
HVAC	Heating, Ventilation and Air Conditioning
IG	General Industrial
IPaC	Information for Planning and Consultation (USFWS website)
IP-O	Industrial Park-Limited Overlay
Ja	Joice muck
kV	Kilovolts
LUC	land use covenant
mg/L	Milligrams per liter
MRZ	Mineral Resource Zone
NAHC	Native American Heritage Commission
NAVD 88	North American Vertical Datum of 1988
NOX	Oxides of Nitrogen
NPDES	National Pollutant Discharge Elimination System
Ub	Omni silty Clay
PG&E	Pacific Gas & Electric Company
PM	Particulate Matter
	point of interconnection
QSP	Qualified SWPPP Practitioner

## List of Acronyms and Abbreviations

ROGs	Reactive Organic Gasses
RWQCB	Regional Water Quality Control Board
SE	State Endangered
SFP	State-Fully Protected
So	Sycamore silty clay loam
SR	State Route
SSC	Species of Special Concern
ST	State Threatened
SWPPP	Storm Water Pollution Prevention Plan
TCE	tricholorethylene
VHHSZ	Very High Fire Hazard Severity Zone
WL	Watch List Species
Zone AE	100-year flood zone

## 1.0 INTRODUCTION

### 1.1 **Project Overview**

Diablo Energy Storage, LLC (Applicant) has submitted to the City of Pittsburg (City) a request for approvals necessary for development of an approximately 12-acre project site (Site) within an approximately 35 acre parcel (APN 085-280-010) located at 701 Willow Pass Road, Pittsburg, California. One hundred percent of the Site has previously been graded and is currently occupied by paved access routes, maintained bare soil, and non-native grassland. The site is within the Empire Business Park Overlay District and would be leased by the Applicant.

The Applicant proposes to construct one to three single story buildings and associated electrical equipment onsite. The buildings would house advanced energy storage technology (e.g., lithium ion batteries) which, together with related control equipment including inverters, transformers, and a small onsite electric substation, would be connected via a new electric tie-line to the existing Pacific Gas & Electric Company (PG&E) Pittsburg substation located approximately 0.6 mile north of the Site. The facility would be unoccupied and is designed for full remote operation.

The Site is within the East Contra Costa Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) area. Two alternate routes being considered for a tie-line to the PG&E Pittsburg substation are also within the HCP/NCCP area and a third alternate route being considered extends out of the HCP/NCCP area.

The parcel is designated Business Commercial (BC) in the General Plan and zoned Industrial Park-Limited Overlay (IP-O). Approvals from the City that would be necessary for the proposed development include: a zoning text amendment to amend the IP-O (Industrial Park With a Limited Overlay, Ord. No. 07-1284) District, or the "empire business park overlay district", such that a "major utility" would be permitted with a use permit. In addition to the zoning text amendment, Diablo Energy Storage, LLC is applying for a conditional use permit, design review and development agreement. A minor subdivision (lot line adjustment or parcel map waiver), or filing of a final map following a current tentative parcel map may also be pursued that would divide the Site from the existing 35 acre parcel.

#### 1.2 California Environmental Quality Act

The Diablo Energy Storage project approvals being considered constitute a "project" as defined by the California Environmental Quality Act (CEQA) (Public Resources Code, Section 21000 et seq.) and the "CEQA Guidelines" (California Code of Regulations, Title 14, Section 15000 et seq), and is thereby subject to the requirements of CEQA. For purposes of CEQA, the term "project" refers to the whole of an action which has the potential to result in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378). As the principal public agency responsible for approval the Diablo Energy Storage project, the City is the "lead agency" overseeing and administering the CEQA environmental review process.

As set forth in various provisions of the CEQA Statute (e.g., Section 21080), before deciding whether to approve a project, public agencies must consider the potential significant environmental impacts of the project and must identify feasible measures to minimize these impacts. Pursuant to CEQA Guideline Section 15064, if any aspect of the proposed project,

either individually or cumulatively, may cause a significant effect on the environment, regardless of whether the overall effect of the project is adverse or beneficial, an Environmental Impact Report (EIR) must be prepared.

This Initial Study is a factual document, prepared in conformance with CEQA, and written for the purpose of making the public and decision-makers aware of the potential environmental consequences of the project. For any project impact that is considered potentially "significant," the Initial Study identifies mitigation measures, where feasible, to reduce or avoid the significant effect. Before any action can be taken to approve the Diablo Energy Storage Project, the City must certify that it has reviewed and considered the information in the Initial Study/Proposed Negative Declaration and that this document has been completed in conformity with the requirements of CEQA. Approval of a Negative Declaration does not approve or deny the proposed project.

## 1.3 Environmental Review

Consistent with CEQA, this Initial Study is a public information document for use by governmental agencies and the public to identify and evaluate potential environmental consequences of the proposed project and to recommend mitigation measures and/or standard conditions of approval to lessen or eliminate adverse impacts.

This Initial Study/Proposed Negative Declaration is available for public review for thirty days, during which time written comments on the Initial Study may be submitted to:

Kristin Pollot, AICP Planning Manager City of Pittsburg Planning Division 65 Civic Avenue Pittsburg, CA 94565 kpollot@ci.pittsburg.ca.us

## 2.0 **PROJECT DESCRIPTION**

The Site location is shown in Figure 1. The Site constitutes Parcel B of the existing Tentative Parcel Map for APN 085-280-010 as shown in Figure 2. The Site has previously been graded and is mostly covered with several feet of fill dirt. Figure 3 provides representative photographs of the Site and surroundings.

The facility would not generate electricity. Rather, it would provide a service by receiving energy (charging) from the point of interconnection (POI) with the PG&E electric transmission system, storing energy, and then later delivering energy (discharging) back to the POI. Following construction, the proposed use would not create emissions to air, would not require sanitary facilities, and would not require water except to maintain water efficient landscape to meet City requirements.

### 2.1 Purpose

The purpose of the proposed development is to reliably and economically receive, store and discharge electric energy from the California Independent System Operator (CAISO)-controlled electric grid, including renewable energy produced by existing solar and wind resources in the region. The project would interconnect to the CAISO-controlled grid at the nearby PG&E's Pittsburg Substation. Construction of the project would:

- Provide a new economic and reliable means of capturing and managing renewable energy;
- Provide economic benefit to the City of Pittsburg, Contra Costa County, the region, and the State, through construction jobs, property and sales taxes, and increased energy efficiency and reliability;
- Help stabilize the electric grid and increase the effectiveness of both conventional and renewable energy generation projects;
- Support the achievement of local, state and federal renewable energy goals; and
- Support State goals for energy storage.

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Figure 1: Site Location Diablo Energy Storage, LLC









## **Figure 3: Site Photographs**



1) Looking east from west end of the Site.

2) Looking north along the driveway east of the Site. Existing trees shield views from closest houses.





- 3) Looking east on the northern end of the Site.
- 4) Looking west from the east side of the Site.





- 5) Looking south along the driveway landscape just offsite, on the west side of existing driveway to be used for project access. West boundary of the site is generally along the driveway centerline. The onsite non-native grassland visible on the left site of the driveway would be developed with landscape to generally mirror that shown in the photo for aesthetics.
- 6) Looking north along the existing driveway to be used for project access. West boundary of the site is generally along the driveway centerline. The onsite non-native grassland visible on the right side of the driveway would be developed with landscape to generally mirror that shown on the left side of the driveway. Either the tie-line Middle or East Alignment routes, if used, would cut through the existing Tank farm visible in right-background.





- 7) Looking east down Willow Pass Road along the site frontage. Existing 12kV distribution lines occur adjacent to Willow Pass Road. Existing site fencing is visible at right. Project would install landscaping including trees and groundcover along the site frontage in place of non-native grass.
- 8) Looking west down willow pass road from west side of the site. The existing PG&E high voltage corridor is visible in the background. The tie-line West Alignment, if used, would extend along Willow Pass Road and beneath the existing transmission lines before turning north to parallel the existing lines to the PG&E Pittsburg Substation.



## 2.2 Project Design

The Project would develop up to three single-story 60,000 square foot industrial-type buildings for a total of 180,000 square feet of development. Battery systems would be housed inside buildings designed for aesthetic compatibility with the surrounding area. The buildings would have battery storage racks separated by aisles, with relay and communications systems for automated monitoring and managing of the batteries to ensure design performance and system life. Batteries operate with direct current (DC) electricity that must be converted to alternating current (AC) for compatibility with the existing electric grid. Power inverters to convert between AC and DC would be located outside the buildings along with transformers that would step up the voltage. A small onsite substation (Figure 5) with switchgear and an additional transformer would further step-up the voltage to the 230 Kilovolts (kV) needed for compatibility with the voltage of the point of interconnection to the electric grid.

The substation area would be fenced in accordance with high voltage electric code requirements and would include an approximately 24-foot wide x 50-foot high H-frame structure with switches, lightning arrestors and metering equipment. The onsite substation would be connected to the existing PG&E Pittsburg Substation to the north via an overhead 230 kV electric tie-line. A photograph example of poles that would be used to support the 230 kV tie-line are shown in Figure 4, along with photograph example for lattice tower structures that may be needed for a portion of one alignment. The area between the Site and the Pittsburg Substation is extensively developed with industrial and utility infrastructure that prevents a direct tie-line route and limits feasible routes. The Applicant is requesting approval to use any of the following three alignments shown in Figure 5, designed following tight geometric and space constraints through existing infrastructure areas:

- The **West Alignment** would leave the Site westbound on the south side of Willow Pass Road and extend under an existing PG&E high voltage transmission corridor just west of the Site, and then turn north to follow the existing transmission corridor to the Pittsburg substation. This alignment is approximately 6,700 feet long and would require approximately eight support structures. Three of these structure locations may require lattice towers (Figures 4 and 5) where the alignment is alongside the existing PG&E high voltage corridor. The remaining structures would be approximately 77-95 foot high poles similar to the example pole in Figure 4. This alignment is located mostly on highly disturbed land, except for structures near the north end located in habitat that could be wetlands requiring permits from other jurisdictional agencies.
- The **Middle Alignment** heads north from the Site through an existing oil tank farm. This alignment is approximately 3,800 feet long and would require approximately twelve 77-95 foot high support poles located entirely on highly disturbed land.
- The **East Alignment** is the same as the Middle Alignment near the Site but extends around the east side of the existing oil tank farm. The length of this route is approximately 5,800 feet and would require approximately sixteen 77-95 foot high support poles, entirely located on highly disturbed land.

## **Figure 4: Example Tie-Line Structures**



- 1) This 230 kV pole line is an example of what the project's approximately 77- to 95-foot high tie-line pole structures could look like.
- 2) If the West Alignment is used, approximately three lattice tower structures similar to that shown here could be required where the tie-line crosses possible wetlands.





#### <u>Legend</u>

- O Tie-Line Structure (Pole)
- □ Tie-Line Structure (Pole or Tower)
- West Alignment
- Middle Alignment
- East Alignment
- Project Site
- Proposed Onsite Substation

## Figure 5: Tie-Line Alternatives Diablo Energy Storage, LLC





### 2.3 Construction

Construction and equipment installation is expected to take 6 to 12 months including the buildings, outdoor electrical equipment, and site preparation including stormwater controls and landscaping. Construction staging would occur onsite. Construction may be phased in response to market demands. Final grading and building plans would be subject to approval by the City Engineering Division.

It is estimated that Site grading and preparation would require the following equipment:

ТҮРЕ	QUANTITY
Bulldozer (e.g., CAT D7)	1
Grader (e.g., CAT D7)	1
Scraper (15-30 CY)	2
Water Truck (3,000- 5,000 gal)	1
Self-Propelled Compactor	1
Dump Truck	1
Tractor/Loader/Backhoe (e.g., Case 590)	1
Bobcat	1

Sanitary facilities during construction would be provided by portable self-contained units maintained by a licensed contractor.

Project construction would implement the following measures to control dust emissions during construction in accordance with Bay Area Air Quality Management District guidance:

- Water or another non-toxic dust palliative would be used during construction to control dust.
- Exposed soil areas would be watered two times per day when needed to control dust emissions;
- Haul trucks transporting soil, sand or other loose material offsite would be covered;
- Best Management Practices (BMPs) would be implemented to minimize track-out onto adjacent public streets;
- A 15 mile per hour speed limit would be used for roadways until stabilized with gravel or other treatment to minimize dust; and
- Disturbed surfaces would be stabilized as soon as practical.

Construction is expected to generate up to an estimated 75 construction jobs during peak construction periods. Deliveries of equipment and materials would generate an estimated 5 round trips per day during peak construction periods that would occur throughout the day.

#### 2.4 Operations

The facility would operate year-round and would be available to receive or deliver energy 24 hours a day, 365 days a year. The Site would be secured with chain link fencing and equipped with security

cameras, alarms and other security and operational monitoring systems. Landscaping would include water-efficient trees, shrubs and groundcover that would provide aesthetics for views from Willow Pass Road. Existing trees and landscaping along the driveway east of the Site (See Figure 3) would provide visual screening between the project and residences to the east. At the west edge of the site, proposed landscaping along the edge of the existing driveway would include trees and ground cover to mirror the existing landscaping on the opposite (offsite) edge of the driveway. The electrical equipment, heating, ventilation, air conditioning, fire protection systems, and security would be automated and monitored remotely. The Site would be unoccupied but visited periodically through the year for equipment inspections, monitoring and testing, and maintenance as needed. Periodically, batteries and various components would be replaced or renewed to ensure optimal operation.

Storm water treatment in accordance with City requirements would be provided by gravel yard surfacing and bioretention swales as shown in the Preliminary Design Drawings. Outdoor equipment would be sealed or enclosed and would not affect storm water quality.

Outdoor electrical equipment, cooling fans, and HVAC systems would generate low levels of noise during routine operations. The closest sensitive noise receptors are residences located east of the Site. The project is designed with a building at the eastern side that would block electrical equipment noise to these residential receptors. The facility would be designed comply with the noise standards at Section 12 of the General Plan.

At the end of battery life, battery modules would be removed from the battery racks and returned to the manufacturer or their approved recycling partner(s) for dismantling, material processing and recovery. Other waste from Site maintenance would be removed from the Site as part of maintenance work and managed in accordance with applicable regulations. Oil filled equipment is operated closed and sealed.

## 2.5 Schedule

Construction would be scheduled to begin after receipt of requisite permits and is expected to take approximately 6 -12 months. The full project could be constructed initially or portions of the site could be constructed in phases. The building space at the east end of the Site would be built first to block noise to residences. The Preliminary Site Plans in the detailed project description in Appendix A provide a conceptual phasing plan.

## 3.0 CEQA INITIAL STUDY CHECKLIST

- 1. **Project title:** Diablo Energy Storage, LLC
- Contact person and phone number: Kristin Pollot Planning Manager City of Pittsburg (925) 252-4941 kpollot@ci.pittsburg.ca.us
- 3. Project location: 701 Willow Pass Road, Pittsburg, CA 94565

#### Project sponsor's name and address: Diablo Energy Storage, LLC c/o Kevin R. Johnson 5000 Hopyard Road, Suite 480 Pleasanton, CA 94588

5. **General plan designation:** Business/Commercial

- 6. **Zoning:** Industrial Park-Limited Overlay (IP-O) ("*Empire Business Park Overlay District*" Ord. No. 07-1284)
- 7. Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.) A comprehensive Project Description including maps and Preliminary Site Plans is attached to this initial Study as Appendix A.
- 8. **Surrounding land uses and setting (briefly describe the project's surroundings):** Willow Pass Road is adjacent to the north of the Site and lands north of Willow Pass Road are industrial. The adjacent land to the south of the Project Site is developed as an approximately 400,000 square foot commercial warehouse-style structure and associated parking and truck loading docks. Adjacent lands to the east of the Site consist of a paved commercial entrance road between the Project Site and a residential housing tract. Adjacent lands to the west of the Site are comprised of a paved entrance to the commercial development to the south, a graded but undeveloped area, and a high voltage electric transmission line corridor.

If the Middle or East Alignment of the tie-line were to be constructed, adjacent lands are industrial except that an approximately 1,200 foot long segment of the East tie-line that has adjacent uses including residential and recreational at distances of approximately 100 to 300 feet. If the West Alignment is used for the tie-line, it would be located within and adjacent to an existing high voltage transmission corridor that traverses open space.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)

The proposed Project would be required to obtain coverage under the State General NPDES Permit for discharges of stormwater from construction projects. This permit is administered by the Regional Water Quality Control Board and is in place for use by applicants upon filing of a satisfactory Permit Registration Documents.

If the West Alignment is used for the tie-line, impacts to wetlands may occur that would require

a Fish and Game Code Section 1600 permit from California Department of Fish and Wildlife. In addition, if the West Alignment impacts federally jurisdictional wetlands, then a Clean Water Act (CWA) Section 404 Permit (Nationwide Permit No. 12 for Utilities) would be needed from U.S. Army Corps of Engineers as well as a CWA Section 401 Water Quality Certification from the Regional Water Quality Control Board.
### 3.1 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project. Check marks are indicated by the following symbol:

$\checkmark$	Aesthetics		Agriculture and Forest	$\checkmark$	Air Quality
$\checkmark$	Biological Resources	$\checkmark$	Cultural Resources	$\checkmark$	Geology/Soils
2	Greenhouse Gas Emissions Land Use/Planning	$\square$	Hazards and Hazardous Materials Mineral Resources	$\mathbf{N}$	Hydrology and Water Quality Noise
	Population/Housing	$\square$	Public Services		Recreation
$\checkmark$	Transportation/Traffic	$\checkmark$	Utilities/Service Systems	$\checkmark$	Mandatory Findings of Significance

#### 3.2 Determination

П

(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.

Prepared By: Joan Lamphier, Project Planner Reviewed By: Kristin Pollot, Planning Manager

Signature

Date

# 3.3 Evaluation of Impacts

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS Would the project:				
a) Have a substantial adverse effect on a scenic vista?				$\checkmark$
<b>No Impact:</b> The proposed Project is not located within any scenic vista or scenic resour area designated in the City or County General Plans. Furthermore, neither the propose facilities nor the electric line would be visible from any State- or County-designated Scen Highway or Scenic Route. Existing uses surrounding the proposed Project include indu and commercial developments to the north and south, a high voltage electric transmission line corridor to the west, and residential development to the east. Considering these fact the Project would not impact any scenic vista.				ources sed Site cenic dustrial ssion factors,
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				V
<b>No Impact:</b> No designated or eligible State nearest State scenic highway is State Rou of the proposed Project location. The Proj Project would not affect scenic resources w relatively flat and has been previously grad buildings, scenic tree stands or other scen Considering these factors, there would be	e scenic highw te (SR) -24, lo ect area is not within a State s ded. There are ic resources o <u>no impact to s</u>	ays occur in the cated approxim visible from SF scenic highway on rock outcro n the Site or ele cenic resources	e vicinity. The nately 24 miles R 24. Therefo corridor. The oppings, histo ectric line rout s.	e s south re, the e Site is ric re.
c) Substantially degrade the existing visual character or quality of the site and its surroundings?				
Less than Significant Impact: The Site is Existing uses surrounding the proposed Pr developments to the north and south, a hig west, and residential development to the e not impact any scenic vista. The proposed of character with surrounding uses. An ex is landscaped with non-native trees that we the residential development to the east (re Considering these factors, the proposed P character or quality of the site and its surro significant. Landscaping that would be con conjunction with the Project would enhance	s relatively flat roject include i gh voltage elec ast. Consider d Project featur isting driveway ould provide vi fer to Figure 2 roject would n oundings. The mpleted consis e existing visu	and has been p industrial and co stric transmission ing these factor res would not b y bordering the isual screening in the Project L ot degrade the stent with City s al characteristic	previously gra ommercial on line corrido rs, the Project e out of scale east side of the between the Description). existing visua act would be l tandards in cs of the Site.	ded. r to the would or out he Site Site and I ess than

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			V	
Less than Significant Impact: The Project does include new permanent night lighting needed for safety or security such as at ac lighting would be directed downward and s shown in the architectural renderings in Pro- story warehouse-type architecture that would electric tie-line would not have night lighting glare. Considering these factors, the Pro- light or glare that could affect day or night than significant.	ct would norma . Motion-activ cess gates an hielded to min eliminary Site uld not be a su g or large plan ject would not ime views. Th	ally be unoccup ated lighting ma d doorways to k imize visibility fi Plans, buildings ibstantial source ar surfaces tha create a new so erefore, the imp	ied and the d ay be used wh puildings. If us rom offsite. s would be sir e of glare. Th t could be a s purce of subs pact would be	esign here sed, As ngle- he ource of tantial less
II. AGRICULTURE AND FOREST RESOURCES 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 the forest carbon measurement methodology provided in the 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 the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-				V

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
agricultural use?				
<b>No Impact:</b> No farmlands occur in the vicil be affected by the Project.	nity of the prop	bosed Project s	o no farmland	ls would
<ul> <li>b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?</li> </ul>				V
<b>No Impact:</b> No lands zoned for agriculture lands zoned for agriculture or under a Willi Project.	occur in the v amson Act col	vicinity of the pro ntract would be	oposed Projec affected by th	ct so no he
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) or timberland (as defined in Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				V
<b>No Impact:</b> No lands zoned forest land, tim vicinity of the proposed Project so no lands production would be affected by the Project	berland or tim zoned forest l	berland product and, timberland	tion occur in t l or timberland	he d
d) Result in the loss of forest land or conversion of forest land to non-forest use?				$\checkmark$
<b>No Impact:</b> No forest lands occur in the view would be affected by the Project.	cinity of the pro	oposed Project	so no forest la	ands
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?				V
<b>No Impact:</b> The proposed Project comprissite has been previously graded. Access if are no farmlands or forest lands in the vicil. The proposed Project does not include any of agricultural or forest land. Therefore, the	es infill develo s via the exist nity of the prop action that w ere would be r	opment in an url ing paved Willo posed Project th ould result in re no impact.	banized area. w Pass Road aat could be a zoning or cor	The . There ffected. aversion

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY 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?			Ŋ	

Less than Significant Impact: The proposed Project would be located within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The Project would not conflict with or obstruct implementation of any applicable air quality plan. The Project would not add dwelling units or structures that would generate operational emissions, or add full-time employees that would commute to and from the Projects on a daily basis. The Site would be unoccupied but visited periodically through the year for equipment inspections, monitoring and testing, and maintenance as needed. Operations would not result in emissions to air other than exhaust emissions from vehicle use for these periodic visits. These emissions would be minor considering the small and infrequent level of activity. Therefore, operations emissions would be less than significant.

Project construction would result in dust and fuel-burning emissions. The BAAQMD significance thresholds for construction activities are provided in the following table along with maximum daily Project construction emissions as estimated by CalEEMod (Appendix B).

Criteria Pollutant	Average Daily Threshold (pounds)	Project Emissions (max pounds/day)	Significant?
Oxides of Nitrogen (NOx)	54	45.9	No
Reactive Organic Gasses (ROGs)	54	5.4	No
Exhaust Particulate Matter (PM10)	82	2.3	No
Exhaust Particulate Matter (PM2.5)	54	2.1	No

Source: BAAQMD CEQA Air Quality Guidelines, Updated May 2017.

The design for Project construction includes applying water to disturbed surfaces as needed to control dust (see Section 3.4 in Appendix A), and this control measure is reflected in the CalEEMod results in the table above. Consistent with BAAQMD guidelines (BAAQMD, 2012), unstabilized surfaces would be watered two times per day if needed. A nontoxic dust palliative may also be used. Furthermore, pursuant to the City Grading Ordinance (Section 15.88.060) during grading, all graded surfaces and materials are required to be wetted, protected or otherwise contained in such a manner as to prevent any nuisance from dust or spillage upon adjoining streets, and equipment and material on the site must be used in such a manner as to avoid excessive dust. Additional measures that would be implemented during construction to conform with grading ordinance requirements for dust control include: stabilizing disturbed surfaces as soon as practical; covering haul trucks transporting soil,

Potentially Less Than Less Than Significant Impact With Impact Mitigation Incorporated	No Impact
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sand or other loose materials offsite; use of BMPs to minimize track-out; and implementing a 15 mile per hour speed limit for unstabilized roadways.

Crushed rock would be used to stabilize road surfaces as needed for to meet CCCFPD requirements, and areas that are not graveled or occupied by foundations would be stabilized by re-vegetation, application of a non-toxic soil binder, or other means of stabilization (see Section 3.2 and Preliminary Design Drawings in Appendix A). The design for Project construction includes applying water to disturbed surfaces as needed to control dust. The following requirements as set forth in Title 13 of the California Code of Regulations for diesel-fueled construction equipment would additionally help to ensure that emission levels during construction do not conflict with or obstruct implementation of BAAQMD's air quality plans:

- Individual diesel truck idling in excess of five consecutive minutes would be prohibited consistent with Title 13 of the California Code of Regulations §2485.
- Diesel-power construction equipment would use low-sulfur diesel fuel pursuant to requirements of Title 13 of the California Code of Regulations §2281.

Construction emissions are temporary and significance thresholds are based on peak daily emissions. Peak daily emissions for the proposed Project would occur during grading when diesel fuel-burning heavy earthmoving equipment is being used. It is estimated that Site grading and preparation would require the following equipment:

TYPE	QUANTITY
Bulldozer (e.g., CAT D7)	1
Grader (e.g., CAT D7)	1
Scraper (15-30 CY)	2
Water Truck (3,000- 5,000 gal)	1
Self-Propelled Compactor	1
Dump Truck	1
Tractor/Loader/Backhoe (e.g., Case 590)	1
Bobcat	1

The Project site has been previously graded and is nearly flat. Estimated grading quantities are provided on Sheet C-1 in the Preliminary Site Plans. The estimated construction emissions are below significance thresholds. Therefore, it is concluded that construction emissions from the proposed project would be below significance thresholds. A summary of the CalEEMod input and output is provided in Appendix B.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?



**Less than Significant Impact:** As described in Response IIIa, construction emissions would be temporary and would not exceed construction-related significance thresholds. Further, the Project would not add residential units or be growth-inducing. The Project would not diminish an existing air quality rule or future compliance requirement. As a result, the Project would

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
not violate any applicable federal or state a existing or projected air quality violation. The second secon	air quality stan herefore, the i	dard or contribu mpact would be	ite substantia less than sig	lly to an nificant.
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)?			V	
Less than Significant Impact: BAAQMD fine particulate matter (PM-2.5) and state r 10). Operation of the proposed Project wou The particulate emissions from periodic Sit cumulative net increase in PM-10 or PM-2. not exceed construction-related significant establish the level at which the BAAQMD to environmental impacts under CEQA when proposed Project would not conflict with an factors, the proposed Project would not res any non-attainment criteria pollutant. Ther	is state and/or nonattainment uld not genera te visits would 5 concentratio ce thresholds. pelieves emiss considered in ny air quality pr sult in a cumul refore, the imp	r federal nonatta for coarse parti te notable parti be too negligibi ons. Construction These thresho ions could caus conjunction wit lan or regulation atively consider act would be les	ainment for oz culate matter culate emissio le to result in on emissions lds were desi se significant h other sourc n. Considerin rable net incre ss than signifi	zone and (PM- ons. a would gned to es. The ig these ease of icant.
<ul> <li>d) Expose sensitive receptors to substantial pollutant concentrations?</li> </ul>			$\checkmark$	
Less than Significant Impact: Sensitive r the population that are particularly sensitive the elderly and people with illnesses. Exar convalescent homes. The nearest sensitiv of the Site. The proposed Project would of emissions would be less than significant as these factors, the proposed Project would pollutant concentrations. Therefore, the im-	receptors are l e to the effects mples include ve receptor is a perate without s described in not expose se pact would be	and uses that in s of air pollution residences, hos a residential con pollutant emiss Response IIIa a nsitive receptor less than signi	nclude memb such as chilo spitals, schoo mmunity locat sions. Consti above. Consid s to substanti ficant.	ers of Iren and Is, or ted east ruction dering ial
e) Create objectionable odors affecting a substantial number of people?			$\checkmark$	
Less than Significant Impact: Project operations would not be a source of odors. Diesel engine emissions during construction may be a potential source of odor, primarily during grading. However, emissions from grading and other construction emissions would be short-term and separation between offsite receptors and diesel fuel burning equipment on the site would result in dissipation of exhaust emissions so that, if odors are detectable offsite, they would not be substantial. Operation of the proposed Project would not be a source of odor emissions. Considering these factors, if odor is detectable offsite, any impact would be less than significant.				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES 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 California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?				

Less than Significant With Mitigation Incorporated: Except for a portion of the tie-line West Alignment, if used, the Project would be located on lands that are 100 percent disturbed and comprised primarily of non-native grassland and urban features that do not provide important habitat for any sensitive species. The Applicant completed a planning survey report to support the Application for coverage under the HCP/NCCP and proposes to comply with the HCP/NCCP for Project features within the HCP/NCCP area including mitigation fees for non-native grassland, and pre-construction surveys for burrowing owl, Swainson's hawk, Golden Eagle and other nesting birds. The portion of the tie-line West Alignment that is outside of the HCP/NCCP area is north of Willow Pass Road (Figure 5) where the ground surface is low and comprised of grassland and wetlands.

A search of the CNDDB and IPaC databases was conducted to evaluate the potential for occurrence of protected species for the West Alignment as well as the grassland and urbanized areas of the Project footprint. Together, the CNDDB and IPaC databases indicated that 14 special status plant and 24 special status wildlife species have been recorded within a three-mile radius (Appendix C). Based on evaluation of habitat needs and habitats present at or adjacent to Project features, it was determined that none of these species are likely to occur within or adjacent to the Project footprint, except for where the West Alignment is located north of Willow Pass Road. Disturbance along this alignment could include up to 0.38 acre of long-term disturbance and an additional 1.09 acres of short-term (construction) disturbance in possible wetlands, all outside of the HCP/NCCP boundaries. In short term disturbance areas the surface would be stabilized by returning the disturbance to approximate pre-construction conditions. In the low lying portion of the West Alignment, six special status plant species and three special status wildlife species were determined to have at least a moderate potential to occur, as shown in following tables. Pittsburg and surrounding areas are broadly mapped as critical habitat for the Delta smelt. No aspect of the Project is expected to directly or indirectly impact waters providing Delta smelt habitat. Best Management Practices (BMP) measures required during construction under the State General Permit would protect water quality and prevent indirect impacts to this species.

#### SPECIAL STATUS PLANT SPECIES WITH MODERATE OR GREATER POTENTIAL FOR OCCURRENCE ON OR ADJACENT TO THE WEST ALIGNMENT

Scientific Name Common Name	Status		Habitat Requirements	Potential for Occurrence	
Chloropyron molle ssp. molle Soft salty bird's-beak	Fed: CA: CNPS/CRPR:	FE SR 1B.2	Hemiparasitic annual herb. Habitat includes coastal salt marshes and swamps. Blooms June-November. Elevation 0-3 meters.	<b>Moderate Potential</b> : The project area may include marsh or wetland habitat within the typical elevation range of this species.	
<i>Cicuta maculata</i> var. <i>bolanderi</i> Bolander's water hemlock	Fed: CA: CNPS/CRPR:	None None 2B.1	Perennial herb. Habitat includes marshes and swamps with coastal, fresh, or brackish water. Blooms July-September. Elevation 0-200 meters.	<b>Moderate Potential</b> : The project area may include marsh or wetland habitat of within the typical elevation range of this species.	
<i>Lathyrus jepsonii</i> var. jepsonii Delta tule pea	Fed: CA: CNPS/CRPR:	None None 1B.2	Perennial herb. Habitat includes marshes and swamps with fresh or brackish water. Blooms May- July (August-September). Elevation 0-5 meters.	<b>Moderate Potential</b> : The project area may include marsh or wetland habitat within the typical elevation range of this species.	
<i>Limosella australis</i> Delta mudwort	Fed: CA: CNPS/CRPR:	None None 2B.1	Perennial stoloniferous herb. Habitat usually mud banks. Also found in riparian scrub, and marshes and swamps with fresh or brackish waters. Blooms May- August. Elevation 0-3 meters.	<b>Moderate Potential</b> : The project area may include marsh or wetland habitat within the typical elevation range of this species.	
Lilaeopsis masonii Mason's lilaeopsis	Fed: CA: CNPS/CRPR:	None SR 1B.1	Perennial rhizomatous herb. Habitat is marshes and swamps with fresh or brackish water, and riparian scrub. Blooms April- November. Elevation 0-10 meters.	<b>Moderate Potential</b> : The project area may include marsh or wetland habitat within the typical elevation range of this species.	
Symphyotrichum lentum Suisun marsh aster	Fed: CA: CNPS/CRPR:	None None 1B.2	Perennial rhizomatous herb. Habitat is marshes and swamps with fresh or brackish water. Blooms (April) May-November. Elevation 0-3 meters.	<b>Moderate Potential</b> : The project area may be within marsh or wetland habitat of within the typical elevation range of this species.	
Federal Designations: FE = Federal Endangered FT=Federal Threatened FC=Candidate for Federal Listing BCC = USFWS Bird of Conservation Concern			California Rare Plant Ranks (CRPR): 1A: Presumed extirpated in California and rare or extinct elsewhere 1B: Rare, threatened, or endangered in California and elsewhere 2A: Presumed extirpated in California, but more common elsewhere 2B: Rare, threatened, or endangered in California, but more common elsewhere 3: Review list of plants requiring more study 4: Watch list of plants requiring more study		
CA State Designations: SE=State Endangered ST= State Threatened SR = State Rare SFP = State-Fully Protected SSC= Species of Special Concern WL = Watch List Species			California Native Plant Society (CNPS) Threat Code: .1: Seriously threatened in California .2: Moderately threatened in California .3: Not very threatened in California		

#### SPECIAL STATUS WILDLIFE SPECIES WITH MODERATE OR GREATER POTENTIAL FOR OCCURRENCE ON OR ADJACENT TO THE WEST ALIGNMENT

Scientific Name Common Name		Status Habitat Requi		Potential for Occurrence
Actinemys marmorata Western pond turtle	Fed: CA:	None SSC	Found in slow moving streams, lakes, ponds, and wetlands.	<b>Moderate Potential</b> : The project area may include marsh or wetland habitat suitable for this species.
Melospiza melodia maxillaris Suisun song sparrow	Fed: CA:	BCC SSC	Found in the brackish- marsh waters of Suisun Bay. Utilize a matrix of emergent vegetation including bulrush and cattails.	<b>Moderate Potential</b> : The project area may include marsh or wetland habitat similar to locations of known occurrences in the vicinity.
Reithrodontomys raviventris Salt-marsh harvest mouse	Fed: CA:	E E; SFP	Found in saline emergent wetlands of San Francisco Bay. Require salt marsh vegetation, primarily pickleweed. Nest in grasses, or utilize abandoned bird nests. Known population adjacent to project area.	<b>Moderate Potential</b> : The project area may include marsh or wetland habitat similar to a nearby area with a known SMHM population.
Federal Designations FE = Federal Endangered FT=Federal Threatened FC=Candidate for Federal Listing BCC = USFWS Bird of Conservation	State Designations: SE=State Endangered ST= State Threatened SFP = State-Fully Protected SSC= Species of Special Concern WL = Watch List Species			

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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Of the six special status plant species determined to have a moderate potential to occur, the soft salty bird's beak is the only federally protected species. This plant's habitat includes coastal salt marshes and swamps at elevations of 0 to 3 meters and there are known occurrences within three miles of the Project. The soft salty bird's beak and Mason's lilaeopsis both have State Rare status. Bowlander's water hemlock, Delta tule pea, Delta mudwort and Suisun marsh aster are not protected under the federal or State Endangered Species Acts but are ranked by CNPS as shown. Any of these species are estimated to have a moderate probability to occur in the vicinity of the West Alignment since these species can occur in similar swampy areas and conditions. If the West Alignment is used, the Project could impact these species, if present, through direct disturbance for construction of tie-line structures, access and stringing. If these species are present, the impact of direct disturbance could be significant. However, Mitigation Measure BIO-1 would limit the potential for impact to these species to a less than significant level. The tie-line, by the nature of its design, can have support structure locations modified if needed and, therefore, it is expected that sensitive plants could be avoided or mitigated to a level that is less than significant by

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

implementation of BIO-1.

Of the three special status animal species determined to have a moderate potential to occur, the salt-marsh harvest mouse is the only federally protected species and is Endangered under the federal ESA. This species habitat includes wetlands and marsh vegetation and there are known occurrences within three miles of the Project in terrain similar to that which would be traversed by the West Alignment, if used. The salt-marsh harvest mouse also is Endangered under the State ESA and is designated as a State Fully Protected Species meaning that the State cannot issue a Take permit or otherwise authorize a development project to Take any individual. If the West Alignment is used, the Project could impact this species, if present, through direct disturbance for construction of tie-line structures, access and stringing, and through potential direct impacts from infrequent maintenance vehicle traffic. If this species is present, the impacts of direct disturbance and Project maintenance traffic could result in Take of individuals, which would be significant. However, Mitigation Measure BIO-2 would limit the potential for impact to this species to a less than significant level. The tie-line, by the nature of its design, can have support structure locations modified if needed and, therefore, it is expected that this species could be avoided or mitigated to a level that is less than significant by implementation of BIO-2.

The Suisun song sparrow is a USFWS Bird of Conservation Concern and a State Species of Special Concern. The Project could have the potential to impact this species if the West Alignment is used. The primary impact would be the potential for nest disruption during nesting season. The Project Description commits to pre-construction nesting bird surveys completed by a qualified biologist within 14 days prior to ground disturbance if construction would start during the nesting season (February 1-August 31), and avoidance of active nests with implementation of a buffer zone (see Section 3.4 in Appendix A). Work would not occur in the buffer zone until the biologist determines that the nest is inactive. The extent of the buffers would be based on consideration of the anticipated levels of noise or disturbance, ambient level of noise and other disturbance, if the species is present, and topographic or other barriers. These measures for avoiding impacts to active nests would limit the potential for impact to the Suisun song sparrow to a less than significant level.

The Western pond turtle is not federally protected. It is a State Species of Special Concern. If the West Alignment is used, the Project could impact this species, if present, through direct disturbance for construction of tie-line structures, access and stringing, and through potential direct impacts from infrequent maintenance vehicle traffic. If this species is present, the impacts of direct disturbance and Project maintenance traffic could result in loss of individuals, which could be significant. However, Mitigation Measure BIO-3 would limit the potential for impact to this species to a less than significant level. It is expected that this species could be avoided or mitigated to a level that is less than significant by implementation of BIO-3.

#### Mitigation Measure BIO-1:

If the tie-line West Alignment is used, prior to issuance of grading or building permits for the tie-line, the Applicant shall provide biological, wetlands and jurisdictional waters survey reports accompanying the final tie-line design demonstrating that facilities and access are

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

designed to minimize disturbance to sensitive plants to the extent practical for safe and efficient construction. Reports provided by the Applicant shall be prepared by qualified professionals and shall address federal and state jurisdictional waters and potential for occurrence of Soft salty bird's-beak, Bolander's water hemlock, Delta tule pea, Delta mudwort, Mason's lilaeopsis, Suisun marsh aster based on pedestrian transect surveys for the portion of the West Alignment north of Willow Pass Road including final access routes. The project shall be designed to avoid direct impact to soft salty bird's beak and Mason's lilaeopsis, as well as Bolander's water hemlock, Delta tule pea, Delta mudwort, and Suisun marsh aster. If direct impact to soft salty bird's beak and Mason's lilaeopsis cannot be practically avoided, then the applicant shall consult with USFWS and CDFW to develop a plan for transplanting affected individuals to an appropriate adjacent location. The plan shall be subject to review by USFWS and CDFW and approval by the City prior to issuance of grading or building permits for the tie-line. If direct impact to Bolander's water hemlock, Delta tule pea, Delta mudwort, or Suisun marsh aster cannot be practically avoided, then the applicant shall submit a plan to the City for transplanting, restoring, or preserving these species including success criteria to offset individuals lost at a ratio of no less than 1:1, and shall obtain approval of the plan from the City prior to issuance of grading or building permits for the tie-line. Project construction shall be monitored by a qualified biologist where construction work is within or adjacent to federal or state jurisdictional waters or wetlands, or locations with State or federally listed plants or State Rare plants. Material revisions to the selected final tie-line alignment routing and structure locations shown and described in the Applicant's Project Description shall be subject to approval by the Planning Manager.

#### Mitigation Measure BIO-2:

If the tie-line West Alignment is used, prior to issuance of grading or building permits for the tie-line, the Applicant shall provide a biological survey report prepared by a qualified professional accompanying the final tie-line design addressing potential for occurrence of salt-marsh harvest mouse. The project shall be designed to avoid any Take of salt-marsh harvest mouse under the State ESA. If impact to salt-marsh harvest mouse habitat cannot be practically avoided, then the applicant shall develop a plan for construction to ensure no State ESA Take during construction, and for restoring or preserving habitat for this species at an area ratio of no less than 3 to 1. The plan shall be subject to review by USFWS and CDFW and approval by the City prior to issuance of grading or building permits for the tie-line.

## Mitigation Measure BIO-3:

If the tie-line West Alignment is used, a qualified biologist shall conduct a pre-construction survey for western pond turtles no more than 30 days prior to construction in suitable aquatic habitats in and adjacent to the West Alignment work area. A combination of visual and trapping surveys may be performed with authorization from the California Department of Fish and Wildlife. If the species is found near any proposed construction areas, impacts on individuals and their habitat shall be avoided to the extent feasible. If occupied habitat can be avoided, an exclusion zone shall be established around the habitat and clearly marked with temporary fencing for avoidance during construction. If avoidance is not possible and the species is determined to be present in work areas, the biologist with approval from CDFW may capture turtles prior to construction activities and relocate them to nearby, suitable habitat a minimum of 300 feet from the work area. Exclusion fencing should then be installed

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
if feasible to prevent turtles from reentering monitored by a qualified biologist where co western pond turtle habitat.	the work area nstruction wo	a. Project const rk is within or ac	ruction shall k djacent to occ	oe upied
Considering the above factors, with implementation of Mitigation Measures BIO-1, -2, and -3, the Project would not have a substantial adverse effect on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. Therefore, the impact would be less than significant with mitigation.				
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 Wildlife or US Fish and Wildlife Service?		V		
Less than Significant With Mitigation Ind Alignment, if used, the Project would be loc comprised primarily of non-native grassland sensitive habitat. The exception is the port Willow Pass Road (see Figure 5), which is this area has been assessed from biology a of the West Alignment and nearby lands an from public rights-of-way due to access lim used, including structure locations, pull-site wetland delineation report to delineate weth the extent practical for safe and efficient co disturbed wetland and riparian habitat. Bas Project Description estimates up to 0.38 ac additional approximately 1.09 acres of sho Applicant's Project Description commits to returned to approximate pre-construction c disturbance to wetlands or riparian vegetat estimated areas of wetland disturbance are evaluations, it is possible that marginally hi once final designs and evaluations are con impacts to wetlands and riparian vegetation Mitigation Measure BIO-4:	corporated: E cated on lands d and urban fe tion of the tie- low lying and and wetland d and from aerial itations. The f locations, an land presence onstruction, an land presence onstruction, an land presence onstruction, an land presence based on prelimin cre of long-tern temporary tie- onditions (See ion would be s based on pre igher disturban npleted. Mitig n to a less tha	Except for a point that are 100 per- entures without ine West Alignr includes wetlar elineation report imagery, with v inal design for t d access, would many engineering of precisely calo and precisely calo for the construction of disturbance for line construction of disturbance for line construction of access in the significant if not eliminary engine for a rea could pation Measure of significant lev	tion of tie-line ercent disturb riparian or oth ment that is no ad areas. Terr rts covering p isual confirma he West Aligr d be develope acts on wetlar culate the area g and evaluat rbance and an or construction n disturbance Appendix A). mitigated. Be ering and be found nece BIO-4 would rel.	West ed and her orth of ain in ortions ation nment, if ed with a nds to a of tions, the n Direct ecause essary limit

If the tie-line West Alignment is used, prior to issuance of grading or building permits for the tie-line, the Applicant shall provide a wetlands and jurisdictional waters survey report accompanying the final tie-line design to demonstrate that facilities and access are designed to minimize disturbance to waters and wetlands to the extent practical for safe and efficient construction, and to precisely calculate the area of disturbed wetland and riparian habitat. Reports provided by the Applicant shall be prepared by a qualified professional and shall

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
delineate federal and state jurisdictional waters and wetlands, including verification by USACE for federal wetlands, if present. If disturbance to waters of the US and the state including wetlands cannot be avoided, then such disturbance shall not exceed 0.5 acre long term plus 1.3 acres of short term disturbance, and the Applicant shall obtain required authorizations from USACE and CDFW prior to construction. Disturbances to wetlands or riparian vegetation shall be mitigated at a ratio of no less than 3:1 for long term impacts. With the 3:1 mitigation of long term impacts to wetlands or riparian vegetation pursuant to Mitigation Measure PIO 4, the Project would not have a substantial adverse offect on any				
Mitigation Measure BIO-4, the Project would not 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 Wildlife or US Fish and Wildlife Service. Therefore, the impact would be less than significant with mitigation.				any กร, nd
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?				
Less than Significant With Mitigation In Alignment, if used, the Project would be lo comprised primarily of non-native grassland sensitive habitat. The exception is the por Willow Pass Road, which is low lying and a been assessed from biology and wetland of Alignment and nearby lands and from aeria rights-of-way due to access limitations. The including structure locations, pull-site location wetland delineation report to confirm wetland extent practical for safe and efficient consti- disturbed wetland. The Project Description disturbance and an additional approximate construction. The Applicant's Project Desc disturbances being returned to approximate Appendix A). Direct disturbance to wetland estimated areas of wetland disturbance are evaluations, it is possible that marginally honce final designs and evaluations are cor implemented, would limit impacts to wetland With the 3:1 mitigation of long term impact	<b>corporated:</b> E cated on lands and and urban fe tion of the tie- includes wetlan delineation rep al imagery, wit e final design f tions and acce ind presence, in ruction, and pre estimates up ely 1.09 acres ription commit te pre-construct fs would be sig based on pre igher disturban mpleted. Mitig ads vegetation	xcept for a pon s that are 100 p eatures without line West Alignr nd areas. Terra orts covering pe h visual confirm for the West Alig ss, would be de minimize impact recisely calculat to 0.38 acre of of short-term we s to temporary ction conditions gnificant if not n eliminary engine nce area could pation Measure to a less than s	tion of tie-line ercent disturb wetlands or of ment that is no in in this area ortions of the pation from pu- gnment, if use eveloped with ts on wetland te the area of long-term we etland disturb tie-line constr (See Section nitigated. Bed be found nece BIO-4, if significant leve	West ed and other orth of has West iblic ed, a s to the tland ance for uction 3.5 in cause essary el.
<i>4, the Project would not have a substantia</i> as defined by Section 404 of the Clean Wa	ater Act. There	<i>et on any</i> federa	Ily protected v ct would be le	wetlands ss than

d) Interfere substantially with the

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				
Less Than Significant Impact: The Project is an infill building project located in an urbanized area, with the exception of the tie-line West Alternative if used. No aspect of the Project would interfere with movement of native resident or migratory fish or wildlife species or with native or migratory wildlife corridors or impede the use of native wildlife nursery sites. The tie-line West Alternative is the only possible Project feature that could occur in an area potentially providing a wildlife migratory corridor or native wildlife nursery site. Construction of the tie-line West Alternative could disrupt wildlife migration due to noise and human presence but such disruption would be short-term in any given area and not expected to substantially interfere with wildlife movement. Preconstruction nesting bird surveys and avoidance of active nests are measures included in the Applicant's Project Description (see Section 3.4 in Appendix B) and would ensure that active nests are not adversely affected. The tie-line West Alternative, if used, would be collocated with an existing major high-voltage transmission corridor and would not have any material effect on wildlife movement compared to existing conditions.				
<ul> <li>migratory wildlife corridors, or impede the use impact would be less than significant.</li> <li>e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation</li> </ul>		vildlife nursery s		ore, the
policy or ordinance? The Project does not propose removal of a Project would not conflict with any local pol	ny tree protec licy or ordinan	ted by ordinand ce protecting bi	ce or policy. T Tological resol	The urces.
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?		Ø		
The Applicant has submitted an application for coverage under HCP/NCCP and proposes to comply with the HCP/NCCP for Project features within the HCP/NCCP area including mitigation fees for non-native grassland, and pre-construction surveys for burrowing owl, Swainson's hawk, Golden Eagle and other nesting birds (See Section 3.4 in Appendix A). Mitigation Measure BIO-5 would ensure that mitigation fees are paid consistent with HCP/NCCP requirements.				

The Applicant shall pay HCP/NCCP mitigation fees consistent with HCP/NCCP requirements. If development is phased, such fees shall be paid prior to issuance of a grading permit for

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
acreage to be disturbed in such phase.				
V. CULTURAL RESOURCES Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in section 15064.5?				

Less than Significant Impact With Mitigation Incorporated: A cultural resource records search was conducted through the CHRIS Northwest Information Center. The record search indicated that portions of the Project area were included in cultural resource surveys in 1988. 1995, 1996 and 2001. The first three of these were for water conveyance structures and projects. The last was of the Montezuma Enhancement Site, associated with the Pittsburg and Contra Costa County Power Plants. In addition, there were 18 other surveys that may have included portions of the Project area. These, however, either had little or no fieldwork or were missing maps. The record search additionally revealed that there are no known historic sites within the proposed Project Site or electric tie-line routes. The Project Site is currently vacant with no structures and the majority of the Site is covered by several feet or more of fill dirt. Review of historic aerial photographs from Google Earth imagery shows that the Site was undeveloped prior to placement of fill. Therefore, no historical resources are known to be present and the presence of potential unknown resources is unlikely. Considering these factors, Site development would not change the significance of any historical resource. The electric tie-line routes each are located within and adjacent to an existing power plant site and oil tank farm site and an existing high voltage transmission corridor. The tie-line alignments were not surveyed for potential historic resources for this analysis. However, by its nature, the overhead electric tie line would result in little ground disturbance and, if historic structures or resources were to be present, pole locations could be adjusted to avoid such resources. Furthermore, given the existing industrial setting of the tie-line corridor, if historic structures or resources were to be present on or adjacent to the tie-line corridor, the presence of the tieline would not result in a substantial adverse change in their significance. Considering these factors, Mitigation Measure CUL-1, if adopted, would ensure that the electric tie-line would not cause a substantial adverse change in the significance of any historical resource.

<u>**Mitigation Measure CUL-1**</u>: Prior to issuance of a grading permit, the Applicant shall provide the City with a historical resources survey report prepared by a professional meeting the Secretary of the Interior's Professional Qualification Standards (36 CFR 61) for the electric tie-line easement. If the survey identifies potentially significant cultural resources within the electric tie-line easement, then a tie-line design shall be provided to the City for approval prior to issuance of a grading permit that demonstrates either: (1) no significant resource would be disturbed by tie-line construction; or (2) any significant resource that cannot be practically avoided would be mitigated through photo-documentation and archival research by a gualified historic archaeologist or architectural historian.

b) Cause a substantial adverse change in the significance of an archaeological



	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
resource pursuant to section 15064.5?				

Less than Significant Impact With Mitigation Incorporated: A cultural resource records search was conducted through the California Historical Resources Information System (CHRIS) Northwest Information Center. The record search indicated that portions of the Project area were included in cultural resource surveys in 1988, 1995, 1996 and 2001. The first three of these were for water conveyance structures and projects. The last was of the Montezuma Enhancement Site, associated with the Pittsburg and Contra Costa County Power Plants. In addition, there were 18 other surveys that may have included portions of the Project area. These, however, either had little or no fieldwork or were missing maps. The record search additionally revealed that there are no known archaeological sites within the proposed Project Site or electric tie-line route and that there are no known prehistoric archaeological sites within a one-half mile radius of the Project. A search of the Native American Heritage Commission (NAHC) Sacred Lands File failed to indicate the presence of Native American cultural resources in the Project area. Considering the results of the records search, previous surveys of portions of the Project Area, and NAHC response, there are no known archaeological resources on the Project Site or the potential electric tie-line alignments. The Site is currently vacant with no structures and most of the Site is covered by several feet or more of fill dirt. The West, Middle and East tie-line alignments have been graded by past development including that associated with the existing tank farms, a rail spur, access roads, the existing PG&E switchyard that the tie-line would extend to, and Willow Pass Road that the tie-line would cross. Considering the high degree of disturbance and grading that has occurred at these locations, the ground has been modified such that little or no evidence of preindustrial human cultural activities and/or occupation is likely to remain. Therefore, a ground survey was not conducted for this analysis and would be unlikely to be of any value. Based on aerial imagery analysis, disturbances for the West Alignment if used, could have some areas with more limited disturbance. Mitigation Measure CUL-2, if adopted, would ensure impacts are mitigated to a less than significant level in the event that unknown cultural resources are encountered during construction. Section XVIII of this Initial Study further discusses potential Native American Cultural Resources and the City's outreach to Tribes for input to the environmental review process.

**Mitigation Measure CUL-2:** Construction shift foremen, excavation equipment operators and other construction workers with responsibility for observing construction excavations shall be trained and instructed by a representative of the Applicant or its contractor to be observant for the potential occurrence of archaeological resources in the geologic materials encountered, and shall be instructed and authorized to halt excavation in the area immediately and notify the Project Applicant's representative if such resources are discovered. In the event of a discovery, the Applicant or Applicant's representative shall promptly notify the City and work in the area shall cease until the discovery is evaluated by a qualified cultural resource specialist. If evaluation by a qualified cultural resource specialist indicates that the discovery may be significant, then excavation in the area shall be continued only as directed by a qualified cultural resources and information that may otherwise be affected by the Project, including development of a Research Design and Data Recovery Program if needed to mitigate impacts. If cultural artifacts are collected they shall be cataloged and curated with an

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
appropriate institution. A final monitoring resignificant cultural resources are discovered	eport shall be d.	prepared and s	ubmitted to th	ne City if
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				
geologic feature? Less than Significant Impact With Mitigation Incorporated: The Project area is relatively flat terrain with no unique geologic features. The native geological materials beneath the Site are mapped as late Pleistocene alluvium (Helley and Lajoie, 1979). These deposits are about 11,500 years old and older and contain late Pleistocene vertebrate and invertebrate fossil faunas. This geologic unit is widespread at low elevations in the San Francisco Bay region and in places can contain localized accumulations of freshwater gastropod (snail) and pelecypods (bivalve mollusc) fossils, and terrestrial vertebrate fossils including camel, bison, horse, sloth and mammoth. While fossils of this age could potentially occur in the native geologic unit that underlies the Site and could potentially be important for their uniqueness and scientific value, it is unlikely that any such fossils would be disturbed by the Project because the Site is almost entirely covered with several feet or more of fill dirt. Construction of Site facilities would include grading, over-excavation and trenching primarily within fill and not substantially penetrate the native geologic material underlying the fill. If excavations do penetrate the natural geologic materials beneath the Site, Mitigation Measure CUL-3, would ensure that unique or scientific values of important fossils are recovered, limiting the potential for impact to a less than significant level.				
ne electric tie-line routes occur on engine mud deposits (Helley and Lajoie, 1979). Th about 9,600 years. These materials are kr	ered solls and ne oldest depo nown to include	e lands mapped sits of this unit e locations with	as Holocene have been da fossils of fres	bay ated at sh and

mud deposits (Helley and Lajoie, 1979). The oldest deposits of this unit have been dated at about 9,600 years. These materials are known to include locations with fossils of fresh and brackish water gastropods and pelecypods, including molluscian species introduced by humans since the 1800s. These materials are too geologically young to contain unique or important fossils. Therefore, the tie-line would not have the potential to destroy unique paleontological resource.

**Mitigation Measure CUL-3:** Construction shift foremen, excavation equipment operators and other construction workers with responsibility for observing construction excavations shall be trained and instructed by a representative of the Applicant or its contractor to be observant for the potential occurrence of paleontological resources when excavating on the Site beneath the depth of existing fill, and shall be instructed and authorized to halt excavation in the area immediately and notify the Project Applicant's representative if vertebrate fossils are discovered. In the event of a discovery, the Applicant or Applicant's representative shall promptly notify the City and work in the area shall cease until the discovery is evaluated by a qualified paleontologist. If evaluation by a qualified paleontologist indicates that the discovery may be significant, then excavation in the area shall be continued only as directed by a qualified paleontologist and in a manner allowing for collection of significant resources and information that may otherwise be affected by the Project. If significant fossils are collected they shall be cataloged and curated with an appropriate institution. A final monitoring report shall be prepared and submitted to the City if significant fossils are discovered.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Disturb any human remains, including those interred outside of formal cemeteries?				
Less than Significant Impact With Mitigation Incorporated: A cultural resource records search was conducted through the CHRIS Northwest Information Center and did not indicate any known burials within one-half mile of the Project area. A search of the NAHC Sacred Lands File failed to indicate the presence of Native American sacred lands in the area. The Site and most of the tie-line alignments are 100 % disturbed and the Site is almost entirely covered with several feet or more of fill dirt. Given that there are no records of Native American sacred lands in the area, no evidence of human remains at the Site, and the area is so heavily disturbed, no impact to human remains is anticipated. Mitigation Measure CUL-4 would ensure that impacts are mitigated to a less than significant level in the event that human remains are encountered unexpectedly during construction.				
<u>Mitigation Measure CUL-4</u> : Construction shift foremen, excavation equipment operators and other construction workers shall be trained and instructed by a representative of the Applicant or its contractor to halt work immediately if human remains are observed in the geologic materials encountered. In the event of a discovery, the County coroner shall be notified immediately and work in the area shall cease until the discovery is evaluated and removed in accordance with applicable laws and requirements.				tors and Applicant gic ed noved in
VI. GEOLOGY AND SOILS Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
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?				V
<b>No Impact:</b> The Project location does not occur in any Alquist-Priolo earthquake fault zone nor does it occur on or cross any known active fault (California Department of Conservation, 2017). Therefore, the Project would have no impact associated with fault rupture. The closest active fault is the Clayton segment of the Clayton-Marsh Creek-Greenville Fault, located approximately four miles southwest of the Site (Jennings and Bryant, 2010).				
ii) Strong seismic ground shaking?			$\checkmark$	
Less than Significant Impact: The Coast Site are dissected by a number of regional Andreas fault system demarking the interse plates. As described in Response (a)(i) ab	Ranges mour fault zones as ection of the N ove, the close	ntains that occu sociated with th lorth American a st active fault is	r southwest c ne overall Sar and Pacific te s the Clayton	of the n ctonic segment

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
of Clayton-Marsh Creek-Greenville Fault, I Site. Other major faults in the region inclus- eight miles west), Calaveras Fault (approx (approximately 25 miles west), Hayward Fa the San Andreas Fault Zone (approximate 2010). Deeply buried low angle thrust faul cause earthquakes in the region. Strong g proposed Project from an earthquake on a ground shaking would be a potentially sub- appropriately designed. The potential for s typically mitigated through proper design a motions. The California Building Code seis potential for people or structures to be exp ground motions. Conformance with this co process of the City of Pittsburg. Adherenc limit the risk of damage or injury from seisr significant.	ocated approx de the Green V imately15 mile ault Zone (app ly 40 miles sou ts such as the round motions ny of these or stantial seismi seismic ground smic standards osed to substa ode would be a e to California mic ground sha	imately four mil Valley/Concord s west), Rogers proximately 20 m uthwest) (Jennin Mount Diablo 1 s could occur in other regional f c hazard if struc d motions to dan is are designed antial risks from assured through Building Code aking to level the	es southwest Fault (approx s Creek Fault niles southwe ngs and Bryan Thrust Fault a the vicinity of faults. Strong ctures are not mage structur oredicted grou seismically-in the Building requirements at is less thar	of the cimately Zone st), and nt, lso can f the seismic res is und e nduced Permit would n
iii) Seismic-related ground failure, including liquefaction?			$\mathbf{\nabla}$	
<ul> <li>iii) Seismic-related ground failure, including liquefaction?</li> <li>Less than Significant Impact: Liquefaction can occur when there is a loss of shear strength in saturated granular soils cause by seismically-induced pore water pressures. The loss of shear strength in soils can reduce the ability of the soil to support overlying loads, such as equipment foundations. If liquefaction occurs, the surface structures may settle into the ground or tilt. The liquefaction potential of a site is dependent on characteristics of ground shaking, soil type, soil density, and depth-to- groundwater. The Site is situated in the lowland zone of Pittsburg where shallow geology consists of geologically young unconsolidated sediments and groundwater is relatively shallow. Portions off the potential electric tie-line routes are located within the High Liquefaction Potential hazard area identified in the General Plan. The Site is located outside of the High Liquefaction Potential hazard area identified in the General Plan. The High Liquefaction Potential hazard area identified in the General Plan is based on a regional study performed by the Bay Area Association of Governments published in 1980. A more recent preliminary regional study by the U.S. Geological Survey has identified the potential for liquefaction in the Project area to be high to very high (Knudsen, et al., 2000). This regional study is not based on site-specific information. California Building Code Section 1803.2 would require that a geotechnical investigation be prepared and provided to the City Engineering Division for the proposed Project that would be required to address the potential for liquefaction and identify measures to limit potential liquefaction impacts on Project structures. The California Building Code would require that recommendations of the geotechnical report be incorporated into the final Project design to limit potential liquefaction impacts. The California Building Code is written and administered to preserve and protect publi</li></ul>				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
The Project does not propose any structure for human occupancy. Therefore, there would not be a significant risk to people in the event of seismically induced liquefaction. Considering that the proposed facilities would typically be unattended and include no occupied structures, and considering that Project structures would be designed in accordance with recommendations of a geotechnical investigation to limit impacts of liquefaction, the risk of liquefaction to expose people or structures to substantial adverse effects does not pose a significant risk to human health or the environment. Therefore, the risk of liquefaction exposing people or structures to potential substantial adverse effects is less than significant.				
iv) Landslides?				$\checkmark$
<b>No Impact:</b> The Project area is nearly flat- Project area that could result in a landslide	lying. There a hazard.	re no substanti	al slopes in th	ne
b) Result in substantial soil erosion or the loss of topsoil?			$\checkmark$	
Less Than Significant Impact: The Project Site and most of the tie-line potential alignments have been previously graded and covered with fill. In addition, the Project area is nearly flat- lying limiting the potential for soil erosion. Construction would occur under the State General Permit with a SWPPP implementing BMPs for erosion control. The General Permit would require that a construction SWPPP be prepared by a Qualified SWPPP Developer and implemented by a Qualified SWPPP Practitioner (QSP). Standard BMPs from the California Stormwater Quality Association (CASQA, 2015) or their equivalents would be required such as scheduling to minimize the term of disturbances (Standard BMP EC-1), Preservation of Existing Vegetation (Standard BMP EC-2), stabilization of disturbed surfaces (Standard BMPs EC-3 through -7), and use of silt fences (Standard BMP SE-1). The SWPPP would be required to address erosion control until it is demonstrated to the Regional Water Quality Control Board that disturbed surfaces are stabilized and a Notice of Termination is accepted. With construction occurring in compliance with the State General Permit, the proposed Project would not result in substantial soil erosion. Considering that the Site is disturbed and covered with fill and that erosion would be controlled in accordance with requirements of the State General Permit, the proposed Project would not result in substantial soil erosion.				
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?			V	
<b>Less than Significant Impact:</b> The potential for liquefaction is addressed in Response (a)(iii), above. The proposed Project would not affect or be affected by any other aspect of geologic unit instability including the potential for landslides, lateral spreading, subsidence or collapse. The Project area is relatively flat and proposed grading would not result in any substantial slopes (refer to Conceptual Grading Plan in Sheet C-1 of Attachment 2).				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Therefore, the Project does not have the potential to result in landslides. Lateral spreading is a phenomenon that can occur from seismic shaking or other lateral loading when the ground surface is not laterally supported on one or more sides, for example, on ridge tops or near edges of terraces or cliff faces. The Project area does not have slopes or other laterally unsupported conditions susceptible to lateral spreading. Soil collapse occurs when loosely compacted soils are disturbed by seismic shaking, rewetting, or other activities. California Building Code Section 1803.2 would require that a geotechnical investigation be prepared and provided to the City Engineering Division for the proposed Project that would be required to address potential geologic hazards, including potential for soil collapse, and identify measures such as appropriate foundation design, structural systems and ground stabilization measures to limit potential for impacts on Project structures. The California Building Code would require that recommendations of the geotechnical report be incorporated into the final Project design to limit potential liquefaction impacts. Implementation of recommendations from the geotechnical report for potential soil collapse, if needed, are required to be implemented into the Project final design. Subsidence can occur when pore pressures are reduced in unconsolidated geologic materials below a valley floor due to substantial fluid withdrawal. The Project does not involve substantial extraction of fluids from unconsolidated geologic deposits. Therefore, the Project does not have potential to create subsidence. Considering these factors, and excepting the potential for liquefaction as described in Response (a)(iii), above, the Project would not be located on an unstable geologic unit or cause a unit to become unstable. Therefore, the unpact would be lose than significant				
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			Ø	
Less than Significant Impact: Soils in the Project area include Capay Clay (CaA), Clear Lake Clay (Cc) Omni silty Clay (Ob), Sycamore silty clay loam (So), and Joice muck (Ja)(U.S. Department of Agriculture, 2017). Based on average characteristics published by U.S. Department of Agriculture, some of these soils including Omni silty clay and Clear Lake clay may have expansive properties. California Building Code Section 1803.2 would require that a geotechnical investigation be prepared and provided to the City Engineering Division for the proposed Project that would be required to address potential geologic hazards, including potential expansive soil characteristics, and identify measures to limit potential for impacts on Project structures. The California Building Code would require that recommendations of the geotechnical report be incorporated into the final Project design. Implementation of recommendations from the geotechnical report in accordance with the California Building Code would effectively limit impacts of expansive soils to a level that would not pose a substantial hazard. Therefore, considering California Building Code requirements, the potential for adverse impacts from expansive soils in level that potential, the				
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?				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
No Impact: The Project does not propose	use of a sept	ic tank or other	wastewater d	isposal.
VII. GREENHOUSE GAS EMISSIONS Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			V	
Less than Significant Impact: The proposed project would not generate GhG emissions, with the primary exception being CO2 that would be generated from vehicle and equipment emissions for construction and maintenance activities. Once constructed, the Project would provide a new and reliable means of capturing and managing energy from renewable energy projects such as solar generation and wind generation projects increasing the effectiveness of renewable energy technologies, thereby reducing the dependency on fossil fuel-produced electric energy, providing a long-term GhG benefit. Considering that construction emissions would be short-term and that the proposed Project would operate as an unoccupied facility with only occasional maintenance vehicle trips, GhG emissions would be less than significant both individually and cumulatively.				cions, oment would energy veness oduced issions acility gnificant
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?				
Less than Significant Impact: The proposed project would not conflict with any applicable plan, policy, or regulation adopted to reduce GHG emissions. Once constructed, the Project would operate without GhG emissions with the exception of minor emissions from occasional maintenance vehicle trips. The Project could be used to store energy from renewable energy projects such as solar generation and wind generation projects, reducing the dependency on fossil fuel-produced electric energy and supporting the achievement of local, state and federal renewable energy goals directed at GhG reduction. The availability of the Project for this use may provide a long-term GbG benefit				
VIII. HAZARDS AND HAZARDOUS MATERIALS Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			V	
Less than Significant Impact: Construction would require the short-term transport, use and/or disposal of hazardous materials such as fuels, lubricants, adhesives, solvents and paints. Storage and use of hazardous materials onsite during construction could create a significant hazard to construction workers, the public or the environment if such materials are not properly contained. Construction would be required to occur under a comprehensive hazard communication program in accordance with 29 CFR 1910 to ensure that construction workers are knowledgeable in the identification and proper handling of hazardous materials to				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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prevent unsafe exposure and to avoid spills. Stormwater BMPs would be required under the State General Permit to prevent contact of hazardous materials with stormwater. Furthermore, the Site would not be open to the public. With these measures, the routine use of hazardous materials for construction would not create a significant hazard to the public or the environment.

Deliveries of bulk fuels, lubricants, batteries, and other hazardous materials to the Site would be subject to Department of Transportation (DOT) regulations at 49 CFR 172 and 173 for hazardous materials transport. These regulations include requirements for hazardous material transport licensing, packaging and containment standards, labeling, and other protection measures to prevent hazardous materials incidents during transport and to facilitate response in the event of a hazardous material accident. Hazardous wastes produced would be minimal and would be required to be transported away from the Site in accordance with these same DOT regulations as well as being managed at all times under requirements of California Code of Regulations Title 22 Division 4.5 for worker training, and storage, shipping and disposal of hazardous waste. With these existing regulations in place, and considering the short term of construction activities, the transport, production, and disposal of hazardous materials associated with facility construction would not create a significant hazard to the public or the environment.

Operation of the proposed Project would not typically involve handling of hazardous materials. At the end of battery life, battery modules would be removed from the battery racks and returned to the manufacturer or their approved and permitted recycling partner(s) for dismantling, material processing and recovery. Oil that would be present in oil-filled transformers is not routinely handled. The transformers are operated normally closed and sealed. On infrequent occasions, oil in oil-filled transformers may require filtering or replacement if it becomes contaminated. If transformer oil needs to be replaced, the used oil would be recycled at a licensed offsite recycler. Management and transport of replacement and transport of replacement and transportation regulations and requirements as described for construction above for safe handling, transport and recycling. With these existing regulations in place, the transport, production, and disposal of hazardous materials associated with facility operations would not create a significant hazard to the public or the environment.

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?



Less than Significant Impact: Construction would require the short-term use and transport of hazardous materials as described in Response (a), above. Construction would be required to occur under a comprehensive hazard communication program in accordance with 29 CFR 1910 to ensure that construction workers are knowledgeable in the identification and proper handling of hazardous materials to avoid spills or other upset conditions that could otherwise result in unsafe exposure. The general public would be excluded from the

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

construction Site. Transport of bulk fuels, lubricants, batteries, and other hazardous materials to the Site would be subject to Department of Transportation (DOT) regulations at 49 CFR 172 and 173 including requirements for hazardous material transport licensing, packaging and containment standards, labeling, and other protection measures to prevent hazardous materials incidents during transport and to facilitate response in the event of a hazardous material accident. Considering these factors, construction would not create a significant hazard to the public or the environment due to reasonably foreseeable upset or accident conditions.

Operation of the proposed Project would be subject to 19 CCR Division 2, Chapter 4 requirements to submit and maintain a Hazardous Materials Business Plan and would be subject to periodic inspections by the Certified Unified Program Agency (Contra Costa County Fire Prevention District) for safe operations related to hazardous materials. These regulations require reporting of hazardous materials present in quantities exceeding threshold quantities, worker training, emergency planning preparations to minimize potential hazards of a hazardous material upset, and immediate reporting to 911 and the California Office of Emergency Services of any release or threatened release of hazardous materials that presents a significant present or potential hazard to human health and safety, property or the environment. Oil-filled electrical equipment would be subject to 40 CFR 112 regulations that include comprehensive requirements for preventing releases of oil and for oil spill response preparedness. These regulations include safety measures such as secondary containment for oil-filled equipment, requirements for routine inspections and proper equipment maintenance, personnel training to prevent discharges, site security, oil transfer safety precautions, and oil spill response planning. Batteries would contain integrated safety systems to actively monitor electrical current, voltage and temperature to optimize performance, mitigate potential failures, and prevent upset. Batteries performing out of specification would be immediately taken off line by the automated monitoring system. The facility would be designed and constructed to comply with applicable building, electrical and fire codes. Battery buildings would be outfitted with fire suppression equipment to meet or exceed fire safety codes and standards. As described in the Applicant's Project Description (See Section 3.2 in Appendix A), Fire protection would include prevention, suppression, and isolation methods and materials including: smoke/fire detection sensors; ground fault detection, alarms, and systems for automatic shutdown of cooling fans and opening of electrical contacts in the battery system; and systems for automatic activation of fire suppression systems. Operation of the facility would be remotely monitored on a continuous In addition, the facility would be routinely visited to perform visual inspections. basis. Security would be provided including perimeter fencing and remote video monitoring with pan, tilt and zoom capabilities. These design measures are included to minimize the potential for upset and to immediately respond in the event of an unforeseen upset. Considering these safety systems incorporated into the Project design, and existing regulatory requirements and standards applicable to the Project that are designed to minimize hazardous material upset risks to human health and the environment, the risk of a reasonably foreseeable upset or accident scenario creating a hazard to the public or the environment during operations is less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			V	
Less than Significant Impact: There are one-quarter mile of the Site. The closest s approximately 0.4 mile south of the Site. T Peter Martyr School but there would be no short-term emissions from construction and	no existing or school is the P he East Aligni emissions froi d maintenance	proposed scho arkside Elemer ment passes wi m the project ot that would be	ools located w htary School le thin 0.1 mile o her than de n less than sign	ithin ocated of St ninimis nificant.
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?			V	
<b>Less than Significant Impact:</b> The 35-acre parcel on which the Site occurs is included in both the Regional Water Quality Control Board's ( <i>RWQCB's</i> ) GeoTracker online database (Case No. 70601300095) and the Department of Toxic Substances Control (DTSC) Envirostor online database (Case no. 07260001), which both stem from Government Code Section 65962.5. The GeoTracker shows the RWQCB case being closed in October 1997. The Environstor case is open. The parcel is listed due to a past release of trichloroethylene (TCE) solvent, a volatile organic compound, in a portion of the parcel located south of the Site. Approximately 40 tons of impacted soil was excavated and removed from the parcel in 2002 under the direction of DTSC. Confirmation soil samples collected after soil removal indicate that soil was removed to the DTSC-approved site-specific removal action goal of 1.7 milligrams per kilogram. Groundwater beneath the Site has been impacted by TCE and its breakdown products as a result of the past release of TCE. Groundwater under portions of the property, including portions of the Site (DOC-2007-0217233-00). Ongoing groundwater remedial action includes continued monitoring well network. The possible volatilization and upward movement of volatile organic compounds from groundwater into existing or future buildings is identified in the Covenant as a potential human exposure pathway but for a commercial land use scenario has been determined to have an estimated total excess lifetime cancer risk of less than DTSC's significance threshold of 1 x 10 <sup>-6</sup> . At the time the Covenant was prepared in 2007 the TCE concentration in groundwater mas determined to be up to 2.8 milligrams per liter (mg/L). The most recent groundwater monitoring from approximately 9 to 19 feet below the ground surface. The Covenant prohibits use of the proportion of the Site and a depth to groundwater beneath the Site ranging from approximately 9 to 19 feet below the ground surface. The Covenant prohibits use of the				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
food crops; drilling for drinking water withou groundwater for purposes other than site re proposed use of the Site is consistent with hazard to the public or the environment. Go construction excavations. Existing monitor access would be provided for continued me arrangements are approved in writing by D Covenant. Considering these factors, the in	groundwater for purposes other than site remediation or construction dewatering. The proposed use of the Site is consistent with the Covenant and would not create a significant hazard to the public or the environment. Groundwater is not expected to be encountered by construction excavations. Existing monitoring wells onsite would be preserved in place and access would be provided for continued monitoring unless removal of the wells or other arrangements are approved in writing by DTSC in accordance with requirements of the Covenant. Considering these factors, the impact would be less than significant.			
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?				V
<b>No Impact:</b> The Project area is not within an airport land use plan or within two miles of a public or public use airport. The closest airport is in Concord more than seven miles to the southwest.				
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?				
<b>No Impact:</b> There is no private airstrip in t is in Concord more than seven miles to the	the vicinity of t	he Project area	. The closes	t airport
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			Ŋ	
Less than Significant Impact: The proposed Project would not alter any existing public or private through-way. A short term lane closure may be needed to install a water line across Willow Pass Road. If the water line installation is needed, work in the ROW would be under an Encroachment Permit requiring traffic control plan for any lane closures. Because road closure is not anticipated and traffic controls would be implemented, the short potential lane closure would not impair emergency response or otherwise affect any adopted emergency response plan or emergency evacuation plan.				
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?				
<b>No Impact:</b> The proposed Project area is lands are identified by Cal Fire (2017) as a	within urbaniz non-Very Hig	ed lands in the h Fire Hazard S	City, and nea Severity Zone	rby (non-

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VHHSZ). Pursuant to California Fire Code Section 304.1.2, the Applicant would be required to maintain the Site free of vegetation capable of being ignited or endangering property. In addition, the facility would be designed for fire prevention and provided with a fire water supply as described in the Applicant's Project Description (see Section 3.2 in Appendix A). Considering these factors, the risk of wildland fire from the Project would be less than significant.				quired ty. In 'er lix A).
IX. HYDROLOGY AND WATER QUALITY Would the project:				
a) Violate any water quality standards or waste discharge requirements?				V

**No Impact:** Construction would occur under the State General Permit with a SWPPP implementing BMPs for protection of water quality. The State General Permit would require that a construction SWPPP be prepared by a Qualified SWPPP Developer and implemented by a Qualified SWPPP Practitioner (QSP). Standard BMPs from the California Stormwater Quality Association (CASQA, 2015) or their equivalents would be required for sediment and other potential pollutants. Under the State General Permit, the SWPPP would need to address water quality BMPs and the permit would require that those BMPs be implemented until it is demonstrated to the Regional Water Quality Control Board that disturbed surfaces are stabilized and a Notice of Termination is accepted. The General Permit requires construction discharges to not violate water quality standards. With adherence to the State General permit and BMPs, no violation of any water quality standard or waste discharge requirement would be expected.

Discharges from the Project during operations would be required to comply with NPDES Permit CAS612008 (RWQCB, 2015). In conjunction with consideration of the Conditional Use Permit and Design Review, the City would require that the Project include all measures needed to comply with NPDES Permit CAS612008. This permit would require that there is no discharge from the Project other than stormwater and exempted non-stormwater discharges such as air conditioning condensate that do not contain pollutants. Consistent with Low Impact Development standards, the Project design (refer to the Preliminary Design Drawings in Attachment 2) minimizes impermeable surfaces by gravel surfacing of roads and other areas not covered by buildings or equipment foundations. The design incorporates a system of onsite bioretention swales to provide water quality treatment to meet the City's municipal stormwater discharge requirements under NPDES Permit CAS612008. Project facilities would be unattended except for periodic inspections or maintenance and would be secured to preclude public access so there typically would be no generation of trash or debris that could impact stormwater runoff. Other project design features to minimize impacts on water quality consistent with NPDES Permit CAA612008 requirements include:

- No outdoor storage or work areas are proposed;
- No outdoor trash collection areas are proposed;
- No floor drains or interior or exterior wash-down areas are proposed;

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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- No repair/maintenance bays or fueling areas are proposed;
- Landscaping irrigation would be designed for efficiency and to promote infiltration and minimize runoff;
- Landscaping maintenance would minimize use of pesticides and fertilizers;
- Site storm drain inlets would be stenciled;
- Avoidance of disturbance to natural water bodies and drainage systems; and
- Ongoing maintenance of water quality controls and periodic inspections to ensure proper performance.

The City has an inspection and enforcement program to ensure compliance with requirements of NPDES Permit CAA612008 and would require the Applicant to allow inspections by trained City staff.

Considering existing requirements of the State General Permit for construction and NPDES Permit CAA612008, BMP's and other measures incorporated in the Project design, and inspection and enforcement measures available to the City, it is not expected that the Project would violate any water quality standards or waste discharge requirements. Therefore, there is no foreseeable impact.

<ul> <li>b) Substantially deplete groundwater supplies or interfere substantially with</li> </ul>		V	
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)?			

Less than Significant Impact: Operation of the Project would not typically use water. The Site would be unoccupied. Project construction would require water for dust control and compaction. Water would be supplied from the City water supply. This use would be short-term and would not represent a significant water demand that could substantially deplete groundwater supplies. The Project is designed consistent with Low Impact Development standard such as minimizing impermeable surfaces, and use of gravel surfacing and landscaping where possible instead of hardscape surfaces. Impermeable surfaces are broken into individual areas that would drain through gravel that would help maximize infiltration and to disburse flows, and through bioretention swales that would further slow runoff and facilitate infiltration. No material impact on recharge would be expected.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				
<b>Less than Significant Impact:</b> The Project is designed consistent with Low Impact Development standard such as minimizing impermeable surfaces, and use of gravel surfacing and landscaping where possible instead of hardscape surfaces. Impermeable surfaces are broken into individual areas that would drain through gravel that would help maximize infiltration and to disburse flows, and through bioretention swales that would further slow runoff and facilitate infiltration.				surfacing es are low
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 that would result in flooding on- or off-site?			V	
Less than Significant Impact: The Project is designed consistent with Low Impact Development standard such as minimizing impermeable surfaces, and use of gravel surfacing and landscaping where possible instead of hardscape surfaces. Impermeable surfaces are broken into individual areas that would drain through gravel that would help maximize infiltration and to disburse flows, and through bioretention swales that would further slow runoff and facilitate infiltration. The project drainage is designed to drain to bioretention swales overflowing to the existing City stormwater network that currently receive runoff from the Site area. The Site would drain toward the northeast through an existing culvert under				surfacing es are low on ff from under
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?			V	
<b>Less than Significant Impact:</b> The project drainage is designed to maximize infiltration and slow runoff and to drain to the same City stormwater system as current conditions. The Project would be subject to NPDES General Permit conditions including implementation of a SWPPP and BMPs for water quality during construction. The General Permit conditions and limitations are designed to be protective to water quality. Following the General Permit requirements, Project construction would not provide a substantial additional source of polluted runoff. Operations would not result in any substantial sources of polluted runoff due to the enclosure of equipment and facilities. Considering the enclosed nature of Project factors, and the bioretention swales and other Project design features in accordance with the Stormwater C.3 Compliance Guidebook, operations would not result in a substantial additional source of polluted runoff. Based on these factors, the				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
impact would be less than significant.				
f) Otherwise substantially degrade water quality?			$\mathbf{N}$	
Less than Significant Impact: The potential to degrade water quality is addressed in Responses 9a, above. As described in that response, the proposed Project would be required to comply with the State General Permit for construction and NPDES Permit CAA612008 during operations, including implementation of BMPs and other design measures to prevent violation of any water quality standard. With BMPs and Project design measures to prevent violation of water quality standards, impacts to water quality would be less than significant.				n easures asures than
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?				V
<b>No Impact:</b> The proposed Project does not involve placement of housing. Therefore, no impact would occur.				
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				
Less Than Significant Impact: The 100 year flood zone marginally infringes on the west, north and east edges of the Site (FEMA, 2015). Structures on the Site would be outside of the 100 year flood zone boundaries. Structures for portions of the electric tie-line would be located within the 100-year flood zone (Zone AE). FEMA has mapped the base flood elevation as 11 feet above mean sea level as measured using the standard North American Vertical Datum of 1988 (NAVD 88). Considering the relatively flat terrain where the electric tie-line would be located, anticipated low flood velocities would be very low. The negligible cross-sectional area of the electric tie-line structures would not measurably impede, redirect,				west, ide of Id be nerican ectric ligible edirect,
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?				
<b>No Impact:</b> Flooding is not a significant hazard for construction because the Site is almost exclusively outside of the mapped 100-year flood plain and because the short duration of construction results in a very low probability of flooding during construction (e.g., a one year construction schedule would have only a one percent chance of experiencing a 100-year flood). Furthermore, while the tie-line would traverse the 100-year flood plain, the relatively flat surrounding terrain would have low flood flow velocities that would provide warning of impending conditions in the unlikely event flooding were to occur during the construction period. Normal flooding also is not a significant hazard for Project operations because Site structures would be located outside the 100-year flood zone and because the proposed				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
facilities are not occupied. Considering the normal flooding would be less than signific	ese factors, the	e risk to people	or structures	from
The Project would not be reliant on any lev Therefore, the risk of flooding due to failure	vee for protecti e of a levee is	ion from the 100 less than signifi	)-year flood. icant.	
There are no large dams in the immediate vicinity. The Pittsburg General Plan does not include a map of dam inundation hazard areas. The Bay Area Association of Governments published dam inundation hazard map does not show the Project area to be within any dam inundation hazard zone (Bay Area Association of Governments, 2017). Considering this, structures at the Site would not be within the dam inundation hazard zone. Furthermore, the Project does not propose any structure for human occupancy. Considering these factors, the risk to people or structures from dam failure would be less than significant.				not ments ny dam his, pre, the tors, the
j) Inundation by seiche, tsunami, or mudflow?			$\checkmark$	
<b>No Impact:</b> The majority of the Project Site including the areas where structures would be built ranges in elevation from approximately 14 to 20 feet above mean sea level (amsl). The Site is located approximately 0.7 mile south of the shoreline of the Sacramento/San Joaquin River delta. It is too high and far from the delta shoreline to be affected by seiche or tsunami. The electric tie-line would extend within approximately 0.25 mile from the shoreline and to near sea-level elevations. The delta water is relatively shallow making it incapable of generating a large seiche. Any foreseeable seiche would be low energy due to the relatively flat terrain and would be unlikely to approach the 100-year annual flood height that the structures would be designed for. Tsunami also is not a material risk. Modeling performed further to the west closer to San Francisco Bay shows that tsunami inundation at this distance from the ocean is not significant (CEMA et al., 2009; ABAG, 2017). For these reasons, seiche or tsunami are not a significant risk for the Project. The Project area is relatively flat and not in any concentrated drainage path from steep sloped areas where mudflows could originate. Therefore, the area not susceptible to mudflows. Based on mapping published by the Association of Bay Area Governments, the Project area is not within any mapped historic landslide, debris flow or earth flow (ABAG, 2017). Considering these factors, the proposed Deviate and structure of the set form the set or the set flow or earth flow (ABAG, 2017). Considering these factors, the proposed Deviated and the structure of the set or set or the set of the set or set				
X. LAND USE AND PLANNING - Would the project:				
a) Physically divide an established community?				$\checkmark$
<b>No Impact:</b> The Project Site occurs on a portion of an existing privately owned parcel that does not provide any throughway or other public access way. The proposed Project would not result in any physical barrier or feature that could divide an established community.				
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				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				

**Less than Significant Impact:** The Project area and adjacent lands are in the City of Pittsburg jurisdiction. Existing uses surrounding the proposed Project include industrial and commercial developments to the north and south, a high voltage electric transmission line corridor to the west, and residential development to the east.

The City of Pittsburg General Plan designates the Project Site as Business Commercial and the Site is zoned Industrial Park Limited Overlay (IP-O). The propose use fits under the zoning code use classification of "major utility" which is defined, in part, to include power generation plants, substations, or similar facilities. The proposed use would require a zoning text amendment to amend the IP-O (Industrial Park with a Limited Overlay, Ord. No. 07-1284) District, or the "Empire Business Park Overlay District" such that a "major utility" would be a permitted with a use permit. In addition to the zoning text amendment, the Applicant is applying for a conditional use permit, design review and development agreement. A minor subdivision (lot line adjustment or parcel map waiver), or filing of a final map following the current Tentative Parcel Map in Attachment 1, may also be pursued that would subdivide the 35 acre parcel.

The zoning text amendment would be consistent with the zoning code provided that the following findings can be made:

- It is necessary because there are special or unique characteristics of the site or improvements that require land use and development regulations that cannot be adequately accommodated or controlled by the base zoning district;
- It conforms to the general plan; and
- It generally complies with the land use and development regulations of the base zoning district.

The zoning text amendment is necessary because the proposed use does not fall within any of the uses contemplated in the zoning code, since the proposed utility scale application of this technology has only recently become feasible due to substantial developments in battery technology, progress in the availability of renewable energy to power the electric grid, and state mandates for energy storage. The proposed project and others like it are designed, in part, to support achievement of State and federal renewable energy goals by providing a means to store excess energy generated at times of the day when wind and solar energy are generated at peak levels. The proposed use would:

- Provide a new economic and reliable means of capturing and managing renewable energy;
- Provide economic benefit to the City, the County, the region, and the State through construction jobs, property and sales taxes and increased energy efficiency and reliability;
- Help stabilize the electric grid and increase the effectiveness of both conventional and

Incorporated		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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renewable energy projects;

- Support the achievement of local, State and federal renewable energy goals; and
- Support the achievement of State goals for energy storage.

The zoning text amendment would conform to the General Plan. The zoning text amendment would allow for the Project to be permitted consistent with design standards, and if approved the Project would be infill development within the City limits consistent with the General Plan guiding principles. The General Plan establishes that the Business Commercial designation is intended "to provide sites for administrative, financial, business, professional, medical, research and development, and public offices, as well as custom manufacturing, limited assembly, light manufacturing, warehousing and distribution, and support commercial uses." The Project would be consistent with a warehouse type use.

The purpose of the IP base zoning district is to provide sites in landscaped settings for service-oriented commercial and light industrial uses with limited customer presence and turnover, including industrial office centers, research and development facilities, limited industrial activities (including production and assembly but no raw materials processing or bulk handling), limited and warehouse type retail and commercial activities, and small scale warehouse distribution (Zoning Code Section 18.54.005). The proposed Project would be consistent with this purpose. The zoning text amendment would apply to the "Empire Business Park Overlay District" (Ord. No. 07-1284) and would require a use permit. Site Plan review that would be required for the Project would ensure that the project is compliant with the base zoning of Ord. No. 07-1284.

The West Alignment of the tie-line would be located on lands designated as Business Commercial and Industrial, and also would follow an existing high voltage transmission corridor through an area designated as Open Space. A short segment where the tie-line would cross an abandoned rail spur is designated Utility/ROW. The West Alignment is zoned Industrial Park Limited Overlay (IP-O), and Open Space, and General Industrial (IG). A short segment crossing the abandoned rail spur is zoned Governmental and Quasipublic (GQ).

The Middle Alignment of the tie-line would be located on lands designated as Industrial. A short segment where the tie-line would cross an abandoned rail spur is designated Utility/ROW. The Middle Alignment is zoned General Industrial (IG), except a short segment crossing the abandoned rail spur is zoned Governmental and Quasipublic (GQ).

The East Alignment of the tie-line would be located on lands designated as Industrial and Service Commercial Limited Overlay (CS-O), except a short segment crossing the abandoned rail spur is zoned Governmental and Quasipublic (GQ).

The electric tie-line fits under the zoning code use of "minor utility" which is defined, in part, to include utilities necessary to support legally established uses and involves only minor facilities or structures such as aboveground distribution or transmission lines. Minor utility use is an allowable use for each of the zoning designations that would be traversed by any of the three potential alignments (Zoning Code section 18.54.010). Therefore, the proposed electric tie-line would be consistent with existing land use zoning.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	
Pursuant to Pittsburg Municipal Code (PMC) Section 18.74.040, the development regulations applicable to the existing IP-O zoning district encompassing the Site would be adjusted to accommodate the Project as set forth in the Project Description, which shall be deemed to constitute an "overlay plan" as contemplated by PMC Section 18.74.030 and 18.74.050. The Project encompassed by this Initial Study includes the overlay zone text amendment specifying major utility as an allowable use on the Project Site as described above, with Design Review, in the Empire Business Park Overlay District. Setback, lot coverage, landscaping and other requirements specified for this district would remain unchanged, and would accommodate the Project layout as designed.					
With adoption of the proposed overlay zone text amendment, the Project would be consistent with the City zoning code. The Project site also is governed by a restrictive land use covenant (LUC) between UPI and DTSC. The proposed Project would be consistent with the LUC as previously described in Response 8.d of this Initial Study.					
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				V	
<b>No Impact</b> : The Applicant proposes to comply with the East Contra Costa County HCP/NCCP requirements for areas of the Project in the HCP/NCCP area. Planning level surveys have been conducted and the Applicant has submitted an application to the City for coverage under the HCP/NCCP. No other HCP or NCCP is applicable to the Project area. Because the Applicant proposes to comply with the HCP/NCCP requirements, there would be no conflict.					
XI. MINERAL RESOURCES Would the project:					
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				Ø	
<b>No Impact:</b> The proposed Project would be located in an area classified by the California Department of Conservation as Mineral Resource Zone (MRZ)-1. This designation means that the State has determined adequate information exists to indicate "that no significant mineral deposits are present" or to judge that "little likelihood exists for their presence" (California Department of Conservation, 1996). Therefore, the proposed Project would not result in the loss of availability of a known mineral resource that would be of value to the region or the residents of the State.					
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?				V	
<b>No Impact:</b> No locally-important mineral resource is known to occur in the Project area or delineated to occur in the City's General Plan. Therefore, no impact would occur.					

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. NOISE - Would the project result in:				
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?				

**Less Than Significant Impact With Mitigation Incorporated:** According to the City of Pittsburg General Plan Noise Element, substantial existing noise sources in the Project area include trains and street traffic. The General Plan identifies Willow Pass Road as a substantial noise source in the area, with buildout traffic projected to result in noise at up to 79 dB 100 feet from the road, which includes the north edge of the Project Site.

The City's Noise Ordinance (Section 9.44.010) does not establish numerical noise level limits related to fixed noise sources or construction noise but makes it unlawful for any person to make, continue or cause to be made, or continue any noise which either unreasonably annoys, disturbs, injures or endangers the comfort, repose, health, peace or safety of others, within the limits of the City. The City's Building and Construction Ordinance (Section 15.88.060.A.5) prohibits grading noise, including warming up equipment motors, within 1,000 feet of a residence between the hours of 5:30 p.m and 7 am weekdays, unless otherwise approved by the City Engineer. Relevant General Plan Goals limiting noise for land use compatibility include:

- Policy 12-P-1 establishes that the maximum exterior noise level considered to be "normally acceptable" for the business commercial land use category is 70 dB.
- Policy 12-P-9 establishes that generation of loud noises on construction sites adjacent to existing development should be limited to normal business hours between 8 am and 5 pm.

Construction would generate noise on the Site consistent with typical construction activities. Heavy equipment and other mechanized equipment and vehicles would be used. Internal combustion engines, mechanized equipment, grading, material handling and other activities would generate noise. The noise levels from construction activities would vary during the different construction tasks, depending upon the activity locations and number and types of activities. Mitigation measure NOISE-1 would ensure that noise generated by construction onsite is controlled consistent with General Plan Policy 12-P-9. In addition, loud construction activities would be further limited to hours dictated by City ordinances including, but not limited to, Section 15.88.060A.5. With the noise ordinance in place, implementation of NOISE-1 would limit construction noise impacts to a less than significant level.

Operation of the Project would not generate loud noise. Low noise levels would be emitted, primarily from outdoor electrical equipment and roof-mounted heating, ventilation and air conditioning motors and fans. The only sensitive noise receptors in the immediate site vicinity are residences located to the east. The facility design includes a building at the east end of the Site to effectively shield those residences from noise generated by electrical equipment. Noise modeling was conducted for Project operations using an assumption of all equipment in operation at the same time. Modeling is outlined in Appendix D and results show that the nighttime noise at the closest residences would be approximately 2.5 dBA
	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	
above the average nighttime noise hour. Less than 3.0 dBA is not generally discernable so the 2.5 dBA increase would not be significant. Given the low levels of noise emitted and the location of noise generating equipment onsite, the Project would meet the noise level standard of General Plan Policy 12-P-1 at the property lines. Considering these factors, noise impacts from operations at the site would be less than significant.					
In addition to the stationary noise sources on-site, the tie-line would have the potential to emit corona noise from the breakdown of air into charged particles in the electric field surrounding the surface of conductor wires. Corona noise levels vary widely based on humidity and other factors. Possible corona noise levels were modeled for the closest residences for each of the possible tie-line routes and results show corona noise levels at the closest residences are less than 25 dBA equivalent continuous level. This sound level is far below baseline noise					
levels and, therefore, would not be discern residences would be less than significant.	able. Therefo	re, the corona r	noise at neare	est	
Mitigation Measure NOISE-1: Loud construction work adjacent to develo between 8:00 am and 5:00 pm.	pment shall be	e limited to norn	nal business l	nours	
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			Ø		
<b>Less Than Significant Impact:</b> Grading may generate localized low-level groundborne vibration and noise but would not generate excessive groundborne vibration or noise due to separation from sensitive receptors. Groundborne vibration and noise is attenuated rapidly with distance and the nearest sensitive receptors are residences to the east located approximately 100 feet or more from substantial grading activities. Considering this distance,					
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			V		
Less than Significant Impact: Construction noise impacts would be short term and, therefore, would not result in a permanent increase of ambient noise. Operation of the Project would not generate loud noise. Low noise levels would be emitted, primarily from outdoor electrical equipment and roof-mounted heating, ventilation and air conditioning motors and fans. Given the low levels of noise emitted and the location of noise generating equipment onsite, the Project design is expected to meet the noise level standard of General Plan Policy 12-P-1 at the property lines. The only sensitive noise receptors in the immediate site vicinity are residences located to the east. The facility design includes a building at the east end of the Site to effectively shield those residences from noise generated by electrical equipment. Considering these factors, long-term noise impacts would be less than significant.					
d) A substantial temporary or periodic increase in ambient noise levels in the			$\checkmark$		

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
project vicinity above levels existing without the project?		-		
Less Than Significant Impact With Mitigation Incorporated: Construction would result in a temporary increase in ambient noise levels as described in Response (a) above. In addition, operations would result in low noise levels expected to be at or below the 70 dB General Plan Policy consistent with limits for the business commercial land use designation as described in Response (a) above. Mitigation measure NOISE-1 would ensure that noise generated by construction is controlled consistent with General Plan Policy 12-P-9. In addition, facility construction and operations would be required to comply with City noise protection ordinances. Because noise levels would be consistent with City standards, the impact would be less than significant.				
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?				
<b>No Impact:</b> The Project area is not within an airport land use plan or within two miles of a public or public use airport. The closest airport is in Concord more than seven miles to the southwest.				
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?				Ø
<b>No Impact:</b> There is no private airstrip in t is in Concord more than seven miles to the	he vicinity of t southwest.	he Project area	. The closes	t airport
XIII. POPULATION AND HOUSING Would the project:				
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)?				V
<b>No Impact:</b> The proposed Project would not generate population growth, either directly or indirectly. It does not propose any housing or commercial development, nor extension of roads or expansion of infrastructure. Construction jobs would be short term and, therefore, would be expected to be filled by the existing regional workforce without inducing long-term growth. During operations, Project facilities would be unoccupied but visited periodically through the year for equipment inspections, monitoring and testing, and maintenance as needed. It is expected that operations positions would be filled with the existing workforce without relocation. Because the proposed Project would not generate new long-term full-time				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
jobs or commercial businesses, construct i not expected to generate population growt	new housing, o h.	or extend existii	ng infrastructu	ure, it is
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				
<b>No Impact:</b> Existing housing would not be proposed Project. The Site is on land that no impacts would occur.	displaced by is currently va	the constructior acant and undex	n or operation /eloped. The	of the refore,
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				$\checkmark$
<b>No Impact:</b> No people would be displaced Project. The Site is on land that is currentl would occur.	by the construing vacant and u	uction or operat undeveloped. T	tion of the pro Therefore, no	posed impacts
XIV. PUBLIC SERVICES				
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:				
Fire protection?				V
<b>No Impact:</b> The proposed Project would be designed and constructed to follow CCCFPD requirements for access, fire water supply, and vegetation management. The final design would be subject to CCCFPD review and approval. The presence of oil in transformers onsite would require submittal of a Hazardous Materials Business Plan on the California Environmental Reporting System with an emergency response plan with emergency coordinator contact information and mechanisms for emergency access to the unoccupied Project Site. Onsite roads would be constructed with a compacted subgrade and compacted gravel surface and would be maintained in a drivable condition for the duration of construction and operations. Access/egress gates would be constructed in compliance with specifications of Contra Costa County Fire Prevention Regulations. California Fire Code Section 304.1.2 would require the Project to be maintained free of vegetation capable of being ignited or endangering property. All electrical systems for the Projects would be required to be constructed in accordance with applicable codes. With adherence to these requirements, the				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	
Project is not expected to create a capacit No new or modified government facilities Project. Therefore, there would be no imp	y or service lev would be need act.	vel problem rela led to provide fi	ated to fire pro re protection	otection. for the	
Police protection?				$\checkmark$	
<b>No Impact:</b> The proposed Project would be located in the City of Pittsburg which provides police protection and public safety within the City limits. Construction and operation of the Project would not generate a material demand on police services. The Site would be fenced with controlled access gates that would avoid the need for routine police protection services. Security cameras and alarms would be monitored remotely. Construction and operation of the Projects are not expected to generate population growth. Project facilities would be typically unoccupied during operation. Considering these factors, the proposed Project would not result in an adverse impact on City of Pittsburg Police Department response times, service ratios, or other performance objectives, nor would it result in the need for new or modified police facilities. No new or modified government facilities are needed to provide police protection for the Project.					
Schools?				$\mathbf{V}$	
<b>No Impact:</b> As described in Response XIII(a), above, the proposed Project would not generate population growth. Therefore, no new demands on school facilities would occur, and there would be no impact on school capacities, service levels or performance objectives. The proposed Project would not require new or physically altered school facilities. Therefore, there would be no impact					
Parks?				$\mathbf{\Lambda}$	
<b>No Impact:</b> As described in Response XIII(a), above, the proposed Project would not generate population growth. Therefore, no new demands on park facilities would occur and there would be no impact on park capacities, service levels or performance objectives. The proposed Project would not require new or physically altered park facilities. Therefore, there would be no impact					
Other public facilities?				$\checkmark$	
<b>No Impact:</b> As described in Response XIII(a), above, the proposed Project would not generate population growth or extend infrastructure. It would not create a substantial new demand for services and would not require new or physically altered public facilities. Therefore, there would be no impact related to new or physically altered government facilities.					
XV. RECREATION					
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?				Ø	
<b>No Impact:</b> As described in Response XIII(a), above, the proposed Project would not generate population growth. Additionally, it would not displace, affect access to, or otherwise					

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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
physically affect any park or recreational fa occur in the use of any park or recreationa not result in or accelerate physical deterior	acility. Therefo I facility. Ther ation of any p	ore, no increase efore, the propo ark or recreation	or change w osed Project v nal facility.	ould vould
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?				V
<b>No Impact:</b> As described in Response XII. generate population growth. Additionally, physically affect any existing park or recrea recreational facility.	l(a), above, the it would not dis ational facility	e proposed Proj splace, affect ad nor does it prop	ject would not ccess to, or of pose any new	t therwise
XVI. TRANSPORTATION/TRAFFIC Would the project:				
a) Exceed the capacity of the existing circulation system, based on an applicable measure of effectiveness (as designated in a general plan policy, ordinance, etc.), taking into account all relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			V	
Less than Significant Impact: As described in Response XIII(a), above, the proposed Project would not generate population growth. Project-related trips would be generated primarily during construction. Following construction, Project facilities would be unattended and visited periodically through the year for equipment inspections, monitoring and testing, and maintenance as needed. These periodic visits during operations represent negligible trip generation.				
generation. Vehicles would access the Site from Willow Pass Road reached primarily via arterial roads from State Highway 4 including California Avenue (Minor Arterial), Railroad Avenue (Major Arterial), West 10 <sup>th</sup> Street (Major Arterial), and Bailey Road (Major Arterial). The various routes available would tend to break up Project-related traffic on the arterial roads between State Highway 4 and Willow Pass Road. Willow Pass Road is a designated Major Arterial. Near the proposed Project it is a two lane paved road with 12 foot travel lanes, paved shoulders, and left turn pockets, within a 60-foot-wide ROW. The Site frontage on Willow Pass Road has sidewalks, curbs and gutters. Willow Pass Road has bus service via Tri Delta Transit with a bus stop east of the Site frontage at Willow Pass Road and Enterprise Circle (Tri Delta Transit, 2017). Willow Pass Road has a bike lane, but it is not marked as such (Reinders, 2017).				

Construction would occur over a six to 12 month period during which the peak number of

Pote Sigr Im	entially Lu hificant Si hpact M Inc	ess Than Significant with Mitigation corporated	Less Than Significant Impact	No Impact
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construction workers is expected to be approximately 75. In addition, deliveries during construction would generate an estimated 5 round trips spread throughout the day during peak construction activities. Construction worker and delivery traffic would incrementally add to existing traffic on Willow Pass Road and other arterial roads between Willow Pass Road and State Highway 4. Willow Pass Road and other arterials that may be used generally do not have existing capacity issues and can accommodate the short term construction traffic trip generation without exceeding the capacity of the existing circulation system (Reinders, 2017). The expected peak hour traffic considering the estimated 75 construction workers for peak activities would be considerably below the 100 peak hour trip threshold at which the City typically requires a detailed traffic analysis. Additionally, Project construction workers are expected to be primarily be from the existing regional workforce currently contributing traffic to regional transportation routes including State Route 4. Considering the relatively low number of trips generated and the expected use of the existing regional workforce, the short term of construction trip generation would not result in a substantial capacity impact on State Highway 4.

If the Project is required to connect to the existing water main in Willow Pass Road, a traffic management plan would be implemented pursuant to encroachment permit requirements from the City. A short-term lane closure may be required but work in the road is limited in scope and would be completed quickly with the road remaining open with traffic control. The nearby bus stop east of the site at Willow Pass Road and Enterprise Circle would not be affected. Construction parking and staging would be off-street on private property where it would not affect access to any public transportation. The proposed Project would not have a substantial effect on mass transit or bicycle transportation since Willow Pass Road would remain open.

Considering the above analysis, the impact to the existing circulation system would be less than significant.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards standard established by the county congestion management agency for designated roads or highways?				
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?				
<b>No Impact:</b> The proposed Project would not affect any air traffic patterns or levels. There are no airports in the Project vicinity and the Project would not have an effect on any airport or on air travel				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			V	
Less than Significant Impact: The proposed Project does not include any new construction or realignment of existing road facilities. The Site is within an existing parcel and the Project would be provide a tract or interpreting. The Site would be proposed by an				

or realignment of existing road facilities. The Site is within an existing parcel and the Project would not require new or modified streets or intersections. The Site would be accessed by an existing paved driveway capable of accommodating anticipated construction trip generation. Willow Pass Road includes a left turn pocket at the driveway location and is straight with clear vision in both directions from the driveway entrance providing an adequate line-of-sight for safe entrance and exit.

Some construction deliveries to the Site could be oversized or overweight. Vehicles providing deliveries would be subject to size, weight, and load restrictions pursuant to the California Vehicle Code Division 15, including permits for oversize or overweight loads as required by the California Vehicle Code Section 35780 and California Code of Regulations Title 21 Section 1411.1 et seq. Considering existing laws and regulations for limiting hazards of oversize loads, oversize loads during the short duration of construction would not be an incompatible use.

During operations, the Site would typically be unattended. Considering the low volume of traffic that would be generated by site visits, and the location of the driveway on a straight segment of Willow Pass Road with good visibility, operations would not substantially increase hazards due to design features or incompatible uses.

Considering these factors, neither construction nor operation would substantially increase hazards due to a design feature or incompatible use.

e) Result in inadequate emergency access?			$\checkmark$	
Less than Significant Impact: The propose emergency access. It would not obstruct e and gates would be provided in accordance would remain open during construction. La through passage would be maintained with from the City. Considering these factors, th	sed Project we existing access e with CCCFF ane closure, if traffic control he impact wou	ould not result in s routes, and or 2D requirements any, would be s s under an encl 1d be less than	n inadequate Isite access ro S. Willow Pas Short-term and roachment pe significant.	oads s Road d rmit
f) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				Ø
XVII. TRIBAL CULTURAL RESOURCES Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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:				
a) 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				V
Resources Code section 5020.1(k), or <b>No Impact:</b> A cultural resource records search was conducted through the CHRIS Northwest Information Center. The record search indicated that portions of the Project area were included in cultural resource surveys in 1988, 1995, 1996 and 2001. The first three of these were for water conveyance structures and projects. The last was of the Montezuma Enhancement Site, associated with the Pittsburg and Contra Costa County Power Plants. In addition, there were 18 other surveys that may have included portions of the Project area. These, however, either had little or no fieldwork or were missing maps. The record search additionally revealed that there are no known archaeological or historic sites within the proposed Project Site or electric tie-line potential routes and that there are no known prehistoric archaeological sites within a one-half mile radius of the Project. A search of the NAHC Sacred Lands File failed to indicate the presence of Native American cultural resources in the Project area (Appendix E). As neither the proposed site nor the electric tie- line routes contain any identified archaeological, historic, or tribal cultural resources, as defined in Public Resources Code section 21074, there would be no effect on Tribal Cultural Resources.				
b) 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 Resources Code Section 5024.1, the				

lead agency shall consider the significance of the resource to a California Native American tribe.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>No Impact:</b> A cultural resource records search was conducted through the CHRIS Northwest Information Center. The record search indicated that portions of the Project area were included in cultural resource surveys in 1988, 1995, 1996 and 2001. The first three of these were for water conveyance structures and projects. The last was of the Montezuma Enhancement Site, associated with the Pittsburg and Contra Costa County Power Plants. In addition there were 18 other surveys that may have included portions of the Project area. These, however, either had little or no fieldwork or were missing maps. The record search additionally revealed that there are no known archaeological or historic sites within the proposed Project Site or electric tie-line route and that there are no known prehistoric archaeological sites within a one-half mile radius of the Project. A search of the NAHC Sacred Lands File failed to indicate the presence of Native American cultural resources in the Project area. As neither the proposed site nor the electric tie-line potential routes contain any archaeological, historic, or tribal cultural resources, as defined in Public Resources Code section 21074, there would be no effect on Tribal Cultural Resources, and there are no resources 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. Consequently, there would be no effect upon such resources.				
XVIII. UTILITIES AND SERVICE SYSTEMS Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				V
<b>No Impact:</b> The proposed Project would n requirements are applicable. Portable san maintained by a licensed contractor for the	ot discharge w itary facilities w term of const	vastewater. No would be provia ruction.	wastewater t led on the Site	reatment e and
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?				
<b>Less than Significant Impact:</b> The proposed Project would not discharge wastewater. The Project water demand would be minimal, consisting of a temporary demand for construction and landscape water for operations. The existing City water supply main in Willow Pass Road is adequate to serve the project without expansion of existing facilities (Mata, 2017). A short tie-in to the main would be required for the project if the project cannot tie into the existing water supply infrastructure on the 35-acre parcel				
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause				V
significant environmental effects?				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
northeast corner of the Site that would con existing pump station with capacity for the impact.	vey water ben anticipated flo	eath Willow Pa w. Therefore, th	ss Road to ar here would be	n e no
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			V	
Less than Significant Impact: Project was temporary demand for construction and lar unattended and does not include sanitary is landscaping to satisfy City landscaping req landscaping would be obtained from the C City water entitlements and resources are	ter demand w ndscape water facilities or oth quirements. W ity. Water is a adequate to se	ould be minima for operations. er water needs /ater for constru vailable from th erve the project	l, consisting c The facility v other than m iction and ie City and ex (Mata, 2017)	of a would be inimal cisting
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?				V
<b>No Impact:</b> The proposed Project would b services. No potable water or permanent s facilities would be used onsite for construc licensed contractor. Because there would there would be no impact.	e unattended sanitary faciliti tion with regul be no need fo	and would not r es are propose ar pumping and r wastewater se	need waste w d. Portable s I maintenance ervice to the S	ater anitary e by a Site,
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			Ø	
Less than Significant Impact: Most cons materials such as wood pallets, plastic and taken to a waste recycling center. Furthen short period of time. Generation of waste would be limited and would be short-term. Canyon Landfill, which is a class II landfill a daily maximum capacity limit of 3500 ton has 52 million cubic yards of capacity rema for another 30 years. Total waste generate operation would not be substantial relative would be less than significant. Quantities of non-hazardous and hazardou negligible. At the end of battery life, batter racks and returned to the manufacturer or for dismantling, material processing and returned to	truction waste l paper package more, construct from construct The proposed that accepts m s/day and 320 aining and is p d by the propo- to the capacit s waste gene y modules wo their approved covery.	streams would ging and scrap ction would only ion that would r d project would nunicipal solid w truck trips. Kel projected to have osed project dur y of the landfill rated by routine uld be removed and permitted	consist of rec metal that can generate wa need to be lan be served by vaste. The lan ler Canyon La e sufficient ca ring construct therefore, imp operations w from the batt recycling par	cyclable of be ste for a odfilled Keller dfill has andfill pacity ion and pacts rould be fery ther(s)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Comply with federal, state, and local statutes and regulations related to solid waste?			V	
Less than Significant Impact: The propose relevant statutes and regulations and the P statute or regulation.	sed Project wo Project as prop	ould be required osed would not	to comply with conflict with a	ith all any
XIX. MANDATORY FINDINGS OF SIGNIFICANCE				
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?				
portion of the tie-line West Alignment, if use grassland and urbanized portions of the HC Project would comply with the HCP/NCCP surveys to ensure that impacts to affected in West Alignment that is north of Willow Pass for several protected species. Mitigation M habitat and sensitive species that may occu- minimization of impacts to the extent feasib be avoided. Permanent impacts in wetland approximately 0.38 acres or less. Consider be affected long term, with implementation BIO-4, the Project would not have the poten- substantially reduce the habitat of a fish or to drop below self-sustaining levels, threated reduce the number or restrict the range of a no structures on the Project Site and no sig to occur onsite based on a records search been surveyed for cultural resources. Mitig line route be surveyed by a qualified profes avoided by the tie-line design or, if unavoid documentation. Mitigation Measures CUL- cultural resources in the event of a new dis 3 and CUL-4 would ensure that impacts to	ed, the Project CP/NCCP that including mitig resources are s Road include leasures BIO- ur in that area. le and offsetti habitat where ring the small of mitigation r ntial to degrad wildlife specie a rare or enda gnificant histor and Tribal out gation Measure sional and that able, be mitig -2, CUL-3 and covery. Mitig cultural resou	t footprint is with do not provide gation fees and mitigated. The es wetlands tha 1 through BIO-5 These meas ng measures for e these species area of importa neasures BIO-1 le the quality of es, cause a fish a plant or anim ngered plant or ic or prehistoric reach. Tie-line e CUL-1 would at significant res ated through pro- lation Measures rces would be la	nin non-native critical habita pre-construct portion of th t may provide s, would prote ures include r impacts tha may occur w nt habitat tha BIO-2, BIO-3 the environm or wildlife pop al community animal. The resources ar locations hav require that the oper research for protection cUL-1, CUL ess than sign	t. The t. The tion e tie-line habitat t cannot t cannot t could be t could be t could be t could Be t could a t, AND pent, pulation y, nor re are te known ye not te tie- te sent, be n and n of -2, CUL- ificant in

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	
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		Ţ			
Less than Significant Impact With Mitigate sections of this Initial Study checklist, the F forest lands, mineral resources, growth, por recreation, or public services, and the Projic conservation plans, air quality protection po- established environmental plans or policies Zoning ordinance with the adoption of a zo- would be permitted with a use permit. Becc in these topic areas, there is no potential for topic areas with other past, current or probic The Project would not affect any designate resources. The Project Site is in an indust be located on land zoned Industrial Park-L through either existing industrial areas or a transmission line corridor. Considering the resources would be less than significant.	Less than Significant Impact With Mitigation Incorporated: As described in preceding sections of this Initial Study checklist, the Project would have no impact on agricultural or forest lands, mineral resources, growth, population, housing, schools, parks, libraries, recreation, or public services, and the Project would not conflict with biological resource conservation plans, air quality protection plans, traffic congestion management plans, or other established environmental plans or policies. The Project would be consistent with the City Zoning ordinance with the adoption of a zoning text amendment such that a major utility would be permitted with a use permit. Because the Project to have no impact or conflict in these topic areas, there is no potential for the Project to have a cumulative effect in these topic areas with other past, current or probable future projects. The Project would it damage any scenic resources. The Project Site is in an industrial and commercially developed area and would be located on land zoned Industrial Park-Limited Overlay. The possible tie-line routes are through either existing industrial areas or adjacent to an existing major high voltage transmission line corridor.				
Air quality cumulative impacts are address are less than significant. As described in Section IV of this Initial Stu- limited since, with the exception of a portio is in disturbed and urban habitat and impac- through compliance with the HCP/NCCP. where sensitive habitat and sensitive spect BIO-3, and BIO-4 would limit impacts to a fi- term impacts with 3:1 habitat compensation Project Description incorporates HCP/NCCP would require payment of HCP/NCCP mitig grassland disturbance. With these measur- mitigated and would not have the potential No significant cultural resources are known CUL-3 and CUL-4 would ensure that impac- of an unexpected cultural resource discover	ed in Section I udy, impacts to n of the tie-line cts to biologica For the portion ies may occur, less than signi n for wetlands CP requiremen gation fees to for for significant of to occur. Min cts to cultural i ery so that the	III of this Initial S biological resc west Alignme al resources wo of the tie-line Mitigation Mea ficant level and disturbances. ts and Mitigatio be paid in advan biological resc cumulative effe tigation Measur resources are n re are no cumul	Study checklis ources would i nt, if used, th uld be mitigat West Alternat sures BIO-1, compensate The Applican n Measure Bi nce of non-na ources would i ects. es CUL-1, CL nitigated in the lative impacts	st and be e Project ed ive BIO-2, for long t's O-5 ative be fully IL-2, e event	

The Project would have no cumulative impact related to geology or soils. The Project would not impact important mineral resources or unique geologic features. Geologic hazards, by

Potentially SignificantLess Than SignificantLess Than SignificantNo ImpactImpactMitigation IncorporatedImpactImpact	
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nature, are facility-specific and do not have the potential for cumulative effects. The Project would have no impact on seismic hazards at other locations, and no other reasonably foreseeable project could affect seismic hazards at the site. Therefore, there is no cumulative impact related to seismic shaking.

As described in Section VII of this Initial Study checklist, once constructed, the Project would not generate GhG emissions. The Project could be used to store energy from renewable projects such as solar and wind generation projects, reducing dependency on fossil fuelproduced electric energy and supporting the achievement of local, state and federal renewable energy goals directed at GhG reduction. Considering these factors, the Project would not have cumulative adverse GhG emission impacts.

As described in Section VIII of this Initial Study checklist, impacts of the Projects related to hazards and hazardous materials would be less than significant. Construction of the Projects would require the use of fuels, lubricants and other hazardous materials typical of construction sites and would be short term. No cumulative impact is anticipated. The facility would be unoccupied and operations would not typically require handling of hazardous materials. The project would be required to comply with all existing laws for safe handling of materials and no cumulative impact is anticipated.

The Project would not violate any water quality standard or waste discharge requirements or affect water quality. Therefore, there would be no cumulative effect in these areas. There would be no cumulative impact to hydrology because the Site would be designed in accordance with to drain to the same City-maintained system as existing conditions. The grading plan would be subject to review by the City's Building Division and the design includes bioretention swales and other BMPs features in accordance with the Stormwater C.3 Compliance Guidebook.

Construction noise would be short term and following construction the Project would not be a source of loud noise. The Project is designed with a building at the east end of the site where it would shield the closest sensitive receptors from low levels of noise generated by electrical equipment. The facility would comply with General Plan Policy noise levels. Considering these factors, the cumulative noise impact would be considerable.

As described in Section XVI of this Initial Study checklist, the Project would generate negligible traffic once construction is complete. No projects or other undertakings have been identified in the Site vicinity that could result in a considerable short term cumulative impact. Following construction, operations would typically be unattended, with routine monitoring and maintenance occurring during occasional site visits (e.g., monthly or less frequent over the long-term), which would be a negligible traffic impact. The Project would not involve new construction or realignment of any roads. The Project would be developed in conformance with all applicable plans, policies, programs, and ordinances related to transportation. Considering these factors, cumulative traffic impacts would be less than significant.

Considering the factors addressed above, the Project would not have significant cumulative impacts with mitigation incorporated.

c) Does the project have environmental effects which will cause substantial			
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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact		
adverse effects on human beings, either directly or indirectly?						
Less than Significant Impact With Mitigation Incorporated: The Project does not have						

the potential for environmental effects that could cause substantial adverse effects on human beings, either directly or indirectly, other than those addressed in preceding sections of this Initial Study checklist. As described in preceding sections of this Initial Study checklist, the Project would have no impact on agricultural or forest lands, mineral resources, growth, population, housing, schools, parks, libraries, recreation or public services, and the Project would not conflict with zoning, land use, biological resource conservation plans, air quality protection plans, energy plans or policies, transportation, traffic and congestion management plans, or other established environmental plans or policies. The Project would not have substantial adverse effects related to aesthetics, air quality, energy consumption, greenhouse gasses, geology and soils, hazards or hazardous materials, hydrology, water quality, transportation or utilities. With recommended mitigation measures BIO-1 through BIO-5, CUL-1 through CUL-4, and NOISE-1 identified in Sections IV, V, and XII, respectively, of this Initial Study checklist, the Project would have less than significant impacts related to biological resources, cultural resources, and noise. There would be no significant direct, indirect or cumulative impacts with these mitigation measures incorporated.

# 3.4 List of Preparers

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Appendix A Detailed Project Description

# Project Description Diablo Energy Storage 701 Willow Pass Road Pittsburg, California 94565



August 2017

Submitted to: City of Pittsburg Planning Department 65 Civic Avenue Pittsburg, CA 94565

Submitted by:

Diablo Energy Storage, LLC 5000 Hopyard Road, Suite 480 Pleasanton, CA 94588

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#### **1.0 INTRODUCTION**

Diablo Energy Storage, LLC proposes to install one or more single story buildings on a graded and vacant approximately 12 acre site (Site) representing a portion of an approximate 35 acre parcel (Parcel) located at 701 Willow Pass Road, Pittsburg, California (APN 085-280-010). The Parcel is designated Business Commercial (BC) in the General Plan and zoned Industrial Park-Limited Overlay (IP-O). The proposed use will require a zoning text amendment to amend the IP-O (Industrial Park with a Limited Overlay, Ord. No. 07-1284) District, or the "Empire Business Park Overlay District", such that a "major utility" would be permitted with a use permit. In addition to the zoning text amendment, Diablo Energy Storage, LLC is applying for a conditional use permit, design review and development agreement. A minor subdivision (lot line adjustment or parcel map waiver), or filing of a final map following the current Tentative Parcel Map in Attachment 1, may also be pursued that would divide the Site from the 35 acre Parcel.

The buildings will house advanced energy storage technology (e.g., lithium ion batteries) which, together with related control equipment including inverters, transformers, and a small onsite electric substation, will be connected via a new electric tie-line to the existing Pacific Gas & Electric Company (PG&E) Pittsburg Substation located approximately 0.6 mile north of the Site. The facility will be unoccupied and is designed for full remote operation. Diablo Energy Storage, LLC is the Applicant for development permits and will be the Lessor of the property.

The facility will not generate electricity. Rather, it will provide a service by receiving energy (charging) from the point of interconnection (POI) with the PG&E electric transmission system, storing energy, and then later delivering energy (discharging) back to the POI. The Site is within the East Contra Costa Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) area. Two alternate routes being considered for a tie-line to the POI are also within the HCP/NCCP area and a third alternative route being considered extends out of the HCP/NCCP area as described further under the subheading of West Alignment.

The Site is currently vacant with no structures. The Parcel is subject to a Covenant to Restrict Use of Property – Environmental Restriction dated July 27, 2007. Per terms of the Covenant, certain uses and activities on the Parcel are prohibited due to the presence of low concentrations of constituents of concern in ground water. The restrictions prohibit certain uses for the Parcel including raising food, drilling for drinking water, extraction of ground water, schools for persons under 21 years of age, day care centers, residences, and hospitals for humans. The proposed use of the Site is consistent with uses allowed by the Covenant.

The proposed use is compatible with the surrounding area and will have little or no effect on environmental resources or local services given its location on a vacant Site, its unmanned operating profile, and proximity to existing infrastructure. When operating, the proposed use will not create emissions to air, will not require sanitary facilities, and will not require water except to maintain water efficient landscape to meet City requirements.

## 2.0 PURPOSE

The purpose of the proposed development is to reliably and economically receive, store and discharge electric energy from the California Independent System Operator-controlled electric grid, including renewable energy produced by existing solar and wind resources in the region. The project will interconnect to the CAISO grid at the nearby PG&E's Pittsburg Substation. Construction of the project will:

- Provide a new economic and reliable means of capturing and managing renewable energy;
- Provide economic benefit to the City of Pittsburg, Contra Costa County, the region, and the State, through construction jobs, property and sales taxes, and increased energy efficiency and reliability;
- Help stabilize the electric grid and increase the effectiveness of both conventional and renewable energy generation projects;
- Support the achievement of local, state and federal renewable energy goals; and
- Support State goals for energy storage.

## **3.0 PROJECT DESCRIPTION**

#### 3.1 Location

The Site is located on the south side of Willow Pass Road just west of the point where West 10<sup>th</sup> Street becomes Willow Pass Road (Figure 1). The Site is Parcel B of the overall 35 acre Parcel as shown in Attachment 1. Photographs of the Site are provided in Figure 2. Preliminary Design Drawings for the project are provided in Attachment 2.

#### 3.2 Design

The batteries will absorb and discharge electrical energy from and to the PG&E-owned and California Independent System Operator-controlled power grid. Batteries will be housed inside the buildings secured in racks arranged in rows with aisles for access. The batteries will be connected in series and in parallel to provide the total energy storage capacity. A Relay and Communications (R&C) room will be provided in the buildings for automated monitoring and managing of the batteries to ensure design performance and system life

Power inverters, medium voltage transformers, and a small onsite electric substation with a transformer will be installed. Conductors in underground conduits will be used to connect the buildings, inverters and transformers. Bi-directional inverters will be used to convert between direct current (DC) power in the battery systems and alternating current (AC) power of the electric grid. Inverters will be outdoor-rated skid mounted systems with equipment in weatherproof enclosures. The preliminary design is for bi directional inverters rated at 480 volts (V) AC, one medium voltage transformer for each one or two inverters, and a high voltage transformer within the onsite substation. Final design will include value engineering and a different number of inverters and transformers may be used. The output from the medium voltage transformers will be aggregated and stepped up to 230 kV by the high voltage transformer at the onsite electric substation.

The substation area will be fenced (in accordance with high voltage electric code requirements) and will include the high voltage transformer, switchgear and an approximately 24-foot wide x 50-

foot high H-frame structure with switches, lightning arrestors and metering equipment. The onsite substation will be connected to the existing PG&E Pittsburg Substation to the north via an overhead 230 kV electric tie-line. The electric tie-line will be constructed, owned and operated by the Applicant or other appropriate entity to a point of change in ownership (POCO) located just outside the Pittsburg Substation. Improvements within the Pittsburg Substation and between the Pittsburg Substation and the POCO will be installed by PG&E, and are within the scope of the environmental review to be conducted by the City.

The facility will be designed and constructed to comply with all applicable codes in effect in the City at the time of building permit submission. Each battery module is a sealed finished UL listed article installed as a component in device (battery rack) containing integrated safety systems to actively monitor electrical current, voltage and temperature to optimize performance, mitigate potential failures, and prevent upset. Batteries performing out of specification will be immediately taken off line by the automated monitoring system. There is no venting or release from the individual cells, cell packs, or casings and the batteries are not opened for use, maintenance, or other purposes. The buildings will be outfitted with fire suppression equipment to meet or exceed applicable fire safety codes and standards. The fire protection plan will include prevention, suppression, isolation methods and materials. At a minimum, this will include: smoke/fire detection sensors; ground fault detection, alarms, and systems for automatic shutdown of all cooling fans and opening of electrical contacts in the battery system; and systems for automatic release of a fire suppression agent appropriate to the battery technology. Typically, such systems use a clean fire suppression agent such as DuPont's FE-25, FM-200, or 3M's Novek 1230, designed specifically for electrical installations to reduce damage to uninvolved equipment. Water sprinkler or mist systems will also be provided as required by the fire code.

The project is designed consistent with low impact development standards and the Contra Costa Clean Water Program Stormwater C.3 Guidebook storm water management requirements. Impermeable surfaces are minimized and include building footprints and concrete pads for the substation and other outdoor electrical equipment. With the exception of landscaping to meet City requirements, other surfaces will be graveled including the onsite driveways since use will be infrequent. The driveways will be constructed with compacted Class 2 gravel surfacing over a compacted subgrade to provide all-weather passage and support for a 74,000 pound load capacity in accordance with Contra Costa County Fire Protection District requirements. No designated parking places are included in the design since the facility is unoccupied and there is existing parking in the Empire Business Park complex as well as space for parking on-site. Outside of the onsite driveways, areas not covered by the buildings or equipment pads will be surfaced with gravel (e.g., <sup>3</sup>/<sub>4</sub>-inch drain rock) that will provide for some storm water detention and infiltration.

Sidewalk, curb and gutter exist at the site frontage. Parcel 085-280-010 has an existing paved driveway from Willow Pass Road that will be used by the project. Water-efficient landscaping will be put in place where not already present in accordance with the City landscaping requirements. A Conceptual Landscape Plan is provided in the Preliminary Site Plans in Attachment 2. Landscape water will be obtained from the existing landscape water supply system or a new tie-in to the City water main located in Willow Pass Road. No signage is proposed for the building frontage or site perimeter except the address number. Inside the secured site

perimeter, signage will be provided in accordance with OSHA requirements and other relevant regulatory requirements.

Conceptual architectural renderings are provided in the Preliminary Site Plans in Attachment 2. The architectural design theme is to compliment and be compatible with the existing character of the neighboring industrial buildings. The established buildings in the area are low profile light industrial building types using cementitious and metallic exterior materials. The color palette for the large footprint buildings is in the warm beige range. The proposed architectural design is shown in Sheets A-1 through A-4 of the Preliminary Site Plans and uses tilt-up concrete construction for exterior walls to complement the existing architectural character of neighboring buildings, with colors complementary to the adjacent buildings. To give a visual and textural interest to the building the use of metal in the adjacent buildings. The application of exposed roof drainage systems and reveals along the exterior walls provide visual relief and break up the wall surface to smaller modules. Projecting shade elements are included along the street frontage walls above the exterior doors to provide not only shading but also interest as the sun casts shadows along the walls.

Sheet A-5 introduces an alternate design for the buildings. The alternate design would utilize steel framed construction on the exterior walls with metal cladding. The design's vertical recess elements provide for visual relief and reduces the length appearance of the buildings. The Applicant is seeking approval for either architectural scheme, which will allow flexibility as the project further develops.

## 3.3 Tie-line Routing

The area between the Site and the Pittsburg Substation is extensively developed and industrial and utility infrastructure including bulk fuel oil tanks, railroad alignments, drainage and flood control features, underground gas pipelines, roadways, numerous underground and overhead high voltage electric lines, and other infrastructure. The existing facilities influence feasible routes. Three feasible preliminary alternative tie-line routes have been identified: a) west of the fuel oil tank farm, b) along an existing NRG access road through the fuel oil tank farm, and c) east of the fuel oil tank farm. The routes are described below and are shown in Figure 3. The preliminary tie-line pole locations are provided in Figure 3. Based on preliminary engineering, the poles will be approximately 77 to 95 feet high as shown in Sheet C-9 of the Preliminary Site Plans.

#### West Alignment

Using this route, the tie-line would extend along the south side of Willow Pass Road approximately 2,000 feet, cross under a series of existing PG&E high voltage lines, then turn north to cross Willow Pass Road and extend approximately 2,100 feet, and then turn northeast and extend approximately 2,500 feet to the POCO. The length of this route is approximately 6,700 feet. This route would require approximately 8 poles and would cross under seven existing PG&E transmission lines. This alignment is outside of the HCP/NCCP area between Willow Pass Road and the point approximately 300 feet southwest of the POI. Use of this alignment may require some surface preparation, or stabilization of existing access routes, to provide access to tie-line structures for construction and maintenance. This alignment is within the East Contra Costa

County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) area only where it is located south of Willow Pass Road.

#### Middle Alignment

Using this route the tie-line would cross Willow Pass Road directly north of the on-site substation and then turn east and extend approximately 550' feet along the north side of Willow Pass Road before turning north and extending along the west side of the existing NRG access road approximately 3,200 feet to the POCO. The length of this route is approximately 3,800 feet. This route would require approximately 12 poles and would cross under nine existing PG&E transmission lines. This alignment is entirely within the HCP/NCCP area.

#### East Alignment

This route is the same as the Middle Alignment except that after extending approximately 800 feet north along the NRG access road it would turn east and follow an existing drainage ditch approximately 1,400, then turn north for approximately 1,000 feet, then turn west approximately 1,400 feet, and then turn northwest approximately 1,200 feet crossing under the existing PG&E transmission lines just outside the Pittsburg Substation to the POCO. The length of this route is approximately 5,800 feet. This route would require approximately 16 poles and would cross under nine existing PG&E transmission lines. This alignment is entirely within the HCP/NCCP area.

The Applicant is requesting approval to develop the project using any of the alignments, subject to revisions as may be approved by the Planning Manager.

#### 3.4 Construction

Construction and equipment installation is expected to take 6 to 12 months including the buildings, outdoor electrical equipment, and site preparation including stormwater controls and landscaping. Construction staging will occur onsite. Construction may be phased in response to market demands. If phased, project improvements essential for the entire site such as the connection to the City stormwater system, as the onsite substation, and the electric tie-line, will be installed in the initial phase. A phasing plan is included in Sheet C-11 of the Preliminary Site Plans. In general, if phased, a building and related systems would be installed in the initial phase while installation of subsequent building space and related systems would be deferred to a subsequent phase or phases as shown in the table below:

PHASING PLAN			
Initial Phase	<u>Subsequent Phase(s)</u>		
Initial Phase Site Prep/Grading, Civil, Drainage	Phase related Site Prep/Grading Civil, Drainage		
Onsite Substation & HV Electrical	Subsequent Building Space		
Initial Building	Batteries & Associated Systems		
Batteries & Associated Systems	Inverter Pads, Equipment & Connections		
Inverter Pads, Equipment & Connections			
Electric Tie-Line			

The majority of the Site is currently covered with several feet or more of fill dirt and will be graded to be relatively flat-lying with drainage toward the north and east. Final grading plans will be subject to approval by the City. Grading quantities are provided on Sheet C-1 of the Preliminary Site Plans. Class 2 aggregate will be imported to the Site for surfacing the driveways. Crushed rock gravel will be imported for surfacing outside the building and driveway footprints and for building pad preparation.

It is estimated that Site grading and preparation will require the following equipment:

ТҮРЕ	QUANTITY
Bulldozer (e.g., CAT D7)	1
Grader (e.g., CAT D7)	1
Scraper (15-30 CY)	2
Water Truck (3,000- 5,000 gal)	1
Self-Propelled Compactor	1
Dump Truck	1
Tractor/Loader/Backhoe (e.g., Case 590)	1
Bobcat	1

Water may be used during construction if needed for dust control and compaction. A non-toxic dust palliative may also be used. If needed, water will be obtained from the City water supply via an existing hydrant on the Parcel or on the Site frontage of Willow Pass Road. Sanitary facilities during construction will be provided by portable self-contained units maintained by a licensed contractor.

Project construction will implement the following measures to control dust emissions during construction in accordance with Bay Area Air Quality Management District requirements:

- Exposed soil areas will be watered two times per day when needed to control dust emissions;
- Haul trucks transporting soil, sand or other loose material offsite will be covered;
- Best Management Practices (BMPs) will be implemented to minimize track-out onto adjacent public streets;
- A 15 mile per hour speed limit will be used for roadways until stabilized with gravel or other treatment to minimize dust; and
- Disturbed surfaces will be stabilized as soon as practical.

Construction is expected to generate up to an estimated 75 construction jobs during peak construction periods. Deliveries of equipment and materials will generate an estimated 5 round trips per day during peak construction periods that will occur throughout the day. Construction wages will contribute to the local and regional economy through direct income, spending and taxes.

The City operates a 10-inch diameter water main located in the westbound lane of Willow Pass Road (personal communication, Hilario Mata. Assistant Director of Public Works, June 23, 2017). Project construction will include a tie-in to the water main if the water supply for landscaping cannot be obtained from existing infrastructure on the Parcel (e.g., if a separate parcel is created by subdivision, lot line adjustment or parcel map waiver).

Table 1A and 1B, respectively, summarize land areas and habitat types that could be disturbed by project development during construction and long-term. The Applicant is applying for coverage under the HCP/NCCP and will comply with requirements of the HCP/NCCP as applicable including pre-construction surveys. Planning Level Surveys under the HCP/NCCP have been completed on the Site. Tie-line routes north of Willow Pass Road have been surveyed from the public ROW due to access limitations and further studied using high-resolution aerial imagery. If construction is initiated during bird nesting season (February 1 – August 31), a preconstruction nesting bird survey will be conducted by a qualified biologist within 14 days prior to ground disturbance. If an active nest is located, then a qualified biologist will establish a nest buffer surrounding the active nest. Work will not occur in the buffer area until the biologist determines the nest is inactive. The extent of the nest buffers will be based on consideration of the anticipated levels of noise or disturbance, ambient levels of noise and other disturbances, species present, and topographic or other barriers. If construction is halted for more than 14 days, then a nesting bird survey will be completed within 14 days prior to re-initiating of construction work. Preconstruction surveys for protected raptors will also be completed prior to construction in accordance with requirements of the HCP/NCCP.

Results of a biological resources survey conducted for the project indicates that burrowing owl habit does not occur on the project Site. However, because burrowing owl habitat can occur in disturbed and developed areas, it is possible that burrowing owl could move into the area prior to construction. Therefore, in an abundance of caution, a burrowing owl survey will be conducted by a qualified biologist within 14 days prior to ground disturbance. If an occupied burrow is observed within or adjacent to the Site during the nesting season (February 1- August 31) and is determined to contain an active nest, then a buffer will be established surrounding the nest in accordance with CDFW's 2012 *Staff report on Burrowing Owl Mitigation*. No work will occur in the buffer area until the nest is determined to be inactive by a qualified biologist. If occupied burrows are observed within or adjacent to the Site during the non-nesting season (September 1-January 31) or if an occupied burrow is determined to not be a nest burrow during the nesting season, then a buffer will be established around the burrow by a qualified biologist in accordance with CDFW guidelines. If an occupied burrow cannot be avoided (i.e., is within the limits of disturbance), a burrowing owl exclusion plan will be written and submitted to CDFW for approval of passive relocation procedures.

## Tie-Line Construction

If the selected alignment is not covered by HCP, then to the extent necessary, studies would be completed to develop a construction plan that would to the greatest extent possible minimize impacts to wetlands (if any). For example, tie-line structures would be placed to avoid wetlands where possible, and needed access routes would be aligned to utilize existing access routes where possible. Based on the surface disturbance estimates shown in Table 1B the total permanent disturbance to presumed wetlands if the West Alignment is used would be less than 0.5 acre so the project would use USACE Nationwide Permit No. 12 for utility infrastructure if it is determined that federally jurisdictional wetlands cannot be practically avoided. Nationwide Permit No. 12 also provides for temporary surface disturbance needed during construction. Coverage under the

Nationwide Permit No. 12 requires a Section 401 water quality certification from the RWQCB. In addition, approval from the California Department of Fish and Wildlife under Section 1600 of the Fish and Game Code may also be required if the West Alignment is used.

#### 3.5 Stabilization of Temporary Disturbances

Disturbed surfaces on the site that are not covered by buildings, equipment or roads will be stabilized with crushed rock as well as landscaping at the site perimeter to meet City requirements. Temporary disturbances from tie-line construction will be stabilized as soon as practical by returning the ground surface to a condition approximating pre-project conditions. Temporary disturbances in Annual Grassland habitat will be stabilize by reseeding with a seed mix subject to approval by the City.

#### **3.6 Operations**

The facility will operate year-round and will be available to receive or deliver energy 24 hours a day, 365 days a year. The Site will be secured with a chain link fencing. Existing chain link fencing that occurs on the Site frontage will be repaired or replaced where needed, and new fencing will be installed at the Site perimeter where fencing does not currently exist. The Site will be equipped with security cameras that will be monitored remotely and with alarms and other security as needed. Landscaping will include water-efficient trees, shrubs and groundcover that will provide aesthetics for views from Willow Pass Road. Existing trees and landscaping along the driveway east of the Site (See Figure 2) will provide visual screening between the project and residences to the east. At the west edge of the site, landscaping along the edge of the existing driveway will include trees and ground cover to mirror the existing landscaping on the opposite (offsite) edge of the driveway. Because the facility will be unattended with little vehicle traffic, the Site gates will be designed to be opened and locked manually. The electrical equipment, heating, ventilation, air conditioning, fire protection systems, and security will be automated and monitored remotely. The Site will be unoccupied but visited periodically through the year for equipment inspections, monitoring and testing, and maintenance as needed. Periodically, batteries and various components will be replaced or renewed to ensure optimal operation.

The facility will operate without emissions to air or water. Except for landscape watering to meet City requirements, the facility will use no water. Because the facility will not be manned, no office, break room, sanitary facilities or potable water will be needed. Motion-activated lighting may be used where needed for safety or security such as at access gates and doorways to buildings. If used, lighting would be directed downward and shielded to minimize visibility from offsite.

Storm water treatment in accordance with City requirements will be provided by gravel yard surfacing and bioretention swales as shown in the Preliminary Design Drawings. Outdoor equipment will be sealed or enclosed and will not affect storm water quality.

Outdoor electrical equipment, cooling fans, and HVAC systems will generate low levels of noise during routine operations. Noise levels will be compatible with surrounding land uses and below levels that would conflict with the City's Noise Ordinance (Noise Ordinance Section 9.44.010). The closest sensitive noise receptors are residences located east of the Site. The project is designed with a building at the eastern side that will block electrical equipment noise to these residential

receptors. The facility will be designed comply with the City noise standards as described in the City's General Plan at Section 12, Noise.

At the end of battery life, battery modules will be removed from the battery racks and returned to the manufacturer or their approved recycling partner(s) for dismantling, material processing and recovery. Other waste from Site maintenance will be removed from the Site as part of maintenance work and managed in accordance with applicable regulations. Oil in oil-filled transformers is not routinely handled. Oil filled equipment is operated normally closed and sealed. On infrequent occasions, oil in oil-filled electrical equipment may require filtering or replacement if it becomes contaminated. If oil from oil-filled equipment needs to be replaced, the used oil would be recycled at a licensed offsite recycler.

## 4.0 **PROJECT SCHEDULE**

Construction of Phase I (or the complete project if all Phases were constructed concurrently) will be scheduled to begin after receipt of requisite permits and is expected to take approximately 6 - 12 months.

#### 5.0 APPLICANT

The Applicant is Diablo Energy Storage, LLC, a company formed for the sole purpose of developing the project and wholly owned by LSP Generation Holdings, LLC. LSP Generation Holdings, LLC is part of the LS Power Group (LS Power), a privately held, leading independent energy development firm established in 1990 employing approximately 150 professionals. LS Power is well regarded in the development and financial community and in the past 10 years has raised over \$17 billion of capital for investments in the energy sector including electric generation, storage, and transmission assets. More information can be found at <u>www.lspower.com</u>.

# TABLE 1ASUMMARY OF TOTAL DISTURBANCE BY PROJECT FEATURE AND HABITAT TYPE<br/>(TOTAL SHORT-TERM PLUS LONG TERM DISTURBANCES)

FEATURE	DISTURBANCE IN	DISTURBANCE OUT OF	HABITAT	COMMENTS
	HCP/NCCP AREA (AC)	HCP/NCCP AREA (AC)		
Site Development	10.41		Annual Grassland	• Site gross is 11.85 acres including existing surfaced roads. Disturbance is 10.12 Ac.
West Alignment	0.49	0.45	Annual Grassland	<ul> <li>3 pole sites x 3,500 sf ea. in HCP/NCCP area</li> <li>2 stringing sites x 1000 sf ea. in HCP/NCCP area</li> <li>Access 10' x 900' in HCP/NCCP area</li> <li>2 pole sites x 3,500 sf ea. out HCP/NCCP area</li> <li>Access 10' x 1000' out of HCP/NCCP area</li> </ul>
	0.02		Urban	• 1 pole site (POCO) <sup>(1)</sup>
		1.47	Wetland <sup>(2)</sup>	<ul> <li>1 or 2 pole sites totaling up to 20,000 sf<sup>(3)</sup></li> <li>2 stringing sites 1,000 sf ea.</li> <li>Access 12' x 1000'</li> <li>Contingency Access 12' x 1,500<sup>(4)</sup></li> </ul>
Middle Alignment	0.16		Urban	• Ten pole sites x 700 sf ea <sup>(1)</sup>
East Alignment	0.21		Urban	• 13 pole sites x 700 sf each <sup>(1)</sup>

<sup>(1)</sup> Stringing sites, construction work areas and long-term access that may be used in urban areas not requiring clearing or surface improvement are not included in this table since there would be no ground disturbance. Ground disturbance for poles in urban habitat is estimated based on 15' radius around the pole center point.

<sup>(2)</sup> Presumed wetland area based on field survey results from other nearby projects, aerial imagery analysis, and visual survey from public rightsof-way due to access constraints. Actual wetland area and disturbed acreage to be determined prior to construction if Project for areas outside of the HCP/NCCP coverage area.

<sup>(3)</sup> Estimate allows for contingency for final design to determine minimum safe working area at each pole and for jurisdictional wetland conditions to be confirmed by delineation at one or two poles.

<sup>(4)</sup> Contingency for possible temporary access between tie-line structures B and C if a helicopter is not used for stringing.

FEATURE	DISTURBANCE IN	DISTURBANCE OUT OF	HABITAT	COMMENTS
	HCP/NCCP AREA (AC)	HCP/NCCP AREA (AC)		
Site Development	10.41		Annual Grassland	• Site gross is 11.85 acres including existing
				surfaced roads. Disturbance is 10.12 Ac.
West Alignment	0.05	0.32	Annual Grassland	• 3 pole sites x 700 sf ea. in HCP/NCCP area
				• 2 pole sites x 700 sf ea. out of HCP/NCCP area
				• Access 10' x 1,250 out of HCP/NCCP area
	0.02		Urban	• 1 pole site (POCO)
		0.38	Wetland <sup>(1)</sup>	• 1 or 2 pole sites x 700 sf ea.
				• Access 12' x 1000'
				• Contingency Access 12' x 250' <sup>(2)</sup>
Middle Alignment	0.16		Urban	• Ten pole sites x 700 sf ea
East Alignment	0.21		Urban	• 13 pole sites x 700 sf ea

 TABLE 1B

 SUMMARY OF LONG-TERM DISTURBANCE BY PROJECT FEATURE AND HABITAT TYPE

<sup>(1)</sup> Presumed wetland area based on field survey results from other nearby projects, aerial imagery analysis, and visual survey from public rightsof-way due to access constraints. Actual wetland area and disturbed acreage to be determined prior to construction if Project for areas outside of the HCP/NCCP coverage area.

<sup>(2)</sup> Contingency in the event that the vegetated portion of the long term access route to Pole C is found to be wetlands instead of grassland.



Legend Diablo Energy, LLC Site



## Figure 1: Project Location Diablo Energy, LLC





# **Figure 2: Site Photographs**



1) Looking east from west end of the Site.

2) Looking north along the driveway just east of the Site.




- 3) Looking east on the northern end of the Site.
- 4) Looking west from the side of the Site.





### <u>Legend</u>

- Project Site
- ----- West Alignment
- ---- Middle Alignment
- East Alignment
- ---- Limits of Project Mapping
- HCP Inventory Area
- • Preliminary Structure Locations
- Preliminary Access Route
  - Annual Grassland
  - Urban



### Figure 3: Land Cover Map Diablo Energy Storage, LLC



Diablo Energy Storage\mxd\Figure 3 Land Cover.mxd

### Attachment 1 Tentative Parcel Map



A

Attachment 2 Preliminary Site Plans



# LEGEND

	EXISTING PROPERTY BOUNDARY
	PROPOSED PROPERTY BOUNDARY
	EXISTING EASEMENT
<u> </u>	PROPOSED EASEMENT
	EXISTING TOPOGRAPHIC CONTOUR (1-FT INTERVAL)
<u> </u>	EXISTING TOPOGRAPHIC CONTOUR (5-FT INTERVAL)
14	PROPOSED TOPOGRAPHIC CONTOUR (1-FT INTERVAL)
SS	EXISTING SEWER LINE
XX	EXISTING CHAIN LINK FENCE
E	EXISTING OVERHEAD ELECTRICAL
TEL	EXISTING COMMUNICATION LINE
——————————————————————————————————————	PROPOSED CHAIN LINK FENCE
	PROPOSED ELECTRIC LINE

	LIMITS OF GRADING AREA
+0+	EXISTING FIRE HYDRANT
<b>—</b> ———————————————————————————————————	EXISTING STREET LIGHT
<del>•</del>	EXISTING MONITORING WELL
	EXISTING DRAIN INLET
$\bigcirc$	EXISTING MANHOLE
ullet	PROPOSED POWER POLE
	PROPOSED STORMWATER PIPE
« · · · «	PROPOSED DITCH (FLOWLINE)
	PROPOSED SHEET FLOW
1.6%	SLOPE AND DIRECTION
	EXISTING ASPHALT CONCRETE
	EXISTING CONCRETE SURFACE
	PROPOSED CLASS II AGGREGATE BASE
	PROPOSED BIORETENTION BMP
7///////	FMEA FLOOD ZONE AE
(//////////////////////////////////////	FEMA FLOOD ZONE X (HATCHED)

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# PRELIMINARY SITE PLANS **DIABLO ENERGY STORAGE PITTSBURG, CALIFORNIA**

### *(E)* EXISTING SL STREET LIGHT FH FIRE HYDRANT STORM DRAIN INLET DI *PIV/FDC* POST INDICATOR VALVE / FIRE DEPARTMENT CONNECTION WATER METER WM *ELECT* ELECTRICAL JOINT TRENCH LINES JT OVERHEAD LINES ОН SSMH SANITARY SEWER MANHOLE

# PROPERTY OWNERS

EMPIRE BUSINESS PARK, LLC 1500 3RD STREET #C NAPA, CA 94559 PH: 707-255-6540

### ENGINEER/CONSULTANT

### TRC SOLUTIONS, INC

17911 VON KARMAN AVENUE, SUITE 400 IRVINE, CA 92614 PH: 949-697-7169 JSTENGER@TRCSOLUTIONS.COM

# DESCRIPTION

THESE PRELIMINARY PLANS INVOLVE THE DEVELOPMENT OF SINGLE-STORY BUILDING SPACE FOR HOUSING BATTERIES AND CONTR EQUIPMENT, AND ANCILLARY EQUIPMENT INCLUDING INVERTERS AND TRANSFORMERS, AN ELECTRIC SUBSTATION AND EL TO THE EXISTING PG&E PITTSBURG SUBSTATION. THE FACILITY WILL BE UNOCCUPIED AND IS DESIGNED OPERATION. BECAUSE THE FACILITY WILL NOT BE OCCUPIED, NO POTABLE WATER SYSTEM OR SANITARY SYSTEM IS PROPOSED. EXTERIOR LIGHTING IS PROPOSED. EXISTING DRIVEWAY AND PARKING WILL BE USED. THERE WILL BE ROOM FOR PARKING ONSITE FOR OCCASIONAL SITE VISITS.

# SITE INFORMATION

STREET ADDRESS: ASSESSOR'S PARCEL NUMBER: ZONING: BUILDING SQUARE FOOTAGE: TOTAL BUILDING SQUARE FOOTAGE: PROPOSED LOT AREA (GROSS): PROPOSED LOT AREA (NET): LOT COVERAGE (EACH BUILDING): LOT COVERAGE (TOTAL): FLOOR AREA RATIO: PERCENT OF LANDSCAPE COVERAGE: NUMBER OF PROPOSED PARKING: DISTURBED AREA (GRASSLAND AND BARE SOIL): DISTURBED AREA (GRASSLAND): DISTURBED AREA (BARE SOIL): EXISTING IMPERVIOUS AREA: PROPOSED IMPERVIOUS AREA:

085-280-010 (3) 62,000 SF 186,000 SF 11.85 AC 10.44 AC 13.33% 40% 0.40 17% 0 10.73 AC 10.41 AC 0.32 AC 0 SF 205,044 SF

# DRAWING SCHEDULE

- C-1 COVER SHEET C-2 EXISTING BOUNDARIES, EASEMENTS AND FLOODING C-3 PROPOSED BOUNDARIES AND EASEMENTS C-4 EXISTING TOPOGRAPHY C-5 CONCEPTUAL GRADING PLAN C-6 CONCEPTUAL SITE PLAN C-7 CONCEPTUAL DRAINAGE PLAN
- C-8 CONCEPTUAL LANDSCAPING PLAN
- C-9 ELECTRICAL DETAILS
- C-10 ROAD, DRAINAGE AND FENCE DETAILS
- C-11 CONSTRUCTION PHASING TYP. FLOOR PLAN BUILDING 1-2-3 A-1
- A-2 ROOF PLAN - BUILDING 1-2-3
- A-3 BUILDING SECTIONS
- A-4 EXTERIOR ELEVATIONS A-5 EXTERIOR ELEVATIONS ALTERNATE

## APPLICANT

DIABLO ENERGY STORAGE, LLC 5000 HOPYARD ROAD SUITE #480 PLEASANTON, CA 94588 PH: 925-201-5240 FAX: 925-201-5230

701 WILLOW PASS ROAD, PITTSBURG, CA

INDUSTRIAL PARK - LIMITED OVERLAY (IP-O)

# EARTHWORK QUANTITIES

LIMITS OF GRADING: 8.64 AC

	CUT	FILL
WESTERN BUILDING PAD	1600 CY	2050 CY
CENTRAL BUILDING PAD	1900 CY	2400 CY
EASTERN BUILDING PAD	3300 CY	2800 CY
SUBSTATION PAD	450 CY	875 CY
ROADWAY	1175 CY	275 CY
STORMWATER BMP	845 CY	45 CY
NET CUT (ONSITE):	825 CY	
CLASS II AGG. BASE IMPORT	990 CY	

BIORETENTION MEDIA IMPORT 770 CY

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17 INITIAL SUBMITTAL TO CITY OF PITTSBURG	18 UPDATE TRC ADDRESS						DESCRIPTION
08/29/1	01/12/1						DATE
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COVER SHEET				ECT: DIABLO ENERGY STORAGE APN 085-280-010 701 WILLOW PASS ROAD, PITTSBURG, CA			
	E 400						rely on
ENGINEER:	SUITE #480 TR911 VON KARMAN AVENUE, SUIT	۲ 94588 IRVINE, CA 92614 240 PH: 949-697-7169	230 jstenger@trcsolutions.com				Results you can
OWNER/APPLICANT:	DIABLO ENERGY STC 5000 HOPYARD ROAD	PLEASANTON, C, PH: 925-201-5.	FAX: 925-201-{		SHEET NO.	רי כ	- )













Piles () [)	()Piles	Piles	(_) () Piles	Piles	
	BIORETENTION 10 FACILITY, TYP.				
BIORETENTION ELEVATION: 12.75 BIORETENTION FACILITY, TYP C-10 BIORETENTION ELEVATION: 12.75			BIORETENTION ELEVATION: 12.75 x 14 13 12		
\		<u> </u>		<u></u> <u></u>	





0.44 acres (gross)	SYMBOL	TYPE AND FORM	QUANTITY
. π. ed Area: 88,000 sq. ft. of Pittsburg Potable Water Supply		Small canopy, broad leaf evergreen tree	11
		Small canopy, broad leaf evergreen tree	9
	and	Small, broad leaf evergree flowering accent tree (alternate species has deciduous foliage)	en 9
of 3 inches will be applied within the	() O	Small, broad leaf evergree shrub	en 38
ation and weed suppression where live	Ψ Ψ Ψ Ψ Ψ Υ	Groundcover	
Pass Road right-of-way will be installed and		Bioretention	
on the property at a location approved to by		Existing Tree / Shrub / Lar	ndscape
d as a single hydrozone			
ual and subject to change during final			

SHEET SIZE 24"x36" - SCALE: 1"=50'





ELEVATION VIEW (LOOKING EAST)

SUBSTATION NOT TO SCALE (1)

























RALL - NORTH STREET ELEVAT	BUILDING 2		BUILDING 1	
NORTH ELEVATION -				
I - BUILDING 3 AND EAST EI				
SOUTH ELEVATION -				











Appendix B CalEEMod Input and Output Summary

### DIABLO ENERGY STORAGE PROJECT WORST-CASE PEAK DAILY CONSTRUCTION EMISSIONS

The Diablo Energy Storage Project (Project) is proposed for construction in the City of Pittsburg, California, within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD).

The Project is expected to take 6 to 12 months to construct. During construction, the Grading Phase is expected to produce the maximum daily construction emissions. Therefore, peak daily construction emissions have been estimated based upon construction activities during the Grading Phase.

The Grading Phase is expected to include approximately 15 total work days taking place over approximately three weeks. Diesel exhaust is assumed to emit no more than Tier 2 equipment. Disturbed surfaces that are not stabilized will be watered twice per day, or other equally effective palliative will be used, and ground cover will be replaced as soon as reasonably possible. The following equipment was included in the emission calculation:

- 1x Bulldozer (247 Horsepower [HP]) @ 6 hours per day
- 1x Grader (187 HP) @ 6 hours per day
- 2x Scrapers (367 HP each) @ 6 hours per day
- 1x Water Truck (402 HP) @ 6 hours per day
- 1x Self- Propelled Compactor (80 HP) @ 6 hours per day
- 1x Dump truck (402 HP each) @ 6 hours per day
- 1x Tractor/Loader/Backhoe (97 HP) @ 6 hours per day
- 1x Bobcat (65 HP) @ 6 hours per day

Emissions were calculated using the California Emissions Estimator Model (CalEEMod), version 2016.3.1 in accordance with BAAQMD guidance. The calculated peak daily emissions are provided below.

	ROG	СО	NOx	SO2	Fugitive PM10	Exhaust PM10	Fugitive PM2.5	Exhaust PM2.5
Emissions	5.4	34.3	45.9	0.1	3.8	2.3	1.5	2.1
Thresholds <sup>1</sup>	54	None	54	None	None	82	None	54
Significant?	No	NA	No	NA	NA	No	NA	No

### Peak Daily Emissions (pounds per day)

<sup>1</sup> Source: BAAQMD, *CEQA Guidelines*, May 2017, <u>http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines</u>



Appendix C

Sensitive Species Occurrences within Three Miles



West Alignment Centroid
CNDDB 3-Mile Radius
CNDDB Occurrences
Alameda whipsnake
Antioch Dunes evening-primrose
Bolander's water-hemlock
California black rail
California least tern
California red-legged frog
California tiger salamander
Coastal Brackish Marsh
Contra Costa wallflower
Delta mudwort
Delta tule pea

Lange's metalmark butterfly Mason's lilaeopsis Suisun Marsh aster Suisun song sparrow big tarplant burrowing owl longfin smelt round-leaved filaree salt-marsh harvest mouse saltmarsh common yellowthroat soft salty bird's-beak steelhead - Central Valley DPS western bumble bee western pond turtle

0

Figure Number BIO-1 CNDDB 3-Mile Radius Search West Tie-Line Alignment Diablo Energy Storage, LLC



### SPECIAL STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR IN THE PROJECT VICINITY

<i>Scientific Name</i> Common Name	Sta	itus	Habitat Requirements	Potential for Occurrence
Amsinckia grandiflora Large-flowered fiddleneck	Fed: CA: CNPS:	FE SE 1B.1	Annual herb. Habitat includes cismontane woodland, and valley and foothill grassland. Blooms (March) April-May. Elevation 270-550 meters.	<b>No Potential:</b> Typical habitat not present in the project area. Species known from higher elevations and different vegetation communities than present in the project area.
<i>Blepharizonia plumosa</i> Big tarplant	Fed: CA: CNPS:	None None 1B.1	Annual herb. Habitat includes clay soils in valley and foothill grassland. Blooms July-October. Elevation 30-505 meters.	<b>No Potential:</b> Typical habitat not present within the project area. Species known from higher elevations and different vegetation communities than present in the project area.
<i>California macrophylla</i> Round-leaved filaree	Fed: CA: CNPS:	None None 1B.2	Annual herb. Habitat includes clay soils in cismontane woodland, and valley and foothill grassland. Elevation 15-1200 meters.	<b>No Potential:</b> Typical habitat not present within the project area. Species known from higher elevations and different vegetation communities than present in the project area.
Chloropyron molle ssp. molle Soft salty bird's-beak	Fed: CA: CNPS:	FE SR 1B.2	Hemiparasitic annual herb. Habitat includes coastal salt marshes and swamps. Blooms June-November. Elevation 0-3 meters.	Moderate Potential: The project area may include marsh or wetland habitat within the typical elevation range of this species.
<i>Cicuta maculata</i> var. <i>bolanderi</i> Bolander's water hemlock	Fed: CA: CNPS:	None None 2B.1	Perennial herb. Habitat includes marshes and swamps with coastal, fresh, or brackish water. Blooms July-September. Elevation 0-200 meters.	<b>Moderate Potential</b> : The project area may include marsh or wetland habitat of within the typical elevation range of this species.
<i>Erysimum capitatum</i> var. <i>angustatum</i> Contra Costa wallflower	Fed: CA: CNPS:	FE SE 1B.1	Perennial herb. Habitat includes inland dunes. Blooms March-July. Elevation 3- 20 meters.	<b>Low Potential</b> : Inland dunes are not present. Project area elevations are generally at or below the low end of the range for this species.
<i>Lathyrus jepsonii</i> var. j <i>epsonii</i> Delta tule pea	Fed: CA: CNPS:	None None 1B.2	Perennial herb. Habitat includes marshes and swamps with fresh or brackish water. Blooms May-July (August- September). Elevation 0-5 meters.	<b>Moderate Potential</b> : The project area may include marsh or wetland habitat within the typical elevation range of this species.

T · 11 / 1·	E. 1.	Mana	Demonstrate of the second bank that it is the	Madamata Datamatal The second second		
Limosella australis	Fed:	None	Perennial stoloniferous herb. Habitat	Moderate Potential: The project area may		
Delta mudwort	CA:	None	usually mud banks. Also found in	include marsh or wetland habitat within the		
	CNPS:	2B.1	riparian scrub, and marshes and swamps	typical elevation range of this species.		
			with fresh or brackish waters. Blooms			
			May-August. Elevation 0-3 meters.			
Lasthenia conjugens	Fed:	FE	Annual herb. Habitat is mesic areas	Low Potential: Habitat typical of this		
Contra Costa goldfields	CA:	None	including cismontane woodland, alkaline	species is not present.		
C	CNPS:	1B.1	playas, valley and foothill grassland, and			
	CRPR:		vernal pools. Blooms March-June.			
			Elevation 0-470 meters.			
Lilaeopsis masonii	Fed:	None	Perennial rhizomatous herb. Habitat is	Moderate Potential: The project area may		
Mason's lilaeopsis	CA:	SR	marshes and swamps with fresh or	include marsh or wetland habitat within the		
	CNPS:	1B.1	brackish water, and riparian scrub.	typical elevation range of this species.		
			Blooms April-November, Elevation 0-10			
			meters			
Neostapfia colusana	Fed	FT	Annual herb Habitat is vernal pools	Low Potential: Habitat typical of this		
Colusa grass	CA	SE	(typically large) Blooms May-August	species is not present. Elevation of project		
Coraba grass	CNPS:	1B 1	Elevation 5-200 meters	area below the typical range for this		
	crub.	10.1		species.		
Oenothera deltoides ssp.	Fed:	FE	Perennial herb. Habitat is inland dunes.	<b>No Potential</b> : No dune habitat is present in		
howellii	CA:	SE	Blooms March-September, Elevation 0-	the project area.		
Antioch dunes evening-	CNPS.	1B 1	30 meters			
primrose		1211				
Sidalcea keckii	Fed:	FE	Annual herb. Habitat soil often clay or	<b>No Potential:</b> Typical habitat not present		
Keck's checkerbloom	CA:	None	serpentinite. Habitat is cismontane	within the project area. Species known		
	CNPS:	1B.1	woodland, and valley and foothill	from higher elevations than the project		
			grassland, Blooms April-May (June).	area.		
			Elevation 75-650 meters.			
Symphyotrichum lentum	Fed:	None	Perennial rhizomatous herb. Habitat is	Moderate Potential: The project area may		
Suisun marsh aster	CA:	None	marshes and swamps with fresh or	be within marsh or wetland habitat of		
	CNPS:	1B.2	brackish water. Blooms (April) May-	within the typical elevation range of this		
			November. Elevation 0-3 meters.	species.		
Federal Designations:			California Rare Plant Ranks (CRPR):			
FE = Federal Endangered			1A: Presumed extirpated in California and rare or extinct elsewhere			
FT=Federal Threatened		1B: Rare, threatened, or endangered in California and elsewhere				
BCC = USFWS Bird of Conservation Concern			2A: Presumed extirpated in California, but more common elsewhere			
			<b>2D:</b> Kare, inreatened, or endangered in California, b	out more common elsewnere		
	<ul><li>3: Review list of plants requiring more study</li><li>4: Watch list of plants of limited distribution</li></ul>					
---	---					
CA State Designations: SE=State Endangered ST= State Threatened SR = State Rare SFP = State-Fully Protected SSC= Species of Special Concern WL = Watch List Species	California Native Plant Society (CNPS) Threat Code: .1: Seriously threatened in California .2: Moderately threatened in California .3: Not very threatened in California					

## References

California Native Plant Society, Rare Plant Program. 2017. *Inventory of Rare and Endangered Plants of California* (online edition, v8-03 0.39). California Native Plant Society, Sacramento, CA. <u>http://www.rareplants.cnps.org</u> (Accessed 8/31/17).

California Department of Fish and Wildlife. 2017. *California Natural Diversity Database, Rarefind*. <u>https://map.dfg.ca.gov/rarefind/view/RareFind.aspx</u> (Accessed 8/31/17).

U.S. Fish and Wildlife Service. 2017. *Information for Planning and Consultation* (IPaC). <u>https://ecos.fws.gov/ipac/location/YGJLIYJGHZGKHPZYQLTSNZMSNA/resources</u> (Accessed 8/31/17).

# SPECIAL STATUS WILDLIFE WITH POTENTIAL TO OCCUR IN THE PROJECT VICINITY

<i>Scientific Name</i> Common Name	Status		Habitat Requirements	Potential for Occurrence
Fishes				
Oncorhynchus mykiss irideus Steelhead – Central Valley DPS	Fed: CA:	FT None	These include all populations in the Sacramento/San Joaquin River system and its delta. Found in cool, clear, fast-flowing waters, and are the most physiologically tolerant to of the salmonids.	<b>No Potential:</b> The project area does not contain appropriate aquatic habitat.
Hypomesus transpacificus Delta smelt	Fed: CA:	FT SE	Spawn in shallow fresh, or slightly brackish, waters. Found from Suisun Bay upwards through the Sacramento/San Joaquin River Delta.	<b>No Potential:</b> The project area does not contain the appropriate aquatic or open water estuarine habitat.
Spirinchus thaleichthys Longfin smelt	Fed: CA:	FC ST	Spend adult life in bays, estuaries, and nearshore coastal areas. Migrate to freshwater rivers to spawn. Found in mid- water to near the bottom following prey movement.	<b>No Potential:</b> The project area does not contain the appropriate aquatic or open water estuarine habitat.
Insects				
<i>Elaphrus viridis</i> Delta green ground beetle	Fed: CA:	FT None	To date found only in the greater Jepson Prairie area of Solano County. Preferred habitat appears to be a grassland-playa pool matrix.	<b>No Potential:</b> The project area does not contain the required habitat, and is outside of the known range of this species.
Apodemia mormo langei Lange's metalmark butterfly	Fed: CA:	FE None	To date is found only along the southern bank of the Sacramento-San Joaquin River in the Antioch sand dunes of Contra Costa County. All life stages occur near the host plant, which is buckwheat.	<b>Low Potential</b> : Dune habitat is not present in the Project area.
Desmocerus californicus dimorphus Valley elderberry longhorn beetle	Fed: CA:	FT None	Found on the host plant, which is red or blue elderberry, along streams and rivers in riparian forests.	<b>Low Potential:</b> The project area may contain the host elderberry plant however, the area is outside of the known range of this species.

Bombus occidentalis	Fed:	None	Rare. Found in temperate regions such as	Low Potential: The project area does not
Western bumblebee	CA:	None	meadows and prairies with an abundance of flowers.	include typical habitat for this species.
Callophrys mossii bayensis	Fed:	FE	Habitat includes the rocky outcrops and	No Potential: The project area does not
San Bruno elfin butterfly	CA:	None	cliffs in coastal scrub along the San	contain the required habitat, and is outside
			Francisco peninsula. Live along north-	of the known range of this species.
			facing slopes within the fog belt. Dependent	
			on the host plant, <i>Sedum spathulifolium</i> .	
Invertebrates				
Branchinecta lynchi	Fed:	FT	Require vernal pools or other seasonal	Low Potential: The project area may
Vernal pool fairy shrimp	CA:	None	wetlands that experience a drying cycle.	include seasonal wetland habitat but vernal
			Cysts may persist for years within the soil.	habitat, if present, is anthropogenic and
				likely of low habitat value.
Lepidurus packardi	Fed:	FE	Require vernal pools or other seasonal	Low Potential: The project area may
Vernal pool tadpole shrimp	CA:	None	wetlands that experience a drying cycle.	include marsh or wetland habitat of
			Cysis may persist for years within the soil.	unknown quanty, and composition. Likely
Branchinecta conservatio	Fed·	FF	Require large cool vernal pools with	<b>No Potential</b> : The project area does not
Conservancy fairy shrimp	CA:	None	moderately turbid water. Hatch during the	include typical habitat for this species.
	011	1 (0110	fall rainy season.	
Amphibians				
Ambystoma californiense	Fed:	FT	Require seasonal wetlands for breeding, and	Low Potential: The project area does not
California tiger salamander	CA:	ST	upland grassland areas with burrows for	is not conducive to providing the upland
			shelter and habitat as adults. Migrations	habitat needs for this species.
			correspond to the rain season in fall.	
Rana draytonii	Fed:	FT	Found in humid forests, woodlands,	None: The project area does not include
California red-legged frog	CA:	SSC	grasslands, coastal scrub and streamsides	typical habitat for this species.
			with plant cover. Usually in the lowlands or	
Dentiles			Iootnills.	
Keptnes	-			
Actinemys marmorata	Fed:	None	Found in slow moving streams, lakes,	Moderate Potential: The project area may
Western pond turtle	CA:	SSC	ponds, and wetlands.	include marsh or wetland habitat suitable
				for this species.

Masticophis lateralis euryxanthus	Fed:	FT	Found in chaparral habitats including	No Potential: The project area does not
Alameda whipsnake	CA:	ST	northern coastal sage scrub and coastal	contain the required habitat, and is outside
			sage. Utilize rock outcrops, rock crevices,	of the known range of this species.
			shelter	
Thamnophis gigas	Fed:	FT	Found in marshes, sloughs, drainage canals,	<b>No Potential:</b> The project area does not
Giant garter snake	CA:	ST	irrigation ditches (rice fields), and slow	contain the required habitat, and is outside
			moving creeks. Prefers vegetation next to	of the known range of this species.
			water for basking and hunting, primarily	
			tule grass.	
Birds				
Athene cunicularia	Fed:	BCC	Utilize burrows created by ground squirrels,	Low Potential: Planning Survey results
Burrowing owl	CA:	SSC	prairie dogs, or gopher tortoises. Require	show the Project Site does not provide
			open vegetated habitats such as grassland or	burrowing owl habitat. Some burrowing
			deserts. Can be found in abandoned urban	owl individuals could occur along the tie-
Coothhmis trick as simulas	Eade	DCC	areas.	Low Potential: The project area may
Saltmarsh common vellowthroat		SSC	wetlands. Utilize salt marshes east of the	include marsh or wetland but is outside of
Satimarsh common yenowinoat	C/1.	550	Carquinez Strait.	known range of this species.
Laterallus jamaicensis	Fed:	BCC	Utilize salt marshes, freshwater marshes,	<b>Low Potential</b> : Area surrounded by
coturniculus	CA:	ST; SFP	and wet meadows. Leaves the marsh during	anthropogenic disturbance and this species
California black rail			high tides, and requires dense vegetation to	is highly secretive and cryptic. Vegetation
			hide from predators within.	in the Project area is not conducive to
				cover needed by this species.
Melospiza melodia maxillaris	Fed:	BCC	Found in the brackish-marsh waters of	Moderate Potential: The project area may
Sulsun song sparrow	CA:	SSC	Suisun Bay. Utilize a matrix of emergent	include marsh or wetland similar to
			vegetation including burrush and cattans.	vicinity
Rallus obsoletus obsoletus	Fed:	FE	Require the tidal marshes of the San	Low Potential: The project area may
California Ridgway's (clapper) rail	CA:	SE; SFP	Francisco Bay estuary. Forage on the open	include marsh or wetland foraging habitat.
			mud flats, and nest in dense marsh	Nesting requirements not anticipated to be
			vegetation.	met by the project area.
Sternula antillarum browni	Fed:	FE	Require beaches, mudflats, or sand dunes	No Potential: Typical habitat requirements
California least tern	CA:	SE; SFP	that are near shallow estuaries or lagoons.	not met by the project area.
			Areas are often large and flat.	

Mammals				
Reithrodontomys raviventris	Fed:	FE	Found in saline emergent wetlands of San	Moderate Potential: The project area may
Salt-marsh harvest mouse	CA:	SE; SFP	Francisco Bay. Require salt marsh	include marsh or wetland habitat similar to
			vegetation, primarily pickleweed. Nest in	a nearby area with a known SMHM
			grasses, or utilize abandoned bird nests.	population.
			Known population adjacent to project area.	
Vulpes macrotis mutica	Fed:	FE	Habitat includes open desert, creosote bush	No Potential: The project area does not
San Joaquin kit fox	CA:	ST	flats, and sand dunes. Most individuals	contain the required habitat, and is outside
			found in areas with less than 20 percent	of the known range of this species.
			vegetation cover.	
Federal Designations				State Designations:
FE = Federal Endangered				SE=State Endangered
FT=Federal Threatened				ST= State Threatened
FC=Candidate for Federal Listing				SFP = State-Fully Protected
BCC = USFWS Bird of Conservation Concern			SSC= Species of Special Concern	
WL = Watch List Species				

# References

California Department of Fish and Wildlife. 2017. *California Natural Diversity Database, Rarefind.* <u>https://map.dfg.ca.gov/rarefind/view/RareFind.aspx</u> (Accessed 8/31/17).

California Department of Fish and Wildlife. 2017. California Natural Diversity Database. *Special Animals List, July 2017*. Periodic publication. 51 pp. <u>https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline</u> (Accessed 8/31/17).

U.S. Fish and Wildlife Service. 2017. *Information for Planning and Consultation* (IPaC). https://ecos.fws.gov/ipac/location/YGJLIYJGHZGKHPZYQLTSNZMSNA/resources (Accessed 8/31/17). Appendix D Noise Technical Report

# NOISE AND VIBRATION IMPACT ANALYSIS

DIABLO ENERGY STORAGE PROJECT CITY OF PITTSBURG, CALIFORNIA



January 2018

# NOISE AND VIBRATION IMPACT ANALYSIS

# DIABLO ENERGY STORAGE PROJECT CITY OF PITTSBURG, CALIFORNIA

Submitted to:

Diablo Energy Storage, LLC 5000 Hopyard Road, Suite #480 Pleasanton, California 94588

Prepared by:

LSA 157 Park Place Point Richmond, California 94801 (510) 236-6810

Project No. LPD1702



January 2018



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# LIST OF ABBREVIATIONS AND ACRONYMS

µin/sec	microinches per second
μPa	micropascal
ADT	average daily traffic
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dB	decibels
dBA	A-weighted decibels
EPA	United States Environmental Protection Agency
FHWA	Federal Highway Administration
ft	foot/feet
FTA	Federal Transit Administration
HP	horsepower
HVAC	heating, ventilation, and air conditioning
Hz	Hertz
in/sec	inches per second
L <sub>dn</sub>	day-night average noise level
$L_{eq}$	equivalent continuous sound level
L <sub>max</sub>	maximum instantaneous noise level
LSA	LSA Associates, Inc.
L <sub>v</sub>	velocity in decibels
mi	miles
N/A	not applicable
PPV	peak particle velocity
project	Diablo Energy Storage Project
RCNM	Roadway Construction Noise Model
RMS	root-mean-square (velocity)
sf	square feet
Spec.	specification
VdB	vibration velocity decibels
VMS	variable message sign
V <sub>ref</sub>	reference velocity amplitude

## **EXECUTIVE SUMMARY**

This noise and vibration impact analysis has been prepared to evaluate the potential noise and vibration impacts and mitigation measures associated with the proposed Diablo Energy Storage Project located in the City of Pittsburg, California.

The proposed Diablo Energy Storage Project and associated discretionary actions collectively are the "project" assessed in this noise and vibration impact analysis. The project proposes to install one to three single-story buildings on a graded and vacant approximately 12 acre site representing a portion of an approximately 35 acre parcel located at 701 Willow Pass Road. The buildings would house advanced energy storage technology (e.g. lithium batteries) which together with related control equipment including inverters, transformers and a small on-site electric substation, would be connected via a new tie-line to the existing PG&E substation located approximately 0.6 miles north of the project site.

This report discusses the characteristics of noise, the way in which it is measured, the physiological effects of noise, and provides a definition of acoustical terms. It also discusses vibration and human response to different levels of ground-borne and vibration. The report also summarizes federal, state and local standards and regulation regarding acceptable noise levels for specified land uses including residential use.

The existing sources of noise in the project civility include traffic noise from Willow Pass Road to the north industrial uses and the existing rail line to the south, and corona noise from the overhead power lines. Sound levels in the project vicinity were documented by noise measurements taken at five locations shown in Figure 3, including one at the property line of each of the three residential developments in the vicinity of the project site. As shown in Table I, the range of existing noise levels for these properties is 45.9 to 64.2 dBA L<sub>eq</sub>.

The impact analysis evaluates the potential noise impacts that could occur during project construction including vibration impacts. It also characterizes the potential noise impacts during project operation and potential corona noise from the proposed overhead tin-in line that would connect to the existing PG&E substation.

## **CONSTRUCTION NOISE IMPACT SUMMARY**

Construction is undertaken in discrete steps, each of which has its own mix of equipment, and consequently its own noise characteristics. These various sequential phases would change the character of the noise generated on the project site. Therefore, the noise levels vary as construction progresses. The composite noise level of the pieces of equipment during construction would be up to 89 dBA  $L_{eq}$  at a distance of 50 ft from the construction area. It is expected that noise levels at the residences 80 feet to the east would approach 85 dBA  $L_{eq}$ , construction impacts at residences 1,325 feet to the west would approach 61 dBA Leq, and construction impacts at residences 1,040 feet to the south would approach 63 dBA Leq. While construction-related short-term noise levels have the



potential to be higher than existing ambient noise levels in the project area today, the noise impacts would no longer occur once project construction is completed.

With the requirement of the project to comply with hours of operation restrictions outlined in the City of Pittsburg Municipal Code and the policies related to construction in the Noise Element of the General Plan, construction noise impacts would be reduced to the greatest extent feasible and would not cause a substantial impact to surrounding sensitive uses.

#### **OPERATIONS NOISE IMPACT SUMMARY**

Noise impacts associated with the long-term operation of the project must comply with the standards presented in the City's Noise Element, described above. A potential impact would occur if the noise impacts associated with operation of the proposed project increase existing ambient noise levels by 5 dBA L<sub>eq</sub> or more.

#### **Energy Storage Facility Noise Impact Summary**

In order to calculate the expected impacts due to long-term operational stationary source activities, the software SoundPlan was used. SoundPlan is a noise modeling program that allows 3-D calculations to be made taking into account topography, ground attenuation, and shielding from structures and walls. More specifically, this also includes the existing wall that runs north-south and is located east of the project site and west of the existing single-family homes. It is expected that this wall will provide some reduction associated with the sources that are located closer to ground level, however, the wall has the potential to provide less reduction for elevated sources such as rooftop HVAC equipment. The eastern-most building would provide significant reduction from sources associated with the middle and western-most buildings.

Following the completion of all construction phases, the results of the analysis for each sensitive area in the vicinity of the project would be as follows:

- Residences East of Project Site: The existing average nighttime noise level is 57.9 dBA L<sub>eq</sub>. With the implementation of the project, noise level impacts generated by the project would be 48.9 dBA L<sub>eq</sub> resulting in composite noise level of 58.4 dBA L<sub>eq</sub> with an overall increase of 0.5 dBA L<sub>eq</sub>.
- Residences West of Project Site: The existing average nighttime noise level is 45.9 dBA L<sub>eq</sub>. With the implementation of the project, noise level impacts generated by the project would be 44.5 dBA L<sub>eq</sub> resulting in composite noise level of 48.1 dBA L<sub>eq</sub> with an overall increase of 2.5 dBA L<sub>eq</sub>.
- Residences South of Project Site: The existing average nighttime noise level is 61.8 dBA Leq. With the implementation of the project, noise level impacts generated by the project would be 46.1 dBA Leq resulting in composite noise level of 61.9 dBA Leq with an overall increase of 0.1 dBA Leq.

•

Sidewalk North of Project Site: The existing average daytime noise level is 64.2 dBA Leq. With the implementation of the project, noise level impacts generated by the project would be 65.6 dBA Leq resulting in composite noise level of 68.0 dBA Leq with an overall increase of 3.8 dBA Leq.

These results show that the noise levels at all points around the project site would experience a future noise level increase less than 5 dBA; thus the project would not result in an impact to the existing sensitive receptors.

#### **Corona Noise Impact Summary**

In addition to the stationary sources on-site, the proposed project has the potential to create corona, or electro-static noise, along the proposed tie-in lines. The audible noise from the corona noise effect was calculated based on the Bonneville Power Administration (BPA) method provided in the Electric Power Research Institute (EPRI) Transmission Line Reference Book – 115 – 230 kV Compact Line Design. The results show that the noise level contributions at the nearest residences would be highly dependent on weather conditions, however, the potential corona noise levels would be very quiet, less than 20 dBA Leq, which would likely to be masked by existing ambient noise from other sources in the vicinity of the sensitive uses.



# LOCATION AND DESCRIPTION

## **PROJECT LOCATION AND SURROUNDING USES**

The project site is located at 701 Willow Pass Road, Pittsburg, California (APN 085-280-010). The Parcel is designated Business Commercial (BC) in the City of Pittsburg General Plan<sup>1</sup> and is zoned Industrial Park-Limited Overlay (IP-O). The proposed use would require a zoning text amendment to amend the IPO (Industrial Park with a Limited Overlay, Ord. No. 07-1284) District, or the "Empire Business Park Overlay District," such that a "major utility" would be permitted with a use permit. The proposed project site is currently vacant and undeveloped. Figure 1 indicates the project location, and Figure 2 is the project site plan.

The following describes the adjacent land uses:

- North: Willow Pass Road, existing tank farm, undeveloped land
- East: Existing single-family homes
- **South:** Existing industrial uses, existing rail line
- West: Vacant land with multiple over-head high-voltage power lines, and single-family homes farther west

## **PROJECT DESCRIPTION**

The project proposes to install between one and three single-story buildings on a graded and vacant approximately 12 acre site as shown in Figure 2. The project may be constructed in one or more phases. For the purposes of this analysis, noise impacts were analyzed for three phases:

- Phase 1: Eastern-most building, associated transformers, inverters and rooftop-HVAC as well the substation and electric tie line.
- Phase 2: The addition of the middle building with associated transformers, inverters and rooftop-HVAC.
- Phase 3: The addition of the western-most building with associated transformers, inverters and rooftop-HVAC.

<sup>&</sup>lt;sup>1</sup> City of Pittsburg, 2001. *General Plan Pittsburg 2020: A Vision for the 21st Century.* November.

The buildings would house advanced energy storage technology (e.g., lithium ion batteries) which, together with related control equipment including inverters, transformers, and a small onsite electric substation, would be connected via a new electric tie-line to the existing Pacific Gas & Electric Company (PG&E) Pittsburg Substation located approximately 0.6 mile north of the Site. The facility would be unoccupied and is designed for full remote operation. Diablo Energy Storage, LLC is the Applicant for development permits and would be the Lessee of the property.

The facility would not generate electricity. Rather, it would provide a service by receiving energy (charging) from the point of interconnection (POI) with the PG&E electric transmission system, storing energy, and then later delivering energy (discharging) back to the POI. The Site is within the East Contra Costa Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) area. Two alternate routes being considered for a tie-line to the POI are also within the HCP/NCCP area, and a third alternative route being considered extends out of the HCP/NCCP area as described further under the subheading of West Alignment. The Site is currently vacant with no structures.



# LSA



SOURCE: ESRI World Streetmap.

Diablo Energy Storage Facility Pittsburg, Contra Costa County, California Location Map

I:\LPD1702\GIS\Maps\Noise\Figure 1\_Location Map.mxd (11/10/2017)



SOURCE: TRC Solutions, Inc. (8/29/17)

Site Plan

# **METHODOLOGY**

Evaluation of noise and vibration impacts associated with the project includes the following:

- Determination of the short-term construction noise and vibration impacts on off-site noisesensitive uses;
- Determination of the long-term noise and vibration impacts from on-site stationary noise sources at the existing off-site noise-sensitive uses; and
- Determination of the required mitigation measures to reduce long-term noise and vibration impacts, if any, from all sources.

## **CHARACTERISTICS OF SOUND**

Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep.

To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is generally an annoyance, while loudness can affect the ability to hear. Pitch is the number of complete vibrations, or cycles per second, of a wave resulting in the tone's range from high to low. Loudness is the strength of a sound that describes a noisy or quiet environment and is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves combined with the reception characteristics of the human ear. Sound intensity refers to how hard the sound wave strikes an object, which in turn produces the sound's effect. This characteristic of sound can be precisely measured with instruments. The analysis of a project defines the noise environment of the project area in terms of sound intensity and its effect on adjacent sensitive land uses.

#### **Measurement of Sound**

Sound intensity is measured through the A-weighted scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies. Unlike linear units (e.g., inches or pounds) decibels are measured on a logarithmic scale representing points on a sharply rising curve.

For example, 10 decibels (dB) is 10 times more intense than 1 dB, 20 dB is 100 times more intense than 1 dB, and 30 dB is 1,000 times more intense than 1 dB. Thirty decibels (30 dB) represents 1,000 times as much acoustic energy as 1 dB. The decibel scale increases as the square of the change, representing the sound pressure energy. A sound as soft as human breathing is about 10 times greater than 0 dB. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. A 10 dB increase in sound level is perceived by the human ear as only a doubling of the loudness of the sound. Ambient sounds generally range from 30 dB (very quiet) to 100 dB (very loud).

Sound levels are generated from a source, and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. For a single point source, sound levels decrease approximately 6 dB for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by stationary equipment. If noise is produced by a line source (e.g., highway traffic or railroad operations) the sound decreases 3 dB for each doubling of distance in a hard site environment. Line source (noise in a relatively flat environment with absorptive vegetation) decreases 4.5 dB for each doubling of distance.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. The equivalent continuous sound level ( $L_{eq}$ ) is the total sound energy of time-varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the  $L_{eq}$  and Community Noise Equivalent Level (CNEL) or the day-night average noise level ( $L_{dn}$ ) based on A-weighted decibels (dBA). CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly  $L_{eq}$  for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours), and a 10 dBA weighting factor applied to noises occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours).  $L_{dn}$  is similar to the CNEL scale but without the adjustment for events occurring during the evening hours. CNEL and  $L_{dn}$  are within 1 dBA of each other and are normally interchangeable. The City uses the CNEL noise scale for long-term noise impact assessment.

Other noise rating scales of importance when assessing the annoyance factor include the maximum instantaneous noise level ( $L_{max}$ ), which is the highest exponential time-averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis for short-term noise impacts are specified in terms of maximum levels denoted by  $L_{max}$ , which reflects peak operating conditions and addresses the annoying aspects of intermittent noise. It is often used together with another noise scale, or noise standards in terms of percentile noise levels, in noise ordinances for enforcement purposes. For example, the  $L_{10}$  noise level represents the noise level exceeded 10 percent of the time during a stated period. The  $L_{50}$  noise level represents the median noise level. Half the time the noise level exceedes this level, and half the time it is less than this level. The  $L_{90}$  noise level represents the noise level exceeded 90 percent of the time and is considered the background noise level during a monitoring period. For a relatively constant noise source, the  $L_{eq}$  and  $L_{50}$  are approximately the same.

Noise impacts can be described in three categories. The first category includes audible impacts that refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3 dB or greater because this level has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1 dB and 3 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category includes changes in noise levels of less than 1 dB, which are inaudible to the human ear. Only audible changes in existing ambient or background noise levels are considered a potentially impact.



Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, thereby affecting blood pressure and functions of the heart and the nervous system. In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear, even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear (the threshold of pain). A sound level of 160–165 dBA will result in dizziness or loss of equilibrium. The ambient or background noise problem is widespread and generally more concentrated in urban areas than in outlying, less developed area. Table A lists definitions of acoustical terms, and Table B shows common sound levels and their sources.

Term	Definitions
Decibel, dB	A unit of measurement that denotes the ratio between two quantities that are
	proportional to power; the number of decibels is 10 times the logarithm (to the base 10)
	of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in 1
	second (i.e., number of cycles per second).
A-Weighted Sound	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes
Level, dBA	the very low- and very high-frequency components of the sound in a manner similar to
	the frequency response of the human ear and correlates well with subjective reactions
	to noise. (All sound levels in this report are A-weighted, unless reported otherwise.)
L <sub>01</sub> , L <sub>10</sub> , L <sub>50</sub> , L <sub>90</sub>	The fast A-weighted noise levels that are equaled or exceeded by a fluctuating sound
	level 1%, 10%, 50%, and 90% of a stated time period.
Equivalent Continuous	The level of a steady sound that, in a stated time period and at a stated location, has the
Noise Level, L <sub>eq</sub>	same A-weighted sound energy as the time-varying sound.
Community Noise	The 24-hour A-weighted average sound level from midnight to midnight, obtained after
Equivalent Level, CNEL	the addition of 5 dBA to sound levels occurring in the evening from 7:00 PM to 10:00 PM
	and after the addition of 10 dBA to sound levels occurring in the night between 10:00
	PM and 7:00 AM.
Day/Night Noise Level, L <sub>dn</sub>	The 24-hour A-weighted average sound level from midnight to midnight, obtained after
	the addition of 10 dBA to sound levels occurring in the night between 10:00 PM and 7:00
	AM.
L <sub>max</sub> , L <sub>min</sub>	The maximum and minimum A-weighted sound levels measured on a sound level meter,
	during a designated time interval, using fast time averaging.
Ambient Noise Level	The all-encompassing noise associated with a given environment at a specified time;
	usually a composite of sound from many sources at many directions, near and far; no
	particular sound is dominant.
Intrusive	The noise that intrudes over and above the existing ambient noise at a given location.
	The relative intrusiveness of a sound depends upon its amplitude, duration, frequency,
	and time of occurrence and tonal or informational content, as well as the prevailing
	ambient noise level.

## **Table A: Definitions of Acoustical Terms**

Source: Handbook of Acoustical Measurements and Noise Control (Harris 1991).

Noise Source	A-Weighted Sound Level in Decibels	Noise Environments	Subjective Evaluations
Near Jet Engine	140	Deafening	128 times as loud
Civil Defense Siren	130	Threshold of Pain	64 times as loud
Hard Rock Band	120	Threshold of Feeling	32 times as loud
Accelerating Motorcycle at a Few Feet Away	110	Very Loud	16 times as loud
Pile Driver; Noisy Urban Street/Heavy City Traffic	100	Very Loud	8 times as loud
Ambulance Siren; Food Blender	95	Very Loud	-
Garbage Disposal	90	Very Loud	4 times as loud
Freight Cars; Living Room Music	85	Loud	-
Pneumatic Drill; Vacuum Cleaner	80	Loud	2 times as loud
Busy Restaurant	75	Moderately Loud	-
Near Freeway Auto Traffic	70	Moderately Loud	-
Average Office	60	Quiet	One-half as loud
Suburban Street	55	Quiet	—
Light Traffic; Soft Radio Music in Apartment	50	Quiet	One-quarter as loud
Large Transformer	45	Quiet	—
Average Residence without Stereo Playing	40	Faint	One-eighth as loud
Soft Whisper	30	Faint	-
Rustling Leaves	20	Very Faint	_
Human Breathing	10	Very Faint	Threshold of Hearing
-	0	Very Faint	_

## Table B: Common Sound Levels and Their Noise Sources

Source: Compiled by LSA (2015).

## **FUNDAMENTALS OF VIBRATION**

Vibration refers to ground-borne noise and perceptible motion. Ground-borne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors, where the motion may be discernible, but without the effects associated with the shaking of a building there is less adverse reaction. Vibration energy propagates from a source through intervening soil and rock layers to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by occupants as the motion of building surfaces, the rattling of items on shelves or hanging on walls, or a low-frequency rumbling noise. The rumbling noise is caused by the vibration of walls, floors, and ceilings that radiate sound waves. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 10 vibration velocity decibels (VdB) or less. This is an order of magnitude below the damage threshold for normal buildings.

Typical sources of ground-borne vibration are construction activities (e.g., blasting, pile driving, and operating heavy-duty earthmoving equipment), steel-wheeled trains, and occasional traffic on rough roads. Problems with both ground-borne vibration and noise from these sources are usually localized to areas within approximately 100 feet (ft) from the vibration source, although there are

examples of ground-borne vibration causing interference out to distances greater than 200 ft (FTA 2006). When roadways are smooth, vibration from traffic, even heavy trucks, is rarely perceptible. It is assumed for most projects that the roadway surface will be smooth enough that ground-borne vibration from street traffic will not exceed the impact criteria; however, both construction of a project and freight train operations on railroad tracks could result in ground-borne vibration that may be perceptible and annoying.

Ground-borne noise is not likely to be a problem because noise arriving via the normal airborne path will usually be greater than ground-borne noise. Ground-borne vibration has the potential to disturb people and damage buildings. Although it is very rare for train-induced ground-borne vibration to cause even cosmetic building damage, it is not uncommon for heavy duty construction processes (e.g., blasting and pile driving) to cause vibration of sufficient amplitudes to damage nearby buildings (FTA 2006). Ground-borne vibration is usually measured in terms of vibration velocity, either the root-mean-square (RMS) velocity or peak particle velocity (PPV). The RMS is best for characterizing human response to building vibration, and PPV is used to characterize potential for damage. Decibel notation acts to compress the range of numbers required to describe vibration. Vibration velocity level in decibels is defined as:

 $L_v = 20 \log_{10} [V/V_{ref}]$ 

Where  $L_v$  is the VdB, "V" is the RMS velocity amplitude, and " $V_{ref}$ " is the reference velocity amplitude, or 1 x 10<sup>-6</sup> inches/second (in/sec) used in the United States. Table C illustrates human response to various vibration levels, as described in the *Transit Noise and Vibration Impact Assessment* (FTA 2006).

Vibration	Noise Level		
Velocity	Low-	Mid-	Human Response
Level	<b>Frequency</b> <sup>1</sup>	Frequency <sup>2</sup>	
65 VdB	25 dBA	40 dBA	Approximate threshold of perception for many humans. Low-frequency
			sound usually inaudible; mid-frequency sound excessive for quiet
			sleeping areas.
75 VdB	35 dBA	50 dBA	Approximate dividing line between barely perceptible and distinctly
			perceptible. Many people find transit vibration at this level annoying.
			Low-frequency noise acceptable for sleeping areas; mid-frequency noise
			annoying in most quiet occupied areas.
85 VdB	45 dBA	60 dBA	Vibration acceptable only if there are an infrequent number of events per
			day. Low-frequency noise annoying for sleeping areas; mid-frequency
			noise annoying even for infrequent events with institutional land uses
			such as schools and churches.

## Table C: Human Response to Different Levels of Ground-Borne Noise and Vibration

Source: Transit Noise and Vibration Impact Assessment (FTA 2006).

Approximate noise level when vibration spectrum peak is near 30 Hz.

<sup>2</sup> Approximate noise level when vibration spectrum peak is near 60 Hz.

dBA = A-weighted decibels Hz = Hertz

FTA = Federal Transit Administration VdB = vibration velocity decibels

Factors that influence ground-borne vibration and noise include the following:

- Vibration Source. Vehicle suspension, wheel types and condition, railroad track/roadway surface, railroad track support system, speed, transit structure, and depth of vibration source
- Vibration Path. Soil type, rock layers, soil layering, depth to water table, and frost depth
- Vibration Receiver. Foundation type, building construction, and acoustical absorption

Among the factors listed above, there are significant differences in the vibration characteristics when the source is underground compared to at the ground surface. In addition, soil conditions are known to have a strong influence on the levels of ground-borne vibration. Among the most important factors are the stiffness and internal damping of the soil and the depth to bedrock.

Experience with ground-borne vibration indicates: (1) vibration propagation is more efficient in stiff, clay soils than in loose, sandy soils; and (2) shallow rock seems to concentrate the vibration energy close to the surface and can result in ground-borne vibration problems at large distances from a railroad track. Factors including layering of the soil and the depth to the water table can have significant effects on the propagation of ground-borne vibration. Soft, loose, sandy soils tend to attenuate more vibration energy than hard, rocky materials. Vibration propagation through groundwater is more efficient than through sandy soils.



## **REGULATORY SETTING**

#### **FEDERAL REGULATIONS**

Vibration standards included in the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment* (FTA 2006) are used in this analysis for ground-borne vibration impacts on human annoyance, as shown in Table D. The criteria presented in Table D account for variation in project types as well as the frequency of events, which differ widely among projects. It is intuitive that when there will be fewer events per day, it should take higher vibration levels to evoke the same community response. This is accounted for in the criteria by distinguishing between projects with frequent and infrequent events, in which the term "occasional events" is defined as between 30 and 70 events per day.

# Table D: Ground-Borne Vibration and Ground-Borne Noise Impact Criteria for General Assessment

	Ground-Borne Vibration Impact Levels			Ground-Borne Noise Impact Levels (dB		
	(VdB re 1 µin/sec)		re 20 µPa)			
	Frequent <sup>1</sup>	Occasional <sup>2</sup>	Infrequent <sup>3</sup>	Frequent <sup>1</sup>	Occasional <sup>2</sup>	Infrequent <sup>3</sup>
Land Use Category	Events	Events	Events	Events	Events	Events
<b>Category 1:</b> Buildings where low ambient vibration is essential for interior operations.	65 VdB <sup>4</sup>	65 VdB <sup>4</sup>	65 VdB <sup>4</sup>	N/A <sup>5</sup>	N/A <sup>5</sup>	N/A <sup>5</sup>
<b>Category 2:</b> Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB	35 dBA	38 dBA	43 dBA
<b>Category 3:</b> Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB	40 dBA	43 dBA	48 dBA

Source: Transit Noise and Vibration Impact Assessment (FTA 2006).

<sup>1</sup> Frequent events are defined as more than 70 events per day.

<sup>2</sup> Occasional events are defined as between 30 and 70 events per day.

<sup>3</sup> Infrequent events are defined as fewer than 30 events per day.

<sup>4</sup> This criterion limit is based on levels that are acceptable for most moderately sensitive equipment, such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the HVAC systems and stiffened floors.

<sup>5</sup> Vibration-sensitive equipment is not sensitive to ground-borne noise.

uin/sec = microinches per second FTA = Federal Transit Administration

million per second	
μPa = micropascals	HVAC = heating, ventilation, and air conditioning
dB = decibels	VdB = vibration velocity decibels
dBA = A-weighted decibels	

The criteria for environmental impact from ground-borne vibration and noise are based on the maximum levels for a single event. Table E lists the potential vibration building damage criteria associated with construction activities, as suggested in the *Transit Noise and Vibration Impact Assessment* (FTA 2006).

FTA guidelines show that a vibration level of up to 102 VdB (equivalent to 0.5 in/sec in PPV) (FTA 2006) is considered safe for buildings consisting of reinforced concrete, steel, or timber (no plaster), and would not result in any construction vibration damage. For a nonengineered timber

and masonry building, the construction building vibration damage criterion is 94 VdB (0.2 in/sec in PPV).

Building Category	PPV (in/sec)	Approximate L <sub>v</sub> (VdB) <sup>1</sup>
Reinforced concrete, steel, or timber (no plaster)	0.50	102
Engineered concrete and masonry (no plaster)	0.30	98
Non-engineered timber and masonry buildings	0.20	94
Buildings extremely susceptible to vibration damage	0.12	90

## **Table E: Construction Vibration Damage Criteria**

Source: Transit Noise and Vibration Impact Assessment (FTA 2006). <sup>1</sup> RMS vibration velocity in decibels (VdB) re 1 µin/sec. µin/sec = inches per second PPV = peak particle velocity

FTA = Federal Transit Administration RMS = root-mean-square

in/sec = inches per second L<sub>v</sub> = velocity in decibels PPV = peak particle velocity RMS = root-mean-square VdB = vibration velocity decibels

## **STATE REGULATIONS**

The State of California has established regulations that help prevent adverse impacts to occupants of buildings located near noise sources. Referred to as the *State Noise Insulation Standard*, it requires buildings to meet performance standards through design and/or building materials that would offset any noise source in the vicinity of the receptor. State regulations include requirements for the construction of new hotels, motels, apartment houses, and dwellings other than detached single-family dwellings that are intended to limit the extent of noise transmitted into habitable spaces. These requirements are found in the California Code of Regulations, Title 24 (known as the Building Standards Administrative Code), Part 2 (known as the California Building Code), Appendix Chapters 12 and 12A. For limiting noise transmitted between adjacent dwelling units, the noise insulation standards specify the extent to which walls, doors, and floor ceiling assemblies must block or absorb sound. For limiting noise from exterior noise sources, the noise insulation standards set an interior standard of 45 dBA CNEL in any habitable room with all doors and windows closed. In addition, the standards require preparation of an acoustical analysis demonstrating the manner in which dwelling units have been designed to meet this interior standard, where such units are proposed in an area with exterior noise levels greater than 60 dBA CNEL.

The State has also established land use compatibility guidelines for determining acceptable noise levels for specified land uses. The City has adopted and modified the State's land use compatibility guidelines, as discussed below.

## LOCAL REGULATIONS

#### **City of Pittsburg General Plan Noise Element**

The Noise Element, Section 12 of the General Plan (2004), contains a description of various noise level increases and their respective perception, specifically at residential uses, in terms of potential impacts: A one (1) dBA change or less is not perceptible.

• A three (3) dBA change is considered barely perceptible

• A five (5) dBA change is considered noticeable, thus often resulting in a potential impact.

As presented in Policy 12-P-7, noise control at the source through site design and other techniques is required for new development.

Policy 12-P-9 limits the generation of loud noises on construction sites to the hours between 8:00 a.m. and 5:00 p.m.

Policy 12-P-10 limits truck traffic to appropriate truck routes and requires consideration of the restriction of truck traffic travel times in sensitive areas.

#### **City of Pittsburg Municipal Code**

The City of Pittsburg's Noise Ordinance (Title 9 - Public Peace, Safety and Morals, Chapter 9.44 - Noise, Section 9.44.010) prohibits the use of pile drivers, pneumatic hammers, and similar equipment between the hours of 10:00 p.m. and 7:00 a.m., but does not establish noise-level limits related to fixed noise sources or construction noise.

The City's Building and Construction Ordinance (Title 15 – Buildings and Construction, Chapter 15.88 – Grading, Erosion and Sediment Control, Section 15.88.060.A.5) prohibits grading noise, including warming of equipment motors, within 1,000 feet of a residence between the hours of 5:30 p.m. and 7:00 a.m. weekdays, unless other hours are approved by the City Engineer.

The City's Performance Standards For All Uses (Title 18 – Zoning, Chapter 18.82 – Noise, Section 18.82.040B) states that no construction event or activity occurring on any site adjoining a lot located in an R, residential PD or GQ district shall generate loud noises in excess of 65 decibels measured at the property line, except between the hours of 8:00 a.m. and 5:00 p.m.

#### **City of Pittsburg Vibration Standards**

The City of Pittsburg does not have established specific vibration impact criteria; therefore, during construction the FTA criteria presented above will be utilized to assess potential damage and human annoyance.

## **EXISTING SETTING**

#### **OVERVIEW OF THE EXISTING NOISE ENVIRONMENT**

The existing noise environment includes traffic noise from Willow Pass Road to the north, industrial uses and the existing rail line to the south and southeast, and corona noise from the existing powerlines. Noise from motor vehicles is generated by engine vibrations, interaction between tires and the road, and exhaust systems. Noise associated with the neighboring industrial uses is generated by heavy tuck movements, loading dock activities, forklift operations and other parking lot activities.

#### SENSITIVE LAND USES IN THE PROJECT VICINITY

Certain land uses are considered more sensitive to noise than others. Examples of these include residential areas, educational facilities, hospitals, childcare facilities, and senior housing. The closest sensitive receptors would be single-family residences approximately 80 feet east of the project site. These residential uses have an existing 8-foot high wall along the western property line. There are also existing residences to the west and south. The distances to these communities are 1,300 and 1,050 feet, respectively.

#### **EXISTING NOISE LEVEL MEASUREMENTS**

Noise levels at the project site are dominated by traffic on the surrounding streets and rail line as well as the existing industrial use activities. In order to assess the existing noise conditions in the project study area. Three long-term measurements were gathered from October 27 to October 29, 2017 as well as two (2) 15-minute short-term noise measurements on October 27, 2017. The locations of the noise measurements are shown on Figure 3, with the results shown in Table F, and the survey sheets are shown in Appendix A.

#### **EXISTING AIRCRAFT NOISE**

Airport related noise levels are primarily associated with aircraft engine noise made while aircraft are taking off, landing, or running their engines while still on the ground. The closest airport to the project site is the Buchanan Field Airport (CCR) located approximately 8.8 miles to the southwest in Contra Costa County. According to the Buchanan Field Noise Program, the project is located outside of the airport's influence area. Aircraft flyovers may be audible at the project site; however, no portion of the project site lies within the 65 dBA CNEL noise contours of the airport.



Location	Description	Range of Daytime Noise Levels (dBA L <sub>eq</sub> )	Range of Nighttime Noise Levels (dBA L <sub>max</sub> )
LT-1	Southeast corner of proposed project site near existing single-family residences.	51.2 – 62.3	53.0 - 62.8
LT-2	Approximately 1,200 feet west of the proposed project site and 50 feet south of Willow Pass Road.	58.4 - 70.0	51.8 - 64.3
LT-3	Approximately 1,750 feet southwest of the proposed project site and 55 feet south of North Parkside Drive.	62.1 - 69.0	55.8 - 67.8
ST-1	Approximately 630 feet southeast of the project site, near the existing industrial uses.	55.9	-
ST-2	Approximately 250 feet west of the project site, near the existing parking lot.	49.0	-

Source: LSA, October 27-29, 2017

dBA = A-weighted decibel

L<sub>eq</sub> = average noise level

L<sub>max</sub>=maximum noise level



0 200 400 FEET

SOURCE: Google Maps Satellite (2016).

Diablo Energy Storage Facility Pittsburg, Contra Costa County, California Noise Monitoring Locations

## **PROJECT NOISE AND VIBRATION IMPACTS**

Noise levels on and in the vicinity of the project site would change as a result of the proposed project. Potential noise impacts associated with the project include noises created during construction and operation of the project.

## SHORT-TERM CONSTRUCTION NOISE IMPACTS

Two types of short-term noise impacts would occur during project construction. The first type would be from construction crew commutes and the transport of construction equipment and materials to the project site which would incrementally raise noise levels on access roads leading to the project site. The pieces of heavy equipment for grading and construction activities would be moved on site, would remain for the duration of each construction phase, and would not add to the daily traffic volume in the project vicinity. Willow Pass Road would be used to access the project site. Although there would be high single-event noise exposure potential at a maximum level of 75 dBA L<sub>max</sub> at 50 ft due to truck pass-bys, the effect on longer-term (hourly or daily) ambient noise levels would be small when compared to existing hourly and daily traffic volumes. Because construction-related vehicle trips would not approach the hourly and daily traffic volumes mentioned above, traffic noise would not increase by 3 dBA. A noise level increase of less than 3 dBA would not be perceptible to the human ear in an outdoor environment. Therefore, short-term, construction-related impacts associated with worker commute and equipment transport to the project site would not cause an impact.

The second type of short-term noise impact is related to noise generated during site preparation, grading, building construction, architectural coating, and paving on the project site. The site preparation phase is expected to take approximately 60 days. After site preparation is complete, the remaining construction activities are expected to generate barely perceptible noise impacts to surrounding uses.

Construction is undertaken in discrete steps, each of which has its own mix of equipment, and consequently its own noise characteristics. These various sequential phases would change the character of the noise generated on the project site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table G lists the maximum noise levels recommended for noise impact assessments for typical construction equipment based on a distance of 50 ft between the equipment and a noise receptor. Typical operating cycles for these types of construction equipment may involve 1 to 2 minutes of full power operation followed by 3 to 4 minutes at lower power settings.

In addition to the reference maximum noise level, the usage factor provided in Table G is utilized to calculate the hourly noise level impact for each piece of equipment based on the following equation:

$$L_{eq}(equip) = E.L. + 10\log(U.F.) - 20\log\left(\frac{D}{50}\right)$$

- where:  $L_{eq}(equip) = L_{eq}$  at a receiver resulting from the operation of a single piece of equipment over a specified time period
  - E.L. = noise emission level of the particular piece of equipment at a reference distance of 50 ft
  - U.F. = usage factor that accounts for the fraction of time that the equipment is in use over the specified period of time
    - D = distance from the receiver to the piece of equipment

#### Table G: Typical Maximum Construction Equipment Noise Levels (Lmax)

Type of Equipment	Acoustical Usage Factor	Suggested Maximum Sound Levels for Analysis (dBA L <sub>max</sub> at 50 ft)
Bulldozer	40	85
Grader	40	85
Scraper	40	85
Water Truck	20	82
Compactor	20	80
Dump Truck	40	84
Loader	40	80
Bobcat	40	80

Source: Federal Highway Administration, *Highway Construction Noise Handbook* (2006). dBA = A-weighted decibel

ft = feet

L<sub>max</sub> = maximum noise level

Each piece of construction equipment operates as an individual point source. Utilizing the following equation, a composite noise level can be calculated when multiple sources of noise operate simultaneously:

$$Leq \ (composite) = 10 * \log_{10} \left( \sum_{1}^{n} 10^{\frac{Ln}{10}} \right)$$

The composite noise level of the pieces of equipment during construction would be 89 dBA  $L_{eq}$  at a distance of 50 ft from the construction area.

Once composite noise levels are calculated, reference noise levels can then be adjusted for distance using the following equation:

Leq (at distance X) = Leq (at 50 feet) - 20 \* 
$$\log_{10}\left(\frac{X}{50}\right)$$

In general, this equation shows that doubling the distance would decrease noise levels by 6 dBA while halving the distance would increase noise levels by 6 dBA. It is expected that noise levels at the residences 80 feet to the east would approach 85 dBA  $L_{eq}$ , construction impacts at residences 1,325 feet to the west would approach 61 dBA Leq, and construction impacts at residences 1,040 feet to the south would approach 63 dBA Leq. While construction-related short-term noise levels have the potential to be higher than existing ambient noise levels in the project area today, the noise impacts would no longer occur once project construction is completed.

With the requirement of the project to comply with hours of operations restriction in the Noise Ordinance and the policies related to construction in the Noise Element of the General Plan, construction noise impacts would be reduced to the greatest extent feasible and not cause a substantial impact to surrounding sensitive uses.

## SHORT-TERM CONSTRUCTION VIBRATION IMPACTS

This construction vibration impact analysis discusses the level of human annoyance using vibration levels in VdB and will assess the potential for building damages using vibration levels in PPV (in/sec) because vibration levels calculated in RMS are best for characterizing human response to building vibration while vibration level in PPV is best used to characterize potential for damage. As shown in Table E, the FTA guidelines indicate that a vibration level up to 102 VdB (an equivalent to 0.5 in/sec in PPV) (FTA 2006) is considered safe for buildings consisting of reinforced concrete, steel, or timber (no plaster), and would not result in any construction vibration damage. For a non-engineered timber and masonry building, the construction vibration damage criterion is 94 VdB (0.2 in/sec in PPV).

Table H shows the PPV and VdB values at 25 feet from the construction vibration source. As shown in Table H, bulldozers and other heavy-tracked construction equipment (vibratory rollers) generate approximately 87 VdB of ground-borne vibration when measured at 25 feet, based on the Transit Noise and Vibration Impact Assessment (FTA 2006). This level of ground-borne vibration levels could result in potential annoyance to residences and workers located adjacent to the project site, but would not cause any damage to the buildings. Construction vibration, similar to vibration from other sources, would not have any significant effects on outdoor activities (e.g., those outside of residences and commercial/office buildings in the project vicinity). Outdoor site preparation for the project is expected to use a bulldozer and loaded truck. The greatest levels of vibration are anticipated to occur during the site preparation phase. After the site preparation phase, all other construction phases will result in lower vibration levels because heavy tracked equipment will not be in use.

Faultament	Reference PPV/L <sub>v</sub> at 25 ft.		
Equipment	PPV (in/sec)	L <sub>v</sub> (VdB) <sup>1</sup>	
Vibratory Roller	0.210	94	
Large Bulldozer <sup>2</sup>	0.089	87	
Loaded Trucks	0.076	86	
Jackhammer	0.035	79	
Small Bulldozer	0.003	58	

## **Table H: Vibration Source Amplitudes for Construction Equipment**

Sources: Transit Noise and Vibration Impact Assessment (FTA 2006).

RMS vibration velocity in decibels (VdB) is 1 µin/sec.

Equipment shown in **bold** is expected to be used on site.

µin/sec = micro-inches per second ft = feet

FTA = Federal Transit Administration in/sec = inches per second L<sub>V</sub> = velocity in decibels PPV = peak particle velocity RMS = root-mean-square VdB = vibration velocity decibels

The distance to the nearest buildings for vibration impact analysis is measured between the nearest off-site buildings and the project boundary (assuming the construction equipment would be used at or near the project boundary) because vibration impacts occur normally within the buildings. The formula for vibration transmission is provided below.

 $L_v dB (D) = L_v dB (25 ft) - 30 Log (D/25)$ 

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

For typical construction activity, the equipment with the highest vibration generation potential is the large bulldozer, which would generate 87 VdB at 25 ft. The closest residential structure from the project site is approximately 80 ft. from the project construction boundary. The closest industrial building from the project site from is approximately 135 ft. to the south. Utilizing the information in Table H, the closest residences would experience vibration levels of up to 72 VdB (0.016 PPV [in/sec]). The closest industrial building to the south of the project site would experience vibration levels of 65 VdB (0.007 PPV [in/sec]). This range of vibration levels from construction equipment or activity would be below the FTA 94 VdB (0.2 in/sec PPV) threshold and would not exceed the 80 VdB threshold for residences due to infrequent events, thus resulting in no impact to surrounding uses.

## LONG-TERM AIRCRAFT NOISE IMPACTS

The project would develop an energy facility within the City, and would not contribute to any aircraft activity. There currently is no airport located within the city. The closest airport to the project site is the Buchanan Field Airport (CCR) located approximately 8.8 miles to the southwest in Contra Costa County. According to the Buchanan Field Noise Program, the project site is located outside of the airport's influence area. Therefore, no measurable long-term aircraft or airport noise impacts would occur.

## LONG-TERM STATIONARY NOISE IMPACTS

Noise impacts associated with the long-term operation of the project must comply with the standards presented in the City's Noise Element, described above. A potential impact could occur if

the noise impacts associated with operation of the proposed project increase existing noise levels by 5 dBA  $L_{eq}$  or more. Noise associated with the project includes the energy facility and corona noise.

In order to calculate the expected impacts due to long-term operational stationary source activities, the software SoundPlan was used. SoundPlan is a noise modeling program that allows 3-D calculations to be made taking into account topography, ground attenuation, and shielding from structures and walls. More specifically, this also includes the existing wall that runs north-south and is located east of the project site and west of the existing single-family homes. It is expected that this wall will provide some reduction associated with the sources that are located closer to ground level, however, the wall has the potential to provide less reduction for elevated sources such as rooftop HVAC equipment. Similarly, once the eastern-most building is constructed, it will provide significant reduction from sources associated with the middle and western-most building. Within the model, the noise library allows for the input of many noise sources and calculates the composite noise levels experienced at any receptor necessary. The results from any calculation can be presented both in both tabular and graphic formats.

The proposed operations assumed in this analysis were based on conversations with the project engineer and are conservative in nature (i,e. all operations are occurring simultaneously). A description of the sources measured and their respective sound pressure level at a distance of 10 feet included in the analysis, which represent the loudest noise hour when the greatest amount of equipment is in operation, is as follows:

- 48 (3 groups of 16) 5.6 megawatt transformers that have a sound pressure noise level of 70.3 dBA L<sub>eq</sub>.
- 96 (3 groups of 32) 2.8 megawatt inverters that have a sound pressure noise level of 74.5 dBA L<sub>eq</sub>.
- 30 (3 groups of 10) rooftop HVAC Units that have a sound pressure noise level of 73.3 dBA L<sub>eq</sub>.
- 2 HVAC units within the substation that have a sound pressure noise level of 58.7 dBA L<sub>eq</sub>.
- 1 generator step-up transformer within the substation with a reference sound pressure level of 80.9 dBA L<sub>eq</sub>.

In order to remain conservative, it is assumed that all equipment above operating simultaneously for the duration of the entire hour.

Table I shows the results of the SoundPlan noise modeling for each phase of project development. The results show that the noise levels at all points around the project site would experience noise level impacts that would increase the existing measured noise level by less than 5 dBA; thus the project would not result in an impact to the existing sensitive receptors. A graphic showing the results of the SoundPlan modeling during full site operations is provided in Figure 4.


### **Table I: Project Operations – All Sources**

	Existing	Pha	ise 1	Pha	se 2	Full Ope	erations
Receiver Location	Average Noise Hour (dBA Leq) <sup>1</sup>	Noise Impact From Project Operations (dBA Leq)	Future Noise Level / Noise Level Increase (dBA L <sub>eq</sub> )	Noise Impact From Project Operations (dBA Leq)	Future Noise Level / Noise Level Increase (dBA L <sub>eq</sub> )	Noise Impact From Project Operations (dBA Leq)	Future Noise Level / Noise Level Increase (dBA L <sub>eq</sub> )
R-1 Residences East of Site	57.9 <sup>1</sup>	47.6	58.3 / 0.4	48.6	58.4 / 0.5	48.9	58.4 / 0.5
R-2 Residences West of Site	45.9 <sup>1</sup>	43.4	47.7 / 2.0	42.9	47.5 / 1.8	44.5	48.1 / 2.5
R-3 Residences South of Site	61.8 <sup>1</sup>	43.6	61.9 / 0.1	44.7	61.9/0.1	46.1	61.9 / 0.1
R-4 Northern Property Line	64.2 <sup>2</sup>	62.9	66.6 / 2.4	63.3	66.8 / 2.6	65.6	68.0 / 3.8

Source: LSA. January 2018..

The average nighttime noise hour was taken from existing measurements provided in Table F above. In the case of R-2, existing noise 1. levels were propagated based on distance from Willow Pass Road.

2. The average daytime noise hour was taken from existing measurements provided in Table F above given the use of the sidewalk to the north of the project is expected to occur during daytime hours and is an active use.

dBA = A-weighted decibels

L<sub>eq</sub> = equivalent continuous level



Diablo Energy Storage Facility Pittsburg, Contra Costa County, California

Future Operational Impacts

#### **Corona Noise**

The proposed project electric tie line has the potential to create corona, or electro-static noise, along the proposed tie-in lines. The audible noise from the corona noise effect was calculated based on the Bonneville Power Administration (BPA) method provided in the Electric Power Research Institute (EPRI) Transmission Line Reference Book – 115 - 230 kV Compact Line Design. The equation used to calculate the audible noise from the corona noise effect is based on median fair weather, rainy weather, and heavy rain conditions and for less than three sub-conductors in each conductor (bundle) as provided below.

Equation: P = 55 log d + 120 log g + Alt./300 - 115.4 - 11.4 log D

Where: P = the audible noise in dBA above 20  $\mu$ PA.

- d = the sub-conductor diameter in centimeter (cm).
- g = the maximum gradient in kilo-volts/centimeter (kV/cm).
- Alt. = the altitude above sea level in meters.
- D = the distance from the phase to the measuring point in meters.

Table J shows the results of the corona noise calculations for each potential tie-in alignment. The results show that the noise level contributions at the nearest residences would be highly dependent on weather conditions and the potential corona noise levels would be very quiet, less than 20 dBA Leq, which would likely to be masked by existing ambient noise from other sources in the vicinity of the sensitive uses.

Alignment / Address of Nearest Receptor	Distance to Nearest Receptor (feet)	Noise Level (dBA) for Median Fair Weather Conditions	Noise Level (dBA) for Rainy Weather Conditions <sup>1</sup>	Noise Level (dBA) for Heavy Rain Conditions <sup>2</sup>
Reference / 10 feet from Alignment	10	Not Audible	21.0	24.5
West Alignment / 127 Mayport Court	250	Not Audible	12.0	15.5
Middle Alignment / 114 Prosperity Court	130	Not Audible	15.0	18.5
East Alignment / 1000 Beacon Street	110	Not Audible	16.0	19.5

### Table J: Corona Noise Contributions – dBA Leq

Source: LSA. January 2018.

<sup>&</sup>lt;sup>1</sup> The audible noise level for median fair weather conditions is 25 dBA less than rainy weather conditions.

<sup>&</sup>lt;sup>2</sup> The audible noise level for heavy rain conditions is 3.5 dBA higher than rainy weather conditions.

dBA = A-weighted decibels

L<sub>eq</sub> = equivalent continuous level





FIGURE 5

Diablo Energy Storage Facility Pittsburg, Contra Costa County, California Off-site Tie-in Alignments



# **RESULTS SUMMARY**

As described herein, the proposed project would result in increased noise levels in the project vicinity due to temporary construction activities, however those increases would cease after construction is completed. Noise associated with long-term operations or corona noise would not create an impact to surrounding noise sensitive receptors. With the requirement of the project to comply with hours of operations restriction in the Noise Ordinance and the policies related to construction in the Noise Element of the General Plan, construction noise impacts would be reduced to the greatest extent feasible and not cause a substantial impact to surrounding sensitive uses.

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#### J.T. Stephens, Author, Senior Noise Specialist

Mr. Stephens holds a B.S. in Acoustical Engineering from Purdue University. He is a Senior Acoustical Specialist at LSA with over 13 years of experience in preparing noise studies. Mr. Stephens is primarily responsible for the preparation of noise studies for a variety of projects. He is proficient in the use of the FHWA Highway Traffic Noise Prediction Model (FHWA RD-77-108), Traffic Noise Model (TNM) 2.5, RCNM, Insul, and SoundPlan noise prediction software. Mr. Stephens is also responsible for performing noise monitoring surveys using a variety of Larson Davis sound level meters.

LIST OF PREPARERS

#### Amy Fischer, Principal-In-Charge.

Ms. Fischer has a B.S. in Environmental Policy Analysis from the University of Nevada, Reno. With 17 years of experience, Ms. Fischer serves as a Noise Principal, is qualified to conduct analyses for a variety of projects, is the technical lead on noise impact analyses documents, and oversees the research and preparation of technical reports.



# **APPENDIX A**

# **NOISE MONITORING SURVEY SHEETS**

# Noise Measurement Survey – 24 HR

Project Number: <u>LPD1702</u>	Test Personnel: <u>JT / Kaitlin</u>
Project Name: <u>Diablo Energy</u>	Equipment: <u>Quest Noise Pro DLX</u>
Site Number: <u>LT-1</u> Date: <u>10/27-10/30/17</u>	Time: From <u>12 pm</u> To <u>i pm</u>
Site Location: <u>SE Corner of the Proposed</u>	Project Site
Primary Noise Sources: <u>Activities at the exi</u> Road, Trains	sting distribution center, traffic on Willow Pass
Comments: Serial Number: NXF 100112	









# Noise Measurement Survey – 24 HR

Project Number: <u>LPD1702</u> Project Name: <u>Diablo Energy</u>	Test Personnel: <u>JT / Kaitlin</u> Equipment: <u>Quest Noise Pro DLX</u>
Site Number: <u>LT-2</u> Date: <u>10/27-10/30/17</u>	Time: From <u>12 pm</u> To <u>1:10 pm</u>
Site Location: West of the Proposed Project	et Site, south of Willow Pass Road
Primary Noise Sources: <u>Traffic on Willow P</u>	ass Road, Corona Noise
Comments: Serial Number: NX G0601A	4









# Noise Measurement Survey – 24 HR

Project Number: <u>LPD1702</u> Project Name: <u>Diablo Energy</u>	Test Personnel: <u>JT / Kaitlin</u> Equipment: <u>Quest Noise Pro DLX</u>		
Site Number: <u>LT-3</u> Date: <u>10/27-10/30/17</u>	Time: From <u>12 pm</u> To <u>123 pm</u>		
Site Location: Southwest of the Proposed	1 Project Site, south of Parkside Drive		
Primary Noise Sources: <u>Traffic on Parkside</u>	e Drive, Corona Noise		
Comments: Serial Number: NXMO7	0024		









# Noise Measurement Survey

Project Number: <u>LPD1702</u> Project Name: <u>Diable Energy</u>	Test Personnel: <u>JT Stephens</u> Equipment: <u>LD LrT</u>
Site Number: <u>57-1</u> Date: <u>10/27/17</u>	Time: From <u>1:21</u> , To <u>1:34</u> .
Site Location: <u>SE Corner of Existing Indus</u> Along funce line. Close to 5	trial Building ingle-Family Homes
Primary Noise Sources: Forklift operation	us/back-up beeper
Comments: 9'-10' high prop line face Forkilfe pass-loy 64-660BA Backup beeper 61 dBA when	e near door
Adjacent Roadways: Existing Rail Line	

File:	64
Leq	55.9
L <sub>max</sub>	69.3
L <sub>min</sub>	37.9
La 5	103.2
L& 10	40.3
L25 33.3	52.3
L <sub>50</sub>	49.7
L90 66.4	43.4
L99 90	39.3

<b>Atmospheric Conditions</b>		
Average Wind Velocity (mph)	0.9	
Maximum Wind Velocity (mph)	1.9	
Temperature (F)	87.2	
Relative Humidity (%)	21	

# Noise Measurement Survey

Project Number: LPD1702	Test Personnel: JT Stephens
Project Name: Diable Energy	Equipment: LD LxT
Site Number: <u>57-2</u> Date: <u>10/27/17</u>	Time: From <u>1:44</u> To
Site Location: West of project site, N	212 corner of existing parking lot
Primary Noise Sources: Truck and Vehicle	e plovements vities / Fodelift.
Traffed on Willo	w Pass Rd (faint)
firplanes	
Comments: ~ 20 dock @ brilding.	
Adjacent Roadways: Willow Pros Pd.	

File:	65
L <sub>eq</sub>	49.0
L <sub>max</sub>	62.1
L <sub>min</sub>	HO.3
L2 5	52.8
L8 15	51.5
L25 33-3	48.9
L <sub>50</sub>	47.5
Loo 66 10	46.2
L99 80	43.2

<b>Atmospheric Conditions</b>		
Average Wind Velocity (mph)	1.0	
Maximum Wind Velocity (mph)	3.0	
Temperature (F)	87.4	
Relative Humidity (%)	21%	

Appendix E

NAHC Correspondence

#### NATIVE AMERICAN HERITAGE COMMISSION

1550 Harbor Blvd., Suite 100 West Sacramento, CA 95691 (916) 373-3710 Fax (916) 373-5471



May 30, 2017

Howard Higgins TRC Environmental

Sent by Email: hhiggins@trcsolutions.com Number of Pages: 2

RE: Diablo Project, Honker Bay, Contra Costa County

Dear Mr. Higgins:

A record search of the Native American Heritage Commission (NAHC) *Sacred Lands File* was completed for the area of potential project effect (APE) referenced above with negative results. **Please note that the absence of specific site information in the** *Sacred Lands File* **does not indicate the absence of Native American cultural resources in any APE**.

I suggest you contact all of those listed, if they cannot supply information, they might recommend others with specific knowledge. The list should provide a starting place to locate areas of potential adverse impact within the APE. By contacting all those on the list, your organization will be better able to respond to claims of failure to consult. If a response has not been received within two weeks of notification, the NAHC requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact via email: Sharaya.souza@nahc.ca.gov.

Sincerely,

My I

Sharaya Souza Staff Services Analyst

### Native American Heritage Commission Native American Contacts 5/30/2017

Amah MutsunTribal Band of Mission San Juan Bautista Irenne Zwierlein, Chairperson 789 Canada Road Ohlone/Costanoan Woodside , CA 94062 amahmutsuntribal@gmail.com (650) 851-7489 Cell (650) 851-7747 Office (650) 332-1526 Fax

Wilton Rancheria Raymond Hitchcock, Chairperson 9728 Kent Street Miwok Elk Grove , CA 95624 rhitchcock@wiltonrancheria-nsn.gov (916) 683-6000 Office

(916) 683-6015 Fax

Indian Canyon Mutsun Band of Costanoan Ann Marie Savers. Chairperson P.O. Box 28 Ohlone/Costanoan Hollister , CA 95024 ams@indiancanyon.org (831) 637-4238

Muwekma Ohlone Indian Tribe of the SF Bay Area Rosemary Cambra, Chairperson P.O. Box 360791 Ohlone / Costanoan , CA 95036 Milpitas muwekma@muwekma.org (408) 314-1898 (510) 581-5194

North Valley Yokuts Tribe Katherine Erolinda Perez, Chairperson P.O. Box 717 , CA 95236 Linden **Bay Miwok** canutes@verizon.net (209) 887-3415

Ohlone/Costanoan Northern Valley Yokuts

The Ohlone Indian Tribe Andrew Galvan P.O. Box 3152 Fremont , CA 94539 chochenyo@AOL.com (510) 882-0527 Cell

Ohlone/Costanoan **Bay Miwok** Plains Miwok Patwin

(510) 687-9393 Fax

This list is current only as of the date of this document and Is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code

This list is only applicable for contacting local Native Americans with regard to cultural resources assessments for the updated contact list for Diablo Project, Honker Bay, Contra Costa County.



December 11, 2017

Wilton Rancheria Raymond Hitchcock, Chairperson 9728 Kent Street Elk Grove, CA 95624

# Subject: | AB 52 Tribal Consultation for the Diablo Energy Storage Project

Raymond Hitchcock:

The City of Pittsburg has received a request for formal notice of and information on proposed projects within the geographic area of the City's jurisdiction from your tribe per Public Resources Code, Section 21080.3.1(b). In accordance with Public Resources Code, Section 21080.3.1(d), the City of Pittsburg is hereby providing formal notification to your tribe of the Diablo Energy Storage Project.

In September 2017, Diablo Energy Storage LLC submitted an application requesting a Conditional Use Permit, Zoning Text Amendment and Design Review for a Battery Storage Project. The applicant proposes to install up to three single story buildings on a graded and vacant approximately 12 acre site representing a portion of an approximately 35 acre parcel located at 701 Willow Pass Road, Pittsburg, California (APN 085-280-010). The proposed project would also include a tie in line to the existing PG&E Substation. Three alternative routes are shown on the attached project location map.

If your tribe would like to consult on this project, please submit a request for consultation to the City at the following address:

Kristin Pollot, Planning Manager City of Pittsburg 65 Civic Avenue Pittsburg, CA 94565

If you have any questions, please contact me at (925) 252-4043 or via e-mail at <u>KPollot@ci.pittsburg.ca.us</u>.

Sincerely,

Kristin Pollot, Planning Manager

Attachment: Project Location Map



December 13, 2017

North Valley Yakuts Tribe Katherine Erolinda Perez, Chairperson P. O. Box 717 Linden, CA 95236

### Subject: | AB 52 Tribal Consultation for the Diablo Energy Storage Project

Katherine Erolinda Perez:

The City of Pittsburg has received a request for formal notice of and information on proposed projects within the geographic area of the City's jurisdiction from your tribe per Public Resources Code, Section 21080.3.1(b). In accordance with Public Resources Code, Section 21080.3.1(d), the City of Pittsburg is hereby providing formal notification to your tribe of the Diablo Energy Storage Project.

In September 2017, Diablo Energy Storage LLC submitted an application requesting a Conditional Use Permit, Zoning Text Amendment and Design Review for a Battery Storage Project. The applicant proposes to install up to three single story buildings on a graded and vacant approximately 12 acre site representing a portion of an approximately 35 acre parcel located at 701 Willow Pass Road, Pittsburg, California (APN 085-280-010). The proposed project would also include a tie in line to the existing PG&E Substation. Three alternative routes are shown on the attached project location map.

If your tribe would like to consult on this project, please submit a request for consultation to the City at the following address:

Kristin Pollot, Planning Manager City of Pittsburg 65 Civic Avenue Pittsburg, CA 94565

If you have any questions, please contact me at (925) 252-4043 or via e-mail at <u>KPollot@ci.pittsburg.ca.us</u>.

Sincerely,

Kristin Pollot, Planning Manager

Attachment: Project Location Map



December 13, 2017

Indian Canyon Mutsun Band of Costanoan Ann Marie Sayers, Chairperson P. O. Box 28 Hollister, CA 95024

# Subject: | AB 52 Tribal Consultation for the Diablo Energy Storage Project

Ann Marie Sayers:

The City of Pittsburg has received a request for formal notice of and information on proposed projects within the geographic area of the City's jurisdiction from your tribe per Public Resources Code, Section 21080.3.1(b). In accordance with Public Resources Code, Section 21080.3.1(d), the City of Pittsburg is hereby providing formal notification to your tribe of the Diablo Energy Storage Project.

In September 2017, Diablo Energy Storage LLC submitted an application requesting a Conditional Use Permit, Zoning Text Amendment and Design Review for a Battery Storage Project. The applicant proposes to install up to three single story buildings on a graded and vacant approximately 12 acre site representing a portion of an approximately 35 acre parcel located at 701 Willow Pass Road, Pittsburg, California (APN 085-280-010). The proposed project would also include a tie in line to the existing PG&E Substation. Three alternative routes are shown on the attached project location map.

If your tribe would like to consult on this project, please submit a request for consultation to the City at the following address:

Kristin Pollot, Planning Manager City of Pittsburg 65 Civic Avenue Pittsburg, CA 94565

If you have any questions, please contact me at (925) 252-4043 or via e-mail at <u>KPollot@ci.pittsburg.ca.us</u>.

Sincerely,

Kristin Pollot, Planning Manager

Attachment: Project Location Map



December 13, 2017

Amah Mutsun Tribal Band of Mission San Juan Bautista Irene Zwierlein, Chairperson 789 Canada Road Woodside, CA 94062

### Subject: | AB 52 Tribal Consultation for the Diablo Energy Storage Project

Irene Zwierlein:

The City of Pittsburg has received a request for formal notice of and information on proposed projects within the geographic area of the City's jurisdiction from your tribe per Public Resources Code, Section 21080.3.1(b). In accordance with Public Resources Code, Section 21080.3.1(d), the City of Pittsburg is hereby providing formal notification to your tribe of the Diablo Energy Storage Project.

In September 2017, Diablo Energy Storage LLC submitted an application requesting a Conditional Use Permit, Zoning Text Amendment and Design Review for a Battery Storage Project. The applicant proposes to install up to three single story buildings on a graded and vacant approximately 12 acre site representing a portion of an approximately 35 acre parcel located at 701 Willow Pass Road, Pittsburg, California (APN 085-280-010). The proposed project would also include a tie in line to the existing PG&E Substation. Three alternative routes are shown on the attached project location map.

If your tribe would like to consult on this project, please submit a request for consultation to the City at the following address:

Kristin Pollot, Planning Manager City of Pittsburg 65 Civic Avenue Pittsburg, CA 94565

If you have any questions, please contact me at (925) 252-4043 or via e-mail at <u>KPollot@ci.pittsburg.ca.us</u>.

Sincerely,

Kristin Pollot, Planning Manager

Attachment: Project Location Map



December 13, 2017

The Ohlone Indian Tribe Andrew Galvin P. O. Box 3152 Fremont, CA 94539

# Subject: | AB 52 Tribal Consultation for the Diablo Energy Storage Project

Andrew Galvin:

The City of Pittsburg has received a request for formal notice of and information on proposed projects within the geographic area of the City's jurisdiction from your tribe per Public Resources Code, Section 21080.3.1(b). In accordance with Public Resources Code, Section 21080.3.1(d), the City of Pittsburg is hereby providing formal notification to your tribe of the Diablo Energy Storage Project.

In September 2017, Diablo Energy Storage LLC submitted an application requesting a Conditional Use Permit, Zoning Text Amendment and Design Review for a Battery Storage Project. The applicant proposes to install up to three single story buildings on a graded and vacant approximately 12 acre site representing a portion of an approximately 35 acre parcel located at 701 Willow Pass Road, Pittsburg, California (APN 085-280-010). The proposed project would also include a tie in line to the existing PG&E Substation. Three alternative routes are shown on the attached project location map.

If your tribe would like to consult on this project, please submit a request for consultation to the City at the following address:

Kristin Pollot, Planning Manager City of Pittsburg 65 Civic Avenue Pittsburg, CA 94565
If you have any questions, please contact me at (925) 252-4043 or via e-mail at <u>KPollot@ci.pittsburg.ca.us</u>.

Sincerely,

Kristin Pollot, Planning Manager

Attachment: Project Location Map



December 13, 2017

Muwekma Ohlone Indian Tribe of the SF Bay Area Rosemary Cambra, Chairperson P. O. Box 360791 Milpitas, CA 95036

## Subject: | AB 52 Tribal Consultation for the Diablo Energy Storage Project

Rosemary Cambra:

The City of Pittsburg has received a request for formal notice of and information on proposed projects within the geographic area of the City's jurisdiction from your tribe per Public Resources Code, Section 21080.3.1(b). In accordance with Public Resources Code, Section 21080.3.1(d), the City of Pittsburg is hereby providing formal notification to your tribe of the Diablo Energy Storage Project.

In September 2017, Diablo Energy Storage LLC submitted an application requesting a Conditional Use Permit, Zoning Text Amendment and Design Review for a Battery Storage Project. The applicant proposes to install up to three single story buildings on a graded and vacant approximately 12 acre site representing a portion of an approximately 35 acre parcel located at 701 Willow Pass Road, Pittsburg, California (APN 085-280-010). The proposed project would also include a tie in line to the existing PG&E Substation. Three alternative routes are shown on the attached project location map.

If your tribe would like to consult on this project, please submit a request for consultation to the City at the following address:

Kristin Pollot, Planning Manager City of Pittsburg 65 Civic Avenue Pittsburg, CA 94565

Per Public Resources Code, Section 21080.3.1(d), a request for consultation must be submitted within 30 days of receipt of this letter.

If you have any questions, please contact me at (925) 252-4043 or via e-mail at <u>KPollot@ci.pittsburg.ca.us</u>.

Sincerely,

Kristin Pollot, Planning Manager

Attachment: Project Location Map