CITY OF PITTSBURG

MT. DIABLO RESOURCE RECOVERY PARK

DRAFT ENVIRONMENTAL IMPACT REPORT

SCH No. 2011052053

Prepared for:

CITY OF PITTSBURG
65 CIVIC AVENUE
PITTSBURG, CA 94565

Prepared by:

2729 PROSPECT PARK DRIVE, SUITE 220
RANCHO CORDOVA, CA 95670

DECEMBER 2014

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City of Pittsburg
Development Services Department
Planning Division
65 Civic Avenue
Pittsburg, CA 94565-3814

Notice of Availability

MOUNT DIABLO RESOURCE RECOVERY PARK DRAFT EIR
State Clearinghouse No. 2011052053
December 16, 2014

LEAD AGENCY: City of Pittsburg

PROJECT TITLE: Mount Diablo Resource Recovery Park

PROJECT LOCATION: The project site is located at 1300 Loveridge Road in the City of Pittsburg in north-central Contra Costa County. The project site is on the western side of Loveridge Road just north of Pittsburg-Antioch Highway and State Route (SR) 4, and just south of the Burlington Northern and Santa Fe (BNSF) railroad and the shoreline of New York Slough. The project site is a total of 36 acres with 17.5 acres (Assessor's Parcel Numbers (APNs) 073-200-014 and 073-200-015) on the existing facility, and an expansion onto 18.5 acres located west and south of the existing facility. The site is located in the Antioch North Quadrangle and within the Los Medanos Land Grant.

PROJECT DESCRIPTION: The proposed project consists of a Conditional Use Permit (CUP) for the operational expansion and reorganization of the existing Mt. Diablo Recycling Facility (MDRF) and Recycling Center and Transfer Station (RCTS). The expanded facility will be called the Mt. Diablo Resource Recovery Park (MDRRP). The MDRRP will consist of the Mt. Diablo Recycling Facility, Transfer/Processing Facility, Mixed Construction and Demolition (C&D) Processing Facility, and Organics Processing Facility, which are existing facilities proposed for operational expansion, as well as a new Biomass Gasification Unit. The project also includes relocation of the truck maintenance facility and yard from the east side of Loveridge Road to the expanded project site.

ENVIRONMENTAL EFFECTS: The City of Pittsburg has prepared a Draft Environmental Impact Report (EIR) to address the specific environmental effects of implementing the MDRRP. The Draft EIR consists of a focused analysis of the following environmental issue areas that may be impacted by the project:

- Air Quality
- Greenhouse Gas and Climate Change

- Hazards
- Hydrology and Water Quality
- Land Use
- Public Services and Utilities
- Transportation and Circulation
- Biological Resources
- Cumulative Impacts
- Growth Inducing Impacts
- Significant Irreversible Environmental Changes

Listed hazardous waste sites, hazardous materials users and other associated hazardous material sites (including sites identified under Section 65962.5 of the Government Code) that are known to be present in the project area are identified in Section 4.3 (Hazards) of the Draft EIR.

Significant environmental effects of the project after implementation of mitigation measures include generation of construction emissions, degradation of operations at two study intersections, and degradation of operations at the Pittsburg-Antioch Highway/Loveridge Road intersection under cumulative conditions.

PUBLIC REVIEW PERIOD/STATUS: A **45-day public review period** will be provided to receive written comments on the adequacy of the Draft EIR. The comment period will start on **December 16, 2014,** and end on **January 30, 2015**. Written comments should be sent to Dana Hoggatt Ayers, Planning Manager, at the following address:

Development Services Department, Planning Division
65 Civic Avenue
Pittsburg, CA 94565

Or

E-mail: dhoggatt@ci.pittsburg.ca.us

PUBLIC MEETING: The City of Pittsburg, acting as Lead Agency for the project, will also accept comments on the DEIR at a public workshop, to be held on **Thursday, January 15, 2015,** from 6:00 p.m. to 7:00 p.m. at Pittsburg City Hall, 65 Civic Avenue, First Floor Conference Room, Pittsburg, CA 94565.

AVAILABILITY OF THE DRAFT EIR: Copies of the Draft EIR are available for review at the following location:

City of Pittsburg
Planning Department
65 Civic Avenue
Pittsburg, CA 94565
Phone: (925) 252-4920

The Draft EIR may also be reviewed on the City's website (http://www.ci.pittsburg.ca.us/index.aspx?page=217). Referenced material used in the preparation of the Draft EIR may be reviewed upon request to the Planning Department.

ES EXECUTIVE SUMMARY

1.0 INTRODUCTION

2.0 PROJECT DESCRIPTION

3.0 ENVIRONMENTAL ANALYSIS

4.0 CUMULATIVE IMPACTS SUMMARY

5.0 PROJECT ALTERNATIVES

6.0 CEQA MANDATED SECTIONS

7.0 REPORT PREPARERS

APPENDICES

TABLES

FIGURES

ES - Executive Summary

This section provides an overview of the proposed Mt. Diablo Resource Recovery Park project (project; proposed project) and the environmental analysis. For additional detail regarding specific issues, please consult the appropriate section (3.1 through 3.8) in Chapter 3, Environmental Analysis, of this Draft Environmental Impact Report (Draft EIR; DEIR).

The City of Pittsburg was identified as the lead agency for the proposed project. In accordance with Section 15082 of the California Environmental Quality Act (CEQA) Guidelines, the City prepared and distributed a Notice of Preparation (NOP) of an EIR on May 18, 2011 (SCH# 2011052053). This notice was circulated to the public, local, state, and federal agencies, and other interested parties to solicit comments on the proposed project. The NOP is presented in **Appendix A**. In addition, an Initial Study was prepared for the project and released for public review at the same time as the NOP. The Initial Study is also included in **Appendix A**. The City filed a Notice of Completion with the State Clearinghouse for the Draft EIR on December 16, 2014, concurrently kicking off a 45-day public review period for the Draft EIR document and associated technical appendices. The public review period on the Draft EIR ends on January 30, 2015, after which the City will respond in writing to all environmental comments received and incorporate those into a Final Environmental Impact Report (FEIR) for consideration by the City of Pittsburg City Council.

ES1 PURPOSE AND SCOPE OF THE ENVIRONMENTAL IMPACT REPORT

This Draft EIR provides an analysis of the potential environmental effects associated with the approval of the proposed project, pursuant to CEQA (California Public Resources Code Section 21000, et seq.) and the State CEQA Guidelines (14 California Code of Regulations, Section 15000, et seq.). For a complete description of the project, see Section 2.0, Project Description, of this DEIR.

The DEIR analysis focuses on potential impacts that could result from development of the proposed project. Where appropriate, some impacts are analyzed under future conditions, which assume buildout of reasonably foreseeable projects in the area as appropriate under cumulative analysis conditions. All project-specific impacts are measured against the conditions that existed at the time of release of the Notice of Preparation (May 2011).

ES2 PROJECT CHARACTERISTICS

The proposed project consists of a Conditional Use Permit (CUP) to expand the capacity, operations, and land area of the existing Mt. Diablo Recycling Facility (MDRF) and the Recycling Center and Transfer Station (RCTS). The expanded facility will be called the Mt. Diablo Resource Recovery Park (MDRRP). The MDRRP will consist of the Mt. Diablo Recycling Facility, Transfer/Processing Facility, Mixed Construction and Demolition (C&D) Processing Facility, and Organics Processing Facility (currently known as the Green Material Processing Operations Area), which are existing facilities proposed for operational expansion. The project also includes a proposal for a new Biomass Gasification Unit, the addition of a 15-acre parcel adjacent to and west of the existing site for vehicle and equipment storage, and the addition of the 3.5-acre parcel located south of the existing site for a new truck maintenance facility and yard that would be relocated from a site east of the MDRRP across Loveridge Road. Concurrently, the solid waste permit is being revised to reflect the proposed project components. A summary of the proposed operational and physical changes to the facility is provided below.

MT. DIABLO RECYCLING FACILITY

The proposed project would result in the following changes to the existing Mt. Diablo Recycling Facility:

- Increase the permitted tonnage from 500 tons per day (TPD) to 1,000 TPD.
- Add a second processing line for commercial material consistent with AB 341, which requires a commercial recycling program.
- Include additional commingled recyclable materials for processing.
- Add solar panels to the rooftop to generate 800 kilowatts of energy.
- Expand area to provide additional parking and commodity and equipment storage.

TRANSFER/PROCESSING FACILITY

The proposed project would result in the following changes to the existing RCTS:

- Increase the permitted tonnage of municipal solid waste transferred and processed at the facility from 1,500 to 2,700 TPD.
- Add commercial and residential food waste processing capacity within the building to produce up to 480 TPD of compost and/or anaerobic digestion feedstock.
- Add solar panels to the rooftop to generate 800 kilowatts-hours of energy (combined output with the panels on the roof of the MDRF).
- Expand area to provide additional parking and commodity and equipment storage.

ORGANICS PROCESSING FACILITY

The project proposes the following changes to the existing Green Material Processing Area:

- Allow the processing of co-collected green material and food material from residential sources.
- Increase permitted tonnage from 200 to 800 TPD with up to 10,000 cubic yards of storage.
- Increase the permitted operating hours from 7 a.m. to 6 p.m. to 24 hours per day.
- Add a second grinder.

MIXED C&D PROCESSING FACILITY

The project proposes the following changes to the existing Mixed C&D Processing Facility:

- Add additional bays to the existing processing line.
- Add a second similar processing line.

- Increase the permitted tonnage from 450 to 1,000 TPD.
- Add additional processing for dry commercial recyclables and self-haul wastes.
- Expand areas for storage of commodities and equipment, and parking.
- Increase the operating hours from 7 a.m. to 5 p.m. to 4 a.m. to 10 p.m.

BIOMASS GASIFICATION UNIT

The project proposes to construct and operate a Biomass Gasification Unit (BGU) on a currently undeveloped site located at the northwestern corner of the project site. The proposed BGU portion of the project would include the following:

- Construct and operate a BGU.
- Allow 24-hour operation and maintenance of the unit.
- Utilize 40 TPD of clean wood chips processed at the on-site Organics Processing Facility or the Material Processing Area as the fuel source for the BGU.
- Generate 1 megawatt per hour of renewable energy primarily for use for on-site operations.
- Install transmission lines to power the Mt. Diablo Recycling Facility and the Mixed C&D Processing Facility and to sell excess electricity to Pacific Gas and Electric (PG&E).

TRUCK MAINTENANCE FACILITY AND YARD

The project proposes to construct and operate a Truck Maintenance Facility and Yard on an approximate 3.5 acre area located at the southeastern portion of the site (former GWF site). The proposed facility would replace an existing facility currently located east of the project site across Loveridge Road. The proposed Truck Maintenance Facility and Yard would include the following:

- Construct and operate an 18,000 square foot building, comprised of a 15,600 square foot shop and a 2,400 square foot office/storage area, with 2,000 square feet of open air canopies.
- Relocate the existing truck fueling island from the MDRF main parking area.

ADDITIONAL LAND

The project proposes to add land to accomplish the following:

- Add 15 acres along the westerly border for vehicle and equipment storage, and containerized commodity storage.
- Add the 3.5-acres along the southerly border for the truck maintenance facility and yard discussed above.

ES3 PROJECT ALTERNATIVES SUMMARY

The CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the project that could feasibly attain the basic objectives of the project and reduce the degree of environmental impact. Section 5.0, Alternatives to the Project, provides a qualitative analysis of alternatives as compared to the proposed project. Alternatives identified for the proposed project include the following:

Alternative 1—No Project Alternative. Alternative 1, the no project alternative, assumes the existing Mt. Diablo Recycling Center and Transfer Station would continue to operate under its current permitted capacities and that no physical improvements would be made at the project site. This alternative also assumes that no revisions would be made to the facility's current Solid Waste Facility Permit issued by the California Department of Resources Recycling and Recovery (CalRecycle). The facility is currently permitted to process a throughput of 2,650 tons per day (TPD).[1] The facility currently processes less than its permitted capacity, approximately 1,181 TPD. This alternative assumes that the facility would ultimately increase operations to the permitted levels (a 125 percent increase from existing operations), with a proportionate increase in the number of truck and vehicle trips entering and leaving the site. The current permitted capacity is less than the total capacity requested for the proposed project, which is 5,500 TPD.

Alternative 2—Biomass and Solar Alternative. Alternative 2, the biomass and solar alternative, assumes that the facility's permitted capacities would not be increased and no new programs would be added to the Mt. Diablo Recycling Facility, Transfer/Processing Facility, Mixed Construction and Demolition (C&D) Processing Facility, or Organics Processing Facility, with the exception of the 40 tons per day increase in clean wood chips to fuel the biomass plant. This alternative assumes only the construction of the Biomass Gasification Unit on approximately 3.5 acres of expansion land and installation of the solar panels would move forward. Because the facility's capacities would not be substantially increased, no revisions to the facility's Solid Waste Facility Permit would be requested and the proposed addition of sort lines, bays, and other equipment would not be required.

Alternative 3—Limited Expansion Alternative (Typical Operating Conditions). Alternative 3, the limited expansion alternative, assumes that there would be increases at the Mt. Diablo Recycling Facility, Transfer/Processing Facility, Mixed Construction and Demolition (C&D) Processing Facility, or Organics Processing Facility. The existing facility has historically operated below the facility's permitted levels. While the DEIR analysis assumes that the expanded facility under the proposed project would operate every day at the maximum permitted level currently requested, the limited expansion alternative assumes the permit would seek an expansion to only 55 percent of the requested permit level of the proposed project. Therefore, the operating condition of the facility under the limited expansion alternative (operating at 55 percent of the maximum permitted level under the proposed project) would be 3,050 tons per day (TPD), compared to 5,500 TPD for the proposed project. This alternative was analyzed as "typical operating conditions" in the traffic impact study and in Section 3.7, Transportation and Circulation of this DEIR.

ES4 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

Comments received on the NOP are included in **Appendix A** of this Draft EIR. Comments that are related to the scope of the environmental analysis are summarized in Section 1.0, Introduction, and include issues such as traffic operations, solid waste operations, odor and wastewater service. Additional comments were received that did not concern the adequacy or scope of the environmental analysis under CEQA.

Concerns raised in response to the NOP were considered during the preparation of the Draft EIR.

ES5 SUMMARY OF ENVIRONMENTAL IMPACTS

Table ES-1 displays a summary of project impacts and proposed mitigation measures that would avoid or minimize potential impacts. In the table, the level of significance is indicated both before and after the implementation of each mitigation measure. For detailed discussions of project impacts and mitigation measures, the reader is referred to the technical environmental analysis in Sections 3.1 through 3.8 in this Draft EIR.

Of the potential environmental impacts discussed in the Draft EIR, the following air quality and traffic impacts are considered significant and unavoidable. CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects, including those that can be mitigated but not reduced to a level of insignificance.

The significant and unavoidable project impacts are in the following air quality and traffic topic areas. The traffic topic areas are further identified as "typical operating conditions" at approximately 55 percent of permitted capacity and "maximum permitted operating conditions" at 100 percent permitted capacity (see Section 3.7, Transportation and Circulation, of this Draft EIR for further discussion of typical and maximum operating conditions):

- Short-Term Construction Emissions (Impact 3.1.1). Mitigation identified for the project, which include measures to reduce fugitive dust, area-source, and mobile-source emissions, would reduce maximum daily construction emissions but not below the BAAQMD's significance threshold of 54 lbs/day for each pollutant. Therefore, short-term construction emissions remain significant and unavoidable.

- Project-Specific Traffic Impacts (Impact 3.7.1). Mitigation identified for the project, which includes payment of Capital Improvement Program (CIP) fees, would improve level of service at impacted intersections to less than significant. However, while the improvements are listed in the CIP, there is no funding plan identified. Since funding for the full improvement is not certain, this impact remains significant and unavoidable.

    - *Typical Operating Conditions*—Based on Contra Costa Transportation Authority (CCTA) methodology, the Pittsburg-Antioch Highway/Loveridge Road intersection would degrade from level of service (LOS) B to LOS high-D during the AM peak hour and would degrade from LOS E to LOS F (an increase in the volume-to-capacity ratio (V/C) of more than 0.01) during the PM peak hour.

    - *Maximum Permitted Operating Conditions*—Based on CCTA methodology, the SR 4 Eastbound Ramps/Loveridge Road intersection would degrade to LOS high-D (V/C of 0.85 to 0.90) during the PM peak hour, thus resulting in a significant impact. Additionally, the Pittsburg-Antioch Highway/Loveridge Road intersection would degrade from LOS B to LOS F during the AM peak hour and would degrade from LOS

E to LOS F (an increase in V/C of more than 0.01) during the PM peak hour. Based on the Highway Capacity Manual (HCM) methodology, both the SR 4 Eastbound Ramps/Loveridge Road and Pittsburg-Antioch Highway/Loveridge Road intersections would operate at LOS F during at least one of the peak hours.

- Cumulative Traffic Impacts (Impact 3.7.2. While most intersections studied in the DEIR would operate acceptably under cumulative conditions, the addition of project-generated traffic to projected future traffic would result in unacceptable conditions under typical operating conditions or maximum permitted operating conditions. The traffic study determined that widening along Loveridge Road to accommodate an additional northbound lane may be infeasible due to the railroad crossing and right-of-way constraints. Therefore, the operating conditions at this intersection remain significant and unavoidable.

  - *Typical Operating Conditions*—Based on the HCM methodology, the Pittsburg-Antioch Highway/Loveridge Road intersection would operate at LOS F during both AM and PM peak hours with the addition of project traffic under typical operating conditions.

  - Maximum Permitted Operating Conditions—Based on CCTA methodology, the Pittsburg-Antioch Highway/Loveridge Road intersection would degrade to LOS D during the AM peak hour and to LOS E during the PM peak hour. Based on the HCM methodology, the Pittsburg-Antioch Highway/Loveridge Road intersection would operate at LOS F during both AM and PM peak hours with the addition of project traffic.

TABLE ES-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact		Level of Significance Without Mitigation	Mitigation Measure		Resulting Level of Significance
3.1 Air Quality					
Impact 3.1.1	Construction-related emissions of criteria air pollutants and precursors could violate or contribute substantially to an existing or projected air quality violation, expose sensitive receptors to substantial pollutant concentrations, and/or conflict with air quality planning efforts.	PS	**MM 3.1.1**	a. The proposed project shall implement BAAQMD-recommended best management practices for the control of fugitive dust including, but not limited to, the following: 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved areas of vehicle travel) shall be watered two times per day. 2. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 3. All vehicle speeds on on-site unpaved areas shall be limited to a maximum of 15 miles per hour. 4. All parking areas, equipment pads, and driveways shall be paved as soon as possible. Equipment pads shall be laid as soon as possible after grading unless seeding or soil binders are used. 5. Where applicable, plant vegetative ground cover (fast-germinating native grass seed) in disturbed areas as soon as possible.	SU

LS – Less than Significant PS – Potentially Significant S – Significant SU – Significant and Unavoidable
LCC – Less than Cumulatively Considerable CC – Cumulatively Considerable

Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		6. A publicly visible sign shall be posted at the site entrance identifying the telephone number and name of the person to contact at the construction site regarding dust complaints. The phone number of the City contact person and/or department shall also be posted to ensure compliance. All complaints, including any necessary corrective actions implemented to address the complaint, shall be documented and responded to within 48 hours. Designated City compliance monitoring staff and/or department shall be notified of all complaints received. b. The following measures shall be implemented to reduce construction-generated mobile-source emissions: 1. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. 2. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.	

Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		3. Heavy-duty (i.e., 25 horsepower or greater) off-road construction equipment shall, at a minimum, meet Tier 3 emission standards. c. The above measures or any additional or modified measures listed by the Bay Area Air Quality Management District at the time of construction shall be implemented to the degree mandated by the discretion of the City at the time of issuance of any development permits. Timing/Implementation: Measures shall be added as conditions of approval for all development permits Enforcement/Monitoring: City of Pittsburg Development Services Department	
Impact 3.1.2 Long-term operational emissions of criteria air pollutants and precursors could violate or contribute substantially to an existing or projected air quality violation, expose sensitive receptors to substantial pollutant concentrations, and/or conflict with air quality planning efforts.	PS	**MM 3.1.2a** The project applicant shall demonstrate that all heavy-duty off-road equipment (i.e., 25 hp or greater) used at the project site meets, at a minimum, CARB's Tier 4i emission standards. Timing/Implementation: Prior to operation of new facilities Enforcement/Monitoring: City of Pittsburg Development Services Department and Department of Environmental Affairs **MM 3.1.2b** The operator shall provide a report on the throughput tonnage processed at the facility that would result in operational emissions of NO_x at 90% of the allowable threshold of 54 pounds per day and 10 tons per year (i.e., 48.6 pounds of NO_x per day or nine tons of NO_x per year).	LS

Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		The report shall be included as a condition of approval of the use permit and shall be completed by a qualified air quality professional within one year of approval of the use permit for the expansion. Project-generated tonnages and estimated emissions based on the report shall be evaluated commencing at the five-year state permit review and each year thereafter as tonnage reports are submitted to the City Department of Environmental Affairs and Development Services Department. Once the throughput tonnages reach the amount determined in the report to result in 48.6 pounds of NO_x daily or nine or more tons of NO_x annually, the operator shall prepare and submit project-generated emissions reports, as described in MM 3.1.2c. Timing/Implementation: Completion of the report shall be a condition of approval of the use permit and shall be completed prior to issuance of the Solid Waste Facility Permit. Enforcement/Monitoring: City of Pittsburg Development Services Department and Department of Environmental Affairs. **MM 3.1.2c** Once the project receives a tonnage throughput resulting in 90% of assumed Nox emissions (48.6 pounds of NOx per day or nine tons of NOx per year) as indicated by annual tonnage reports submitted to the City's Department of Environmental Affairs and Development	

Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		Services Department, the operator shall obtain the services of a qualified specialist, approved by the City Development Services Department in conjunction with the Department of Environmental Affairs, to prepare and submit an annual air quality report showing project-generated NOx emissions. The annual emissions evaluation shall identify project-generated increases in emissions over those existing at the time of the approval of the use permit, any emission reduction strategies that have been implemented (i.e., use of cleaner equipment, etc.), and any emissions offsets or additional mitigation measures, as described in MM 3.1.2d, that will be implemented sufficient to achieve the threshold of 54 pounds of NOx per day or 10 tons of NOx per year. Emissions analyses shall be submitted to the City by April 1 of the following year. Upon approval of the annual air quality report by the City, documentation of any emissions offsets or additional mitigation strategies that have been implemented shall be provided to the City within 30 calendar days. Timing/Implementation: Annually as described Enforcement/Monitoring: City of Pittsburg Development Services Department and Department of Environmental Affairs **MM 3.1.2d** Based on the information provided in the annual report described in MM 3.1.2c, the proposed project shall implement on-	

Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		site control measures and/or purchase emissions offsets sufficient to limit net increases (as defined) in operational NOx emissions to no more than 54 pounds per day or 10 tons of NOx per year. Measures shall be implemented on an ongoing basis corresponding to increases in operational activities. Measures to be implemented to reduce operational NOx emissions may include, but are not limited to, the following: • Use of alternatively fueled vehicles and off-road equipment • Electrification of on-site equipment. • Reductions in the number of pieces of motorized equipment and/or hours of use. • Replacement/conversion of existing off-road equipment sufficient to meet, at a minimum, ARB's Tier 4i emission standards, or equivalent. • Secure emission reduction credits (ERCs) to offset NOx emissions per BAAQMD Regulations 2-2-215, 302, and 303. Timing/Implementation: Annually as described Enforcement/Monitoring: City of Pittsburg Development Services Department and Department of Environmental Affairs	
Impact 3.1.3 Implementation of the proposed project would not contribute to traffic volumes at primarily affected intersections that would exceed BAAQMD's screening criteria. As a result, localized concentrations of mobile-	LS	None required.	LS

Impact		Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
	source CO are not projected to exceed applicable ambient air quality standards.			
Impact 3.1.4	Implementation of the proposed project would not result in incremental increases in risk or hazards at nearby sensitive receptors that would exceed applicable significance thresholds.	LS	Implement mitigation measure MM 3.1.2a	LS
Impact 3.1.5	Subsequent land use activities associated with implementation of the proposed project would not create objectionable odors affecting a substantial number of people due to compliance with an Operations and Odor Impact Minimization Plan submitted with the proposed land use application.	LS	None required.	LS
Impact 3.1.6	The proposed project, in combination with emission sources in the San Francisco Bay Area Air Basin, would result in a cumulatively considerable net increase of criteria air pollutants and precursors.	LCC	Implement mitigation measures MM 3.1.1 and MM 3.1.2a through d.	LCC
Impact 3.1.7	The proposed project, in combination with nearby emission sources, would not result in predicted risks or hazards that would exceed applicable significance thresholds at nearby sensitive receptors.	LCC	Implement mitigation measure MM 3.1.2a	LCC
Impact 3.1.8	Implementation of the proposed project would not result in a cumulatively considerable increase of odorous emissions that would adversely impact nearby sensitive receptors.	LCC	None required.	LCC

Impact		Level of Significance Without Mitigation	Mitigation Measure		Resulting Level of Significance
3.2 Climate Change and Greenhouse Gases					
Impact 3.2.1	Implementation of the proposed project would not result in a net increase in greenhouse gas emissions that could potentially conflict with the goals of AB 32 or result in a significant impact on the environment.	LCC	*None required.*		LCC
3.3 Hazards and Hazardous Materials					
Impact 3.3.1	Implementation of the proposed project would result in the routine transport, use, and disposal of hazardous materials during both construction and operation that could pose a potential hazard to the public and the environment. However, federal, state, and local regulations provide a comprehensive regulatory system for handling, using, and transporting hazardous materials in a manner that protects human health and the environment	LS	None required.		LS
Impact 3.3.2	Construction workers could be exposed to hazardous materials during site preparation. However, compliance with existing applicable worker health and safety laws and regulations would minimize potential for exposure.	LS	**MM 3.3.2a**	The project applicant shall either update the existing facility's Construction Worker Site Health and Safety Plan or prepare a new plan to include the entire current project site and proposed site preparation and construction activities. The completed plan shall be implemented during all project construction activities. The plan shall address the potential for workers to be exposed to contaminated soils and shall provide specific measures to be implemented to ensure worker health and safety. These measures may include site controls, use of protective clothing, soil watering, hazard awareness training for workers, and/or emergency medical response procedures.	LS

Impact		Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
			Timing/Implementation: Prior to issuance of grading permits for the 18.5 acre expanded site Enforcement/Monitoring: City of Pittsburg Development Services Department/Department of Toxic Substances Control (DTSC)	
			MM 3.3.2b The project applicant shall comply with all relevant requirements of the Covenant to Restrict Use of Property, Environmental Restriction (Re: A limited portion of County of Contra Costa APN 073-200-021 UPI Pittsburg Facility Site L-A Property, DTSC site code number 520024), DOC-2010-0132574-00 recorded by the Contra Costa County Clerk-Recorder's office on July 1, 2010. Timing/Implementation: During Site Preparation and Construction Enforcement/Monitoring: City of Pittsburg Development Services Department/DTSC	
Impact 3.3.3	Construction and operation of the proposed project would not interfere with implementation of the City's Emergency Operations Plan (EOP).	LS	None required.	LS
Impact 3.3.4	Implementation of the proposed project, along with other proposed, planned, approved, and reasonably foreseeable projects in the area, would have a less than cumulatively considerable impacts related to hazards and hazardous materials.	LCC	None required.	LCC

Impact		Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
3.4 Hydrology and Water Quality				
Impact 3.4.1	On-site drainage is treated by existing on-site water quality measures to minimize pollutant load. Wastewater generated on-site is treated at the Delta Diablo Sanitation District Wastewater Treatment Plant, which is in compliance with all applicable water quality standards and waste discharge requirements.	LS	None required.	LS
Impact 3.4.2	Implementation of the proposed project would not result in the depletion of groundwater supplies or interference with groundwater recharge.	LS	None required.	LS
Impact 3.4.3	Implementation of the proposed project would result in a slight increase in on-site stormwater runoff. However, the existing on-site drainage system has adequate capacity to accept, treat, and convey increased flows. In the case that the 3.5 acre area to the south is rerouted to the ditch, a 0.2 acre detention system would be constructed to not exceed the available capacity of the downstream ditch.	LS	None required.	LS
Impact 3.4.4	Construction activities could introduce pollutants and sediments into stormwater runoff on the project site, potentially degrading downstream surface drainages and groundwater.	LS	None required.	LS
Impact 3.4.5	Operation of the proposed project would introduce sediments and other contaminants typically associated with commercial development into stormwater runoff, potentially resulting in the degradation of downstream surface water and underlying groundwater quality.	LS	None required.	LS

Impact		Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
Impact 3.4.6	A portion of the project site proposed for development is located within a flood zone. In addition, the project site is located in proximity to the Suisun Bay/Sacramento River Delta and may be at risk of flooding as a result of seiche/tsunami waves. However, compliance with existing City standards would minimize potential hazards.	LS	None required.	LS
Impact 3.4.7	The proposed project, in combination with approved, proposed, and other reasonably foreseeable projects in the cumulative setting area, would not contribute significantly to degradation of water quality in area surface drainages and groundwater supplies.	LCC	None required.	LCC
Impact 3.4.8	The proposed project, in combination with approved, proposed, and other reasonably foreseeable projects in the cumulative setting area, would place structures within a flood zone. However, compliance with existing City standards would minimize potential hazards.	LCC	None required.	LCC
3.5 Land Use				
Impact 3.5.1	The proposed project is consistent with the existing land use designation and zoning district for the site and requires a Use Permit.	LS	None required.	LS
Impact 3.5.2	The proposed project, in combination with other approved, proposed, and reasonably foreseeable projects in the cumulative study area, could conflict with the City's Zoning Ordinance.	LCC	None required.	LCC

Impact		Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
3.6 Public Services and Utilities				
Impact 3.6.1.1	Implementation of the proposed project could result in an increased demand for fire protection services, requiring new or expanded CCCFPD facilities or equipment.	LS	None required.	LS
Impact 3.6.1.2	The project proposes modifications to the layout of the facilities and operations on the project site that may result in inadequate access for emergency vehicles and personnel in the event of a fire or other emergency situation.	LS	*None required.*	LS
Impact 3.6.1.3	The project would contribute to cumulative demand for fire protection and emergency medical services.	LCC	None required.	LCC
Impact 3.6.2.1	Implementation of the proposed project would substantially increase the facility's water demands. However, the City and its wholesale provider would have sufficient water supplies available to meet the project's demand.	LS	None required.	LS
Impact 3.6.2.2	The proposed project, in combination with other cumulative development, would increase demand for potable water.	LCC	None required.	LCC
Impact 3.6.3.1	The proposed project could exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.	LS	None required.	LS
Impact 3.6.3.2	Implementation of the proposed project could require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	LS	None required.	LS

Impact		Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
Impact 3.6.3.3	Implementation of the proposed project could 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.	LS	None required.	LS
Impact 3.6.3.4	The proposed project, combined with other cumulative development, would increase demand for wastewater treatment facilities.	LCC	None required.	LCC
3.7 Transportation and Circulation				
Impact 3.7.1	Implementation of the proposed project would result in the degradation of operations at two study intersections.	S	**MM 3.7.1a** The proposed project shall contribute their fair share to implement the SR 4 widening project, which would result in improvements at the SR 4 Eastbound Ramps/Loveridge Road intersection that would increase capacity. These improvements include: • Convert the existing configuration from a "T" intersection to a four-leg intersection. • Modify eastbound approach from its current configuration which provides one shared left-turn/through lane and one right-turn lane to provide two left-turn lanes and one right-turn lane. • Modify southbound approach from its current configuration which provides one through lane and one shared through/right-turn lane to provide two left-turn lanes and two through lanes. • Modify northbound approach from its current configuration which provides one through lane and one shared through/right-turn lane to provide two through lanes and one right-turn lane.	SU

Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		Timing/Implementation: Payment of fees shall be included as a condition of approval of a Conditional Use Permit Enforcement/Monitoring: City of Pittsburg Development Services Department **MM 3.7.1b** The proposed project shall contribute their fair share to implement the following measures at the Pittsburg-Antioch Highway/Loveridge Road intersection: • Install a dedicated eastbound right-turn lane on Pittsburg-Antioch Highway. • Install a second westbound left-turn lane on Pittsburg-Antioch Highway. • Upgrade existing traffic signal equipment to accommodate the changed intersection lane configurations. Timing/Implementation: Payment of fees shall be included as a condition of approval of a Conditional Use Permit Enforcement/Monitoring: City of Pittsburg Development Services Department	
Impact 3.7.2 Operations at the Pittsburg-Antioch Highway/Loveridge Road intersection are projected to degrade with the addition of project traffic.	CC	**MM 3.7.2** The project applicant shall pay the project's fair share of the cost to implement the following measures at the Pittsburg-Antioch Highway/Loveridge Road intersection: • Install an additional left-turn lane on the westbound Pittsburg-Antioch Highway approach. • Install a dedicated left-turn lane on the northbound Loveridge Road approach. • Convert the existing shared left-	CC SU

Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		turn/through lane on the northbound Loveridge Road approach to be a through-only lane. • Modify signal phasing in the north/south direction from split phase to having protected left-turns. • Upgrade existing traffic signal equipment to accommodate the recommended intersection lane configurations. Timing/Implementation: Payment of fees shall be included as a condition of approval of a Conditional Use Permit Enforcement/Monitoring: City of Pittsburg Development Services Department	
Impact 3.8.1 Implementation of project-related activities could result in substantial adverse effects, either directly or through habitat modifications, to special-status species.	LS	**MM 3.8.1a** Burrowing Owl. Prior to any ground disturbance, a qualified biologist shall conduct a preconstruction survey for burrowing owls on and adjacent to the project site. Surveys shall be conducted in accordance with the CDFS's *Staff Report on Burrowing Owl Mitigation (Staff Report)*, published March 7, 2012. Surveys shall take place no more than 30 days prior to construction and will establish the presence or absence of burrowing owl and/or habitat features and evaluate habitat use by owls. During the surveys, all burrows and burrowing owls will be identified and mapped. If burrowing owls are found during the breeding season (February 1-August 31), the project proponent shall avoid all nest sites for the remainder of the breeding season or while the nest site is occupied by adults or young. Avoidance measures will include	LS

Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		establishment of a 250-foot no disturbance buffer zone surrounding the nest burrow. If site-specific conditions or the nature of the covered activity indicate that a smaller buffer could be used, the HCP/NCCP Implementing Entity will coordinate with the CDFW and the USFWS to determine the appropriate buffer size. Construction may occur during the breeding season if a qualified biologist monitors the nest and determines that the birds have not begun egg-laying and incubation or that the juveniles from the occupied burrows have fledged. During the non-breeding season (September 1-January 31), the project proponent shall avoid the owls and the burrows they are using through establishment of a 160-foot protective buffer zone surrounding the active burrow. If avoidance is not possible, passive relocation of occupied burrows shall be implemented outside the breeding season. Owls should be excluded from burrows by installing 1-way doors in burrow entrances. These doors should be in place for no less than 48 hours prior to excavation and the project area shall be monitored daily by a qualified biologist for one week to confirm that the owl has abandoned the burrow. Timing/Implementation: Prior to and during construction activities Enforcement/Monitoring: City of Pittsburg Development Services Department **MM 3.8.1b** Swainson's Hawk. Prior to any ground disturbance that occurs during the nesting season (March 15-September 15), a qualified	

Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		biologist will conduct a preconstruction survey no more than one month prior to construction, to determine if occupied Swainson's hawk nests are present within 1,000 feet of the project site. If occupied nests are documented, project-related activities within 1,000 feet of an occupied nest site shall be prohibited to prevent nest abandonment. Project-related activities can proceed normally if a qualified biologist determines that young have fledged prior to September 15. If site-specific conditions or the nature of the covered activity indicate that a smaller buffer could be used, the HCP/NCCP Implementing Entity will coordinate with the CDFW and the USFWS to determine the appropriate buffer size. Furthermore, if the active nest site is shielded from view and noise from the project site by other development, topography, or other features (including off-site features), the applicant can apply to the HCP/NCCP Implementing Entity for a waiver of this avoidance measure. Waivers must also be approved by the USFWS and CDFW. While the nest is occupied, project-related activities outside the 1,000 foot buffer can take place. Timing/Implementation: Prior to and during construction activities Enforcement/Monitoring: City of Pittsburg Development Services Department **MM 3.8.1c** Golden Eagle. Prior to any ground disturbance that occurs during the nesting season (January 1 – August 31), a qualified biologist shall conduct a preconstruction survey not more	

Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		than one month prior to construction, to determine whether active golden eagle nests are present within 0.5 mile of the project site. If active nests are present within 0.5 mile of the project site, project-related activities within 0.5 mile of the nest is prohibited to prevent nest abandonment. If site-specific conditions or the nature of the covered activity indicate that a smaller buffer could be used, the HCP/NCCP Implementing Entity will coordinate with the CDFW and the USFWS to determine the appropriate buffer size. Project-related disturbance may proceed once a qualified biological monitor determines that the nest has failed or that the young birds have fledged. Timing/Implementation: Prior to and during construction activities Enforcement/Monitoring: City of Pittsburg Development Services Department **MM 3.8.1d** Non-covered Raptor Surveys. If clearing and/or construction activities will occur during the raptor nesting season (January 15–August 15), preconstruction surveys to identify active raptor nests shall be conducted by a qualified biologist within 30 days of construction initiation. Focused surveys must be performed by a qualified biologist for the purpose of determining presence/absence of active nest sites within the proposed impact area, and a 500-foot buffer (if feasible). If active nest sites are identified within 500 feet of project activities, the applicant shall impose a limited operating period (LOP) for all active nest sites prior to commencement of any project construction activities to avoid	

Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		construction-related disturbances to nesting raptors. An LOP constitutes a period during which project-related activities (i.e., vegetation removal, earth moving, and construction) will not occur and will be imposed within 250 feet of any active nest sites until the nest is deemed inactive by a qualified biologist. Activities permitted within and the size (i.e., 250 feet) of LOPs may be adjusted through consultation with the CDFW and/or East Contra Costa County HCP/NCCP Implementing Entity. Timing/Implementation: Prior to and during construction activities Enforcement/Monitoring: City of Pittsburg Planning Department **MM 3.8.1e** Nesting Bird Surveys. If clearing and/or construction activities will occur during the migratory bird nesting season (February 15–August 15), preconstruction surveys to identify active migratory bird nests shall be conducted by a qualified biologist within 30 days of construction initiation. Focused surveys must be performed by a qualified biologist for the purpose of determining presence/absence of active nest sites within the proposed impact area, including a 200-foot buffer. If active nest sites are identified within 200 feet of project activities, the applicant shall impose a limited operating period (LOP) for all active nest sites prior to commencement of any project construction activities to avoid construction-related disturbances to migratory bird nesting activities. An LOP constitutes a period during which project-related activities (i.e., vegetation removal, earth moving, and	

Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		construction) will not occur and will be imposed within 100 feet of any active nest sites until the nest is deemed inactive by a qualified biologist. Activities permitted within and the size (i.e., 100 feet) of LOPs may be adjusted through consultation with the CDFW and/or East Contra Costa County HCP/NCCP Implementing Entity. Timing/Implementation: Prior to and during construction activities Enforcement/Monitoring: City of Pittsburg Planning Department	
Impact 3.8.2 Implementation of project-related activities may result in substantial adverse effects, either directly or through habitat modifications, to riparian habitat or sensitive natural communities.	LS	None required.	LS
Impact 3.8.3 Implementation of project-related activities would not result in substantial adverse effects to federally protected wetlands.	NI	None required.	NI
Impact 3.8.4 Implementation of project-related activities would not result in substantial adverse effects to wildlife movement.	NI	None required.	NI
Impact 3.8.5 The proposed project would not conflict with any policies, ordinances or plans, including the East Contra Costa County HCP/NCCP.	LS	Implement mitigation measures **MM 3.8.1a** through **MM 3.8.1e**.	LS
Impact 3.8.6 The proposed project, in combination with other reasonably foreseeable projects, could result in mortality and loss of habitat for special-status species and sensitive habitat. However, the ECCC HCP/NCCP addresses and mitigates regional biological resource impacts.	LCC	Implement mitigation measures **MM 3.8.1a** through **MM 3.8.1e**.	LCC

1.0 Introduction

This Draft Environmental Impact Report (Draft EIR) was prepared in accordance with the California Environmental Quality Act (CEQA) and the State CEQA Guidelines. The City of Pittsburg (Pittsburg; City) is the lead agency for the environmental review of the proposed Mt. Diablo Resource Recovery Park project (project; proposed project) evaluated herein and has the principal responsibility for approving the project. This Draft EIR assesses the potentially significant environmental impacts that may result from approval of the proposed project and subsequent development under the project.

This section summarizes the purpose of the Environmental Impact Report (EIR) and describes the environmental procedures that are to be followed according to CEQA. It also discusses the intended uses of the EIR and describes the EIR's scope and organization, contact person, and impact terminology.

1.1 TYPE AND PURPOSE OF THE EIR

The City of Pittsburg has prepared this Draft EIR to provide the public, trustee agencies, and responsible agencies with information about the potential environmental effects of the proposed project. As described in CEQA Guidelines Section 15121(a), an EIR is a public informational document that assesses potential environmental effects of a proposed project and identifies mitigation measures and alternatives to the proposed project that could reduce or avoid its adverse environmental impacts. Public agencies are charged with the duty to consider and minimize environmental impacts of proposed development, where feasible, and an obligation to balance a variety of public objectives, including economic, environmental, and social factors.

CEQA requires the preparation of an environmental impact report prior to approving any project that may have a significant adverse effect on the environment. For the purposes of CEQA, the term "project" refers to the whole of an action which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]). The City has determined that the proposed action is a project within the definition of CEQA.

The State CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a project EIR pursuant to State CEQA Guidelines Section 15161. Project EIRs are defined by State CEQA Guidelines Section 15161 as:

> *The most common type of EIR examines the environmental impacts of a specific development project. This type of EIR should focus primarily on the changes in the environment that would result from the development of the project. The EIR shall examine all phases of the project including planning, construction, and operation.*

By preparing a project EIR, the City intends to allow the entire project, if approved, to proceed without additional CEQA analysis, absent the kinds of changed circumstances or project modifications that trigger the preparation of a subsequent EIR, supplemental EIR, or addendum (see State CEQA Guidelines Sections 15162–15164).

This Draft EIR utilizes technical information provided by the project applicant (Contra Costa Waste Service), the applicant's existing Use Permit, the City of Pittsburg General Plan and Zoning Code, and information gathered from federal, state, and local agencies, as well as any other data supported by the State CEQA Guidelines (see Section 15148 [Citation] and 15150 [Incorporation by Reference]). By utilizing these provisions of the State CEQA Guidelines, the City, in preparing this Draft EIR, has been able to make maximum feasible and appropriate use of this technical information.

1.2 INTENDED USES OF THE EIR

This Draft EIR is intended to evaluate the environmental impacts of the project to the greatest extent possible. This Draft EIR, prepared in accordance with State CEQA Guidelines Section 15126, will be used as the primary environmental document to evaluate all planning and permitting actions associated with the project. The actions by the City include, but are not limited to, the following:

- Approval of Use Permit Application
- Design Review
- Solid Waste Permit

1.3 KNOWN RESPONSIBLE AND TRUSTEE AGENCIES

"Responsible agency" means a public agency that proposes to carry out or approve a project for which a lead agency is preparing or has prepared an EIR or Negative Declaration. For the purpose of CEQA, the term "responsible agency" includes all California public agencies, other than the lead agency, that have discretionary approval power over the project or an aspect of the project. The following agencies are identified as potential responsible agencies:

- Bay Area Air Quality Management District
- California Department of Toxic Substances Control
- California Department of Transportation (Caltrans)
- State Water Resources Control Board
- California Department of Resources, Recycling and Recovery (CalRecycle)

"Trustee agency" means a state agency having jurisdiction by law over natural resources affected by a project, which are held in trust for the people of the State of California. There are no identified trustee agencies for the proposed project.

1.4 ORGANIZATION AND SCOPE OF THE DRAFT EIR

Sections 15122 through 15132 of the State CEQA Guidelines identify the content requirements for Draft and Final EIRs. An EIR must include a brief summary of the proposed actions and its consequences, a description of the project, a description of the environmental setting, an environmental impact analysis, mitigation measures, alternatives, significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. The environmental issues addressed in this Draft EIR were established through environmental documentation of existing projects located in the vicinity and private and public agency responses to the Notice of Preparation/Initial Study (NOP/IS).

This Draft EIR is organized in the following manner:

Executive Summary (State CEQA Guidelines Section 15123) – Includes a summary of the characteristics of the proposed project, known areas of controversy, and issues to be resolved, and provides a concise summary matrix of the project's environmental impacts, proposed mitigation measures, and identification of alternatives that reduce or avoid at least one environmental effect of the proposed project.

Introduction – Provides an introduction and overview describing the purpose, type, and intended use of the EIR. This section also identifies responsible agencies and describes the organization of the EIR and the review and certification process, as well as includes a summary of comments received on the NOP.

Project Description – Provides a detailed description of the proposed project, including intended objectives, background information, and physical and technical characteristics.

Technical Sections – Each contains an analysis of environmental topic areas as identified below. Each subsection contains a description of the existing setting of the project area, identifies project-related impacts, and recommends mitigation measures.

This section also includes an introduction to the environmental analysis that describes the general assumptions used to evaluate project-specific and cumulative environmental impacts. Specific analyses are provided in each environmental issue area section:

- Air Quality
- Climate Change and Greenhouse Gases
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use
- Public Services and Utilities
- Transportation and Circulation
- Biological Resources

Cumulative Impacts – Discusses the cumulative impacts associated with the proposed project and includes mitigation measures. As required by State CEQA Guidelines Section 15130, the EIR discusses cumulative impacts when the project's incremental effect is cumulatively considerable.

Project Alternatives – State CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the project which could feasibly attain most of the basic objectives of the project while avoiding and/or lessening any of the significant environmental effects of the project. This alternatives analysis provides a comparative analysis between the project and the selected alternatives.

CEQA-Mandated Sections – Contains discussions and analysis of various topical issues mandated by State CEQA Guidelines Section 15126.2. These issues include growth-inducing impacts, significant environmental effects that cannot be avoided if the project is implemented and significant irreversible environmental changes, and effects not found to be significant.

Report Preparers – Lists all authors and agencies that assisted in the preparation of the EIR by name, title, and company or agency affiliation.

Appendices – Includes all notices and correspondence pertinent to the Draft EIR, as well as technical materials prepared and used to support the analysis. Appendices are included on a CD at the back of the Draft EIR.

1.5 ENVIRONMENTAL REVIEW PROCESS

NOTICE OF PREPARATION AND INITIAL STUDY

In accordance with Section 15082 of the State CEQA Guidelines, the City prepared an NOP/IS for the project on May 18, 2011. The NOP/IS was circulated to the public, local, state, and federal agencies, and other interested parties to solicit comments on the proposed project. The issues and concerns identified in responses to the NOP/IS document, as summarized below, are addressed in this Draft EIR. The NOP/IS comments are presented in **Appendix A**.

The Initial Study completed for the proposed project concluded that the preparation of an EIR would be required for the project. The City also held a scoping meeting for the project on June 2, 2011. Concerns and comments received during the scoping meeting were considered during preparation of the Draft EIR. The City received letters from the following federal, state, and local agencies and other interested parties:

Agency/Name	Date	Summary of Comments
City of Antioch	June 16, 2011	• The EIR should analyze the project's potential effects to the Keller Canyon Landfill's current projected life span. • The City of Antioch requests an opportunity to review and comment on the project's proposed odor minimization plan and the project's potential odor impacts on the city. • The EIR and supporting traffic impact analysis should address any potential impacts to roadways and intersections in Antioch and provide mitigation if necessary.
Delta Diablo Sanitation District	June 20, 2011	• The EIR should analyze the capacity of the facility's existing on-site wastewater collection system. Should the project require increased capacity at the on-site system, a hydraulic analysis should be prepared to determine any impacts to related district facilities. • If an industrial waste discharge permit is required for the project, the application for such permit should be submitted to the district's industrial pretreatment department. • The EIR should analyze the project's potential contribution to projected wastewater flow increases as described in the District Conveyance System Master Plan to determine potential impacts to existing and planned district facilities. • The district's wastewater treatment facility has a permitted average dry weather flow of 22.7 million gallons per day (mgd). In 2010, the actual dry weather flow influent to the plant was 13.2 mgd. • The district provides recycled water for industrial and landscape irrigation use. The EIR should address the potential for recycled water use on the project site. • The district operates the Delta Household Hazardous Waste Collection Facility located in Pittsburg.

California Department of Transportation	June 22, 2011	• The department's "Guide for Preparation of Traffic Impact Studies" should be used to determine the scenarios and methodologies to be used in the traffic impact study for the proposed project. • The traffic impact study should including following: o Regional and local maps and site plan showing all project access points and internal driveways, state and local roadways and intersections, state right-of-way, parking, and transit facilities. o Project-related trip generation, distribution, and assignment and associated methodologies and assumptions. o Average daily traffic and peak hour volumes and levels of service for all significantly affected roadways as determined by the department's level of service threshold for existing, existing plus project, cumulative, and cumulative plus project scenarios. o Schematic illustrations of traffic conditions for each scenario. o An evaluation of the project's consistency with the City's General Plan Circulation Element and the County's Congestion Management Plan. o Mitigation for each roadway and intersection where level of service would exceed the applicable threshold. o Consideration of trip-reducing measures.
Native American Heritage Commission (NAHC)	July 15, 2011	• The EIR must assess whether the project will have an adverse impact on historical resources within the area of project effect (APE) and, if it would, mitigation must be provided. • In order to assess the project's potential impact to historical resources the lead agency should do the following: o Contact the appropriate regional archaeological information center for a records search. o Contact the NAHC for a sacred lands file check and list of appropriate Native American contacts for consultation. • A lack of surface evidence of archaeological resources does not preclude their subsurface existence; therefore, the EIR should include mitigation that provides for the identification and evaluation of accidentally discovered resources and, if necessary, monitoring of ground-disturbing activities by a certified archaeologist • The EIR should include mitigation with provisions for the disposition of recovered artifacts and the discovery of human remains.

DRAFT EIR

This document constitutes the Draft EIR. The Draft EIR contains a description of the project, description of the environmental setting, identification of project impacts, and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. Upon completion of the Draft EIR, the City filed a Notice of Completion (NOC) with the state Office of Planning and Research to begin the public review period (Public Resources Code Section 21161).

PUBLIC NOTICE/PUBLIC REVIEW

Concurrent with the NOC, the City provided public notice of the availability of the Draft EIR for public review and invited comment from the general public, agencies, organizations, and other interested parties. Consistent with CEQA Guidelines Section 15105, the review period for this Draft EIR will be 45 days. Public comment on the Draft EIR will be accepted both in written form and orally at a public meeting. All comments or questions regarding the Draft EIR should be addressed to:

Dana Hoggatt Ayers, Planning Manager
Development Services Department, Planning Division
65 Civic Avenue
Pittsburg, CA 94565
Phone: (925) 252-4920
Fax: (925) 252-4814
E-mail: dhoggatt@ci.pittsburg.ca.us

RESPONSE TO COMMENTS/FINAL EIR

Following the public review period, a Final EIR (FEIR) will be prepared. The FEIR will respond to CEQA issues raised in written and oral comments received during the Draft EIR public review period.

CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

Upon review and certification of the FEIR, the Planning Commission and/or City Council, as appropriate, may take action to approve, revise, or reject the project. A decision to approve the project would be accompanied by written findings in accordance with CEQA Guidelines Section 15091 (Findings) and, if applicable, Section 15093 (Statement of Overriding Considerations). A Statement of Overriding Considerations requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits of a proposed project against its unavoidable environmental risks when determining whether to approve a project. A mitigation monitoring and reporting program (MMRP), as described below, would also be adopted for mitigation measures that have been incorporated into or imposed upon the project to reduce or avoid significant effects on the environment. The MMRP will be designed to ensure that these measures are carried out during project implementation.

MITIGATION MONITORING AND REPORTING PROGRAM

Public Resources Code Section 21081.6(a) requires lead agencies, at the time of project approval, to adopt an MMRP to describe measures that have been adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment. The specific "reporting or monitoring" program required by CEQA is not required to be included in the EIR; it will be presented to City decision-makers for adoption. Throughout the EIR, however, mitigation measures have been clearly identified and presented in language that will facilitate establishment of a monitoring and reporting program. Any mitigation measures adopted by the City as conditions for approval of the project will be included in the MMRP to ensure and verify compliance.

2.0 Project Description

Contra Costa Waste Service, Inc., submitted a Conditional Use Permit Application Package to the City of Pittsburg (Pittsburg; City) to expand the capacity, operations, and land area of its existing solid waste and recycling facility. The application also includes construction of a new Biomass Gasification Unit and relocation of the truck maintenance facility and yard currently located east of Loveridge Road to within the project boundaries. The project site is in Pittsburg. The City of Pittsburg is the lead agency with final authority to approve the project, which is the proposed Mt. Diablo Resource Recovery Park project (project; proposed project).

The purpose of the project description is to describe the proposed project in a way that will be meaningful to the public, reviewing agencies, and decision-makers. As described in Section 15124 of the California Environmental Quality Act (CEQA) Guidelines, the project description in an environmental impact report (EIR) is required to contain the following information:

- The location of the proposed project.
- A statement of project objectives.
- A general description of the project's technical, economic, and environmental characteristics.
- A statement briefly describing the intended uses of the EIR.

The CEQA Guidelines state that a project description need not be exhaustive but should provide the level of detail needed for the evaluation and review of potential environmental impacts. The project description is the starting point for all environmental analysis required by the State CEQA Guidelines. Section 15146 of the State CEQA Guidelines states that the degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity, which is described in the EIR. The following project description will serve as the basis of the environmental analysis for the proposed project.

2.1 PROJECT LOCATION AND SETTING

PROJECT LOCATION

The project site is approximately 36 acres located in Pittsburg in eastern Contra Costa County. As shown on **Figure 2.0-1**, the site is on the western side of Loveridge Road just north of Pittsburg-Antioch Highway and State Route (SR) 4, and just south of the Burlington Northern and Santa Fe (BNSF) railroad and the shoreline of New York Slough. The project site encompasses the existing facility (17.5 acres), plus 18.5 acres located west and south of the existing facility. The site is located in the Antioch North Quadrangle and within the Los Medanos Land Grant.

PROJECT SITE CONDITIONS

A portion of the project site (approximately 17.5 acres) is currently developed as the Mt. Diablo Recycling Facility (MDRF), Recycling Center and Transfer Station (RCTS), Green Material Processing Operations Area), and Mixed Construction & Demolition Processing Area (Mixed C&D Processing Area) (collectively referred to as the "existing facility"). As shown on **Figure 2.0-2**, the MDRF and RCTS consist of two large interconnected industrial buildings immediately adjacent to Loveridge Road that have a total floor area of 190,804 square feet. Just south of these buildings is the main parking area, which is accessed by a private roadway that connects with Loveridge Road and curves to the northwest around the parking area. This parking area contains a fueling facility. The roadway continues north along the west side of the existing buildings, providing

access to the public scales and scale house and self-haul drop-off area. The BNSF railroad is located on the northwestern border of the project site, and a railroad spur runs into the site west of the RCTS.

The Green Material Processing Operations Area is located just south of the parking area. This area is unpaved and contains large stockpiles of unprocessed and processed plant materials and equipment such as wheel loaders. For processing, green material is stockpiled and then chipped and ground on a pad constructed with compacted gravel that is sloped to drain. Material is then loaded from the stockpile into transfer trailers where the material is transported to a permitted facility for composting or for use as alternative daily cover at a landfill.

To the west is the Mixed C&D Processing Area, which contains equipment for sorting and processing C&D materials, a large grinder, two 70-foot scales, one 35-foot scale, a second scale house, large stockpiles of unprocessed and processed C&D materials, and other equipment for loading and transport.

Approximately 18.5 acres of land to the west and south of the existing facility are also included as part of the proposed project, 10 acres of which are vacant. Approximately 5 acres of this area is currently used by the applicant for parking and storage. A portion of this area has been surfaced with compacted gravel. Approximately 3.5 acres of the 18.5-acre area, along the southerly border of the existing facility, was the former GWF Power Systems facility. GWF ceased operations and the improvements have been removed from the site.

A second access point from Loveridge Road is located at the northern end of the site, where additional parking is provided. A third access point from Loveridge Road, located at the southern end of the site, provides access to the 3.5-acre area to the south and a fire lane that stretches to the western boundary. A total of 79 parking spaces are currently provided on the project site. An approximately 3-acre parcel located on the east side of Loveridge Road at the northern tip of the project site is currently used for truck storage and maintenance purposes.

Landscaping and/or slatted chain-link fencing provide screening along the southern and eastern boundaries of the processing areas, as well as along a portion of the western boundary. A monument sign is located at the main entrance to the facility, with numerous informational, directional, and cautionary signs throughout the project site. Pole-mounted lighting is provided along the access road and in the parking area, processing areas, and other outdoor portions of the site.

On-site drainage is controlled through the use of drainage ditches and underground pipelines surrounding the perimeter of the existing facility that direct surface water flows toward an outfall along the western edge of the existing facility. The ditches include a landscaped stormwater treatment planter located along the eastern side of the MDRF building and a landscaped stormwater pretreatment bioswale located along the western edge of the existing facility. These facilities discharge stormwater via the outfall to an existing drainage ditch on the vacant lot to the west owned by USS-POSCO. This existing ditch traverses the 15-acre parcel to the west and the USS-POSCO site, flowing east to west away from the existing facility. The existing ditch conveys the stormwater generated from the existing facility, the 15-acre parcel to the west, and the eastern portions of the USS POSCO site to an existing 36-inch culvert that then discharges to an existing evaporation basin located near the northern portion of the USS-POSCO site.

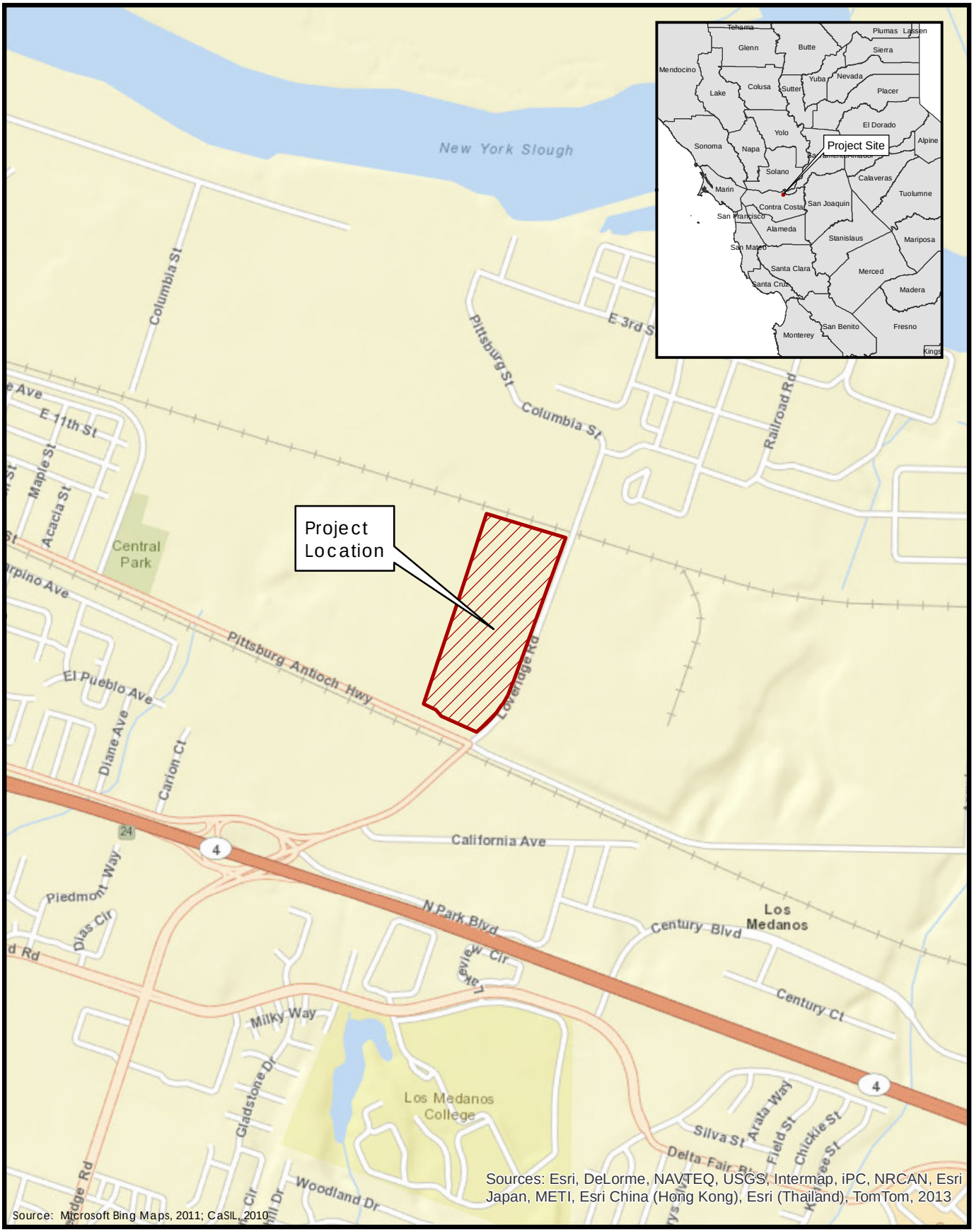

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Figure 2.0-1
Project Location

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LEGEND

- (A) THRU (K) — KEY TO EXISTING SIGNAGE – SEE SHEET A9 FOR SIGNS
- (N) AC PAVING
- (N) CONCRETE SLAB
- LANDSCAPED STORMWATER TREATMENT AREA
- LANDSCAPE AREA
- UTILITY POLE
- EXISTING FENCING – CHAINLINK
- FENCING TO BE REMOVED
- NEW FENCING – SLATTED CHAINLINK
- SD — STORM DRAIN
- BELOW GRADE JENSEN STORM WATER TREATMENT UNIT

LIST OF DRAWINGS

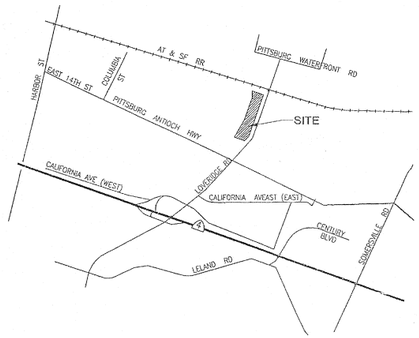
PROJECT DATA

ZONE:	IG (GENERAL INDUSTRIAL)
A.P.N.:	073-200-014 & 073-200-015
LOT AREA:	766941.9 (18.05 ACRES)
BUILDING AREA:	
SCALE HOUSES	260 S.F.
RECYCLE CENTER/TRANSFER STATION	190,804 S.F.
TOTAL FLOOR AREA:	191,064 S.F.
LOT COVERAGE:	184844 S.F. (24.7%)
FLOOR AREA RATIO (FAR):	.244
LOT COVERAGE:	24.7%
LANDSCAPE COVERAGE:	77,455 S.F. 10%

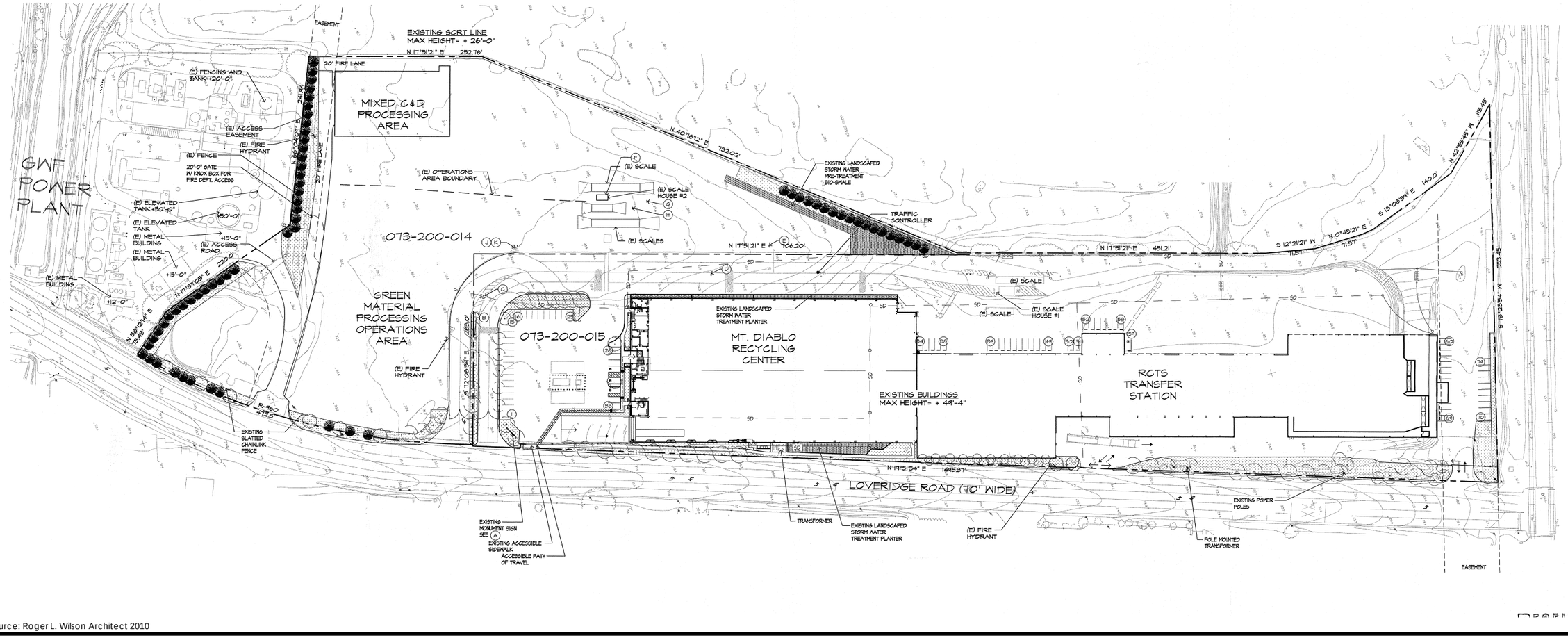
PARKING	
PARKING REQUIRED PER VARIANCE:	74 SPACES
PARKING PROVIDED:	
HANDICAPPED:	4 SPACES
REGULAR:	75 SPACES
TOTAL:	74 SPACES

SCOPE OF WORK:

SUBMITTAL FOR CONDITIONAL USE PERMIT TO INCREASE TONNAGE FROM CURRENT 1,500 TONS/DAY TO 4,500 TONS/DAY.



VICINITY MAP



Source: Roger L. Wilson Architect 2010

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Figure 2.0-2
Existing Site Plan

PMC

The 3.5-acre former GWF site is almost entirely located in a separate watershed from the remainder of the project site and drains to Kirker Creek located along the southern boundary of this area. An existing on-site drainage system consists of concrete swales, inlets, and pipelines. This system conveys the on-site drainage from most of this 3.5-acre area into Kirker Creek via two separate outfalls, one located on the western side and the other located on the eastern side of the property. A small portion of this area in the northwest corner drains overland to the remainder of the project site (see **Figure 2.0-3**) (CBG 2014).

CURRENT OPERATIONS

The existing facility receives, sorts, processes, recycles, and transports municipal solid waste and recyclables, green waste, and C&D waste. In addition, portions of the site are used for parking, equipment storage, and containerized and uncontainerized commodity storage. The existing facility operates pursuant to a conditional use permit, and some operations (RCTS and Mixed C&D Processing Area) are covered by a solid waste facility permit (see additional discussion in subsection 2.2). The existing facility is permitted for 2,200 tons per day (TPD) with 1,500 TPD for RCTS, which includes the Mixed C&D Processing Area, 500 TPD for the MDRF, and 200 TPD for the Green Material Processing Area. The existing facility currently employs 83 full-time employees. A detailed summary of the existing facility and the individual operations (both actual and permitted) is provided below and in **Table 2.0-1**.

The current operations will continue under the proposed project (some operations are proposed to change under the project as described herein) and are summarized as follows:

Mt. Diablo Recycling Facility (MDRF)

The MDRF is a recycling facility that sorts and processes a variety of mixed recyclable materials, primarily from residential sources, including newspaper, cardboard, junk mail, and magazines, as well as California Redemption Value (CRV) and non-CRV glass, plastic, and aluminum. Material is dumped onto the tipping floor of the enclosed facility and pushed onto a conveyor hopper, where it travels along a series of sorting belts and screens. This processing equipment separates the material, after which it is stored in enclosed containers (also known as bunkers) and baled daily for storage and transport. This facility operates approximately 20 hours per day (it is permitted to operate 24 hours per day), seven days a week, and has a permitted capacity of 500 TPD.

Recycling Center and Transfer Station (RCTS)

The RCTS sorts and transfers municipal solid waste, including bulk materials from the public, green waste, wood waste, and mixed C&D debris. The RCTS accepts waste directly from the public. Waste materials are weighed at a drive-up scale and are then sorted on the tipping area floor and transferred to the appropriate on-site facility for further sorting, processing, and transport off-site for recycling or reuse. Materials that cannot be recycled are stored and then transported to a permitted landfill. This facility accepts electronic waste (E-waste), such as cell phones, computers, and televisions, and carpet, used oil, and tires. No hazardous, infectious, or liquid waste materials are accepted. A load check program is implemented to screen for such materials in incoming waste loads. Recovered household hazardous wastes are temporarily stored in a designated area in accordance with state regulations. This facility operates 24 hours per day as permitted, with a permitted capacity of 1,500 TPD. The facility receives waste from the general public from 7:00 a.m. to 6:00 p.m., seven days a week. The project applicant refers to this facility as the Transfer/Processing Facility.

Mixed C&D Processing Area

The Mixed C&D Processing Area consists of a 9,831-square-foot concrete pad that serves as a base for the C&D processing equipment and provides a stable platform for the loading of materials onto the sorting equipment. The equipment includes a loading hopper, elevated pick-line and walkways, storage bins beneath the pick-line, and shade canopies over the pick-line and workstations. Processing material is delivered to the facility in debris box trucks and commercial vehicles. After sorting, non-recyclable wastes are stockpiled and then loaded into transfer vehicles for transport to a permitted landfill for disposal within 48 hours. Recyclable materials are stored, processed, and marketed as recycled products. Fine materials separated during sorting are used as alternative daily cover at a landfill.

The Mixed C&D Processing Area currently operates from 7:00 a.m. to 5:00 p.m. seven days a week. The Mixed C&D Processing Area has a permitted capacity of 450 TPD, and the material received in this area is included within the 1,500 TPD permitted by the Solid Waste Facility Permit (SWFP) for the RCTS. Notwithstanding any limit imposed by the existing conditional use permit, the SWFP does not contain a limitation on the amount of material that may be processed in the Mixed C&D Processing Area.

The project applicant refers to this area as the Material Processing Facility.

Green Material Processing Operations Area

Green materials and wood waste are delivered to the existing Green Material Processing Operations Area from collection vehicles.[1] Green materials are stockpiled on storage pads that are constructed with compacted gravel, prior to chipping and grinding. Processed green materials are loaded onto transfer trailers and transported to a permitted facility for composting or may be used as alternative daily cover at a landfill. Wood chips are loaded onto transfer trailers and transported to biomass energy facilities or used as decorative materials for landscaping. This facility operates from 7:00 a.m. to 6:00 p.m. seven days a week. A Local Enforcement Agency (LEA) Notification created this operation in 2008 allowing up to 200 TPD of green waste to be received and processed separately from the materials processed under the RCTS permit. The tonnage processed at this area is excluded from solid waste permitting requirements.

The project applicant refers to this area as the Organics Processing Area.

Existing General Plan Designations and Zoning

The project site is designated by the City of Pittsburg General Plan as Industrial, which permits manufacturing, wholesale, warehousing and distribution, commercial and business services, research and development, agricultural, food and drug, industrial processing, and storage uses. The surrounding properties are also designated as Industrial. **Figure 2.0-4** shows the existing General Plan land use designations of the project site and adjacent properties.

[1] Green waste collection vehicles are the same size and type as typical garbage collection vehicles. They run on fixed routes throughout the residential service areas and pick up once a week or every other week, as scheduled.

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LEGEND

- 12" SD — EXISTING STORM DRAIN
- EXISTING DRAINAGE SWALE
- EXISTING DRAINAGE DITCH
- EXISTING DRAINAGE DITCH (CONCRETE)
- EXISTING OUTFALL
- EXISTING STORMWATER QUALITY TREATMENT FACILITY

Source: Carlson, Barbee & Gisben, Inc.

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Figure 2.0-3
Existing Drainage Facilities

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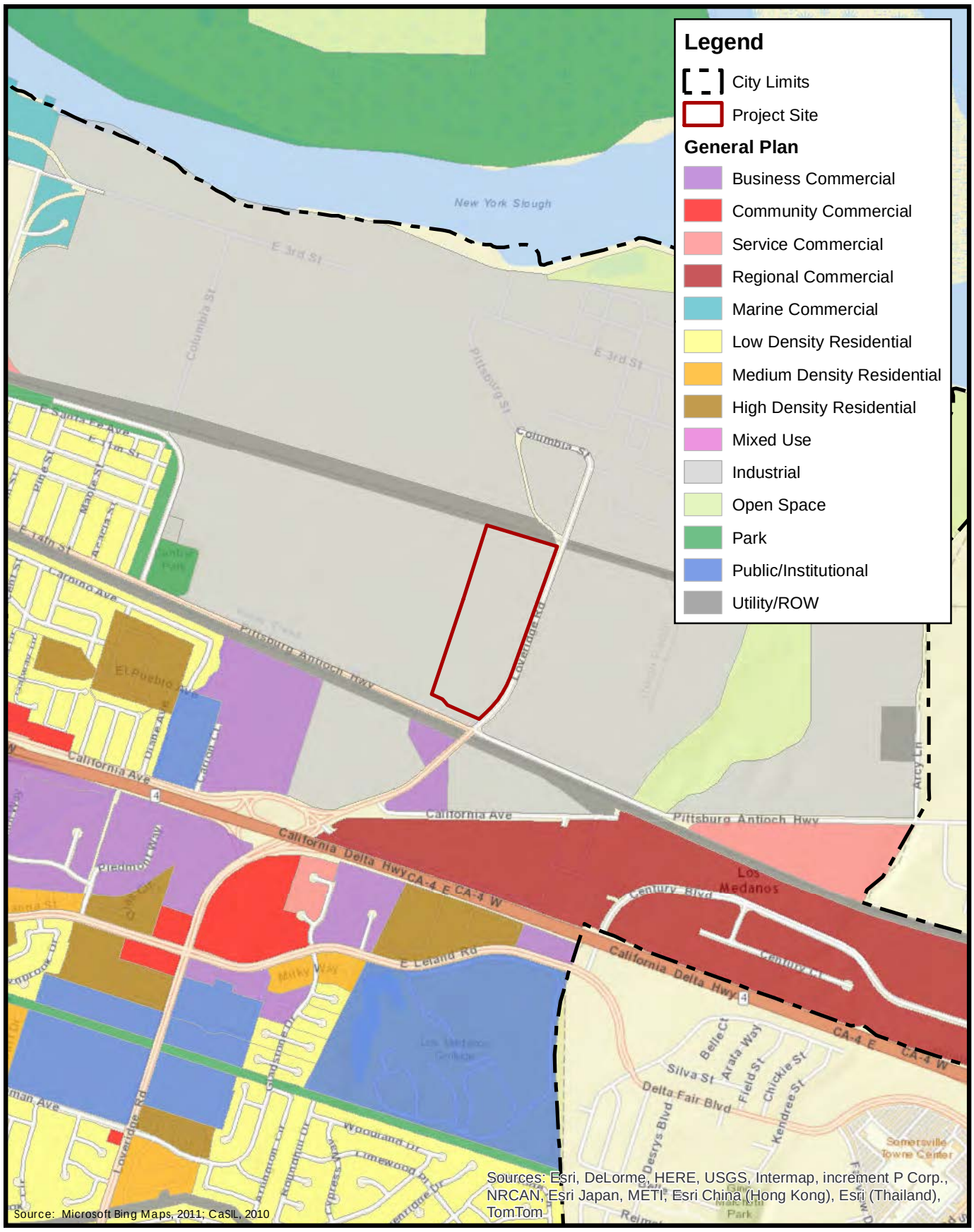

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Figure 2.0-4

Existing General Plan Land Use Designations

Approximately 21 acres of the project site is zoned IG (General Industrial), and the remaining portion of the project site (15 acres) is zoned IL (Limited Industrial) pursuant to the Pittsburg Municipal Code (City of Pittsburg 2010). The IG and IL zoning districts provide for intense industrial uses on large parcels occupied by or directly adjacent to existing heavy industrial uses, as well as on small parcels in the vicinity of heavy industrial uses. Large recycling facilities, such as the project, require a Use Permit to operate within these zoning districts. All other properties surrounding the site are zoned IG. **Figure 2.0-5** shows the existing zoning of the project site and adjacent properties.

Surrounding Uses

Figure 2.0-6 shows the current uses of properties adjacent to the project site. Northwest of the project site, across the BNSF railroad, is an industrial facility operated by USS-POSCO Industries, which manufactures flat sheets of rolled steel. Northeast of the site, also across the BNSF railroad, is an industrial facility operated by Dow Chemical, which manufactures primarily agricultural and pest-control chemicals. East of the site, across Loveridge Road, are a vacant parcel, and two other large industrial facilities. South of the project site are East 14th Street and a Union Pacific Railroad (UPRR) spur line beyond. West of the project site is vacant land owned by USS-POSCO. The City approved the Columbia Solar Energy project on portions of this site, but it has not yet been constructed. The Contra Costa Industrial Park and other industrial uses are located across Loveridge Road to the northeast of the project site. There is an existing residential neighborhood about 2,900 feet (approximately one-half mile) west of the project site. The nearest residential area to the proposed project site is an approximately 4.4-acre medium density residential site approximately 1,500 feet southwest of the project site. The City Council approved General Plan and rezoning amendments to allow residential uses on the site in October 2013; however, the tentative map for the project site (Sunnyside Estates subdivision) is still pending.

2.2 PROJECT BACKGROUND AND HISTORY

The City of Pittsburg certified an EIR for the original facility (which consisted of only the RCTS) on February 21, 1995 (SCH No. 94063017) and issued a Conditional Use Permit (CUP) on March 6, 1995. A Solid Waste Facility Permit was issued from the City of Pittsburg Solid Waste Management Division to operate the RCTS at 1,500 TPD. On December 13, 1995, the California Integrated Waste Management Board, the state oversight agency at the time, concurred with the Solid Waste Facility Permit, which is reviewed every five years and was modified to address additional recycling programs. On March 27, 2007, the City of Pittsburg adopted a Negative Declaration and approved a Use Permit to physically expand the facility and add the Mt. Diablo Recycling Facility. On January 12, 2010, the City adopted another Negative Declaration (SCH No. 2009112035) and approved operational changes to the MDRF's Use Permit to expand its capacity to 500 TPD. As noted above, the Green Material Processing Area is operating at a peak flow of 200 TPD. The combined permitted tonnage for all project components is 2,200 TPD.

The project applicant is seeking to expand the existing facility to allow a permitted combined capacity of 5,500 TPD and to add 18.5 acres to the existing facility site for parking, commodity storage, future construction of a Biomass Gasification Unit, and relocation of the truck maintenance facility and yard, which would include an 18,000-square-foot structure in the southeastern portion of the project site (former GWF Power Systems facility).

2.3 PROJECT OBJECTIVES

REGULATORY BACKGROUND

Global Warming Solutions Act of 2006 (AB 32)

In 2006, the California Legislature adopted Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, establishing a cap on statewide greenhouse gas (GHG) emissions. A scoping plan for AB 32, entitled *Climate Change Proposed Scoping Plan: A Framework for Change*, was adopted by the California Air Resources Board (CARB) in December 2008. The scoping plan has a range of GHG reduction actions and measures to reduce GHG emissions associated with the solid waste industry, including reducing methane emissions at landfills, increasing waste diversion, composting and other beneficial uses of organic materials, and mandating commercial recycling. Compliance with the applicable measures contained in the AB 32 Scoping Plan is a primary objective of the proposed project.

Mandated Commercial Recycling and the 75 Percent Recycling Goal (AB 341)

In 2011, the California Legislature adopted AB 341 to clarify the responsibilities in implementing mandatory commercial recycling requirements for businesses that generate four or more cubic yards of commercial solid waste per week and multi-family residential dwellings with five or more units, which require local jurisdiction requirements for education, outreach, monitoring, and reporting. Through enactment of AB 341, the Legislature also directed the California Department of Resources Recycling and Recovery (CalRecycle) to propose a plan for the next step in the evolution of California's solid waste stream management. The law establishes a policy goal for California that not less than 75 percent of the solid waste generated is source-reduced, recycled, or composted by 2020. It also requires CalRecycle to provide a report to the Legislature by January 1, 2014, detailing strategies to achieve that policy goal.

PROJECT OBJECTIVES

- Serve as the regional recycling facility for eastern and central Contra Costa County, including the cities of Pittsburg, Concord, Oakley, Discovery Bay, and Antioch, parts of the unincorporated county, and Rio Vista in Solano County.

- Assist the City of Pittsburg and Contra Costa County in reducing greenhouse gas emissions and complying with the measures of the adopted AB 32 Scoping Plan by 2020 by generating renewable energy, increasing solid waste diversion rates, and expanding programs to provide recycling to businesses and multi-family residences.

- Assist the City of Pittsburg and Contra Costa County in maintaining compliance with AB 939 mandates requiring 50 percent diversion of solid waste from landfills and preparing to accommodate future AB 939 goals and mandates, such as assisting in the statewide recycling goal of a 75 percent recycling rate by 2020, consistent with AB 341.

- Upgrade and improve the existing facility to allow for more efficient service and to incorporate measures to reduce GHG emissions. The improvements include (1) an expansion of current recycling efforts, (2) the construction of a Biomass Gasification Unit to generate 1 megawatt per hour of electrical power using 10,400 tons of waste wood per year, and (3) installation of solar panels on the rooftops of the two existing buildings to produce up to 800 kilowatt-hours of renewable energy.

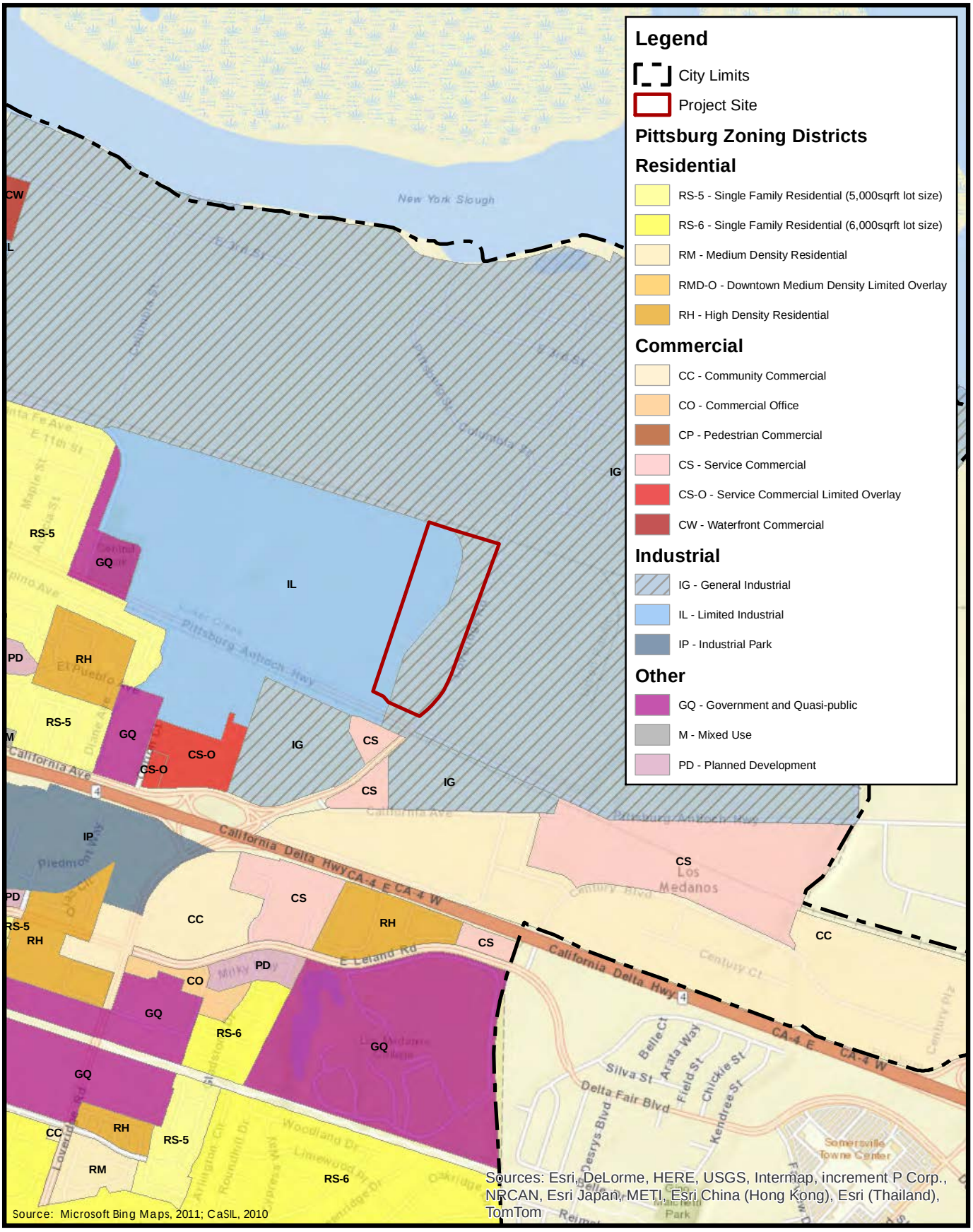

Figure 2.0-5
Existing Zoning Districts

Figure 2.0-6
Surrounding Uses

- Assist the City of Pittsburg and Contra Costa County in implementing the mandatory commercial recycling program required by AB 341.

- Increase facility capacities and expand hours of operation to better serve customers and to meet projected solid waste generation rates until the year 2035.

- Increase efficiency and productivity of the facility by including a new truck maintenance facility and yard within the project site.

- Consolidate all project components under one Solid Waste Facility Permit issued by the City of Pittsburg Local Enforcement Agency and with the concurrence of the California Department of Resources Recycling and Recovery (CalRecycle).

2.4 CHARACTERISTICS OF THE PROPOSED PROJECT

The proposed project consists of a request for a Conditional Use Permit (CUP) for the expansion, reorganization, and operation of the existing facility on a 36-acre site. The expanded facility will be called the Mt. Diablo Resource Recovery Park (MDRRP). The MDRRP will consist of the MDRF, Transfer/Processing Facility (formerly referred to as Recycling Center and Transfer Station), Material Processing Area (formerly referred to as Mixed C&D Processing Area), and an Organics Processing Area (formerly referred to as Green Material Processing Operations Area). **Table 2.0-1** provides a summary of the proposed changes to the operations of these existing facilities, while detailed descriptions of each are provided below.[2] Depending on the materials entering the facility, individual project components would be allowed to operate up to the design capacity of each individual component, though the facility would not exceed the overall permitted capacity of 5,500 TPD. **Figure 2.0-7** illustrates the proposed overall site plan.

The proposed MDRRP facility would also include a new Biomass Gasification Unit at the northwesterly portion of the project site (see **Figure 2.0-8**) and a truck maintenance facility and yard at the southeastern portion of the site (former GWF Power Systems facility) (see **Figure 2.0-9**). **Figure 2.0-10** shows the proposed building elevations for the MDRF and Transfer/Processing Facility, while **Figure 2.0-11** shows the proposed building elevations for the truck maintenance facility.

[2] As required by CEQA, the baseline analysis used in this EIR to analyze environmental impacts of the project uses the actual hours of operation and not the permitted hours of operation (CEQA Guidelines Section 15125(a)).

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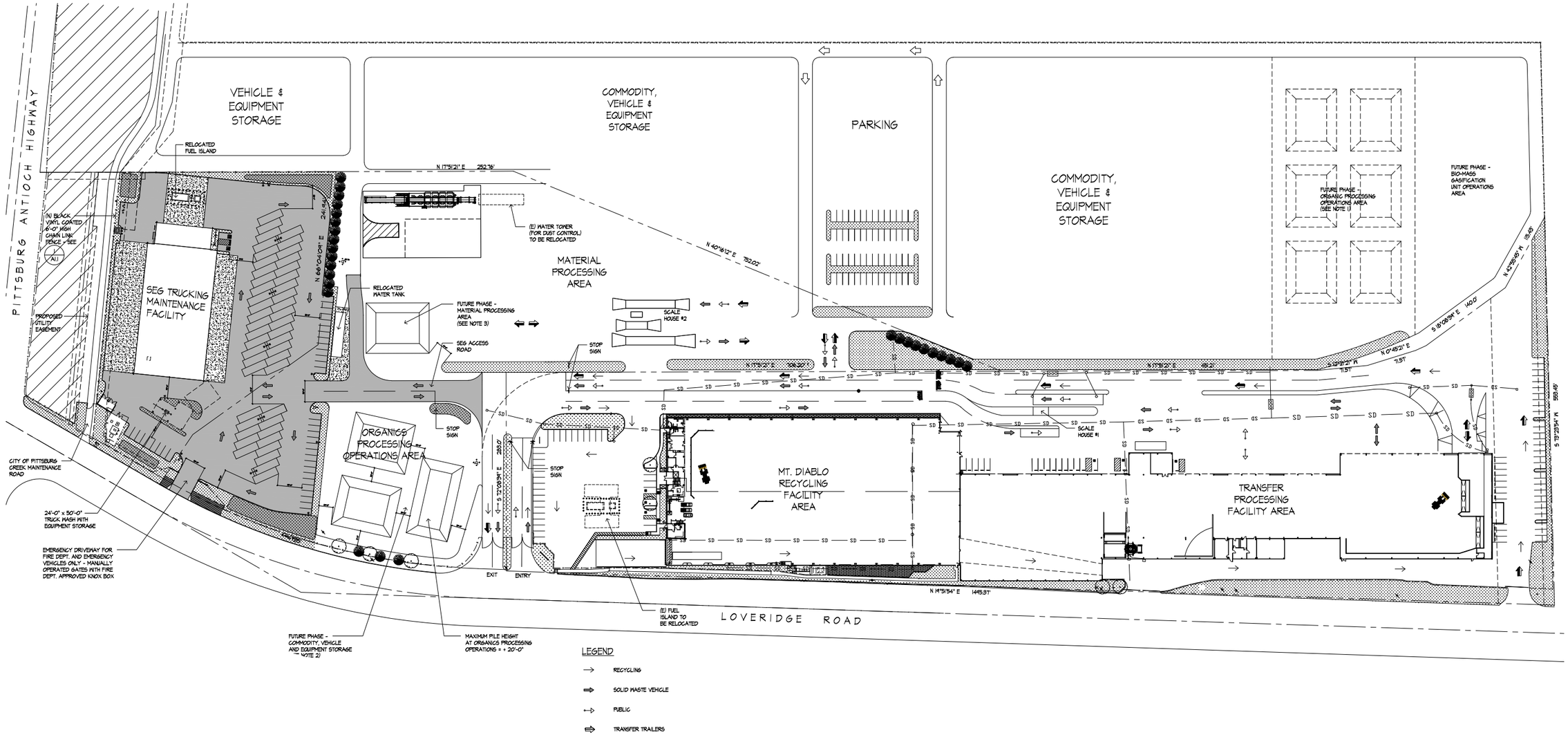

Source: Roger L. Wilson Architect 2010

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Figure 2.0-7
Proposed Site Plan

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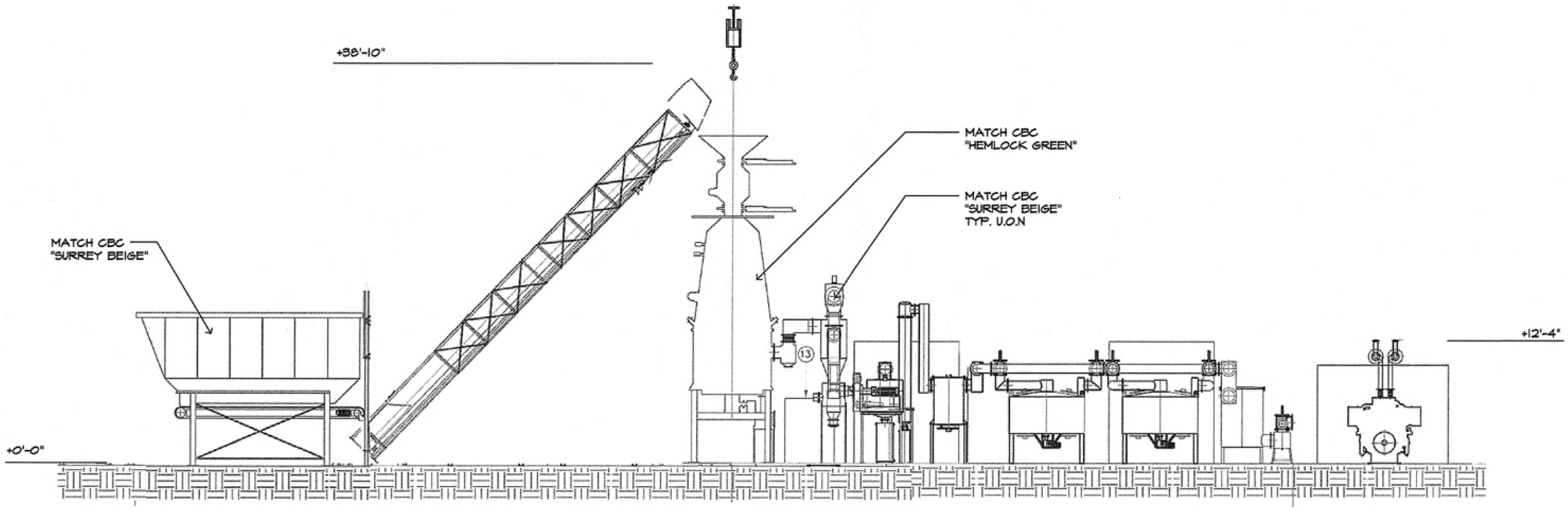

Source: Roger L. Wilson Architect 2010

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Figure 2.0-8

Proposed Elevation – Biomass Gasification Unit

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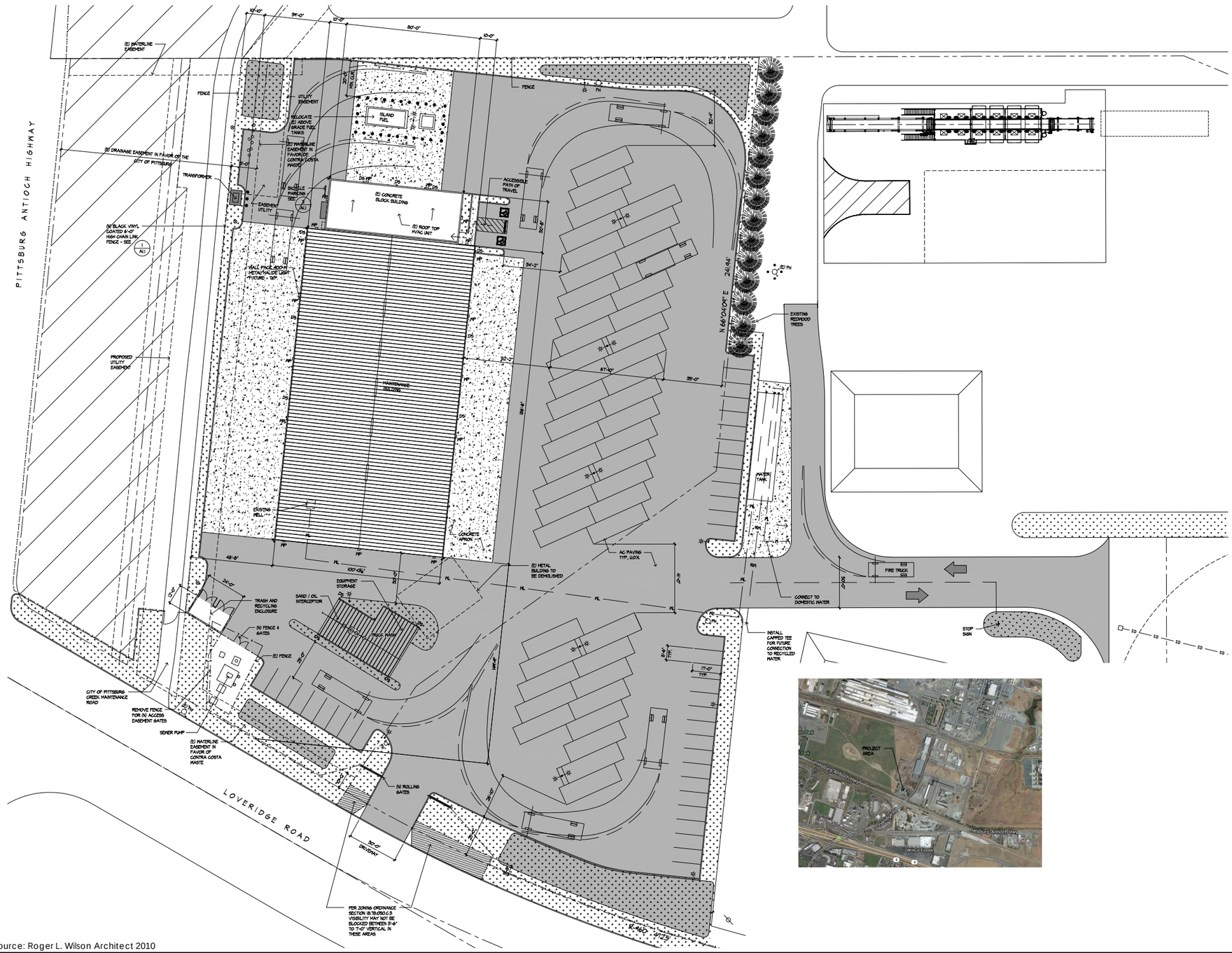

Source: Roger L. Wilson Architect 2010

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LIST OF DRAWINGS

A1	SITE PLAN
A1.1	MASTER PLAN WITH TRAFFIC
A2	FLOOR PLAN
A3	EXTERIOR ELEVATIONS
A4	BUILDING SECTIONS
A5	TRUCK WASH AND TRASH ENCLOSURE EXTERIOR ELEVATIONS
C1	PRELIMINARY GRADING AND DRAINAGE PLAN
C2	PRELIMINARY UTILITY PLAN
C3	PRELIMINARY STORMWATER CONTROL PLAN
L1	PRELIMINARY LANDSCAPE PLAN
L2	PRELIMINARY LANDSCAPE PLAN
FP	FIRE PROTECTION UNDERGROUND SITE PLAN

LEGEND

W	DOMESTIC WATER
WL	WELL WATER
RW	RECYCLED WATER
WP	WALL PACK LIGHT FIXTURE
DS	DOWNSPOUT
FH	FIRE HYDRANT
(E)	EXISTING

PROJECT DATA

BUILDING CODE	2013 CBC
ZONING	I6 (GENERAL INDUSTRIAL DISTRICT)
OCCUPANCY	B / S-1
TYPE OF CONSTRUCTION	II B
FIRE SPRINKLERS	YES
SITE AREA	180,925 SF (4.15 ACRES)
BUILDING AREA	
EXISTING	2,400 SF
PROPOSED	15,600 SF
TOTAL	18,000 SF
LOT COVERAGE	10%
F.A.R.	0.10
LANDSCAPING REQUIRED	10% (PER ZONING)
LANDSCAPING PROVIDED	LANDSCAPE = 12,223 SF CREEK EASEMENT = 28,760 SF TOTAL = 40,983 SF (22.65%)
CAR PARKING REQUIRED OFFICE, BUSINESS AND ADMINISTRATIVE	2,400 SF / 250 SF = 10 SPACES
	AUTOMOBILE MAINTENANCE & REPAIR SERVICE 15,600 SF / 500 SF = 31 SPACES
	TOTAL REQUIRED = 41 SPACES
CAR PARKING PROVIDED	REGULAR = 39 SPACES ACCESSIBLE = 2 SPACES TOTAL 41 SPACES
BICYCLE PARKING REQUIRED =	6 SPACES
BICYCLE PARKING PROVIDED =	6 SPACES
TRUCK PARKING PROVIDED =	47 SPACES

Figure 2.0-9

Proposed Site Plan - Truck Facility

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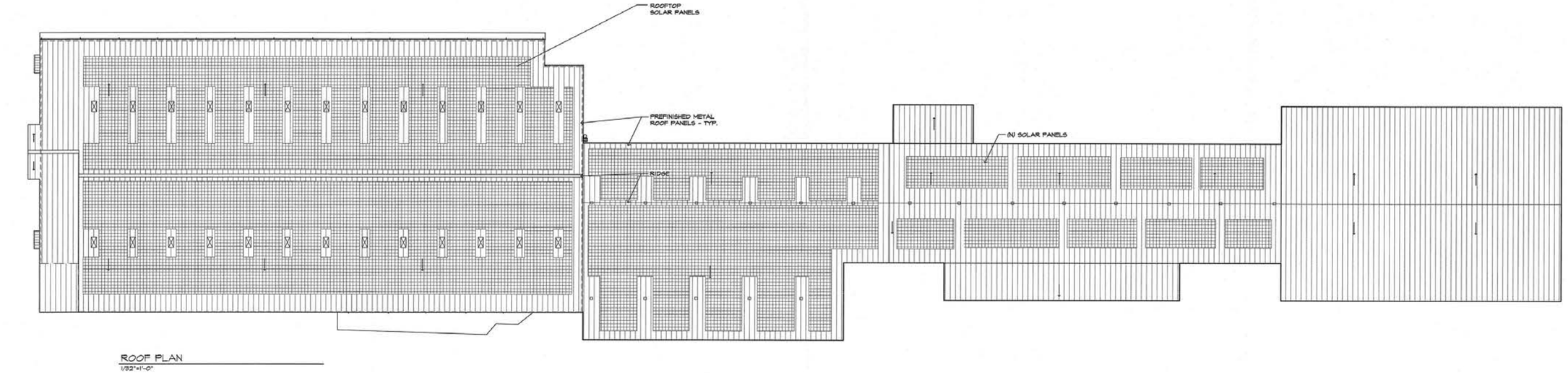

Source: Roger L. Wilson Architect 2010

Figure 2.0-10

Proposed Building Elevations and Roof Plan – MDRF and Transfer/Processing Facility

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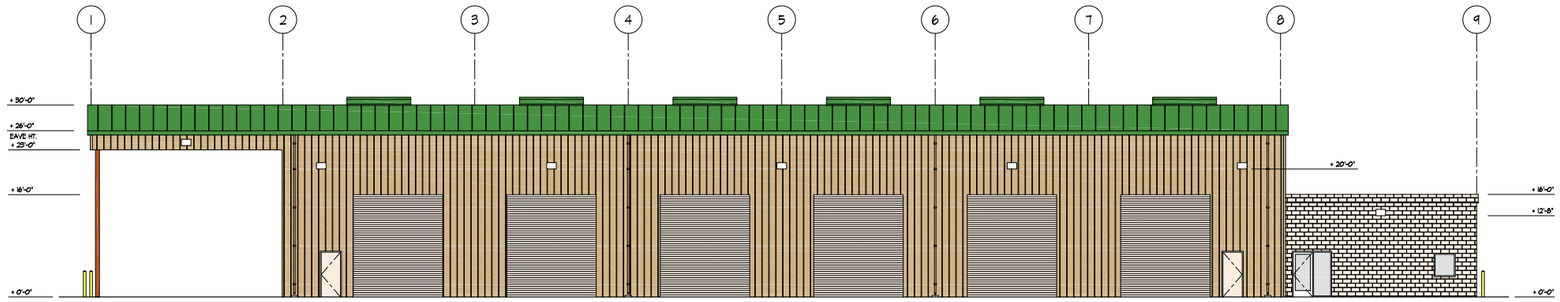
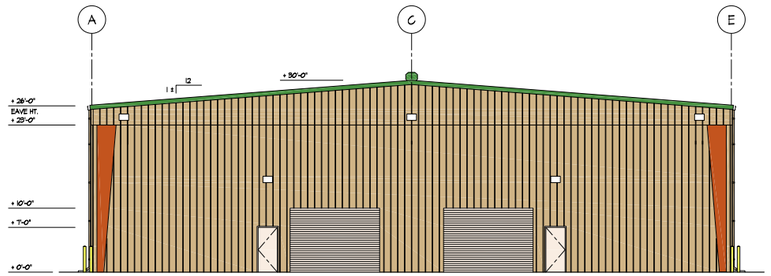
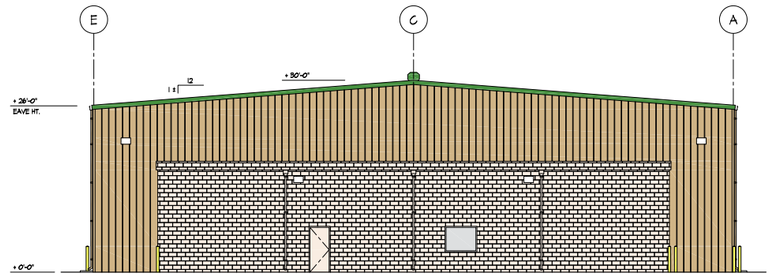


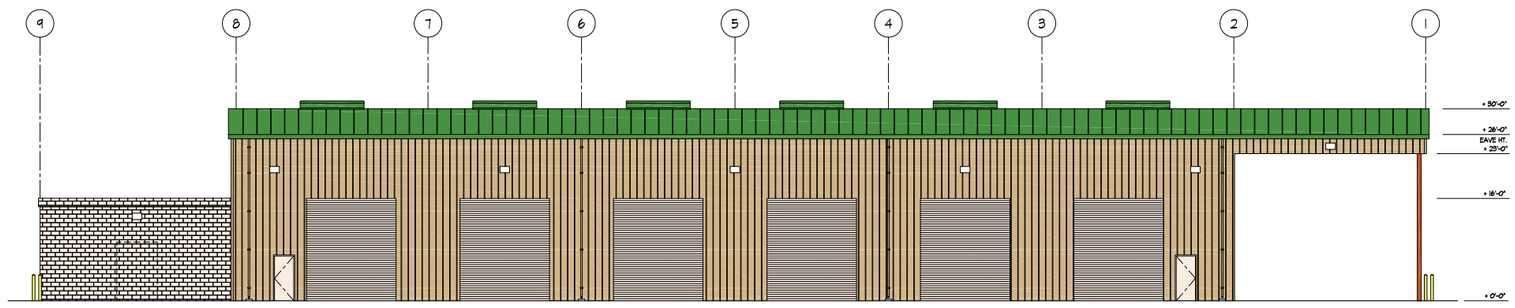
NORTH ELEVATION



EAST ELEVATION



WEST ELEVATION



SOUTH ELEVATION

Source: Roger L. Wilson Architect 2010

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Figure 2.0-11

Proposed Building Elevations - Truck Facility

TABLE 2.0-1
COMPARISON OF EXISTING AND PROPOSED OPERATIONS

	Existing	Proposed
Facility Name	**Mt. Diablo Recycling Facility**	**Mt. Diablo Recycling Facility**
Solid Waste Facility Permit (SWFP) Type	Exempt from SWFP – less than 10% residual	Revision to SWFP 07-AC-0043
Material Types	Residential Recyclables Mixed Commercial Recyclables	Residential Recyclables Mixed Commercial Recyclables
Projected Average Capacity	500 TPD	1,000 TPD
Permitted Hours of Operations	24 hours	24 hours
Actual Hours of Operations	7:00 a.m. to 6:00 p.m. (public) 3 a.m. to 12 a.m. (commercial)	n/a
Number of Employees	27 peak shift	40 peak shift
Operations Name	**Recycling Center and Transfer Station**	**Transfer/Processing Facility**
SWFP Type	SWFP 07-AC-0043	Revision to SWFP 07-AC-0043
Material Types	Municipal Solid Waste Electronic Waste	Municipal Solid Waste Commercial Food Waste Residential Food Waste Electronic Waste
Projected Average Capacity	1,500 TPD	2,700 TPD
Permitted Hours of Operations	24 hours	24 hours
Actual Hours of Operations	7:00 a.m. to 6:00 p.m. (public) 3:00 a.m. to 1:00 a.m. (commercial)	n/a
Number of Employees	8 peak shift	16 peak shift
Operations Name	**Green Materials Processing Operations Area**	**Organics Processing Area**
SWFP Type	Enforcement Agency Notification 07-AC-0044	Revision to SWFP 07-AC-0043
Material Types	Green Waste Wood Waste	Green Waste Wood Waste Co-Collected Green Waste and Food Scraps (Residential)

	Existing	Proposed
Projected Average Capacity	200 TPD	800 TPD
Permitted Hours of Operations	7:00 a.m. to 6:00 p.m.	24 hours
Actual Hours of Operations	7:00 a.m. to 6:00 p.m.	n/a
Number of Employees	4 peak shift	8 peak shift
Operations Name	**Mixed C&D Processing Area**	**Material Processing Area**
SWFP Type	SWFP 07-AC-0043	Revision to SWFP 07-AC-0043
Material Types	Mixed Construction and Demolition Debris	Mixed Construction and Demolition Debris and dry commercial waste and self-haul wastes
Projected Average Capacity	450 TPD	1,000 TPD
Permitted Hours of Operations	7:00 a.m. to 5:00 p.m.	4:00 a.m. to 10:00 p.m.
Actual Hours of Operations	7:00 a.m. to 5:00 p.m.	n/a
Number of Employees	7 peak shift	24 peak shift

MT. DIABLO RECYCLING FACILITY

The proposed project would result in the following physical changes to the existing MDRF:

- Increase capacity from 500 TPD to 1,000 TPD
- Add a second processing line for commercial material including additional dry commingled recyclable materials and self-haul waste for processing
- Add solar panels to the rooftop to generate 800 kilowatt-hours of energy (combined output with the panels on the roof of the Transfer Processing Facility)

Following are detailed descriptions of the proposed improvements and operational and permit changes listed above.

Commercial Recycling and Materials

AB 341 requires that a mandated commercial recycling program start by July 1, 2012. CalRecycle adopted relevant regulations in December 2011. The regulation was approved by the Office of Administrative Law on May 7, 2012, and became effective immediately. Approximately half of the state's waste stream comprises commercial waste.

Consistent with AB 341, the proposed MDRF would add a second processing line to allow additional processing of commercial material, as shown on **Figure 2.0-7**. The MDRF would operate indoors up to 24 hours per day (as currently permitted) and process 1,000 TPD of mixed recyclables.

Solar Panels

The project includes the addition of solar panels to the rooftop of the MDRF building (solar panels are also proposed to be located on the Transfer/Processing Facility). **Figure 2.0-10a** illustrates the proposed building elevations with installation of the solar panels. These buildings could support approximately 1,000 kilowatt panels with the capability to generate up to 800 kilowatt-hours of renewable energy. Current regulations allow the installation of solar panels administratively; however, the installation of the solar panels is being included in the proposed project to further the project's objective of producing renewable energy and reducing greenhouse gas (GHG) emissions.

TRANSFER/PROCESSING FACILITY

The proposed project would result in the following changes to the existing RCTS:

- Increase capacity from 1,500 TPD to 2,700 TPD
- Add commercial and residential food waste processing capacity in the building to produce up to 480 TPD (out of the 2,700 TPD) of compost and/or anaerobic digestion feedstock
- Add solar panels to the rooftop to generate 800 kilowatt-hours of energy (combined output with the panels on the roof of the MDRF)

Following are detailed descriptions of the proposed improvements and operational and permit changes listed above.

Capacity

The project applicant proposes to continue a 24-hour permitted operation and increase the capacity to transfer and process up to 2,700 TPD as part of this project component.

Commercial Food Waste

The indoor operations would include commercial food waste processing equipment to remove contaminants from source-separated food waste received in commercial waste loads and food material, and to process the food waste and material into organic feedstock for composting facilities or anaerobic digestion facilities. Food waste that is part of the commercial solid wastes includes source-separated food wastes generated by stores, offices, and other commercial sources, excluding residences and industrial wastes per Section 17225.12 of Title 14 of the California Code of Regulations (CCR). Food material, as defined in Section 17852(a)(2) of Title 14, means any material that was acquired for animal or human consumption, that is separated from the municipal solid waste stream, and that does not meet the definition of agricultural material. Food material may include material from food facilities as defined in Health and Safety Code Section 113785, grocery stores, institutional cafeterias (such as at prisons, schools, and hospitals), or residential food scrap collection. Contaminants may include glass, plastics, corks, forks, napkins, and silverware from restaurants and cafeterias. Contamination levels vary from 2 to 10 percent of the incoming food waste feedstock. The location of the food waste processing equipment is shown on **Figure 2.0-7**.

Food Waste Processing Operations

The food waste processing equipment would be located inside the Transfer/Processing Facility. The proposed equipment for the facility includes, but is not limited to, a hopper, sort line conveyor, sort line grinder feed conveyor, hammermill grinder, grinder discharge conveyor, and stacking conveyor for loading a truck or bins to transport separated food waste to a compost or anaerobic digestion facility. The storage of food waste is limited to 48 hours, but these materials will typically be processed in less than 24 hours between the receipt of the material and the load-out of the processed organic feedstock.

Processed food waste would be required to be free of plastic, glass, silverware, and other contaminants that could cause damage to a grinder or be deleterious to the wet anaerobic digestion process. Primarily, the operator plans to use a depackaging unit that can separate large volumes of food material from surrounding packaging, filtering out contaminants to create an organic pulp.

Alternatively, plastic and other contaminant material would be removed manually on a sort line. A horizontal hammermill grinder is proposed for use with this type of operation. Material would be fed through a feed conveyor into the hammermill grinder. The hammermill would break the material into smaller pieces. Below the hammermill's hammer circle would be a series of grates. The material would remain inside the hammermill and be crushed or torn between the hammers and grates until its size is sufficiently reduced to pass through the grates, where it would be discharged onto a conveyor below.

For either system operator, a transfer truck would receive the processed food waste from the food waste processing equipment. The anticipated system capacity would be 20 tons per hour but may

vary depending on the materials being sorted and any future upgrades or additions. Similar mechanisms or procedures may be incorporated into the system.

Residential Food Waste

In addition to the food waste processing equipment, indoor food waste processing would also include food waste, food material, co-collected food waste and green waste from residential sources, and/or green waste being placed in large bunkers and mixed in various blends to produce organic feedstock for composting facilities or anaerobic digestion facilities. Please note that some of these materials will be processed at the Organics Processing Facility.

Commercial and Residential Food Waste Mixing Bunker Operations

Food waste, food material, and co-collected green waste with food waste from residential and commercial sources would be placed in large bunkers and mixed in various blends to produce organic feedstock for composting facilities or anaerobic digestion facilities. The storage of food waste and green waste commingled with food waste would be limited to 48 hours but will typically be processed in less than 24 hours from receipt of the material to the load-out of the processed organic feedstock. Food waste and green waste would be mixed in bunkers in the Transfer/Processing Facility, with blends up to 50 percent food waste. A front-end loader would top-load transfer trailers of mixed organic feedstock for delivery to off-site, permitted facilities. The organic feedstock mix would be used as feedstock for compost or an anaerobic digestion process.

Solar Panels

The installation of the solar panels on this project component will produce renewable energy and reduce GHG emissions. Solar panels would be added to the rooftop of the Transfer/Processing Facility and Mt. Diablo Recycling Facility buildings, which could support approximately 1,000 kilowatt panels with the capability to generate up to 800 kilowatt-hours of renewable energy.

ORGANICS PROCESSING FACILITY

The project proposes the following physical changes to the existing Green Material Processing Area:

- Allow the processing of co-collected green material and food material from residential sources
- Provide for up to 10,000 cubic yards of storage
- Increase the permitted operating hours from 7 a.m. to 6 p.m. to 24 hours per day and capacity from 200 TPD to 800 TPD
- Add a second grinder

Following are detailed descriptions of the proposed improvements and operational and permit changes listed above.

Collection of Green Waste with Food Material and Wood Waste

The co-collection of green waste with food material from residential sources (co-collected residential organics) is an emerging trend in California to meet CalRecycle's Strategic Directive No. 6 to divert 50 percent of the organic materials from landfilling by 2020, and for the AB 32 Scoping Plan, to increase compost use. The amount of residential food material varies from 5 to 10 percent of the green waste volume, based on seasonal factors and special holiday events. Food material is defined in state regulations (Title 14) to include residential food scrap collection.

The co-collected residential organics would be delivered to the site from collection vehicles. A peak of 400 TPD of material could be received during the peak season on the all-weather operational pad or would be delivered indoors inside of the Transfer/Processing Facility and mixed with food waste in the proposed bunker.[3] A site-specific Operations Plan and Odor Impact Minimization Plan (in **Appendix B**) has been prepared as part of the proposed project, which includes multiple design and operational measures to reduce odors, including an outdoor storage time limit of 48 hours, and would only allow co-collected food material from residential sources to be stored outside.

The Organics Processing Facility would have capacity to store up to 10,000 cubic yards of organic material in four stockpiles that could reach up to 80 feet wide and 80 feet long, with an average height of 15 feet and a peak height of 20 feet. The stockpiles will be separated by fire lanes consistent with applicable fire district standards. One stockpile will be for the storage of incoming co-collected residential organics, and the second stockpile will be for the processed residential organics. The third stockpile will be for the storage of wood wastes, and the fourth stockpile for the processed wood chips. The specific stockpile locations and grinding area will need to vary over time to receive and process the materials but will follow these basic guidelines.

The co-collected residential organics would be stockpiled on a pad for a maximum period of 48 hours. Chipping and grinding generally occurs on the day of receipt. The processed co-collected residential organics material storage pad would be constructed with compacted gravel and sloped to drain. The pad would have year-round access where transfer trailers could be loaded out in a timely manner. The processed material would be loaded from the stockpile into transfer trailers in order to transfer the material to a permitted facility for composting or to be used as feedstock at an anaerobic digestion facility.

Wood waste would continue to be delivered to the site from roll-off vehicles and the public's vehicles and then recovered from the Material Processing Facility Area. A peak of 400 TPD of wood waste may be received during the peak season on an all-weather operational pad and would be part of Solid Waste Facility Permit activity. For purposes of design and operations capacity, the wood waste from the Mixed Material Processing Facility is factored into the calculations. For the purposes of the Solid Waste Facility Permit, the tonnage of the wood waste within the mixed C&D waste has been assigned to the Material Processing Area.

The wood waste would continue to be stockpiled on a pad for a proposed maximum period of 15 days. Chipping and grinding will generally occur daily. The storage pad will be constructed with compacted gravel and sloped to drain. Wood chips not used at the proposed Biomass Gasification Unit (see below) would be loaded from the stockpile into transfer trailers and transported to other facilities.

[3] The Organics Processing Facility operational area would be included in the Solid Waste Facility Permit since the amount of putrescible material may exceed 1 percent, and no longer qualify as green material that could be permitted under an Enforcement Agency Notification Tier, as with current operations. Putrescible material is material that is subject to putrefaction, or the decomposition of animal proteins, which can give off a putrid odor.

Grinder

A second grinder would be added to the outdoor operations areas of the facility and used at both the Organics Processing Facility and the Material Processing Area.

MATERIAL PROCESSING AREA

The project proposes the following physical changes to the existing Mixed C&D Processing Area:

- Add additional bays to the existing processing line to achieve 500 TPD capacity for the line
- Add a second processing line with 500 TPD capacity to process a total of 1,000 TPD
- Add additional processing for dry commercial recyclables and self-haul wastes
- Expand areas for storage of commodities and equipment, and for parking
- Increase the operating hours from 7:00 a.m. to 5:00 p.m. to 4:00 a.m. to 10:00 p.m.

The project applicant proposes to extend the hours of operation at this facility during the peak construction season from the late spring to the fall. Additional bays and processing lines will be added to the processing line to increase the diversion rate for these materials. The western portion of the project site (approximately 10 acres) will be used for commodity, vehicle, and equipment storage and the 5-acre area will continue to be used for parking and storage.

ADDITIONAL LAND

An 18.5-acre area west and south of the existing facility is included in the proposed project. Approximately 15 acres of this area will be used for containerized commodity storage, equipment storage, the organics processing area, parking, and the proposed Biomass Gasification Unit, and organics processing area. The applicant currently uses 5 acres of this area for parking and storage. While portions of this area contain some pavement and gravel areas that are in poor condition, the project applicant proposes to pave or surface this area with impervious surfaces. Approximately 3.5 acres of this area (former GWF site) will be used for the proposed truck maintenance facility and yard (discussed further below).

BIOMASS GASIFICATION UNIT

The proposed Biomass Gasification Unit (BGU) portion of the project would include the following physical improvements:

- Construct and operate a BGU
- Allow 24-hour operation and maintenance of the BGU
- Utilize 40 TPD of clean wood chips processed at the Organics Processing Facility or the Material Processing Area as the fuel source for the BGU
- Generate 1 megawatt per hour of renewable energy primarily for use for on-site operations

- Install transmission lines to power the MDRF and the Material Processing Area and to sell excess electricity to Pacific Gas and Electric (PG&E)

The project applicant proposes to construct and operate the BGU on a currently undeveloped area of the project site located at the northwesterly portion of the project site (see **Figure 2.0-7**). **Figure 2.0-8** provides the proposed site plan specifically for the BGU. The proposed BGU would be designed to allow 24-hour operation and maintenance, would be constructed of metal, and would feature colors and materials similar to the current color scheme of the Mt. Diablo Recycling Facility.

The proposed BGU would utilize proven gasification technologies that convert biomass into a synthetic natural gas ("syngas") through the process of thermo-chemical conversion. The BGU would use clean wood chips processed at the on-site Organics Processing Facility or the Material Processing Area as the fuel source. The thermo-chemical biomass gasification process "cooks" biomass in an oxygen-starved environment. By depriving the fuel of sufficient oxygen, the biomass does not burn but rather gives off a hydrogen-rich syngas. As the biomass gives off the syngas, it is transformed into bio-char and ash of approximately 1 to 5 percent of the volume of biomass fuel. The syngas is then captured, cleaned by a series of scrubbers and filters, and cooled before being sent as fuel to the genset. The syngas would be used to fuel a specially modified natural gas genset that would provide renewable electricity and heat to the structures and equipment on-site.

Bio-char and ash would be removed from the conversion chamber using pumped slurry. This slurry would then be cooled and filtered. The resulting char byproduct would be separated out using a special mechanical separator for resale as a soil amendment, sequestering carbon in the ground for up to 1,000 years. The water would again be filtered, cooled, and recirculated.

Power Generation

The power units are based on a spark-ignited engine genset. Depending on the model chosen, the engines are capable of providing up to 1 megawatt (net) operating on syngas. The applicant would customize the system to allow syngas carburetion for this engine and provide standard paralleling switchgear for electrical output with up to 1 megawatt per hour.

Transmission Lines

All proposed transmission lines would be underground and connect to the Mt. Diablo Recycling Facility and the Material Processing Area. A feed-in tariff is available for selling excess electricity back to PG&E during off-peak periods. As such, the project includes construction of underground transmission lines to the current utility lines in order to sell excess electricity.

TRUCK MAINTENANCE FACILITY AND YARD

The project proposes the construction of a truck maintenance facility and yard that would replace an existing facility currently located east of the project site across Loveridge Road. The facility would consist of a 30-foot-tall, 18,000-square-foot building comprising a 15,600-square-foot shop and a 2,400-square-foot office/storage area, with 2,000 square feet of open air canopies on the eastern side of the building (see **Figure 2.0-11** for proposed building elevations). This facility would also include a new truck fueling island that would be relocated from the MDRF main parking area. The facility will be used for the repair and maintenance of the facility's approximately 60 commercial and residential refuse trucks, as well as RCTS and MDRF equipment. The truck maintenance facility and yard includes a 47-space parking/storage area

for the trucks and a wash area. This area also provides 41 parking spaces for employees and other persons. No painting will occur on the site (see **Figure 2.0-9**).

The truck maintenance facility and yard will have 11 full-time mechanical and shop support personnel. Operational hours will be 9 a.m. to midnight Monday through Friday, 7 a.m. to 5 p.m. on Saturday, and 9 a.m. to 5 p.m. on Sunday.

SOLID WASTE FACILITY PERMIT

The project applicant proposes to obtain one solid waste permit to cover the proposed project. The existing solid waste permit covers the RTCS and the Material Processing Facility but is not required for the existing MDRF or Green Materials Processing Operations Area. If the expanded operations as proposed are approved, a solid waste permit will be required for all project components. The permit would be issued by the City of Pittsburg Local Enforcement Agency and with the concurrence of the California Department of Resources Recycling and Recovery (CalRecycle).

OPERATIONS AND EMPLOYMENT

The proposed hours of operations for the four existing operational components are shown in **Table 2.0-1** above. **Table 2.0-1** also shows the anticipated number of full-time employees at each of these project components during a peak shift.

The proposed truck maintenance facility and yard will operate between 9:00 a.m. and 12:00 a.m. on weekdays, between 7 a.m. and 5 p.m. on Saturdays, and between 9:00 a.m. and 5:00 p.m. on Sundays and would employ 11 full-time mechanic and shop personnel. The BGU component would be permitted to operate 24 hours per day with 2 employees.

The proposed project would employ a total of 145 employees (an increase of 62 employees), with up to 90 employees working during a peak shift (an increase of 44 employees).

DUST MINIMIZATION PLAN

A Dust Minimization Plan (**Appendix C**) was prepared as part of the proposed project to protect public health and air quality. The plan summarizes the current dust control practices implemented at the facility, which include the use of two dedicated street sweepers and a water truck as well as requirements to cover truckloads with tarps and limit speed to 15 miles per hour. Dust control on the site would be accomplished with watering according to the schedule used at the facility. The plan also proposes specific measures to control dust during project construction and operation. These measures apply to both indoor and outdoor operations at each facility. Measures include paving of access roads, use of misting systems and equipment sprayers, strict enforcement of storage time limits, covering or watering of stockpiles, wind-level monitoring, and worker education/awareness training.

OPERATIONS AND ODOR IMPACT MINIMIZATION PLAN

An Operations and Odor Impact Minimization Plan (**Appendix B**) was prepared as part of the proposed project to minimize odor emissions and prevent nuisances in the surrounding area. The plan identifies potential sensitive receptors in the area and establishes odor monitoring and complaint response protocols. In addition, the plan provides design and operational considerations and procedures to minimize odor emissions associated with the proposed

project. These include proper drainage to prevent standing water, screening of incoming loads to eliminate unacceptable waste materials, strict enforcement of storage time limits, monitoring of stockpiles to ensure optimal conditions, and worker education/awareness training. The plan also includes a contingency plan to control odors should they occur.

LIGHTING AND LANDSCAPING

Minimal new light sources and landscaping would be added as part of the project. New light sources would be added to the proposed Truck Maintenance Facility with light sources directed to pathways and roadways. In addition, parking lot light sources would be shielded or directed away from the project boundaries in accordance with Pittsburg Municipal Code Section 18.82.030, Glare.

Landscaping would be installed on the project site in order to achieve the minimum 10 percent lot coverage per the City's property development regulations for the IL and IG zoning districts (Municipal Code Section 18.54.115).

SIGNAGE

The project applicant proposes to add numerous signs throughout the project site, including a new monument sign at the site's main entrance. Illustrations of the proposed signs are provided on **Figure 2.0-12,** while the locations of the proposed signs are shown on **Figure 2.0-7**.

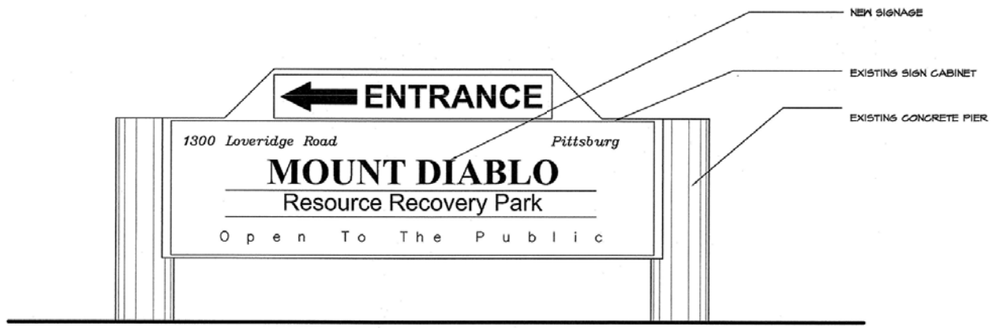
PARKING

As described above, 79 parking spaces are currently provided on the project site. An additional 60 parking spaces are proposed in the western portion of the site, and 41 parking spaces would be added at the Truck Maintenance Facility (see **Figure 2.0-7**). Therefore, a total of 180 standard-sized parking spaces would be available for employees and the public scattered throughout the project site. According to the facility's approved parking variance, the project must provide a minimum of one parking stall per 2,450 square feet of building area. With the addition of the proposed truck maintenance facility, the overall facility would have a total floor area of 208,804 square feet and a minimum parking requirement of 86 stalls. Therefore, the project would exceed the minimum parking standard by 88 stalls.

ACCESS AND CIRCULATION

As described above, there are currently three points of access to the project site, all from Loveridge Road. No changes to the existing site access and circulation are proposed as part of this project. Site access points and internal roadways are shown on **Figure 2.0-7**.

The project applicant proposes to revise the facility's use permit to allow additional trucks and collection vehicles to access the site. The project would increase its anticipated vehicle trips from 1,200 trips per day to 5,620 trips per day.



A MONUMENT SIGN
1/2" = 1'-0"

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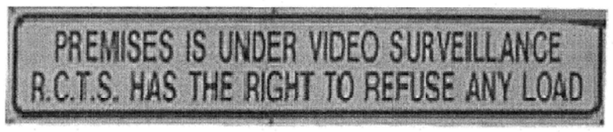

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Source: Roger J. Wilson Architect 2010

NOT TO SCALE

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Figure 2.0-12
Proposed Signage

PMC®

STORM DRAINAGE

Stormwater runoff generated within the existing site will continue to be collected and conveyed by the existing on-site storm drainage system of ditches and pipelines previously described. The existing on-site system and existing drainage ditch across the USS-POSCO site have adequate capacity for the additional runoff generated by the proposed development.

The proposed development on the 15-acre parcel to the west will include the replacement of the existing open ditch on this parcel with a 36-inch-diameter pipeline. The proposed development of this parcel including complete impervious surfaces, either pavement or covered structures, will increase the stormwater peak flows from this parcel from 9.2 cubic feet per second (cfs) to 15.8 cfs. The 36-inch pipeline and the downstream existing ditch and 36-inch culvert have adequate capacity to convey the increased peak flows from the existing site and the fully developed 15-acre area.

Redevelopment of the former GWF site would include the installation of a new on-site stormwater system that will collect and convey site runoff to Kirker Creek via the two existing outfall locations. This proposed stormwater system will incorporate a detention component to ensure the peak flows from this portion of the project site do not exceed the existing conditions. The detention component will likely include an underground vault that will provide adequate storage to attenuate the peak flows and not exceed existing peak flows (CBG 2014). Alternatively, the project applicant may choose to reroute drainage from this area northward to the remainder of the project site to be discharged into the existing ditch on the USS-POSCO property.

CONSTRUCTION

Major construction activities associated with the proposed project would include the construction of the C&D processing line, Biomass Gasification Unit, and truck maintenance facility and yard, as well as drainage improvements and paving/surfacing on approximately 18.5 acres of the project site. The remaining activities would consist of interior tenant improvements and installation of new equipment inside or on the exterior of the existing buildings.

The construction schedule for the C&D processing line is approximately four weeks. Site preparation and paving would take approximately one week and would require very limited to no grading, as the site is flat and compacted from previous use. Approximately 13 truckloads of concrete would be needed to pour a 5,940-square-foot pad to support the processing line. The processing line components would be delivered via flatbed truck and assembled with a crane over a one-week period. Electrical and mechanical contractors would then complete assembly over a two-week period.

The construction schedule for the Biomass Gasification Unit is approximately ten weeks and could start in 2016, if City approval is granted. Site preparation and paving would take approximately one week and would require minor grading. Approximately nine truckloads of concrete would be needed to pour a 4,000-square-foot pad to support the BGU. The BGU components would be delivered via flatbed truck and assembled with a crane unit over a period of approximately five weeks. Electrical and mechanical contractors would then install the electrical system and piping over a four-week period.

Construction of the proposed truck maintenance facility and yard would require minor grading as the site is flat and compacted from previous use (former GWF site). Grading and undergrounding of utilities is expected to take six weeks, construction of the building including

the pad is expected to take eight months, and site work/landscaping is expected to take two months, for a total construction period of approximately one year.

Construction of drainage improvements would include the replacement of the existing open ditch with a 36-inch-diameter pipeline. The project may also include rerouting drainage from the 3.5-acre area from draining to Kirker Creek to draining into the existing ditch on the USS-POSCO property. If drainage is rerouted to the ditch, a detention system will be constructed on-site in order to detain the rerouted flows and not exceed the capacity of the existing ditch. The detention volume required is approximately 0.2 acre-feet. The detention system would consist of underground pipes with meters or aboveground ditches or swales.

Portions of the site are paved or contain some surfacing that is in poor condition. Approximately 10 acres of the site have no pavement. The applicant proposes to replace and/or pave or surface these areas (approximately 18.5 acres) with impervious surfaces.

Installation of the proposed commercial recycling and food waste processing equipment would require the use of a concrete saw to modify the existing concrete pads within the MDRF and Transfer/Processing Facility in order to install the recessed conveyors.

RAIL HAUL OPERATIONS PLAN

With the advent of federal Subtitle D (Subpart 257 and 258, Title 40, Federal Code of Regulations) in 1993, regional landfills have replaced local landfills as a cost-effective landfill disposal option. The purpose of the rail haul option would be to offer an alternative to hauling solid waste using conventional collection trucks for considerable distances across Contra Costa County. The BNSF Railroad is located to the northwest of the project site, and a railroad spur exists on the property west of the Transfer/Processing Facility. The Rail Haul Operations Plan is a future option being considered by the project applicant but is not proposed for implementation at this time. Therefore, this option will be evaluated in the DEIR at a programmatic level. Should it be proposed at a later date, further CEQA analysis would be required.

Under the Rail Haul Operations Plan option, solid waste collection directed to the Transfer/Processing Facility at the Mt. Diablo Resource Recovery Park would be unloaded on the tipping floor. From the tipping floor, unrecyclable solid waste would be placed in collection containers for long-haul by rail to a permitted regional landfill.

2.5 REQUIRED APPROVALS

The proposed project will require the following approvals:

- City of Pittsburg – Conditional Use Permit and Design Review
- City of Pittsburg – Solid Waste Management Division
- California Department of Resources Recycling and Recovery (CalRecycle) – Solid Waste Facility Permit Revision
- Bay Area Air Quality Management District – Regulation 2 Permit Revisions
- State Water Resources Control Board – General Construction Permit

Additional approvals may be required from the following agencies:

- California Department of Toxic Substances Control
- California Department of Transportation (Caltrans)

REFERENCES

CARB (California Air Resources Board). 2008. *Climate Change Proposed Scoping Plan: A Framework for Change.*

CBG (Carlson, Barbee & Gibson, Inc.). 2014. *Drainage Assessment, Mount Diablo Resource Recovery Park SEG Trucking Maintenance Facility, Pittsburg, California.*

City of Pittsburg. 2001. *City of Pittsburg General Plan*.

———. 2010. Pittsburg Municipal Code. Accessed February 8, 2011. http://www.codepublishing.com/ca/pittsburg/.

Contra Costa Waste Service, Inc. 2010. Conditional Use Permit Application Package: Mt. Diablo Resource Recovery Park. Prepared by Edgar and Associates.

3.0 ASSUMPTIONS

The following is an introduction to the project-specific and cumulative environmental impacts analysis and general assumptions used in the analysis. The reader is referred to the individual technical sections of this Draft Environmental Impact Report (Draft EIR) regarding specific assumptions, methodology, and significance criteria used in the analysis.

3.1 ANALYSIS ASSUMPTIONS GENERALLY USED TO EVALUATE THE IMPACTS OF THE PROJECT

BASELINE ENVIRONMENTAL CONDITIONS ASSUMED IN THE DRAFT EIR

Section 15125(a) of the California Environmental Quality Act (CEQA) Guidelines requires that an EIR include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the Notice of Preparation (NOP) is published. The CEQA Guidelines also specify that this description of the physical environmental conditions is to serve as the baseline physical conditions by which a lead agency determines whether impacts of a project are considered significant. The baseline analysis used in this EIR is based upon the existing operations of the facility (see **Table 2.1-1**).

The environmental setting conditions of the project site and the surrounding area are described in detail in the technical sections of the Draft EIR (see Sections 3.1 through 3.8). In general, these setting discussions describe the setting conditions of the project site and the surrounding area as they existed when the NOP for the project was released on May 18, 2011. In addition, the Draft EIR includes current information on the status of proposed and approved large-scale development projects in the region (see subsection 3.3, Approach to the Cumulative Impact Analysis, below).

GENERAL PLAN CONSISTENCY ANALYSIS

As required by CEQA Guidelines Section 15125(d), each technical section of the Draft EIR (Sections 3.1 through 3.8) has been evaluated for consistency with policies contained in the existing City of Pittsburg General Plan (2001).

PROJECT CONSTRUCTION EFFECTS

Construction and installation of the proposed development and improvements would generate dust, equipment noise, water runoff, and increase or disrupt traffic. Project construction impacts specific to each area of environmental analysis are evaluated in the technical sections of the Draft EIR (Sections 3.1 through 3.8).

Project Buildout Assumptions

For the environmental analysis, it is assumed that construction/installation of the proposed development and improvements would occur on the project site as described in Section 2.0, Project Description. Project operational impacts, such as traffic, air quality, hydrology, biological resources, and hazards, are evaluated in the technical sections of the Draft EIR (Sections 3.1 through 3.8). The EIR generally relies on the buildout assumptions contained in the City of Pittsburg General Plan; however, other large-scale projects may also be considered in the cumulative context, as appropriate for the topic. **Table 3.0-1** includes the name, type of development, associated acreage, and status of other large-scale proposed and approved development projects in the area. The projects listed below located within the City limits were taken from the City's "Project Pipeline List" contained on its website. The location of each project is also described in **Table 3.0-1**. The cumulative setting also includes existing projects.

TABLE 3.0-1
PROPOSED AND APPROVED RESIDENTIAL PROJECTS IN THE CUMULATIVE STUDY AREA

Project	No. of Units	Site Acreage	Location	Status
Single-Family Residential				
Montreux	368	148.3	West of Kirker Pass, just south of city limits	Pending
Sky Ranch	415	163	Buchanan Road, west of Somersville Road	Approved
Sunnyside Estates	33	4.4	Carion Court	Pending
Tuscany Meadows	917	135.6	Buchanan Road, southwest of Somersville Road	Pending
Apartments/Condominiums				
Los Medanos Apartments	30	0.29	SE corner of Los Medanos & E. 9th Street	Approved
Esperanza Apartments (San Marco)	300	13.3	South of Leland Road, East of San Marco Boulevard	Pending
Tuscany Meadows	365	14.6	Buchanan Road, southwest of Somersville Road	Pending

TABLE 3.0-2
PROPOSED AND APPROVED NONRESIDENTIAL PROJECTS IN THE CUMULATIVE STUDY AREA

Project/Description	Bldg. Sq. Ft.	Site Acreage	Location	Status
Industrial				
ARB, Inc. Construction of an additional to an existing industrial use.	2,103 (add'n)	1.43	1875 Loveridge Road	Under Construction
Columbia Solar Construction of a 20-megawatt (MW) ground mounted solar photovoltaic array and related infrastructure.	–	115	900 Loveridge Road	Under Construction
K 2 Pure Establishment of a manufacturing plant for the production of electrochemical units.	40,000 +	15	901 Loveridge Road	Built
Long-Range Planning Projects				
James Donlon Blvd. Extension (Buchanan Bypass) & Southeast Hills Annexation, including General Plan Amendment and Rezoning. Construction of a new 1.71 mile long roadway south of the current City boundary.	–	TBD	South of the existing city limits and east of Kirker Pass Road	EIR Certified
Southwest Hills/Faria Annexation Annexation of undeveloped land into the City of Pittsburg, the Contra Costa Water District and the Delta Diablo Sanitation District.	–	606	Southwest Hills	Pending; NOP released on March 7, 2014. DEIR underway

Project/Description	Bldg. Sq. Ft.	Site Acreage	Location	Status
Keller Canyon Landfill Expansion Request amendment to existing land use permit to increase the daily tonnage limit, and other operational changes.	-	2,000	901 Bailey Road, Contra Costa County	Pending: NOP released in August 2009.

3.2 STRUCTURE OF THE ENVIRONMENTAL IMPACT ANALYSIS

Sections 3.1 through 3.8 of this Draft EIR contain a description of current setting conditions, the applicable regulatory framework, an evaluation of the direct and indirect environmental effects resulting from the implementation of the proposed project, identification of General Plan policies and Municipal Code sections that mitigate environmental effects, additional feasible mitigation measures, and identification of whether significant environmental effects of the project would remain after application of applicable policies and codes, and feasible mitigation measures. The individual technical sections of the Draft EIR include the information discussed below.

EXISTING SETTING

The subsection includes a description of the physical setting conditions associated with the technical area of discussion, consistent with CEQA Guidelines Section 15125. As identified above, the existing setting is based on conditions as they existed when the NOP for the project was released on May 18, 2011.

REGULATORY FRAMEWORK

This subsection consists of the identification of applicable federal, state, regional, and local plans, policies, laws, and regulations that apply to the technical area of discussion.

IMPACTS AND MITIGATION MEASURES

The Impacts and Mitigation Measures subsection identifies direct and indirect environmental effects associated with implementation of the proposed project and identifies ways to mitigate environmental effects, as applicable. Standards of significance are identified and used to determine whether identified environmental effects are considered significant and require the application of mitigation measures. Each environmental impact analysis is identified numerically (e.g., Impact 3.3.1 – Hazard to the Public Through Routine Transport, Use, or Disposal of Hazardous Materials) and is supported by substantial evidence included in the discussion.

Mitigation measures for the proposed project were developed through a thorough review of the environmental effects of the project site by consultants with technical expertise as well as by environmental professionals. The mitigation measures identified consist of performance standards that identify clear requirements that would avoid or minimize significant environmental effects. The use of performance standard mitigation is allowed under CEQA Guidelines Section 15126.4(a) and is supported by case law (*Sacramento Old City Association v. City Council of Sacramento* [3d. Dist 1991] 229 Cal.App.3d 1011, 1028 [280 Cal.Rptr. 478]).

3.3 APPROACH TO THE CUMULATIVE IMPACT ANALYSIS

DEFINITION OF CUMULATIVE SETTING

CEQA Guidelines Section 15130 requires that EIRs include an analysis of the cumulative impacts of a project when the project's effect is considered cumulatively considerable. In general, the cumulative setting conditions considered in this Draft EIR are based on the City's existing land use plans (General Plan and Zoning Ordinance). The project site contains approximately 36 acres and encompasses parcels that are currently designated in the General Plan as Industrial and zoned IG (General Industrial) District and IL (Limited Industrial) District. Additional discussion regarding land use and zoning consistency is included in Section 2.0, Project Description, and Section 3.5, Land Use, of this Draft EIR.

Cumulative setting conditions also consider existing, proposed, approved, and reasonably foreseeable large-scale development projects in the project vicinity, as listed in **Tables 3.0-1** and **3.0-2**, in the analysis of the Draft EIR**.** These lists are intended to describe large-scale development activities in the vicinity of the project (cumulative study area) and are not intended to be an all-inclusive list of projects in the City of Pittsburg and adjacent jurisdictions.

The cumulative setting varies for each environmental issue area, depending upon the resources affected and any relevant boundaries. For example, some issue areas such as hazards have relatively site-specific impact potential, while other resource areas such as air quality are studied on a regional basis, covering the entire air basin within which a proposed project lies. Each technical section of the Draft EIR includes a description of the geographic extent of the applicable cumulative setting, based on the characteristics of the environmental issues under consideration as set forth in Section 15130(b) of the CEQA Guidelines.

CONSIDERATION OF CUMULATIVE IMPACTS

Each technical section in the Draft EIR includes a description of the cumulative setting geographic extent based on the characteristics of the environmental issue under consideration as set forth in Section 15130(b) of the CEQA Guidelines. Each section also considers whether the project's contribution to anticipated significant environmental effects that would occur under cumulative setting conditions is cumulatively considerable (i.e., a significant effect).

"Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (CEQA Guidelines Section 15065(a)(3)). Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (CEQA Guidelines Section 15355(b)). The determination of whether the project's impact on cumulative conditions is considerable is based on a number of factors, including consideration of applicable public agency standards, consultation with public agencies, and expert opinion. Section 4.0, Cumulative Impacts, provides a summary of the cumulative impacts associated with the proposed project. Cumulative impacts are based on the project's contribution to development compared with cumulative baseline conditions.

3.4 COMMON TERMINOLOGY USED IN THE DRAFT EIR

Identified below are common terms used throughout this document.

CEQA TERMINOLOGY

Cumulatively Considerable Impact: Cumulatively considerable means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

Less Than Cumulatively Considerable Impact: A less than cumulatively considerable impact results when the incremental effects of an individual project would not contribute significantly to a cumulative impact.

Less Than Significant Impact: A less than significant impact would cause no substantial change in the environment and no mitigation would be required.

No Impact: No adverse change to the environment would occur.

Potentially Significant Impact: A potentially significant impact is one that may or may not occur and where a definite determination cannot be made. Feasible mitigation measures and/or project alternatives are identified to avoid or reduce the project's effects on the environment to a less than significant level.

Significant Impact: A significant impact would cause (or would potentially cause) a substantial adverse change in the physical conditions of the environment. Significant impacts are identified by the evaluation of project effects using specified standards of significance. Mitigation measures and/or project alternatives are identified to reduce project effects on the environment.

Significant and Unavoidable Impact: A significant and unavoidable impact would result in a substantial change in the environment that cannot be avoided or mitigated to a less than significant level if the project is implemented.

Standards of Significance: A set of criteria used by the lead agency to determine at what level or "threshold" an impact would be considered significant. Significance criteria used in this EIR include the State CEQA Guidelines; factual or scientific information; regulatory performance standards of local, state, and federal agencies; and City goals, objectives, and policies.

GENERAL TERMINOLOGY

City: City of Pittsburg.

Applicant: Any person or other legal entity who applies to the City to develop or improve any portion of the real property within the project boundaries. The term "applicant" shall include all successors in interest. The applicant for this project is Contra Costa Waste Service, Inc.

Project: The development or improvement of the project site, as defined by the project application and set forth in the Project Description. May also be referred to as the proposed project.

Project Site: The real property described by the project application. The project site in this EIR is a 36 acre area located at 1300 Loveridge Road in the City of Pittsburg.

3.5 ENVIRONMENTAL IMPACT REPORTS UTILIZED IN THIS EIR

This Draft EIR utilizes technical information and analyses from previously prepared environmental documents that are relevant to the consideration of environmental effects of the proposed project, which is supported by the CEQA Guidelines (see Sections 15148 [Citation] and 15150 [Incorporation by Reference]). These environmental documents are incorporated into this EIR by reference. By utilizing provisions of the CEQA Guidelines, the City, in preparing this Draft EIR, has been able to make maximum feasible and appropriate use of the technical information in these environmental documents. These documents and other referenced materials are available for review upon request at the City of Pittsburg Planning Division at 65 Civic Avenue, Pittsburg, California 94565. In addition to the materials cited, the following documents have been utilized in this Draft EIR:

- City of Pittsburg General Plan EIR (State Clearinghouse No. 1999072109)
- Pittsburg/Bay Point BART Station Area Specific Plan EIR (Recirculated) (State Clearinghouse No. 2010122023)
- Recycling Center and Transfer Station Final EIR (State Clearinghouse No. 94063017)
- Columbia Solar Project Mitigated Negative Declaration (State Clearinghouse No. 2013012038) (**Appendix D**)

3.6 CHANGES TO THE PROPOSED PROJECT SINCE CIRCULATION OF THE NOP

The project description in the Notice of Preparation on May 18, 2011 stated that all project-related activities would remain within the existing facility footprint. Since that time, the project applicant has finalized a design capacity study indicating that additional area would be needed to efficiently operate the facility. Therefore, the project applicant has added to the project 18.5 acres of land adjacent to the existing site and made revisions to the proposed site plan including relocating the BGU and organics processing operations area (future phase) to the northwesterly portion of the site and adding a truck maintenance facility and yard in the southeasterly corner. The remaining portions of the 18.5 acres would be used for parking, vehicle and equipment storage, and containerized commodity storage.

The additional 18.5 acres can be described as four separate areas: the 3.5-acre former GWF facility, an approximately 5-acre portion that is currently surfaced with compacted gravel used by Contra Costa Waste Services for storage and parking, and two undeveloped areas (approximately 2.5 acres and 7.5 acres), both of which have been analyzed for development in the Columbia Solar Project Mitigated Negative Declaration (MND; SCH# 2013012038; **Appendix D**). These areas are discussed further below.

The former GWF site is almost entirely paved and all improvements associated with the former operation have been removed since publication of the NOP. Because the site is almost entirely paved, the redevelopment of the site as a truck maintenance facility and yard would not result in a substantial change from existing conditions with regard to footprint-related effects on this site.

The central 5-acre portion of the addition is currently being used by Contra Costa Waste Services for storage and parking, so the use of that site would not change from existing conditions.

COLUMBIA SOLAR PROJECT MITIGATED NEGATIVE DECLARATION

The Columbia Solar Project Mitigated Negative Declaration (MND) analyzed the potential environmental impacts on the Columbia Solar site, which included 15 acres of land that is part of the proposed project but is not currently part of the existing facility (see **Figure 3.0-1** and **Appendix D**). The City Council found, based on the analysis in the MND and the record before it, that there was no substantial evidence that the Columbia Solar Project would have a significant effect on the environment and adopted the MND on May 6, 2013. The Columbia Solar Project included ground disturbance (redistribution and smoothing of surface soils, gravel surfacing for roads, substation and surrounding areas), minor grading, pouring of various concrete foundations to support equipment, and installation of solar panels and an electrical substation on the site. The proposed project would include smoothing/leveling of surface soils and addition of gravel or paving for storage of equipment and commodities as well as minor grading and pouring of a 4,000 square foot concrete pad to support the proposed BGU. These improvements would not differ substantially from the assumptions under the Columbia Solar Project. Therefore, the Columbia Solar Project Mitigated Negative Declaration adequately describes footprint-related effects on this portion of the project site.

The following resource areas were adequately addressed in the MND, as discussed below, and these topics are not addressed further in this Draft EIR. Potential effects related to other resource areas are addressed in the appropriate technical sections of this Draft EIR.

Aesthetics

The MND determined that development on the site would not substantially affect a scenic vista, damage scenic resources, degrade the character of the site, or result in substantial light or glare. The MND considered the development of solar panels up to 22 feet tall, a static mast at 50 feet tall and towers approximately 60 to 90 feet tall. The MND determined that the height, bulk, pattern, scale, and character of the solar project would not conflict with the visual character of the existing surrounding predominately industrial land uses. The proposed project would use the site for parking, equipment and commodity storage, an organic processing operations area, and a biomass gasification unit. These proposed uses would not exceed the proposed heights analyzed in the MND and would have a similar industrial character. The MND concluded that the solar project would also be consistent with the industrial character of the area and that the aesthetic impacts of the solar project would, therefore, be less than significant.

Agricultural Resources

The project site is not zoned for agriculture, is not under a Williamson Act Contract, and contains no farmland. The Farmland Mapping and Monitoring Program (FMMP), administered by the California Department of Conservation (DOC), designates the entire project area as Urban and Built-Up Land. The project site does not contain trees or forest land. Therefore, there would be no impact with respect to forest or agricultural resources.

Cultural Resources

The portion of the project site analyzed in the MND, has no building or structures, and a historic aerial map review indicated that no previous structures were built within the project footprint. There would be no impact on historic structures.

A cultural resource records search was conducted through the Northwest Information Center for the Columbia Solar Project, which found no previously recorded cultural resources within the project boundaries and no known prehistoric archaeological sites within a one mile radius. A search of the Native American Heritage Commission (NAHC) Sacred Lands File failed to indicate the presence of Native American cultural resources in the immediate project area. The portions of the project site reviewed under the MND have been intensively disturbed by landfilling activities from 1939 to 1992 and by solid waste management unit remediation activities approved by the Department of Toxic Substances Control (DTSC) with a Corrective Action Measures Completion Report submitted in 2005. Historically, the entire Project site was utilized to dispose of industrial waste materials including slag, scale, dried sludge, construction debris, and other wastes. Due to its history of intensive surface and subsurface disturbance native soil horizons that could contain significant archaeological resources are not anticipated to be encountered and there would be no impact. Similarly, native soil horizons that could contain significant paleontological resources are not anticipated to be encountered during project construction due to the previously disturbed nature of the site and because there would be minimal grading in conjunction with the proposed project.

A cultural resource records search was conducted through the California Historical Resources Information System (CHRIS) Northwest Information Center and search of the Native American Heritage Commission (NAHC) Sacred Lands File did not indicate any known burials within the project area, or within one mile of the project area and failed to indicate the presence of Native American cultural resources in the immediate project area.

Geology and Soils

There is no active or potentially active fault zone, Seismic Hazard Zone, or Alquist-Priolo Earthquake Fault Zone on the site or surrounding areas, so there is no evidence of a potential earthquake fault rupture hazard. The closest active fault is the Clayton segment of the Clayton-Marsh Creek-Greenville Fault, located more than six miles to the southwest. Other major faults in the region include the Green Valley/Concord Fault (10 miles west), Calaveras Fault (15 miles west), Rogers Creek Fault Zone (27 miles west), Hayward Fault Zone (28 miles west), and the San Andreas Fault Zone (41 miles west). Strong ground motions could occur in the vicinity of the project from an earthquake on any of these regional faults. Strong seismic ground shaking would be a potentially substantial seismic hazard if structures are not appropriately designed. The potential for seismic ground motions to damage structures is mitigated through proper design and construction to withstand predicted ground motions, codified in the California Building Code seismic standards. The California Building Code seismic standards are designed to mitigate the potential for people or structures to be exposed to substantial risks from seismically-induced ground motions. Conformance with this code would be assured through the Building Permit process of the City of Pittsburg. Adherence to City and California Building Code requirements would limit the risk of damage or injury from seismic ground shaking to level that is less than significant.

Similarly, geological hazards due to other soil constraints, such as clay soils, soil collapse, expansive soils, liquefaction or lateral spreading would be mitigated through compliance with California Building Code requirements. In addition, the project site is generally flat, so it would not result in landslides, loss of topsoil, or substantial soil erosion. Due to site conditions and adherence to City and California Building Code requirements, impacts related to geology would be less than significant.

T:_CS\Work\Pittsburg, City of\P10-0144 Mt. Diablo Resource Recovery Park

Source: Columbia Solar Energy, LLC

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Figure 3.0-1
Area Analyzed in the Columbia Solar Project Mitigated Negative Declaration

PMC®

Mineral Resources

The Project site area is 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." No important mineral resources have been identified on the project site, so there would be no impact related to mineral resources.

3.1 Air Quality

This section examines the air quality in the region of the proposed project, including a summary of applicable air quality regulations and potential air quality impacts associated with the proposed project. The reader is also referred to Section 3.2, Climate Change and Greenhouse Gases, for a discussion on climate change and associated environmental effects. This section is based on an analysis of project-related operational air quality impacts prepared by Air Permitting Specialists (2014) and an analysis of project-related construction air quality impacts by Ambient Air Quality & Noise Consulting (2013).

3.1.1 EXISTING SETTING

The proposed project is located in Pittsburg in eastern Contra Costa County, within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The BAAQMD is the regional air quality agency for the San Francisco Bay Area Air Basin (SFBAAB), which comprises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties, the southern portion of Sonoma County, and the southwestern portion of Solano County. Air quality in this area is determined by such natural factors as topography, meteorology, and climate, in addition to the presence of existing air pollution sources and ambient conditions.

REGIONAL CLIMATE, TOPOGRAPHY, AND AIR POLLUTION POTENTIAL

The SFBAAB is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays that distort normal wind flow patterns. The Coast Range splits, resulting in a western coast gap and an eastern coast gap that allow air to flow in and out of the air basin and the Central Valley.

High Pressure Cell

During the summer, the large-scale meteorological condition that dominates the West Coast is a semi-permanent high pressure cell centered over the northeastern Pacific Ocean. This high pressure cell typically keeps storms from affecting the California coast. Hence, the SFBAAB experiences little precipitation in the summer months. Winds tend to blow onshore from the north/northwest during this time.

The steady northwesterly flow induces upwelling of cold water from below. This upwelling produces a band of cold water off the California coast. When air approaches the California coast, already cool and moisture-laden from its long journey over the Pacific, it is further cooled as it crosses this bank of cold water. This cooling often produces condensation, resulting in a high incidence of fog and stratus clouds along the Northern California coast in the summer.

Generally in the winter, the Pacific high pressure system weakens and shifts southward, winds tend to flow offshore, upwelling ceases, and storms occur. During the winter rainy periods, inversions (layers of warmer air over colder air; see below) are weak or nonexistent, winds are usually moderate, and air pollution potential is low. The Pacific high periodically becomes dominant, bringing strong inversions, light winds, and high pollution potential.

Topography

The complex terrain of the SFBAAB, particularly in the higher elevations, distorts the normal wind flow patterns in the air basin. The greatest distortion occurs when low-level inversions are present and the air beneath the inversion flows independently of air above the inversion, a condition that is common in the summertime (BAAQMD 2010a).

The only major break in California's Coast Range occurs in the SFBAAB. Here the Coast Range splits into western and eastern ranges. Between the two ranges lies San Francisco Bay. The gap in the western coast range is known as the Golden Gate, and the gap in the eastern coast range is the Carquinez Strait. These gaps allow air to pass into and out of the SFBAAB and the Central Valley (BAAQMD 2010a).

Wind Patterns

During the summer, winds flowing from the northwest are drawn inland through the Golden Gate and over the lower portions of the San Francisco Peninsula. Immediately south of Mount Tamalpais, the northwesterly winds accelerate considerably and come more directly from the west as they stream through the Golden Gate. This channeling of wind through the Golden Gate produces a jet that sweeps eastward and splits off to the northwest toward Richmond and to the southwest toward San Jose when it meets the East Bay hills (BAAQMD 2010a).

Wind speeds may be strong locally in areas where air is channeled through a narrow opening, such as the Carquinez Strait, the Golden Gate, or the San Bruno gap. For example, the average wind speed at San Francisco International Airport in July is about 17 knots (from 3 p.m. to 4 p.m.), compared with only 7 knots at San Jose and less than 6 knots at the Farallon Islands. The air flowing in from the coast to the Central Valley, called the sea breeze, begins developing at or near ground level along the coast in late morning or early afternoon. As the day progresses, the sea breeze layer deepens and increases in velocity while spreading inland. The depth of the sea breeze depends in large part on the height and strength of the inversion. If the inversion is low and strong, and hence stable, the flow of the sea breeze will be inhibited and stagnant conditions are likely to result (BAAQMD 2010a).

In the winter, the SFBAAB frequently experiences stormy conditions with moderate to strong winds, as well as periods of stagnation with very light winds. Winter stagnation episodes are characterized by nighttime drainage flows in coastal valleys. Drainage is a reversal of the usual daytime air flow patterns; air moves from the Central Valley toward the coast and back down toward the Bay from the smaller valleys in the SFBAAB (BAAQMD 2010a).

Temperature

Summertime temperatures in the SFBAAB are determined in large part by the effect of differential heating between land and water surfaces. Because land tends to heat up and cool off more quickly than water, a large-scale gradient (differential) in temperature is often created between the coast and the Central Valley, and small-scale local gradients are often produced along the shorelines of the ocean and bays. The temperature gradient near the ocean is also exaggerated, especially in summer, because of the upwelling of cold ocean-bottom water along the coast. On summer afternoons, the temperatures at the coast can be 35º Fahrenheit (F) cooler than temperatures 15 to 20 miles inland. At night, this contrast usually decreases to less than 10ºF (BAAQMD 2010a).

In the winter, the relationship of minimum and maximum temperatures is reversed. During the daytime, the temperature contrast between the coast and inland areas is small, whereas at night the temperature variation is large (BAAQMD 2010a).

Precipitation

The SFBAAB is characterized by moderately wet winters and dry summers. Winter rains account for about 75 percent of the average annual rainfall. The amount of annual precipitation can vary greatly from one part of the SFBAAB to another, even within short distances. In general, total annual rainfall can reach 40 inches in the mountains, but it is often less than 16 inches in sheltered valleys (BAAQMD 2010a).

During rainy periods, ventilation (rapid horizontal movement of air and injection of cleaner air) and vertical mixing are usually high, and thus pollution levels tend to be low. However, frequent dry periods occur during the winter where mixing and ventilation are low and pollutant levels build up (BAAQMD 2010a).

Air Pollution Potential

The potential for high pollutant concentrations developing at a given location depends on the quantity of pollutants emitted into the atmosphere in the surrounding area or upwind and the ability of the atmosphere to disperse the contaminated air. The topographic and climatological factors discussed above influence the atmospheric pollution potential of an area. Atmospheric pollution potential, as the term is used here, is independent of the location of emission sources and is instead a function of factors described below.

Wind Circulation

Low wind speed contributes to the buildup of air pollution because it allows more pollutants to be emitted into the air mass per unit of time. Light winds occur most frequently during periods of low sun (fall and winter, and early morning) and at night. These are also periods when air pollutant emissions from some sources are at their peak, namely, commute traffic (early morning) and wood-burning appliances (nighttime). The problem can be compounded in valleys, when weak flows carry the pollutants upvalley during the day and cold air drainage flows move the air mass downvalley at night. Such restricted movement of trapped air provides little opportunity for ventilation and leads to buildup of pollutants to potentially unhealthful levels (BAAQMD 2010a).

Solar Radiation

The frequency of hot, sunny days during the summer months in the SFBAAB is another important factor that affects air pollution potential. It is at the higher temperatures that ozone is formed. In the presence of ultraviolet sunlight and warm temperatures, reactive organic gases and oxides of nitrogen react to form secondary photochemical pollutants, including ozone. Because temperatures in many of the air basin's inland valleys are so much higher than near the coast, the inland areas are especially prone to photochemical air pollution. In late fall and winter, solar angles are low, resulting in insufficient ultraviolet light and warming of the atmosphere to drive the photochemical reactions. Ozone concentrations do not reach significant levels in the SFBAAB during these seasons (BAAQMD 2010a).

Inversions

An inversion is a layer of warmer air over a layer of cooler air. Inversions affect air quality conditions significantly because they influence the mixing depth, i.e., the vertical depth in the atmosphere available for diluting air contaminants near the ground. The highest air pollutant concentrations in the SFBAAB generally occur during inversions (BAAQMD 2010a).

There are two types of inversions that occur regularly in the SFBAAB. One is more common in the summer and fall, while the other is most common during the winter. The frequent occurrence of elevated temperature inversions in summer and fall months acts to cap the mixing depth, limiting the depth of air available for dilution (BAAQMD 2010a).

The inversions typical of winter, called radiation inversions, are formed as heat quickly radiates from the earth's surface after sunset, causing the air in contact with it to rapidly cool. Radiation inversions are strongest on clear, low-wind, cold winter nights, allowing the buildup of such pollutants as carbon monoxide and particulate matter. When wind speeds are low, there is little mechanical turbulence to mix the air, resulting in a layer of warm air over a layer of cooler air next to the ground. Mixing depths under these conditions can be as shallow as 50 to 100 meters (164 to 328 feet), particularly in rural areas. Urban areas usually have deeper minimum mixing layers because of heat island effects and increased surface roughness. During radiation inversions downwind transport is slow, the mixing depths are shallow, and turbulence is minimal (BAAQMD 2010a).

Although each type of inversion is most common during a specific season, either inversion mechanism can occur at any time of the year. Sometimes both occur simultaneously. Moreover, the characteristics of an inversion often change throughout the course of a day. The terrain of the SFBAAB also induces significant variations among subregions (BAAQMD 2010a).

LOCAL ATMOSPHERIC CONDITIONS

Although air pollution potential is strongly influenced by climate and topography, the air pollution that occurs in a location also depends on the amount of air pollutant emissions in the surrounding area or transported from more distant places. Air pollutant emissions generally are highest in areas that have high population densities, high motor vehicle use, and/or industrialization. The contaminants created by photochemical processes in the atmosphere, such as ozone, may result in high concentrations many miles downwind from the sources of their precursor pollutants (BAAQMD 2010a).

Varying climatological and topographic conditions, the location of emission sources, and susceptibility to emissions transport can combine to result in substantial variations in air pollution potential within inhabited subregions of the SFBAAB (BAAQMD 2010a).

Carquinez Strait Subregion

Within the SFBAAB, there are eleven major climatological subregions (BAAQMD 2010a). Pittsburg, and thus the proposed project area, is located in the Carquinez Strait subregion. It is the only sea-level gap between the Bay and the Central Valley. The Carquinez Strait subregion includes the lowlands bordering the strait to the north and south, and includes the area adjoining the Suisun Bay and the western part of the Sacramento-San Joaquin Delta as far east as Bethel Island. The subregion extends from Rodeo in the southwest and Vallejo in the northwest to Fairfield on the northeast and Brentwood on the southeast.

Prevailing winds are from the west in the Carquinez Strait. During the summer and fall months, high pressure offshore coupled with low pressure in the Central Valley causes marine air to flow eastward through the Carquinez Strait. The wind is strongest in the afternoon. Afternoon wind speeds of 15 to 20 miles per hour (mph) are common throughout the Carquinez Strait subregion. Annual average wind speeds are 8 mph in Martinez and 9 to 10 mph farther east. Sometimes atmospheric conditions cause air to flow from the east. East winds usually contain more pollutants than the cleaner marine air from the west. In the summer and fall months, this can

cause elevated pollutant levels to move into the central SFBAAB through the strait. These high pressure periods are usually accompanied by low wind speeds, shallow mixing depths, higher temperatures, and little or no rainfall.

Summer mean maximum temperatures reach about 90ºF in the subregion. Mean minimum temperatures in the winter are in the high 30s. Temperature extremes are especially pronounced in sheltered areas farther from the moderating effects of the strait itself. Many industrial facilities with significant air pollutant emissions—e.g., chemical plants and refineries—are located within the Carquinez Strait subregion. The pollution potential of this area is often moderated by high wind speeds. However, upsets at industrial facilities can lead to short-term pollution episodes, and emissions of unpleasant odors may occur at any time. Receptors downwind of these facilities could suffer more long-term exposure to air contaminants than individuals elsewhere. Areas of the subregion that are traversed by major roadways, such as Interstate 80, may also be subject to higher local concentrations of carbon monoxide and particulate matter, as well as certain toxic air contaminants, such as benzene (BAAQMD 2010a).

AMBIENT AIR QUALITY STANDARDS

Both the US Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) established ambient air quality standards for common air pollutants. These ambient air quality standards are levels of contaminants that represent safe levels intended to avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are described in criteria documents. The federal and state ambient standards were developed independently with differing purposes and methods, although both processes attempted to avoid health-related effects. As a result, federal and state standards differ in some cases. In general, California standards are more stringent. This is particularly true for nitrogen dioxide (NO_2) and coarse particulate matter (PM_{10}). The federal and California state ambient air quality standards and BAAQMD attainment status are summarized in **Table 3.1-1**.

CURRENT AMBIENT AIR QUALITY

The BAAQMD operates a regional air quality monitoring network that regularly measures the concentrations of the five major criteria air pollutants. Air quality conditions in the SFBAAB have improved significantly since the BAAQMD was created in 1955. Ambient concentrations and the number of days on which the region exceeds standards have declined dramatically. Neither state nor national ambient air quality standards have been violated in recent decades for NO_2, sulfur dioxide, sulfates, lead, hydrogen sulfide, or vinyl chloride.

TABLE 3.1-1
FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS AND ATTAINMENT STATUS

Pollutant	Averaging Time	State Standard	Attainment Status	Federal Primary Standard	Attainment Status
Ozone (O_3)	1-Hour 8-Hour	0.09 ppm 0.07 ppm	N N	— 0.075 ppm	— N
Carbon Monoxide (CO)	1-Hour 8-Hour	20 ppm 9.0 ppm	A	35 ppm 9.0 ppm	A
Nitrogen Dioxide (NO_2)	Annual Average 1-Hour	0.03 ppm 0.18 ppm	— A	0.053 ppm 0.1 ppm	A U
Sulfur Dioxide (SO_2)	24-Hour Annual 1-Hour	0.04 ppm — 0.25 ppm	A — A	0.14 ppm 0.030 ppm 0.075 ppm	A A A
Respirable Particulate Matter (PM_{10})	Annual Average 24-Hour	20 $\mu g/m^3$ 50 $\mu g/m^3$	N N	– 150 $\mu g/m^3$	— U
Fine Particulate Matter ($PM_{2.5}$)	Annual Average 24-Hour	12 $\mu g/m^3$ —	N —	12 $\mu g/m^3$ 35 $\mu g/m^3$	A N
Lead	30-day Average Calendar Quarter Rolling 3-Month	1.5 $\mu g/m^3$ — —	A — —	— 1.5 $\mu g/m^3$ 0.15 $\mu g/m^3$	— A U/A
Sulfates	24-Hour	25 $\mu g/m^3$	A	No National Standards	
Hydrogen Sulfide	1-hour	0.03 ppm	U		
Vinyl Chloride	24-hour	0.01 ppm	N/A		
Visibility-Reducing Particulate Matter	8-hour	Extinction coefficient of 0.23 per kilometer–visibility of 10 miles or more	U		

Source: BAAQMD 2012a

Notes: ppm = parts per million, µg/m3 = micrograms per cubic meter. N = nonattainment; A = attainment; U = unclassified; N/A = no information available

The nearest ambient air quality monitoring station to the proposed project site is the Concord-2975 Treat Boulevard monitoring station, located to the west of the project site. **Table 3.1-2** summarizes historical occurrences of pollutant levels for this monitoring station, based on the last three years of available data (i.e., 2011–2013). The number of days for which state and federal ambient air quality standards have been exceeded during this same monitoring period is also presented. As depicted, federal and state ozone standards have been exceeded on multiple days over the last three years. No exceedances of the federal PM_{10} standards were measured during the years 2011 to 2013; however, the state standard for PM_{10} was exceeded an estimated six days in 2011. Federal $PM_{2.5}$ standards were exceeded an estimated two days in 2011 and one day in 2013. There have been no days during which measured concentrations of carbon monoxide or NO_2 exceeded federal or state ambient air quality standards during the last three years of available data.

TABLE 3.1-2
AMBIENT AIR QUALITY MONITORING DATA

Pollutant Standards	2011	2012	2013
Ozone			
Max 1-hour concentration (ppm)	0.099	0.093	0.074
Max 8-hour concentration (ppm) (state/federal)	0.079/0.078	0.086/0.085	0.062/0.062
Number of days above state/federal 1-hr standard	2/0	0/0	0/0
Number of days above state/federal 8-hour standard	5/2	3/2	0/0
Respirable Particulate Matter (PM_{10})			
Max 24-hour concentration (μg/m3) (state/federal)	58.8/55.9	35.4/33.7	50.5/47.6
Number of days above state standard (measured/estimated)	1/6	0/0	1/0
Number of days above federal standard (measured/estimated)	0/0	0/0	0/0
Fine Particulate Matter ($PM_{2.5}$)			
Max 24-hour concentration (μg/m3)	47.5	32.2	36.2
Number of days above federal standard (measured/estimated)	2/2	0/0	1/1
Carbon Monoxide (CO)			
Max 1-hr/8-hr concentration (ppm)	1.6/1.24	1.2/0.82	N/A
Number of days above state/federal 8-hour standards	0/0	0/0	N/A
Number of days above state/federal 1-hour standard	0/0	0/0	N/A
Nitrogen Dioxide (NO_2)			
Max 1-Hour concentration (ppm)	42.4	39.6	44.6
Number of days above state standard	0	0	0

Source: CARB 2014; USEPA 2014

Based on ambient monitoring data obtained from the Concord-2975 Treat Boulevard monitoring station.

AIR POLLUTANTS OF CONCERN AND HEALTH EFFECTS

The most problematic pollutants in the region include ozone and particulate matter. The health effects and major sources of these pollutants are described below. Toxic air contaminants are a separate class of pollutants and are discussed later in this section.

Ozone

Ground-level ozone (O_3), commonly referred to as smog, is greatest on warm, windless, sunny days. Ozone is not emitted directly into the environment, but is formed in the atmosphere by complex chemical reactions between reactive organic gases (ROG) and nitrogen oxide (NO_X) in the presence of sunlight. The main sources of ROG and NO_X, often referred to as ozone precursors, are combustion processes (including motor vehicle engines), the evaporation of solvents, paints, and fuels, and biogenic sources. Automobiles are the single largest source of ozone precursors in the SFBAAB. Tailpipe emissions of ROG are highest during cold starts, hard acceleration, stop-and-go conditions, and slow speeds. They decline as speeds increase up to about 50 mph, then increase again at high speeds and high engine loads. ROG emissions associated with evaporation of unburned fuel depend on vehicle and ambient temperature cycles. NO_X emissions exhibit a different curve; emissions decrease as the vehicle approaches 30 mph and then begin to increase with increasing speeds (BAAQMD 2010a).

Ozone levels usually build up during the day and peak in the afternoon hours. Short-term exposure can irritate the eyes and cause constriction of the airways. Besides causing shortness of breath, ozone can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema. Chronic exposure to high ozone levels can permanently damage lung tissue. Ozone can also damage plants and trees, as well as materials such as rubber and fabrics (BAAQMD 2010a).

Particulate Matter

Particulate matter (PM) can be divided into different size fractions. Coarse particles (PM_{10}) are between 2.5 and 10 microns in diameter and arise primarily from natural processes, such as wind-blown dust or soil. Fine particles ($PM_{2.5}$) are less than 2.5 microns in diameter and are produced mostly from combustion or burning activities. Fuel burned in cars and trucks, power plants, factories, fireplaces, and woodstoves produces fine particles.

The level of $PM_{2.5}$ in the air is a public health concern because it can bypass the body's natural filtration system more easily than larger particles and can lodge deep in the lungs. The health effects vary depending on a variety of factors, including the type and size of particles. Research has demonstrated a correlation between high PM concentrations and increased mortality rates. Elevated PM concentrations can also aggravate chronic respiratory illnesses, such as bronchitis and asthma (BAAQMD 2010a).

Carbon Monoxide

Carbon monoxide (CO) is an odorless, colorless gas that is formed by the incomplete combustion of fuels. At high concentrations, CO reduces the oxygen-carrying capacity of the blood and can cause dizziness, headaches, unconsciousness, and even death. CO can also aggravate cardiovascular disease. Relatively low concentrations of CO can significantly affect the amount of oxygen in the bloodstream because CO binds to hemoglobin more strongly than oxygen.

Elevated CO concentrations are usually localized and are often the result of a combination of high traffic volumes and traffic congestion. Elevated CO levels develop primarily during winter periods of light winds or calm conditions combined with the formation of ground-level temperature inversions. Wintertime CO concentrations are higher because of reduced dispersion of vehicle emissions and because CO emissions rates from motor vehicles increase as temperature decreases. However, CO emissions and ambient concentrations have decreased significantly in recent years. These improvements are due largely to the introduction of cleaner-burning motor vehicles and motor vehicle fuels. CO is still a pollutant that must be closely monitored, however, due to its severe effect on human health.

Nitrogen Dioxide

Nitrogen dioxide (NO_2) is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO_2 are combustion devices such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Construction devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO_2. The combined emissions of NO and NO_2 are referred to as NO_X. Because NO_2 is formed and depleted by reactions associated with ozone, the NO_2 concentration in a particular geographic area may not be representative of the local NO_X emission sources.

Inhalation is the most common route of exposure to NO_2. Because NO_2 has relatively low solubility in water, the principal site of toxicity is in the lower respiratory tract. The severity of adverse health effects depends primarily on the concentration inhaled rather than the duration of the exposure. Exposure can result in a variety of acute symptoms, including coughing, difficulty with breathing, vomiting, headache, and eye irritation. Symptoms that are more significant may include chemical pneumonitis or pulmonary edema with breathing abnormalities, cyanosis, chest pain, and rapid heartbeat.

Sulfur Dioxide

Sulfur dioxide (SO_2) is produced by such stationary sources as coal and oil combustion, steel mills, refineries, and pulp and paper mills. The major adverse health effects associated with exposure to SO_2 pertain to the upper respiratory tract. SO_2 is a respiratory irritant with constriction of the bronchioles occurring with inhalation of SO_2 at 5 parts per million (ppm) or more. On contact with the moist mucous membranes, SO_2 produces sulfurous acid, which is a direct irritant. Similar to NO_2, the severity of adverse health effects depends primarily on the concentration inhaled rather than the duration of the exposure. Exposure to high concentrations of SO_2 may result in edema of the lungs or glottis and respiratory paralysis.

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic TACs are assumed to have no safe threshold below which health impacts would not occur and cancer risk is expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial

operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Public exposure to TACs can result from emissions from normal operations, as well as from accidental releases of hazardous materials during upset conditions. The health effects of TACs include cancer, birth defects, neurological damage, and death.

Diesel Exhaust

Diesel exhaust is a TAC of growing concern in California. According to the *California Almanac of Emissions and Air Quality* (CARB 2009), the majority of the estimated health risk from TACs can be attributed to relatively few compounds, the most important being PM from diesel-fueled engines (diesel particulate matter, or DPM). In 1998, CARB identified DPM as a toxic air contaminant. DPM differs from other toxic air contaminants in that it is not a single substance but rather a complex mixture of hundreds of substances. The exhaust from diesel engines contains hundreds of different gaseous and particulate components, many of which are toxic. Many of these compounds adhere to the particles, and because diesel particles are so small, they penetrate deep into the lungs. DPM has been identified as a human carcinogen. Mobile sources, such as trucks, buses, automobiles, trains, ships, and farm equipment, are by far the largest source of diesel emissions. Studies show that DPM concentrations are much higher near heavily traveled highways and intersections. BAAQMD research indicates that mobile-source emissions of DPM represent a substantial portion of the ambient background risk from toxic air contaminants in the San Francisco Bay Area Air Basin (BAAQMD 2010a).

Unlike criteria pollutants, there are no ambient air quality standards for TACs because no safe levels of TACs can be determined. Instead, TAC impacts are evaluated by calculating the health risks associated with a given exposure. Two types of risk are usually assessed: chronic non-cancer risk and acute non-cancer risk. Both the State of California and the BAAQMD implement programs of identifying and reducing DPM health risks. These programs include implementation and enforcement of new regulatory standards for all new on-road, off-road, and stationary diesel-fueled engines and vehicles, new retrofit requirements for existing on-road, off-road, and stationary diesel-fueled engines and vehicles, and new diesel fuel regulations to reduce the sulfur content of diesel fuel as required by advanced diesel emission control systems. Land uses where individuals could be exposed to high levels of diesel exhaust include:

- Railroad operations
- Warehouses
- Schools with a high volume of bus traffic
- High volume highways (such as Interstate 80)
- High volume arterials and local roadways with a high level of diesel traffic

Land Use Compatibility with TAC Emission Sources

CARB published an informational guide entitled *Air Quality and Land Use Handbook: A Community Health Perspective* in 2005. The purpose of this guide is to provide information to aid local jurisdictions in addressing issues and concerns related to the placement of sensitive land uses near major sources of air pollution. The CARB handbook includes recommended separation distances for various land uses that are based on relatively conservative estimations of emissions based on source-specific information. However, these recommendations are not site-specific and should not be interpreted as defined "buffer zones." For informational purposes, it should be

noted that the recommendations of the handbook are advisory and need to be balanced with other state and local policies (CARB 2005). Depending on site- and project-specific conditions, an assessment of potential increases in exposure to TACs may be warranted for proposed development projects located within the distances identified. CARB-recommended separation distances for various sources of emissions are summarized in **Table 3.1-3**.

TABLE 3.1-3
RECOMMENDATIONS ON SITING NEW SENSITIVE LAND USES NEAR AIR POLLUTANT SOURCES

Source Category	Advisory Recommendations
Freeways and High-Traffic Roads	Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day.
Distribution Centers	Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week).
	Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard.
	Within 1 mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	Avoid siting new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or CARB on the status of pending analyses of health risks.
Refineries	Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloroethylene	Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with three or more machines, consult with the local air district.
	Do not site new sensitive land uses in the same building with perchloroethylene dry cleaning operations.
Gasoline Dispensing Facilities	Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gas-dispensing facilities.

Source: CARB 2005

Note: Recommendations are advisory, are not site-specific, and may not fully account for future reductions in emissions, including those resulting from compliance with existing/future regulatory requirements, such as reductions in diesel-exhaust emissions anticipated to occur with continued implementation of CARB's Diesel Risk Reduction Plan.

Asbestos

Asbestos is the common name for a group of naturally occurring fibrous silicate minerals that can separate into thin but strong and durable fibers. Naturally occurring asbestos, which CARB identified as a TAC in 1986, is located in many parts of California and is commonly associated with ultramafic rock. The project site has been previously developed and is not located near any areas that are likely to contain ultramafic rock.

Odors

Typically odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

From January 1, 2008, to present, no confirmed odor complaints have been filed with the BAAQMD for the existing Mt. Diablo Recycling Center and Transfer Station. The BAAQMD received one unconfirmed complaint on July 1, 2009, for which the BAAQMD was unable to confirm the source of the odor complaint. No unconfirmed or confirmed odor complaints for the existing facility have been received since 2009 (BAAQMD 2012c, 2014).

NEARBY LAND USES AND SENSITIVE RECEPTORS

Existing land uses in the vicinity of the project site consist predominantly of industrial uses and vacant land. The nearest sensitive land uses are residential dwellings, the nearest of which are located approximately one-half mile west of the project site. In addition, Martin Luther King Jr. Junior High School and the Martin Luther King Children's Center are located approximately one-half mile southwest of the project site, adjacent to and south of El Pueblo Avenue. A proposed residential development project (Sunnyside Estates) would be located approximately 1,700 feet from the southwestern boundary of the existing project site.

3.1.2 REGULATORY FRAMEWORK

Air quality in the SFBAAB is addressed through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy making, education, and a variety of programs. The agencies primarily responsible for improving the air quality in the SFBAAB, including the City of Pittsburg, are discussed below, along with their individual responsibilities.

FEDERAL

US Environmental Protection Agency

The USEPA is responsible for enforcing the federal Clean Air Act (CAA) and the 1990 amendments to it (CAAA) and the national ambient air quality standards (federal standards) that the USEPA establishes. These standards identify levels of air quality for six criteria pollutants, which are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect public health and welfare. The six criteria pollutants are O_3, CO, NO_2, SO_2, PM_{10}, and lead. The USEPA also has regulatory and enforcement jurisdiction over emissions sources beyond state waters (outer continental shelf) and sources that are under the exclusive authority of the federal government, such as aircraft, locomotives, and interstate trucking.

As part of its enforcement responsibilities, the USEPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan that demonstrates the means to attain the federal standards. The State Implementation Plan must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs.

Hazardous Air Pollutant Program

Title III of the federal CAAA requires the USEPA to promulgate national emissions standards for hazardous air pollutants (NESHAPs). The NESHAPs may differ for major sources than for area sources of hazardous air pollutants (HAPs). (Major sources are defined as stationary sources with potential to emit more than 10 tons per year (TPY) of any HAP or more than 25 TPY of any combination of HAPs; all other sources are considered area sources.) The emissions standards are to be promulgated in two phases. In the first phase (1992–2000), the USEPA developed technology-based emissions standards designed to produce the maximum emissions reduction achievable. These standards are generally referred to as requiring maximum achievable control technologies (MACT). For area sources, the standards may be different, based on generally available control technology. In the second phase (2001–2008), the USEPA was required to promulgate health risk-based emissions standards, where deemed necessary, to address risks remaining after implementation of the technology-based NESHAP standards. The CAAA required the USEPA to promulgate vehicle or fuel standards containing reasonable requirements that control toxic emissions, at a minimum, to benzene and formaldehyde. Performance criteria were established to limit mobile-source emissions of toxics, including benzene, formaldehyde, and 1,3-butadiene. In addition, Section 219 required the use of reformulated gasoline in selected US cities (those with the most severe ozone nonattainment conditions) to further reduce mobile-source emissions (BAAQMD 2010a).

STATE

California Air Resources Board

CARB, a department of the California Environmental Protection Agency, oversees air quality planning and control throughout California. It is primarily responsible for ensuring implementation of the 1989 amendments to the California Clean Air Act (CCAA), responding to the federal CAAA requirements, and regulating emissions from motor vehicles and consumer products within the state. CARB has established emissions standards for vehicles sold in California and for various types of equipment available commercially. It also sets fuel specifications to further reduce vehicular emissions.

The amendments to the CCAA establish ambient air quality standards for the state (state standards) and a legal mandate to achieve these standards by the earliest practical date. These standards apply to the same six criteria pollutants as the federal CAA and also include sulfate, visibility, hydrogen sulfide, and vinyl chloride. They are more stringent than the federal standards and, in the case of PM_{10} and NO_2, far more stringent.

Toxic Air Contaminant Programs

California regulates TACs primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and adopted the USEPA's list of hazardous air pollutants as TACs. Most recently, diesel exhaust particulate was added to the CARB list of TACs. Once a TAC is identified, CARB then adopts an Airborne Toxics Control Measure for sources that emit that particular contaminant. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate toxic best available control technology to minimize emissions. None of the TACs identified by CARB have a safe threshold.

The Hot Spots Act requires that existing facilities that emit toxic substances above a specified level:

- Prepare a toxic emission inventory.
- Prepare a risk assessment if emissions are significant.
- Notify the public of significant risk levels.
- Prepare and implement risk reduction measures.

CARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses, and off-road diesel equipment (e.g., tractors, generators). In February 2000, CARB adopted a new public transit bus fleet rule and emissions standards for new urban buses. These new rules and standards provide for (1) more stringent emissions standards for some new urban bus engines beginning with 2002 model year engines, (2) zero-emission bus demonstration and purchase requirements applicable to transit agencies, and (3) reporting requirements with which transit agencies must demonstrate compliance with the urban transit bus fleet rule. Milestones include the low sulfur diesel fuel requirement and tighter emissions standards for heavy-duty diesel trucks (2007) and off-road diesel equipment (2011) nationwide. Over time, the replacement of older vehicles will result in a vehicle fleet that produces substantially fewer TACs than under current conditions.

Mobile-source emissions of TACs (e.g., benzene, 1,3-butadiene, diesel PM) have been reduced significantly over the last decade and will be reduced further in California through a progression of regulatory measures (e.g., Low Emission Vehicle/Clean Fuels and Phase II reformulated gasoline regulations) and control technologies. With implementation of CARB's Risk Reduction Plan, it is expected that diesel PM concentrations will be reduced by 75 percent in 2010 and 85 percent in 2020 from the estimated year 2000 level. Adopted regulations are also expected to continue to reduce formaldehyde emissions from cars and light-duty trucks. As emissions are reduced, it is expected that risks associated with exposure to the emissions will also be reduced (BAAQMD 2010a).

Senate Bill 656

In 2003, the California Legislature enacted Senate Bill (SB) 656 to reduce public exposure to PM_{10} and $PM_{2.5}$. CARB approved a list of the most readily available, feasible, and cost-effective control measures that can be employed by air districts to reduce PM_{10} and $PM_{2.5}$ (collectively referred to as PM) in 2004. The list is based on rules, regulations, and programs existing in California as of January 1, 2004, for stationary, area-wide, and mobile sources. In 2005, air districts adopted implementation schedules for selected measures from the list. The implementation schedules identify the appropriate subset of measures and the dates for final adoption, implementation, and the sequencing of selected control measures. In developing the implementation schedules, each air district prioritized measures based on the nature and severity of the PM problem in their area and cost-effectiveness. Consideration was also given to ongoing programs such as measures being adopted to meet national air quality standards or the state ozone planning process.

LOCAL

Bay Area Air Quality Management District

The BAAQMD attains and maintains air quality conditions in the San Francisco Bay Area Air Basin through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The BAAQMD clean air strategy includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. The BAAQMD also inspects stationary sources of air pollution and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the CAA, CAAA, and CCAA. The BAAQMD also limits emissions and public exposure to emissions, including toxic air contaminants, through a number of programs, rules, and regulations. BAAQMD regulations applicable to the proposed project may include, but are not limited to, the following:

- **Regulation 2 – Permits**: Specifies the requirements for issuance of authorities to construct and permits to operate for stationary emission sources. Includes requirements for the review of new emissions sources, including sources of toxic air contaminants.
- **Regulation 6 – Particulate Matter**: Limits the quantity of particulate matter in the atmosphere by controlling emissions rates, concentration, visible emissions, and opacity.
- **Regulation 7 – Odorous Substances**: Establishes general limitations on odorous substances and specific emission limitations on certain odorous compounds.
- **Regulation 8 – Organic Compounds**: Limits the emission of organic pollutants from permitted stationary sources.
- **Regulation 9 – Inorganic Gaseous Pollutants**: Limits inorganic gaseous pollutants from permitted stationary sources.
- **Regulation 10 – Standards of Performance for New Stationary Sources**: Establishes emission and/or performance standards for permitted stationary sources.
- **Regulation 11 – Hazardous Pollutants**: Sets emission and/or performance standards for hazardous pollutants, including emissions of asbestos. The BAAQMD prioritizes TAC-emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors.

Bay Area 2010 Clean Air Plan

As stated above, the BAAQMD prepares plans to attain ambient air quality standards in the SFBAAB. The BAAQMD prepares ozone attainment plans for the national ozone standard and clean air plans for the California standard both in coordination with the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG). With respect to applicable air quality plans, the BAAQMD prepared the *Bay Area 2010 Clean Air Plan* to address nonattainment of the national 1-hour ozone standard in the SFBAAB, as well as nonattainment of the California ambient air quality standards. The purpose of the *Bay Area 2010 Clean Air Plan* is to (BAAQMD 2010a):

- Update the Bay Area 2005 Ozone Strategy in accordance with the requirements of the California Clean Air Act to implement "all feasible measures" to reduce ozone.
- Consider the impacts of ozone control measures on particulate matter (PM), air toxics, and greenhouse gases in a single, integrated plan.
- Review progress in improving air quality in recent years.
- Establish emission control measures to be adopted or implemented in the 2009–2012 time frame.

City of Pittsburg General Plan

The City adopted its current General Plan in 2001. **Appendix F** provides those General Plan policies relevant to air quality and to the proposed project as well as a preliminary evaluation of the project's consistency with these policies. While this DEIR discusses the project's consistency with the General Plan pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15125(d), the appropriate reviewing authority will ultimately make the determination of the project's consistency with the General Plan.

3.1.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

Per Appendix G of the State CEQA Guidelines and the BAAQMD recommendations, air quality impacts are considered significant if implementation of the proposed project would:

1) Conflict with or obstruct implementation of the applicable air quality plan.
2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
3) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
4) Expose sensitive receptors to substantial pollutant concentrations.
5) Create objectionable odors affecting a substantial number of people.

As stated in CEQA Appendix G, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. On June 2, 2010, the BAAQMD's board of directors unanimously adopted thresholds of significance to assist local jurisdictions during the review of projects that are subject to CEQA. These thresholds of significance were designed to establish the level at which the BAAQMD believed air pollution emissions associated with proposed projects that are subject to CEQA would cause significant environmental impacts to human health and welfare. The BAAQMD's justification for the adopted thresholds of significance was incorporated into Appendix D of the BAAQMD's (2010a) updated *California Environmental Quality Act Air Quality Guidelines*.

On March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the thresholds. The court did not determine whether the thresholds were valid on the merits, but found that the adoption of the thresholds was a project under CEQA. The court issued a writ of mandate ordering the BAAQMD to set aside the thresholds and cease dissemination of them until the BAAQMD had complied with CEQA. The BAAQMD appealed the Alameda County Superior Court's decision. The Court of Appeal of the State of California, First Appellate District, reversed the trial court's decision. The Court of Appeal's decision was appealed to the California Supreme Court, which granted limited review, and the matter is currently pending further review.

In light of the pending litigation, BAAQMD is no longer recommending that the 2010 significance thresholds be used as a generally applicable measure of a project's significant air quality impacts. Lead agencies will therefore need to determine appropriate air quality thresholds of significance based on substantial evidence in the record. The 2010 significance thresholds are based on substantial evidence, as identified in Appendix D of the BAAQMD's (2010a) *California Environmental Quality Act Air Quality Guidelines*. Given that the trial court's judgment does not pertain to the scientific soundness of the 2010 significance thresholds and given that these thresholds are supported by substantial evidence, as provided by the BAAQMD in Appendix D of the Air Quality Guidelines, these thresholds are used in this DEIR for the evaluation of air quality impacts, as noted below (BAAQMD 2010a, 2012b).

Criteria Air Pollutants and Precursors

Short-Term Construction Emissions

Construction-generated emissions exceeding 54 pounds per day (lbs/day) of ROG, NO_x, and/or $PM_{2.5}$ (exhaust) and 82 lbs/day of PM_{10} (exhaust) would be considered to have a potentially significant impact. Short-term increases of criteria air pollutants in excess of these thresholds would also be considered to have a potentially significant conflict with implementation of the BAAQMD's (2010b) *Bay Area 2010 Clean Air Plan*. Emissions of fugitive dust (PM_{10}/$PM_{2.5}$) would be considered potentially significant if BAAQMD-recommended best management practices for the control of construction-generated emissions have not been incorporated as part of the proposed project.

Long-Term Operational Emissions

Operational emissions exceeding 54 lbs/day of ROG, NO_x, and/or $PM_{2.5}$ (exhaust) and 82 lbs/day of PM_{10} (exhaust) would be considered to have a potentially significant impact. Annual emissions exceeding 10 tons/year of ROG, NO_x, and/or $PM_{2.5}$ (exhaust) and 15 tons/year of PM_{10} (exhaust) would also be considered to have a potentially significant impact. Long-term increases of

criteria air pollutants in excess of these thresholds would also be considered to have a potentially significant conflict with implementation of the BAAQMD's *Bay Area 2010 Clean Air Plan*.

Localized Carbon Monoxide Concentrations

The proposed project would be considered to have a potentially significant impact if the project would contribute to localized CO concentrations that would exceed California ambient air quality standards of 9.0 ppm (8-hour average) or 20.0 ppm (1-hour average).

Risks and Hazards

The proposed project would be considered to have a potentially significant impact if the project would contribute to localized concentrations of TACs at sensitive receptors that would result in an increased cancer risk greater than 10 per million persons or a non-cancer risk that exceeds a Hazard Index of 1.0. Increases in cumulative risk would be considered potentially significant if increased cancer risk would exceed 100 per million or if non-cancer risk would exceed a Hazard Index of 10.0.

Odors

Odors would be considered potentially significant if the project would create objectionable odors affecting a substantial number of people or contribute to conditions where an existing source of odors has resulted in five or more complaints per year averaged over a three-year period.

METHODOLOGY

The assessment of air quality impacts was conducted in accordance with BAAQMD-recommended methodologies and includes evaluation of short-term construction and long-term operational emissions. The methodologies used for evaluation of short-term construction and long-term operational emissions are discussed below.

Short-Term Construction Emissions

Construction activities associated with the proposed project are described in **Table 3.1-4**. Because the site is largely developed, construction of the new proposed facilities is not anticipated to require extensive site preparation. The remaining activities would consist of interior tenant improvements and installation of new equipment inside or on the exterior of the existing buildings, which would require minimal use of off-road equipment, such as a forklift for material handling and a concrete saw.

Emissions associated with short-term construction activities were quantified by Ambient Air Quality & Noise Consulting using the California Emissions Estimator Model (CalEEMod), version 2013.2.2. Emissions modeling was conducted for each of the primary construction phases based on default parameters contained in the model for the BAAQMD region and on construction data and activity schedule durations identified for the proposed project. Construction modeling assumptions are summarized in **Table 3.1-4** and included in **Appendix E**.

TABLE 3.1-4
SUMMARY OF CONSTRUCTION ACTIVITIES

Construction Activity	Activity Requirements/Duration
Truck Maintenance Facility and Yard and Parking and Commodity Storage Area	• Minor site preparation/grading required; however, to be conservative, site preparation and grading requirements were based on default parameters contained in CalEEMod • Construct an approximate 18,000-square-foot maintenance building • Install asphalt or other impervious surface over approximately 18.5 acres • Approximately 160 days overall construction period
Biomass Gasification Unit Installation and Concrete Pad	• No grading – subgrade compacted over the years • 100 foot x 40 foot x 6 inch concrete pad to be poured in less than one week; 9 truckloads of concrete • Flatbed trucks to deliver biomass unit and accessory equipment – 10 trucks over 4 weeks • Crane unit to assemble over 5 weeks • Electrical and mechanical contractors to wire over 4 weeks • 10 weeks for installation time
2nd Mixed C&D Facility Installation and Construction of Concrete Pad	• No grading – subgrade compacted over the years • 165 foot x 36 foot x 6 inch concrete pad to be poured in less than one week • 13 truckloads of concrete • Flatbed trucks to deliver processing equipment – 3 trucks over 1 week • Crane unit to assemble over 1 week • Electrical and mechanical contractors to wire over 2 weeks • 4 weeks for installation time
Installation of Commercial Processing Line Indoors	• Saw-cut current concrete pad inside Mt. Diablo Recycling Center • Flatbed trucks to deliver processing equipment – 6 trucks over 2 weeks • Crane unit to assemble over 2 weeks • Electrical and mechanical contractors to wire over 2 weeks • 4 weeks for installation time
Installation of Food Waste Processing Area Indoors	• Saw-cut current concrete pad inside Transfer/Processing Facility • Flatbed trucks to deliver processing equipment – 2 trucks over 1 week • Crane unit to assemble over 1 week • Electrical and mechanical contractors to wire over 2 weeks • 4 weeks for installation time
Installation of solar panels to rooftops	• Flatbed trucks to deliver units – 16 trucks over 2 weeks • Crane unit to assemble over 2 weeks • Electrical and mechanical contractors to wire over 4 weeks • 6 weeks for installation time

Source: Edgar & Associates, Inc. 2012, 2013

Notes: Construction emissions modeling was conducted for each of the construction phases based on the information provided by the project applicant, as noted above. Emissions modeling included the addition of a forklift for material handling activities for each of the proposed construction activities. Construction worker employee commute trips were based on default parameters contained in the CalEEMod computer program.

Long-Term Operational Emissions

Criteria Air Pollutants and Precursors

The proposed increase in the daily acceptance rate would lead to increased usage of equipment and an increase in vehicular traffic. The latter consists of increased traffic associated with employees/self-haul vehicles as well as an increase in the number of trucks that would transport the additional material to and from the facility. The changes in equipment use and mobile sources are summarized in **Tables 3.1-5** and **3.1-6**, respectively. In addition to on-site equipment and additional vehicle trips, the project includes a Biomass Gasification Unit that would generate up to 1 megawatt of electric power. The biogas would be combusted in an internal combustion engine and the engine would be connected to an electric generator. The engine would operate 24 hours per day, 365 days per year.

Emissions of criteria air pollutants and precursors were estimated using emission factors derived from existing documentation and various computer models, including the EMFAC2011, OFFROAD, and CalEEMod computer programs. Emissions were modeled for both existing and proposed project conditions for determination of overall net increases in daily and annual emissions. Emissions from mobile sources are based on average trip length, peak daily, and average annual vehicle miles traveled derived from the traffic analysis prepared for this project. On-road vehicle emissions were quantified based on emissions factors derived from the EMFAC2011 computer model. Emissions associated with the on-site operation of off-road equipment were based on operational data provided by the project applicant. Emissions associated with the proposed biogas unit are based on manufacturer data and permit data obtained from representative sources (APS 2014). Refer to **Appendix E** for additional modeling assumptions and results.

TABLE 3.1-5
SUMMARY OF MOTOR VEHICLE TRIPS

Activity	Vehicle Type	Operating Schedule	Round-Trip Length (miles)	Current Peak Daily Vehicles	Maximum Future Permitted Daily Vehicles	Net Increase in Daily Vehicles	Net Increase in Annual Vehicles
Employee Vehicles/Self-Haul	Light Duty	7 days/week 52 weeks/yr 365 days/yr	23	900	4,220	3,320	1,211,800
Collection Trucks	Heavy Duty	5 days/week 52 weeks/yr	17	180	840	660	171,600
Long-Haul Trucks	Heavy Duty	5 days/week 52 weeks/yr 260 days/yr	17	120	560	440	114,400

Source: APS 2014

Annual vehicles = vehicles/day x days/year

TABLE 3.1-6
LIST OF CURRENT AND FUTURE ON-SITE EQUIPMENT

Operational Activity/Equipment	Equipment Use Existing Conditions			Equipment Use Proposed Project Conditions		
	No. of Pieces	Hours per Day	Hours per Year	No.	Hours per Day	Hours per Year
Transfer Processing Facility						
Front-End Loaders	4	16	23,296	10	24	87,360
Excavators	1	4	1,456	2	16	11,648
Skip Loaders	1	4	1,456	1	4	1,456
Sweeper	2	6	4,368	2	10	7,280
Forklift	1	2	728	2	4	2,912
Recycling Center						
Front-End Loaders	1	16	4,160	2	16	11,648
Forklift	3	16	12,480	6	16	34,944
C & D Processing Area						
Front-End Loaders	1	4	832	2	8	5,824
Excavator	1	8	1,664	2	8	5,824
Organic Processing Area						
Front-End Loaders	2	8	4,160	2	16	11,648
Biomass Gasification Unit						
Loaders	—	—	—	1	16	5,824

Source: APS 2014

Toxic Air Contaminants

Emissions of TACs associated with short-term construction and long-term operation of the proposed project would be primarily associated with emissions of diesel particulate matter (DPM). Methodologies used for the evaluation of short-term construction and long-term operational exposure to TACs are discussed below.

Short-Term Construction Activities

The nearest existing sensitive receptors consist of residential dwellings, the nearest of which are located approximately 2,900 feet (approximately one-half mile) west of the project site, and Martin Luther King Jr. Junior High School, which is located approximately one-half mile southwest of the project site. The nearest anticipated sensitive receptors would be at Sunnyside Estates, a proposed subdivision that would be located approximately 1,700 feet from the southwestern corner of the project site. Given that no sensitive receptors are located within 1,000 feet of the project and construction of the proposed project would not require extensive site preparation activities, short-term health risks associated with project construction would be considered minimal and were qualitatively assessed.

Long-Term Operational Activities

Long-term operation-related exposure of sensitive receptors to emissions of TACs and associated health risks were quantitatively assessed by Air Permitting Specialists (2014). Based on the analysis conducted, the pollutant of primary concern associated with the long-term operation of the proposed project is DPM. The Biomass Gasification Unit will also release trace amounts of toxic air pollutants. The amounts of these pollutants and their toxicity are 10 to 100 times lower than DPM. Nonetheless, TAC emissions from the Biomass Gasification Unit were also included in the analysis. TAC emissions included in the analysis are summarized in **Table 3.1-7**. Emissions modeling was based on the same operational parameters discussed above for the evaluation of criteria air pollutants and precursors (APS 2014).

TABLE 3.1-7
SUMMARY OF TOXIC AIR CONTAMINANTS INCLUDED IN THE ANALYSIS

Diesel-Exhaust Particulate Matter
1,3-Butadiene
Acetaldehyde
Acrolein
Benzene
Carbon Tetrachloride
Chlorobenzene
Chloroform
Ethylbenzene
Formaldehyde
Methanol
Methylene Chloride
Napthalene
Styrene
Toluene
Vinyl Chloride
Xylene

Source: APS 2014

Dispersion modeling conducted as part of the health risk assessment prepared by APS was performed using the Hazard Assessment and Reporting Protocol (HARP) dispersion model, version 1.4d. Predicted health risks at nearby receptor locations were quantified based on a 70-year period of exposure, assuming an inhalation exposure pathway. The dispersion modeling was based on calculated 70-year average emission factors derived from the CalEEMod, OFFROAD, and EMFAC2011 computer models. For years extending beyond the limitations of these models (i.e., years 2063 to 2092), year 2040 emission factors were assumed (APS 2014).

Emissions from on-site equipment were modeled as an area source. Emissions from idling trucks were modeled as three separate point sources. The proposed Biomass Gasification Unit was modeled as a single point source. Meteorological data (hourly wind speed, wind direction, surface temperature) was based on year 2005 to 2008 data obtained in Pittsburg, provided by BAAQMD staff. A total of 3,382 receptors were modeled over a rectangular grid area of 3.4 kilometers. Discrete receptors were also located at the nearby Martin Luther King Jr. Junior High School. Age sensitivity factors were applied in accordance with BAAQMD-recommended methodology. The risk assessment included evaluation of cancer, chronic non-cancer, and acute health risks (APS 2014). It is important to note that the dispersion modeling and health risk

assessment prepared by APS assumed that the proposed biomass plant and related activities would be located near the southern boundary of the project site. However, the biomass plant is currently proposed to be located near the northern boundary of the project site, approximately 0.3 miles farther from the nearest off-site sensitive receptors than included in the model. Because pollutant concentrations would diminish with increased distance from the source, the findings of the APS analysis would be considered conservative and actual concentrations/predicted health risks would likely be lower. Refer to **Appendix E** for additional modeling assumptions and results.

Localized Mobile-Source Carbon Monoxide Concentrations

The proposed project's contribution to localized mobile-source carbon monoxide concentrations was assessed using the BAAQMD's screening methodology. Based on BAAQMD guidance, projects meeting all of the following screening criteria would be considered to have a less than significant impact related to localized CO concentrations (BAAQMD 2010a):

- Project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans.
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- The project would not result in an affected intersection experiencing more than 44,000 vehicles per hour or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

Odors

Emissions of odors were qualitatively assessed in accordance with BAAQMD-recommended methodologies taking into account the history of odor complaints associated with the existing facility, the proximity of nearby receptors, and odor complaints from similar biomass power plants.

PROJECT IMPACTS AND MITIGATION MEASURES

Short-Term Construction Emissions of Criteria Air Pollutants and Precursors

Impact 3.1.1 Construction-related emissions of criteria air pollutants and precursors could violate or contribute substantially to an existing or projected air quality violation, expose sensitive receptors to substantial pollutant concentrations, and/or conflict with air quality planning efforts. This impact is considered to be **potentially significant**.

The proposed project will result in short-term emissions from construction activities. Construction-generated emissions are short term and of temporary duration, lasting only as long as construction activities occur, but have the potential to represent a significant air quality impact. Emissions commonly associated with construction activities include fugitive dust from soil disturbance, fuel combustion from mobile heavy-duty diesel- and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips. Emissions of airborne particulate matter are largely dependent on the amount of ground disturbance associated with site preparation activities. Off-road construction equipment is often diesel-powered and can be a substantial source of NO_X emissions, in addition to PM_{10} and $PM_{2.5}$ emissions. Worker commute trips and the application of architectural coatings are typically the dominant sources of ROG emissions.

Estimated daily construction-generated emissions of ROG, NO_x, and particulate matter (PM_{10} and $PM_{2.5}$) associated with project construction are summarized in **Table 3.1-8**. Estimated maximum daily emissions are also included, which assumes that multiple construction-related activities could occur on the same day. Based on the modeling conducted, the highest daily emissions would likely occur during year 2015, which would include construction of the proposed concrete pad, food waste processing line improvements, solar panel installation, and construction of the proposed maintenance building and paved parking areas. Assuming that multiple activities could occur simultaneously on any given day, construction-generated emissions of ROG and NO_x could potentially exceed the significance threshold of 54 lbs/day. As a result, short-term emissions of ROG and NO_x would be considered to have a **potentially significant** impact. Maximum daily emissions of exhaust PM would not exceed applicable thresholds.

Although not proposed for implementation at this time, the hauling of waste via the adjacent rail line is being considered as a potential future option. It is conceivable that this option may require additional infrastructure improvements, which may result in short-term increases of criteria air pollutants and precursors. However, the type and extent of rail haul option improvements is not known at this time, so it would be speculative to provide construction related modeling for that option.

As noted previously, the Bay Area is currently designated nonattainment for the PM_{10} and $PM_{2.5}$ ambient air quality standards. As a result, the BAAQMD considers uncontrolled emissions of fugitive dust to also have a **potentially significant** impact.

TABLE 3.1-8
SHORT-TERM UNMITIGATED DAILY EMISSIONS OF CRITERIA AIR POLLUTANTS AND PRECURSORS

Construction Activity	Const. Year	Pounds per Day (lbs/day)							
		ROG	NO_x	PM_{10}			$PM_{2.5}$		
				Fug.	Exh.	Total	Fug.	Exh.	Total
Summer Conditions									
Biomass Gasification Unit Installation	2016	1.20	12.11	0.37	0.55	0.92	0.10	0.51	0.61
2nd Mixed C&D Facility Installation	2016	1.21	12.28	0.38	0.56	0.94	0.10	0.51	0.61
Concrete Pad Installation	2015	0.27	2.33	.28	.04	.32	.08	0.03	0.11
Commercial Processing Line Improvements	2014	2.11	18.73	.37	1.04	1.41	0.10	0.99	1.09
Food Waste Processing Line Improvements	2015	1.98	17.73	0.37	0.97	1.34	0.10	0.93	1.02
Solar Panel Installation	2015	1.28	12.88	0.38	0.59	0.96	0.10	0.54	0.64
Maintenance Building & Parking Lot Construction	2015	61.38	79.16	18.24	9.03	21.33	9.98	3.77	12.82
Maximum Daily Emissions – Year 2014(1)		*2.11*	*18.73*	*0.37*	*1.04*	*1.41*	*0.10*	*1.00*	*1.09*
Maximum Daily Emissions – Year 2015(1)		***64.91***	***112.10***	*19.26*	*10.63*	*23.95*	*10.25*	*5.27*	*14.59*
Maximum Daily Emissions – Year 2016(1)		*2.41*	*24.39*	*0.72*	*1.11*	*1.86*	*0.20*	*1.02*	*1.22*
Significance Threshold(2)		***54***	***54***	–	***82***	–	**–**	***54***	**–**
Exceeds Threshold?		***Yes***	***Yes***	–	*No*	–	–	*No*	–
Winter Conditions									
Biomass Gasification Unit Installation	2016	1.22	12.19	0.37	0.55	0.92	0.10	0.51	0.61
2nd Mixed C&D Facility Installation	2016	1.23	12.37	0.38	0.56	0.94	0.10	.51	.61
Concrete Pad Installation	2015	0.32	2.46	.28	0.04	0.32	0.08	0.03	0.11
Commercial Processing Line Improvements	2014	2.14	18.83	0.37	1.04	1.41	0.10	0.99	1.09

Construction Activity	Const. Year	Pounds per Day (lbs/day)							
		ROG	NO_x	PM_{10}			$PM_{2.5}$		
				Fug.	Exh.	Total	Fug.	Exh.	Total
Food Waste Processing Line Improvements	2015	2.00	17.81	0.37	0.97	1.34	0.10	0.93	1.02
Solar Panel Installation	2015	1.30	12.97	0.38	0.59	0.96	0.10	0.54	0.64
Maintenance Building & Parking Lot Construction	2015	61.80	79.18	18.24	4.04	21.33	9.98	3.90	12.82
Maximum Daily Emissions – Year 2014[1]		*2.14*	*18.83*	*0.37*	*1.04*	*1.41*	*0.10*	*0.99*	*1.09*
Maximum Daily Emissions – Year 2015[1]		***65.41***	***112.43***	*19.26*	*5.63*	*23.95*	*10.25*	*5.40*	*14.59*
Maximum Daily Emissions – Year 2016[1]		*2.45*	*24.56*	*0.75*	*1.11*	*1.86*	*0.20*	*1.02*	*1.22*
Significance Threshold[2]		***54***	***54***	–	***82***	–	**–**	***54***	**–**
Exceeds Threshold?		***Yes***	***Yes***	–	*No*	–	–	*No*	–

Source: Ambient Air Quality & Noise Consulting 2013

Fug = Fugitive; Exh = Exhaust

1. *Maximum daily emissions assumes some construction activities could potentially occur simultaneously. Totals may not sum due to rounding. Emissions exceeding the threshold are depicted in bold font.*
2. *The BAAQMD's recommended threshold for fugitive PM emissions is based on implementation of best management practices.*

Mitigation Measures

MM 3.1.1 a. The proposed project shall implement BAAQMD-recommended best management practices for the control of fugitive dust including, but not limited to, the following:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved areas of vehicle travel) shall be watered two times per day.
2. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
3. All vehicle speeds on on-site unpaved areas shall be limited to a maximum of 15 miles per hour.
4. All parking areas, equipment pads, and driveways shall be paved as soon as possible. Equipment pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
5. Where applicable, vegetative ground cover (fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible.
6. A publicly visible sign shall be posted at the site entrance identifying the telephone number and name of the person to contact at the construction site regarding dust complaints. The phone number of the City contact person and/or department shall also be posted to ensure compliance. All complaints, including any necessary corrective actions implemented to address the complaint, shall be documented and responded to within 48 hours. The designated City compliance monitoring staff and/or department shall be notified of all complaints received.

b. The following measures shall be implemented to reduce construction-generated mobile-source emissions:

   1. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by Title 13, Section 2485 of the California Code of Regulations). Clear signage shall be provided for construction workers at all access points.

   2. All construction equipment shall be maintained and properly tuned in accordance with manufacturers' specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

   3. Heavy-duty (i.e., 25 horsepower or greater) off-road construction equipment shall, at a minimum, meet Tier 3 emission standards.

c. To the extent possible, construction of the proposed maintenance building shall utilize pre-coated building materials and low-VOC-content architectural coatings.

Timing/Implementation: *Measures shall be added as conditions of approval for all development permits*

Enforcement/Monitoring: *City of Pittsburg Development Services Department*

With implementation of the above mitigation measures, maximum daily construction-related emissions of ROG would be reduced to approximately 58 lbs/day and NO_x would be reduced to approximately 61 lbs/day, or less. The proposed mitigation measure also includes best management practices for the control of fugitive dust emissions, as recommended by the BAAQMD. With mitigation, maximum daily emissions would still be projected to exceed the BAAQMD's significance threshold of 54 lbs/day for each pollutant. It is important to note that to ensure a conservative analysis, maximum daily emissions were calculated assuming that all facility improvements identified for a given year (excluding initial site preparation and grading activities) could potentially occur on the same day. Actual emissions would vary depending on the specific construction activities conducted. Nonetheless, given that detailed construction schedules for the proposed improvements are not yet available and because maximum daily emissions with mitigation would be projected to exceed BAAQMD's significance thresholds, this impact would be considered **significant and unavoidable**.

Long-Term Operational Emissions of Criteria Air Pollutants and Precursors

Impact 3.1.2 Long-term operational emissions of criteria air pollutants and precursors could violate or contribute substantially to an existing or projected air quality violation, expose sensitive receptors to substantial pollutant concentrations, and/or conflict with air quality planning efforts. This impact is considered to be **potentially significant**.

The proposed project consists of a proposed expansion of the existing facility, construction of the truck maintenance building, and installation of a proposed Biomass Gasification Unit. The proposed project would increase the permitted hours of operation to 24 hours per day. Overall net increases in emissions, in comparison to existing operations, would be primarily associated

with the increased use of off-road equipment and on-road haul trucks, as well as the operation of the proposed Biomass Gasification Unit.

Net increases in daily operational emissions attributable to the proposed project are summarized in **Tables 3.1-9** and **3.1-10**, respectively. Overall net increases in operational emissions attributable to the proposed project are also presented.

TABLE 3.1-9
LONG-TERM UNMITIGATED DAILY EMISSIONS OF CRITERIA AIR POLLUTANTS AND PRECURSORS

Scenario	Maximum Daily Emissions (lbs/day)[1]			
	ROG	NO_x	PM_{10}	$PM_{2.5}$[2]
Existing Conditions				
Off-Road Equipment	9.5	68.0	4.2	4.2
On-Road Vehicles	1.8	12.1	0.4	0.4
Total	11.3	80.0	4.6	4.6
Proposed Project Conditions				
Off-Road Equipment	31.9	229.3	13.3	13.3
On-Road Vehicles[3]	6.9	47.7	1.8	1.8
Biomass Gasification Unit	2.0	6.1	0.9	0.9
Total	40.8	283.1	16.0	16.0
Net Increase	**29.5**	**203.1**	**11.4**	**11.4**
Significance Threshold	**54**	**54**	**82**	**54**
Exceeds Significance Threshold?	**No**	**Yes**	**No**	**No**

Source: APS 2014

1. *Maximum daily emissions from modeling outputs. Totals may not sum due to rounding.*
2. *Emissions of $PM_{2.5}$ conservatively assumes that emissions would be equivalent to PM_{10}.*
3. *On-road vehicle emissions for the proposed project are based on projected maximum permitted operating conditions derived from the traffic analysis prepared for this project (Fehr & Peers 2012).*
4. *Relocation of the existing maintenance building is not anticipated to result in increased vehicle trips or off-road/stationary equipment use. Increased emissions associated with changes in energy use would be negligible (i.e., 0.13 lbs/day/pollutant, or less).*

TABLE 3.1-10
LONG-TERM UNMITIGATED ANNUAL EMISSIONS OF CRITERIA AIR POLLUTANTS AND PRECURSORS

Scenario	Annual Emissions (tons/year)[1]			
	ROG	NO_x	PM_{10}	$PM_{2.5}$[2]
Existing Conditions				
Off-Road Equipment	1.6	11.3	0.7	0.7
On-Road Vehicles	0.2	1. 7	0.1	0.01
Total	1.8	11.3	0.8	0.8

Scenario	Annual Emissions (tons/year)[1]			
	ROG	NO_X	PM_{10}	$PM_{2.5}$[2]
Proposed Project Conditions				
Off-Road Equipment	6.0	42.2	2.8	2.8
On-Road Vehicles [3]	0.9	6.5	0.2	0.2
Biomass Gasification Unit	1.1	1.1	0.5	0.5
Total	8.0	49.8	3.5	3.5
Net Increase	**6.2**	**38.5**	**2.7**	**2.7**
Significance Threshold	**10**	**10**	**15**	**10**
Exceeds Significance Threshold?	**No**	**Yes**	**No**	**No**

Source: APS 2014

1. *Annual emissions are from modeling outputs. Totals may not sum due to rounding.*
2. *Emissions of $PM_{2.5}$ conservatively assumes that emissions would be equivalent to PM_{10}.*
3. *On-road vehicle emissions for the proposed project are based on projected maximum permitted operating conditions derived from the traffic analysis prepared for this project (Fehr & Peers 2012)*
4. *Relocation of the existing maintenance building is not anticipated to result in increased vehicle trips or off-road/stationary equipment use. Increased emissions associated with changes in energy use would be negligible (i.e., 0.13 lbs/day/pollutant, or less).*

As depicted, the proposed project would result in net increases in daily emissions of approximately 29.5 lbs/day of ROG, 203.1 lbs/day of NO_X, 11.4 lbs/day of PM_{10}, and 11.4 lbs/day of $PM_{2.5}$. Net increases of annual operational emissions would total approximately 6.2 tons/year of ROG, 38.5 tons/year of NO_X, 2.7 tons/year of PM_{10}, and 2.7 tons/year of $PM_{2.5}$. Net increases in daily and annual operational emissions for ROG, PM_{10}, and $PM_{2.5}$ would not exceed applicable significance thresholds. However, based on the modeling conducted, project-generated increases of NO_X would exceed the BAAQMD's significance thresholds of 54 lbs/day and 10 tons/year. As a result, net increases of NO_X would be considered to have a **potentially significant** impact.

Mitigation Measures

MM 3.1.2a The project applicant shall demonstrate that all heavy-duty off-road equipment (i.e., 25 hp or greater) used at the project site meets, at a minimum, CARB's Tier 4i emission standards.

Timing/Implementation: *Prior to operation of new facilities*

Enforcement/Monitoring: *City of Pittsburg Development Services Department and Department of Environmental Affairs*

MM 3.1.2b The operator shall provide a report on the throughput tonnage processed at the facility that would result in operational emissions of NO_X at 90 percent of the allowable threshold of 54 pounds per day and 10 tons per year (i.e., 48.6 pounds of NO_X per day or 9 tons of NO_X per year). The report shall be included as a condition of approval of the use permit and shall be completed by a qualified air quality professional within one year of approval of the use permit for the expansion. Project-generated tonnages and

estimated emissions based on the report shall be evaluated commencing at the five-year state permit review and each year thereafter as tonnage reports are submitted to the City Department of Environmental Affairs and Development Services Department. Once the throughput tonnages reach the amount determined in the report to result in 48.6 pounds of NO_X daily or 9 or more tons of NO_X annually, the operator shall prepare and submit project-generated emissions reports, as described in mitigation measure MM 3.1.2c.

Timing/Implementation: *Completion of the report shall be a condition of approval of the use permit and shall be completed prior to issuance of the Solid Waste Facility Permit*

Enforcement/Monitoring: *City of Pittsburg Development Services Department and Department of Environmental Affairs*

MM 3.1.2c Once the project receives a tonnage throughput resulting in 90 percent of assumed NO_X emissions (48.6 pounds of NO_X per day or 9 tons of NO_X per year) as indicated by annual tonnage reports submitted to the City's Department of Environmental Affairs and Development Services Department, the operator shall obtain the services of a qualified specialist, approved by the City Development Services Department in conjunction with the Department of Environmental Affairs, to prepare and submit an annual air quality report showing project-generated NO_X emissions. The annual emissions evaluation shall identify project-generated increases in emissions over those existing at the time of the approval of the use permit, any emission reduction strategies that have been implemented (i.e., use of cleaner equipment, etc.), and any emissions offsets or additional mitigation measures, as described in mitigation measure MM 3.1.2d, that will be implemented sufficient to achieve the threshold of 54 pounds of NO_X per day or 10 tons of NO_X per year. Emissions analyses shall be submitted to the City by April 1 of the following year. Upon the City's approval of the annual air quality report, documentation of any emissions offsets or additional mitigation strategies that have been implemented shall be provided to the City within 30 calendar days.

Timing/Implementation: *Annually as described*

Enforcement/Monitoring: *City of Pittsburg Development Services Department and Department of Environmental Affairs*

MM 3.1.2d Based on the information provided in the annual report described in mitigation measure MM 3.1.2c, the proposed project shall implement on-site control measures and/or purchase emissions offsets sufficient to limit net increases (as defined) in operational NO_X emissions to no more than 54 pounds per day or 10 tons of NO_X per year. Measures shall be implemented on an ongoing basis corresponding to increases in operational activities. Measures to be implemented to reduce operational NO_X emissions may include, but are not limited to, the following:

- Use of alternatively fueled vehicles and off-road equipment.

- Electrification of on-site equipment.
- Reduction in the number of pieces of motorized equipment and/or hours of use.
- Replacement/conversion of existing off-road equipment sufficient to meet, at a minimum, CARB's Tier 4i emission standards, or equivalent.
- Secure emission reduction credits (ERCs) to offset NO_X emissions per BAAQMD Regulations 2-2-215, 302, and 303.

Timing/Implementation: *Annually as described*

Enforcement/Monitoring: *City of Pittsburg Development Services Department and Department of Environmental Affairs*

Mitigation measure **MM 3.1.2a** would require any new heavy-duty equipment used on-site to meet CARB's Tier 4i emissions standards or equivalent. In comparison to uncontrolled equipment, CARB's Tier 4i emission standards can reduce equipment NO_X emissions by approximately 95 percent, or more, depending on the type and size of the equipment (SCAQMD 2014). Assuming that all new off-road equipment would meet CARB's more stringent Tier 4i emissions standards, net increases in operational emissions would be reduced to approximately 75 lbs/day and approximately 12 tons/year.

Recognizing that the tonnage accepted at the site will ramp up over time, mitigation measures **MM 3.1.2b** through **MM 3.1.2d** require the project applicant prepare a report indicating the throughput tonnage processed at the facility and an annual air quality report and to implement those measures recommended by the annual air quality report or as conditions of the use permit to ensure that operational emissions do not exceed the significance threshold of 54 lbs/day. Assuming project operations were to occur 365 days per year, compliance with the daily significance threshold of 54 lbs/day would also ensure compliance with the annual threshold of 10 tons/year. With mitigation, this impact would be **less than significant**.

Exposure of Sensitive Receptors to Localized Concentrations of Mobile-Source Carbon Monoxide

Impact 3.1.3 Implementation of the proposed project would not contribute to traffic volumes at primarily affected intersections that would exceed the BAAQMD's screening criteria. As a result, localized concentrations of mobile-source CO are not projected to exceed applicable ambient air quality standards. This is considered to be a **less than significant** impact.

Localized CO concentrations near roadway intersections are a function of traffic volume, speed, and delay. Transport of CO is extremely limited because it disperses rapidly with distance from the source under normal meteorological conditions. However, under specific meteorological conditions, CO concentrations near roadways and/or intersections may reach unhealthy levels with respect to sensitive receptors, often referred to as a "CO hotspot."

Based on BAAQMD guidance, projects meeting all of the following screening criteria would be considered to have a less than significant impact to localized CO concentrations (BAAQMD 2010a):

- Project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans.
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- The project would not result in an affected intersection experiencing more than 44,000 vehicles per hour or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

Peak-hour traffic volumes for primarily affected intersections, under maximum permitted conditions, are summarized in **Table 3.1-11**. As depicted, peak hour intersection volumes at primarily affected intersections would range from a low of 1,893 vehicles per hour to a high of 5,471 vehicles per hour (Fehr & Peers 2012). Peak-hour traffic volumes would not contribute to intersections experiencing more than 44,000 vehicles per hour, nor would the project contribute to intersections where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

State Route 4 (SR 4) is identified in the Contra Costa Congestion Management Program (CMP) network. CMP legislation requires that level of service (LOS) standards be adopted for the designated CMP network roadways. For the segment of SR 4 located in the vicinity of Loveridge Road, the Contra Costa CMP establishes a peak-hour traffic standard of LOS F. Based on the traffic analysis prepared for this project, projected LOS at the SR4/Loveridge Road intersection with project implementation would be LOS D or better. Implementation of the proposed project would not conflict with the Contra Costa Congestion Management Program East County Action Plan. For these reasons, the proposed project's contribution to localized concentrations of mobile-source CO would be considered **less than significant**.

Mitigation Measures

None required.

TABLE 3.1-11
PEAK-HOUR TRAFFIC VOLUMES CUMULATIVE PLUS PROJECT

Intersection	Peak-Hour Traffic Volumes	
	AM	PM
East Leland Road and Loveridge Road	4,284	5,471
State Route 4 EB Off-Ramp and Loveridge Road	3,194	3,499
California Avenue and Loveridge Road	3,660	4,022
California Avenue and Shopping Center Drive	2,535	2,526
Pittsburg-Antioch Highway and Loveridge Road	3,141	3,037
Buchanan Road and Loveridge Road	2,111	2,593
Pittsburg-Antioch Highway and Auto Center Drive	1,893	2,793
BAAQMD Screening Criteria	***44,000***	***44,000***
Exceeds BAAQMD Screening Criteria?	***No***	***No***

Source: Fehr & Peers 2012

Based on projected maximum permitted operating conditions derived from the traffic analysis prepared for this project.

Exposure of Sensitive Receptors to Substantial Concentrations of Toxic Air Contaminants

Impact 3.1.4 Implementation of the proposed project would not result in incremental increases in risk or hazards at nearby sensitive receptors that would exceed applicable significance thresholds. With implementation of proposed mitigation, this is considered a **less than significant** impact.

Short-Term Exposure

Construction projects can result in short-term increases of TACs, as well as emissions of airborne fugitive dust. Emissions of diesel particulate matter (DPM) emitted from diesel-fueled construction vehicles are of particular concern. DPM consists of gaseous and particulate matter containing various TACs such as formaldehyde, benzene, and metals. Under CARB guidelines, DPM is used as a surrogate that characterizes the various components contained in the exhaust mixture. As noted earlier in this section, CARB identified DPM as a toxic air contaminant in 1998.

Health risks associated with TAC exposure are largely based on the dose to which receptors are exposed. Dose is dependent on both the concentration and the duration of exposure. The assessment of health-related risks associated with DPM exposure is typically based on a 70-year period of exposure.

As noted earlier in this section, the proposed project is not anticipated to require extensive site preparation. As a result, extensive use of off-road diesel-fueled vehicles would not be required for the project. In addition, the use of diesel-powered off-road equipment would be temporary and of short duration, with individual construction activities occurring over an estimated 1- to 10-week period. Furthermore, given that the nearest sensitive receptors are located roughly one-half mile from the project site and given the high dispersion characteristics of DPM, construction of the proposed improvements would not be expected to create conditions where the probability of contracting cancer is greater than 10 in 1 million for nearby receptors. As a result, health impacts associated with short-term exposure to construction-generated TACs would be considered **less than significant**.

Long-Term Exposure

As noted earlier in this section, evaluation of the proposed project's contribution to localized concentrations of TACs and associated health risks was conducted by Air Permitting Specialists (2014). The principal toxic air contaminant associated with the long-term operation of the proposed project is DPM attributable to the operation of off-road equipment and, to a lesser extent, on-road mobile sources. In addition to DPM, there would be trace amounts of organic emissions associated with the gasifier. The amounts and toxicity of these emissions are 10 to 100 times lower than DPM.

Based on the modeling conducted, the existing maximally impacted receptor (MIR) would occur at residential land uses located west of the project site, approximately 2,900 feet from the project site. Based on the modeling conducted, the predicted cancer risk at the MIR would be 10.8 cancers per million. The 70-year cancer risk would exceed the BAAQMD threshold of significance of 10 cancers per million. The predicted chronic and acute hazard index at the MIR would be less than 0.01 and 0.08, respectively, which would not exceed the hazard index of 1. Predicted $PM_{2.5}$ concentrations at the MIR would be 0.02 µg/m^3 and would not exceed the significance threshold of 0.3 µg/m^3.

In addition, a residential rezoning (Sunnyside Estates) has been approved for a development north of SR 4, adjacent to and east of Clarion Court (approximately 2,100 feet from the project site). Based on the modeling conducted, the predicted cancer risk at this land use would be less than 10 cancers per million. The 70-year cancer risk would not exceed the BAAQMD threshold of significance of 10 cancers per million. Likewise, predicted chronic and acute hazard indices, as well as predicted $PM_{2.5}$ concentration, would not exceed applicable thresholds at this approved residential land use.

Given that the predicted incremental increase in cancer risk at the existing MIR would exceed applicable thresholds, this impact would be considered **potentially significant**. As previously noted, the modeling assumed that the proposed biomass plant and related activities would be located near the southern boundary of the project site, as previously proposed. However, as currently proposed, the biomass plant would be located near the northern boundary of the project site, approximately 0.3 miles farther from the nearest off-site sensitive receptors. Because pollutant concentrations would diminish with increased distance from the source, the findings of this analysis would be considered conservative and actual concentrations/predicted health risks would likely be lower. Refer to **Appendix E** for additional modeling assumptions and results.

Mitigation Measures

Implement mitigation measure **MM 3.1.2a.**

Mitigation measure **MM 3.1.2a** requires any new heavy-duty off-road equipment (i.e., 25 hp, or greater) to meet, at a minimum, CARB's Tier 4i emission standards. In comparison to uncontrolled equipment, the use of Tier 4i–compliant equipment can reduce PM emissions from on-site equipment by approximately 95 percent, or more, depending on the type and size of the equipment being used (SCAQMD 2014). With implementation of the mitigation measure, incremental increases in cancer risk at the MIR would be reduced to less than 1 in one million, below the BAAQMD's threshold of significance of 10 in one million. With mitigation, this impact is considered **less than significant**.

Create Objectionable Odors Affecting a Substantial Number of People

Impact 3.1.5 Subsequent land use activities associated with implementation of the proposed project would not create objectionable odors affecting a substantial number of people due to compliance with an Odor Impact Minimization Plan submitted with the proposed land use application. Thus, this impact is considered to be **less than significant.**

The occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies.

The proposed project would result in increased waste processing rates, which would require increased on-site retention of organic waste materials. Organic waste materials may be a source of odors, particularly when stored in exterior areas under anaerobic conditions. It is important to note that biomass power plants are not identified as a major odor source by the BAAQMD.

To minimize potential odor impacts associated with the proposed increase in processing rates, the proposed project would operate under the parameters of an Odor Impact Minimization

Plan, which was prepared for the proposed project to minimize odor emissions and prevent nuisances in the surrounding area. The Odor Impact Minimization Plan includes various changes to existing on-site operations including but not limiting the outdoor storage of waste materials to 48 hours, and storage of only co-collected food material from residential sources in outdoor areas. No commercial food waste would be stored in outdoor areas. The plan identifies potential sensitive receptors in the area and establishes odor monitoring and complaint response protocols. The plan also provides design and operational considerations and procedures to minimize odor emissions associated with the proposed project. These include proper drainage to prevent standing water, screening of incoming loads to eliminate unacceptable waste materials, strict enforcement of storage time limits, monitoring of stockpiles to ensure optimal conditions, and worker education/awareness training. The plan also includes a contingency plan to control odors should they occur. Furthermore, the proposed project would be subject to BAAQMD Regulation 7, Odorous Substances, which limits the discharge of odorous substances that may result in nuisance impacts to nearby receptors. For these reasons and given that the nearest off-site receptors are located approximately one-half mile from the project site, this impact would be considered **less than significant**.

Mitigation Measures

None required.

3.1.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The setting for the cumulative air quality analysis consists of the San Francisco Bay Area Air Basin.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulatively Considerable Net Increase of Nonattainment Criteria Pollutants and Precursors

Impact 3.1.6 The proposed project, in combination with emission sources in the San Francisco Bay Area Air Basin, would result in a cumulatively considerable net increase of criteria air pollutants and precursors. With implementation of proposed mitigation measures, this impact would be considered **less than cumulatively considerable.**

As shown in **Table 3.1-1**, the SFBAAB is in nonattainment status for O_3, PM_{10}, and $PM_{2.5}$. Therefore, continued generation of these pollutants at levels that exceed thresholds would contribute to exceedances in a nonattainment area. This would be considered a significant cumulative impact. As noted in Impact 3.1.3, the proposed project would not contribute to localized concentrations of mobile-source CO that, when combined with background concentrations from cumulative sources in the area, would be anticipated to exceed applicable ambient air quality standards. However, as identified in Impact 3.1.1 and Impact 3.1.2, the proposed project would result in increased short-term construction and long-term operational emissions of NO_X in excess of project-level significance thresholds, as well as short-term emissions of fugitive dust. Because significance thresholds are designed to achieve attainment for these pollutants in the SFBAAB, net increases in unmitigated project-generated emissions could interfere with corresponding regional air quality planning efforts. For this reason, the proposed project's contribution to cumulative regional air quality impacts would be considered **cumulatively considerable**.

Mitigation Measures

Implementation of mitigation measures **MM 3.1.1** and **MM 3.1.2a** through **MM 3.1.2d** would reduce short-term construction and long-term operational emissions of NO_X to below applicable significance thresholds. Because the proposed project would not exceed significance thresholds with mitigation, the proposed project would not result in a net increase of NO_X or fugitive dust that would interfere with regional air quality planning efforts. With mitigation, this impact would be considered **less than cumulatively considerable**.

Cumulatively Considerable Contribution to Localized Concentrations of Toxic Air Contaminants

Impact 3.1.7 The proposed project, in combination with nearby emission sources, would not result in predicted risks or hazards that would exceed applicable significance thresholds at nearby sensitive receptors. With implementation of proposed mitigation, this is considered a **less than cumulatively considerable** impact.

Cumulative risk impacts attributable to the proposed project, in combination with existing sources, were evaluated in the air quality assessment prepared by APS for this project (2014). In accordance with BAAQMD-recommended methodologies, the assessment of cumulative impacts included existing sources within 1,000 feet of the project site. Individual hazards and risks were then summed to identify the cumulative cancer risks and hazards at the maximally impacted receptor (MIR).

The health modeling conducted for the project focused on exposure to DPM (diesel particulate matter) released from on-site equipment and idling trucks based on a 70-year exposure to determine averaged residential cancer risk. Based on the modeling conducted, the predicted cumulative cancer risk at the existing MIR would be 102 cancers per million. The predicted 70-year cancer risk at the existing MIR, as well as at the proposed residential land uses located north of SR 4 adjacent to and east of Clarion Court, would be projected to exceed the BAAQMD cumulative significance threshold of 100 cancers per million. The predicted chronic hazard index at the existing MIR would be 0.13 and the predicted acute hazard index would be 0.03, which would not exceed the cumulative chronic or acute hazard index of 10. Predicted $PM_{2.5}$ concentrations at the existing MIR would be 3.64 µg/m^3, which would exceed the cumulative significance threshold of 0.8 µg/m^3 (APS 2014). These levels would also be representative of predicted concentrations at the proposed residential land uses located adjacent to Clarion Court. Given that the predicted cumulative cancer risk and $PM_{2.5}$ concentrations would exceed applicable thresholds, the proposed project's cumulative contribution to localized emissions of TACs and associated risk impacts would be considered **cumulatively considerable**. Refer to **Appendix E** for additional modeling assumptions and results.

Mitigation Measures

Mitigation measure **MM 3.1.2a** requires any new heavy-duty off-road equipment (i.e., 25 hp, or greater) to be used at the project site to meet, at a minimum, CARB's Tier 4i emission standards. In comparison to uncontrolled equipment, the use of Tier 4i–compliant equipment can reduce PM emissions from on-site equipment by 95 percent or more. With implementation of the proposed mitigation measure, off-site cancer risk at the MIR would be reduced to below the BAAQMD's threshold of significance of 100 in one million. Predicted increases in ambient $PM_{2.5}$ concentrations would be reduced to approximately 0.01 µg/m^3, below the cumulative significance threshold of 0.8 µg/m^3 and the project's incremental risk at the nearest residential

area due to ambient PM2.5 increase would be 0.01 (APS 2014). With mitigation, the project's contribution to this impact is considered **less than cumulatively considerable**.

Cumulatively Considerable Contribution to Localized Concentrations of Odorous Emissions

Impact 3.1.8 Implementation of the proposed project would not result in a cumulatively considerable increase of odorous emissions that would adversely impact nearby sensitive receptors. This is considered a **less than cumulatively considerable** impact.

There are no major sources of odorous emissions have been identified in the project area that would combine with potential odors from the project site. In addition, as noted in Impact 3.1.5, the proposed project would not result in significant increases in odors that would adversely affect a substantial number of people. As a result, the proposed project's cumulative contribution to localized concentrations of odors would be considered **less than cumulatively considerable**.

Mitigation Measures

None required.

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3.2 Climate Change and Greenhouse Gas

This section provides a discussion on the proposed project's effect on greenhouse gas (GHG) emissions and the associated effects of climate change. The California Environmental Quality Act (CEQA) requires that lead agencies consider the reasonably foreseeable adverse environmental effects of projects they are considering for approval. This section is based on an analysis of project-related GHG analysis prepared by Air Permitting Specialists (2014) as well as the *Mt. Diablo Resource Recovery Park Greenhouse Gas Impact Assessment for the City of Pittsburg Generated Waste Stream for the Baseline Scenario, 2020 and 2035*, prepared by Edgar & Associates (2012) included in **Appendix E**. The reader is referred to Section 3.1, Air Quality, for a discussion of project impacts associated with air quality.

3.2.1 EXISTING SETTING

EXISTING CLIMATE SETTING

To fully understand global climate change, it is important to recognize the naturally occurring "greenhouse effect" and to define the GHGs that contribute to this phenomenon. Various gases in the earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space and a portion of the radiation is absorbed by the earth's surface. The earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. Greenhouse gases, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Following are descriptions of the primary GHGs attributed to global climate change, including a description of their physical properties, primary sources, and contribution to the greenhouse effect.

Carbon Dioxide

Carbon dioxide (CO_2) is a colorless, odorless gas. CO_2 is emitted in a number of ways, both naturally and through human activities. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO_2 emissions. The atmospheric lifetime of CO_2 is variable because it is so readily exchanged in the atmosphere (USEPA 2008a).

Methane

Methane (CH_4) is a colorless, odorless gas that is not flammable under most circumstances. CH_4 is the major component of natural gas, about 87 percent by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. Methane is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (enteric fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of methane to the atmosphere. Natural sources of methane include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. Methane's atmospheric lifetime is about 12 years (USEPA 2006a).

Nitrous Oxide

Nitrous oxide (N_2O) is a clear, colorless gas with a slightly sweet odor. N_2O is produced by both natural and human-related sources. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. N_2O is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 120 years (USEPA 2006b).

Hydrofluorocarbons

Hydrofluorocarbons (HFCs) are man-made chemicals, many of which have been developed as alternatives to ozone-depleting substances for industrial, commercial, and consumer products. The only significant emissions of HFCs before 1990 were of the chemical HFC-23, which is generated as a byproduct of the production of HCFC-22 (or Freon 22, used in air conditioning applications). The atmospheric lifetime for HFCs varies from just over a year for HFC-152a to 260 years for HFC-23. Most of the commercially used HFCs have atmospheric lifetimes of less than 15 years (e.g., HFC-134a, which is used in automobile air conditioning and refrigeration, has an atmospheric life of 14 years) (USEPA 2006c).

Perfluorocarbons

Perfluorocarbons (PFCs) are colorless, highly dense, chemically inert, and nontoxic. There are seven PFC gases: perfluoromethane (CF_4), perfluoroethane (C_2F_6), perfluoropropane (C_3F_8), perfluorobutane (C_4F_{10}), perfluorocyclobutane (C_4F_8), perfluoropentane (C_5F_{12}), and perfluorohexane (C_6F1_4). Natural geological emissions have been responsible for the PFCs that have accumulated in the atmosphere in the past; however, the largest current source is aluminum production, which releases CF_4 and C_2F_6 as byproducts. The estimated atmospheric lifetimes for CF_4 and C_2F_6 are 50,000 and 10,000 years, respectively (EFCTC 2003; USEPA 2006a).

Nitrogen Trifluoride

Nitrogen trifluoride (NF_3) is an inorganic, colorless, odorless, toxic, nonflammable gas used as an etchant in microelectronics. Nitrogen trifluoride is predominantly employed in the cleaning of the plasma-enhanced chemical vapor deposition chambers in the production of liquid crystal displays and silicon-based thin film solar cells. It has a global warming potential of 17,200 carbon dioxide equivalents (CO_2e). While NF_3 may have a lower global warming potential than other chemical etchants, it is still a potent GHG. In 2009, NF_3 was listed by California as a high global warming potential GHG to be listed and regulated under Assembly Bill (AB) 32 (Section 38505 Health and Safety Code).

Sulfur Hexafluoride

Sulfur hexafluoride (SF_6) is an inorganic compound that is colorless, odorless, nontoxic, and generally nonflammable. SF_6 is primarily used as an electrical insulator in high voltage equipment. The electric power industry uses roughly 80 percent of all SF_6 produced worldwide. Significant leaks occur from aging equipment and during equipment maintenance and servicing. SF_6 has an atmospheric life of 3,200 years (USEPA 2008b).

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. Gases with high global warming potential, such as HFCs, PFCs, and SF_6, are the most heat-absorbent. Methane traps over 21 times more heat per molecule than CO_2, and N_2O absorbs 310 times more heat per molecule than CO_2. Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO_2e), which weight each gas by its global warming potential. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted. **Table 3.2-1** shows the global warming potentials for different GHGs for a 100-year time horizon.

TABLE 3.2-1
GLOBAL WARMING POTENTIAL FOR GREENHOUSE GASES

Greenhouse Gas	Global Warming Potential
Carbon Dioxide (CO_2)	1
Methane (CH_4)	21
Nitrous Oxide (N_2O)	310
Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs)	6,500
Sulfur Hexafluoride (SF_6)	23,900

Source: BAAQMD 2006

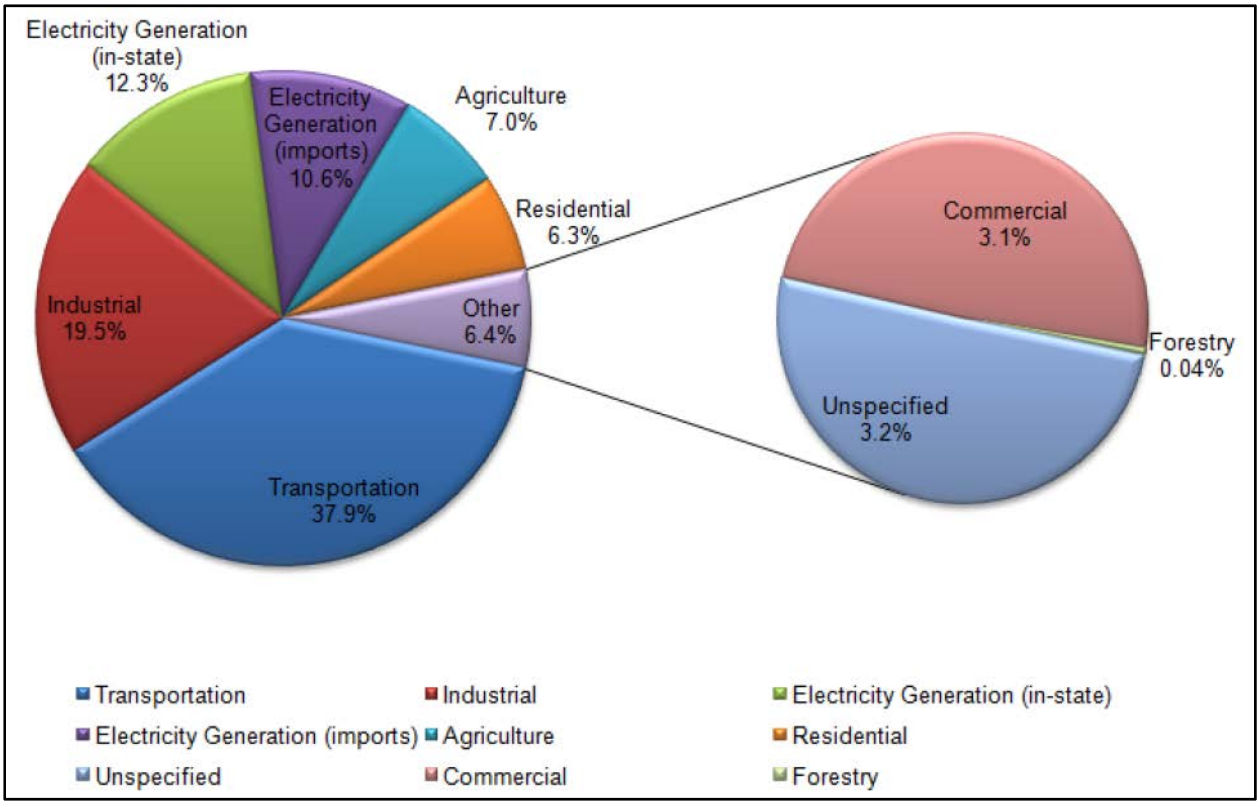
As the name implies, global climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California is a significant emitter of CO_2 in the world and produced 477 million gross metric tons of carbon dioxide equivalents in 2008. Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2008, accounting for 36.4 percent of total GHG emissions in the state. This category was followed by the electric power sector (including both in-state and out-of-state sources) (24.3 percent) and the industrial sector (19.3 percent) (CARB 2010).

SOURCES OF GHG EMISSIONS

On a global scale, GHG emissions are predominantly associated with activities related to energy production; changes in land use, such as deforestation and land clearing; industrial sources; agricultural activities; transportation; waste and wastewater generation; and commercial and residential land uses. Worldwide, energy production including the burning of coal, natural gas, and oil for electricity and heat is the largest single source of global GHG emissions (USEPA 2014).

In 2009, GHG emissions in California totaled 457 million metric tons of carbon dioxide equivalents ($MMTCO_2e$). In California, the transportation sector is the largest contributor, accounting for approximately 38 percent of total statewide GHG emissions. Emissions associated with electricity generation are the second largest contributor, totaling roughly 23 percent, with almost equal contributions from in-state and imported electricity. On a global scale, California had the fourteenth largest carbon dioxide emissions and the nineteenth largest per capita emissions (CARB 2011). The State of California GHG emissions inventory is depicted in **Figure 3.2-1**.

FIGURE 3.2-1
STATE OF CALIFORNIA GREENHOUSE GASES EMISSIONS INVENTORY



Source: CARB 2011
Note: Totals may not sum due to rounding. Unspecified includes evaporative losses and emissions from use of ozone-depleting substances (ODS) substitutes, which could not be attributed to an individual sector.

EFFECTS OF GLOBAL CLIMATE CHANGE

The effects of climate change in California are the subject of substantial scientific research conducted by experts at various state universities and research institutions. With more than a decade of concerted research, scientists have established that the early signs of climate change are already evident in the state—as shown, for example, in increased average temperatures, changes in temperature extremes, reduced snowpack in the Sierra Nevada, sea level rise, and ecological shifts.

Many of these changes are accelerating—locally, across the country, and around the globe. As a result of emissions already released into the atmosphere, California will face intensifying climate changes in coming decades. Generally, research indicates that California should expect overall hotter and drier conditions with a continued reduction in winter snow (with concurrent increases in winter rains), as well as increased average temperatures and accelerating sea-level rise. In addition to changes in average temperatures, sea level, and precipitation patterns, the intensity of extreme weather events is also changing (CNRA 2009).

Climate change temperature projections identified in the 2009 California Climate Adaptation Strategy suggest the following (CNRA 2009):

- Average temperature increase is expected to be more pronounced in the summer than in the winter season.

- Inland areas are likely to experience more pronounced warming than coastal regions.

- Heat waves are expected to increase in frequency, with individual heat waves also showing a tendency toward becoming longer, and extending over a larger area, thus more likely to encompass multiple population centers in California at the same time.

- As GHGs remain in the atmosphere for decades, temperature changes over the next 30 to 40 years are already largely determined by past emissions. By 2050, temperatures are projected to increase by an additional 1.8 to 5.4°F (an increase one to three times as large as that which occurred over the entire twentieth century).

- By 2100, the models project temperature increases between 3.6 and 9°F.

Precipitation levels are expected to change over the twenty-first century, though models differ in determining where and how much rain and snowfall patterns will change (CNRA 2009). Eleven out of twelve precipitation models run by the Scripps Institution of Oceanography suggest a small to significant (12–35 percent) overall decrease in precipitation levels by mid-century (CNRA 2009). In addition, higher temperatures increase evaporation and make for a generally drier climate, as higher temperatures hasten snowmelt. Moreover, the 2009 California Climate Adaptation Strategy concludes that more precipitation will fall as rain rather than as snow, with important implications for water management in the state. California communities have largely depended on runoff from yearly established snowpack to provide water supplies during the warmer, drier months of late spring, summer, and early autumn. With rainfall and meltwater running off earlier in the year, the State will face increasing challenges of storing water for the dry season while protecting Californians downstream from floodwaters during the wet season.

Changes in average temperature and precipitation are significant. Yet gradual changes in average conditions are not all for which California must prepare. In the next few decades, it is likely that the state will face a growing number of climate change–related extreme events such as heat waves, wildfires, droughts, and floods. Because communities, infrastructure, and other assets are at risk, such events can cause significant damages and are already responsible for a large fraction of near-term climate-related impacts every year (CNRA 2009).

Most climate projections developed to date, including those used in this section of the DEIR, produce gradual if sometimes substantial changes for a given climate variable. In the past, rapid climate changes have been observed and scientists are increasingly concerned about additional abrupt changes that could push natural systems past thresholds beyond which they could not recover. Such events have been recorded in paleoclimatological records but current global climate models cannot predict when they may occur again (CNRA 2009). Such abrupt changes have been shown to occur over very short periods of time (a few years to decades) and thus represent the most challenging situations to which society and ecosystems would need to adapt (CNRA 2009). Short of being able to predict such abrupt changes, scientists are focusing their attention on aspects of the climate and earth system called "tipping elements" that can rapidly bring about abrupt changes.

Tipping elements refer to thresholds where increases in temperature cause a chain reaction of mutually reinforcing physical processes in the earth's dynamic cycles. The most dangerous of these include the following (CNRA 2009):

- A reduction in Arctic sea ice, which allows the (darker) polar oceans to absorb more sunlight, thereby increasing regional warming, accelerating sea ice melting even further, and enhancing Arctic warming over neighboring (currently frozen) land areas.

- The release of methane (a potent GHG), which is currently trapped in frozen ground (permafrost) in the Arctic tundra, will increase with regional warming and melting of the ground, leading to further and more rapid warming and resulting in increased permafrost melting.

- Continued warming in the Amazon could cause significant rainfall loss and large-scale dying of forest vegetation, which will further release CO_2.

- The accelerated melting of Greenland and the West Antarctic Ice Sheet observed in recent times, together with regional warming over land and in the oceans, involves mechanisms that can reinforce the loss of ice and increase the rate of global sea-level rise.

According to the 2009 California Climate Adaptation Strategy, the impacts of global warming in California have the potential to include, but are not limited to, the areas discussed below.

Public Health

Climate change is expected to lead to an increase in ambient (i.e., outdoor) average air temperature, with greater increases expected in summer than in winter months. Larger temperature increases are anticipated in inland communities as compared to the California coast. The potential health impacts from sustained and significantly higher than average temperatures include heat stroke, heat exhaustion, and the exacerbation of existing medical conditions such as cardiovascular and respiratory diseases, diabetes, nervous system disorders, emphysema, and epilepsy. Numerous studies have indicated that there are generally more deaths during periods of sustained higher temperatures, and these are due to cardiovascular causes and other chronic diseases. The elderly, infants, and socially isolated people with pre-existing illnesses who lack access to air conditioning or cooling spaces are among the most at risk during heat waves (CNRA 2009).

Floods and Droughts

The impacts of flooding can be significant. Results may include population displacement, severe psychosocial stress with resulting mental health impacts, exacerbation of pre-existing chronic conditions, and infectious disease (CNRA 2009). Additionally, impacts can range from a loss of personal belongings, and the emotional ramifications from such loss, to direct injury and/or mortality.

Drinking water contamination outbreaks in the United States are associated with extreme precipitation events. Floodwaters may contain household, industrial, and agricultural chemicals as well as sewage and animal waste. Flooding and heavy rainfall events can wash pathogens and chemicals from contaminated soils, farms, and streets into drinking water supplies. Flooding may also overload storm and wastewater systems, or flood septic systems, also leading to possible contamination of drinking water systems. Runoff from rainfall is also associated with coastal contamination that can lead to contamination of shellfish and contribute to foodborne illness (CNRA 2009).

Drought impacts develop more slowly over time. Risks to public health that Californians may face from drought include impacts on water supply and quality, food production (both agricultural and commercial fisheries), and risks of waterborne illness. As surface water supplies are reduced as a result of drought conditions, the amount of groundwater pumping is expected to increase to make up for the water shortfall. The increase in groundwater pumping has the potential to lower the water tables and cause land subsidence (CNRA 2009). Communities that utilize well water will be adversely affected by drops in water tables or through changes in water quality. Groundwater supplies have higher levels of total dissolved solids compared to surface waters. This introduces a set of effects for consumers, such as repair and maintenance costs associated with mineral deposits in water heaters and other plumbing fixtures, and on public water system infrastructure designed for lower salinity surface water supplies. Drought may also lead to increased concentration of contaminants in drinking water supplies (CNRA 2009).

Water Resources

The state's water supply system already faces challenges to provide water for California's growing population. Climate change is expected to exacerbate these challenges through increased temperatures and possible changes in precipitation patterns. The trends of the last century—especially increases in hydrologic variability—will likely intensify in this century. We can expect to experience more frequent and larger floods and deeper droughts (CNRA 2009). The rising sea level will threaten the Delta water conveyance system and increase salinity in near-coastal groundwater supplies (CNRA 2009). Planning for and adapting to these simultaneous changes, particularly their impacts on public safety and long-term water supply reliability, will be among the most significant challenges facing water and flood managers this century.

Agriculture

Increased GHG emissions could cause widespread changes to the agriculture industry, reducing the quantity and quality of agricultural products statewide. First, California farmers could possibly lose as much as 25 percent of the water supply they need. California's farmers could face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development could change, as could the intensity and frequency of pest and disease outbreaks. Rising temperatures could aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less than optimal development for many crops, so rising temperatures could worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits, and nuts. In addition, continued global climate change could shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion could occur in many species while range contractions may be less likely in rapidly evolving species with significant populations already established. Should range contractions occur, new or different weed species could fill the emerging gaps. Continued global climate change could alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

Forests and Landscapes

Global climate change has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, wildfire occurrence statewide could

increase from 57 percent to 169 percent by 2085 (CNRA 2009). However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state.

Fishing

Studies found that as a result of changes in ocean conditions, the distribution and abundance of major fish stocks will change substantially. Impacts to fisheries related to El Niño/Southern Oscillation illustrate how climate directly affects marine fisheries on a short-term basis. Higher sea surface temperatures in 1997–1998 during El Niño had a great impact on market squid, California's largest fishery by volume. The California Regional Assessment Group reports that landings fell to less than 1,000 metric tons in that season, down from 110,000 tons in the 1996–1997 season. Other unusual events, such as poor salmon returns, a series of plankton blooms, and seabird die-offs, also occurred.

Coastline

With climate changes, recreational facilities and developed coastlines will be more vulnerable to hurricanes, storm surges, and flooding. Increasing population growth in coastal areas is a reason for further concern, since these areas could be more vulnerable to climate change impacts. Impacts of expected sea level rise and increased storm surges are numerous. Beachfront homes and harbors as well as wetlands may flood. Sewage systems may be overwhelmed by storm runoff and high tides.

Sea Level Rise

The San Francisco Bay Conservation and Development Commission (BCDC) issued a report on sea level rise in April 2009, which states that sea level along the West Coast rises approximately 7.9 inches per century, or approximately 0.08 inches per year. However, the rate of sea level rise is increasing. During the period of 1993–2003, the rate was approximately 0.12 inches per year, which could demonstrate the result of human-induced warming on sea level. The BCDC uses the same sea level rise estimates that are used by California Climate Action Team–funded assessments. These estimates anticipate the sea level in the Bay Area will rise 16 inches by mid-century and 55 inches by the end of the century. This data was used to make maps of projected flood areas but does not take into consideration existing shoreline protections; if an area is below sea level, it is shown as vulnerable on their maps despite any existing projections. By mid-century, approximately 180,000 acres of the Bay Area could be flooded, and 213,000 acres could be flooded by the end of the century. A large amount of development along the shoreline is vulnerable to flooding and erosion. Because of Bay Area topography, 100 percent of the development located in 100-year floodplain areas will likely flood by the year 2050. Also, different parts of the Bay Area are more vulnerable to flooding and erosion than others. Several large commercial and industrial developments in the vulnerable areas may be inundated by 2100, including 93 percent of both the Oakland and the San Francisco airports. Half of the vulnerable development is residential, and approximately 270,000 people would be at risk of flooding and problems with erosion. Approximately 4,300 acres of waterfront parks are expected to flood by 2100 (BCDC 2009).

The Bay Area currently has approximately 300 miles of public access to and along the San Francisco Bay shoreline. Of that access, 87 percent is located in areas vulnerable to flooding and erosion by 2100. It may be very hard to relocate or re-create access opportunities in areas farther inland. Jetties and seawalls may have to be raised and strengthened to protect harbors that are used for shipping, recreation, and tourism.

Pittsburg, which encompasses the proposed project, is located in the eastern Bay Area. Much of the developed Bay Area shoreline will require enhanced shoreline protection, which will be developed regionally to maximize safety and minimize impacts on sensitive Bay resources including public access, visual resources, and soil stability. Structural shoreline protections common to the Bay Area include seawalls, riprap revetments, and levees. These protections are reliable but expensive to build and maintain and often cause significant impacts to resources. Incorporating ecosystem elements with engineering elements would provide balanced and long-term shoreline protection.

3.2.2 REGULATORY FRAMEWORK

FEDERAL

International Regulation and the Kyoto Protocol

The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC). While the United States signed the Kyoto Protocol, which would have required reductions in GHGs, Congress never ratified the protocol. The federal government chose voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science. In 2002, the United States announced a strategy to reduce the greenhouse gas intensity of the American economy by 18 percent over a 10-year period from 2002 to 2012.

As part of the commitments to the UNFCCC, the US Environmental Protection Agency (USEPA) has developed an inventory of anthropogenic emissions by sources and removals by sinks of all greenhouse gases. This inventory is periodically updated, with the latest update in 2010. The USEPA reports that total US emissions rose by 14 percent from 1990 to 2007, while the US gross domestic product increased by 59 percent over the same period. A 2.9 percent decrease in emissions was noted from 2007 to 2008, which is reported to be attributable to climate conditions, reduced use of petroleum products for transportation, and increased use of natural gas over other fuel sources. The inventory notes that the transportation sector emits about 32 percent of CO_2 emissions, with 53 percent of those emissions coming from personal automobile use. Residential uses, primarily from energy use, accounted for 21 percent of CO_2 emissions (USEPA 2010a).

As a part of the USEPA's responsibility to develop and update an inventory of US greenhouse gas emissions and sinks, the USEPA compared trends of other various US data. Over the period between 1990 and 2008, GHG emissions grew at an average rate of about 0.7 percent per year. Population growth was slightly higher at 1.1 percent, while energy and fossil fuel consumption grew at 0.9 and 0.8 percent, respectively. Gross domestic product and energy generation grew at much higher rates.

Federal Regulation and the Clean Air Act

In the past, the USEPA has not regulated greenhouse gases under the Clean Air Act because it asserted that the act did not authorize the USEPA to issue mandatory regulations to address global climate change and that such regulation would be unwise without an unequivocally established causal link between GHGs and the increase in global surface air temperatures. However, the US Supreme Court held that the USEPA must consider regulation of motor vehicle GHG emissions. In *Massachusetts v. Environmental Protection Agency et al.*, twelve states and cities, including California, together with several environmental organizations, sued to require the USEPA to regulate GHGs as pollutants under the Clean Air Act (127 S. Ct. 1438 [2007]). The court ruled that

GHGs fit within the Clean Air Act's definition of a pollutant and that the USEPA did not have a valid rationale for not regulating GHGs. In response to this ruling, the USEPA made an endangerment finding that GHGs pose a threat to the public health and welfare. This is the first step necessary for the establishment of federal GHG regulations under the Clean Air Act.

In April 2010, the USEPA issued the final rule on new standards for GHG emissions and fuel economy for light-duty vehicles in model years 2017–2025. In November 2010, the USEPA published *PSD and Title V Permitting Guidance for Greenhouse Gases*, which provides the basic information that permit writers and applicants need to address GHG emissions regulated under the Clean Air Act. In that document, the USEPA described the "Tailoring Rule" in the regulation of GHG emissions. With the Tailoring Rule, the USEPA established a phased schedule in the regulation of stationary sources. The first phase of the Tailoring Rule began January 2, 2011, and focuses the GHG permitting programs on the largest sources with the most Clean Air Act permitting experience. Then, in step two beginning June 1, 2011, the rule expanded to cover large sources of GHGs that may not have been previously covered by the Clean Air Act for other pollutants. The rule also describes the USEPA's commitment to future rulemaking that will describe subsequent steps of the Tailoring Rule for GHG permitting (USEPA 2010b).

Mandatory Greenhouse Gas Reporting Rule

In response to the Consolidated Appropriations Act, the USEPA issued the Greenhouse Gas Reporting Rule (74 FR 56260), which requires reporting of GHG emissions and other relevant information from large sources and suppliers in the United States. The USEPA's Greenhouse Gas Reporting Program will assist the USEPA, as well as members of the public and industry, to better understand sources of GHG emissions and to reduce emissions in the future.

STATE

Assembly Bill 1493

Assembly Bill (AB) 1493 (Pavley) of 2002 (Health and Safety Code Sections 42823 and 43018.5) requires the California Air Resources Board (CARB) to develop and adopt the nation's first GHG emission standards for automobiles. These standards are also known as Pavley I. The California Legislature declared in AB 1493 that global warming is a matter of increasing concern for public health and the environment. It cites several risks that California faces from climate change, including a reduction in the state's water supply, an increase in air pollution caused by higher temperatures, harm to agriculture, an increase in wildfires, damage to the coastline, and economic losses caused by higher food, water, energy, and insurance prices. The bill also states that technological solutions to reduce GHG emissions would stimulate California's economy and provide jobs. In 2004, the State of California submitted a request for a waiver from federal clean air regulations, as the State is authorized to do under the Clean Air Act, to allow the State to require reduced tailpipe emissions of CO_2. In late 2007, the USEPA denied California's waiver request and declined to promulgate adequate federal regulations limiting GHG emissions. In early 2008, the State brought suit against the USEPA related to this denial.

In January 2009, President Obama instructed the USEPA to reconsider the Bush Administration's denial of California's and 13 other states' requests to implement global warming pollution standards for cars and trucks. In June 2009, the USEPA granted California's waiver request, enabling the State to enforce its GHG emissions standards for new motor vehicles beginning with the current model year.

Also in 2009, President Obama announced a national policy aimed at both increasing fuel economy and reducing GHG pollution for all new cars and trucks sold in the US. The new standards would cover model years 2012 to 2016 and would raise passenger vehicle fuel economy to a fleet average of 35.5 miles per gallon by 2016. When the national program takes effect, California has committed to allowing automakers who show compliance with the national program to also be deemed in compliance with state requirements. California is committed to further strengthening these standards beginning in 2017 to obtain a 45 percent GHG reduction from the 2020 model year vehicles.

Executive Order S-3-05

Executive Order S-3-05 (State of California) proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra's snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the Executive Order established total greenhouse gas emission targets. Specifically, emissions are to be reduced to the 2000 level by 2010, to the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

The Executive Order directed the secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce greenhouse gas emissions to the target levels. The secretary will also submit biannual reports to the governor and state legislature describing (1) progress made toward reaching the emission targets, (2) impacts of global warming on California's resources, and (3) mitigation and adaptation plans to combat these impacts. To comply with the Executive Order, the secretary of CalEPA created a Climate Action Team made up of members from various state agencies and commissions. The Climate Action Team released its first report in March 2006 and continues to release periodic reports on progress. The report proposed to achieve the targets by building on voluntary actions of California businesses, local government and community actions, as well as through state incentive and regulatory programs.

Executive Order S-6-06

Executive Order S-6-06 (State of California), signed on April 25, 2006, established two primary goals related to the use of biofuels within California, including: (1) by 2010, 20 percent of its biofuels need to be produced within California; increasing to 40 percent by 2020 and 75 percent by 2050; and (2) by 2010, 20 percent of the renewable electricity should be generated from biomass resources within the state, maintaining this level through 2020.

Assembly Bill 32, the California Global Warming Solutions Act of 2006

AB 32 (Health and Safety Code Sections 38500, 38501, 28510, 38530, 38550, 38560, 38561–38565, 38570, 38571, 38574, 38580, 38590, 38592–38599) requires that statewide GHG emissions be reduced to 1990 levels by the year 2020. The gases that are regulated by AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, nitrogen trifluoride, and sulfur hexafluoride. The reduction to 1990 levels will be accomplished through an enforceable statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires that CARB adopt a quantified cap on greenhouse gas emissions representing 1990 emissions levels and disclose how it arrives at the cap, institute a schedule to meet the emissions cap, and develop tracking, reporting, and enforcement mechanisms to ensure that the state achieves reductions in GHG emissions necessary to meet the cap. AB 32 also includes guidance to institute emissions reductions in an economically efficient manner and conditions to ensure that businesses and consumers are not unfairly affected by the reductions.

Climate Change Scoping Plan

In October 2008, CARB published its Climate Change Proposed Scoping Plan, which is the State's plan to achieve GHG reductions in California required by AB 32. The Scoping Plan contains the main strategies California will implement to achieve reduction of 169 million metric tons (MMT) of CO_2e, or approximately 30 percent from the state's projected 2020 emissions level of 596 $MMTCO_2e$ under a business-as-usual scenario (this is a reduction of 42 $MMTCO_2e$, or almost 10 percent, from 2002–2004 average emissions). The Scoping Plan also includes CARB-recommended GHG reductions for each emissions sector of the state's GHG inventory. The largest proposed GHG reduction recommendations are from improving emissions standards for light-duty vehicles (estimated reductions of 31.7 $MMTCO_2e$), implementation of the Low Carbon Fuel Standard (15.0 $MMTCO_2e$) program, energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 $MMTCO_2e$), and a renewable portfolio standard for electricity production (21.3 $MMTCO_2e$). The Scoping Plan identifies the local equivalent of AB 32 targets as a 15 percent reduction below baseline GHG emissions level, with baseline interpreted as GHG emissions levels between 2003 and 2008.

A key component of the Scoping Plan is the Renewables Portfolio Standard, which is intended to increase the percentage of renewables in California's electricity mix to 33 percent by year 2020, resulting in a reduction of 21.3 $MMTCO_2e$. Sources of renewable energy include, but are not limited to, biomass, wind, solar, geothermal, hydroelectric, and anaerobic digestion. Increasing the use of renewables will decrease California's reliance on fossil fuels, thus reducing GHG emissions.

The Scoping Plan states that land use planning and urban growth decisions will play important roles in the state's GHG reductions because local governments have primary authority to plan, zone, approve, and permit how land is developed to accommodate population growth and the changing needs of their jurisdictions. (Meanwhile, CARB is also developing an additional protocol for community emissions.) CARB further acknowledges that decisions on how land is used will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emissions sectors. The Scoping Plan states that the ultimate GHG reduction assignment to local government operations is to be determined. With regard to land use planning, the Scoping Plan expects that approximately 5.0 $MMTCO_2e$ will be achieved associated with implementation of Senate Bill 375, which is discussed further below. The Climate Change Proposed Scoping Plan was approved by CARB on December 11, 2008.

CARB approved the First Update of the Scoping Plan on May 22, 2014, which looked past 2020 to set mid-term goals (2030–2035) toward reaching the 2050 goals. CARB's Key Action for the Waste Sector focused on eliminating organics from landfills starting in 2016 and financing the in-state infrastructure development of composting and anaerobic digestion facilities. CARB's Key Action for Short-Lived Climate Pollutants such as methane is to develop a comprehensive strategy by 2015 that will focus on methane generated at landfills from the disposal of organic wastes.

Senate Bill 1368

Senate Bill (SB) 1368 (codified at Public Utilities Code Chapter 3) is the companion bill of AB 32. SB 1368 required the California Public Utilities Commission (CPUC) to establish a greenhouse gas emissions performance standard for baseload generation from investor-owned utilities by February 1, 2007. The bill also required the California Energy Commission (CEC) to establish a similar standard for local publicly owned utilities by June 30, 2007. These standards cannot exceed the greenhouse gas emission rate from a baseload combined-cycle natural-gas-fired plant. The legislation further requires that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the CPUC and the CEC.

Senate Bill 1078 and Governor's Order S-14-08 (California Renewables Portfolio Standards)

Senate Bill 1078 (Public Utilities Code Sections 387, 390.1, 399.25 and Article 16) addresses electricity supply and requires that retail sellers of electricity, including investor-owned utilities and community choice aggregators, provide a minimum 20 percent of their supply from renewable sources by 2017. This Senate Bill will affect statewide GHG emissions associated with electricity generation. In 2008, Governor Schwarzenegger signed Executive Order S-14-08, which set the Renewables Portfolio Standard target to 33 percent by 2020. It directed state government agencies and retail sellers of electricity to take all appropriate actions to implement this target. The proposed project area would receive energy service from the investor-owned Pacific Gas and Electric Company.

Prior to the Executive Order, the CPUC and the CEC were responsible for implementing and overseeing the Renewables Portfolio Standard. The Executive Order shifted that responsibility to CARB, requiring it to adopt regulations by July 31, 2010. CARB is required by current law, AB 32 of 2006, to regulate sources of greenhouse gases to meet a state goal of reducing greenhouse gas emissions to 1990 levels by 2020 and an 80 percent reduction of 1990 levels by 2050. The CEC and the CPUC are expected to serve in advisory roles to help CARB develop the regulations to administer the 33 percent by 2020 requirement. Additionally, the CEC and the CPUC will continue their implementation and administration of the 20 percent requirement. The Executive Order also stipulates that CARB may delegate to the CPUC and the CEC any policy development or program implementation responsibilities that would reduce duplication and improve consistency with other energy programs. CARB is also authorized to increase the target and accelerate and expand the time frame.

The general definition under the State Renewables Portfolio Standard for biomass is any organic material not derived from fossil fuels, including agricultural crops, agricultural wastes and residues, waste pallets, crates, dunnage, manufacturing, and construction wood wastes, landscape and right-of-way tree trimmings, mill residues that result from milling lumber, rangeland maintenance residues, sludge derived from organic matter, and wood and wood waste from timbering operations. Biomass feedstock from state and national forests is allowable under the definition.

Executive Order S-13-08: The Climate Adaptation and Sea Level Rise Planning Directive

On November 14, 2008, Governor Schwarzenegger issued Executive Order S-13-08 in order to reduce and assess California's vulnerability to climate change and sea level rise. The Executive Order initiated four major actions:

- Initiate California's first statewide climate change adaptation strategy that will assess the state's expected climate change impacts, identify where California is most vulnerable, and recommend climate adaptation policies by early 2009.

- Request the National Academy of Sciences establish an expert panel to report on sea level rise impacts in California to inform state planning and development efforts.

- Issue interim guidance to state agencies for how to plan for sea level rise in designated coastal and floodplain areas for new projects.

- Initiate a report on critical existing and planned infrastructure projects vulnerable to sea level rise. The California Natural Resources Agency released this report in 2009 as the California Adaptation Strategy.

Mandatory Reporting of Greenhouse Gas Emissions

Reporting of greenhouse gases by major sources is required by the California Global Warming Solutions Act (AB 32, 2006). Revisions to the existing CARB mandatory GHG reporting regulation were considered at the board hearing on December 16, 2010. The revised regulation was approved by the California Office of Administrative Law and became effective on January 1, 2012. The revised regulation affects industrial facilities, suppliers of transportation fuels, natural gas, natural gas liquids, liquefied petroleum gas, and carbon dioxide, operators of petroleum and natural gas systems, and electricity retail providers and marketers.

LOCAL

Bay Area Air Quality Management District

The Bay Area Air Quality Management District (BAAQMD) CEQA Air Quality Guidelines were developed to assist lead agencies in evaluating air quality impacts for projects and plans in the San Francisco Bay Area Air Basin. The guidelines were updated in 2010 to include guidance on assessing GHG and climate change impacts as required under CEQA Section 15183.5(b) and to establish thresholds of significance for impacts related to GHG emissions. These thresholds can be used to assess plan-level and project-level impacts and allow a lead agency to determine that a project's impact on GHG emissions is less than significant if it is in compliance with a Qualified Greenhouse Gas Reduction Strategy.[1]

City of Pittsburg 2005 Greenhouse Gas Emissions Inventory

In 2007, the Contra Costa County Climate Leaders (4CL) program was formed as a network for the county and its 19 cities to provide support for measuring and reducing GHG emissions. As part of the 4CL program, Pittsburg and 15 other local governments in Contra Costa County joined the Cities for Climate Protection program offered by ICLEI-Local Governments for Sustainability.

Two separate emission inventories were prepared for the City of Pittsburg's GHG emissions inventory—a community inventory and a municipal operations inventory. The community inventory includes GHG emissions resulting from activities that occur within the Pittsburg city limits, such as industrial, transportation, commercial, residential, and waste disposal, in the year 2005 as well as those projected for 2020. The municipal operations inventory includes GHG

[1] See discussion under "Standards of Significance" regarding history of judicial review of the BAAQMD CEQA Guidelines.

emissions from activities that are recorded for City accounts, such as energy use from water treatment and pumping, facility energy use, vehicle fleet gasoline and diesel consumption, employee commute trips, the electrical use of streetlights, and waste disposed, also in the year 2005 and as projected for 2020.

With a quantified GHG emissions inventory, the City of Pittsburg next plans to establish a reduction target and develop a climate action plan, which is under development at the time of this writing. Key climate action strategies will be assessed during the development of the climate action plan, which will suggest what degree of reduction is an appropriate target.

3.2.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

Per Appendix G of the State CEQA Guidelines, the City considers impacts related to climate change significant if implementation of the proposed project would result in any of the following:

1) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

2) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

As stated in Appendix G, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. On June 2, 2010, the BAAQMD's Board of Directors unanimously adopted thresholds of significance to assist local jurisdictions during the review of projects that are subject to CEQA. These thresholds of significance were designed to establish the level at which the BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA. The BAAQMD's justification for the adopted thresholds of significance was incorporated into Appendix D of the BAAQMD's (2010) updated *California Environmental Quality Act Air Quality Guidelines*.

On March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the thresholds. The court did not determine whether the thresholds were valid on the merits, but found that the adoption of the thresholds was a project under CEQA. The court issued a writ of mandate ordering the BAAQMD to set aside the thresholds and cease dissemination of them until the BAAQMD had complied with CEQA. The BAAQMD appealed the Alameda County Superior Court's decision. The Court of Appeal of the State of California, First Appellate District, reversed the trial court's decision. The Court of Appeal's decision was appealed to the California Supreme Court, which granted limited review, and the matter is currently pending further review.

In view of the trial court's order, which remains in place pending final resolution of the case, the BAAQMD is no longer recommending that the 2010 significance thresholds be used as a generally applicable measure of a project's significant impacts. Lead agencies will therefore need to determine appropriate thresholds of significance based on substantial evidence in the record. The 2010 significance thresholds, which include significance thresholds for GHG emissions, are based on substantial evidence, as identified in Appendix D of the BAAQMD's *California Environmental Quality Act Air Quality Guidelines*. Given that the trial court's judgment does not pertain to the scientific soundness of the 2010 significance thresholds and given that these thresholds are supported by substantial evidence, as provided by the BAAQMD in

Appendix D of the Air Quality Guidelines, these thresholds are used in this DEIR for the evaluation of operational GHG impacts, as noted below (BAAQMD 2010, 2012):

- Operational emissions from stationary sources: 10,000 metric tons (MT) of CO_2e per year
- Operational emissions from non-stationary sources: compliance with a Qualified GHG Reduction Strategy; or 1,100 MTCO_2e per year; or 4.6 MTCO_2e per service population

Operational GHG emissions from non-stationary sources, which include the operation of off-road heavy-duty equipment and on-road vehicle travel to and from the project site, exceeding the above significance threshold of 1,100 MTCO_2e per year would be considered to contribute substantially to a cumulative impact and the impact would be considered significant. In addition, GHG emissions resulting from on-site stationary sources, which include the proposed Biomass Gasification Unit, exceeding the threshold of 10,000 MTCO_2e would be considered to contribute substantially to a cumulative impact. If mitigation can be applied to reduce the emissions such that the proposed project meets its share of emission reductions needed to address the cumulative impact, the project would be considered less than significant. The BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions. However, quantification and disclosure of construction-generated GHG emissions that would occur during construction is recommended. To be conservative, construction-generated GHG emissions were amortized over the estimated life of the project and included with operational emissions for comparison to the significance thresholds. A project life of 25 years was assumed for the proposed project, which is a typically applied assumption for nonresidential land uses.

METHODOLOGY

Greenhouse gas emissions-related impacts were assessed in accordance with methodologies recommended by the BAAQMD and in comparison to the recommended BAAQMD significance thresholds.

Short-term construction-generated GHG emissions associated with the proposed project were calculated using the California Emissions Estimator Model (CalEEMod), version 2013.2.2, based on default parameters contained in the model. Construction equipment requirements and phase schedules were based on project-specific information provided by the project applicant. Modeling assumptions and output files are included in **Appendix E**.

Long-term operational emissions of GHG emissions were derived from the *Analysis of Air Quality Impacts and Greenhouse Gas Emissions, Mount Diablo Resource Recovery Park*, prepared by Air Permitting Specialists (2014). Emissions from on-road motor vehicles and off-road equipment use were quantified for existing and proposed project conditions based, in part, on the operational characteristics previously discussed in Section 3.1, Air Quality. Emission factors were derived from the CalEEMod, OFFROAD, and EMFAC2011 computer programs. The proposed project would facilitate GHG emissions reductions by recycling the waste it manages and furnishing feedstock for composting and biomass energy. Recycling reduces the demand for raw or virgin materials, while remanufacturing with recycled materials generally reduces overall energy use. Recycling also results in increased carbon sequestration by forests since fewer trees need to be harvested for wood and paper products. In addition, well-managed composting ultimately results in increased soil carbon storage, and end use of compost results in reduced demand for water, fertilizer, and other soil inputs. Furthermore, the production of biomass energy reduces the demand for fossil fuels. GHG emission reductions resulting from these project features were derived from the *Mt. Diablo Resource Recovery Park Greenhouse Gas Impact Assessment for the City of Pittsburg Generated Waste Stream for the Baseline Scenario, 2020 and 2035*,

prepared by Edgar & Associates (2012) (see **Appendix E**). This analysis was peer reviewed by PMC prior to the release of this Draft EIR.

PROJECT IMPACTS AND MITIGATION MEASURES

AB 32 Compliance and GHG Emissions

Impact 3.2.1 Implementation of the proposed project would not result in a net increase in greenhouse gas emissions that could potentially conflict with the goals of AB 32 and thus would not result in a significant impact on the environment. The proposed project would result in the avoidance of 154,692 $MTCO_2e$ annually by the year 2020 and 213,697 $MTCO_2e$ annually by the year 2035. The proposed project would result in fewer GHG emissions compared with current conditions and the net greenhouse gas emissions from the proposed project are below the BAAQMD significance thresholds. The proposed project would be considered to have a **less than cumulatively considerable** impact on greenhouse gas emissions.

GHG emissions associated with the operation of the proposed project would include emissions from sources associated with human activity (i.e., anthropogenic), as well as sources associated with natural processes (i.e., biogenic). Anthropogenic emissions would include those associated with the operation of on-road motor vehicles and off-road equipment, whereas biogenic sources would include those associated with the decomposition of wood waste. The release of GHG emissions from anthropogenic sources is believed to increase global temperature by changing the radiative transfer properties of the atmosphere. GHG emissions consist primarily of CO_2 with trace amounts of CH_4 and N_2O. For the combustion of diesel, the primary fuel that will be used with on-site equipment and trucks, methane and nitrous oxide will contribute less than 0.5 percent to the overall greenhouse gases. Collectively, the total emissions of CO_2, CH_4, and N_2O are reported in terms of carbon dioxide equivalents or CO_2e.

Short-Term GHG Emissions

Estimated increases in GHG emissions associated with construction of the proposed project were quantified using the CalEEMod computer program based on default model parameters and construction equipment requirements and schedule durations provided by the project applicant. Based on the modeling conducted, annual emissions of greenhouse gases associated with construction of the proposed project would total approximately 12 to 665 $MTCO_2e$ per year. In total, project construction would generate approximately 707 $MTCO_2e$. When amortized over the assumed 25-year life of the project, annual GHG emissions would total approximately 28.3 $MTCO_2$ per year.

Long-Term GHG Emissions

The consumption and disposal of resources require energy and emit GHG emissions. As waste is sent to the landfill, it decomposes and emits methane gas. By providing additional opportunities to reduce waste generated and recycle or compost waste that cannot be eliminated, waste disposal trends within the community can be reduced. This decreased waste will in turn reduce GHG emissions associated with waste disposal. GHG emissions for existing and proposed project conditions, in comparison to BAAQMD-recommended significance thresholds, are summarized below. Emissions estimates are presented for both on-site stationary sources and non-stationary sources in comparison to applicable significance thresholds, as recommended by the BAAQMD.

On-Site Permitted Stationary Sources

Based on the modeling conducted, direct emissions associated with the operation of the proposed Biomass Gasification Unit would total approximately 7,818 $MTCO_2e$ per year. GHG emissions associated with the operation of the proposed Biomass Gasification Unit would not exceed the BAAQMD's significance threshold of 10,000 $MTCO_2e$ for permitted stationary sources. As a result, operation of the proposed Biomass Gasification Unit, in and of itself, would not contribute to a significant net increase of GHG emissions that would either directly or indirectly have a significant impact on the environment, or conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

Non-Stationary Sources

As noted in the analysis of air quality impacts and greenhouse gas emissions for the Mt. Diablo Resource Recovery Park (see **Appendix E**), the project would result in an increase of 17,629 $MTCO_2e$ emissions from non-stationary sources, including emissions from mobile sources and on-site material handling activities. However, this increase does not factor GHG emission reductions associated with project recycling activities and energy generated by the Biomass Gasification Unit. This analysis is provided below.

Project Greenhouse Gas Emission Reduction

Currently, recycling activities at the Mt. Diablo Resource Recovery Park result in a net reduction of statewide and global GHG emissions. The proposed project consists of an expansion of current recycling efforts, resulting in more recycled materials as well as a Biomass Gasification Unit that would generate 1 megawatt of electrical power. Both of these project components would reduce the amount of GHG emissions when compared with existing conditions as demonstrated below.

Biomass Gasification Unit

The project proposes to construct a Biomass Gasification Unit that would generate 1 megawatt of electrical power using 10,400 tons of waste wood per year (Edgar & Associates 2012). The parasitic energy requirements are 25 percent of the generated electricity, so 750 kilowatts (kW) would be available to offset utility-provided electricity, although downtime for maintenance is assumed to be 5 percent (Edgar & Associates 2012). The GHG emissions reduction benefits of generating on-site biogenic energy are estimated using the California Climate Action Registry emissions factor for utility-provided electricity in California. The balance of wood waste would be shipped to off-site biomass energy facilities, and the GHG impacts for those facilities are arrived at using CARB emission factors (Edgar & Associates 2012).

Utility-provided electric power in California has a carbon intensity of 309 kilograms CO_2e per megawatt-hour provided (Edgar & Associates 2012) and includes only anthropogenic power sources. Using this emission factor and considering that the power generated from the Biomass Gasification Unit is biogenic and would provide 750 kW of power to the grid, it would displace 1,929 $MTCO_2e$ of indirect anthropogenic electricity emissions per year (see **Table 3.2-2**) (Edgar & Associates 2012).

Avoided Landfill Emissions

The total emissions avoided by recycling are the avoided landfill methane emissions plus the emissions avoided by the use of recycled materials. According to Edgar & Associates (2012),

current recycling operations at the Mt. Diablo Resource and Recovery Park result in a reduction of 14,627 $MTCO_2e$ on an annual basis. Implementation of the proposed project would result in an even greater reduction of 154,692 $MTCO_2e$ on an annual basis by the year 2020 and 213,697 $MTCO_2e$ by the year 2035 (see **Table 3.2-2**) (Edgar & Associates 2012).

TABLE 3.2-2
SUMMARY OF GHG EMISSION REDUCTIONS

Scenario	GHG Emissions ($MTCO_2e$/year)
Current Facility Operations	
Existing GHG Reductions from End Use of Recycled Materials	-12,925
Existing GHG Reductions Resulting from Recycling as Opposed to Landfill Disposal	-1,702
Total Emissions	**-14,627**
Proposed Facility Operations – Year 2020	
2020 GHG Reductions from End Use of Recycled Materials	-141,903
2020 GHG Reductions Resulting from Recycling as Opposed to Landfill Disposal	-12,789
Total Emissions[1]	**-154,692**
Proposed Facility Operations – Year 2035	
2035 GHG Reductions from End Use of Recycled Materials	-195,133
2035 GHG Reductions Resulting from Recycling as Opposed to Landfill Disposal	-18,564
Total Emissions[1]	-213,697

Source: Edgar & Associates 2012

Note: [1] GHG emissions reductions include avoided emissions from the Biomass Gasification Unit. Note that this includes both on- and off-site biomass energy generation. For on-site biomass energy, only 449 $MTCO_2e$ per year is a result of City of Pittsburg waste.

Taking into account these avoided emissions, the proposed project would result in an overall net decrease in emissions from non-stationary sources of GHG emissions as depicted in **Table 3.2-2**. This table also depicts emissions associated with the beneficial landfill use of fines, landfilled waste, and recycling recovery emissions.[2] As shown, the proposed project would result in a substantial increase in avoided emissions due to an increase of material recycled.

It is also important to note that the proposed project would result in increased waste processing rates, which would require increased on-site retention of organic waste materials. The decomposition of organic waste materials may be a potential source of on-site GHG emissions, particularly when stored in exterior areas under anaerobic conditions. However, an Odor Impact Minimization Plan has been prepared for the proposed project, which includes various changes to existing on-site operations. These proposed changes in operations would limit the outdoor storage of co-collected waste materials to 48 hours in outdoor areas. In addition, no commercial food waste would be stored in outdoor areas. These operational changes would minimize the potential for anaerobic conditions and the on-site generation of GHG emissions associated with

[2] Fines are recovered from the construction and demolition facility and used beneficially at the landfill as alternative daily cover or as wet weather pad. In addition to providing materials for recycling, composting, and biomass energy feedstock, the Mt. Diablo Resource Recovery Park disposes of material that enters the transfer station and residuals from their recovery operations.

the decomposition of waste. As a result, the potential GHG emissions associated with the on-site decomposition of collected waste materials would be considered to result in a minimal contribution to overall GHG emissions. While short-term storage of the organic waste materials associated with project operations would generate some GHGs due to decomposition, these emissions would be less than if these materials were diverted to a composting facility or disposed in a landfill instead of being processed at the project.

Conclusion

With the inclusion of amortized construction-generated GHG emissions, implementation of the proposed project would result in increased emissions from on-site stationary sources and non-stationary sources totaling approximately 25,450 $MTCO_2e$ per year. However, these increases in GHG emissions would be more than offset by avoided emissions that would result with project implementation, including reductions in energy production emissions and avoided landfill emissions. As noted above, the proposed project would result in the avoidance of 154,692 $MTCO_2e$ annually by the year 2020 and 213,697 $MTCO_2e$ annually by the year 2035. The proposed project would therefore not result in a net increase in GHG emissions that would exceed the BAAQMD significance threshold of 1,100 $MTCO_2e$ annually. The proposed project would result in fewer GHG emissions compared with current conditions and is therefore a benefit to the environment. Therefore, the proposed project would not result in a cumulatively considerable contribution of greenhouse gas emissions.

Mitigation Measures

None required.

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3.3 Hazards and Hazardous Materials

This section of the Draft EIR (DEIR) addresses the potential environmental impacts of the proposed project related to hazards and hazardous materials. The project site's hazardous materials use history is described and surrounding hazardous materials sites are identified. The impact analysis focuses on potential impacts associated with the transport, use, and disposal of hazardous materials associated with the proposed project as well as potential impacts to the proposed project related to existing hazardous materials sites in the area. The impact analysis also addresses emergency access to and surrounding the site. The information in this section is based on review of the Pittsburg General Plan and associated EIR, the City's Emergency Response Plan and Hazardous Waste Management Plan (HWMP), applicable federal, state, and local regulations related to hazardous materials, and hazardous materials incidents databases. The reader is referred to Section 3.4, Hydrology and Water Quality, for information related to flooding hazards.

The City published a Notice of Preparation (NOP) for the project. A copy of the NOP, along with comments received during the public review period, is contained in **Appendix A**. No comments were received related to hazards or hazardous materials.

3.3.1 EXISTING SETTING

HAZARDOUS MATERIALS AND WASTE DEFINED

According to 22 California Code of Regulations (CCR) Section 66261.20, the term "hazardous substance" refers to both hazardous materials and hazardous wastes and both are classified according to four properties: toxicity, ignitability, corrosiveness, and reactivity. A hazardous material is defined by 22 CCR Section 66261.10 as a substance or combination of substances that may cause or significantly contribute to an increase in serious, irreversible, or incapacitating illness or may pose a substantial presence or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

Public health is potentially at risk whenever hazardous materials are or will be used. It is necessary to differentiate between the hazard of these materials and the acceptability of the risk they pose to human health and the environment. A hazard is any situation that has the potential to cause damage to human health and the environment. The risk to health and public safety is determined by the probability of exposure and to the inherent toxicity of a material (DTSC 2011).

Factors that can influence health effects when human beings are exposed to hazardous materials include the dose the person is exposed to, the frequency of exposure, the duration of exposure, the exposure pathway (route by which a chemical enters a person's body), and the individual's unique biological susceptibility.

Hazardous wastes are hazardous substances that no longer have practical use, such as materials that have been discarded, discharged, spilled, or contaminated or are being stored until they can be disposed of properly (22 CCR Section 66261.10). Soil that is excavated from a site containing hazardous materials is a hazardous waste if it exceeds specific 22 CCR criteria. While hazardous substances are regulated by multiple agencies, as described under the Regulatory Framework subsection below, cleanup requirements for hazardous wastes are determined on a case-by-case basis according to the agency with lead jurisdiction over the project.

EXISTING SETTING

Contra Costa County is one of the largest generators of hazardous waste in the state, with the majority of this waste generated by industrial uses located along waterfronts. Most significant of these uses are the petroleum and chemical processing plants in the northeastern portion of Pittsburg, in which the project site is located. Potential hazards associated with these uses and transport of hazardous materials is related to the toxicity, flammability, and explosivity of petroleum and chemical materials (City of Pittsburg 2001).

HAZARDOUS MATERIALS SITES IN PROJECT AREA

GeoTracker is the State Water Resources Control Board's online database that provides access to statewide environmental data and tracks regulatory data for the following types of sites:

- Leaking underground fuel tank (LUFT) cleanup sites;
- Cleanup Program Sites (CPS; also known as Site Cleanups and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites);
- Military sites (consisting of military underground storage tank [UST] sites, military privatized sites, and military cleanup sites [formerly known as DoD non UST]);
- Land disposal sites (landfills); and
- Permitted UST facilities.

In October of 2013, a search was performed using GeoTracker to identify any known or suspected (reported but not yet confirmed) sources of environmental hazards within 3 miles of the project site. Beyond 3 miles, any impact on the site is remote and unlikely.

The GeoTracker search identified 117 records within 3 miles of the project site. Of those records, 68 represented past incidents and issues that have been remediated and their records closed and that do not present a concern for the project site or the proposed project. The remaining 49 records and their approximate locations relative to the project site are listed in **Table 3.3-1** below.

As shown in the table, the site of the existing facility (Site No. 1, Former Crown Cork and Seall Company, Inc.) is identified as a known hazardous release site by the State Water Resources Control Board (SWRCB). Its current status is listed as "Open – Verification Monitoring" which, according to the SWRCB, indicates that remediation phases at the site are essentially complete, a monitoring/sampling program is occurring to confirm successful completion of cleanup at the site, and no additional active remediation is considered necessary (SWRCB 2013).

As described in Chapter 2.0, Project Description, the project includes an 18.5-acre addition to the existing facility. With the exception of the existing 3.5-acre GWF property and a 5-acre area currently used by the facility for parking and storage, the addition area was analyzed for development in the Columbia Solar Energy Project Mitigated Negative Declaration (MND; SCH# 2013012038; **Appendix D**). According to the Columbia Solar MND, this portion of the addition is identified on the California Department of Toxic Substances Control (DTSC) list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 as well as in the SWRCB's Geotracker database as a subarea of the USS-POSCO Industries (UPI) site (Site No. 2, USS-POSCO, WMU II). The current status of the larger USS-POSCO Industries site is listed by the SWRCB as "Open" and by DTSC as "Active." According to DTSC, an "Active" case indicates that an investigation

and/or remediation is currently in progress. However, remediation to commercial/industrial standards was approved for the subarea (Site L-A) in 2005. Corrective actions taken on this portion of the site are discussed further below.

PROJECT SITE BACKGROUND

Past Uses

The project site and surrounding properties have a long history involving the use, storage, and management of hazardous materials related to various industrial operations. Prior to 1954, the site was owned by United States Steel Corporation (now known as USS-POSCO Industries). The western portion of the project site was used by USS-POSCO as part of a landfill for disposal of metal slag, wire mill scale, waste oils, grease, paints, spent solvents, sodium dichromate, and miscellaneous wastes from 1930 to 1980. Landfill materials and potential associated contaminants may also underlie areas of the southwestern portion of the site of the existing facility. The site of the existing facility was occupied by various steel can and metal shearing manufacturing operations from approximately 1954 to 1992. These operations involved the use of numerous chemical compounds that can be grouped into three general categories: (1) food-grade enamels, coatings, and sealing compounds; (2) solvents and thinners; and (3) lubricants and hydraulic oils.

Previous Hazardous Materials Investigations and Corrective Actions

Existing Facility

Investigation of potential impacts related to the potential release of hazardous materials at the project site was begun in 1985 and included a series of evaluations of site history and soil and groundwater sampling and remediation activities (City of Pittsburg 1995). Remediation has been completed on the site and groundwater wells are now monitored by the San Francisco Bay Regional Water Quality Control Board to ensure contaminant levels remain below applicable standards (SWRCB 2011).

Addition Areas

As described above, the addition, excluding the former GWF facility, is listed as a subarea (Site L-A) of the larger USS-POSCO Industries site. Under a corrective action for the larger USS-POSCO Industries site, supervised by DTSC, this area was characterized and a number of individual disposal locations were identified and remediated to DTSC-approved site-specific clean-up levels. The completed corrective action measures included excavation and offsite disposal of known materials with hazardous constituent concentrations exceeding cleanup levels (URS 2009a; DTSC 2010). The cleanup levels are designed to be protective for industrial/commercial worker exposures. Construction worker exposure would be further controlled to safe levels by a project-specific Soil Management Plan (SMP) and Health and Safety Plan (HSP) required by a restrictive land use covenant (LUC).

TABLE 3.3-1
IDENTIFIED HAZARDOUS MATERIALS/RELEASE SITES WITHIN 3 MILES OF THE PROJECT SITE

No.	Site Name	Status	Distance	Direction
1	FORMER CROWN CORK AND SEAL COMPANY, INC	OPEN - VERIFICATION MONITORING	0.00	
2	USS-POSCO, WMU II	OPEN	0.00	
3	USS INDUSTRIAL PARK	OPEN - SITE ASSESSMENT	0.05	SOUTH
4	USS REALTY DEVELOPMENT	OPEN - SITE ASSESSMENT	0.06	EAST
5	USS STEEL POSCO – PITTSBURG	OPEN – INACTIVE	0.12	NORTH
6	USS INDUSTRIAL PARK SITE #2	OPEN – SITE ASSESSMENT	0.17	NORTH
7	KNA CALIFORNIA	OPEN - SITE ASSESSMENT	0.18	EAST
8	DOW CHEMICAL CO PITTSBURG FACILITY – LANDFILL	OPEN	0.24	NORTH
9	DOW CHEMICAL CO PITTSBURG FACILITY	OPEN - REMEDIATION	0.24	NORTH
10	SALT RIVER CONSTRUCTION	OPEN – SITE ASSESSMENT	0.90	NORTHEAST
11	GWF POWER SYSTEMS INC	OPEN – INACTIVE	0.92	NORTHWEST
12	KOCH CARBON BAY AREA BULK TERMINAL	OPEN – VERIFICATION MONITORING	1.04	NORTHWEST
13	DIABLO SERVICES	OPEN – INACTIVE	1.18	NORTHWEST
14	HIGHLANDS RANCH PHASE II	OPEN – REMEDIATION	1.24	SOUTH
15	MANVILLE SALES CORP	OPEN – INACTIVE	1.31	NORTHWEST
16	GREAT AMERICAN CLEANERS	OPEN – ASSESSMENT AND INTERIM REMEDIAL ACTION	1.41	SOUTH
17	SHELL SS (EX-TEXAXO/REGAL)	OPEN - ELIGIBLE FOR CLOSURE	1.44	SOUTHEAST
18	PG&E ANTIOCH SERVICE YARD	OPEN – SITE ASSESSMENT	1.50	SOUTHEAST
19	REDDING PETROLEUM	OPEN – REMEDIATION	1.52	NORTHWEST
20	USA GASOLINE CORPORATION	OPEN – VERIFICATION MONITORING	1.54	SOUTHEAST
21	PITTSBURG REDEVELOPMENT #1	OPEN – ELIGIBLE FOR CLOSURE	1.55	NORTHWEST
22	BELL GAS	OPEN – REMEDIATION	1.56	NORTHWEST
23	PITTSBURG 81 088, CITY OF	OPEN – INACTIVE	1.60	WEST
24	PETRO EXPRESS	OPEN – REMEDIATION	1.60	EAST
25	CAMP STONEMAN	OPEN - INACTIVE	1.70	SOUTHWEST

No.	Site Name	Status	Distance	Direction
26	BAY POINT CORNER LOT	OPEN - INACTIVE	1.71	SOUTHWEST
27	ANCHOR GLASS LANDFILL	OPEN	1.76	EAST
28	USA GASOLINE STATION NO. 127	OPEN – SITE ASSESSMENT	1.85	SOUTHWEST
29	BEACON	OPEN – SITE ASSESSMENT	1.86	SOUTHWEST
30	FORT KNOX PITTSBURG	OPEN – INACTIVE	1.87	SOUTHWEST
31	SUPERIOR CAR WASH	OPEN – VERIFICATION MONITORING	1.91	SOUTHWEST
32	CITY OF ANTIOCH CORPORATION YARD	OPEN – VERIFICATION MONITORING	1.96	EAST
33	ANTIOCH LANDFILL	OPEN	1.99	SOUTH
34	MEXICO AUTO WRECKERS	OPEN – INACTIVE	2.02	NORTHWEST
35	MIRANT DELTA PITTSBURG POWER PLANT	OPEN – VERIFICATION MONITORING	2.27	NORTHWEST
36	GAS FOR LESS	OPEN – REMEDIATION	2.27	EAST
37	TOSCO – FACILITY #5963	OPEN – ELIGIBLE FOR CLOSURE	2.41	SOUTHEAST
38	PANTELL'S MUSIC BOX	OPEN – ELIGIBLE FOR CLOSURE	2.42	EAST
39	ANCHOR GLASS	OPEN	2.54	EAST
40	A STREET EXTENSION	OPEN – ELIGIBLE FOR CLOSURE	2.74	EAST
41	HICKMONT CANNERY (FORMER)	OPEN – INACTIVE	2.81	EAST
42	HICKMOTT CANNERY (FORMER)	OPEN – ELIGIBLE FOR CLOSURE	2.81	EAST
43	SILVERA PROPERTY	OPEN – REMEDIATION	2.88	EAST
44	UNOCAL #3946	OPEN – VERIFICATION MONITORING	3.00	SOUTHEAST
45	SHELL SS CASE #2	OPEN – REMEDIATION	3.02	SOUTHEAST
46	ANTIOCH DELTA COVE PROJECT	OPEN – INACTIVE	3.03	SOUTHEAST
47	FULTON SHIPYARD	OPEN – SITE ASSESSMENT	3.04	EAST
48	FORMER SERVICE STATION	OPEN - VERIFICATION MONITORING	3.04	SOUTHEAST
49	NARCO	OPEN – INACTIVE	3.05	WEST

Source: SWRCB 2013; SWRCB 2014

Notes: Does not include closed and remediated records.

In 2005, the DTSC approved the Corrective Action Measures Completion Report submitted by UPI, affirming that the landfill area soils had been sufficiently remediated. A final condition of the landfill area remediation was the recording of an LUC between UPI and DTSC. The LUC limits future uses of the site to commercial or industrial uses and specifically prohibits certain other uses such as agriculture, schools, or hospitals. The LUC also requires that any earth moving activity at the site be performed in accordance with the SMP and HSP (USS-POSCO and DTSC, 2010). The SMP requires monitoring for potentially unknown deposits of hazardous materials during any site grading activities, and their testing and removal if encountered. Responsibility for removal and disposal of contaminated soil or material, if it is encountered, is expected to remain the responsibility of UPI. Furthermore, the SMP requires dust control during grading, restriction of public access to the site, and construction worker health and safety monitoring measures to protect workers and the public. The HSP implements a comprehensive health and safety program for site workers (URS 2009b).

HAZARDOUS WASTE MANAGEMENT IN PITTSBURG

Many industrial operations in the City of Pittsburg involve the use or production of hazardous materials. Most significant are the petroleum and chemical processing plants in the northeastern portion of the city. According to the City's Hazardous Waste Management Plan, 11 large-quantity generators produced approximately 79,500 tons of hazardous waste in 1989. Of this tonnage, about 45 percent was treated on-site and 55 percent was shipped off-site for treatment or recycling. The HWMP estimates that about 2,300 metric tons of hazardous waste is produced by small-quantity generators per year (projected in 1990). The majority is in the form of waste oil from vehicle maintenance shops. Hazardous waste reduction efforts by large generators are estimated to have decreased the amount of waste produced by more than 80 percent since 1990, which primarily resulted from improved production processes at industrial facilities, such as USS-POSCO (City of Pittsburg 2001).

TRANSPORT OF HAZARDOUS MATERIALS

The California Highway Patrol and California Department of Transportation have primary responsibility in regulating the transportation of hazardous waste and materials. Recently, the City designated roadways within Pittsburg that are acceptable for transport of hazardous materials. These roadways are all located within the industrial areas north of State Route (SR) 4, including (City of Pittsburg 2001, p. 10-20):

- Loveridge Road;
- Pittsburg-Antioch Highway;
- Tenth Street/Willow Pass; and
- North Parkside Drive.

3.3.2 REGULATORY FRAMEWORK

FEDERAL

Federal Clean Air Act (42 U.S.C. Section 7401 et seq.)

Administered by the United States Environmental Protection Agency (USEPA), the federal Clean Air Act (CAA) regulates hazardous air pollutants from stationary and mobile sources via National

Ambient Air Quality Standards (NAAQS). Section 112 of the Clean Air Act requires issuance of technology-based standards for major sources and certain area sources. Major sources are defined as a stationary source or group of stationary sources that emit or have the potential to emit 10 tons per year or more of a hazardous air pollutant or 25 tons per year or more of a combination of hazardous air pollutants. An area source is any stationary source that is not a major source. For major sources, Section 112 requires that the USEPA establish emission standards that require the maximum degree of reduction in emissions of hazardous air pollutants. These emission standards are commonly referred to as maximum achievable control technology or MACT standards (USEPA 2011).

Federal Clean Water Act (33 U.S.C. Section 1251 et seq.)

The federal Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Under the Clean Water Act, the USEPA implements pollution control programs such as setting wastewater standards for industry and setting water quality standards for all contaminants in surface waters (USEPA 2011).

The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained. Industrial, municipal, and other facilities must obtain permits through the USEPA's National Pollutant Discharge Elimination System (NPDES) permit program if their discharges go directly to surface waters. In California, the USEPA has authorized the state to administer the NPDES permit program. As such, the NPDES permit program is discussed further under the "State" subheading below.

Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. Section 9601 et seq.)

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) provides a federal "superfund" to clean up uncontrolled or abandoned hazardous-waste sites as well as accidents, spills, and other emergency releases of pollutants and contaminants into the environment. Through CERCLA, the USEPA identifies parties responsible for any release and assure their participation in the cleanup. The USEPA is authorized to implement CERCLA in all 50 states and in United States territories, though Superfund site identification, monitoring, and response activities are coordinated through the state environmental protection or waste management agencies. The Superfund Amendments and Reauthorization Act (SARA) of 1986 reauthorized CERCLA to continue cleanup activities around the country and included several site-specific amendments, definition clarifications, and technical requirements (USEPA 2011).

Resource Conservation and Recovery Act (42 U.S.C. Section 6901 et seq.)

The Resource Conservation and Recovery Act (RCRA) gives the USEPA the authority to control hazardous waste from "cradle to grave," including the generation, transportation, treatment, storage, and disposal of hazardous waste. The RCRA also sets forth a framework for the management of nonhazardous solid wastes.

The federal Hazardous and Solid Waste Amendments (HSWA) are the 1984 amendments to the RCRA that focus on waste minimization and phasing out land disposal of hazardous waste as well as corrective action for releases. Some of the other mandates of this law include increased enforcement authority for the USEPA, more stringent hazardous waste management standards, and a comprehensive underground storage tank program (USEPA 2011).

Occupational and Safety Health Act (29 U.S.C. Section 651 et seq.)

The Occupational and Safety Health Act (OSHA) is intended to ensure worker and workplace safety by requiring that employers provide their workers a place of employment free from recognized hazards to safety and health, such as exposure to toxic chemicals, excessive noise levels, mechanical dangers, heat or cold stress, or unsanitary conditions. OSHA is a division of the United States Department of Labor that oversees the administration of the act and enforces standards in all 50 states.

Toxic Substances Control Act 15 U.S.C. Section 2601 et seq.

The Toxic Substances Control Act (TSCA) provides the USEPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. The TSCA addresses the production, importation, use, and disposal of specific chemicals including polychlorinated biphenyls (PCBs), asbestos, radon, and lead-based paint (USEPA 2011).

Various sections of the TSCA provide authority to:

- Require, under Section 5, pre-manufacture notification for "new chemical substances" before manufacture.
- Require, under Section 4, testing of chemicals by manufacturers, importers, and processors where risks or exposures of concern are found.
- Issue Significant New Use Rules (SNURs), under Section 5, when it identifies a "significant new use" that could result in exposures to, or releases of, a substance of concern.
- Maintain the TSCA Inventory, under Section 8, which contains more than 83,000 chemicals. As new chemicals are commercially manufactured or imported, they are placed on the list.
- Require those importing or exporting chemicals, under Sections 12(b) and 13, to comply with certification reporting and/or other requirements.
- Require, under Section 8, reporting and recordkeeping by persons who manufacture, import, process, and/or distribute chemical substances in commerce.
- Require, under Section 8(e), that any person who manufactures (including imports), processes, or distributes in commerce a chemical substance or mixture and who obtains information which reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment to immediately inform the USEPA, except where the USEPA has been adequately informed of such information.

Federal Hazardous Materials Transportation Law and Hazardous Materials Regulations (49 U.S.C. Section 5101 et seq.)

The federal hazardous materials transportation law is the basic statute regulating hazardous materials transportation in the United States. Section 5101 of the federal hazmat law states that the purpose of the law is to protect against the risks to life, property, and the environment that are inherent in the transportation of hazardous material in intrastate, interstate, and foreign commerce.

The Hazardous Materials Regulations (HMR) are administered by the Pipeline and Hazardous Material Safety Administration (PHMSA) and implement the federal hazmat law. The HMR govern the transportation of hazardous materials via highway, rail, vessel, and air by addressing hazardous materials classification, packaging, hazard communication, emergency response information, and training. The HMR also issues procedural regulations, including provisions on registration and public sector training and planning grants (49 CFR Parts 105, 106, 107, and 110). The Pipeline and Hazardous Material Safety Administration issues the HMR (PHMSA 2011).

STATE

Unified Program

The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of the following six environmental and emergency response programs (CalEPA 2011):

- The Hazardous Waste Generator (HWG) program and Hazardous Waste Onsite Treatment activities;
- The Aboveground Storage Tank (AST) program Spill Prevention Control and Countermeasure Plan requirements;
- The Underground Storage Tank (UST) program;
- The Hazardous Materials Release Response Plans and Inventory (HMRRP) program;
- California Accidental Release Prevention (CalARP) program; and
- The Hazardous Materials Management Plans and the Hazardous Materials Inventory Statement (HMMP/HMIS) requirements.

The state agencies responsible for these programs set the standards, while local governments implement the standards. The California Environmental Protection Agency (CalEPA) oversees implementation of the Unified Program as a whole, and the local Certified Unified Program Agency (CUPA) is required to consolidate, coordinate, and make consistent the administrative requirements, permits, fee structures, and inspection and enforcement activities for these six program elements. Most CUPAs have been established as a function of a local environmental health or fire department. The Contra Costa County Health Services Department, Hazardous Materials Division, is the CUPA for Contra Costa County.

REGIONAL

Contra Costa County Health Services Department, Hazardous Materials Division

As previously stated, the Contra Costa County Health Services Department, Hazardous Materials Division (CCHSHM), is the CUPA for Contra Costa County. As such, the CCHSHM implements the programs in the county discussed below.

Hazardous Materials Business Plan Program

The Hazardous Materials Business Plan (HMBP) program regulates businesses that store 55 gallons of hazardous materials as a liquid, 500 pounds of hazardous materials as a solid, or 200 cubic

feet of hazardous materials as a gas. For regulated businesses, there is an annual inventory-reporting requirement that involves completing forms sent out by the CCHSHM every December. In addition to the annual reporting requirement, a regulated business is required to have a current emergency response plan and site diagram on file at the CCHSHM. A copy of these documents is forwarded to the local fire departments so they are aware of the hazardous materials on site. These documents fulfill the requirements of federal law (SARA), as well as state regulations.

The Recycling Center and Transfer Station (RCTS) was required to prepare and submit a Hazardous Materials Business Plan to the County Health Services Department in accordance with state law prior to start of operations.

Hazardous Waste Generator Program

This program ensures the safe and legal handling, storage, and disposal of hazardous waste by inspecting businesses in Contra Costa County that generate hazardous waste and issuing permits and inspecting businesses in the county that perform certain treatments of hazardous waste. Universal waste and silver recovery are also included in the program (CCHSHM 2011).

California Accidental Release Prevention (CalARP) Program

The CalARP Program is designed to prevent catastrophic accidental releases of highly toxic or flammable chemicals. Regulated facilities are required to have prevention programs, including risk management and safety plans, to prevent releases. The plans include identification of regulated materials on-site, worst-case scenarios in terms of off-site consequences of an accidental release, an accidental release prevention program, a five-year accident history, and proposed changes to improve safety. In addition, engineers assigned to the CalARP program conduct regular audits of regulated facilities to ensure compliance with applicable regulations and to verify that potential problems are adequately addressed (Contra Costa Board of Supervisors 2009, p. 6).

Underground Storage Tank Program

This program is intended to protect the public health from exposure to hazardous materials stored in underground storage tanks (USTs), including the protection of groundwater from contamination. Activities to obtain these objectives include annual inspections and the issuance of operating permits, which are also issued for UST system installation, removals, upgrades, and repairs. CCHSHM personnel witness specified phases of the work being conducted on the UST system to ensure that the work is conforming to plans approved by the CCHSHM (CCHSHM 2011).

Aboveground Petroleum Storage Act Program

This program applies to petroleum and petroleum products and byproducts that are stored in aboveground 55-gallon drums or larger containers. The owners/operators of such tanks are required to prepare a Spill Prevention Control and Countermeasure Plan (SPCCP) conforming to applicable federal regulations and including a facility diagram, the type of oil in each container, discharge prevention measures, secondary containment or other discharge/drainage controls, countermeasures for discharge discovery, response and cleanup, methods of disposal of recovered materials, and an emergency contact list (Contra Costa Board of Supervisors 2009, p. 7).

Two large aboveground petroleum storage tanks are located in the main parking area of the project site and are used to fuel trucks associated with the facility. The facility has an approved SPCCP for these tanks.

Hazardous Materials Area Plan

The Contra Costa County Hazardous Materials Area Plan (HMAP) describes the overall hazardous materials emergency response organization within Contra Costa County, establishes the lines of authority and coordination for hazardous materials incidents affecting Contra Costa County, and identifies the roles and responsibilities of local, state, and federal government agencies necessary to minimize the impacts of a hazardous materials incident.

Industrial Safety Ordinance

The Industrial Safety Ordinance requires regulated facilities to implement safety programs to prevent chemical accidents from occurring that could have a detrimental impact to the surrounding communities.

LOCAL

City of Pittsburg Hazardous Waste Management Plan

The City's adopted Hazardous Waste Management Plan (HWMP), prepared in 1990, describes the generation, transport, and disposal of hazardous waste in the city, including both large and small generators.

City of Pittsburg Emergency Response Plan

The City of Pittsburg Emergency Operations Plan (EOP) was last updated in 2005 (City Council Resolution No. 05-10223). The EOP outlines procedures for educating the public about emergency preparedness and also establishes procedures for City response to emergency situations, including management of communication systems, provision of medical assistance, and maintenance of local financing structures and government leadership roles in the aftermath of a significant emergency event (City of Pittsburg 2005).

City of Pittsburg General Plan

The City adopted its current General Plan in 2001. **Appendix F** provides those General Plan policies relevant to hazards and hazardous materials and to the proposed project as well as a preliminary evaluation of the project's consistency with these policies. While this DEIR discusses the project's consistency with the General Plan pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15125(d), the appropriate reviewing authority will ultimately make the determination of the project's consistency with the General Plan.

3.3.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the CEQA Guidelines Appendix G thresholds of significance. The proposed project would have a significant impact related to hazards and hazardous materials if it would:

1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

2) 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.

3) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

4) 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, create a significant hazard to the public or the environment.

5) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area.

6) For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area.

7) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

8) 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.

The Initial Study prepared for the proposed project (see **Appendix A**) determined that the project would have no impact or a less than significant impact related to significance thresholds 3, 5, 6, and 8. In addition, the Columbia Solar Project Mitigated Negative Declaration (State Clearinghouse No. 2013012038; **Appendix D**) found no potentially significant impacts in the area of Hazards and Hazardous Materials as a result of development of the 15 acre vacant site onto which the proposed project would expand. Therefore, these issues are not discussed further in this section. For a discussion of air emissions, see Section 3.1, Air Quality.

METHODOLOGY

The following impact analysis is based on a review of the project site's historical uses and hazardous materials investigations and remediation activities as provided in the records of the State Water Resources Control Board and the California Department of Toxic Substances Control, as well as information provided in the 1995 EIR for the existing facility (City of Pittsburg 1995). This information was used to identify potential hazards to construction workers, facility employees, and the public. The analysis is also based on a review of the proposed site plan and facility operations to identify potential impacts related to the handling of unexpected hazardous materials in the waste stream entering the facility. Finally, the City's Emergency Operations Plan and the proposed site plan and traffic impact analysis were reviewed to determine the project's potential to interfere with the movement of emergency response vehicles or the evacuation plans for the city.

PROJECT IMPACTS AND MITIGATION MEASURES

Hazard to the Public through Routine Transport, Use, or Disposal of Hazardous Materials (Standard of Significance 1)

Impact 3.3.1 Implementation of the proposed project would result in the routine transport, use, and disposal of hazardous materials during both construction and operation that could pose a potential hazard to the public and the environment. However, federal, state, and local regulations provide a comprehensive regulatory system for handling, using, and transporting hazardous materials in a manner that protects human health and the environment. This impact is therefore considered **less than significant**.

No hazardous, infectious, or liquid wastes are accepted at the facility, and the proposed project would not change this. However, household hazardous wastes such as batteries, paints, and oil, as well as hazardous wastes recovered from incoming loads that illegally contain it, are occasionally included in solid waste dropped off by the public and by commercial waste haulers. The facility operates a load check program to screen and filter out such materials in incoming waste loads. Recovered hazardous materials are temporarily stored in a designated area (shown on **Figure 2.0-6**) and transferred off-site for proper disposal in accordance with applicable state and local regulations. This load check program will continue at the facility with project implementation. As discussed in the Regulatory Framework subsection, the facility would update its HMBP and be required to comply with the annual inventory reporting requirement and have a current emergency response plan and site diagram on file at the CCHSHM. The reporting would take into account any increase in hazardous materials associated with the increase in overall solid waste processed at the facility. Therefore, the risk to the public from exposure to hazardous wastes in the waste stream entering the facility would be controlled by existing regulations and would not substantially differ from the current operations.

The facility is an industrial operation with numerous pieces of mechanical equipment that require the handling, use, and storage of hazardous substances such as fuels, oils, lubricants, antifreeze, batteries, solvents and other hazardous substances and waste for routine fueling, maintenance and repair. The addition of a second sorting line at the Material Processing Area as well as the proposed Biomass Gasification Unit (BGU) could increase the amount of such hazardous substances handled, used, and stored on the project site. Because the proposed truck maintenance facility and yard would be relocated from a property east of Loveridge Drive, it operation on the project site would not result in a net increase in hazardous substances used, stored or transported to the area. All hazardous materials present on the project site would continue to be handled, used, and stored in compliance with all applicable federal, state, and local regulations including the facility's updated HMBP, as discussed previously. The project also proposes to relocate the existing fueling station, including both above ground storage tanks, from the MDRF main parking lot to the site of the proposed truck maintenance facility and yard. The facility's current SPCCP would require update and County approval ensuring compliance with applicable federal regulations, as described in the Regulatory Framework subsection. Further, transport of such materials to the project site would be subject to Federal Motor Carrier Safety Administration (FMCSA) regulations concerning highway routing of hazardous materials, hazardous materials endorsements for a commercial driver's license, highway hazardous material safety permits, and financial responsibility requirements for motor carriers of hazardous materials. CCR Title 26, Division 6, which would be monitored by the California Highway Patrol on off-site state highways, requires strict adherence to regulations designed to prevent leakage and spills of material in transit and provides detailed information to cleanup crews in the event of an accident. Under the Rail Haul Operations Plan option, unrecyclable solid waste from the

tipping floor would be placed in collection containers for long-haul by rail to a permitted regional landfill. Transport of solid waste under this option would also be required to comply with applicable regulations with regard to prevention of leakage and spills.

Therefore, even though the proposed project would result in the routine transport, handling, use, and disposal of hazardous materials, the project would be subject to federal, state, and local regulations regarding hazardous materials as discussed above. These regulations provide a comprehensive regulatory system for handling, using, and transporting hazardous materials in a manner that protects human health and the environment to the greatest extent practicable. Therefore, with adherence to existing state, federal, and local regulations, potential hazards to the public and the environment resulting from the proposed project would be reduced to a **less than significant** level.

Mitigation Measures

None required.

Exposure of Persons to Hazardous Materials During Project Construction (Standards of Significance 2 and 4)

Impact 3.3.2 Construction workers could be exposed to hazardous materials during site preparation. However compliance with existing applicable worker health and safety laws and regulations would minimize potential for exposure. With mitigation, this impact would be **less than significant**.

As described above, the project site and surrounding properties have a long history of industrial use involving the use, storage, transport, and disposal of potentially hazardous chemicals, metals, and other materials. Implementation of the proposed project would involve minimal ground disturbance at the site of the proposed truck maintenance facility and yard, BGU and Material Processing Area as well as in those areas proposed for parking and equipment/commodity storage (see **Figure 2.0-7**). In addition, some excavations would be required for the undergrounding of utilities.

The 1995 EIR for the existing facility (City of Pittsburg 1995) indicates that landfill materials with potential associated contaminants may underlie areas of the southwestern portion of the 1995 project site and the adjacent parcel to the west, which encompasses the Mixed C&D Processing Facility. The 1995 EIR also indicates that soil sampling and testing of the site of the former GWF Facility was found in 1989 to contain elevated concentrations of soluble lead (up to 28 milligrams per liter) and Total Petroleum Hydrocarbons (TPH) (up to 290,000 milligrams per kilogram). Although the soil contamination on this parcel was removed by GWF Power prior to development, it is unclear if any such remediation occurred at the adjacent site which is included in the site of the proposed truck maintenance facility and yard. In addition, as described previously, the western portion of the project site was part of the larger USS-POSCO Industries site and was used as part of a landfill for disposal of metal slag, wire mill scale, waste oils, grease, paints, spent solvents, sodium dichromate, and other miscellaneous wastes. Although remediation of this site was completed to commercial/industrial standards and approved in 2005 with land use restrictions, residual contaminants could remain in the soil.

Ground disturbance by construction workers could expose contaminated soils on the project site. The proposed ground-disturbing activities on the site of the existing facility would be limited). Approximately 18.5 acres of the project site will be repaved or resurfaced. . Compliance with

existing worker safety health and safety laws and regulations at these locations would minimize the potential for worker exposure and associated health risks.

Ground disturbing activities on the undeveloped parcels within the western portion of the project site (addition area) would be performed in conformance with the SMP and HSP prepared as part of corrective actions for the larger USS-POSCO Industries site ensuring that the public, workers and the environment would be protected in the event that residual hazardous constituents are encountered.

Furthermore, as required by Mitigation Measure D-1 in the 1995 EIR (City of Pittsburg 1995), a Construction Worker Site Health and Safety Plan was prepared for the site that identifies areas of known contaminant releases and safety procedures for performing work in those areas, as well as procedures in the event unknown contamination is discovered during work. To minimize the potential for exposure and health risks, mitigation measures **MM 3.3.2a** and **MM 3.3.2b** require the applicant to update this existing plan or prepare a new plan for the proposed project and comply with the land use restrictions for the western portion of the project site. Therefore, this impact is **less than significant** with incorporation of mitigation.

Mitigation Measures

MM 3.3.2a The project applicant shall either update the existing facility's Construction Worker Site Health and Safety Plan or prepare a new plan to include the entire current project site and proposed site preparation and construction activities. The completed plan shall be implemented during all project construction activities. The plan shall address the potential for workers to be exposed to contaminated soils and shall provide specific measures to be implemented to ensure worker health and safety. These measures may include site controls, use of protective clothing, soil watering, hazard awareness training for workers, and/or emergency medical response procedures.

Timing/Implementation: *Prior to issuance of grading permits for the 18.5 acre expanded site.*

Enforcement/Monitoring: *City of Pittsburg Development Services Department*

MM 3.3.2b The project applicant shall comply with all relevant requirements of the *Covenant to Restrict Use of Property, Environmental Restriction (Re: A limited portion of County of Contra Costa APN 073-200-021 UPI Pittsburg Facility Site L-A Property, DTSC site code number 520024), DOC-2010-0132574-00 recorded by the Contra Costa County Clerk-Recorder's office on July 1, 2010.*

Timing/Implementation: *During Site Preparation and Construction*

Enforcement/Monitoring: *City of Pittsburg Development Services Department*

Interference with Emergency Response Plans (Standard of Significance 7)

Impact 3.3.3 Construction and operation of the proposed project would not interfere with implementation of the City's Emergency Operations Plan (EOP). This impact would be **less than significant**.

The City's EOP outlines procedures for educating the public about emergency preparedness and establishes procedures for City response to emergency situations, including management of communication systems, provision of medical assistance, and maintenance of local financing structures and government leadership roles in the aftermath of a significant emergency event (City of Pittsburg 2005).

Implementation of the proposed project would have no impact on the public education aspects of the EOP. In addition, the project site is not located near any significant communication or medical facilities or infrastructure and would have no effect on access to and operation of such facilities. Furthermore, the project would not result in unacceptable levels of service or delay at area intersections or along area roadways and would not, therefore, interfere with emergency response efforts. This impact would be **less than significant**.

Mitigation Measures

None required.

3.3.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting for hazards associated with the proposed project includes proposed, planned, approved, and reasonably foreseeable projects listed in **Tables 3.0-1** through **3.0-3** in Section 3.0, Introduction to the Environmental Analysis and Assumptions Used, of this DEIR.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Hazardous Materials Exposure

Impact 3.3.4 Implementation of the proposed project, along with other proposed, planned, approved, and reasonably foreseeable projects in the area, would have a **less than cumulatively considerable** impacts related to hazards and hazardous materials.

Hazardous material, human health, and safety impacts, as described in State CEQA Guidelines Appendix G, are typically site-specific and not cumulative by nature. Therefore, the cumulative setting for hazardous materials is limited to the project site and the area immediately surrounding the project site. Cumulative hazardous materials impacts would result if the proposed project or other existing, planned, or reasonably foreseeable projects within the cumulative setting area would substantially increase the total amount of hazardous materials being transported over public roadways or being used, stored, or disposed in the area or would newly expose the public to existing hazardous conditions.

As shown in **Table 3.0-3**, there are proposed, planned, approved, or otherwise reasonably foreseeable industrial projects within 3 miles of the project site that could involve hazardous

materials. While implementation of these projects could increase the total amount of hazardous materials in the area, the proposed project would not contribute significantly to this increase based on the day-to-day operations at the site. As described in Impact 3.3.1 above, no hazardous, infectious, or liquid wastes are accepted at the Mt. Diablo facility, and the proposed project would not change this. While small amounts of common household hazardous wastes such as batteries, paints, and oil, as well as hazardous wastes recovered from incoming loads that illegally contain it, are occasionally included in the general solid waste stream entering the facility, a load check program is implemented to screen and remove such materials from the normal waste stream. Any hazardous wastes discovered are temporarily stored on-site in a designated area until they can be properly disposed of in accordance with applicable state and local regulations. Furthermore, all hazardous substances used in the routine fueling, maintenance and repair of equipment and vehicles on the project site would be handled in accordance with all applicable federal, state and local regulations thereby minimizing potential hazards to workers, the public and the environment. Therefore, the proposed project would not contribute significantly to the anticipated cumulative increase in hazardous materials in the area. This impact would be **less than cumulatively considerable**.

Mitigation Measures

None required.

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3.4 Hydrology and water Quality

This section of the Draft EIR (DEIR) addresses the potential environmental impacts of the proposed project related to hydrology and water quality. The existing surface water and groundwater hydrologic conditions of the project site and surrounding area are characterized, and a summary of relevant laws and regulations as they apply to the proposed project is provided. The impact analysis focuses on potential degradation of water quality, depletion of groundwater supplies, alteration of existing drainage patterns, and flooding hazards. Information used in the preparation of this section was obtained primarily from the Pittsburg General Plan and Municipal Code, Federal Emergency Management Agency (FEMA) maps and data, the City's 2010 Urban Water Management Plan, and the Conditional Use Permit Application Package for the proposed project. This section was also based on a Preliminary Stormwater Control Plan and a Drainage Assessment prepared for the proposed project by Carlson, Barbee & Gibson, Inc. in July and October 2014, respectively (see **Appendix G**).

The City published a Notice of Preparation (NOP) for the project. A copy of the NOP, along with comments received during the public review period, is contained in **Appendix A**. No comments were received related to hydrology and water quality.

3.4.1 EXISTING SETTING

CLIMATE AND PRECIPITATION

The project area has a dry Mediterranean climate with hot summers and mild winters. Average summer temperatures range from lows in the 50s (Fahrenheit) to highs in the upper 90s. Winter temperatures range from the low 30s to the 60s. In the summer, a steady marine wind blows through the Golden Gate and up through the Sacramento-San Joaquin Delta. Wind velocities of 15 to 30 miles an hour or more are common as this cool marine air moves in to replace the rising warmer inland air. Average precipitation is 13 inches a year, occurring November through April. The hot, dry season of May through October creates a high demand for landscape water (City of Pittsburg 2011b).

SURFACE HYDROLOGY

According to the City's General Plan (2001), the developed portions of the city are within two major watersheds: Kirker and Lawler creeks. The western portion of the city is within the Lawler Creek watershed, which drains into the Suisun Bay. The central and eastern portions of the city, including the project site, are within the Kirker Creek watershed, which drains into New York Slough. The Kirker Creek watershed has an overall area of 8,539 acres and is the most significant watershed in the city. Approximately 7 miles in length, Kirker Creek originates in the southern hills and flows north along Nortonville Road through the city. In the southern hills, the creek and its tributary channels have sufficient capacity to carry peak stormwater flows. Further downstream, however, natural flow capacity declines as the creek channel flattens. Urbanization north of Buchanan Road further decreases capacity as the channel becomes restricted and enclosed by storm drain culverts. Reduction in permeable soils caused by development also increases the total volume and rate of runoff (City of Pittsburg 2001). Land uses in the area within the Kirker Creek drainage basin are primarily urban (City of Pittsburg 2011b).

GROUNDWATER HYDROLOGY

The project site overlays the Pittsburg Plain Groundwater Basin (DWR Basin No. 2-4). The surface area of this basin is approximately 18 square miles and is bounded by the Suisun Bay on the north, the Tracy basin on the east, and the Clayton basin on the west. The southern boundary

extends inland 1 to 3 miles from the Suisun Bay. There is little data available for this basin, including total storage capacity and inflows/outflows. However, hydrographs created from California Department of Water Resources (DWR) well data in the basin indicate that groundwater levels have remained fairly stable over the period of record with the exception of static water level drops and subsequent recovery associated with the 1976 to 1977 and 1987 to 1992 drought periods (City of Pittsburg 2011b).

WATER QUALITY

Sources of water pollutants are generally grouped into two categories: point sources and non-point sources. Point sources — fixed structures or land uses — can potentially affect surface water and groundwater supplies by discharging into the local storm drain system. These discharges consist mostly of effluent from industrial facilities and municipal wastewater systems, and are regulated under the federal Clean Water Act through the National Pollutant Discharge Elimination System (NPDES). Non-point sources of pollution include general pollutants from streets, open areas, agricultural fields, and urban lands. Runoff from these sources is generally not collected and directed into a wastewater treatment plant because it is difficult to regulate and manage. This includes runoff from roads and parking lots due to leaking cars and exhaust emissions, as well as industrial emissions and erosion (City of Pittsburg 2001).

Many of the city's industrial and service commercial sites are point sources of soil and groundwater contamination. Examples of substances released by these businesses are petroleum hydrocarbons, metals, and volatile organic compounds. Contamination may be due to leaking underground storage tanks, surface chemical releases, and accidental spills. Non-point sources affecting the Kirker Creek watershed include organic waste produced by cattle in the rangelands south of the city limits as well as stormwater runoff from the surrounding urban area. These materials are ultimately washed into local stream and drainage channels and carried by Kirker Creek through the city and into the San Joaquin Delta (City of Pittsburg 2011a).

The California Clean Water Act Section 303(d) list identifies water bodies with impaired water quality. According to this list, the Suisun Bay is an impaired water body for the following contaminants: chlordane (non-point sources), DDT (non-point sources), dieldrin (non-point sources), dioxin compounds (atmospheric deposition), exotic species (ballast water), furan compounds (atmospheric deposition), mercury (multiple sources), nickel (unknown point source), polychlorinated biphenyls (unknown non-point sources), selenium (exotic species, industrial point sources, natural sources). Total Maximum Daily Loads (TMDLs) for the San Francisco Bay, which includes the Suisun Bay, were adopted to address mercury and polychlorinated biphenyls (PCBs), respectively. TMDLs to address the remaining contaminants are proposed for completion in 2019 (SWRCB 2006).

DRAINAGE AND FLOODING

Soils

The Natural Resources Conservation Service (NRCS) has defined the following four soil group designations:

Group A: *Low runoff potential* soils having high infiltration rates even when thoroughly wetted and consisting chiefly of deep, well-drained sands or gravels. These soils have a high rate of water transmission.

Group B: Soils having *moderate infiltration* rates when thoroughly wetted and consisting chiefly of moderately deep to deep, moderately well to well-drained sandy-loam with moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission.

Group C: Soils having a *low infiltration* rate when thoroughly wetted and consisting chiefly of silt-loam soils with a layer that impedes downward movement of water, or soils with moderately fine to fine texture. These soils have a slow rate of water transmission.

Group D: *High runoff potential* soils having very slow infiltration rates when thoroughly wetted and consisting chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a clay pan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have slow rate of water transmission.

According to the University of California Online Soil Survey, the project site contains Capay Clay, Rincon Clay Loam 0 to 2 percent slopes, and Rincon Clay Loam 2 to 9 percent slopes soils. These soils are classified as hydrologic groups C and D which exhibit slow to very slow infiltration rates (UCD 2013).

Topography and Existing Drainage Patterns

The project site sits at an elevation of approximately 30 feet above mean sea level (msl) and is relatively flat, sloping slightly toward the northwest. Drainage within the northerly portion of the project site, excluding the area proposed for development as a truck maintenance facility and yard, is controlled through the use of drainage ditches and underground pipelines surrounding the perimeter of the existing facility that direct surface water flows toward an outfall along the western edge of the project site. The ditches within the project site include a landscaped stormwater treatment planter located along the eastern side of the MDRF building and a landscaped stormwater pretreatment bioswale located along the western edge of the existing facility. These facilities discharge stormwater via the outfall to an existing drainage ditch on the USS POSCO site. This existing ditch traverses the adjacent 15-acre parcel to the west and the USS POSCO site, flowing east to west away from the existing facility. The existing ditch conveys the stormwater generated from the existing facility site, the 15-acre parcel to the west, and the eastern portions of the USS POSCO site through an existing 36-inch culvert discharging to an existing evaporation basin located near the northern center portion of the USS POSCO site.

The 3.5 acres to the south proposed for development as a truck maintenance facility and yard is the former GWF site and is almost entirely paved. The site drains primarily to Kirker Creek which is located along the southern boundary of this area. This is a separate watershed from the surrounding Contra Costa Waste and USS Posco sites. There is an existing on-site drainage system that consists of concrete swales, inlets and pipelines. This system conveys the on-site drainage from the majority of this 3.5 acre area into Kirker Creek via two separate outfalls, one located on the western side and the other located on the eastern side of the property. A small portion of this area, in its northwest corner, drains overland to the remainder of the project site and is controlled as described above (see **Figure 2.0-2**) (Contra Costa Waste Services 2010).

Flooding Hazards

The western and southern portions of the project site are located within the 100-year flood zone (see **Figure 3.4-1**). The remainder of the site is outside both the 100- and 500-year flood zones (FEMA 2009). In addition, the project site is located less than 1 mile south of the Suisun Bay/Sacramento River Delta and may be at risk of flooding as a result of seiche/tsunami waves. Due to its close proximity to the Suisun Bay, which connects with the Pacific Ocean, the site may also be affected by sea level rise in the future as a result of global climate change.

3.4.2 REGULATORY SETTING

FEDERAL

Clean Water Act

The Clean Water Act (CWA) regulates the water quality of all discharges into waters of the United States including wetlands and perennial and intermittent stream channels. Section 401, Title 33, Section 1341 of the CWA sets forth water quality certification requirements for "any applicant applying for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters." Section 404, Title 33, Section 1344 of the CWA in part authorizes the US Army Corps of Engineers to:

- Set requirements and standards pertaining to such discharges: subparagraph (e);
- Issue permits "for the discharge of dredged or fill material into the navigable waters at specified disposal sites": subparagraph (a);
- Specify the disposal sites for such permits: subparagraph (b);
- Deny or restrict the use of specified disposal sites if "the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies and fishery areas": subparagraph (c);
- Specify type of and conditions for non-prohibited discharges: subparagraph (f);
- Provide for individual state or interstate compact administration of general permit programs: subparagraphs (g), (h), and (j);
- Withdraw approval of such state or interstate permit programs: subparagraph (i);
- Ensure public availability of permits and permit applications: subparagraph (o);
- Exempt certain federal or state projects from regulation under this Section: subparagraph (r); and
- Determine conditions and penalties for violation of permit conditions or limitations: subparagraph (s).

Section 401 certification is required prior to final issuance of Section 404 permits from the US Army Corps of Engineers.

Federal Emergency Management Agency

The City of Pittsburg is a participant in the National Flood Insurance Program (NFIP), a federal program administered by the Federal Emergency Management Agency (FEMA). Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of protection, an expectation that developments should be protected from flood water damage of the Intermediate Regional Flood (IFR). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. The City is occasionally audited by the DWR to ensure the proper implementation of FEMA floodplain management regulations.

STATE AND REGIONAL

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Act governs the coordination and control of water quality in the state and includes provisions relating to non-point source pollution. The California Coastal Commission, pursuant to the Coastal Act, specified duties regarding the federally approved California Coastal Management Program. This law requires that the State Water Resources Control Board, along with the California Coastal Commission, regional boards, and other appropriate state agencies and advisory groups, prepare a detailed program to implement the state's non-point source management plan on or before February 1, 2001. The law also requires that the state board, in consultation with the commission and other agencies, submit copies of prescribed state and regional board reports containing information related to non-point source pollution, on or before August 1 of each year.

Regional Water Quality Control Board, San Francisco Bay Region

The San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) provides planning, monitoring, and enforcement techniques for surface water and groundwater quality in the San Francisco Bay region. The SFBRWQCB is responsible for developing and maintaining a basin plan for the region that provides specific information for individual waterways in the region and establishes monitoring techniques to control pollutant levels within the waterways. The SFBRWQCB also monitors stormwater quality from construction activities through the NPDES permitting process.

San Francisco Bay Regional Water Quality Control Plan (Basin Plan)

The San Francisco Bay Regional Water Quality Control Plan covers approximately 4,603 square miles including portions of nine counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma. This region is characterized by its dominant feature, 1,100 square miles of the 1,600-square-mile San Francisco Bay Estuary, the largest estuary on the west coast of the United States, where fresh waters from California's Central Valley mix with saline waters of the Pacific Ocean. The plan describes the beneficial uses to be protected in these waterways, water quality objectives to protect those uses, and implementation measures to ensure those objectives are achieved (SFBRWQCB 2010).

National Pollutant Discharge Elimination System (NPDES)

The NPDES permit system was established in the CWA to regulate municipal and industrial discharge to surface waters of the United States. Each NPDES permit contains limits on allowable concentrations and mass emissions of pollutants contained in the discharge. Permits require the municipal authority to evaluate the quality of its stormwater discharge and receiving waters, identify areas of pollutant loading, and implement a program of best management practices (BMPs) to control pollutant discharges to the maximum extent practicable. It is within the existing authority of the SFBRWQCB to issue an NPDES permit for any stormwater outfall that discharges to the waters in the region.

Municipal Stormwater Permitting Program

Discharges from municipal separate storm sewer systems (MS4s) are regulated because of concern over the high concentration of pollutants found in those discharges. MS4 permits were issued by the various Regional Water Quality Control Boards (RWQCBs) in two phases.

Under Phase I, which started in 1990, the RWQCBs have adopted NPDES General Permit stormwater permits for medium (serving between 100,000 and 250,000 people) and large (serving 250,000 people) municipalities. Most of these permits are issued to a group of co-permittees encompassing an entire metropolitan area. These permits are reissued as the permits expire.

As part of Phase II, the State Water Resources Control Board (SWRCB) adopted a General Permit for the Discharge of Storm Water from Small MS4s (WQ Order No. 2003-0005-DWQ) to provide permit coverage for smaller municipalities, including non-traditional small MS4s, which are governmental facilities such as military bases, public campuses, and prison and hospital complexes.

The MS4 permits require the discharger to develop and implement a Stormwater Management Plan/Program with the goal of reducing the discharge of pollutants to the maximum extent practicable (MEP). MEP is the performance standard specified in Section 402(p) of the Clean Water Act. The management programs specify what best management practices will be used to address certain program areas. The program areas include public education and outreach, illicit discharge detection and elimination, construction and post-construction, and good housekeeping for municipal operations. In general, medium and large municipalities are required to conduct chemical monitoring; small municipalities are not.

The City has prepared a Stormwater Management Plan and has obtained coverage under the SWRCB's General Permit for Small MS4s (WQ Order No. 2003-0005-DWQ).

General Construction Activity Stormwater Permits and Stormwater Pollution Prevention Plans

In accordance with NPDES regulations, the State of California requires that any construction activity affecting 1 acre or more obtain a General Construction Activity Stormwater Permit (General Permit) to minimize the potential effects of construction runoff on receiving water quality. Performance standards for obtaining and complying with the General Permit are described in NPDES General Permit No. CAS000002, Waste Discharge Requirements, Order No. 2009-0009-DWQ (as amended by 2010-0014-DWQ and 2012-006-DWQ) adopted September 2, 2009, and effective as of July 1, 2010.

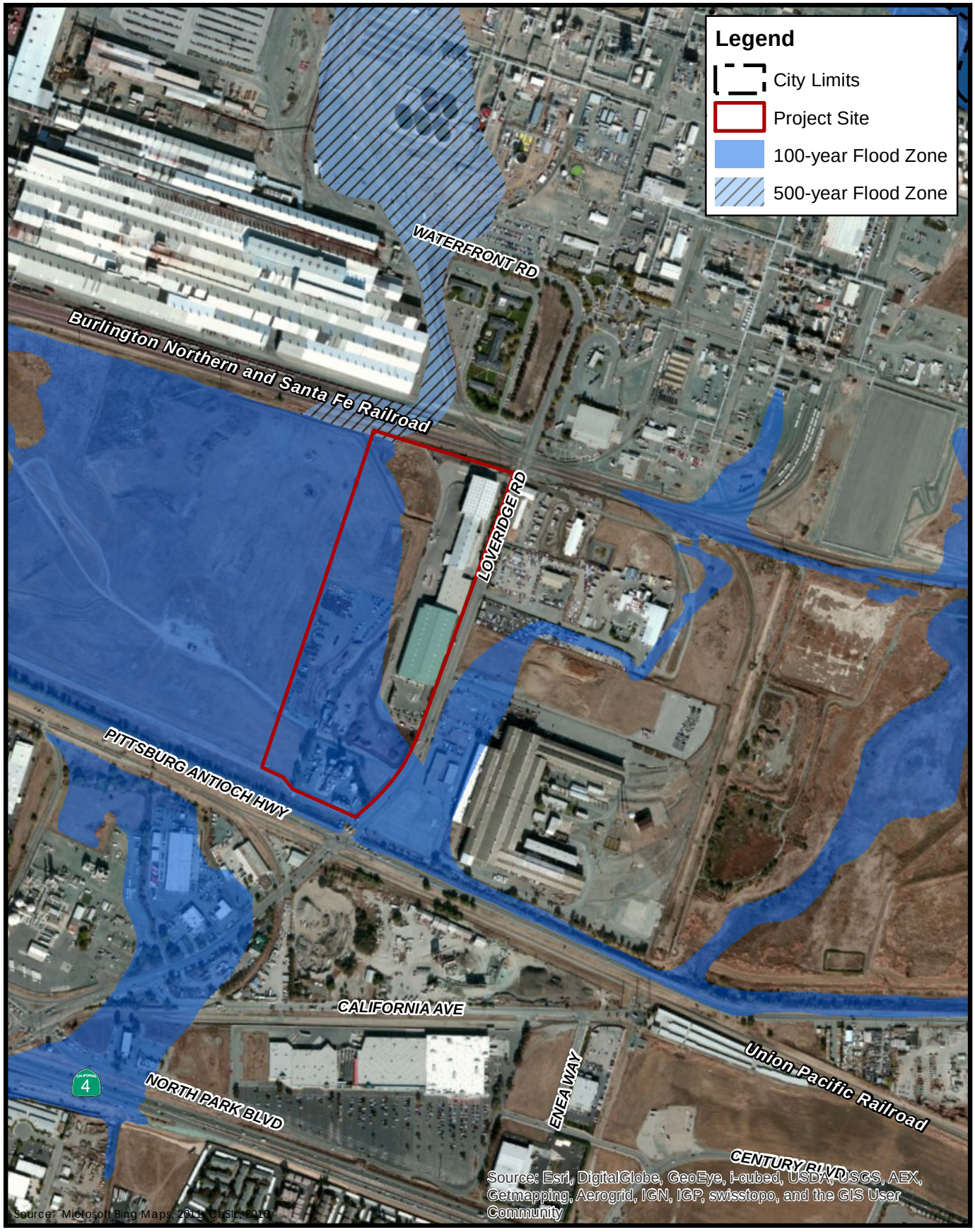

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Figure 3.4-1
FEMA Flood Zones

PMC®

General Permit applicants are required to submit to the appropriate regional board Permit Registration Documents (PRDs) for the project, which include a Notice of Intent (NOI), risk assessment, site map, signed certification statement, an annual fee, and a stormwater pollution prevention plan (SWPPP). The permit program is risk-based wherein a project's risk is based on its potential to cause sedimentation and the risk of such sedimentation on the receiving waters. A project's risk determines its water quality control requirements ranging from Risk Level 1, which consist of only narrative effluent standards, implementation of best management practices, and visual monitoring, to Risk Level 3, which consist of numeric effluent limitations, additional sediment control measures, and receiving water monitoring. Additional requirements include compliance with post-construction standards focusing on low impact development, preparation of rain event action plans, increased reporting requirements, and specific certification requirements for certain project personnel.

The SWPPP must include implementing BMPs to reduce construction effects on receiving water quality by implementing erosion control measures and reducing or eliminating non-stormwater discharges. Examples of typical construction BMPs included in SWPPPs include, but are not limited to, using temporary mulching, seeding, or other suitable stabilization measures to protect uncovered soils; storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or surface water; developing and implementing a spill prevention and cleanup plan; and installing sediment control devices such as gravel bags, inlet filters, fiber rolls, or silt fences to reduce or eliminate sediment and other pollutants from discharging to the City's drainage system or receiving waters.

LOCAL

Contra Costa County Clean Water Program

In October 2009, the San Francisco Bay Regional Water Quality Control Board adopted a Municipal Regional Permit (MRP) governing discharges from municipal storm drains operated by 76 local government entities, including those in western and central Contra Costa County. Eastern Contra Costa cities are currently implementing the MRP requirements. Provision C.3 of the MRP included specific requirements for development projects and was in effect from 2005 until 2009. Additional requirements will be phased in during the five-year term of the MRP (Contra Costa Clean Water Program 2010).

The C.3 requirements are separate from, and in addition to, requirements for erosion and sediment control and for pollution prevention measures during construction. Project site designs must minimize the area of new roofs and paving. To the maximum extent practicable, pervious surfaces should be used in place of impervious surfaces such as paving to allow runoff to infiltrate underlying soil. Runoff from impervious areas must be captured and treated. The MRP specifies the sizes and types of facilities that may be used. In addition, project applicants must prepare plans and execute agreements to ensure the stormwater treatment and flow-control facilities are maintained in perpetuity (Contra Costa Clean Water Program 2010). Contra Costa municipalities have prepared a Stormwater C.3 Guidebook to assist applicants with stormwater requirements, reviews, and submittals.

City of Pittsburg General Plan

The City adopted its current General Plan in 2001. **Appendix F** provides those General Plan policies relevant to hydrology/water quality and the proposed project as well as a preliminary evaluation of the project's consistency with these policies. While this DEIR discusses the project's consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d), the

appropriate reviewing authority will ultimately make the determination of the project's consistency with the General Plan.

City of Pittsburg Municipal Code

Chapter 15.80: Floodplain Management

The purpose of Chapter 15.80 of the Municipal Code is to promote the public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific areas. As such, this chapter places restrictions and certain requirements on development and activities that may be dangerous due to water or erosion hazards; increase erosion or flood heights or velocities; be vulnerable to floods; alter natural floodplains, stream channels, or natural protective barriers that channel floodwaters; include filling, grading, or dredging that increases risk of flood damage; or unnaturally divert floodwaters.

Chapter 15.88: Grading, Erosion, and Sediment Control

This chapter of the Municipal Code requires all land-disturbing or land-filling activities or soil storage to be undertaken in a manner designed to minimize surface runoff, erosion, and sedimentation. This chapter also provides criteria for projects required to obtain a grading permit.

Chapter 15.104: Stormwater Management Plan for Kirker Creek Watershed Drainage Area

The City has determined that the existing drainage facilities within the Kirker Creek watershed are inadequate and significant improvements are required to reduce the risk of flooding. This chapter of the Municipal Code requires physical improvements at the site of new development to contain all runoff on-site or the payment of a fee to fund the construction of the needed drainage infrastructure.

Properties located north of the Pittsburg-Antioch Highway are located along the downstream portion of the creek and do not contribute to flooding risks in the watershed. As such, these properties, including the project site, are exempt from the drainage fee.

3.4.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the State CEQA Guidelines Appendix G thresholds of significance. The project would have a significant impact related to hydrology, water quality, or water supply if it would:

1) Violate any water quality standards or waste discharge requirements.

2) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

3) 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.

4) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

5) 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.

6) Otherwise substantially degrade water quality.

7) 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.

8) Place within a 100-year flood hazard area structures which would impede or redirect flood flows.

9) 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.

10) Inundation by seiche, tsunami, or mudflow.

The Initial Study prepared for the proposed project (see **Appendix A**) determined that there would be no impact related to the placement of housing within a 100-year flood hazard area or inundation by mudflow (significance threshold 7). Water supply (significance threshold 2) is addressed in Section 3.6, Public Services and Utilities. Therefore, these issues are not discussed further in this section.

METHODOLOGY

Analysis of impacts to hydrology and water quality were based on a review of the project site's existing drainage patterns and water quality treatment facilities and proposed construction activities as well as the facility's existing and proposed water demands. The analysis also includes identification of the existing flood hazard areas within the site and the locations and characteristics of the proposed structures. Where potential impacts are identified, existing federal, state, and local regulations were reviewed to determine applicability. The Rail Haul Operations Plan option would not contribute to any potential water quality or flooding issues and, therefore, is not further addressed in this section.

PROJECT IMPACTS AND MITIGATION MEASURES

Violate Water Quality Standards or Waste Discharge Requirements (Standard of Significance 1)

Impact 3.4.1 The project would not violate any water quality standards or waste discharge requirements. On-site drainage is treated by existing on-site water quality measures to minimize pollutant load. Wastewater generated on-site is treated at the Delta Diablo Sanitation District Wastewater Treatment Plant, which is in compliance with all applicable water quality standards and waste discharge requirements. Therefore, this impact would be **less than significant**.

The project site is relatively flat, sloping slightly toward the northwest. On-site drainage in the northerly portion of the site is controlled through the use of drainage ditches and underground pipelines surrounding the perimeter of the existing facility that direct surface water flows toward an outfall along the western edge of the project site. The ditches include a landscaped stormwater treatment planter located along the eastern side of the MDRF building and a landscaped stormwater pretreatment bioswale located along the western edge of the project site. Drainage in the southerly portion of the site is primarily controlled through an existing on-site drainage system that consists of concrete swales, inlets and pipelines that discharge via two existing outfalls directly into the adjacent Kirker Creek. A small portion of this southerly area drains toward the north into the remainder of the project site (see **Figure 2.0-2**).

The existing water quality treatment measures in the northerly portion of the project site remove pollutants and sediments from on-site drainage, protecting downstream waters on the existing facility and these measures would remain in place and would continue to treat site drainage after implementation of the proposed project. When development in the expansion area extends into the 15 acre parcel to the west, the existing ditch within this parcel that drains the existing site and the 15 acre parcel would be replaced with a 36-inch underground pipeline. The proposed development of this parcel including complete impervious surfaces will increase the stormwater peak flows from this parcel from 9.2 cfs to 15.8 cfs. The 36-inch pipeline, the downstream existing ditch, and 36-inch culvert have adequate capacity to convey the increased peak flows from the existing site and the fully developed 15 acre area.

Redevelopment of the southerly portion of the site as the proposed truck maintenance facility and yard would include the installation of a new on-site stormwater system that would continue to convey site runoff to Kirker Creek via the two existing outfall locations. However, the proposed system would include stormwater quality treatment measures and would improve the quality of the stormwater that has historically drained from the site to Kirker Creek. The proposed stormwater system would incorporate a detention component to ensure the peak flows from the project site do not exceed the existing conditions. This detention component would address the re-routing of the stormwater from the portion of this area that currently drains north to the remainder of the project site. The detention component would likely include an underground vault that would provide adequate storage to attenuate the peak flows and not exceed existing peak flows (CBG 2014a; CBG 2014b).

While some modifications to the site drainage are proposed, the source of the storm drainage water would be controlled to not exceed the downstream facilities. Additionally, the proposed project would incorporate water quality measures and the water quality would not be substantially altered, as the use on the project site and the water quality measures would be similar to current conditions.

Further, all wastewater generated on the project site would be conveyed to and treated at the Delta Diablo Sanitation District Wastewater Treatment Plant, which is in compliance with all applicable water quality standards and waste discharge requirements. This impact would be **less than significant**.

Mitigation Measures

None required

Deplete Groundwater Supplies or Interfere with Recharge (Standard of Significance 2)

Impact 3.4.2 Implementation of the proposed project would not result in the depletion of groundwater supplies or interference with groundwater recharge. This impact would be **less than significant**.

The City of Pittsburg extracts groundwater from two municipal wells to supplement its surface water supply. In 2010, the City extracted approximately 1,061 acre-feet, or 12 percent of its total water supplies, from the groundwater aquifer. According to the City's 2010 Urban Water Management Plan, the City anticipates extracting a maximum of 1,500 acre-feet per year through year 2030, or up to 13 percent of its total water supply. Therefore, regardless of the project's water demand, additional groundwater would not be extracted by the City. Instead, the City projects that it will increase the amount of water purchased from the Contra Costa Water District (CCWD) and Delta Diablo Sanitation District to meet future potable and non-potable recycled water demands. The CCWD obtains its water supplies almost entirely from surface water sources through the Central Valley Project (CCWD 2011). Therefore, implementation of the proposed project would not deplete groundwater supplies.

Although the proposed project would create additional impervious surface area on the site, these additional areas of the project site have been heavily disturbed by either existing operations on the site or by historic industrial uses and activities by USS POSCO and GWF Energy and have been compacted and/or paved to accommodate those activities. In addition, project site soils are in Hydrologic Groups C and D, indicating slow to very slow infiltration rates (UCD 2013), so these areas do not currently provide substantial groundwater recharge. Therefore, the proposed project would not interfere with groundwater recharge. This impact would be **less than significant**.

Mitigation Measures

None required

Alter Drainage Patterns/Exceed Capacity of Drainage System (Standards of Significance 3, 4 & 5)

Impact 3.4.3 Implementation of the proposed project would result in a slight increase in on-site stormwater runoff. However, the existing on-site drainage system has adequate capacity to accept, treat, and convey increased flows. In the case that the 3.5 acre area to the south is rerouted to the ditch, a 0.2 acre detention system would be constructed to not exceed the available capacity of the downstream ditch. This impact would be **less than significant**.

See Impacts 3.4.1 and 3.4.2 above. On-site drainage in the northerly portion of the site is controlled through the use of drainage ditches and underground pipelines surrounding the perimeter of the existing facility that direct surface water flows toward an outfall along the western edge of the project site. The ditches include a landscaped stormwater treatment planter located along the eastern side of the MDRF building and a landscaped stormwater pretreatment bioswale located along the western edge of the project site. These facilities discharge stormwater via the outfall to an existing drainage ditch on the USS POSCO site. This existing ditch traverses the adjacent 15-acre parcel to the west and the USS POSCO site, flowing east to west away from the existing facility. The existing ditch conveys the stormwater generated from the existing facility, the 15-acre parcel to the west and the eastern portions of the USS POSCO site through an existing 36-inch culvert discharging to an existing evaporation basin located near the northern center of the USS POSCO site. Drainage in the southerly portion of the site is primarily controlled through an

existing on-site drainage system that consists of concrete swales, inlets and pipelines that discharge via two existing outfalls directly into the adjacent Kirker Creek. A small portion of this southerly area drains toward the north into the remainder of the project site and is controlled as described above. (see **Figure 2.0-2**).

The proposed development within the 15 acre parcel to the west will include placement of impervious surfaces throughout the parcel. This increase of impervious surfaces will increase the stormwater peak flows from this parcel from 9.2 cfs to 15.8 cfs. The 36-inch pipeline proposed to replace the ditch within this parcel and the downstream existing ditch and 36-inch culvert to the west have adequate capacity to convey the increased peak flows from the existing site and the fully developed 15 acre area.

The proposed project may include rerouting the 3.5 acre area to the south from draining to Kirker Creek to draining into the existing ditch on the USS POSCO property. In the case that this area is rerouted to the ditch, a detention system will be constructed in order to detain the rerouted flows and not exceed the capacity of the existing ditch (CBG 2014a). The detention volume required is approximately 0.2 acre-feet. Therefore, on-site stormwater runoff would not exceed the available capacity of the existing drainage system. Therefore, this impact would be **less than significant**.

Mitigation Measures

None required

Degrade Water Quality During Construction (Standards of Significance 5 & 6)

Impact 3.4.4 Construction activities could introduce pollutants and sediments into stormwater runoff on the project site, potentially degrading downstream surface drainages and groundwater. Compliance with existing regulations intended to protect water quality from such activities would reduce this impact to a level that is **less than significant.**

The project site is located within the Kirker Creek watershed which drains into New York Slough. The City has identified stormwater within the urbanized portions of this watershed as being a source of pollution in Kirker Creek. Construction activities often introduce pollutants and sediments into stormwater drainage as it flows across a construction site and into downstream surface drainages. For instance, site preparation activities such as grading and vegetation removal can result in the exposure of raw soil materials to the natural elements (wind, rain, etc.). During rainstorm events, soil erosion can impact surface runoff by increasing the amount of silt and debris carried by runoff. In addition, refueling and parking of construction equipment and other vehicles on-site during construction may result in spills of oil, grease, or related pollutants that may discharge into surface drainages. Improper handling, storage, or disposal of fuels and hazardous materials or improper cleaning of machinery close to drainage facilities or surface waters could cause water quality degradation.

There is no proposed construction activity on the existing facility site; however, grading and construction is proposed on the 18-acre expansion area located to the west and south of the existing site. The expansion area is divided into a 15-acre expansion area located west of the existing facility and the 3.5 acre, former GWF site located to the south of the existing facility. The 15-acre expansion area to the west of the existing facility is undeveloped and much of the land is heavily disturbed and compacted. The area would require minimal grading in order to create an even surface for vehicle parking and equipment and container storage. With regard to

drainage, existing stormwater from the 15-acre area flows north and east to west into an existing ditch near the northern property line that conveys drainage to a large depression on USS POSCO land. Drainage from the 15-acre expansion area would continue in accordance with existing conditions and would therefore be subject to the existing Industrial Discharge Permit on the site.

The 3.5-acre GWF parcel south of the existing project site currently drains to Kirker Creek, a regulated waterway. Grading and construction activity will occur on the 3.5-acre parcel in conjunction with the development of the truck maintenance facility and installation of a parking lot and stormwater facilities. The site exceeds one acre of construction area; therefore, the 3.5-acre site would be subject to the General Permit, including preparation of a SWPPP. The SWPPP would include BMPs to reduce construction effects on receiving water quality by implementing erosion control measures and reducing or eliminating non-stormwater discharges. Compliance with the SWPPP and implementation of BMPs would ensure that grading activities would not negatively affect receiving waters. Therefore, this impact would be **less than significant**.

Mitigation Measures

None required

Degrade Water Quality During Operation (Standards of Significance 5 & 6)

Impact 3.4.5 Operation of the proposed project would introduce sediments and other contaminants typically associated with commercial development into stormwater runoff, potentially resulting in the degradation of downstream surface water and underlying groundwater quality. This impact would be **less than significant**.

The proposed project would increase the amount of impervious surface on the project site by approximately 15 acres, thereby potentially increasing runoff leaving the site. In addition, the project would increase the permitted capacity of the facility for green and wood wastes and construction and demolition waste, which would be stored in the associated outdoor processing areas. The presence of these materials could potentially increase the pollutant load of stormwater runoff as it flows through the processing areas. Such pollutants could include oil and grease, heavy metals, chemicals, fertilizers and pesticides, and other urban pollutants. However, the existing facility already has in place stormwater treatment facilities that would minimize the pollutant load in stormwater leaving the site and protect downstream surface drainages and the underlying groundwater aquifer. The project also proposes additional areas for parking trucks and other equipment as well as storage of containerized commodities in the western portion of the site that could result in the leakage of fuels, oils, lubricants and other materials onto the ground which could enter drainages. As discussed above, the existing ditch in the northwest portion of the addition area that drains that parcel would be replaced with a 36-inch underground pipeline. This would not increase sediments or contaminants in stormwater. Stormwater discharges from the site would continue to be regulated under the NPDES general permit (No. CAS000001) for discharges of stormwater associated with industrial activities. Therefore, this impact would be **less than significant**.

Mitigation Measures

None required

Flooding Hazards (Standards of Significance 8, 9 & 10)

Impact 3.4.6 A portion of the project site proposed for development is located within a flood zone. In addition, the project site is located in proximity to the Suisun Bay/Sacramento River Delta and may be at risk of flooding as a result of seiche/tsunami waves. This is a **less than significant** impact.

As shown on **Figure 3.4-1**, the southern and western portions of the project site are located within the 100-year flood zone. This portion of the site includes the locations of the proposed BGU, Truck Maintenance Facility and Yard, C&D sort line, and additional areas for parking and containerized commodity storage. The proposed BGU, Truck Maintenance Facility and Yard, and C&D sort line would be designed and constructed in accordance with Section 15.80.050 of the Municipal Code, which provides specific standards for construction within special flood hazard areas. These standards include requirements related to anchoring of structures, use of flood-resistant construction materials and methods, and minimum base floor elevations and flood proofing. Compliance with these existing standards would minimize the potential for structure damage and safety risks as a result of flooding. No structures are proposed within the parking and storage areas. The remainder of the site is outside both the 100- and 500-year flood zones (FEMA 2009).

The project site is located nearly 1 mile south of the Suisun Bay/Sacramento River Delta and may be at risk of flooding as a result of seiche/tsunami waves. However, projected wave height and tsunami run-up is expected to be small in the interior portions of the San Francisco Bay. Some coastal inundation and damage could occur if a tsunami or seiche coincided with very high tides or an extreme storm. The project site is located nearly a full mile from the coastline, further minimizing the potential damage to the project site as a result of seiche or tsunami waves. This impact would be **less than significant**.

Mitigation Measures

None required

3.4.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

For surface water impacts, the cumulative setting consists of the Kirker Creek watershed which has an overall area of 8,539 acres. Land uses within this watershed primarily consist of urban uses (City of Pittsburg 2001, 2011b). For groundwater impacts, the cumulative setting consists of the surface area overlying the Pittsburg Plain Groundwater Basin (DWR Basin No. 2-4). The surface area of the basin is approximately 18 square miles and is bounded by the Suisun Bay on the north, the Tracy Basin on the east, and the Clayton Basin on the west. The southern boundary extends inland 1 to 3 miles from the Suisun Bay (City of Pittsburg 2011b).

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Impact to Water Quality

Impact 3.4.7 The proposed project, in combination with approved, proposed, and other reasonably foreseeable projects in the cumulative setting area, would not contribute significantly to degradation of water quality in area surface drainages and groundwater supplies. This impact would be **less than cumulatively considerable**.

Cumulative development in the Kirker Creek watershed and the Pittsburg Plain Groundwater Basin would increase the amount of pollutants that could have an effect on surface water and groundwater quality. Ground-disturbing construction activities would be limited, including minimal excavations (e.g., trenching for utilities) and minimal grading would occur within areas that would be equipped with water quality treatment facilities. The project would add impervious surfaces in areas that have been previously disturbed and compacted and currently provide no opportunity for ground infiltration. Therefore, although the other planned, proposed, and approved projects in the cumulative setting area could result in significant water quality impacts, the proposed project's contribution to this impact would be **less than cumulatively considerable**.

Mitigation Measures

None required

Cumulative Flooding Hazards

Impact 3.4.8 The proposed project, in combination with approved, proposed, and other reasonably foreseeable projects in the cumulative setting area, would place structures within a flood zone. However, compliance with existing City standards would minimize potential hazards. This impact would be **less than cumulatively considerable**.

The southern portion of the project, which is proposed for development with a truck maintenance facility and second sort line in the C&D processing facility, is designated by FEMA as a 100-year flood zone (see Impact 3.4.6). Other proposed, approved, and reasonably foreseeable projects in the city could also place nonresidential structures within a flood zone. However, all such development projects would be required to comply with Pittsburg Municipal Code Chapter 15.80.050, which provides specific standards for construction in special flood hazard areas. These standards include requirements related to anchoring of structures, use of flood-resistant construction materials and methods, and minimum base floor elevations and flood proofing. Compliance with these existing standards would minimize any potential for structure damage and safety risks as a result of flooding. Therefore, this impact would be **less than cumulatively considerable**.

Mitigation Measures

None required

REFERENCES

CBG (Carlson, Barbee & Gibson). 2014a. *Drainage Assessment Mount Diablo Resource Recovery Park SEG Trucking Maintenance Facility Pittsburg, California*.

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SWRCB (State Water Resources Control Board). 2006. *2006 Clean Water Act Section 303(d) List of Water Quality Limited Segments*.

UCD (University of California, Davis). 2013. *California Soil Resource Lab Online Soil Survey*. Accessed October 15, 2013. http://casoilresource.lawr.ucdavis.edu/soilweb/

3.5 Land Use

This section of the Draft EIR (DEIR) addresses the potential environmental impacts of the proposed project related to land use and planning. The existing land use characteristics of the project site and surrounding area are described in the context of the Pittsburg General Plan (2001) and Zoning Ordinance and other adopted plans and policies. The impact analysis focuses on consistency with applicable land use plans and policies. Information used in the preparation of this section was obtained primarily from applicable land use plans, site reconnaissance, and aerial photography.

The City published a Notice of Preparation (NOP) for the project. A copy of the NOP, along with comments received during the public review period, is contained in **Appendix A**. Comments received related to land use were considered in the preparation of this section.

3.5.1 EXISTING SETTING

The 36 acre project site is located along Loveridge Road north of East 14th Street and south of the Burlington Northern and Santa Fe (BNSF) railroad.

EXISTING LAND USES

A 17.5-acre portion of the project site is currently developed and operated as the Mt. Diablo Recycling Facility (MDRF), Recycling Center and Transfer Station (RCTS), Mixed Construction and Demolition Processing Area, and Green Material Processing Area. The existing site plan is shown in **Figure 2.0-2**. The project applicant also currently uses an approximately 5-acre area west of the existing facility for parking and storage. Immediately south of the existing facility is the former power plant site once owned by GWF Power Systems (approximately 3.5 acres). The project applicant proposes to use this area for a truck maintenance facility. West of the existing facility is approximately 15 acres of vacant land and the project applicant proposes to use this area for commodity, vehicle and equipment storage.

The northern portion of the property is located adjacent to the BNSF Line and a railroad spur already exists on the property. Northwest of the project site, across the BNSF railroad, is an industrial facility operated by USS-POSCO Industries, which manufactures flat rolled steel sheets. Northeast of the site, also across the BNSF railroad, is an industrial facility operated by Dow Chemical. East of the site, across Loveridge Road, are the Christenson Recycling Center, a vacant parcel, and two other large industrial facilities. South of the project site is the Union Pacific Railroad.

EXISTING GENERAL PLAN DESIGNATIONS AND ZONING

The project site is designated by the City of Pittsburg General Plan as Industrial, which permits manufacturing, wholesale, warehousing and distribution, commercial and business services, research and development, agricultural, food and drug, industrial processing, and storage uses. The surrounding properties are also designated as Industrial. **Figure 2.0-4** shows the existing General Plan land use designations of the project site and adjacent properties.

The site is zoned IG (General Industrial) District and IL (Limited Industrial) District which provide for intense industrial uses and service-oriented commercial and limited industrial uses in transitional areas between heavy and residential and commercial land uses. Large recycling facilities, such as the project, require a Use Permit within the IG and IL Districts.

The property located west of the project site is zoned IL (Limited Industrial) District, while all other properties surrounding the site are zoned IG District. **Figure 2.0-5** shows the existing zoning of the project site and adjacent properties.

3.5.2 REGULATORY SETTING

LOCAL

City of Pittsburg General Plan

The City adopted its current General Plan in 2001. **Appendix F** provides those General Plan policies relevant to land use and the proposed project as well as a preliminary evaluation of the project's consistency with these policies. While this DEIR discusses the project's consistency with the General Plan pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15125(d), the appropriate reviewing authority will ultimately make the determination of the project's consistency with the General Plan.

3.5.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the CEQA Guidelines Appendix G thresholds of significance. The project would have a significant impact related to land use if it would:

1) Physically divide an established community.

2) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

3) Conflict with any applicable habitat conservation plan or natural community conservation plan.

The Initial Study prepared for the proposed project (see **Appendix A**) determined that the project would not physically divide an established community or conflict with the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan. Further, the Columbia Solar Project Mitigated Negative Declaration (State Clearinghouse No. 2013012038) found no potentially significant impacts in the area of Land Use as a result of development and use of the 15 acre vacant site onto which the proposed project would expand. Therefore, these issues (significance thresholds 1 and 3) are not discussed further in this section.

METHODOLOGY

Evaluation of potential land use impacts associated with the proposed project was based on review of applicable land use planning documents including the Pittsburg General Plan and Zoning Ordinance, as well as consultation with appropriate agencies and field review of the project site and surrounding area.

PROJECT IMPACTS AND MITIGATION MEASURES

Conflict with Applicable Land Use Plans (Standard of Significance 2)

Impact 3.5.1 The proposed project is consistent with the existing land use designation and zoning district for the site and requires a Use Permit. This impact is **less than significant.**

The project site has an Industrial General Plan land use designation that permits commercial services, industrial processing, and storage uses (City of Pittsburg 2001). The proposed project is a permitted use under the Industrial land use designation, and no conflicts with respect to land use designation would occur.

The project site is zoned IG and IL, which provide for intense industrial uses and service-oriented commercial and limited industrial uses in transitional areas between heavy industry and residential and commercial land uses, respectively. Large recycling facilities are conditionally permitted uses within the IG and IL Districts. The project is the subject of Use Permit Application No. 10-712. As the proposed project includes a request for a Use Permit that is currently under review, this impact is **less than significant.**

Mitigation Measures

None required.

3.5.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting for land use consists of the industrial area along the Loveridge Road corridor located generally north of the Pittsburg-Antioch Highway and east of Harbor Street. This area is an established and mostly developed industrial area located on the banks of New York Slough. The majority of this area is designated for industrial uses with some low-density residential uses at its southwestern corner and some open space along the banks of New York and Dowest sloughs. Refer to **Tables 3.0-1** through **3.0-3** in Section 3.0, Introduction to the Environmental Analysis and Assumptions Used, for a list of proposed and future projects in this area of the city.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Land Use Impacts

Impact 3.5.2 The proposed project, in combination with other approved, proposed, and reasonably foreseeable projects in the cumulative study area, could conflict with the City's Zoning Ordinance. This is considered to be a **less than cumulatively considerable** impact.

As described under Impact 3.5.1 above, the project site is zoned IG and IL where the proposed project would be conditionally permitted with an approved Use Permit. Other proposed and reasonably foreseeable projects in the cumulative study area may result in the need for similar zoning approvals. Design review approval and conditional use permits are discretionary activities by the City that would require the City's review, which would include a determination by the City for conformance with the General Plan and zoning and would also consider potential incompatibility issues. Therefore, the potential environmental effects associated with future projects would be evaluated as part of the review process for those projects. This impact would be **less than cumulatively considerable**.

Mitigation Measures

None required.

REFERENCES

City of Pittsburg. 2001. *City of Pittsburg General Plan*.

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Contra Costa Waste Services. 2010. Conditional Use Permit Application Package: Mt. Diablo Resource Recovery Park. Prepared by Edgar and Associates.

3.6 Public Services and Utilities

This section of the Draft EIR (DEIR) evaluates the potential impacts of the proposed project on fire protection, water supply, and wastewater services.

The City published a Notice of Preparation (NOP) for the project. A copy of the NOP, along with comments received during the public review period, is contained in **Appendix A**. Comments received related to public services and utilities were considered in the preparation of this section.

3.6.1 FIRE PROTECTION

In this section, the existing fire protection services provided in the project area are discussed and the project's potential to increase demand for such services is evaluated. In addition, the adequacy of emergency access to the site is evaluated. This analysis is based on a review of the Conditional Use Permit Application Package for the proposed project (Contra Costa Waste Services 2010) and consultation with the Contra Costa County Fire Protection District.

3.6.1.1 EXISTING SETTING

Contra Costa County Fire Protection District

Service Area

The Contra Costa County Fire Protection District (CCCFPD or District) provides fire protection and suppression services for the City of Pittsburg and surrounding Bay Point community. In addition, the District provides primary fire protection service to the majority of the county, including the cities of Antioch, Clayton, Concord, Lafayette, Martinez, Pleasant Hill, and San Pablo. The District also provides fire prevention services to all unincorporated areas of the county, including the communities of Alamo (north of Livorna), Bay Point, El Sobrante, North Richmond, and Pacheco. The CCCFPD is also contracted to provide fire prevention, plan review, and fire investigation services to Bethel Island, Brentwood, Byron, Discovery Bay, Knightsen, and Oakley. The eastern portion of the county is protected by the East Contra Costa Fire Protection District (ECCFPD). The CCCFPD has a mutual aid agreement with the ECCFPD for emergency response (Leach 2009).

Stations

The CCCFPD operates out of 30 fire stations located throughout its service area. The District's Battalion 8 serves the cities of Pittsburg and Antioch, as well as the surrounding unincorporated area, including Bay Point, from eight stations. Three of these stations are located within the City of Pittsburg: (1) Station 84 located at 1903 Railroad Avenue; (2) Station 85 located at 2331 Loveridge Road; and (3) Station 87 located at 800 West Leland Road. Station 85, located less than 1 mile south of the project site, is the primary responding station to the project site.

Response Times and Ratings

The CCCFPD receives approximately 42,000 urban fire calls per year from within its service area. About 10,500, or 25 percent, of these calls are from East County, which includes the City of Pittsburg (City of Pittsburg 2001, p. 11-14). The District has an objective to uphold a five-minute primary response time to 90 percent of all service calls. Generally, service can be provided in this time frame to areas located within 1.5 miles of a fire station (City of Pittsburg 2001, p. 11-14). As described above, the project site is located less than 1 mile north of Station 85, so it is assumed response time to the project site would be less than the five-minute objective.

The CCCFPD operates a countywide early warning system for industrial fires. Called the Community Warning System (CWS), sirens installed at industrial facilities automatically sound when an incident occurs. The system alerts residents via television and radio announcements.

The CCCFPD has an Insurance Service Office (ISO) rating of 3 (Leach 2009). The ISO is a private organization that surveys fire departments in cities and towns across the United States and rates fire protection service providers on a scale from 1 to 10, with 1 being the highest and 10 being lowest. This rating considers a community's fire defense capacity versus fire potential and then uses the score to set property insurance premiums for homeowners and commercial property owners (City of Pittsburg 2001, p. 11-14). The ISO rating is based on a number of factors, including personnel, facilities, response times, fire flow capacities, and the general character of development in the area (Contra Costa County 2001, p. 8-12).

3.6.1.2 REGULATORY FRAMEWORK

State

California Occupational Safety and Health Administration

In accordance with the California Code of Regulations, Title 8 Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Fighting Equipment," the California Occupational Safety and Health Administration has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.

Uniform Fire Code

The Uniform Fire Code (UFC) contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The UFC also contains specialized technical regulations related to fire and life safety.

California Health and Safety Code

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code, which includes regulations for building standards, including fire protection and notification systems, facilities fire suppression training, fire protection devices such as extinguishers, and smoke alarms in high-rise buildings and child-care facilities.

Local

City of Pittsburg General Plan

The City adopted its current General Plan in 2001. **Appendix F** provides those General Plan policies relevant to the proposed project, as well as a preliminary evaluation of the project's consistency with these policies. While this DEIR discusses the project's consistency with the General Plan pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15125(d), the City will ultimately make the determination of the project's consistency with the General Plan.

3.6.1.3 IMPACTS AND MITIGATION MEASURES

Standards of Significance

The impact analysis provided below is based on the CEQA Guidelines Appendix G thresholds of significance. The project would have a significant impact related to public services if it would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or the need for new or physically altered governmental facilities, the construction of which could cause significant physical environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

1) Fire protection services
2) Police protection
3) Schools
4) Parks
5) Other public facilities

The Initial Study prepared for the proposed project (see **Appendix A**) determined that the project would have no impact or a less than significant impact related to police protection services, schools, parks, and other public facilities. Further, the Columbia Solar Project Mitigated Negative Declaration (State Clearinghouse No. 2013012038; **Appendix D**) found no potentially significant impacts in the areas of Public Services and Utilities as a result of development and use of the 15 acre vacant site onto which the proposed project would expand. Therefore, these issues (significance thresholds 2, 3, 4, and 5) are not discussed further in this section. The Rail Haul Operations Plan option would not contribute to any potential public services issues and therefore is not addressed in this section.

Methodology

The analysis of fire protection impacts is based upon review of the project, applicable City regulations, and consultations with the CCCFPD.

Project Impacts and Mitigation Measures

Increased Demand for Fire Protection Services

Impact 3.6.1.1 Implementation of the proposed project could result in an increased demand for fire protection services, requiring new or expanded CCCFPD facilities or equipment. This impact is **less than significant.**

The project proposes to increase the total number of full-time employees employed by the facility as well as the number of employees present on the site during a peak shift. In addition, the project proposes to expand the types, capacities, and hours of operations at the facility, which will result in the storage of a greater amount of various waste materials on the site. The project also proposes to construct and operate a truck maintenance facility and yard, a biomass gasification unit and solar panels and electrical conveyance infrastructure on the site. These project components could pose a greater risk of fire and/or emergency conditions on the site, thereby increasing demand for fire protection and emergency medical services.

The CCCFPD has an objective to uphold a five-minute primary response time to 90 percent of all service calls. Generally, service can be provided in this time frame to areas located within 1.5 miles of a fire station (City of Pittsburg 2001, p. 11-14). The project site has been provided fire protection and emergency medical services by the CCCFPD for many years. In January 2011, the District completed construction of its Station 85 less than 1 mile south of the project site and relocated Station 84 closer to the project site in 2009. The completion of these facilities significantly improved response times to the project site, so response times to the project site are within the District's objective of five minutes.

The project will be required to incorporate the following preventative measures in accordance with the California Fire Code (CFC) to reduce the risk of fire and aid in fire suppression on the site (CCCFPD 2010):

All green waste, wood waste, and wood chip piles on the project site shall not exceed 20 feet in height, 80 feet in width, and 80 feet length (Project Description, CFC Section 1908.3).

Material-handling equipment (e.g., front loaders) shall be readily available for moving wood chips and hogged material (wood waste material produced from lumber production processes), wood fines, and raw product during firefighting operations (CFC Section 1908.9).

The owner or operator of the facility shall develop a plan for monitoring, controlling, and extinguishing spot fires. The plan shall be submitted to the CCCFPD for review and approval (CFC Section 1908.10).

An operational plan indicating procedures and schedules for the monitoring, inspection, and restricting of excessive internal temperatures in static piles shall be submitted to the fire code official for review and approval. Internal pile temperatures shall be monitored and recorded weekly. Records shall be kept on file at the facility and made available for inspection (CFC Section 1908.6).

Portable fire extinguishers with a minimum rating of 4A:60B:C shall be provided on all vehicles and equipment operating on piles and at all processing equipment (CFC Section 1908.8).

Three (3) sets of fire sprinkler plans for the new commercial recycling sort line and the new food waste sort line shall be submitted to the CCCFPD for review and approval prior to installation (CFC Section 903.2).

Three (3) sets of plans and specifications for the biomass gasification unit shall be submitted to the CCCFPD for review and approval prior to installation to ensure compliance with minimum requirements related to fire and life safety (CFC Section 903.2).

Three (3) sets of plans and specifications for the truck maintenance facility and yard shall be submitted to the CCCFPD for review and approval prior to installation to ensure compliance with minimum requirements related to fire and life safety (CFC Section 903.2).

Given the recent CCCFPD facility improvements, the existing requirements of the CFC, and consultation with CCCFPD staff, it is not anticipated that implementation of the proposed project would adversely affect the District's response times to the project site or other properties in its service area (Leach 2009). Furthermore, no new or expanded facilities would be needed to serve the project. Therefore, this impact is **less than significant**.

Mitigation Measures

None required.

Provide Inadequate Emergency Access

Impact 3.6.1.2 The project proposes modifications and expansion to the layout and operations of the existing facility that may result in inadequate access for emergency vehicles and personnel in the event of a fire or other emergency situation. This impact is **less than significant.**

Within the outdoor operations area of the site, waste materials are stored in large piles prior to processing (i.e., grinding) or transport off-site. If the wrong items are disposed together, the items can combust and can result in a fire in a garbage truck or on the transfer station floor. However, there is no indication that the facility expansion would alter the mix of refuse such that there would be an increase in the risk of fire. The proposed site plans for the outdoor operations areas and the proposed truck maintenance facility and yard (see **Figures 2.0-7** and **2.0-9**) include additional structures, modifications to the location and size of these waste material piles, and modifications to access and fire lanes. CCCFPD completed preliminary reviews of the proposed project and provided specific requirements for the project to receive district approval. These requirements, provided as **Appendix H**, include the following:

- Submit 3 sets of all project plans including site improvement plans (showing all existing and proposed hydrant locations and fire apparatus access), fire sprinkler plans, biomass gasification unit plans and specifications, and photo voltaic plans and specifications for CCCFPD review and approval prior to start of construction

- Provide minimum 20 foot width and 45 foot turning radius for all fire apparatus access roads between storage piles

- Provide minimum 20 foot wide, paved emergency apparatus access roadways with not less than 13 feet 6 inches of vertical clearance to within 150 feet of travel distance to all portions of the exterior walls of all proposed structures

- Where access roadways would be less than 28 feet in width, post signs or paint curbs red with the words “No Parking – Fire Lane”

- Where access roadways would be greater than 28 feet but less than 36 feet, post signs or paint curbs red restricting parking to only the side of the road that does not have hydrants.

- Fire apparatus access gates shall be a minimum 20 feet wide, slide horizontally or swing inward, be located a minimum of 30 feet from the street and be equipped with a Knox Company padlock.

- Restrict storage piles to 25 feet in height, 150 feet in width and 250 feet in length

- Readily provide material-handling equipment onsite for moving materials during fire-fighting operations

- Develop a CCCFPD-approved operations plan for monitoring, controlling, and extinguishing spot fires

- Develop a CCCFPD-approved operations plan for the routine monitoring, recording and controlling of internal storage pile temperatures
- Provide portable fire extinguishers with a minimum rating of 4A:60B:C on all vehicles and equipment operating on piles and at all processing equipment
- Provide an adequate and reliable water supply for fire protection with a minimum fire flow of 1,500 gallons per minute (GPM)
- Provide one fire hydrant of the East Bay type
- Install an approved automatic fire sprinkler system within the proposed truck maintenance facility and yard complying with the 2013 edition of National Fire Protection Association (NFPA) 13.
- Provide traffic signal pre-emption systems on any new or modified traffic signals installed with the project
- Obtain approval and necessary permits from CCCFPD prior to installation of flammable or combustible liquid storage tanks at the proposed truck maintenance facility and yard.

These CCCFPD requirements (Leach 2013; CCCFPD 2014) must be included in project plans to receive approval by CCCFPD and will be incorporated as conditions of project approval. Thus the project would comply with all applicable federal, state and local standards related to emergency access. Therefore, this impact is less than significant.

Mitigation Measures

None required.

3.6.1.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

Cumulative Setting

The cumulative setting or study area consists of the entire service area of the CCCFPD, which includes the cities of Antioch, Clayton, Concord, Lafayette, Martinez, Pittsburg, Pleasant Hill, and San Pablo as well as numerous unincorporated areas of the county. The reader is referred to **Table 3.0-1** for a list of approved, proposed, and reasonably foreseeable projects in the cumulative study area.

Cumulative Impacts and Mitigation Measures

Cumulative Impacts to Fire Protection Services

Impact 3.6.1.3 The project would contribute to cumulative demand for fire protection and emergency medical services. This impact is **less than cumulatively considerable.**

Implementation of approved, pending, and proposed development projects in the CCCFPD service area would result in additional calls for service and may necessitate the construction of new or expansion of existing District facilities and/or the acquisition of additional equipment and staff. However, as described in Impact 3.6.1.1 above, the proposed project consists of

improvements to and expansion of an existing facility that currently receives fire protection services from the CCCFPD. Furthermore, the project will be required to implement numerous fire prevention and suppression measures to reduce fire risks on the site. As such, the project is not anticipated to significantly increase demand for fire protection services or trigger the need for new or expanded facilities, equipment, or staff.

When future fire protection and emergency medical facilities are required, the location, size of facility, and potential environmental impacts resulting from the provision of new fire protection and emergency medical facilities and equipment would need to be determined. A project-level CEQA document would analyze the potential environmental impacts of a fire facility project. Such an analysis, along with any necessary mitigation measures, would occur once an application for a project is submitted to the appropriate agency. The physical impacts resulting from the construction of new fire protection and emergency medical related facilities are generally short-term, temporary air quality and noise impacts. Other adverse impacts (i.e., water quality, erosion, biological resources, etc.) may result, depending on site-specific conditions and proximity to waterways and other important resource areas. CCCFPD review of new development projects for adequate water supply and pressure, fire hydrants, access to structures by firefighting equipment and personnel, compliance with established fire codes, and on-site fire suppression systems would ensure that the cumulative impacts of development in the CCCFPD's service area are less than significant, and the project's fire protection impact is **less than cumulatively considerable**.

Mitigation Measures

None required.

3.6.2 WATER SUPPLY

3.6.2.1 EXISTING SETTING

Water Supply

The City of Pittsburg is the public water purveyor for the city, including the project site.

According to the City's 2010 Urban Water Management Plan, the City obtains approximately 85 percent of its raw water supply from the Contra Costa Water District (CCWD) through the US Bureau of Reclamation (USBR) Central Valley Project (CVP) pursuant to a contractual arrangement allowing the City to obtain such quantity of water as is necessary to meet its needs, subject to rationing restrictions in the event of drought or other extraordinary circumstances.

The CCWD has a contract with the USBR for 195,000 acre-feet per year of CVP water to serve its customers which, in addition to the City of Pittsburg, include the community of Bay Point, the cities of Antioch, Concord, and Martinez, and portions of the cities of Brentwood, Oakley, and Pleasant Hill. In March 2005, the CCWD renewed its water service contract with the USBR for a period of 40 years, through February 2045.

The City supplements this CCWD water with groundwater supplies drawn from two local municipal wells and a small amount of recycled water (City of Pittsburg 2005). Historical and projected future water supplies for the City are shown in **Table 3.6.2-1**.

TABLE 3.6.2-1
PAST, CURRENT, AND PROJECTED WATER SUPPLIES (AFY)

Water Supply Source	2000	2005	2010	2015	2020	2025	2030
Purchased from CCWD	9,190	11,552	7,815	9,248	10,078	10,973	11,937
City-produced Groundwater	1,336	1,000	1,061	1,500	1,500	1,500	1,500
Recycled Water[1]	0	70	459	465	465	479	498
TOTAL	10,526	12,552	8,876	10,748	11,578	12,473	13,437

Source: City of Pittsburg 2005, 2011

Notes:

1 – Recycled water not included in total

Water Demand and Use

In 2007, the City averaged 10.3 million gallons per day (mgd) of water use with a peak of 16.2 mgd in the summer (City of Pittsburg 2011). Average water demand in the city in 2010 was 122 gallons per capita per day (gpcpd). However, usage without additional water conservation measures is expected to average 170 gpcpd. **Table 3.6.2-2** provides past, current, and projected water use data for the period 1980 to 2030.

TABLE 3.6.2-2
PAST, CURRENT, AND PROJECTED WATER USE

Year	Population	Water Use		
		mg (annual)	AFY	gpcpd
1980	33,500	2,057	6,313	168
1985	39,800	2,413	7,405	166
1990	46,500	3,120	9,575	184
1995	51,500	3,185	9,774	169
2000	56,513	3,541	10,526	172
2005	62,171	3,322	11,061	147
2010	64,967	2,892	8,876	122
2015	70,680	3,502	10,748	136
2020	76,896	3,772	11,578	134
2025	83,658	4,064	12,473	133
2030	91,015	4,378	13,437	132

Source: City of Pittsburg 2011

Supply/Demand Comparison

The CCWD's future supply projections assume adequate availability of surface water sources delivered through their contract with the USBR along with other available sources and short-term purchases. The supply and demand forecasts presented in **Tables 3.6.2-1** and **3.6.2-2** indicate that the City does not anticipate supply deficits in normal years due to the stability of the raw water supply. The CCWD has indicated that current demands can be met under all supply conditions. However, starting in 2010, during the second and third year of a multiyear drought, short-term water purchases would most likely need to be reduced by five to 15 percent. The CCWD has further indicated that it believes the maximum amount of short-term conservation expected to be necessary under drought conditions would be 15 percent of demand.

Water Supply Reliability and Planned Water Supply Projects

Contra Costa Water District

In 2002, the CCWD prepared a Future Water Supply Study (FWSS) which included measures to ensure adequate water supplies to meet its wholesale municipal customers' projected demands. These measures included renewal of the CCWD's water service contract for CVP water, which has been completed; implementation of an expanded conservation program, which is ongoing; and water transfers to bridge the gap between projected demand and supplies. The CCWD has secured a long-term transfer agreement with the East Contra Costa Irrigation District to transfer surplus irrigation water. Currently, up to 9,700 acre-feet per year are available under the agreement. In the future, this agreement will provide up to 12,200 acre-feet per year.

The water supply reliability goal adopted by the CCWD's Board of Directors is to meet 100 percent of demand in normal years and a minimum of 85 percent of demand during a drought. Implementation of the FWSS would provide a minimum of 22,000 acre-feet of additional supply through water transfer agreements. A combination of short-term water purchases and drought demand management are planned to meet any remaining supply deficit (City of Pittsburg 2005).

City of Pittsburg

As described above, in average precipitation years, the City anticipates having sufficient water supplies to meet its customers' needs through 2030. In a second consecutive dry year, however, the City will probably need to enter into a Stage I water shortage response. A Stage I water shortage response is planned to address up to a 10 percent reduction of supply and includes a voluntary customer rationing program. In the third consecutive dry year, or in the event of a major system failure, the City may continue a Stage I water shortage response or move into a Stage II water shortage response. A Stage II water shortage response is planned to address up to a 20 percent reduction of supply and includes continuation of voluntary rationing, building permit restrictions, and water shortage pricing. In addition, the City's Water Conservation Ordinance includes prohibitions on various wasteful water uses such as lawn watering during midday hours, washing sidewalks and driveways with potable water, and allowing plumbing leaks to go uncorrected.

In addition to the City's water conservation efforts described above, the City also continually examines supply enhancement options, including additional water recycling, conjunctive use, water transfers, and additional imported water supplies through its participation in the East County Water Management Association and collaboration with its principal raw water suppliers.

The City is working with the Delta Diablo Sanitation District (DDSD) to further develop irrigation and industrial recycled water uses. The DDSD currently provides recycled water to the Delta Energy Center and the Los Medanos Energy Center, thus reducing demand for City water supplies. The DDSD also provides recycled wastewater to the City for park and landscaping irrigation purposes. In addition, the City is pursuing the construction of additional groundwater wells for which the City has commissioned a groundwater study and well site selection, design, and construction. The new wells will supplement the existing wells sites already in use by the City and allow the City to more fully identify and use the existing groundwater supply.

Infrastructure

Raw water is conveyed by the CCWD to the city through the Contra Costa Canal and is treated at the City's 32-mgd Water Treatment Plant (WTP). In addition to the WTP, the City's water system consists of two groundwater wells, eight distribution reservoirs, and five booster stations. The reservoirs serve four pressure zones and have a total capacity of 17 million gallons (mg) providing operational, emergency, and fire flow storage. In addition, the system consists of approximately 211 miles of water mains and includes 3,576 valves, 17,500 meters and service lines, and 1,300 fire hydrants.

3.6.2.2 REGULATORY FRAMEWORK

Federal

Safe Drinking Water Act

The Safe Drinking Water Act is the main federal law that ensures the quality of Americans' drinking water. The act authorizes the United States Environmental Protection Agency (USEPA) to set national health-based standards for drinking water, known as the National Primary Drinking Water Regulations, to protect against both naturally occurring and man-made contaminants that may be found in drinking water. The regulations set enforceable maximum contaminant levels for particular contaminants in drinking water and require ways to treat water to remove contaminants. Each standard also includes requirements for water systems to test for contaminants in the water to make sure standards are achieved. In addition to setting these standards, the USEPA provides guidance, assistance, and public information about drinking water, collects drinking water data, and oversees state drinking water programs (USEPA 2004). The USEPA oversees the states, localities, and water suppliers that implement the standards. The Safe Drinking Water Act applies to every public water system in the United States.

State

California Safe Drinking Water Act

The California Safe Drinking Water Act was passed to build on and strengthen the federal Safe Drinking Water Act. The act authorizes the California Department of Public Health to enforce both the federal and state acts and protect the public from contaminants in drinking water through regulation of public water systems (Scorecard 2012).

California Department of Public Health Drinking Water Program

The California Department of Public Health's (CDPH) Drinking Water Program is within the Division of Drinking Water and Environmental Management. The program regulates public drinking water systems and is responsible for the enforcement of the federal and California Safe Drinking Water

Acts and the regulatory oversight of 7,500 public water systems. The CDPH Field Office Branch staff performs field inspections, issues operating permits, reviews plans and specifications for new facilities, takes enforcement actions for noncompliance with laws and regulations, reviews water quality monitoring results, and supports and promotes water system security. In addition, Field Office Branch staff members are involved in funding infrastructure improvements, conducting source water assessments, evaluating projects utilizing recycled treated wastewater, and promoting and assisting public water systems in drought preparation and water conservation (CDPH 2012). The CDPH also establishes maximum contaminant levels (MCLs) that are at least as stringent as those developed by the USEPA, as required by the federal Safe Drinking Water Act. The CDPH lists any contaminants that may have any adverse health effects, based on expert opinion, and may occur in public water systems, including all the substances for which federal MCLs exist (Scorecard 2012). The CDPH works with the USEPA, the State Water Resources Control Board, Regional Water Quality Control Boards, and a wide variety of other parties interested in the protection of drinking water supplies (CDPH 2012).

Urban Water Management Planning Act and Amendments

The California Department of Water Resources (DWR) provides urban water management planning services to local and regional urban water suppliers. In 1983, the California Legislature enacted the Urban Water Management Planning Act (Water Code Sections 10610–10656). The act states that every urban water supplier that provides water to 3,000 or more customers, or that provides over 3,000 acre-feet of water annually, should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. The act requires that urban water suppliers develop water management plans to actively pursue the efficient use of available supplies. The act describes the contents of the urban water management plans as well as how urban water suppliers should adopt and implement the plans (DWR 2012). The adopted plan must be updated at least once every five years on or before December 31 in years ending in five and zero. An urban water supplier that does not prepare, adopt, and submit its urban water management plan to the DWR is ineligible to receive drought assistance from the State of California.

The CCWD's latest Urban Water Management Plan (UWMP) was adopted in 2010 and covers the entire CCWD service area. This includes the City of Pittsburg. The conclusions of the UWMP were utilized in the preparation of the CCWD's Future Water Study. Likewise, the City of Pittsburg prepared a UWMP in 2010, including consideration of existing and projected future growth in the city.

Senate Bill (SB) 610 and Assembly Bill 910

Local

City of Pittsburg General Plan

The General Plan serves as the overriding policy document for land use in the City of Pittsburg. The reader is referred to **Appendix F** for an analysis of the proposed project's consistency with General Plan policies related to water supply. While this DEIR discusses the project's consistency with the General Plan pursuant to State CEQA Guidelines Section 15125(d), the appropriate reviewing authority will ultimately make the determination of the project's consistency with the General Plan.

Pittsburg Municipal Code

Title 13 of the Pittsburg Municipal Code provides regulation of water supply and wastewater handling in the City of Pittsburg. Section 13.18 includes specific requirements and prohibitions toward the goal of conserving water in the city.

3.6.2.3 IMPACTS AND MITIGATION MEASURES

Standards of Significance

The impact analysis provided below is based on the CEQA Guidelines Appendix G thresholds of significance. The project would have a significant impact related to water supply if it would:

1) Require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

2) Have insufficient water supplies available to serve the project from existing entitlements and resources and/or require new or expanded entitlements.

Methodology

Water use information was provided by the applicant and shared with utilities. A separate analysis of methods of extending recycled water to the site was provided by Carlson, Barbee & Gibson, Inc., Engineers (2011).

Project Impacts and Mitigation Measures

Adequate Water Supply (Standards of Significance 1 and 2)

Impact 3.6.2.1 Implementation of the proposed project would substantially increase the facility's water demands. However, the City and its wholesale provider would have sufficient water supplies available to meet the project's demand. This impact would be **less than significant**.

The City of Pittsburg currently treats and supplies domestic water to the existing facility, while water for fire suppression purposes is provided via a private water supply. Implementation of the proposed project would increase the facility's water demand from the current approximately 20,000 gallons per day (gpd) (22 acre-feet per year) to approximately 40,000 gpd (45 acre-feet per year). This increased water demand would be attributed to operation of the proposed biomass gasification unit and expanded operations and in the outdoor processing areas. Because the proposed truck maintenance facility and yard would be relocated from a property east of Loveridge Drive, it would result in no net increase in water demand.

The City's water treatment plant has a capacity of 32 mgd. The City currently averages a total water demand of approximately 11 mgd, with peak usage at approximately 17 mgd. The City projects that its total average daily water demand in 2030 would be approximately 17 mgd, which leaves a remaining treatment capacity of 15 mgd. As the proposed project would increase the City's total water demand by a relatively small 20,000 gpd, or approximately 0.02 mgd, it would not result in the need for a new water treatment plant or expansion or modification of the existing plant.

During the NOP process, the DDSD requested that the EIR evaluate the potential for the proposed project to use reclaimed water. Reclaimed water would best be utilized for dust suppression during project operations. The dust suppression demand for the project at full buildout is estimated to be 25,000 gpd (approximately 28 acre feet per year).

There are two potential sources of non-potable water within proximity of the project site. The first is the DDSD's recycled water system. The DDSD operates a recycled water system that supplies recycled water generated at its Wastewater Treatment Plant (WWTP) to various industrial sites, parks, and golf courses within their service area. The recycled water generated by the DDSD meets the California Department of Public Health's Title 22 regulations and is acceptable for all uses and human contact, except for drinking. The DDSD has indicated that the recycled water system has capacity to meet the proposed demand for the project site (CBG 2012). The DDSD recycled water system includes an 18-inch supply and 12-inch return pipelines in Pittsburg-Antioch Highway near the project site. Should the extension of the recycled water system become part of the proposed project, the lines would be located in existing public rights-of-way that are paved (CBG 2011). Thus, no significant environmental impacts would occur if service was extended.

The second potential source is the CCWD's raw water system. The CCWD operates raw water pipelines which convey raw water from the Contra Costa Canal to the industrial uses north of Pittsburg-Antioch Highway, including the project site. The CCWD raw water system includes an 18-inch pipeline, referred to as Lateral 14, which crosses to the north side of Kirker Creek just east of the Contra Costa Industrial Park (CCIP). The CCWD has indicated that the raw water system has capacity to meet the proposed demand for the project site (CBG 2012). Because there would be adequate treated and non-potable water to serve the project, this would be considered a **less than significant** impact.

Mitigation Measures

None required.

Cumulative Water Supply

Impact 3.6.2.2 The proposed project, in combination with other cumulative development, would increase demand for potable water. The project's contribution is **less than cumulatively considerable.**

The City anticipates having sufficient water supplies to meet its customers' needs through 2030. As shown in **Tables 3.6.2-1** and **3.6.2-2**, the projected demand would be met by a combination of water provided by the CCWD, City-produced groundwater, and recycled water, and recycled water and groundwater would be used to supplement CCWD supplies. The CCWD has indicated that current demands can be met under all supply conditions. However, starting in 2010, during the second and third year of a multiyear drought, short-term water purchases would most likely need to be reduced by 5 to 15 percent. The CCWD has further indicated that it believes the maximum amount of short-term conservation expected to be necessary under drought conditions would be 15 percent of demand. The City's water conservation efforts to achieve any reductions in dry years are described above. The City also continually examines supply enhancement options, including additional water recycling, conjunctive use, water transfers, and additional imported water supplies, through its participation in the East County Water Management Association and collaboration with its principal raw water suppliers. Therefore, based on the current projected demand and supply, there is adequate water to meet the cumulative demand. This would be considered a less than significant cumulative impact, and the project's contribution is **less than cumulatively considerable**.

Mitigation Measures

None required.

3.6.3 WASTEWATER SERVICE

3.6.3.1 EXISTING SETTING

The existing wastewater facilities serving the project site are privately owned and maintained. Wastewater flows from the site are currently conveyed to an existing pump station located on the west side of the on-site buildings, near the scale house. A 4-inch force main then conveys flows from the pump station south, parallel to the building, and then turns eastward, generally in alignment with the site's main access driveway to Loveridge Road. The force main then turns prior to Loveridge Road and continues Southward and connects to an existing four-inch force main within the 3.5 acre area to the south (former GWF Power Site). This four-inch force main conveys the flows across the Kirker Creek culverts and across the Loveridge Road/Pittsburg-Antioch Highway Intersection and connects to the existing DDSD truck main within Pittsburg-Antioch Highway. The DDSD trunk main conveys flows west to east and eventually discharges to the DDSD Wastewater Treatment Plant (CBG 2011, p. 1-2).

Existing Wastewater Storage Tanks

There are two 4,500-gallon wastewater storage tanks located on the north side of the Mt. Diablo Recycling Facility/Recycling Center and Transfer Station buildings. These tanks store wastewater collected from the floor of the transfer truck loading well. The wastewater consists of rainwater that flows into the truck well and liquids from the garbage material being processed. The wastewater is pumped from the floor into the tanks and stored. The wastewater accumulates and is then tested to confirm compliance with DDSD requirements. Once the DDSD confirms that the wastewater is acceptable to be treated at its wastewater treatment plant, a vacuum truck empties the tanks and transfers the wastewater directly to the DDSD treatment plant. This wastewater is not discharged into the on-site sanitary sewer system.

Existing On-Site Pump Station

A field assessment of the existing pump station located on the west side of the existing facility was conducted in November 2011 by Coleman Engineering (CBG 2011). This pump station was found to be in fair condition. The pipelines and pump were operable and functioning as needed to convey the typical wastewater flows generated by the current on-site operations. The existing pump has a pumping capacity of 75 gallons per minute (gpm). The pumps are controlled by a simple timer that is currently set to operate the pumps twice per day for duration sufficient to convey all wastewater from the site (CBG 2011, p. 1-2).

Existing On-Site Force Main

The existing force main within the project site and leaving the pump station described above is a 4-inch-diameter pipeline. There is one clean-out located just after the pump station as the force main turns southward. The site staff indicated that the system has backed up in the past due to the force main clogging with debris, such as rags or straps. Additional, clean outs have been since installed on the force main to reduce potential clogging and facilitate maintenance (CBG 2011, p. 1-2).

DDSD Wastewater Treatment Plant

The DDSD treatment plant is located north of State Route (SR) 4, just east of the City of Pittsburg city limits. Existing DDSD wastewater treatment facilities have a capacity of 16.5 mgd. In 2010, the DDSD treated an average of 13.4 mgd. The treated effluent is discharged to New York Slough and the Sacramento-San Joaquin Delta. The treated effluent is regulated under the National Pollutant Discharge Elimination System (NPDES) permit system, which is administered under the auspices of the USEPA.

The DDSD has adopted a District Master Plan that includes a phased treatment plant expansion to ultimately provide 24 mgd capacity (average dry weather flow) in order to accommodate anticipated growth in the City of Pittsburg, City of Antioch, and unincorporated Bay Point (City of Pittsburg 2001). The anticipated growth included in the District Master Plan is at a more intense development scale than is proposed by the City of Pittsburg General Plan (2001; see Section 4.1, Land Use and Planning).

3.6.3.2 REGULATORY FRAMEWORK

Federal

Clean Water Act

The Clean Water Act (CWA) is the primary federal legislation governing surface water quality protection. The statute employs a variety of regulatory and non-regulatory tools to sharply reduce pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters so that they can support the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water. Pollutants regulated under the CWA include "priority" pollutants, including various toxic pollutants; "conventional" pollutants, such as biochemical oxygen demand, total suspended solids, fecal coliform, oil and grease, and pH; and "non- conventional" pollutants, including any pollutant not identified as either conventional or priority. The CWA regulates both direct and indirect discharges (USEPA 2004).

Local

City of Pittsburg General Plan

The City adopted its current General Plan in 2001. **Appendix F** provides those General Plan policies relevant to wastewater and the proposed project as well as a preliminary evaluation of the project's consistency with these policies. While this DEIR discusses the project's consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d), the appropriate reviewing authority will ultimately make the determination of the project's consistency with the General Plan.

3.6.3.2 IMPACTS AND MITIGATION MEASURES

Standards of Significance

The impact analysis provided below is based on the CEQA Guidelines Appendix G thresholds of significance. The project would have a significant impact related to wastewater if it would:

1) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

2) Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

3) 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.

Methodology

The following analysis of potential wastewater service impacts is based on a technical memorandum prepared by Wood Rodgers, Inc. (2011), which provided the results of a detailed wastewater study for the project. Additional information is provided by a technical memorandum by Carlson, Barbee & Gibson, Inc. (2011). Both studies (provided as **Appendix I**) involved research, correspondence with adjacent property owners, and field visits to identify and describe the existing infrastructure currently serving the project site. The studies then provided a comparison of the capacities of this existing infrastructure to the flows anticipated to be generated under three different scenarios: Existing Flows, Proposed Flows with Biomass Discharge Added, and Master Planned Flows. Anticipated project flows were determined based on information provided by the project applicant.

Project Impacts and Mitigation Measures

Wastewater Treatment Impacts (Standard of Significance 1)

Impact 3.6.3.1 The proposed project could exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. This impact is **less than significant.**

The proposed project will increase the wastewater flows from the project site from approximately 20,000 gpd to 61,200 gpd. The increase is associated with additional employee shifts and the incorporation of a Biomass Gasification Unit. The Biomass Gasification Unit is proposed to be implemented in two phases, each generating a wastewater flow of 20,000 gpd. As operations at the facility would be similar to that of the existing operations, the characteristics of the wastewater generated on site would not substantially differ from existing operations. If an industrial waste discharge permit is required for the project, the project applicant would be required to submit the application to the DDSD's industrial pretreatment department.

The proposed ultimate wastewater flows from the proposed project are estimated to be the sum of 40,000 gpd generated from the ultimate biomass unit and 1,200 gpd generated from 90 peak shift employees, totaling 41,200 gpd. Because the proposed truck maintenance facility and yard would be relocated from a property east of Loveridge Drive, it would result in no net increase in wastewater generation. The City of Pittsburg Wastewater Collection System Master Plan assigns a peaking factor of 2.11 based on flow monitoring to establish peak flows. Applying this peaking factor, the peak wastewater flows from the proposed MDRRP project are approximately 86,930 gpd (60.4 gpm).

The DDSD existing permit capacity is for 16.5 mgd with a 2010 daily treatment of 13.4 mgd, with a remaining capacity of 3.1 mgd. The proposed project would result in an increase of 41,200 gpd (0.0412 mgd), or approximately 1.3 percent of the available capacity. This would not exceed remaining treatment capacity and would not alter treatment operations. This impact is considered **less than significant**.

Mitigation Measures

None required.

Wastewater Infrastructure Impacts (Standard of Significance 2)

Impact 3.6.3.2 Implementation of the proposed project could require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. This impact is **less than significant.**

The Wood Rodgers (2011) technical review of the wastewater system recommended that additional evaluation be conducted to determine the capacity of the existing pump station and collection system. This additional evaluation was completed by Carlson, Barbee & Gibson, Inc. in December 2011 (see **Appendix I**). According to CBG (2011), the existing on-site pump station is in fair condition and has an existing pumping capacity of 75 gpm, which exceeds the proposed ultimate peak flow of 60.4 gpm. No improvements would be required to the existing on-site pump station in order to convey flows from the proposed MDRRP expansion (CBG 2011).

The existing collection system can adequately handle the projected wastewater without the need for substantial improvement. This impact is considered **less than significant**.

Mitigation Measures

None required.

Increased Demand for Wastewater Services (Standard of Significance 3)

Impact 3.6.3.3 Implementation of the proposed project could 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. This impact is **less than significant.**

As described previously, wastewater currently generated at the project site is primarily domestic waste from employee restrooms and kitchen facilities (CBG 2011). Rainwater that flows into the truck well and liquids from the garbage material being processed is also collected in storage tanks where it is tested to confirm compliance with DDSD requirements prior to transport via vacuum truck directly to the DDSD treatment plant. The proposed project would increase the volume of wastewater generated on the project site.

The DDSD has wastewater conveyance and treatment facilities planned and under construction to increase system capacity. The DDSD collects Capital Facility Capacity Charges to build capacity as it is consumed by new connections. Capacity is constructed by the DDSD as prescribed in its Conveyance and Treatment Plant Master Plans. The Master Plans use City planning data for communities in the DDSD service area. The proposed project is identified in the

City sewer collection system planning documents as part of sewer basin DP105. In the 2010 Master Plan, the parcels are within DDSD Master Plan Sewer Basin 2-8, Pittsburg Industrial South. Sewer Basin 2-8 has a contributing area of 363 acres and an existing average dry weather flow of 0.18 mgd, which will increase to 0.28 mgd at buildout (DDSD 2011). The comparatively small amount of projected wastewater from the facility of 0.04 mgd is within the planned wastewater for the basin. This impact is considered **less than significant**.

Mitigation Measures

None required.

Cumulative Demand for Wastewater Services

Impact 3.6.3.4 The proposed project, combined with other cumulative development, would increase demand for wastewater treatment facilities. This impact is less than significant, and the project's contribution would be **less than cumulatively considerable.**

Future growth in the City of Pittsburg would increase demand for wastewater treatment. Existing DDSD wastewater treatment facilities have a capacity of 16.5 mgd. In 2010, the DDSD treated an average of 13.4 mgd. The DDSD has adopted a District Master Plan that includes a phased treatment plant expansion to ultimately provide 24 mgd capacity (average dry weather flow) in order to accommodate anticipated growth in the City of Pittsburg, City of Antioch, and unincorporated Bay Point (City of Pittsburg 2001. The anticipated growth included in the District Master Plan is at a more intense development scale than is proposed by the City of Pittsburg General Plan. Consequently, the cumulative development in the city would be able to be accommodated by the expanded treatment plant. This would be a less than significant cumulative impact, and the project's contribution would be **less than cumulatively considerable**.

Mitigation Measures

None required.

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3.7 TRANSPORTATION AND CIRCULATION

This section of the Draft EIR (DEIR) describes transportation and circulation conditions in the area of the proposed project and identifies impacts associated with the development of the proposed project. The analysis focuses on potential impacts to the roadway, transit, internal site circulation, and bicycle/pedestrian systems, and evaluates the project's consistency with the City of Pittsburg General Plan transportation policies. Significant impacts are identified for each system and, as necessary, mitigation measures are identified to address those impacts. All technical analyses related to this section are contained in **Appendix J.** The analysis in this section was prepared by Fehr & Peers.

3.7.1 EXISTING SETTING

STUDY AREA

The Transportation Impact Analysis prepared for the proposed project (see **Appendix J**) analyzed the following study intersections, which are shown on **Figure 3.7-1**.

1. East Leland Road/Loveridge Road
2. SR 4 Eastbound Ramps/Loveridge Road
3. California Avenue/Northpark Boulevard/Loveridge Road
4. SR 4 Westbound Ramps/California Avenue
5. Pittsburg-Antioch Highway/Loveridge Road
6. Buchanan Road/Loveridge Road
7. W 10th Street/Auto Center Drive (Antioch)
8. Loveridge Road/Project South Driveway
9. Loveridge Road/Project North Driveway

EXISTING CONDITIONS

Roadway System

The project site is located on the west side of Loveridge Road, primarily surrounded by industrial uses. The roadways in the study area are described below, and their locations in relation to the site are shown on **Figure 3.7-1**.

SR 4 is an east–west divided highway that provides regional access to East Contra Costa County. SR 4 stretches from Interstate 80 (I-80) to the west to Alpine County to the east. In the vicinity of the project site, it serves approximately 110,000 vehicles per day (vpd) and provides two lanes in each direction. However, construction is currently under way to widen SR 4 to provide four lanes in each direction between Railroad Avenue and Hillcrest Avenue.

The SR 4 corridor widening project, which will widen the highway from four to eight lanes between the Railroad Avenue and Hillcrest Road interchanges, is currently under construction. The segment between Railroad Avenue and Somersville Road has been completed, and the segment from Somersville Road to Hillcrest Avenue in Antioch is scheduled for completion in late 2015. This project has affected the study intersections as follows:

1. SR 4 Eastbound Ramps/Loveridge Road (Intersection #2) – The intersection is modified from being a "T" intersection to a four-leg intersection. The eastbound approach (SR 4 Eastbound Off-Ramp) is widened to accommodate an additional left-turn lane, providing two left-turn lanes and one right-turn lane. Previously, two SR 4 Eastbound On-Ramps provided access from northbound and southbound Loveridge Road. Those are now consolidated into one on-ramp, which is aligned with the off-ramp. Additionally, the new on-ramp is widened to three lanes, with two lanes for mixed flow traffic and one lane for high occupancy vehicle (HOV) traffic. The southbound approach is widened from two lanes to four lanes, providing two left-turn lanes and two through lanes. The northbound approach is widened to accommodate a new right-turn pocket, providing two through lanes and one right-turn lane.

2. California Avenue/North Park Boulevard/Loveridge Road (Intersection #3) – The westbound approach is modified to convert the shared through/right-turn lane into a dedicated right-turn lane, providing two left-turn lanes, one through lane, and one right-turn lane. The northbound approach is modified from its current configuration, which provides one left-turn lane, one shared left-turn/through lane, one through lane, and one right-turn lane to provide two left-turn lanes, one through lane, and one shared through/right-turn lane. Additionally, the pork-chop islands which currently allow free right turns at the eastbound and southbound approaches are removed.

3. SR4 Westbound Ramps/California Avenue (Intersection #4) – The westbound approach is widened to accommodate a new through lane, providing two left-turn lanes, two through lanes, and one right-turn lane. The eastbound approach is widened to accommodate a new through lane, providing one left-turn lane, one through lane, and one shared through/right-turn lane.

Loveridge Road is a north–south arterial roadway that provides direct access to the project site. Loveridge Road stretches from the Pittsburg Waterfront to the north to Buchanan Road to the south. North of the SR 4 Interchange, it is an undivided roadway with two lanes in each direction. South of the SR 4 Interchange, it is a divided roadway with two lanes in each direction. There is an on-street bike lane on the east side of Loveridge Road north of the SR 4 Interchange and along both sides of the street to the south. Loveridge Road has a posted speed limit of 40 miles per hour (mph) north of Pittsburg-Antioch Highway, and a posted speed of 35 mph south of Pittsburg-Antioch Highway.

Pittsburg-Antioch Highway is an east–west arterial roadway located just south of the project site. Pittsburg-Antioch Highway stretches from Harbor Street to the west to Auto Center Drive in Antioch to the east, where it becomes West 10th Street. In the vicinity of the project site, it is an undivided roadway with one lane in each direction and has a posted speed limit of 45 mph.

Auto Center Drive is a north–south arterial roadway located east of the project site. Auto Center Drive stretches from West 10th Street to the north, where it becomes West 4th Street. To the south, it becomes Somersville Road at the SR 4 Interchange. In the vicinity of the project site, it provides two lanes in each direction with a center two-way left-turn lane (TWLTL) and has a posted speed limit of 35 mph.

Buchanan Road is an east–west arterial roadway located south of the project site. Buchanan Road stretches from Railroad Avenue to the west to Contra Loma Boulevard in Antioch to the east. In the vicinity of the project site, it provides one lane in each direction with a painted median. The roadway has a posted speed limit of 35 mph. There is an on-street bike lane on both sides of Buchanan Road.

T:_CS\Work\Pittsburg, City of\P10-0144 Mt. Diablo Resource Recovery Park\Traffic Figure

Source: Fehr & Peers, 2011

Figure 3.7-1

Project Study Roadways and Intersections

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California Avenue is an east–west collector roadway located south of the project site. California Avenue is a two-lane roadway (one lane in each direction) that stretches from Railroad Avenue to the west to Harbor Street where it becomes two lanes in each direction to Loveridge Road. The roadway then continues east of Loveridge Road (700-foot offset/north on Loveridge Road) with one lane in each direction to Markstein Road.

Leland Road is an east–west arterial roadway located south of the project site. Leland Road stretches from San Marco Boulevard in the west to Century Boulevard in the east, where it becomes Delta Fair Boulevard. In the vicinity of the project site, it provides two lanes in each direction with a landscaped center median and has a posted speed limit of 35 mph. There is an on-street bike lane on both sides of East Leland Road.

Existing Traffic Volumes

Weekday morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) peak period intersection turning movement counts were collected at all study intersections in October 2011 as part of the traffic study prepared for the proposed project. The existing peak period traffic counts are provided in Appendix A of **Appendix J**. For each intersection count period, the hour with the highest traffic volume was identified as the peak hour. The peak hour turning movement volumes are represented on **Figure 3.7-2**. These volumes are used in the intersection operations analysis. **Figure 3.7-2** also presents the intersection lane configurations and traffic control devices.

Existing Intersection Operations

Existing intersection operations, which are based upon the conditions at the time the Notice of Preparation (NOP) was circulated, were evaluated for the weekday AM and PM peak hours at all study intersections. **Table 3.7-1** summarizes the intersection analysis results.

As shown, all study intersections and project driveways operate at acceptable levels except for the Pittsburg-Antioch Highway/Loveridge Road intersection, which operates at level of service (LOS) E during the PM peak hour based on the Contra Costa Transportation Authority (CCTA) methodology and LOS F during both peak hours based on the Highway Capacity Manual (HCM) method. Poor operations are primarily experienced for the westbound left-turn and through movements in the AM peak hour and the northbound right-turn and eastbound through movements in the PM peak hour. These movements accommodate heavy demand for traffic avoiding the congested SR 4 corridor. Because the conditions evaluated in this Draft EIR are based upon the conditions at the time the NOP was circulated, actual conditions would likely be better than disclosed below. For instance, improvements recently completed and those currently under construction on SR 4 are expected to reduce cut-through traffic at this intersection as well as at other local intersections along parallel routes, resulting in improved operations when completed. Detailed intersection LOS calculation worksheets are presented in Appendix B of **Appendix J**.

TABLE 3.7-1
EXISTING INTERSECTION PEAK HOUR LEVELS OF SERVICE

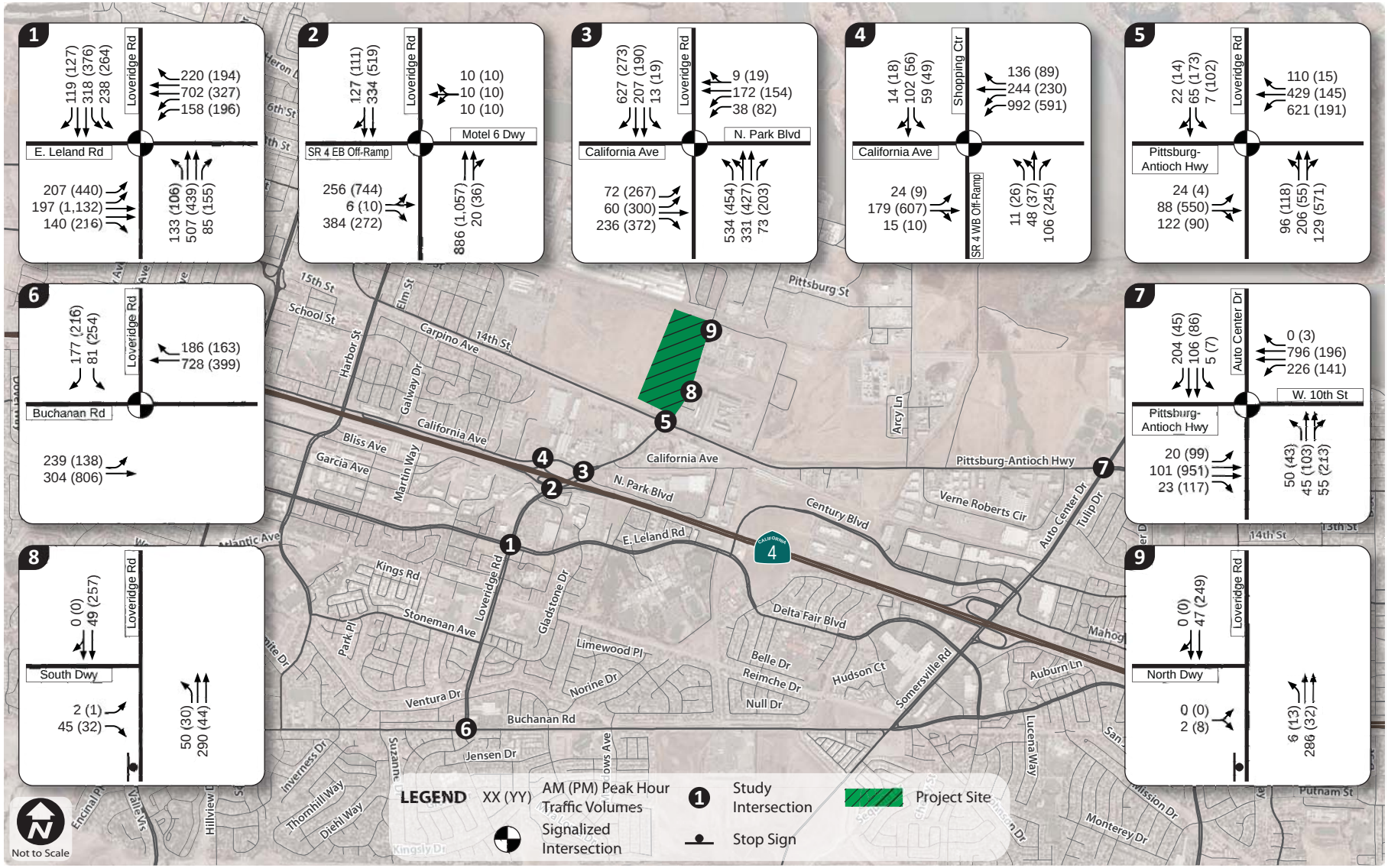
Location	Control[1]	Peak Hour	Delay[2]	LOS[3] (HCM)	V/C[4]	LOS[3] (CCTA)
1. East Leland Road/Loveridge Road	Signal	AM	41	D	0.515	A
		PM	43	D	0.6929	A
2. SR 4 Eastbound Ramps/Loveridge Road	Signal	AM	23	C	0.504	A
		PM	57	E	0.768	C
3. California Avenue/North Park Boulevard/Loveridge Road	Signal	AM	21	C	0.639	A
		PM	31	C	0.506	A
4. SR 4 Westbound Ramps/California Avenue	Signal	AM	30	C	0.550	A
		PM	29	C	0.649	A
5. Pittsburg-Antioch Highway/Loveridge Road	Signal	AM	100	F	0.687	B
		PM	101	F	**0.968**	E
6. Buchanan Road/Loveridge Road	Signal	AM	48	D	0.609	B
		PM	28	C	0.616	B
7. W 10th Street/Auto Center Drive	Signal	AM	20	B	0.395	B
		PM	19	B	0.507	A
8. Loveridge Road/Project South Driveway	SSSC	AM	2 (9)	A (A)	–	–
		PM	2 (9)	A (A)		
9. Loveridge Road/Project North Driveway	SSSC	AM	0 (9)	A (A)	–	–
		PM	1 (9)	A (A)		

Source: Fehr & Peers 2011

Notes:

1. *Signal = signalized Intersection; SSSC = side-street stop-controlled intersection*
2. *Delay presented as seconds per vehicle; for side-street stop-controlled intersections, delay presented as intersection average (worst approach).*
3. *LOS = level of service*
4. *CCTA volume-to-capacity (V/C) ratios. Signalized intersection level of service based on Technical Procedures (Contra Costa Transportation Authority 2006).*

T:_CS\Work\Pittsburg, City of\P10-0144 Mt. Diablo Resource Recovery Park\Traffic Figure



Source: Fehr & Peers, 2011

Figure 3.7-2

Existing Conditions: Peak Hour Traffic Volumes, Lane Configuration and Traffic Control

Existing Site Trips

The City's traffic consultant collected manual vehicle counts at the Loveridge Road driveways to estimate existing vehicle trips generated by the site. Daily and peak hour car and truck counts were collected on Thursday, January 27, 2011. The existing site trips are shown in **Table 3.7-2**.

TABLE 3.7-2
EXISTING TRIP GENERATION

Vehicle Type	Daily[1]	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Car[2]	900	42	37	79	32	31	63
Truck[3]	300	14	12	26	11	10	21
TOTAL	1,200	56	49	105	43	41	84

Source: Fehr & Peers 2011

Notes:

1. *Based on transactional information provided to Fehr & Peers, and represents total trips, including inbound and outbound trips. For CalRecycle permitting, one round trip is equal to 2 of these daily trips.*
2. *Car is defined as a private, two-axle vehicle, including pickup trucks and employee vehicles.*
3. *Truck is defined as a transfer truck or refuse truck.*

As shown in **Table 3.7-2**, the existing operation on the site generates 1,200 total daily trips, with 105 trips occurring during the AM peak hour and 84 trips occurring during the PM peak hour.

Bicycle and Pedestrian Facilities

The California Department of Transportation (Caltrans) standards provide for three distinct types of bikeway facilities, as generally described below:

- Class I Bikeway (Bike Path) provides a completely separate right-of-way for the exclusive use of bicycles and pedestrians. Vehicle and pedestrian cross-flow is minimized.

- Class II Bikeway (Bike Lane) provides a restricted right-of-way designated for the use of bicycles with a striped lane on a street or highway. Bike lanes are generally 5 feet wide. Vehicle and pedestrian cross-flow is permitted. In some cases, vehicle parking is permitted adjacent to bike lanes.

- Class III Bikeway (Bike Route) provides a right-of-way designated by signs of pavement markings for shared use between bicyclists and motor vehicles.

In the vicinity of the project site, there are Class II bike lanes along Loveridge Road, East Leland Road, and Buchanan Road. Additionally, there is a Class I bike path along the Delta De Anza Regional Trail, which is located south of the project site between East Leland Road and Buchanan Road. As part of the East County Bikeway Plan, a bicycle facility is planned along Auto Center Drive and Somersville Road.

Sidewalks are not provided along Loveridge Road north of the SR 4 Interchange, including along the project frontage. However, sidewalks are generally provided along the roadways south of SR 4 within the project site.

Transit Access

Tri Delta Transit is the transit provider in the area serving East Contra Costa County, including Brentwood, Oakley, Pittsburg, and Bay Point. In addition, Tri Delta Transit provides a connection to the Bay Area Rapid Transit (BART) station at Pittsburg/Bay Point. **Figure 3.7-3** shows the existing transit services provided in the project area. The characteristics of the Tri Delta Transit routes operating in the area are summarized in Table 3 of **Appendix J**.

3.7.2 REGULATORY FRAMEWORK

STATE

Caltrans

Caltrans owns, operates, and maintains SR 4, which provides the primary access to eastern Contra Costa County, including the project site. Caltrans works with the Contra Costa Transportation Authority (CCTA) to monitor and implement improvements on SR 4.

REGIONAL

Contra Costa Transportation Authority

The first Congestion Management Program (CMP) for Contra Costa County was adopted in 1991 and has been updated every two years. The most recent update is the 2009 CMP. The CMP is administered by the CCTA and specifies that the transportation system within the county be monitored biennially for compliance with LOS standards. The LOS standard for the County CMP facilities has been set at LOS E for all roadways except those that were operating at LOS F when the first CMP was prepared. The CMP transportation system includes all of the state routes in the county and other Routes of Regional Significance.

The 2009 update of the Countywide Comprehensive Transportation Plan includes Action Plans for each sub-area within Contra Costa County. These Action Plans include planned Multimodal Transportation Service Objectives (MTSOs) for Routes of Regional Significance.

East County Action Plan for Routes of Regional Significance

Adopted in August 2009, the East Contra Costa Action Plan for Routes of Regional Significance establishes the MTSOs for routes of regional significance in eastern Contra Costa County. The only MTSO applicable to the proposed project is:

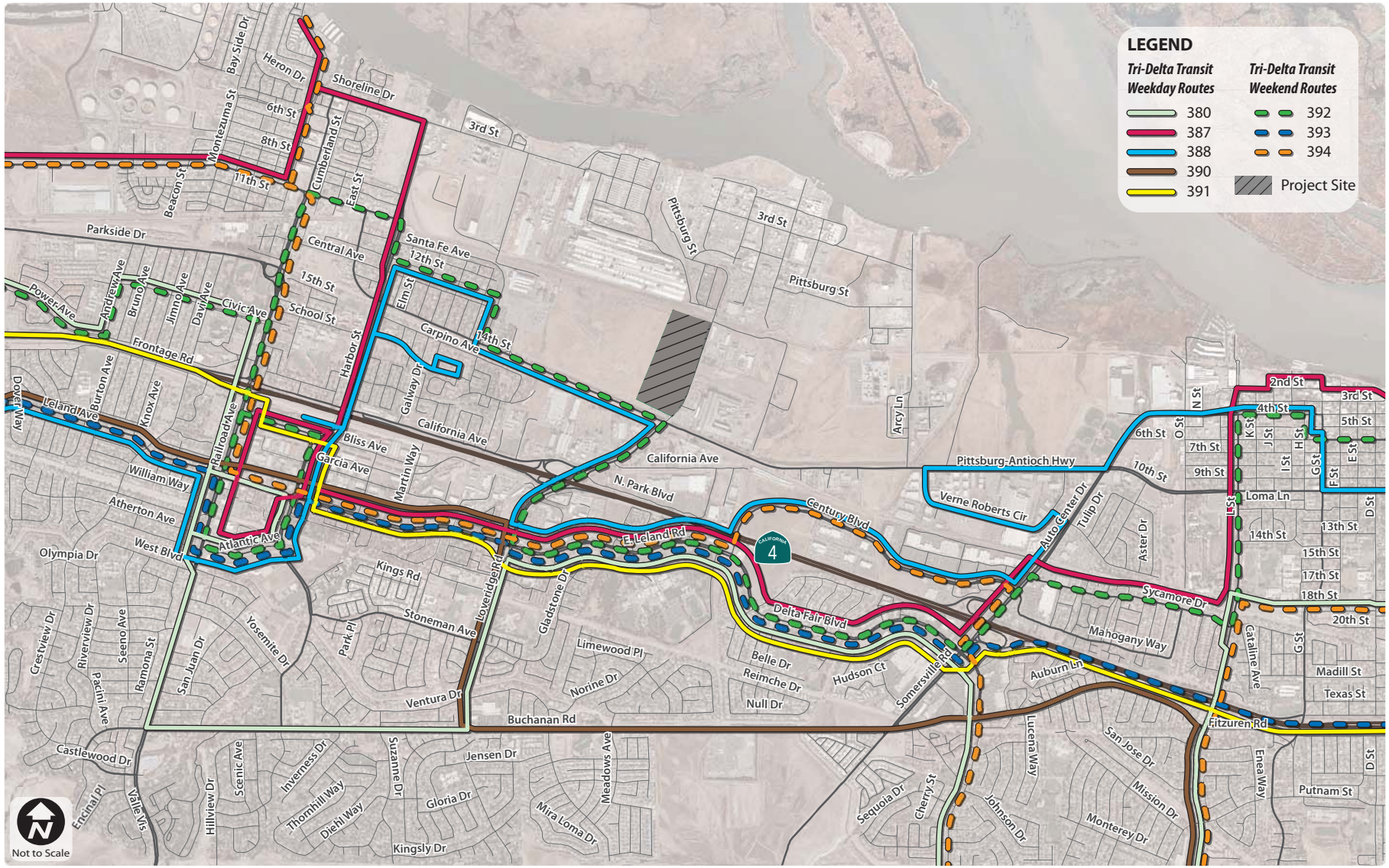
- SR 4 – the Delay Index (DI) should not exceed 2.5 during the AM or PM peak hour

LOCAL

City of Pittsburg General Plan

The City adopted its current General Plan in 2001. **Appendix F** provides those General Plan policies relevant to transportation and circulation and to the proposed project as well as a preliminary evaluation of the project's consistency with these policies. While this DEIR discusses the project's consistency with the General Plan pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15125(d), the appropriate reviewing authority will ultimately make the determination of the project's consistency with the General Plan.

T:_CS\Work\Pittsburg, City of\P10-0144 Mt. Diablo Resource Recovery Park\Traffic Figure



Source: Fehr & Peers, 2011

Figure 3.7-3

Existing Transit Routes

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City of Pittsburg Municipal Code

Chapter 18.78 – Off-Street Parking and Loading

Chapter 18.78 of the Pittsburg Municipal Code provides general parking standards as well as minimum parking space requirements by type of land use. According to this chapter, large recycling facilities, such as the proposed project, are required to provide six spaces plus one additional space per 1,000 square feet of gross floor area.

A parking variance for the existing facility was approved on June 10, 2008 (Resolution No. 9759) to allow a reduction in required on-site parking from 150 parking stalls to 79 stalls or a minimum standard of one parking stall per 2,450 square feet of building area. Based on this standard, the expanded project would require a total of 86 parking stalls. The project would add 41 parking stalls at the proposed truck maintenance facility as well as 60 parking stalls in the western portion of the site adjacent the proposed commodity storage areas. With these additional parking stalls, the facility would have a total of 180 stalls, which exceeds the minimum standard by 88 stalls.

Fee Programs

The proposed project will be subject to impact fees used to fund transportation improvements. Some of these improvements, such as the widening of SR 4, will benefit the project. Others improvements may be identified in the City's Five Year Capital Improvement Program or scheduled for eventual construction.

Fee programs affecting the project include:

- Local Transportation Mitigation Fee (LTMF), as described in Pittsburg Municipal Code Chapter 15.90, to fund local projects identified in the Capital Improvement Program
- Pittsburg Regional Transportation Development Impact Mitigation (PRTDIM), as described in Pittsburg Municipal Code Chapter 15.103, to fund local and regional-serving projects

3.7.3 IMPACTS AND MITIGATION MEASURES

LEVEL OF SERVICE CRITERIA

To measure and describe the operational status of a local roadway network, transportation engineers and planners commonly use a grading system called level of service (LOS). LOS is a description of a transportation facility's operation, ranging from LOS A, indicating free-flow traffic conditions with little or no delay experienced by motorists, to LOS F, which describes congested conditions where traffic flows exceed design capacity, resulting in long queues and delays.

As required for compliance with the East Contra Costa County Action Plan and the County's Congestion Management and Growth Management programs, the analysis method outlined in the Technical Procedures update prepared by the Contra Costa Transportation Authority, known as CCTALOS, was utilized to analyze all signalized study intersections. To augment this analysis, the Transportation Research Board's 2000 Highway Capacity Manual (HCM) method and Synchro software were also used to analyze intersection operations at both signalized and unsignalized study intersections. This type of supplemental analysis is explicitly allowed in the CCTA's Technical Procedures, as the two methods are different in estimating intersection LOS.

For signalized intersections, only the CCTALOS-based analysis is used herein to identify project impacts and determine mitigation measures, according to the requirements of the City.

Signalized Intersections

At each signalized study intersection, traffic conditions were evaluated using the CCTALOS method. The CCTALOS planning-level analysis uses various intersection characteristics (i.e., traffic volumes, lane geometry, and signal phasing) to estimate the volume-to-capacity (V/C) ratio of an intersection.

Unsignalized Intersections

For unsignalized (side-street stop-controlled) intersections, the method outlined in Chapter 17 of the Transportation Research Board's 2000 HCM was used. This method estimates the worst-approach total delay (measured in seconds per vehicle) experienced by motorists traveling through an intersection. Total delay is defined as the amount of time required for a driver to stop at the back of the queue, move to the first-in-queue position, and depart from the queue into the intersection.

Delay Index

The East Contra Costa Action Plan for Routes of Regional Significance establishes multimodal traffic service objectives (MTSOs) for routes of regional significance in eastern Contra Costa County. The MTSO used to measure freeway operations is peak hour Delay Index, as calculated by the methods prescribed by the CCTA. Delay Index is defined as the ratio of the peak hour congested travel time to free-flow travel time on each roadway segment. For example, a Delay Index of 2.0 means that it takes twice as long to travel a particular segment during the peak commute hour as during non-commute hours when traffic moves at free-flow speeds.

THRESHOLDS OF SIGNIFICANCE

The following thresholds are based on the adopted policies of the CCTA and the cities of Pittsburg and Antioch, which are more appropriate for use in the City of Pittsburg than those contained in Guidelines Appendix G. Based on these policies, a significant traffic impact would occur if the addition of project-generated traffic would result in any of the effects listed below:

1. Intersections

The proposed project would have a significant impact on intersections if one of the following occurs:

- Operations of a study intersection to decline from LOS low-D (a volume-to-capacity ratio of 0.84 for signalized intersections or an average delay of 45 seconds for unsignalized) or better to LOS high-D, E, or F.
- Deterioration in already unacceptable operations at a signalized intersection by a change in V/C ratio of more than 0.01 or a change in average delay of more than 5 seconds.
- Operations of an unsignalized study intersection to decline from an acceptable level to an unacceptable level, and the need for installation of a traffic signal at an unsignalized intersection, based on the Manual on Uniform Traffic Control Devices (MUTCD) Peak Hour Signal Warrant (Warrant 3).

2. Transit System

Transit impacts would be considered significant if any of the following occur:

- The project or any project-related mitigation measure disrupts existing transit services or facilities. This includes disruptions caused by proposed project driveways on transit streets, impacts to transit stops/shelters, and impacts to transit operations from traffic improvements proposed or resulting from the project.
- The project interferes with planned transit services or facilities.
- The project creates demand for public transit services above that which is provided or planned.
- The project conflicts or creates inconsistencies with adopted transit system plans, guidelines, policies, or standards.

3. Bicycle System

Bicycle impacts would be considered significant if any of the following occur:

- The project disrupts existing bicycle facilities.
- The project interferes with planned bicycle facilities. This includes failure to dedicate right-of-way for planned on- and off-street bicycle facilities included in an adopted Bicycle Master Plan.
- The project conflicts or creates inconsistencies with adopted bicycle system plans, guidelines, policies, or standards.

4. Pedestrian System

Pedestrian impacts would be considered significant if any of the following occur:

- The project disrupts existing pedestrian facilities. This includes adding new vehicular, pedestrian, or bicycle traffic to a facility already experiencing pedestrian safety concerns such as an adjacent crosswalk or school.
- The project interferes with planned pedestrian facilities.
- The project conflicts or creates inconsistencies with adopted pedestrian system plans, guidelines, policies, or standards.

5. Site Access and Parking

A site access or parking impact would be considered significant if the project would result in any of the following:

- An insufficient quantity of on-site parking for vehicles.
- Increases in off-site parking demand above that which is provided in the immediate project area.
- An insufficient quantity of on-site parking for bicycles.

- Lack of or inaccessible and/or unsafe pedestrian connections between buildings and adjacent streets and transit facilities.
- Lack of or an insufficient ingress left-turn lane length at a driveway, causing the ingress left-turn vehicle queue to spill out onto the street's through travel lane.
- Lack of or an insufficient ingress right-turn lane length at a driveway, causing the ingress vehicle queue to spill out onto the street's through travel lane.

The Initial Study prepared for the proposed project (see **Appendix A**) determined that there would be no impact to air traffic patterns and a less than significant impact to public transit, bicycle, and pedestrian facilities (significance thresholds 2, 3, and 4). Access to the site is currently provided by side-street stop-controlled four driveways on Loveridge Road. No changes are proposed to the driveway location, traffic control or access restrictions as part of the Project, so there would be no change with regard to access impacts (significance threshold 5). As discussed above, the facility would provide 180 parking stalls, which exceeds the minimum standard by 88 stalls. There would be no impact related to parking (significance threshold 5). Therefore, these issues are not discussed further in this section.

METHODOLOGY

Trip Generation

Trip generation rates were calculated based on the existing site trips and the actual tonnage processed at the site. The actual tonnage processed on the day the driveway counts were collected is presented in **Table 3.7-3**. As shown, the tonnage processed at the existing site on this date was 1,181 tons per day (TPD).

TABLE 3.7-3
ACTUAL TONNAGE PROCESSED AT EXISTING SITE

Existing Facility	Thursday, Jan. 27, 2011 (TPD[1])
Mt. Diablo Recycling Facility (MDRF)	98
Recycling Center and Transfer Station (RCTS)	782
Green Material Processing Operations Area	51
Mixed Construction and Demolition Processing Area	250
TOTAL	**1,181**

Source: Fehr & Peers 2012
Notes:
1. TPD = tons per day

Based on the existing trip generation characteristics of the site, the tons processed, and the ratio of cars versus truck traffic at the site, the following trip rates (listed by vehicle type) were calculated:

Daily: 762.07 car trips per 1,000 TPD
254.02 truck trips per 1,000 TPD

AM Peak Hour: 66.89 car trips per 1,000 TPD (53% in/47% out)
22.02 truck trips per 1,000 TPD (54% in/46% out)

PM Peak Hour: 53.34 car trips per 1,000 TPD (51% in/49% out)
17.78 truck trips per 1,000 TPD (52% in/48% out)

The estimated trip generation for the proposed project was derived using the calculated trip rates for cars and trucks, as well as the maximum permitted capacity information of the expanded facility as contained in the project description (see Section 2.0). For purposes of this analysis, trucks are defined as large haul vehicles such as refuse and transfer trucks, and cars are defined as private vehicles, including automobiles and pickup trucks. Using these classifications, approximately 75 percent of the traffic generated by the project site is from cars and 25 percent from large trucks. **Table 3.7-4** presents the site trip generation of the existing facility and expanded site under maximum permitted operating conditions as well as the net new project trips. Trip generation estimates are provided for both cars and trucks under daily, AM peak hour, and PM peak hour conditions.

TABLE 3.7-4
PROJECT TRIP GENERATION UNDER MAXIMUM PERMITTED OPERATING CONDITIONS

Vehicle Type	Units[1]	Daily[4]	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Existing Operations								
Car[2]	1.18	900	42	37	79	32	31	63
Truck[3]	1.18	300	14	12	26	11	10	21
TOTAL		1,200	56	49	105	43	41	84
Expanded Site Under Maximum Permitted Operating Conditions								
Car[2]	5.54	4,220	197	174	371	150	145	295
Truck[3]	5.54	1,400	65	57	122	51	47	98
TOTAL		5,620	262	231	493	201	192	393
Net New Project Trips								
Car		3,320	155	137	292	118	114	232
Truck		1,100	51	45	96	40	37	77
TOTAL		**4,420**	**206**	**182**	**388**	**158**	**151**	**309**

Source: Fehr & Peers 2012

Notes:

1. *Unit = thousand tons per day*
2. *Calculated car trip generation rates:*
   Daily rate = 308.77
   AM rate = 12.49; Enter = 57%, Exit = 43%
   PM rate = 14.28; Enter = 50%, Exit = 50%
3. *Calculated truck trip generation rates:*
   Daily rate = 1,360.03
   AM rate = 81.21; Enter = 53%, Exit = 47%
   PM rate = 60.68; enter = 51%, Exit = 49%
4. *Based on transactional information provided to Fehr & Peers, and represents total trips, including inbound and outbound trips. For CalRecycle permitting, one round trip is equal to 2 of these daily trips.*

As shown in **Table 3.7-4**, under maximum permitted operating conditions, the project could increase the total number of vehicles on the roadway network by approximately 4,420 vehicles per day, adding approximately 388 vehicles during the AM peak hour and 309 vehicles during the PM peak hour.

Typical Operating Conditions

The trip generation estimates presented in **Table 3.7-4** assumes that the expanded facility would operate at the maximum permitted level (5,500 TPD) every day, which in reality is likely to occur only a few days per year. Operating at a full-time maximum capacity level is unlikely as evidenced by current conditions that show a much lower volume of traffic. During the day when the driveway counts were taken, the actual average tonnage processed represented approximately 50 percent of the total permitted capacity (1,181 TPD processed with 2,200 TPD maximum permitted capacity). Because of the difference between permitted capacity and processing based on observed conditions, this DEIR also illustrates environmental impacts from a more realistic, typical operating condition.

Although the facility currently processes only 50 percent of the maximum processing capacity, recognizing the anticipated improvements associated with the project and the expectations of the applicant for additional tonnage at the facility, Fehr & Peers prepared a model of traffic where the facility receives 55 percent of expanded maximum permitted capacity. Fifty percent of the proposed maximum permitted capacity of the expanded site is approximately 2,770 TPD; therefore, the operating condition of the facility operating at 55 percent of the maximum permitted level would be 3,050 TPD.

Table 3.7-5 presents the trip generation of the existing site as well as the proposed expansion of the site under typical operating conditions, as well as the net new project trips.

TABLE 3.7-5
PROJECT TRIP GENERATION UNDER TYPICAL OPERATING CONDITIONS

Vehicle Type	Units[1]	Daily[4]	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Existing Operations								
Car[2]	1.18	900	42	37	79	32	31	63
Truck[3]	1.18	300	414	12	26	11	10	21
TOTAL		1,200	56	49	105	43	41	84
Expanded Site Under Typical Permitted Operating Conditions								
Car[2]	3.05	2,320	108	96	204	83	80	163
Truck[3]	3.05	770	36	31	67	28	26	53
TOTAL		3,090	144	127	271	111	105	216
Net New Project Trips								
Car		1,420	66	59	125	51	49	100
Truck		470	22	19	41	17	15	32
TOTAL		**1,890**	**88**	**78**	**166**	**68**	**65**	**132**

Source: Fehr & Peers 2012

Notes:

1. *Unit = Thousand tons per day*
2. *Calculated car trip generation rates:*
   Daily rate = 308.77
   AM rate = 12.49; Enter = 57%, Exit = 43%
   PM rate = 14.28; Enter = 50%, Exit = 50%
3. *Calculated truck trip generation rates:*
   Daily rate = 1,360.03

AM rate = 81.21; Enter = 53%, Exit = 47%

PM rate = 60.68; enter = 51%, Exit = 49%

4. *Based on transactional information provided to Fehr & Peers, and represents total trips, including inbound and outbound trips. For CalRecycle permitting, one round trip is equal to 2 of these daily trips.*

As shown in **Table 3.7-5**, under potential typical operating conditions, the project is expected to increase the total number of vehicles on the roadway network by approximately 1,890 vehicles per day, including approximately 166 vehicles during the AM peak hour and 132 vehicles during the PM peak hour.

Passenger Car Equivalent

Large trucks, such as those that currently serve the site, operate differently on the roadway system than passenger vehicles. They take longer to accelerate and decelerate, and occupy a physically larger space. Due to the large percentage of truck traffic generated by the site, truck-trips were converted into passenger car equivalents (PCEs) to account for their impact on roadway operations. PCE rates are based on the size and carrying capacity of the vehicle. According to the Transportation Research Board's Special Report 223, heavy vehicles range from 1.5 to 3.7 PCEs. An average PCE rate of 3.7 was conservatively applied for large haul trucks used for this analysis, as it includes only the largest types of trucks, (garbage/recycling collection trucks, large self-haul vehicles, and transfer trailer trucks), while pickup trucks were included in the "car" vehicle type defined for this project. This rate has been used in previous studies prepared by Fehr & Peers for similar facilities.

The PCE rate was multiplied by the total number of anticipated net new truck trips as a result of the project, as summarized in **Table 3.7-6**, to determine the passenger-car-equivalent trip generation. The total project PCE trips are presented for both project scenarios.

TABLE 3.7-6
NET NEW PROJECT TRIP GENERATION USING PASSENGER CAR EQUIVALENTS (PCE)

Vehicle Type	PCE Rate[1]	Daily[2]	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Net New Project Trips Under Maximum Permitted Operating Conditions								
Cars	1.0 – 1.5	4,770	220	206	426	177	140	317
Trucks	2.7 – 3.7	3,410	156	137	293	126	115	241
TOTAL PROJECT PCE TRIPS		8,180	376	343	719	303	255	558
Net New Project Trips Under Typical Operating Conditions								
Cars	1.0 – 1.5	1,940	89	89	178	76	54	130
Trucks	2.7 – 3.7	1,460	68	57	125	54	46	100
TOTAL PROJECT PCE TRIPS		3,400	157	146	303	130	100	230

Source: Fehr & Peers 2012

Notes:

1. *PCE = passenger car equivalent; Cars: Employee/ Visitor = 1.0, Self Haul = 1.5; Trucks: Collection Truck = 2.7, Long Haul = 3.7*
2. *Total trips, including inbound and outbound trips. For CalRecycle permitting, one round trip is equal to 2 of these daily trips.*

As shown in **Table 3.7-6**, under maximum permitted operating conditions, the project is estimated to generate 8,180 new daily PCE trips, with approximately 719 PCE trips occurring during the AM peak hour and 558 PCE trips occurring during the PM peak hour. Under typical operating conditions, the project is estimated to generate 3,400 new daily PCE trips, with approximately 303 PCE trips occurring during the AM peak hour and 230 PCE trips occurring during the PM peak hour.

Trip Distribution and Assignment

Trip distribution is defined as the direction of approach and departure that vehicles would use to arrive at and depart from the site. An estimated distribution of project trips based on existing travel patterns, general service area of the facility, and relative locations of other similar uses in the region is presented on **Figure 3.7-4.** New trips generated by the project under both maximum permitted and typical operating conditions, as shown in **Table 3.7-6**, were assigned to the roadway network according to the trip distribution shown on **Figure 3.7-4.** The resulting trip assignment by intersection is presented on **Figure 3.7-5** and **Figure 3.7-6** for maximum permitted and typical operating conditions, respectively.

PROJECT IMPACTS AND MITIGATION MEASURES

Exceedence of LOS Thresholds at Study Intersections (Standard of Significance 1)

Impact 3.7.1 Implementation of the proposed project would result in the degradation of operations at two study intersections. This would be a **significant** impact.

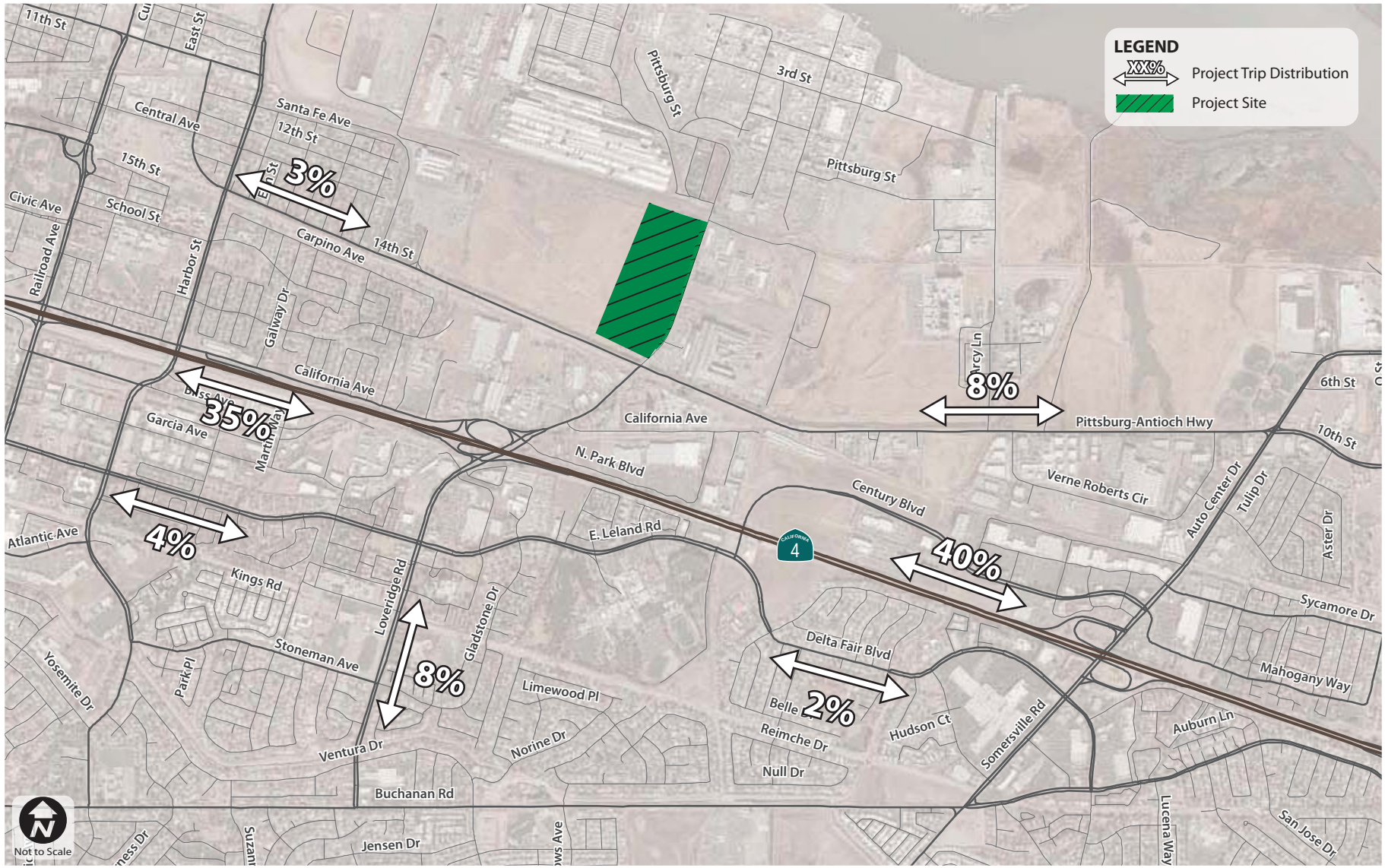
The peak hour project volumes were added to the existing traffic volumes to determine Existing Plus Project traffic volumes. **Table 3.7-7** provides the results of the Existing and Existing Plus Project intersection analyses. Under Existing Conditions, all study intersections and project driveways operate at acceptable levels except for the Pittsburg-Antioch Highway/Loveridge Road intersection, which operates at LOS E during the PM peak hour based on the CCTA methodology. Impacts for the signalized intersections are identified based on the CCTA LOS method.

Typical Operating Conditions

Table 3.7-7, indicates that based on CCTA methodology with the addition of project traffic under typical operating conditions, the Pittsburg-Antioch Highway/Loveridge Road intersection would degrade from LOS B to a LOS high-D during the AM peak hour, and would degrade from LOS E to LOS F (an increase in V/C of more than 0.01) during the PM peak hour, thus resulting in a significant impact.

Based on the HCM methodology, both SR 4 Eastbound Ramps/Loveridge Road and the Pittsburg-Antioch Highway/Loveridge Road intersections would operate at LOS E or F during at least one of the peak hours with the addition of project traffic under typical operating conditions. The project driveways would continue to operate at acceptable service levels.

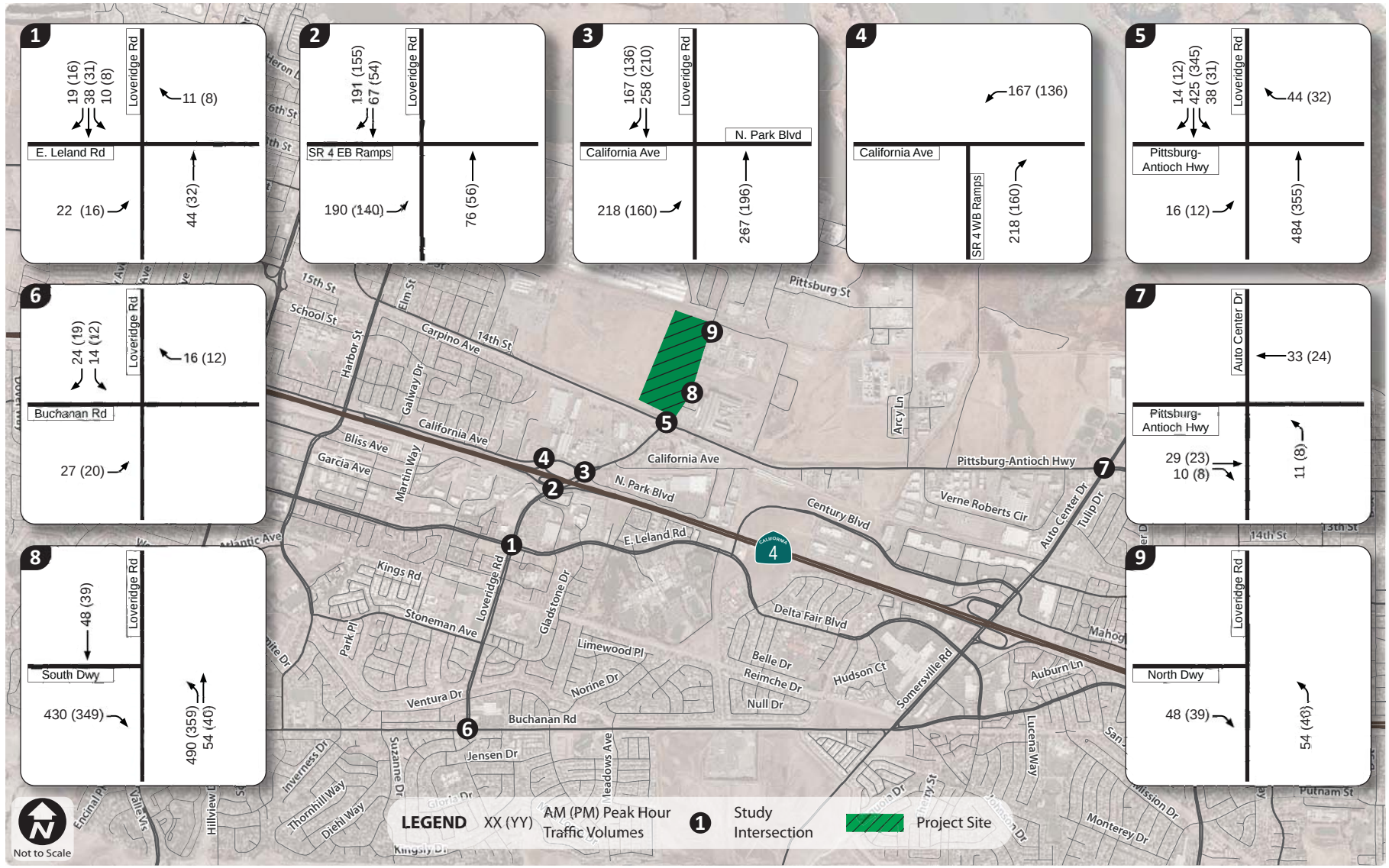
T:_CS\Work\Pittsburg, City of\P10-0144 Mt. Diablo Resource Recovery Park\Traffic Figure



Source: Fehr & Peers, 2011

Figure 3.7-4
Trip Distribution

T:_CS\Work\Pittsburg, City of\P10-0144 Mt. Diablo Resource Recovery Park\Traffic Figure

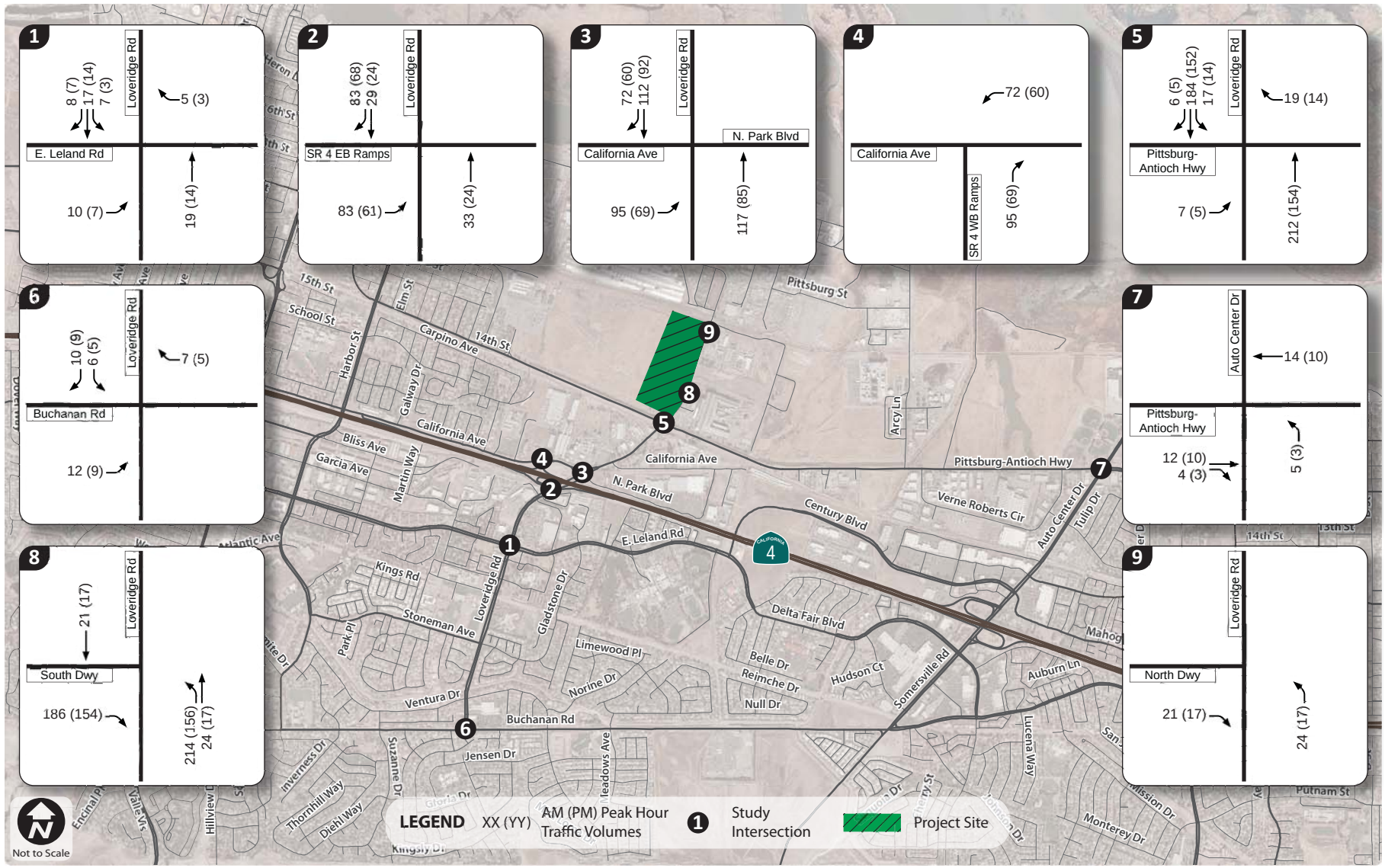


Source: Fehr & Peers, 2011

Figure 3.7-5

AM/PM Trip Assignment: Maximum Permitted Operating Conditions

T:_CS\Work\Pittsburg, City of\P10-0144 Mt. Diablo Resource Recovery Park\Traffic Figure



Source: Fehr & Peers, 2011

Figure 3.7-6

AM/PM Trip Assignment: Typical Operating Conditions

Maximum Permitted Operating Conditions

Table 3.7-7, indicates that based on CCTA methodology with the addition of project traffic under maximum permitted operating conditions, the SR 4 Eastbound Ramps/Loveridge Road intersection would degrade to a LOS high-D (V/C of 0.85 to 0.90) during the PM peak hour, thus resulting in a significant impact. Additionally, the Pittsburg-Antioch Highway/Loveridge Road intersection would degrade from LOS B to LOS F during the AM peak hour and would degrade from LOS E to LOS F (an increase in V/C of more than 0.01) during the PM peak hour, thus resulting in a significant impact.

Based on the HCM methodology, both the SR 4 Eastbound Ramps/Loveridge Road and Pittsburg-Antioch Highway/Loveridge Road intersections would operate at LOS F during at least one of the peak hours with the addition of project traffic under maximum permitted operating conditions. The project driveways would continue to operate at acceptable service levels.

Mitigation Measures

MM 3.7.1a The proposed project shall contribute their fair share to implement the SR 4 widening project, which would result in improvements at the SR 4 Eastbound Ramps/Loveridge Road intersection that would increase capacity. These improvements include:

- Convert the existing configuration from a "T" intersection to a four-leg intersection.
- Modify eastbound approach from its current configuration which provides one shared left-turn/through lane and one right-turn lane to provide two left-turn lanes and one right-turn lane.
- Modify southbound approach from its current configuration which provides one through lane and one shared through/right-turn lane to provide two left-turn lanes and two through lanes.
- Modify northbound approach from its current configuration which provides one through lane and one shared through/right-turn lane to provide two through lanes and one right-turn lane.

Timing/Implementation: *Payment of fees shall be included as a condition of approval of a Conditional Use Permit*

Enforcement/Monitoring: *City of Pittsburg Development Services Department*

The proposed project will contribute their fair share to implement these improvements through the payment of local and regional traffic impact fees already in place. As noted above, the improvements, which are within the Caltrans right-of-way, are currently under construction and are projected to be completed by late 2014. As shown on **Table 3.7-8**, after implementation of these improvements, the intersection would improve to LOS B during the PM peak hour, reducing this impact to a level of less than significant.

TABLE 3.7-7
EXISTING AND EXISTING PLUS PROJECT PEAK HOUR INTERSECTION LEVEL OF SERVICE

Intersection	Control[1]	Peak Hour	Existing Conditions				Existing Plus Project (Maximum Permitted Operating Conditions)				Existing Plus Project (Typical Operating Conditions)			
			Delay[2]	LOS[3] HCM	V/C[4]	LOS[3] CCTA	Delay[2]	LOS[3] HCM	V/C[4]	LOS[3] CCTA	Delay[2]	LOS[3] HCM	V/C[4]	LOS[3] CCTA
1. East Leland Rd/ Loveridge Rd	Signal	AM	41	D	0.515	A	42	D	0.539	A	41	D	0.525	A
		PM	43	D	0.629	A	44	D	0.642	B	44	D	0.635	B
2. SR 4 Eastbound Ramps/ Loveridge Rd	Signal	AM	23	C	0.504	A	44	D	0.562	A	27	C	0.514	A
		PM	57	E	0.768	C	***86***	***F***	***0.865***	***D***	69	E	0.810	D
3. California Ave/Northpark Blvd/Loveridge Rd	Signal	AM	21	C	0.639	A	34	C	0.788	C	26	C	0.697	B
		PM	31	C	0.506	A	38	D	0.595	A	34	C	0.539	A
4. SR 4 Westbound Ramps/California Ave	Signal	AM	30	C	0.550	A	27	C	0.606	B	29	C	0.574	A
		PM	29	C	0.649	A	29	C	0.694	B	29	C	0.669	B
5. Pittsburg-Antioch Hwy/ Loveridge Rd	Signal	AM	100	F	0.687	B	***> 200***	***F***	***1.100***	***F***	***> 200***	***F***	***0.866***	***D***
		PM	101	F	0.968	E	***> 200***	***F***	***1.185***	***F***	***189***	***F***	***1.064***	***F***
6. Buchanan Rd/Loveridge Rd	Signal	AM	48	D	0.609	B	54	D	0.633	B	50	D	0.620	B
		PM	28	C	0.616	B	30	C	0.623	B	29	C	0.619	B
7. W 10th St/Auto Center Dr	Signal	AM	20	B	0.395	B	21	C	0.412	A	21	C	0.402	A
		PM	19	B	0.507	A	20	C	0.514	A	19	B	0.510	A
8. Loveridge Rd/Project South Driveway	SSSC	AM	2 (9)	A (A)	–	–	8 (13)	A (B)	–	–	5 (10)	A (A)	–	–
		PM	2 (9)	A (A)			8 (13)	A (B)			5 (10)	A (A)		
9. Loveridge Rd/Project North Driveway	SSSC	AM	0 (9)	A (A)	–	–	2 (9)	A (A)	–	–	1 (9)	A (A)	–	–
		PM	1 (9)	A (A)			2 (9)	A (A)			1 (9)	A (A)		

Source: Fehr & Peers 2011

Notes:

1. Signal = signalized intersection; SSSC = side-street stop-controlled intersection

2. Delay presented as seconds per vehicle; for side-street stop=controlled intersections, delay presented as intersection average (worst approach)

3. LOS = level of service

4. CCTA volume-to-capacity (V/C) ratios. Signalized intersection level of service based on Technical Procedures (Contra Costa Transportation Authority 2006).

MM 3.7.1b The proposed project shall contribute their fair share to implement the following measures at the Pittsburg-Antioch Highway/Loveridge Road intersection:

- Install a dedicated eastbound right-turn lane on Pittsburg-Antioch Highway.
- Install a second westbound left-turn lane on Pittsburg-Antioch Highway.
- Upgrade existing traffic signal equipment to accommodate the changed intersection lane configurations.

Timing/Implementation: *Payment of fees shall be included as a condition of approval of a Conditional Use Permit*

Enforcement/Monitoring: *City of Pittsburg Development Services Department*

The proposed project shall contribute their fair share to implement these improvements through the payment of local and regional traffic impact fees. The widening of Pittsburg-Antioch Highway from a two-lane roadway to a four-lane roadway is identified in the City of Pittsburg's Capital Improvement Program (CIP) as project ST-59. Additionally, the reconfiguration of the eastbound approach, as documented above, is consistent with an improvement project included in the CIP. Further, the project is on the Traffic Mitigation Fee (TMF) list, which makes it eligible to receive local and regional traffic mitigation funds. As shown on **Table 3.7-8**, after implementation of this measure, the intersection would improve to LOS C during the AM peak hour and result in a lower V/C than without project conditions during the PM peak hour. Therefore, this mitigation measure would reduce this impact to less than significant. However, while the improvement is listed in the CIP, there is no funding plan identified. Since funding for the full improvement is not certain it is unlikely that this improvement will be in place before the project is completed; therefore this impact remains **significant and unavoidable.**

3.7.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

Cumulative (Year 2030) traffic volumes were derived from the Contra Costa County Travel Demand Model (TDM) and include planned roadway improvements. The model volumes and existing turning movement count data were used to estimate future intersection turn movements using the Furness method. The resulting traffic volumes are shown on **Figure 3.7-7**.

Cumulative Intersection Operations

The Cumulative and Cumulative Plus Project intersection analysis results are provided in **Table 3.7-8**. As shown, under cumulative conditions, all study intersections and project driveways are projected to operate at acceptable levels. Detailed intersection LOS calculation worksheets are provided in Appendix C of **Appendix J**.

Typical Operating Conditions

With the addition of project traffic under typical operating conditions based on the CCTA methodology, all study intersections and project driveways are projected to operate at acceptable levels. However, based on the HCM methodology, the Pittsburg-Antioch Highway/ Loveridge Road intersection would operate at LOS F during both AM and PM peak hours with the addition of typical operating condition project traffic, creating a significant impact.

Maximum Permitted Operating Conditions

With the addition of project traffic under maximum permitted operating conditions based on CCTA methodology, the Pittsburg-Antioch Highway/Loveridge Road intersection would degrade to LOS D during the AM peak hour and to LOS E during the PM peak hour. Based on the HCM methodology, the Pittsburg-Antioch Highway/Loveridge Road intersection would operate at LOS F during both AM and PM peak hours with the addition of project traffic under maximum permitted and typical operating conditions.

The driveways would continue to operate at acceptable service levels.

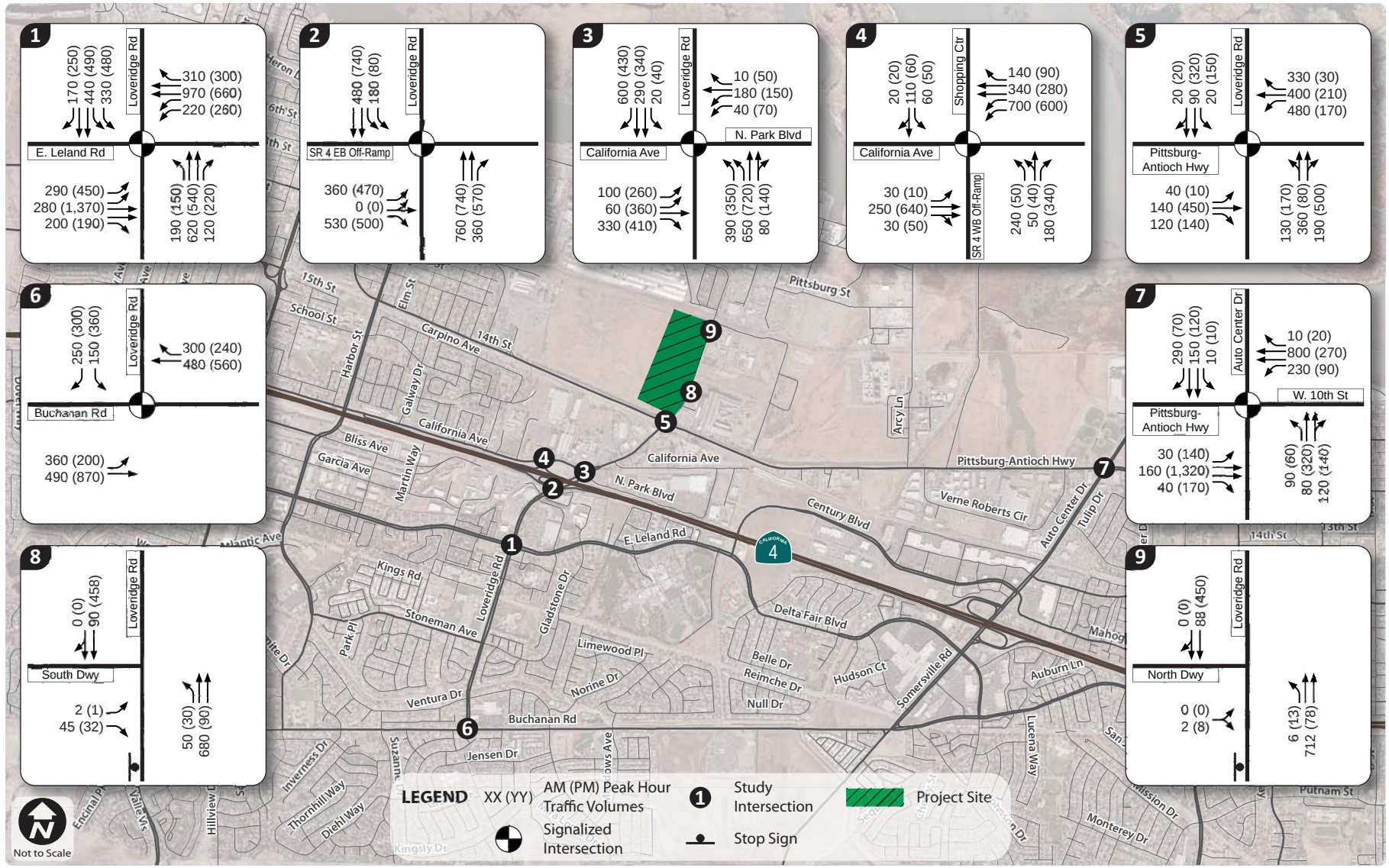
Cumulative Traffic Impacts

Impact 3.7.2 Operations at the Pittsburg-Antioch Highway/Loveridge Road intersection are projected to degrade with the addition of project traffic. This would result in a **cumulatively considerable** impact.

Based on the HCM methodology, the Pittsburg-Antioch Highway/Loveridge Road intersection would operate at LOS F during both AM and PM peak hours with the addition of typical operating condition project traffic, creating a significant impact.

With the addition of project traffic under maximum permitted operating conditions based on CCTA methodology, the Pittsburg-Antioch Highway/Loveridge Road intersection would degrade to LOS D during the AM peak hour and to LOS E during the PM peak hour. Based on the HCM methodology, the Pittsburg-Antioch Highway/Loveridge Road intersection would operate at LOS F during both AM and PM peak hours with the addition of project traffic under maximum permitted and typical operating conditions.

T:_CS\Work\Pittsburg, City of\P10-0144 Mt. Diablo Resource Recovery Park\Traffic Figure



Source: Fehr & Peers, 2011

Figure 3.7-7

AM/PM Trip Assignment: Peak Hour Traffic Volumes, Lane Configuration and Traffic Control

Mitigation Measures

MM 3.7.2 The project applicant shall pay the project's fair share of the cost to implement the following measures at the Pittsburg-Antioch Highway/Loveridge Road intersection:

- Install an additional left-turn lane on the westbound Pittsburg-Antioch Highway approach.
- Install a dedicated left-turn lane on the northbound Loveridge Road approach.
- Convert the existing shared left-turn/through lane on the northbound Loveridge Road approach to be a through-only lane.
- Modify signal phasing in the north/south direction from split phase to having protected left-turns.
- Upgrade existing traffic signal equipment to accommodate the recommended intersection lane configurations.

Timing/Implementation: *Payment of fees shall be included as a condition of approval of a Conditional Use Permit*

Enforcement/Monitoring: *City of Pittsburg Development Services Department*

As shown in **Table 3.7-8**, under typical operating conditions, the proposed project would have a less than significant impact on the operations at this intersection. As shown on **Table 3.7-9**, after implementation of this measure, the intersection would improve to LOS B and C during the AM and PM peak hours, respectively. However, widening along Loveridge Road to accommodate an additional northbound lane is constrained due to proximity to the railroad crossing, so improvements to this portion of Loveridge Road would likely be infeasible. Therefore, the operating conditions at this intersection remain significant and unavoidable, and the project's contribution to the impact under maximum permitted conditions would be **cumulatively considerable**.

TABLE 3.7-8
CUMULATIVE (2030) AND CUMULATIVE (2030) PLUS PROJECT PEAK HOUR INTERSECTION LEVEL OF SERVICE

Intersection	Control	Peak Hour	Cumulative Conditions				Cumulative Plus Project (Maximum Permitted Operating Conditions)				Cumulative Plus Project (Typical Operating Conditions)			
			Delay[2]	LOS[3] HCM	V/C[4]	LOS[3] CCTA	Delay[2]	LOS[3] HCM	V/C[4]	LOS[3] CCTA	Delay[2]	LOS[3] HCM	V/C[4]	LOS[3] CCTA
1. East Leland Road/ Loveridge Road	Signal	AM	48	D	0.689	B	49	D	0.713	C	48	D	0.699	B
		PM	53	D	0.825	D	54	D	0.838	D	53	D	0.831	D
2. SR 4 Eastbound Ramps/ Loveridge Road	Signal	AM	27	C	0.587	A	37	D	0.670	B	31	C	0.623	B
		PM	25	C	0.648	B	31	C	0.697	B	28	C	0.669	B
3. California Avenue/ North Park Boulevard/ Loveridge Road	Signal	AM	37	D	0.603	B	59	E	0.704	C	34	C	0.646	B
		PM	32	C	0.532	A	33	C	0.586	A	31	C	0.552	A
4. SR 4 Westbound Ramps/ California Avenue	Signal	AM	27	C	0.494	A	28	C	0.549	A	27	C	0.518	A
		PM	26	C	0.488	A	29	C	0.561	A	27	C	0.508	A
5. Pittsburg-Antioch Highway/Loveridge Road	Signal	AM	61	E	0.615	B	***180***	***F***	***0.895***	***D***	***107***	***F***	0.737	C
		PM	58	E	0.782	C	***136***	***F***	***0.922***	***E***	***86***	***F***	0.829	D
6. Buchanan Road/ Loveridge Road	Signal	AM	38	D	0.576	A	45	D	0.599	A	41	D	0.586	A
		PM	34	C	0.715	C	35	D	0.722	C	35	C	0.718	C
7. W 10th Street/ Auto Center Drive	Signal	AM	31	C	0.473	A	32	C	0.489	A	31	C	0.480	A
		PM	26	C	0.600	B	27	C	0.607	B	26	C	0.603	B
8. Loveridge Road/ Project South Driveway	SSSC	AM	1 (9)	A (A)	–	–	6 (13)	A (B)	–	-	3 (10)	A (A)	–	–
		PM	1 (10)	A (A)			7 (15)	A (B)			4 (11)	A (B)		
9. Loveridge Road/ Project North Driveway	SSSC	AM	0 (9)	A (A)	–	–	8 (9)	A (A)	–	–	8 (9)	A (A)	-	–
		PM	0 (10)	A (A)			8 (9)	A (A)			8 (8)	A (A)		

Source: Fehr & Peers 2011

*Note: Results in **bold** represent unacceptable levels of service, **bold italics** represent significant impact.*

1. Signal = signalized intersection; SSSC = side-street stop-controlled intersection

2. Delay presented as seconds per vehicle; for side-street stop-controlled intersections, delay presented as Intersection average (worst approach).

3. LOS = level of service

4. CCTA volume- to- capacity (V/C) ratios. Signalized intersection level of service based on Technical Procedures (Contra Costa Transportation Authority 2006)

TABLE 3.7-9
CUMULATIVE PLUS PROJECT MITIGATED PEAK HOUR INTERSECTION LEVEL OF SERVICE

Intersection	Control[1]	Peak Hour	Without Project				Plus Project				Plus Project Mitigated			
			Delay[2]	LOS[3] HCM	V/C[4]	LOS[3] CCTA	Delay[2]	LOS[3] HCM	V/C[4]	LOS[3] CCTA	Delay[2]	LOS[3] HCM	V/C[4]	LOS[3] CCTA
Maximum Permitted Operating Conditions														
5. Pittsburg-Antioch Highway/Loveridge Road	Signal	AM	61	E	0.615	B	180	F	***0.895***	***D***	55	D	0.625	B
		PM	58	E	0.782	C	136	F	***0.922***	***E***	63	E	0.742	C

Source: Fehr & Peers, 2011.

*Note: Results in **bold** represent unacceptable levels of service, **bold italics** represent significant impact.*

1. Signal = signalized intersection.

2. Delay presented as seconds per vehicle.

3. LOS = level of service

4. CCTA volume-to-capacity (V/C) ratios. Signalized intersection level of service based on Technical Procedures (Contra Costa Transportation Authority 2006).

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3.8 Biological Resources

This section describes the existing biological resources, including special-status species and sensitive habitat known to occur and/or have the potential to occur on the 36-acre proposed project site (study area). In addition, the section includes a summary of the regulations and programs that provide protective measures to special-status species, an analysis of impacts to biological resources that could result from project implementation, and a discussion of mitigation measures necessary to reduce impacts to a less than significant level, where feasible.

Note to the reader: As of January 1, 2013, the agency formerly known as the California Department of Fish and Game (CDFG) changed its name to the California Department of Fish and Wildlife (CDFW). For purposes of this discussion, the agency names and abbreviations are interchangeable.

3.8.1 EXISTING SETTING

Several steps were taken to characterize the environmental setting in the project vicinity. Project-related documentation, including the biological resources reports prepared by Mosaic Associates LLC (2013 and 2014; **Appendix K**), was reviewed to collect site-specific data regarding habitat suitability for special-status species, as well as the identification of potentially jurisdictional waters. Additional information was obtained from a variety of outside data sources and can be found in the reference list at the end of the section. Preliminary database searches were performed to identify special-status species with the potential to occur in the area.

Database searches were performed on the following websites:

- US Fish and Wildlife Service's (USFWS) Sacramento Office Species Lists (2013a)
- USFWS's Critical Habitat Portal (2013b)
- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (2013a)
- California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants of California (2013)

A search of the USFWS Sacramento Office's database was performed for the Antioch North, Denverton, Birds Landing, Rio Vista, Jersey Island, Brentwood, Antioch South, Clayton, and Honker Bay, California, US Geological Survey (USGS) 7.5-minute quadrangles to identify special-species within their jurisdiction that may be affected by project components. A query of the USFWS Critical Habitat Portal identified no critical habitat within the study area. A query of the CNDDB provided a list of known occurrences for special-status species within a 1- and 5-mile radius of the study area. The CNPS database was queried to identify special-status plant species with the potential to occur in the Antioch North, California, USGS 7.5-minute quadrangle. Raw data from the database queries is provided in **Appendix K**. Please see **Table 3.8-1** for a summary of the database search results and conclusions regarding the potential for special-status species to be impacted by project-related activities.

BIOLOGICAL COMMUNITIES

The study area comprises four biological communities: urban, ruderal grassland, Kirker Creek, and drainage ditch. These biological community types are depicted in **Figure 3.8-1** and are described below. The community descriptions are primarily derived the CDFW's (2013a) *A Guide to Wildlife Habitats of California* and the site biological resources report (Mosaic Associates 2013; **Appendix K**).

Urban

Urban land comprises approximately 23.11 acres of the study area and includes a recently demolished power plant operated by GWF Power Systems, an old detention basin, the operating facility of the Mt. Diablo Recycling Facility, a vacant area used for stockpiling ground aggregate, and several access roads connecting the features of the site.

The site of the former GWF power plant is directly south of the current Mt. Diablo Recycling Facility. The northern, eastern, and western boundaries of the GWF site are planted with nonnative eucalyptus trees and two Fremont cottonwood (*Populus fremontii*) trees. These trees represent potential nesting sites for various migratory birds and raptors. Other than the trees, weedy annual vegetation grows in fragments between the hardscape and along the edges of disturbance. Common plant species include milk thistle (*Lactuca serriola)*, butcher grass (*Conyza canadensis)*, ripgut brome (*Bromus diandrus*), common mallow (*Malva neglecta*), yellow star-thistle (*Centaurea solstitialis*), and telegraph weed (*Heterotheca grandiflora)*. Developed areas generally have a low habitat value for wildlife because of the high degree of disturbance, although a number of species adapted for disturbed conditions can utilize these areas.

Ruderal Grassland

The study area contains approximately 12 acres of ruderal annual grassland, which includes 5 acres currently covered with gravel that was previously permitted under the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) for temporary impacts. The project site was historically used as a landfill and has been subject to extensive disturbance. Piles of debris are found throughout the site. The predominant substrate is a loose mixture of rock and nonnative sandy soils.

The ruderal grasslands in the study area comprise sparse nonnative vegetation dominated by a mixture of annual grasses and weeds including black mustard (*Brassica nigra*), Italian thistle (*Carduus pycnocephalus*), stinkweed (*Dittrichia graveolens*), pepperweed (*Lepidium latifolium*), wild radish (*Raphanus sativus*), soft chess (*Bromus hordeaceus*), yellow star-thistle, and rat-tail fescue (*Vulpia myuros*). Small mammal burrows are widely distributed and abundant throughout the ruderal areas. Small mammals observed in past surveys include black-tailed jackrabbit (*Lepus californicus*), cottontail rabbit (*Sylvilagus bachmani*), and California ground squirrel (*Spermophilus beecheyi*).

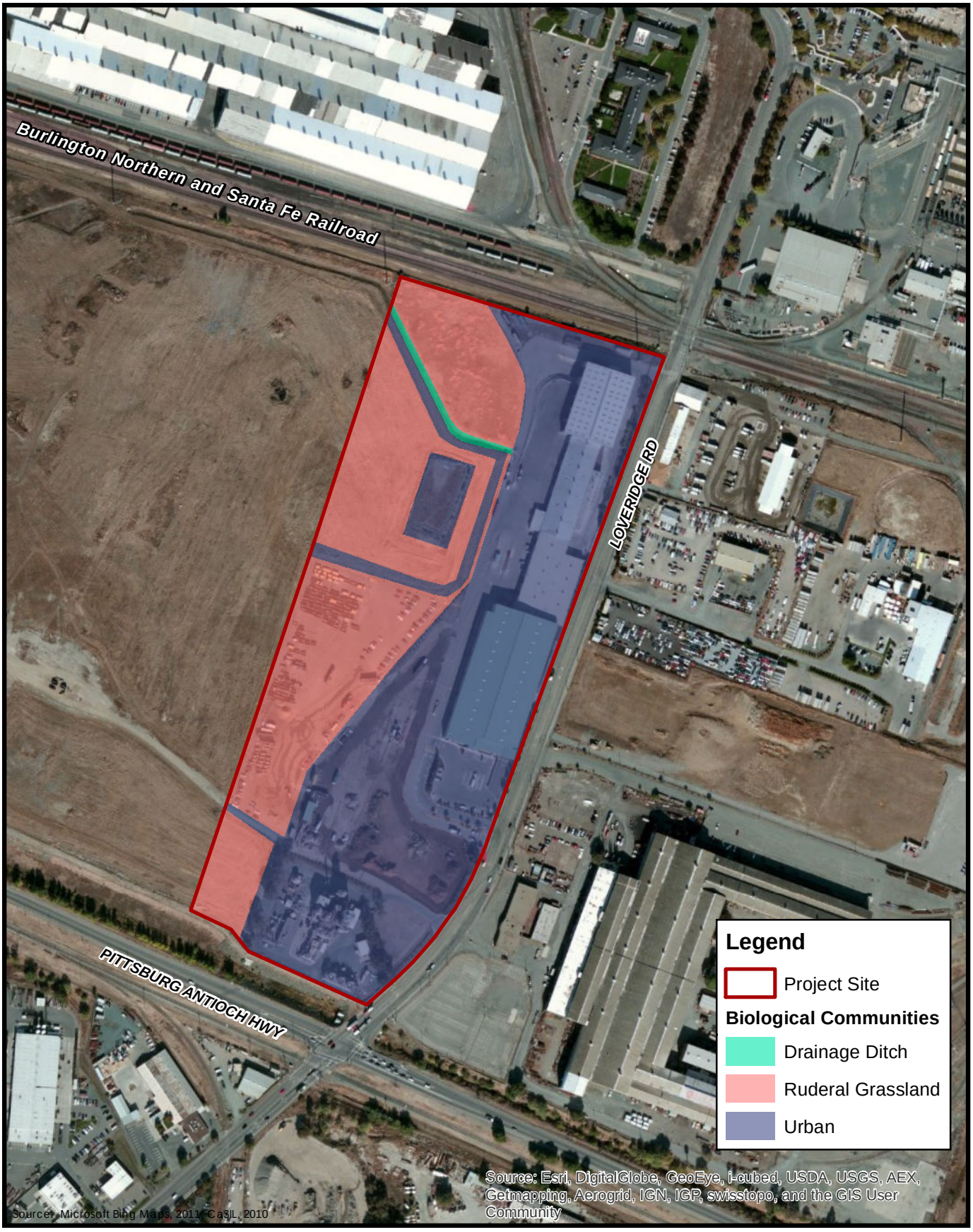


Figure 3.8-1
Biological Communities with the Project Site

Kirker Creek

A portion of Kirker Creek runs along the southern boundary of the study area, directly to the south of the former site of the GWF power plant. Kirker Creek is an ephemeral creek that is normally dry April through November; however, irrigation and urban runoff can keep some areas of the creek wet throughout the year. A roadway is located north of the creek, and the banks of the creek are lined with riprap. No construction is proposed in or near Kirker Creek.

A mixture of native and exotic vegetation grows in Kirker Creek. Wild oat (*Avena fatua*) telegraph weed, prickly Russian thistle (*Salsola tragus*), and common mallow are the dominant species growing in and around the creek. Castor bean shrubs (*Ricinus communis*) grow in the gaps of the riprapped bank. The wetter areas of the streambed are thickly vegetated with wild oat, umbrella sedge (*Cyperus eragrostis)*, curly dock (*Rumex crispus*), dallisgrass (*Paspalum dilatatum),* rough cocklebur (*Xanthium strumerium*), pepperweed, and American sloughgrass (*Bechmannia syzgachne*).

Riparian trees and shrubs west and east of the study area provide habitat for a variety of wildlife species; however, the limited and ruderal nature of the vegetation established along the creek limits its habitat value.

Drainage Ditch

A man-made drainage ditch is located near the northern boundary of the study area and is surrounded by ruderal grassland. The earthen drainage ditch carries stormwater runoff from the recycling facility. There are approximately 650 linear feet of the ditch in the study area. Runoff enters the ditch from a culvert at the west edge of the recycling facility and flows west until the ditch empties into a seasonal freshwater marsh approximately 0.25 mile west of the study area. The ditch is sparsely vegetated with black mustard, ripgut brome, wild oat, Italian thistle, fiddle dock (*Rumex pulcher)*, rabbitsfoot grass (*Polypogon monspeliensis*), umbrella sedge, and pepperweed.

TRC Solutions prepared a delineation of waters of the United States for the Columbia Solar project in December 2012 for the western portion of the study area, including the section of the man-made ditch on-site. The jurisdictional determination by the US Army Corps of Engineers (USACE) concluded that there were no wetlands or other waters present in the area surveyed that were subject to the USACE authority under Section 404 of the federal Clean Water Act (**Appendix K**). As part of the project, the drainage ditch will be replaced with a 36-inch underground storm drain line.

SPECIAL-STATUS SPECIES

Special-status plant and animal species are those that are afforded special recognition by federal, state, or local resource agencies or organizations. Special-status species are of relatively limited distribution and generally require specialized habitat conditions. Special-status species are defined as:

1) Listed, proposed, or candidate for listing under the California or federal Endangered Species Acts

2) Protected under other regulations (e.g., local policies, Migratory Bird Treaty Act)

3) CDFW Species of Special Concern and California Fully Protected Species

4) Listed as species of concern (List 1A, 1B, or 2 plants) by the CNPS

5) Species that receive consideration during environmental review under the California Environmental Quality Act (CEQA)

Figure 3.8-2 depicts the locations of special-status species recorded within a 1-mile radius of the study area. The habitat preferences for each special-status species were carefully reviewed and considered in the context of the study area limits. Species defined as having no potential for occurrence are not expected to occur based on the known elevation or distribution range of the species or the lack of suitable habitat.

Special-Status Plant Species

Based on database search results, no special-status plant species have the potential to occur in the study area. In addition, the history of past disturbance and extensive surrounding development precludes the potential presence of special-status plants.

Special-Status Wildlife Species

Based on database search results and past occurrences, four special-status wildlife species have the potential to occur in the study area. Each species considered in the impact analysis is described below based on data obtained from the CDFW's (2013c) California Wildlife Habitat Relationships System Life History Accounts and Range Maps as well as other published data sources, as cited.

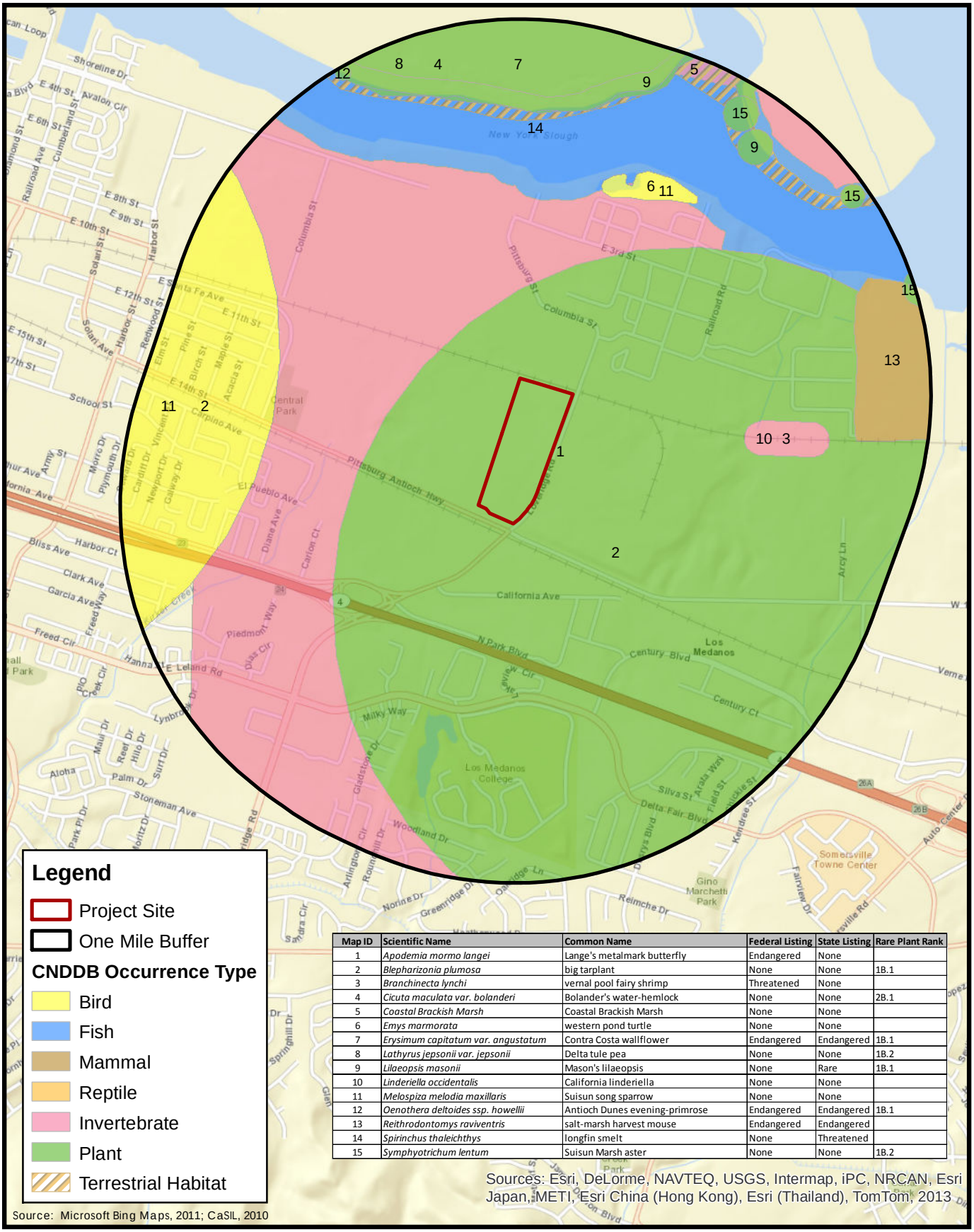
Burrowing Owl (*Athene cunicularia*)

Burrowing owls are a California species of special concern. Burrowing owls are typically year-round residents of open, dry grassland and desert habitats at elevations up to 5,300 feet. They can also be found in grass, forb, and open shrub stages of ponderosa pine and pinyon-juniper habitats. This species typically uses small mammal burrows for roosting and nesting cover, but they may dig their own burrow in friable soil. Man-made structures, such as pipes and culverts, are used for cover when burrows are scarce.

Numerous small mammal burrows have been observed in the ruderal areas of the study area. These areas provide suitable foraging, roosting, and breeding habitat for burrowing owls. No individuals or sign were observed during previous site surveys; however, one burrowing owl was observed approximately 1,000 feet west of the study area during a planning survey for the Columbia Solar project on October 30, 2012 (TRC Solutions 2013). In addition, the presence of potentially suitable habitat and the presence of five CNDDB occurrences within 5 miles of the study area result in the potential for this species to be impacted by project-related activities.

Golden Eagle (*Aquila chrysaetos*)

Golden eagles are a California fully protected species found throughout the state ranging from sea level to 11,500 feet. Golden eagles are mostly permanent residents, but some will migrate throughout California. This species is typically found in mountain areas, rolling hills, deserts, and sage-juniper flats. Golden eagles require open terrain for hunting and large trees or cliffs for nesting. Golden eagles have been documented nesting in oaks, pines, eucalyptus, and western sycamore (Hunt et al. 1998).



Map ID	Scientific Name	Common Name	Federal Listing	State Listing	Rare Plant Rank
1	*Apodemia mormo langei*	Lange's metalmark butterfly	Endangered	None	
2	*Blepharizonia plumosa*	big tarplant	None	None	1B.1
3	*Branchinecta lynchi*	vernal pool fairy shrimp	Threatened	None	
4	*Cicuta maculata var. bolanderi*	Bolander's water-hemlock	None	None	2B.1
5	*Coastal Brackish Marsh*	Coastal Brackish Marsh	None	None	
6	*Emys marmorata*	western pond turtle	None	None	
7	*Erysimum capitatum var. angustatum*	Contra Costa wallflower	Endangered	Endangered	1B.1
8	*Lathyrus jepsonii var. jepsonii*	Delta tule pea	None	None	1B.2
9	*Lilaeopsis masonii*	Mason's lilaeopsis	None	Rare	1B.1
10	*Linderiella occidentalis*	California linderiella	None	None	
11	*Melospiza melodia maxillaris*	Suisun song sparrow	None	None	
12	*Oenothera deltoides ssp. howellii*	Antioch Dunes evening-primrose	Endangered	Endangered	1B.1
13	*Reithrodontomys raviventris*	salt-marsh harvest mouse	Endangered	Endangered	
14	*Spirinchus thaleichthys*	longfin smelt	None	Threatened	
15	*Symphyotrichum lentum*	Suisun Marsh aster	None	None	1B.2

Figure 3.8-2
Recorded Occurrences of Special-Status Species within One-Mile of the Project Site

PMC

The ruderal grassland on-site represents potential foraging habitat for golden eagles, and the large eucalyptus trees on the perimeter of the GWF site may be potential, if marginal, nesting habitat for the species. The database queries conducted during the literature review did not reveal the potential for this species to occur within the study area. However, two golden eagles (one adult, one immature) were observed by TRC biologists during October 2012 surveys for the Columbia Solar project, approximately 850 feet west of the study area (TRC Solutions 2013). The adult was reported to have been observed perching on the fence along the southern boundary of the study area, while the immature eagle was reported to have circled the trees south of the site. No courtship or nesting behaviors were reported by the TRC biologists.

Swainson's Hawk (*Buteo swansonii*)

Swainson's hawks are listed by the State of California as threatened. This species is typically a complete migrant in that they breed in North America and winter in South America. Swainson's hawks typically arrive at their breeding grounds in early to mid-April and begin their southern migration in early September. The majority of breeding Swainson's hawks occur in two disjunct populations in California, the Great Basin, and the Central Valley, although they can be found in desert, shrubsteppe, grassland, and agricultural habitats across the state. This species is not an obligate riparian species; the correlation with riparian habitat is variable and dependent on the availability and distribution of suitable nest sites in proximity to high-value foraging habitat (Woodbridge 1998). Swainson's hawks have been documented nesting in cottonwoods, oaks, eucalyptus, and black walnut (Schlorff and Bloom 1984). Foraging habitats are generally low-growing row or field crops, dryland and irrigated pastures, and open habitats with short vegetation and small mammals. Agricultural areas are often preferred over natural grassland habitats because of the increased presence of prey in these artificially constructed areas.

The database queries conducted during the literature review did not reveal the potential for this species to occur in the vicinity of the study area. However, one Swainson's hawk was reported to have been observed by biologists on April 26, 2010, approximately 1 mile northwest of the study area. This occurrence was reported in the July 8, 2010, East Contra Costa County HCP/NCCP Planning Survey Report for Site L-A Material Stockpile project (TRC Solutions 2013). The ruderal grasslands in the study area provide low quality foraging habitat for Swainson's hawk, and the large trees on-site could serve as potential nest sites.

White-Tailed Kite (*Elanus leucurus*)

White-tailed kites are a California fully protected species. This species is a year-round resident of coastal and valley lowlands. They are typically found near agricultural areas in herbaceous and open stages of most habitat types. White-tailed kites forage in grasslands, meadows, farmlands, and emergent wetlands, and they use stands of deciduous trees with dense canopies as cover for roosting and nesting.

Ruderal grassland areas in the study area provides foraging habitat for white-tailed kite, while trees on-site provide potential nesting sites. The presence of suitable habitat and the presence of a CNDDB occurrence within 5 miles of the study area result in the potential for this species to be impacted by project-related activities.

TABLE 3.8-1
SPECIES SUMMARY

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	General Habitat Characteristics	Habitat Present/ Absent	Rationale
Plants							
Amsinckia grandiflora	large-flowered fiddleneck	FE	SE	1B.1	Cismontane woodland, and valley and foothill grassland. Elev: 902–1,804 feet. Blooms: April–May (CNPS 2013).	A	**No effect**. Study area elevation range is 20–40 feet.
Anomobryum julaceum	slender silver moss	—	—	2.2	Damp rock and soil on outcrops in broadleafed upland forest, lower montane coniferous forest, and North Coast coniferous forest. Usually on roadcuts. Elev: 328–3,281 feet (CNPS 2013).	A	**No effect**. Study area elevation range is 20–40 feet. Suitable habitat is not present.
Arctostaphylos auriculata	Mt. Diablo manzanita	—	—	1B.3	Cismontane woodland and sandstone soils in chaparral. Elev: 443–2,133 feet. Blooms: Jan–March (CNPS 2013).	A	**No effect**. Study area elevation range is 20–40 feet. Suitable habitat is not present.
Arctostaphylos manzanita ssp. *laevigata*	Contra Costa manzanita	—	—	1B.2	Rocky chaparral. Elev: 1,640–3,609 feet. Blooms: Jan–Apr (CNPS 2013).	A	**No effect**. Study area elevation range is 20–40 feet. Suitable habitat is not present.
Astragalus tener var. *tener*	alkali milk-vetch	—	—	1B.2	Alkaline areas in playas, vernal pools, and adobe clay valley and foothill grasslands. Elev: 3–197 feet. Blooms: Mar–June (CNPS 2013).	A	**No effect**. Suitable habitat not present.
Atriplex cordulata var. *cordulata*	heartscale	—	—	1B.2	Saline or alkaline areas in chenopod scrub, meadows, seeps, and valley and foothill grassland. Elev: 0–1,837 feet. Blooms: Apr–Oct (CNPS 2013).	A	**No effect**. Suitable habitat not present.

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	General Habitat Characteristics	Habitat Present/ Absent	Rationale
Atriplex depressa	brittlescale	—	—	1B.2	Alkaline and clay areas in chenopod scrub, meadows, seeps, playas, vernal pools, and valley and foothill grasslands. Elev: 3–1,050 feet. Blooms: Apr–Oct (CNPS 2013).	A	**No effect**. Suitable habitat not present.
Atriplex joaquinana	San Joaquin spearscale	—	—	1B.2	Alkaline chenopod scrub, meadows, seeps, playas, and valley and foothill grasslands. Elev: 3–2,740 feet. Blooms: Apr–Oct (CNPS 2013).	A	**No effect**. Suitable habitat not present.
Blepharizonia plumosa	big tarplant	—	—	1B.1	Usually clay in valley and foothill grasslands. Elev: 98–1,657 feet. Blooms: July–Oct (CNPS 2013).	A	**No effect**. Study area elevation range is 20–40 feet.
California macrophylla	round-leaved filaree	—	—	1B.1	Clay soils in cismontane woodland and valley and foothill grasslands. Elev: 49–3,937 feet. Blooms: March–May (CNPS 2013).	A	**No effect**. Study area elevation range is 20–40 feet.
Calochortus pulchellus	Mt. Diablo fairy-lantern	—	—	1B.2	Chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland. Elev: 98–2,756 feet. Blooms: Apr–June (CNPS 2013).	A	**No effect**. Study area elevation range is 20–40 feet.
Chloropyron molle ssp. *molle*	soft bird's-beak	FE	SR	1B.2	Coastal salt marshes and swamps. Elev: 0–10 feet. Blooms: July–Nov (CNPS 2013).	A	**No effect**. Suitable habitat not present.
Cirsium hydrophilum var. *hydrophilum*	Suisun thistle	FE	—	1B.1	Salt marshes and swamps. Elev: 0–10 feet. Blooms: June–Sept (CNPS 2013).	A	**No effect**. Suitable habitat not present.
Cicuta maculata var. *bolanderi*	Bolander's water-hemlock	—	—	2.1	Coastal, fresh or brackish marshes and swamps. Elev: 0–656 feet. Blooms: July–Sept (CNPS 2013).	A	**No effec**t. Suitable habitat not present.
Cryptantha hooveri	Hoover's cryptantha	—	—	1A	Inland dunes and sandy valley and foothill grasslands. Elev: 30–492 feet. Blooms: Apr–May (CNPS 2013).	A	**No effect**. Suitable habitat not present.

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	General Habitat Characteristics	Habitat Present/ Absent	Rationale
Downingia pusilla	dwarf downingia	—	—	2.2	Vernal pools and mesic valley and foothill grasslands. Elev: 3–1,460 feet. Blooms: Mar–May (CNPS 2013).	A	**No effect**. Suitable habitat not present.
Eriogonum nudum var. *psychicola*	Antioch Dunes buckwheat	—	—	1B.1	Inland dunes. Elev: 0–66 feet. Blooms: July–Oct (CNPS 2013).	A	**No effect**. Suitable habitat not present.
Eriogonum truncatum	Mt. Diablo buckwheat	—	—	1B.1	Sandy areas in chaparral, coastal scrub, and valley and foothill grasslands. Elev: 10–1,148 feet. Blooms: Apr–Dec (CNPS 2013).	A	**No effect**. Suitable habitat not present.
Erysimum capitatum var. *angustatum*	Contra Costa wallflower	FE	SE	1B.1	Inland dunes. Elev: 10–66 feet. Blooms: Mar–July (CNPS 2013).	A	**No effect**. Suitable habitat not present.
	Critical habitat, Contra Costa wallflower	X	—	—		P	**No effect**. Critical habitat not present.
Eschscholzia rhombipetala	diamond-petaled California poppy	—	—	1B.1	Alkaline and clay valley and foothill grasslands. Elev: 0–3,199 feet. Blooms: Mar–Apr (CNPS 2013).	A	**No effect**. Suitable habitat not present.
Fritillaria liliaceae	fragrant fritillary	—	—	1B.2	Often on serpentinite soils in cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grassland. Elev: 10–1,345 feet. Blooms: Feb–Apr (CNPS 2013).	A	**No effect**. Suitable habitat not present.
Helianthella castanea	Diablo helianthella	—	—	1B.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland, broadleafed upland forest, and valley and foothill grasslands. Elev: 197–4,265 feet. Blooms: Mar–June (CNPS 2013).	A	**No effect**. Study area elevation range is 20–40 feet.
Hesperolinon breweri	Brewer's western flax	—	—	1B.2	Usually serpentinite, in chaparral, cismontane woodland, and valley and foothill grasslands. Elev: 98–2,953 feet. Blooms: May–July (CNPS 2013).	A	**No effect**. Suitable habitat not present.

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	General Habitat Characteristics	Habitat Present/ Absent	Rationale
Isocoma arguta	Carquinez goldenbush	—	—	1B.1	Alkaline valley and foothill grassland. Elev: 3–66 feet. Blooms: Aug–Dec (CNPS 2013).	A	**No effect**. Suitable habitat not present.
Lasthenia conjugens	Contra Costa goldenfields	FE	—	1B.1	Mesic areas in vernal pools, cismontane woodland, alkaline playas, and valley and foothill grasslands. Elev: 0–1,542 feet. Blooms: Mar–June (CNPS 2013).	A	**No effect**. Suitable habitat not present.
	Critical habitat, Contra Costa goldfields	X	-	-		A	**No effect**. Critical habitat not present.
Lathyrus jepsonii var. *jepsonii*	Delta tule pea	—	—	1B.2	Freshwater and brackish marshes and swamps. Elev: 0–13 feet. Blooms: May–Sept (CNPS 2013).	A	**No effect**. Suitable habitat not present.
Lilaeopsis masonii	Mason's lilaeopsis	—	SR	1B.1	Riparian scrub, and brackish or freshwater marshes and swamps. Elev: 0–33 feet. Blooms: Apr–Nov (CNPS 2013).	A	**No effect**. Suitable habitat not present.
Limosella australis	Delta mudwort	—	—	2.1	Usually mud banks in riparian scrub, and freshwater or brackish marshes and swamps. Elev: 0–10 feet. Blooms: May–Aug (CNPS 2013).	A	**No effect**. Suitable habitat not present.
Madia radiata	showy golden madia	—	—	2.1	Cismontane woodland, and valley and foothill grasslands. Elev: 82–3,986 feet. Blooms: Mar–May (CNPS 2013).	A	**No effect**. Study area elevation range is 20–40 feet.
Malacothamnus hallii	Hall's bush-mallow	—	—	1B.2	Chaparral and coastal scrub. Elev: 33–2,493 feet. Blooms: May–Oct (CNPS 2013).	A	**No effect**. Suitable habitat not present.
Navarretia nigelliformis ssp. *radians*	shining navarretia	—	—	1B.2	Sometimes clay in cismontane woodland, vernal pools, and valley and foothill grassland. Elev: 249–3,281 feet. Blooms: Apr–July (CNPS 2013).	A	**No effect**. Study area elevation range is 20–40 feet.
Neostapfia colusana	Colusa grass	FT	SE	1B.1	Large, adobe vernal pools. Elev: 16–656 feet. Blooms: May–Aug (CNPS 2013).	A	**No effect**. Suitable habitat not present.

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	General Habitat Characteristics	Habitat Present/ Absent	Rationale
Oenothera deltoides ssp. *howellii*	Antioch Dunes evening-primrose	FE	SE	1B.1	Inland dunes. Elev: 0–98 feet. Blooms: Mar–Sep (CNPS 2013).	A	**No effect**. Suitable habitat not present.
	Critical habitat, Antioch Dunes evening-primrose	X	—	—		A	**No effect**. Critical habitat not present.
Plagiobothrys hystriculus	bearded popcorn-flower	—	—	1B.1	Often in vernal swales in vernal pool margins and mesic valley and foothill grasslands. Elev: 0–899 feet. Blooms: Apr–May (CNPS 2013).	A	**No effect**. Suitable habitat not present.
Senecio aphanactis	chaparral ragwort	—	—	2.2	Sometimes alkaline in chaparral, cismontane woodland, and coastal scrub. Elev: 49–2,625 feet. Blooms: Jan–Apr (CNPS 2013).	A	**No effect**. Study area elevation range is 20–40 feet. Suitable habitat not present.
Sidalcea keckii	Keck's checker-mallow	FE	—	1B.1	Serpentinite and clay soils in cismontane woodland and valley and foothill grasslands. Elev: 246–2,133 feet. Blooms: Apr–June (CNPS 2013).	A	**No effect**. Suitable habitat not present.
Symphyotrichum lentum	Suisun Marsh aster	—	—	1B.2	Brackish and freshwater marshes and swamps. Elev: 0–10 feet. Blooms: May–Nov (CNPS 2013).	A	**No effect**. Suitable habitat not present.
Invertebrates							
Apodemia mormo langei	Lange's metalmark butterfly	FE	—		Endemic to the Antioch Dunes (USFWS 2008)	A	**No effect**. Suitable habitat not present and outside species range.
Branchinecta conservatio	Conservancy fairy shrimp	FE	—		Various types of vernal pools (USFWS 2005).	A	**No effect**. Suitable habitat not present.
	Critical habitat, conservancy fairy shrimp	X	—			A	**No effect**. Critical habitat not present.
Branchinecta longiantenna	longhorn fairy shrimp	FE	—		Various types of vernal pools (USFWS 2005).	A	**No effect**. Suitable habitat not present.

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	General Habitat Characteristics	Habitat Present/ Absent	Rationale
Branchinecta lynchi	vernal pool fairy shrimp	FT	—		Found only in vernal pools and vernal pool-like habitats. Distributed throughout the Central Valley, including Sacramento County (USFWS 2005).	A	**No effect**. Suitable habitat not present.
	Critical Habitat, vernal pool fairy shrimp	X	—			A	**No effect**. Critical habitat not present.
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	FT	—		Dependent on host plant, elderberry (*Sambucus* spp.), which generally grows in riparian woodlands and upland habitats of the Central Valley. Current beetle distribution in Central Valley ranges from Shasta County to Fresno County (USFWS 1999).	A	**No effect**. Suitable habitat not present.
Elaphrus viridis	delta green ground beetle	FT	—		Grassland interspersed with vernal pools. Only documented in the greater Jepson Prairie in south-central Solano County (USFWS 2005).	A	**No effect**. Suitable habitat not present.
Lepidurus packardi	vernal pool tadpole shrimp	FE	—		Wide variety of ephemeral wetland habitats (vernal pools). Distributed throughout Central Valley and San Francisco Bay Area (USFWS 2005).	A	**No effect**. Suitable habitat not present.
	Critical habitat, vernal pool tadpole shrimp	X	—			A	**No effect**. Critical habitat not present.
Fish							
Acispenser medirostris	green sturgeon	FT	—		Oceanic waters, bays, and estuaries during non-spawning season. Spawning habitat = deep pools in large, turbulent, freshwater mainstems (NMFS 2005).	A	**No effect**. Although the adjacent Suisun Bay contains suitable habitat for these species, the project site does not contain any aquatic or riparian habitat and will not result in adverse impacts to the Suisun Bay.
Archoplites interruptus	Sacramento perch	—	SSC		Historically, Central Valley sloughs, slow-moving rivers, and lakes with beds of rooted emergent aquatic vegetation. Current distribution = artificially stocked farm ponds and reservoirs (USFWS 1995).	A	

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	General Habitat Characteristics	Habitat Present/ Absent	Rationale
Hypomesus transpacificus	delta smelt	FT	SE		Brackish water below 25°C non-spawning season. Spawning habitat = shallow, fresh or slightly brackish backwater sloughs with good water quality and substrate (USFWS 1995).	A	
	Critical habitat, delta smelt	X	—			A	
Oncorhynchus mykiss	Central Valley steelhead	FT	—		Spawning habitat = gravel-bottomed, fast-flowing, well-oxygenated rivers and streams. Non-spawning = estuarine, marine waters (Busby et al. 1996).	A	**No effect**. Although the adjacent Suisun Bay contains suitable habitat for these species, the project site does not contain any aquatic or riparian habitat and will not result in adverse impacts to the Suisun Bay.
	Critical habitat, Central Valley steelhead	X	—			A	
Oncorhynchus tshawytscha	Central Valley spring-run chinook salmon	FT	ST		Currently found in the Sacramento-San Joaquin River Delta, the Sacramento River and its tributaries, including American, Yuba, and Feather rivers, and Mill, Deer, and Butte Creeks (NMFS 2009).	A	
	Critical habitat, Central Valley spring-run chinook salmon	X	—			A	
	winter-run chinook salmon, Sacramento River	FE	SE		Spawning habitat = fast moving, freshwater streams and rivers. Juvenile habitat = brackish estuaries. Non-spawning = marine waters (Myers et al. 1998).	A	**No effect**. Although the adjacent Suisun Bay contains suitable habitat for these species, the project site does not contain any aquatic or riparian habitat and will not result in adverse impacts to the Suisun Bay.
	Critical habitat, winter-run chinook salmon	X	-			A	
Spirinchus thaleichthys	longfin smelt	—	ST		Found close to shore, in bays and estuaries, and ascend coastal streams to spawn (Page and Burr 1991).	A	

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	General Habitat Characteristics	Habitat Present/ Absent	Rationale
Amphibians							
Ambystoma californiense	California tiger salamander, central population	FT	ST		Occurs in grasslands of the Central Valley and oak savannah communities in the Central valley, the Sierra Nevada and Coast ranges, and the San Francisco Bay Area. Needs seasonal or semi-permanent wetlands to reproduce, and terrestrial habitat with active ground squirrel or gopher burrows (Bolster 2010).	A	**No effect**. Suitable habitat not present.
	Critical habitat, California tiger salamander, central population	X	—			A	
Rana draytonii	California red-legged frog	FT	SSC		Occurs in various aquatic, riparian, and upland habitats. Needs aquatic habitats to breed, whether they be natural or artificial, such as stock ponds. In summer, they move to habitat that provides cover (USFWS 2002a).	A	**No effect**. Suitable habitat not present.
	Critical habitat, California red-legged frog	X	—			A	
Reptiles							
Anniella pulchra pulchra	silvery legless lizard	—	SSC		Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodland, desert scrub, sandy washes, and stream terraces (Nafis 2013).	A	**No effect**. Suitable habitat not present.
Emys marmorata	western pond turtle	—	SSC		Found in a wide variety of habitats throughout California, but associated with permanent ponds, lakes, streams, irrigation ditches, and permanent pools along intermittent streams (CDFW 2013c).	A	**No effect**. Suitable habitat not present.
Masticophis lateralis euryxanthus	Alameda whipsnake (=striped racer)	FT	ST		Associated with chaparral and shrubland communities, but will range into adjacent grassland and woodlands (USFWS 2002b).	A	**No effect**. Suitable habitat not present.
	Critical Habitat, Alameda whipsnake	X	—			A	**No effect**. Critical habitat not present.

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	General Habitat Characteristics	Habitat Present/ Absent	Rationale
Thamnophis gigas	giant garter snake	FT	ST		Marshes, sloughs, ponds, small lakes, low gradient streams, irrigation and drainage canals, rice fields and their associated uplands (USFWS 2012).	A	**No effect**. Suitable habitat not present.
Birds							
Athene cunicularia	burrowing owl	—	SSC		Open, flat expanses with short, sparse vegetation and few shrubs, level to gentle topography, and well-drained soils. Requires underground burrows or cavities for nesting and roosting. Can use rock cavities, debris piles, pipes, and culverts if burrows unavailable. Habitats include grassland, shrub steppe, desert, agricultural land, vacant lots, and pastures (CDFW 2012).	P	**May affect**. Suitable habitat present.
Elanus leucurus	white-tailed kite	—	FP		Occurs in herbaceous and open stages of valley lowland habitats, usually near agricultural land. Forages in undisturbed, open grasslands, meadows, farmlands, and emergent wetlands (CDFW 2013c).	P	**May affect**. Suitable habitat present.
Geothlypis tricha sinuosa	saltmarsh common yellowthroat	—	SSC		Breeds and winters in wet meadow, fresh emergent wetland, and saline emergent wetland habitats. Also breeds in valley foothill riparian, occasionally in desert riparian, annual grassland, and perennial grassland habitats (CDFW 2013c).	A	**No effect**. Suitable habitat not present.
Laterallus jamaicensis coturniculus	California black rail	—	ST/FP		Yearlong resident of saline, brackish, and fresh emergent wetlands (CDFW 2013c).	A	**No effect**. Suitable habitat not present.

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	General Habitat Characteristics	Habitat Present/ Absent	Rationale
Melospiza melodia	song sparrow ("Modesto" population)	—	SSC		Breeds and winters in riparian, fresh or saline emergent wetland, and wet meadows. Breeds in riparian thickets of willows, other shrubs, vines, tall herbs, and fresh or saline emergent vegetation (CDFW 2013c).	A	**No effect**. Suitable habitat not present.
Melospiza melodia maxillaris	Suisun song sparrow	—	SSC		Confined to tidal salt and brackish marshes fringing Carquinez Strait and Suisun Bay east to Antioch, at the confluence of the San Joaquin and Sacramento rivers (Shuford and Gardali 2008).	A	**No effect.** Although the adjacent Suisun Bay contains suitable habitat for these species, the project site does not contain any aquatic or riparian habitat and will not result in adverse impacts to the Suisun Bay.
Rallus longirostris obsoletus	California clapper rail	FE	SE		Requires intricate network of sloughs with small natural berms along tidal channels with relatively tall vegetation (USFWS 2010a).	A	
Sternula antillarum browni	California least tern	FE	SE		Nests and roosts in colonies on open beaches, forage near shore ocean waters and in shallow estuaries and lagoons (USFWS 2006).	A	
Mammals							
Lasiurus blossevillii	western red bat	—	SSC		Roosting habitat includes forests and woodlands, often in edge habitats adjacent to streams, fields, or urban areas (CDFW 2013c).	A	**No effect**. Suitable habitat not present.
Reithrodontomys raviventris	salt marsh harvest mouse	FE	SE		Salt marshes with dense stands of pickleweed; adjacent to upland, salt-tolerant vegetation (USFWS 2010a).	A	**No effect**. Suitable habitat not present.

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	General Habitat Characteristics	Habitat Present/ Absent	Rationale
Vulpes macrotis mutica	San Joaquin kit fox	FE	ST		Occurs in desert-like habitats characterized by sparse or absent shrub cover, sparse ground cover, and short vegetative structure. Areas having open, level, sandy ground (USFWS 2010b).	A	**No effect**. Suitable habitat not present and surrounded by urban barriers.

Key	
Federal & State Status	**CNPS Rare Plant Rank**
(FE) Federal Endangered	*Rareness Ranks*
(FT) Federal Threatened	(1A) Presumed Extinct in California
(FC) Federal Candidate	(1B) Rare, Threatened, or Endangered in California and Elsewhere
(FD) Federally Delisted	(2B) Rare, Threatened, or Endangered in California, But More Common Elsewhere
(SE) State Endangered	*Threat Ranks*
(ST) State Threatened	(0.1) Seriously threatened in California
(SSC) State Species of Special Concern	(0.2) Fairly threatened in California
(FP) Fully Protected	(0.3) Not very threatened in California

Wildlife Movement Corridors

Wildlife corridors refer to established migration routes commonly used by resident and migratory species for passage from one geographic location to another. Corridors are present in a variety of habitats and link otherwise fragmented undisturbed areas. Maintaining the continuity of established wildlife corridors is important to sustain species with specific foraging requirements, preserve a species' distribution potential, and retain diversity among many wildlife populations. Therefore, resource agencies consider wildlife corridors to be a sensitive resource. The study area and surrounding lands have largely been converted to urban land uses. The intensity of this cover type significantly disrupts the movement of wildlife through the area.

3.8.2 REGULATORY FRAMEWORK

This section identifies environmental review and consultation requirements, as well as permits and approvals that must be obtained from local, state, and federal agencies before implementation of the project.

FEDERAL

Endangered Species Act

The Endangered Species Act of 1973 (ESA), as amended, provides protective measures for federally listed threatened and endangered species, including their habitats, from unlawful take (16 United States Code (USC) Sections 1531–1544). The ESA defines "take" to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Title 50, Part 222, of the Code of Federal Regulations (50 CFR Section 222), further defines "harm" to include "an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns including feeding, spawning, rearing, migrating, feeding, or sheltering."

ESA Section 7(a)(1) requires federal agencies to utilize their authority to further the conservation of listed species. ESA Section 7(a)(2) requires consultation with the USFWS or the National Marine Fisheries Service (NMFS) if a federal agency undertakes, funds, permits, or authorizes (termed the federal nexus) any action that may affect endangered or threatened species, or designated critical habitat. For projects that may result in the incidental take of threatened or endangered species, or critical habitat and that lack a federal nexus, a Section 10(a)(1)(b) incidental take permit can be obtained from the USFWS and/or the NMFS.

Clean Water Act

The basis of the Clean Water Act (CWA) was established in 1948; however, it was referred to as the Federal Water Pollution Control Act. The act was reorganized and expanded in 1972 (33 USC Section 1251), and at this time the Clean Water Act became the commonly used name. The basis of the CWA is the regulation of pollutant discharges into waters of the United States, as well as the establishment of surface water quality standards.

Section 404

CWA Section 404 (33 USC Section 1344) established the program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Under this regulation, certain activities proposed within waters of the United States require that a permit be obtained

prior to initiation. These activities include, but are not limited to, placement of fill for the purposes of development, water resource projects (e.g., dams and levees), infrastructure development (e.g., highways and bridges), and mining operations.

The primary objective of this program is to ensure that the discharge of dredged or fill material is not permitted if a practicable alternative to the proposed activities exists that results in less impact to waters of the United States, or the proposed activity would result in significant adverse impacts to waters of the United States. To comply with these objectives, a permittee must document the measures taken to avoid and minimize impacts to waters of the United States and provide compensatory mitigation for any unavoidable impacts.

The US Environmental Protection Agency (USEPA) and the USFWS are assigned roles and responsibilities in the administration of this program; however, the US Army Corps of Engineers (USACE) is the lead agency in the administration of day-to-day activities, including issuance of permits. The agencies will typically assert jurisdiction over the following waters (1) traditional navigable waters (TNW); (2) wetlands adjacent to TNWs; and (3) relatively permanent waters (RPW) that are non-navigable tributaries to TNWs and have relatively permanent flow or seasonally continuous flow (typically three months), as well as (4) wetlands that directly abut RPWs. Case-by-case investigations are usually conducted by the agencies to ascertain their jurisdiction over waters that are non-navigable tributaries and do not contain relatively permanent or seasonal flow, wetlands adjacent to the aforementioned features, and wetlands adjacent to but not directly abutting RPWs. Jurisdiction is not generally asserted over swales or erosional features (e.g., gullies or small washes characterized by low-volume/short-duration flow events) or ditches constructed wholly within and draining only uplands that do not have relatively permanent flows.

The extent of jurisdiction within waters of the United States which lack adjacent wetlands is determined by the ordinary high water mark (OHWM). The OHWM is defined in 33 CFR Section 328.3(e) as the "line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas." Wetlands are further defined under 33 CFR Section 328.3 and 40 CFR Section 230.3 as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" and typically include "swamps, marshes, bogs, and similar areas." The *Corps of Engineers Wetlands Delineation Manual* (USACE 1987) sets forth a standardized methodology for delineating the extent of wetlands under federal jurisdiction.

The 1987 Manual outlines three parameters that all wetlands, under normal circumstances, must contain positive indicators for to be considered jurisdictional. These parameters include (1) wetland hydrology, (2) hydrophytic vegetation, and (3) hydric soils (USACE 1987). In 2006, the USACE issued a series of Regional Supplements to address regional differences that are important to the functioning and identification of wetlands. The supplements present "wetland indicators, delineation guidance, and other information" that is specific to the region. The USACE requires that wetland delineations, submitted after June 5, 2007, be conducted in accordance with both the 1987 Manual and the applicable supplement.

Section 401

Under CWA Section 401 (33 USC Section 1341), federal agencies are not authorized to issue a permit and/or license for any activity that may result in discharges to waters of the United States,

unless a state or tribe where the discharge originates either grants or waives CWA Section 401 certification. CWA Section 401 provides states or tribes with the ability to grant, grant with conditions, deny, or waive certification. Granting certification, with or without conditions, allows the federal permit/license to be issued and remain consistent with any conditions set forth in the CWA Section 401 certification. Denial of the certification prohibits the issuance of the federal license or permit, and a waiver allows the permit/license to be issued without state or tribal comment. Decisions made by states or tribes are based on the proposed project's compliance with USEPA water quality standards as well as with applicable effluent limitations guidelines, new source performance standards, toxic pollutant restrictions, and any other appropriate requirements of state or tribal law. In California, the State Water Resources Control Board is the primary regulatory authority for CWA Section 401 requirements (additional details below).

Migratory Bird Treaty Act

Migratory birds are protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 USC Sections 703–711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Section 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR Section 21). The majority of birds found in the project vicinity would be protected under the MBTA.

Bald and Golden Eagle Protection Act

The bald eagle and golden eagle are federally protected under the Bald and Golden Eagle Protection Act (16 USC Sections 668–668c). Under the act, it is illegal to take, possess, sell, purchase, barter, offer to sell or purchase or barter, transport, export, or import at any time or in any manner a bald or golden eagle, alive or dead, or any part, nest or egg of these eagles unless authorized by the Secretary of the Interior. Violations are subject to fines and/or imprisonment for up to one year. Active nest sites are also protected from disturbance during the breeding season.

Fish and Wildlife Coordination Act of 1958 (16 USC 661 et seq.)

The Fish and Wildlife Coordination Act requires that whenever any body of water is proposed or authorized to be impounded, diverted, or otherwise controlled or modified, the lead federal agency must consult with the USFWS, the state agency responsible for fish and wildlife management, and the National Marine Fisheries Service. Section 662(b) of the act requires the lead federal agency to consider the recommendations of the USFWS and other agencies. The recommendations may include proposed measures to mitigate or compensate for potential damages to wildlife and fisheries associated with a modification of a waterway.

Executive Order 11990 Protection of Wetlands (42 FR 26961, 25 May 1977)

Executive Order 11990 requires federal agencies to provide leadership and take action to minimize destruction, loss, or degradation of wetlands and to preserve and enhance the natural qualities of these lands. Federal agencies are required to avoid undertaking or providing support for new construction located in wetlands unless (1) no practicable alternative exists, and (2) all practical measures have been taken to minimize harm to wetlands.

STATE

California Endangered Species Act

Under the California Endangered Species Act (CESA), the CDFW has the responsibility for maintaining a list of endangered and threatened species (Fish and Game Code (FGC) Section 2070). The CDFW also maintains a list of "candidate species," which are species formally noticed as being under review for potential addition to the list of endangered or threatened species, and a list of "species of special concern," which serve as species "watch lists."

Pursuant to the requirements of the CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present and determine whether the proposed project will have a potentially significant impact on such species. In addition, the CDFW encourages informal consultation on any proposed project that may impact a candidate species.

Project-related impacts to species on the CESA endangered or threatened list would be considered significant. State listed species are fully protected under the mandates of CESA. Take of protected species incidental to otherwise lawful management activities may be authorized under FGC Section 206.591. Authorization from the CDFW would be in the form of an incidental take permit.

California Fish and Game Code

Streambed Alteration Agreement (FGC Sections 1600–1607)

State and local public agencies are subject to FGC Section 1602, which governs construction activities that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated as waters of the state by the CDFW. Under FGC Section 1602, a discretionary Streambed Alteration Agreement must be issued by the CDFW to the project proponent prior to the initiation of construction activities on lands under CDFW jurisdiction. As a general rule, this requirement applies to any work undertaken in the 100-year floodplain of a stream or river containing fish or wildlife resources.

Native Plant Protection Act

The Native Plant Protection Act (FGC Sections 1900–1913) prohibits the taking, possessing, or sale in the state of any plants with a state designation of rare, threatened, or endangered (as defined by the CDFW). An exception in the act allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify the CDFW and give that state agency at least 10 days to retrieve the plants before they are plowed under or otherwise destroyed (FGC Section 1913). Project impacts to these species are not considered significant unless the species are known to have a high potential to occur in the area of disturbance associated with construction of the proposed project.

Birds of Prey

Under FGC Section 3503.5, it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.

"Fully Protected" Species

California statutes afford fully protected status to a number of specifically identified birds, mammals, reptiles, and amphibians. These species cannot be taken, even with an incidental take permit. FGC Section 3505 makes it unlawful to take "any aigrette or egret, osprey, bird of paradise, goura, numidi, or any part of such a bird." FGC Section 3511 protects from take the following fully protected birds: (a) American peregrine falcon (*Falco peregrinus anatum*); (b) brown pelican (*Pelecanus occidentalis*); (c) California black rail (*Laterallus jamaicensis coturniculus*); (d) California clapper rail (*Rallus longirostris obsoletus*); (e) California condor (*Gymnogyps californianus*); (f) California least tern (*Sterna albifrons browni*); (g) golden eagle (*Aquila chrysaetos*); (h) greater sandhill crane (*Grus canadensis tabida*); (i) light-footed clapper rail (*Rallus longirostris levipes*); (j) southern bald eagle (*Haliaeetus leucocephalus leucocephalus*); (k) trumpeter swan (*Cygnus buccinator*); (l) white-tailed kite (*Elanus leucurus*); and (m) Yuma clapper rail (*Rallus longirostris yumanensis*).

FGC Section 4700 identifies the following fully protected mammals that cannot be taken: (a) Morro Bay kangaroo rat (*Dipodomys heermanni morroensis*); (b) bighorn sheep (*Ovis canadensis*), except Nelson bighorn sheep (subspecies *Ovis canadensis nelsoni*); (c) Northern elephant seal (*Mirounga angustirostris*); (d) Guadalupe fur seal (*Arctocephalus townsendi*); (e) ring-tailed cat (genus *Bassariscus*); (f) Pacific right whale (*Eubalaena sieboldi*); (g) salt-marsh harvest mouse (*Reithrodontomys raviventris*); (h) southern sea otter (*Enhydra lutris nereis*); and (i) wolverine (*Gulo gulo*).

FGC Section 5050 protects from take the following fully protected reptiles and amphibians: (a) blunt-nosed leopard lizard (*Crotaphytus wislizenii silus*); (b) San Francisco garter snake (*Thamnophis sirtalis tetrataenia*); (c) Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum*); (d) limestone salamander (*Hydromantes brunus*); and (e) black toad (*Bufo boreas exsul*).

FGC Section 5515 also identifies the following fully protected fish that cannot lawfully be taken even with an incidental take permit: (a) Colorado River squawfish (*Ptychocheilus lucius*); (b) thicktail chub (*Gila crassicauda*); (c) Mohave chub (*Gila mohavensis*); (d) Lost River sucker (*Catostomus luxatus*); (e) Modoc sucker (*Catostomus microps*); (f) shortnose sucker (*Chasmistes brevirostris*); (g) humpback sucker (*Xyrauchen texanus*); (h) Owens River pupfish (*Cyprinoden radiosus*); (i) unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*); and (j) rough sculpin (*Cottus asperrimus*).

California Wetlands and Other Waters Policies

The California Resources Agency and its various departments do not authorize or approve projects that fill or otherwise harm or destroy coastal, estuarine, or inland wetlands. Exceptions may be granted if all of the following conditions are met: the project is water-dependent; no other feasible alternative is available; the public trust is not adversely affected; and adequate compensation is proposed as part of the project.

Porter-Cologne Water Quality Control Act

Porter-Cologne Water Quality Control Act of 1966 (California Water Code Section 13000 et seq.; CCR Title 23, Chapter 3, Subchapter 15) is the primary state regulation addressing water quality. The requirements of the act are implemented by the State Water Resources Control Board (SWRCB) at the state level and by the Regional Water Quality Control Board (RWQCB) at the local level. The RWQCB carries out planning, permitting, and enforcement activities related to

water quality in California. The act provides for waste discharge requirements and a permitting system for discharges to land or water. Certification is required by the RWQCB for activities that can affect water quality.

Clean Water Act, Section 401 Water Quality Certification

CWA Section 401 (33 USC Section 1341) requires that any applicant for a federal license or permit which may result in a pollutant discharge to waters of the United States obtain a certification that the discharge will comply with USEPA water quality standards. The state or tribal agency responsible for issuance of the Section 401 certification may also require compliance with additional effluent limitations and water quality standards set forth in state/tribal laws. In California, the SWRCB is the primary regulatory authority for CWA Section 401 requirements.

The San Francisco Bay Regional Water Quality Control Board) is responsible for enforcing water quality criteria and protecting water resources in the project area. In addition, the San Francisco Bay RWQCB is responsible for controlling discharges to surface waters of the state by issuing waste discharge requirements (WDR) or commonly by issuing conditional waivers to waste discharge requirements. The RWQCB requires that a project proponent obtain a CWA Section 401 water quality certification for CWA Section 404 permits issued by the USACE. A request for water quality certification (including waste discharge requirements) by the San Francisco Bay RWQCB and an application for a General Permit for Storm Water Discharges Associated with Construction Activities are prepared and submitted following completion of the CEQA environmental document and submittal of the wetland delineation to the USACE.

Delegated Permit Authority

California has been delegated permit authority for the National Pollutant Discharge Elimination System (NPDES) permit program including stormwater permits for all areas except tribal lands. Issuance of CWA Section 404 dredge and fill permits remains the responsibility of the USACE; however, the State actively uses its CWA Section 401 certification authority to ensure CWA Section 404 permits are in compliance with state water quality standards.

State Definition of Covered Waters

Under California state law, waters of the State means "any surface water or groundwater, including saline waters, within the boundaries of the state." Therefore, water quality laws apply to both surface water and groundwater. After the US Supreme Court decision in *Solid Waste Agency of Northern Cook County v. US Army Corps of Engineers*, the Office of Chief Counsel of the SWRCB released a legal memorandum confirming the State's jurisdiction over isolated wetlands. The memorandum stated that under the California Porter-Cologne Water Quality Control Act, discharges to wetlands and other waters of the state are subject to state regulation, and this includes isolated wetlands. In general, the SWRCB regulates discharges to isolated waters in much the same way as they do for waters of the United States, using Porter-Cologne Water Quality Control Act rather than Clean Water Act authority.

NONGOVERNMENTAL AGENCY

California Native Plant Society

The California Native Plant Society (CNPS) is a nongovernmental agency that classifies native plant species according to current population distribution and threat level in regard to extinction. The data is utilized by the CNPS to create/maintain a list of native California plants that have low

numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Plants of California (CNPS 2013). Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review.

The following identifies the definitions of the CNPS listings:

List 1A: Plants believed to be extinct

List 1B: Plants that are rare, threatened, or endangered in California and elsewhere

List 2: Plants that are rare, threatened, or endangered in California, but are more numerous elsewhere

All of the plant species on List 1 and 2 meet the requirements of the Native Plant Protection Act Section 1901, Chapter 10, or FGC Section 2062 and Section 2067 and are eligible for state listing. Plants appearing on List 1 or 2 are considered to meet the criteria of CEQA Section 15380, and effects on these species are considered "significant." Classifications for plants on List 3 (plants about which we need more information) and/or List 4 (plants of limited distribution), as defined by the CNPS, are not currently protected under state or federal law. Therefore, no detailed descriptions or impact analysis was performed on species with these classifications.

LOCAL

City of Pittsburg General Plan

The City of Pittsburg General Plan was adopted in 2001. The General Plan includes policies that relate to biological resources and habitat, including protection of hillsides, creekways, and wetlands. The proposed project was analyzed for compliance with these policies. While this DEIR considers the project's consistency with the General Plan pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15125(d), the appropriate reviewing authority will ultimately make the determination of the project's consistency with the General Plan.

East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan

The East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) serves as a comprehensive, multi-jurisdictional habitat conservation plan, pursuant to Section (a)(1)(B) of the federal Endangered Species Act, as well as a natural communities conservation plan under the California Natural Community Conservation Planning Act of 2001. The plan encompasses Brentwood, Clayton, Oakley, and Pittsburg, Contra Costa County, the Contra Costa Water District, and the East Bay Regional Park District. The overall biological goal of the HCP/NCCP is to conserve covered species and their habitats, as well as to maintain biological diversity and ecological processes while allowing for future economic growth in a rapidly urbanizing region.

Federal and state wildlife agencies approved permits required to implement the HCP/NCCP between July 24, 2007, and August 6, 2007. The City of Pittsburg adopted the HCP/NCCP later that year. The plan's primary intent is to provide for the conservation of a range of plants and animals and in return, provide take coverage and mitigation for projects throughout eastern Contra Costa County to avoid the cost and delays of mitigating biological impacts on a project-by-project basis. It would allow the incidental take (for development purposes) of species and their habitat from development. The City is a permittee to the HCP/NCCP, and any new proposed project is required to comply with applicable provisions of the plan.

3.8.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the application of the State CEQA Guidelines Appendix G thresholds of significance. A project is considered to have significant impacts if implementation of the project will:

1) 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 CDFW or USFWS.

2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

3) 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 wetlands, etc.), through direct removal, filling, hydrological interruption, or other means.

4) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

6) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

7) Reduce the number or restrict the range of an endangered, rare, or threatened plant or animal species or biotic community, thereby causing the species or community to drop below self-sustaining levels.

CEQA Guidelines Section 15380 further provides that a plant or wildlife species may be treated as "rare or endangered" even if not on one of the official lists if, for example, it is likely to become endangered in the foreseeable future.

METHODOLOGY

The impact assessment below discusses impacts from implementation of project activities. The impact assessment was based on the project description (Section 2.0), information described in the environmental setting, and the standards of significance described above. The impact analysis is organized by the significance criteria noted above: special-status plant and wildlife species, sensitive vegetation communities, federally protected wetlands, wildlife movement corridors, compliance with local plans and policies, and compliance with existing habitat conservation plans. Each impact category includes a description of the specific potential impacts as well as avoidance, minimization, and mitigation measures that can reduce potentially significant impacts.

PROJECT IMPACTS AND MITIGATION MEASURES

Special-Status Species (Standards of Significance 1 and 7)

Impact 3.8.1 Implementation of project-related activities could result in substantial adverse effects, either directly or through habitat modifications, to special-status species, which would be considered a **potentially significant** impact.

The project area may provide suitable breeding and foraging habitat for burrowing owl, white-tailed kite, Swainson's hawk, and golden eagle, as well as nesting and/or foraging habitat for other migratory birds and raptors not identified in **Table 3.8-1**. Burrowing owl, golden eagle, and Swainson's hawk are all covered by the East Contra Costa County HCP/NCCP.

Portions of the study area not covered by hardscape provide suitable year-round roosting, nesting, and foraging habitat for burrowing owls. The presence of suitable habitat and documented occurrences in proximity to the study area result in the determination that implementation of project-related activities could result in significant impacts to this species, should it become established in areas proposed for disturbance. In order to reduce potential impacts to a less than significant level, mitigation measure **MM 3.8.1a** is required.

There is potentially suitable nesting and foraging habitat for Swainson's hawks, golden eagles, and white-tailed kites within and adjacent to the study area. The presence of suitable habitat and documented occurrences within 5 miles of the study area result in the determination that implementation of project-related activities could result in significant impacts to these species, should they be present on or adjacent to areas proposed for disturbance. In order to reduce potential impacts to a less than significant level, mitigation measures **MM 3.8.1b, MM3.8.1c,** and **MM 3.8.1d** are required.

All native breeding birds (except game birds during the hunting season), regardless of their listing status, are protected under the MBTA. Vegetation clearing during the nesting season could result in direct impacts to nesting birds should they be present. Furthermore, noise and other human activity could result in nest abandonment if nesting birds are within 200 feet (500 feet for raptors) of a work site. Due to the presence of suitable habitat for these species, implementation of project-related activities could result in significant impacts should species be present in areas proposed for disturbance. In order to reduce potential impacts to a less than significant level, mitigation measures **MM 3.8.1d** and **MM 3.8.1e** are required.

Mitigation Measures

MM 3.8.1a **Burrowing Owl.** Prior to any ground disturbance, a qualified biologist shall conduct a preconstruction survey for burrowing owls on and adjacent to the project site. Surveys shall be conducted in accordance with the CDFW's Staff Report on Burrowing Owl Mitigation (Staff Report), published March 7, 2012. Surveys shall take place no more than 30 days prior to construction and will establish the presence or absence of burrowing owl and/or habitat features and evaluate habitat use by owls. During the surveys, all burrows and burrowing owls will be identified and mapped.

If burrowing owls are found during the breeding season (February 1–August 31), the project applicant shall avoid all nest sites for the remainder of the breeding season or while the nest site is occupied by adults or young. Avoidance measures will include establishment of a 250-foot no disturbance

buffer zone surrounding the nest burrow. If site-specific conditions or the nature of the covered activity indicate that a smaller buffer could be used, the HCP/NCCP Implementing Entity will coordinate with the CDFW and the USFWS to determine the appropriate buffer size. Construction may occur during the breeding season if a qualified biologist monitors the nest and determines that the birds have not begun egg-laying and incubation or that the juveniles from the occupied burrows have fledged. During the non-breeding season (September 1–January 31), the project applicant shall avoid the owls and the burrows they are using through establishment of a 160-foot protective buffer zone surrounding the active burrow.

If avoidance is not possible, passive relocation of occupied burrows shall be implemented outside the breeding season. Owls should be excluded from burrows by installing one-way doors in burrow entrances. These doors should be in place for no less than 48 hours prior to excavation, and the project area shall be monitored daily by a qualified biologist for one week to confirm that the owl has abandoned the burrow.

Timing/Implementation: *Prior to and during construction activities*

Enforcement/Monitoring: *City of Pittsburg Planning Department*

MM 3.8.1b **Swainson's Hawk.** Prior to any ground disturbance that occurs during the nesting season (March 15–September 15), a qualified biologist will conduct a preconstruction survey no more than one month prior to construction to determine if occupied Swainson's hawk nests are present within 1,000 feet of the project site.

If occupied nests are documented, project-related activities within 1,000 feet of an occupied nest site shall be prohibited to prevent nest abandonment. Project-related activities can proceed normally if a qualified biologist determines that young have fledged prior to September 15. If site-specific conditions or the nature of the covered activity indicate that a smaller buffer could be used, the HCP/NCCP Implementing Entity will coordinate with the CDFW and the USFWS to determine the appropriate buffer size. Furthermore, if the active nest site is shielded from view and noise from the project site by other development, topography, or other features (including off-site features), the project applicant can apply to the HCP/NCCP Implementing Entity for a waiver of this avoidance measure. Waivers must also be approved by the USFWS and the CDFW. While the nest is occupied, project-related activities outside the 1,000-foot buffer can take place.

Timing/Implementation: *Prior to and during construction activities*

Enforcement/Monitoring: *City of Pittsburg Planning Department*

MM 3.8.1c **Golden Eagle.** Prior to any ground disturbance that occurs during the nesting season (January 1–August 31), a qualified biologist shall conduct a preconstruction survey not more than one month prior to construction to determine whether active golden eagle nests are present within 0.5 mile of the project site. If active nests are present within 0.5 mile of the project site, project-related activities within 0.5 mile of the nest are prohibited to prevent

nest abandonment. If site-specific conditions or the nature of the covered activity indicate that a smaller buffer could be used, the HCP/NCCP Implementing Entity will coordinate with the CDFW and the USFWS to determine the appropriate buffer size. Project-related disturbance may proceed once a qualified biological monitor determines that the nest has failed or that the young birds have fledged.

Timing/Implementation: *Prior to and during construction activities*

Enforcement/Monitoring: *City of Pittsburg Planning Department*

MM 3.8.1d **Non-Covered Raptor Surveys.** If clearing and/or construction activities will occur during the raptor nesting season (January 15–August 15), preconstruction surveys to identify active raptor nests shall be conducted by a qualified biologist within 30 days of construction initiation. Focused surveys must be performed by a qualified biologist for the purpose of determining presence/absence of active nest sites within the proposed impact area and a 500-foot buffer (if feasible).

If active nest sites are identified within 500 feet of project activities, the project applicant shall impose a limited operating period (LOP) for all active nest sites prior to commencement of any project construction activities to avoid construction-related disturbances to nesting raptors. An LOP constitutes a period during which project-related activities (i.e., vegetation removal, earth moving, and construction) will not occur and will be imposed within 250 feet of any active nest sites until the nest is deemed inactive by a qualified biologist. Activities permitted within and the size (i.e., 250 feet) of LOPs may be adjusted through consultation with the CDFW and/or the East Contra Costa County HCP/NCCP Implementing Entity.

Timing/Implementation: *Prior to and during construction activities*

Enforcement/Monitoring: *City of Pittsburg Planning Department*

MM 3.8.1e **Nesting Bird Surveys.** If clearing and/or construction activities will occur during the migratory bird nesting season (February 15–August 15), preconstruction surveys to identify active migratory bird nests shall be conducted by a qualified biologist within 30 days of construction initiation. Focused surveys must be performed by a qualified biologist for the purpose of determining presence/absence of active nest sites within the proposed impact area, including a 200-foot buffer.

If active nest sites are identified within 200 feet of project activities, the project applicant shall impose a limited operating period (LOP) for all active nest sites prior to commencement of any project construction activities to avoid construction-related disturbances to migratory bird nesting activities. An LOP constitutes a period during which project-related activities (i.e., vegetation removal, earth moving, and construction) will not occur and will be imposed within 100 feet of any active nest sites until the nest is deemed inactive by a qualified biologist. Activities permitted within and the size (i.e., 100 feet) of LOPs may be adjusted through consultation with the CDFW and/or the East Contra Costa County HCP/NCCP Implementing Entity.

Timing/Implementation: *Prior to and during construction activities*

Enforcement/Monitoring: *City of Pittsburg Planning Department*

The special-status bird species identified above were determined to have the potential to be substantially adversely affected by project-related activities, either directly or through habitat modifications. Impacts to these species would be considered a potentially significant impact. However, mitigation measures **MM 3.8.1a** through **MM 3.8.1e** require surveys to ensure no birds are present or provide for measures to reduce the potential disturbance to nesting or fledgling birds to ensure impacts are reduced to a **less than significant** level.

Impacts to Riparian Habitat or Sensitive Natural Communities (Standard of Significance 2)

Impact 3.8.2 Implementation of project-related activities may result in substantial adverse effects, either directly or through habitat modifications, to riparian habitat or sensitive natural communities. This would be considered a **less than significant impact**.

Sensitive natural communities include those that are of special concern to resource agencies and those that are protected under CEQA, Section 1600 of the FGC, and Section 404 of the CWA. Potentially sensitive natural communities in the project vicinity include riparian and aquatic habitat associated with Kirker Creek. There would be no construction in the creek and there are no anticipated impacts to Kirker Creek as a result of the proposed project.

As discussed above, based on the delineation for the western portion of the study area including the section of the man-made ditch, the USACE concluded that there were no wetlands or other waters present in the area surveyed that were subject to the USACE authority under Section 404 of the federal Clean Water Act. Whether it is considered waters of the state subject to jurisdiction of CDFW is unclear. If the ditch is subject to Section 1600 of the FGC and/or the Porter-Cologne Act, the project applicant would be required to obtain a permit prior to fill of or construction in the ditch. However, the ditch is an ephemeral feature with little in-channel vegetation and habitat values associated with the ditch are virtually indistinguishable from the surrounding grassland. Therefore, the project would not result in substantial adverse effects, either directly or through habitat modifications, to riparian habitat or sensitive natural communities. This would be considered a **less than significant impact**.

Mitigation Measures

None required .

Impacts to Federally Protected Wetlands (Standard of Significance 3)

Impact 3.8.3 Implementation of project-related activities would not result in substantial adverse effects to federally protected wetlands. There would be **no impact**.

Implementation of project-related activities would not result in the disturbance, degradation, and/or removal of federally protected wetlands. The man-made drainage ditch near the northern boundary of the study area will be relocated. A delineation of the entire ditch was conducted for the Columbia Solar project in December 2012. The USACE determined that the ditch was an isolated feature and therefore not considered jurisdictional (City of Pittsburg 2013). Therefore, removal of the ditch will not be considered an impact to federally protected waters.

Further, there would be no construction in Kirker Creek. Therefore, no impacts to Kirker Creek are anticipated as a result of project activities, resulting in **no impact.**

Mitigation Measures

None required.

Impacts to Wildlife Movement (Standard of Significance 4)

Impact 3.8.4 Implementation of project-related activities would not result in substantial adverse effects to wildlife movement. There would be **no impact**.

The CDFW Biogeographic Information & Observation System Habitat Connectivity Viewer (2013d) was reviewed to determine whether the project site is located within an Essential Connectivity Area. The project does not occur within an Essential Connectivity Area, and the study area is surrounded on all sides by urban land use that already restricts wildlife movement. Implementation of project-related activities is not expected to result in impacts to the movement of native resident or migratory fish or wildlife species or established migratory corridors. As a result, **no impact** to the movements of any native resident or migratory wildlife corridors or the use of native wildlife nursery sites will occur as a result of the proposed project.

Mitigation Measures

None required.

Conflict with Local Policies or Ordinances or Conservation Plans (Standards of Significance 5 and 6)

Impact 3.8.5 The proposed project would not conflict with any policies, ordinances, or plans, including the East Contra Costa County HCP/NCCP. This would be considered a **less than significant** impact with implementation of measures identified for the project.

The proposed project does not include removal of any trees within the public right-of-way, so it would not conflict with Pittsburg Municipal Code Chapter 12.32 (Street Tree Ordinance), which regulates the removal and preservation of trees on public rights-of-way within the city. Nor would the project conflict with any of the policies described in the Contra Costa County General Plan or the City of Pittsburg General Plan.

The study area is located in the East Contra Costa County HCP/NCCP planning area; therefore, the project is subject to review for consistency with HCP/NCCP requirements, including Chapter 6.3, Surveys for Covered Activities, and Chapter 9.3.1, Mitigation Fees.

One component of the HCP/NCCP is mitigation fee zones, which are land areas that occur within the plan area and require a fee for development activities to occur. The proposed project is located in a HCP/NCCP development fee zone. A standard condition for the proposed project includes the payment of these fees to comply with the overlying habitat conservation plan. The project applicant would be required to submit fees to the City in accordance with the requirements of the East Contra Costa County HCP/NCCP. Another component of the HCP/NCCP is that projects are required to conduct species-specific surveys and monitoring. Mitigation measures **MM 3.8.1a** through **MM 3.8.1e** satisfy the survey requirements for this component. Without species-specific surveys and monitoring, this would be a potentially significant impact.

Mitigation Measures

Implement mitigation measures **MM 3.8.1a** through **MM 3.8.1e**.

With implementation of mitigation measures and adherence to the standard conditions and requirements, any impacts will be **less than significant** and ensure the project will not conflict with the East Contra Costa County HCP/NCCP.

3.8.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The surrounding area of Contra Costa County as a whole must be considered for the purpose of evaluating land use conversion issues associated with biological resources on a cumulative level. In particular, this cumulative setting condition includes proposed and approved projects, existing land use conditions, and planned development under the General Plan, existing land use conditions, and planned and proposed land uses in the region.

Continued development in the region could directly and indirectly affect biological resources. The development of natural areas could cause loss of wildlife habitats or plant communities. The proposed project could contribute incrementally to the cumulative loss of wildlife habitat values, special-status species and their potential habitat, and wetland resources in the county and in the region.

The cumulative impact analysis below focuses on the proposed project's contribution to the loss of special-status species and to sensitive and critical habitat.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Biological Resource Impacts

Impact 3.8.6 The proposed project, in combination with other reasonably foreseeable projects, could result in mortality and loss of habitat for special-status species and sensitive habitat. However, the East Contra Costa County HCP/NCCP addresses and mitigates regional biological resource impacts. Implementation of the HCP/NCCP and project mitigation would make this a **less than cumulatively considerable** impact.

Future development in the surrounding area would contribute to cumulative impacts on special-status species and sensitive and critical habitats. Furthermore, increased development and disturbance created by human activities (e.g., fires, increased nighttime lighting, and reduced access to habitat and movement corridors) could result in direct mortality, habitat loss, and deterioration of habitat suitability. Therefore, cumulative impacts on special-status species and sensitive habitat are considered significant. Implementation of the proposed project may result in degradation of wildlife habitat through a variety of actions which, when combined with other habitat impacts occurring from development in the surrounding area could result in mortality and loss of habitat for special-status species and sensitive habitat. Therefore, the project's contribution to that impact would be considerable.

The vegetation communities/habitats in the study area represent only a small portion of the communities/habitats available for special-status species in the project vicinity. In addition, the proposed project would not result in a drastic change to land use in the project vicinity. The study area is surrounded on all sides by extensive development and would not contribute to further fragmentation of the landscape.

The East Contra Costa County HCP/NCCP encompasses 174,018 acres and includes all unincorporated county land east of Concord. In addition, most of the cities in the region participate in the HCP/NCCP. The plan's goal is to conserve covered species and their habitats, as well as to maintain biological diversity and ecological processes while allowing for future economic growth in a rapidly urbanizing region.

Mitigation Measures

Implement mitigation measures **MM 3.8.1a** through **MM 3.8.1e**.

Implementation of mitigation measures **MM 3.8.1a** through **MM 3.8.1e,** along with adherence to the standard conditions and requirements of the East Contra Costa County HCP/NCCP described previously, would mitigate the project's contribution to impacts to special-status species and sensitive habitats, thereby reducing the proposed project's contribution to cumulative impact to **less than cumulatively considerable**.

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This section summarizes the cumulative impacts associated with the proposed Mt. Diablo Resource Recovery Park project using the same environmental issue areas as Section 3.0 of this Draft Environmental Impact Report (Draft EIR; DEIR). Cumulative impacts are the result of combining the potential effects of the project with other existing, approved, proposed, and reasonably foreseeable projects in the region. The following discussion considers the cumulative impacts of the relevant environmental issue areas.

4.1 INTRODUCTION

The California Environmental Quality Act (CEQA) requires that an EIR contain an assessment of the cumulative impacts that could be associated with the proposed project. According to CEQA Guidelines Section 15130(a), "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (as defined by Section 15130). As defined in CEQA Guidelines Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. A cumulative impact occurs from:

> . . . the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

In addition, CEQA Guidelines Section 15130(b) identifies that the following elements are necessary for an adequate cumulative analysis:

1) Either:

   (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or

   (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

2) A definition of the geographic scope of the area affected by the cumulative effect and a reasonable explanation for the geographic limitation used;

3) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and

4) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

Where a lead agency is examining a project with an incremental effect that is not cumulatively considerable, a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

APPROACH TO THE CUMULATIVE IMPACT ANALYSIS

The analysis of cumulative impacts for each environmental factor can employ one of two methods to establish the effects of other past, current, and probable future projects. A lead agency may select a list or projects, including those outside the control of the agency, or alternatively, a summary of projects. These projects may be from an adopted general plan or related planning document, or from a prior environmental document that has been adopted or certified, and they may describe or evaluate regional or area-wide conditions contributing to the cumulative impact. The analysis provided in this Draft EIR utilizes both approaches.

Definition of Cumulative Setting

The cumulative setting conditions considered in this DEIR are based on the City of Pittsburg General Plan, which guides local land use in Pittsburg and provides a framework within which future development is expected to occur. The General Plan was analyzed for its guidance and requirements applicable to each section of this DEIR, and the assumptions contained within were incorporated into the cumulative analysis presented in the technical sections of this DEIR (Sections 3.1 through 3.8) as well as this section. Where applicable, the cumulative analysis considers as part of the cumulative setting a list of major development projects expected to occur in the vicinity of the proposed project. See Section 3.0, Assumptions, Table 3.0-1 and 3.0-2 for a listing of these projects and their expected buildout conditions. The cumulative setting considers background traffic volumes and patterns on regional and state highways (e.g., State Route [SR] 4), background air quality conditions, and other associated environmental conditions that occur within the region, both inside and outside the immediate vicinity of the project. In the case of services and utilities, the planning of those agencies that provide the services/utilities was considered and applied to the assumptions of the cumulative setting. For example, future water supply planning by the Contra Costa Water District (CCWD) was utilized in determining cumulative water supply need and expected customer load.

Each technical section of the Draft EIR includes a description of the geographic setting in the context of cumulative impacts based on the characteristics of the environmental issue under consideration as set forth in Section 15130(b) of the State CEQA Guidelines. For some issues, such as air quality, the area is large, often extending over city and county lines to other parts of the Bay Area.

4.2 CUMULATIVE IMPACTS ANALYSIS

This subsection provides a summary of overall cumulative impacts of the proposed expansion for the Mt. Diablo Resource Recovery Park, as required by Section 15130 of the CEQA Guidelines. The goal of such an exercise is twofold: first, to determine whether the overall long-term impacts of all such projects would be cumulatively significant; and second, to determine whether the proposed project itself would cause a cumulatively considerable (and thus significant) incremental contribution to any such cumulatively significant impacts. (See CEQA Guidelines Section 15130[a]–[b], Section 15355[b], Section 15064[h], Section 15065[c]; *Communities for a Better Environment v. California Resources* Agency [2002] 103 Cal.App.4th98, 120.) In other words, the required analysis intends to create a broad context in which to assess the proposed project's incremental contribution to anticipated cumulative development impacts, viewed on a geographic scale beyond the project site itself, and then to determine whether the project's

incremental contribution to any significant cumulative impacts from all projects is itself significant (i.e., cumulatively considerable in CEQA parlance).

Pursuant to Section 15130 of the CEQA Guidelines, "(t)he discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness, and should focus on the cumulative impacts to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact." The proposed project is considered to have a significant cumulative effect if:

1) The cumulative effects of development without the project are not significant and the project's additional impact is substantial enough, when added to the cumulative effects, to result in a significant impact; or

2) The cumulative effects of development without the project are already significant and the project contributes measurably to the effect. The term "measurably" is subject to interpretation. The standards used herein to determine measurability are that either the impact must be noticeable to a reasonable person, or must exceed an established threshold of significance.

Identified below is a brief summary of the cumulative impacts that would result from the implementation of the proposed project and future development in the vicinity. The following cumulative impacts of the proposed project are specifically identified in Sections 3.1 through 3.8 of this Draft EIR. The reader is referred to the various environmental issue areas of these sections for further details and analysis of the cumulative impacts.

AIR QUALITY

Cumulative Emissions in a Nonattainment Area

Cumulative development in the San Francisco Bay Area Air Basin, which is in nonattainment status for ozone (O_3), coarse particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$), would result in generation of O_3, PM_{10}, and $PM_{2.5}$ that would contribute to further exceedances in a nonattainment area. This would be considered a significant cumulative impact. The proposed project would contribute to these emissions; however, with implementation of mitigation measures MM 3.1.1 through MM 3.1.2 through C, the project's contribution would be reduced to below applicable significance thresholds. Because significance thresholds are designed to achieve attainment for these pollutants in the basin, reduction of the project contribution to below thresholds would ensure the project's contribution would be **less than cumulatively considerable.**

Cumulative Emissions Resulting in Risks or Hazards at Nearby Sensitive Receptors

The assessment of cumulative impacts included existing sources within 1,000 feet of the project site to identify the cumulative cancer risks and hazards at the maximally impacted receptor (MIR). Predicted $PM_{2.5}$ concentrations at the MIR would be 0.06 micrograms per cubic meter ($\mu g/m^3$) and would not exceed the cumulative significance threshold of 0.8 $\mu g/m^3$. Given that the predicted cumulative cancer risk, hazard index, and $PM_{2.5}$ concentrations would not exceed applicable thresholds, the cumulative impact would be considered **less than cumulatively considerable.**

Cumulative Increase of Odorous Emissions

There have been no confirmed odor complaints filed with the Bay Area Air Quality Management District for the existing Mt. Diablo Recycling Center and Transfer Station. One unconfirmed complaint was received by the BAAQMD on July 1, 2009, for which the BAAQMD was unable to confirm the source of the odor complaint. Therefore, the existing use is not considered a major source of odorous emissions in the project area. The proposed expansion would be subject to an Odor Impact Minimization Plan to ensure that the increased intake does not result in significant increases in odors that would adversely affect a substantial number of people. As a result, the cumulative impact related to localized concentrations of odors **would be considered less than cumulatively considerable.**

CLIMATE CHANGE AND ENERGY

Cumulative Greenhouse Gas Emissions That Could Potentially Conflict with the Goals of AB 32

The threshold used to determine whether the proposed project would contribute to the cumulative is 10,000 metric tons of carbon dioxide equivalents per year ($MTCO_2e$/year) for operational emissions from stationary sources and compliance with a Qualified GHG Reduction Strategy, or 1,100 $MTCO_2e$/year or 4.6 $MTCO_2e$/service population for operational emissions from non-stationary sources. For stationary sources, the operation of the proposed Biomass Gasification Unit would generate approximately 3,719 $MTCO_2e$/year, which is below the significance threshold of 10,000 $MTCO_2e$ for permitted stationary sources. For non-stationary sources, with the inclusion of amortized construction-generated GHG emissions, the overall net increase in GHG emissions from non-stationary sources would total 21,497 $MTCO_2e$/year. This exceeds the significance threshold of 1,100 $MTCO_2e$/year. However, the proposed project would result in a substantial increase in avoided emissions due to an increase of material recycled. Recycling operations occurring under current conditions at the Mt. Diablo Recycling Facility result in the avoidance of 14,627 metric tons of CO_2e annually (see page 3.2-19). With implementation of the proposed project, operations at the Mt. Diablo Resource Recovery Park would result in the avoidance of 154,692 metric tons of CO_2e annually by the year 2020 and 213,697 $MTCO_2e$ annually by the year 2035 (see Table3.2-2 in Section 3.2, Greenhouse Gas and Climate Change). Therefore, considering avoided emissions, the project **would not result in a cumulatively considerable contribution to greenhouse gas emissions.**

HAZARDS AND HAZARDOUS MATERIALS

Cumulative Exposure to Hazards and Hazardous Materials

There are proposed, planned, approved, or otherwise reasonably foreseeable projects in the vicinity of the project site that would involve hazardous materials, including the Pittsburg Medical Center, various trucking and automotive operations, manufacturing uses, chemical processing, and a household hazardous waste collection facility. These facilities could contribute to increased exposure to hazardous materials. However, there is a substantial body of regulations related to transport, use, and disposal of hazardous materials during both construction and operation designed to reduce potential exposure to hazardous materials. Compliance with these regulations pursuant to state, county, and local oversight is required, not optional, and compliance would be required of the proposed project and other projects in the project vicinity. Specifically, the operator would update the existing Hazardous Materials Business Plan and continue to report annually on material intake to the Contra Costa County Health Services Department, Hazardous Materials Division. Compliance with these regulations would ensure that the potential for exposure to hazardous materials **would be less than cumulatively considerable.**

HYDROLOGY AND WATER QUALITY

Cumulative Impacts to Water Quality

Cumulative development in the Kirker Creek watershed and Pittsburg Plain Groundwater Basin would increase the amount of pollutants that could have an effect on surface water and groundwater quality. The proposed project would include construction and operational changes within a small area (approximately 15,000 square feet) of the project site that has been previously disturbed. In addition, the project site is already equipped with water quality treatment facilities, including a landscaped stormwater treatment planter and a landscaped stormwater pretreatment bioswale, which are intended to remove pollutants and sediments from on-site drainage, protecting downstream waters. This would ensure that the project's contribution to increased pollutants in the watershed **would be less than cumulatively considerable.**

Cumulative Flooding Hazards

Proposed, approved, and reasonably foreseeable projects in the city could place nonresidential structures within a flood zone. However, all such development projects would be required to comply with Pittsburg Municipal Code Chapter 15.80.050, which provides specific standards for construction in special flood hazard areas. These standards include requirements related to anchoring of structures, use of flood-resistant construction materials and methods, and minimum base floor elevations and flood proofing. Compliance with these existing standards would minimize any potential for structure damage and safety risks as a result of flooding. This would ensure the impact **would be less than cumulatively considerable.**

LAND USE

Cumulative Land Use Compatibility Impact

Proposed and reasonably foreseeable projects in the cumulative study area may result in the need for zoning approvals. Design review approval and conditional use permits are discretionary activities by the City that would require review by the City, which would include a determination by the City for conformance with the General Plan and Zoning Ordinance, review of which would also consider potential incompatibility and nuisance issues. Therefore, the potential environmental effects associated with future projects would be evaluated as part of the review process for those projects. This impact **would be less than cumulatively considerable.**

PUBLIC SERVICES AND UTILITIES

Cumulative Impacts to Fire Protection Services

Implementation of approved, pending, and proposed development projects in the Contra Costa Fire Protection District (CCFPD) service area would result in additional calls for service and may necessitate the construction of new or expansion of existing district facilities. The CCFPD reviews new development projects for adequate water supply and pressure, fire hydrants, access to structures by firefighting equipment and personnel, compliance with established fire codes, and on-site fire suppression systems to ensure that demand for additional facilities would not be generated by the project and the cumulative impacts of development in the CCFPD's service area are less than significant. In addition, the proposed project consists of improvements to an existing facility that currently receives fire protection services from the CCFPD, and the project will be required to implement numerous fire prevention and suppression measures to

reduce fire risks on the site. Furthermore, the project will incorporate preventative measures in accordance with the California Fire Code to reduce the risk of fire and aid in fire suppression on the site. Therefore, the project's fire protection impact is **less than cumulatively considerable**.

Cumulative Water Supply

The City anticipates having sufficient water supplies to meet its customers' needs through 2030, with projected demand met by a combination of water provided by CCWD, City-produced groundwater, and recycled water. The City adopted water conservation efforts to achieve necessary reductions in dry years. The City also continually examines supply enhancement options, including additional water recycling, conjunctive use, water transfers, and additional imported water supplies, through its participation in the East County Water Management Association and collaboration with its principal raw water suppliers. Therefore, based on the projected demand and supply, there is adequate water to meet the cumulative demand. This would be considered a **less than cumulatively considerable impact**.

Cumulative Demand for Wastewater Services

Future growth in the City of Pittsburg would increase demand for wastewater treatment. Existing Delta Diablo Sanitation District (DDSD) wastewater treatment facilities have a capacity of 16.5 million gallons per day (mgd). In 2010, the DDSD treated an average of 13.4 mgd. The DDSD has adopted a District Master Plan that includes a phased treatment plant expansion to ultimately provide 24 mgd capacity (average dry weather flow) in order to accommodate anticipated growth in the City of Pittsburg, City of Antioch, and unincorporated Bay Point. The anticipated growth included in the District Master Plan is at a more intense development scale than is proposed by the City of Pittsburg General Plan. Consequently, the cumulative development in the city would be able to be accommodated by the expanded treatment plant. This would be a less than significant cumulative impact, and the project's contribution is **less than cumulatively considerable.**

TRANSPORTATION AND CIRCULATION

Cumulative Impacts at Study Intersections

Operations at the Pittsburg-Antioch Highway/Loveridge Road intersection are projected to degrade from level of service (LOS) B to LOS high-D with the addition of project traffic during the AM peak hour under maximum permitted operating condition. Additionally, during the PM peak hour, the level of service is projected to degrade from LOS C to LOS E. Under typical operating conditions, the proposed project would have a less than significant impact on the operations at this intersection. After implementation of mitigation measure MM 3.7.2, the intersection would improve to LOS B and C during the AM and PM peak hours, respectively. However, widening along Loveridge Road to accommodate an additional northbound lane may be infeasible due to the railroad crossing and right-of-way constraints. Therefore, the operating conditions at this intersection remain significant and unavoidable, and the project's contribution to the impact under maximum permitted conditions would be **cumulatively considerable and significant and unavoidable.**

BIOLOGICAL RESOURCES

Cumulative Impacts on Special-Status Species and Sensitive Habitat

Future development in the surrounding area would contribute to cumulative impacts on special-status species and sensitive and critical habitats. Furthermore, increased development and disturbance created by human activities (e.g., fires, increased nighttime lighting, and reduced access to habitat and movement corridors) could result in direct mortality, habitat loss, and deterioration of habitat suitability. Therefore, cumulative impacts on special-status species and sensitive habitat are considered significant. Implementation of the proposed project may result in degradation of wildlife habitat through a variety of actions which, when combined with other habitat impacts occurring from development in the surrounding area; therefore, the project's contribution to that impact could be considerable**.**

The vegetation communities/habitats within the PSA represent only a small portion of the communities/habitats available for special-status species in the project vicinity. In addition, the proposed project would not result in a drastic change to the land use in the project vicinity. The PSA is surrounded on all sides by extensive development and would not contribute to further fragmentation of the landscape.

The ECCC HCP/NCCP encompasses 174,018 acres and includes all unincorporated Contra Costa County land east Concord. In addition, most of the cities in the region participate in the ECCC HCP/NCCP. The goal of the ECCC HCP/NCCP is to conserve covered species and their habitats, as well as maintain biological diversity and ecological processes while allowing for future economic growth in a rapidly urbanizing region.

Implementation of mitigation measures **MM 3.8.1a** through **MM 3.8.1e,** along with adherence to the standard conditions and requirements of the ECCC HCP/NCCP described previously will mitigate the project's contribution to impacts to special-status species and sensitive habitats, thereby reducing the proposed project's contribution to the cumulative impacts to **less than cumulatively considerable**.

5.0 ALTERNATIVES

5.1 INTRODUCTION

GENERAL CEQA REQUIREMENTS

California Environmental Quality Act (CEQA) Guidelines Section 15126.6(a) states "an EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." The EIR need not consider every conceivable alternative, but rather consider a "reasonable range" of potentially feasible alternatives that foster informed decision-making and public participation. The range of potential alternatives to the proposed project shall include those alternatives that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects (CEQA Guidelines Section 15126.6(c)).

PROJECT OBJECTIVES

As described in Section 2.0, Project Description, the proposed project was created to meet the following objectives:

- Serve as the regional recycling facility for eastern and central Contra Costa County, including the cities of Pittsburg, Concord, Oakley, Discovery Bay, and Antioch, parts of the unincorporated county, and Rio Vista in Solano County.

- Assist the City of Pittsburg and Contra Costa County in reducing greenhouse gas (GHG) emissions and complying with the measures of the adopted AB 32 Scoping Plan by 2020 by generating renewable energy, increasing solid waste diversion rates, and expanding programs to provide recycling to businesses and multi-family residences.

- Assist the City of Pittsburg and Contra Costa County in maintaining compliance with AB 939 mandates requiring 50 percent diversion of solid waste from landfills and preparing to accommodate future AB 939 goals and mandates, such as assisting in the statewide recycling goal of a 75 percent recycling rate by 2020, consistent with AB 341.

- Upgrade and improve the existing facility to allow for more efficient service and to incorporate measures to reduce GHG emissions. The improvements include (1) an expansion of current recycling efforts, (2) the construction of a Biomass Gasification Unit to generate 1 megawatt per hour of electrical power using 10,400 tons of waste wood per year, and (3) installation of solar panels on the rooftops of the two existing buildings to produce up to 800 kilowatt-hours of renewable energy.

- Assist the City of Pittsburg and Contra Costa County in implementing the mandatory commercial recycling program required by AB 341.

- Increase facility capacities and expand hours of operation to better serve customers and to meet projected solid waste generation rates until the year 2035.

- Increase efficiency and productivity of the facility by including a new truck maintenance facility and yard within the project site.

- Consolidate all project components under one Solid Waste Facility Permit issued by the City of Pittsburg Local Enforcement Agency and with the concurrence of the California Department of Resources Recycling and Recovery (CalRecycle).

SUMMARY OF SIGNIFICANT EFFECTS

The analysis presented in the technical sections of this Draft Environmental Impact Report (Draft EIR; DEIR) (Sections 3.1 through 3.-8) determined that the following significant impacts would result from implementation of the proposed project:

- Construction-related emissions of criteria air pollutants and precursors could violate or contribute substantially to an existing or projected air quality violation, expose sensitive receptors to substantial pollutant concentrations, and/or conflict with air quality planning efforts (Impact 3.1.1). Mitigation measures identified for the project would reduce the amount of reactive organic gases and oxides of nitrogen, but maximum daily emissions would still be projected to exceed the BAAQMD's significance threshold of 54 lbs/day for each pollutant.

- Project-Specific Traffic Impacts (Impact 3.7.1; Table 3.7-7). Mitigation identified for the project, which includes payment of Capital Improvement Program (CIP) fees, would improve level of service at impacted intersections to less than significant. However, while the improvements are listed in the CIP, there is no funding plan identified. Since funding for the full improvement is not certain, this impact remains significant and unavoidable.

  – Typical Operating Conditions—The Pittsburg-Antioch Highway/Loveridge Road intersection would degrade from level of service (LOS) B to LOS high-D during the AM peak hour and would degrade from LOS E to LOS F (an increase in the volume-to-capacity ratio (V/C) of more than 0.01) during the PM peak hour.

  – Maximum Permitted Operating Conditions—The SR 4 Eastbound Ramps/ Loveridge Road intersection would degrade to LOS high-D (V/C of 0.85 to 0.90) during the PM peak hour, thus resulting in a significant impact. Additionally, the Pittsburg-Antioch Highway/Loveridge Road intersection would degrade from LOS B to LOS F during the AM peak hour and would degrade from LOS E to LOS F (an increase in V/C of more than 0.01) during the PM peak hour.

- Cumulative Traffic Impacts (Impact 3.7.2; Table 3.7-8). While most intersections studied in the DEIR would operate acceptably under cumulatively conditions, the addition of project-generated traffic to projected future traffic would result in unacceptable conditions under typical operating conditions or maximum permitted operating conditions. The traffic study determined that widening along Loveridge Road to accommodate an additional northbound lane may be infeasible due to the railroad crossing and right-of-way constraints. Therefore, the operating conditions at this intersection remain significant and unavoidable.

  – Typical Operating Conditions—Based on the Highway Capacity Manual (HCM) methodology, the Pittsburg-Antioch Highway/Loveridge Road intersection would operate at LOS F during both AM and PM peak hours with the addition of typical operating condition project traffic.

  – Maximum Permitted Operating Conditions—Based on Contra Costa Transportation Authority (CCTA) methodology, the Pittsburg-Antioch Highway/ Loveridge Road

intersection would degrade to LOS D during the AM peak hour and to LOS E during the PM peak hour. Based on the HCM methodology, the Pittsburg-Antioch Highway/Loveridge Road intersection would operate at LOS F during both AM and PM peak hours with the addition of project traffic.

ALTERNATIVES CONSIDERED BUT REJECTED

CEQA Guidelines Section 15126.6(c) states that an EIR should identify any alternatives that were considered but rejected as infeasible by the lead agency during the scoping process, and briefly explain the reasons underlying the lead agency's determination. Additional information explaining the choice of alternatives may be included in the administrative record. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are (1) failure to meet most of the stated project objectives; (2) infeasibility; and (3) inability to avoid significant environmental impacts.

The following alternative was considered but rejected from further analysis in the EIR:

Off-Site Alternative—Off-site alternatives are generally evaluated in an environmental document to avoid, lessen, or eliminate the significant impacts of a project by considering the proposed development in an entirely different location. To be feasible, development of off-site locations must be able to fulfill the project purpose and meet most of the project's stated objectives. Given the nature of the proposed project (expansion of operations at an existing facility), the fundamental purpose of the project cannot be fulfilled at another site, and most of the project's stated objectives, as listed above and in Section 2.0, Project Description, of this DEIR, would not be met. Specifically, development of a new facility to serve eastern and central Contra Costa County would result in more construction impacts than modifications to an already existing facility designed to accommodate such tonnage and waste streams. For these reasons, an off-site alternative is considered infeasible pursuant to State CEQA Guidelines Section 15126.6(c) and is not discussed further in this section.

ALTERNATIVES ANALYZED IN THE EIR

Three alternatives to the proposed project are analyzed in this DEIR and are described below. As discussed above, the significant unavoidable impacts identified for the proposed project are related to traffic generated by car and truck trips to the facility. Therefore, the alternatives below include the no project alternative and two alternatives that would reduce trips associated with project operation.

When a proposed project involves revisions to an existing plan, policy or ongoing operation, the no project alternative should reflect the continuation of the existing plan, policy or operation into the future. (CEQA Guidelines Section 15126.6(e)(3)(A)). The EIR should also analyze the impacts of the no-project alternative by projecting what would reasonably be expected to occur in the foreseeable future if the project were not approved, based on the current plans and consistent with available infrastructure and community services. (CEQA Guidelines Section 15126.6(e)(3)(C)). The purpose of the no project alternative is to provide a comparison of the environmental impacts that would result if the proposed project is not approved with those that would occur if the proposed project is approved. (CEQA Guidelines Section 15126.6(e)(1)).

The facility is currently subject to a conditional use permit (CUP) that allows it to operate at certain permitted levels. Historically, the facility has operated at levels lower than those permitted in the CUP. While the applicant does not operate the facility today (nor at the time the Notice of Preparation was released) at the permitted levels, the applicant can do so in the

future. It is reasonable to assume that if the proposed project is not approved, the facility would ultimately increase operations, possibly to the current permitted levels. Therefore, the no project alternative assumes that if the proposed project is not approved, the applicant will operate in the future at the permitted levels. Consistent with CEQA Guidelines Section 15126.6(e)(3)(A), the no project alternative assumes the future continuation of the existing CUP at the permitted levels, as discussed below.

Alternative 1—No Project Alternative. Alternative 1, the no project alternative, assumes the existing Mt. Diablo Recycling Center and Transfer Station would continue to operate under its current permitted capacities and that no physical improvements would be made at the project site. This alternative also assumes that no revisions would be made to the facility's current Solid Waste Facility Permit issued by the California Department of Resources Recycling and Recovery (CalRecycle). The facility is currently permitted to process a throughput of 2,650 tons per day (TPD).[1] The facility currently processes less than its permitted capacity, approximately 1,181 TPD. This alternative assumes that the facility would ultimately increase operations to the permitted levels (a 125 percent increase from existing operations), with a proportionate increase in the number of truck and vehicle trips entering and leaving the site. The current permitted capacity is less than the total capacity requested for the proposed project, which is 5,500 TPD.

Alternative 2—Biomass and Solar Alternative. Alternative 2, the biomass and solar alternative, assumes that the facility's permitted capacities would not be increased and no new programs would be added to the Mt. Diablo Recycling Facility, Transfer/Processing Facility, Mixed Construction and Demolition (C&D) Processing Facility, or Organics Processing Facility, with the exception of the 40 tons per day increase in clean wood chips to fuel the biomass plant. This alternative assumes only the construction of the Biomass Gasification Unit on approximately 3.5 acres of expansion land and installation of the solar panels would move forward. Because the facility's capacities would not be substantially increased, no revisions to the facility's Solid Waste Facility Permit would be requested and the proposed addition of sort lines, bays, and other equipment would not be required.

Alternative 3—Limited Expansion Alternative (Typical Operating Conditions). Alternative 3, the limited expansion alternative, assumes that there would be increases at the Mt. Diablo Recycling Facility, Transfer/Processing Facility, Mixed Construction and Demolition (C&D) Processing Facility, or Organics Processing Facility. The existing facility has historically operated below the facility's permitted levels. While the DEIR analysis assumes that the expanded facility under the proposed project would operate every day at the maximum permitted level currently requested, the limited expansion alternative assumes the permit would seek an expansion to only 55 percent of the requested permit level of the proposed project. Therefore, the operating condition of the facility under the limited expansion alternative (operating at 55 percent of the maximum permitted level under the proposed project) would be 3,050 tons per day (TPD), compared to 5,500 TPD for the proposed project. This alternative was analyzed as "typical operating conditions" in the traffic impact study and in Section 3.7, Transportation and Circulation of this DEIR.

[1] Mt. Diablo Recycling Facility, 500 TPD; Recycling Center and transfer Station, 1,500 TPD; Green Material Processing, 200 TPD; Mixed Construction and Demolition Processing, 450 TPD.

Relationship of Alternatives to Project Objectives

Alternative 1—No Project Alternative

Alternative 1 would not meet any of the project objectives listed above. This alternative would not assist in the further reduction of greenhouse gas emissions and would not respond to any of the requirements of AB 32, as it would not result in the generation of renewable energy, would not increase the solid waste diversion rates of the cities and counties it serves beyond that currently permitted, and would not add a business and multi-family residential recycling program. In addition, this alternative would not respond to projected population growth and the associated increased solid waste generation in the facility's service area, expand hours of operation at the facility to better serve customers, or consolidate facilities under one permit.

Alternative 2—Biomass and Solar Alternative

Alternative 2 would not meet several of the project objectives listed above. This alternative would assist in the further reduction of greenhouse gas emissions, through solar and biogas electricity generation; however, it would not achieve the same avoided emissions of greenhouse gases that would be realized under the proposed project related to the avoided landfill methane emissions and the emissions avoided by the use of recycled materials. While this alternative would respond to some of the requirements of AB 32 by installing and operating alternative energy systems on site, it would not increase the solid waste diversion rates of the cities and counties it serves and would not add a business and multi-family residential recycling program. In addition, this alternative would not respond to projected population growth and increased solid waste generation in the facility's service area, would not expand hours of operation at the facility to better serve customers, and would not consolidate facilities under one permit.

Alternative 3—Limited Expansion Alternative

Alternative 3 would not meet some of the project objectives listed above. This alternative would assist in the further reduction of greenhouse gas emissions and would respond to some of the requirements of AB 32 by increasing the solid waste diversion rates of the cities and counties it serves and by adding a business and multi-family residential recycling program. This alternative would meet the objective to consolidate facilities under one permit. However, because this alternative limits the throughput at the facility to a level that is consistent with the current level of throughput relative to the facility's existing permitted capacity, this alternative may not be consistent with the objective related to significantly expanding the facility's capacities and hours of operation to meet projected population growth and better serve customers and to meet projected solid waste generation rates until the year 2035. It is likely that if this plant is not expanded, then another plant would have to be constructed or expanded, resulting in additional environmental impacts in order to accommodate future state-mandated waste diversion goals (see also off-site alternative considered and rejected above).

5.2 COMPARATIVE IMPACT ANALYSIS

For each project alternative, the significant environmental impacts are identified, as well as the impacts of the proposed project that would be avoided. If an alternative would cause one or more significant effects in addition to those that would be caused by the proposed project, the significant effects of the alternative are discussed but in less detail than the significant effects of the proposed project (CEQA Guidelines Section 15126.6(d)). The discussion for each alternative addresses potential impacts on each of the environmental issues presented in Section 3.0 of this

DEIR. If a potential impact under an alternative is similar to that under the proposed project, the discussion will so note and no further analysis of the potential impact is conducted.

Table 5.0-2 provides a summary of the potential impacts of the alternatives evaluated in this section, as compared with the potential impacts of the proposed project.

TABLE 5.0-2
COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT BY IMPACT

Impact	Proposed Project (Significance)	Alternative 1 No Project (Comparison)	Alternative 2 Biomass and Solar (Comparison)	Alternative 3 Limited Expansion (Comparison)
3.1 Air Quality				
3.1.1 Short-Term Construction Emissions of Criteria Air Pollutants and Precursors	SU	R	R	R
3.1.2 Long-Term Operational Emissions of Criteria Air Pollutants and Precursors	LTS + M	R	R	R
3.1.3 Exposure of Sensitive Receptors to Localized Concentrations of Mobile-Source Carbon Monoxide	LTS	R	R	R
3.1.4 Exposure of Sensitive Receptors to Substantial Concentrations of Toxic Air Contaminants	LTS	R	R	R
3.1.5 Create Objectionable Odors Affecting a Substantial Number of People	LTS	R	R	R
3.1.6 Cumulatively Considerable Net Increase of Nonattainment Criteria Pollutants and Precursors	LCC + M	R	R	R
3.1.7 Cumulatively Considerable Contribution to Localized Concentrations of Toxic Air Contaminants	LCC	R	R	R
3.1.8 Cumulatively Considerable Contribution to Localized Concentrations of Odorous Emissions	LCC	R	R	R
3.2 Climate Change and Greenhouse Gases				
3.2.1 AB 32 Compliance and GHG Emissions	LCC	I	I	I
3.3 Hazards and Hazardous Materials				
3.3.1 Hazard to the Public through Routine Transport, Use, or Disposal of Hazardous Materials	LTS	R	R	R
3.3.2 Exposure of Persons to Hazardous Materials During Project Construction	LTS + M	R	R	R
3.3.3 Interference with Emergency Operations Plans	LTS	R	R	R
3.3.4 Cumulative Hazardous Materials Exposure	LCC	R	R	R

Impact	Proposed Project (Significance)	Alternative 1 No Project (Comparison)	Alternative 2 Biomass and Solar (Comparison)	Alternative 3 Limited Expansion (Comparison)
3.4 Hydrology and Water Quality				
3.4.1 Violate Water Quality Standards or Waste Discharge Requirements	LTS	R	R	S
3.4.2 Deplete Groundwater Supplies or Interfere with Recharge	LTS	R	R	S
3.4.3 Alter Drainage Patterns/Exceed Capacity of Drainage System	LTS	R	R	S
3.4.4 Degrade Water Quality During Construction	LTS	R	R	S
3.4.5 Degrade Water Quality During Operation	LTS	R	R	S
3.4.6 Flooding Hazards	LTS	R	R	S
3.4.7 Cumulative Impact to Water Quality	LCC	R	R	S
3.4.8 Cumulative Flooding Hazards	LCC	R	R	S
3.5 Land Use				
3.5.1 Conflict with Applicable Land Use Plans	LTS	S	S	S
3.5.2 Cumulative Land Use Impacts	LCC	S	S	S
3.6 Public Services and Utilities				
3.6.1.1 Increased Demand for Fire Protection Services	LTS	R	R	R
3.6.1.2 Provide Inadequate Emergency Access	LTS + M	R	R	R
3.6.1.3 Cumulative Impacts to Fire Protection Services	LCC	R	R	R
3.6.2.1 Adequate Water Supply	LTS	R	R	R
3.6.2.2 Cumulative Water Supply	LCC	R	R	R
3.6.3.1 Wastewater Treatment Impacts	LTS	R	R	R
3.6.3.2 Wastewater Infrastructure Impacts	LTS	R	R	R
3.6.3.3 Increased Demand for Wastewater Services	LTS	R	R	R
3.6.3.4 Cumulative Demand for Wastewater Services	LCC	R	R	R
3.7 Transportation and Circulation				
3.7.1 Exceedance of LOS Thresholds at Study Intersections	SU	R	R	R
3.7.2 Cumulative Traffic Impacts	CC	R	R	R
3.8 Biological Resources				
3.8.1 Special-Status Species	LTS + M	R	S	S

Impact	Proposed Project (Significance)	Alternative 1 No Project (Comparison)	Alternative 2 Biomass and Solar (Comparison)	Alternative 3 Limited Expansion (Comparison)
3.8.2 Impacts to Riparian Habitat or Sensitive Natural Communities	LTS + M	R	R	S
3.8.3 Impacts to Federally Protected Wetlands	NI	S	S	S
3.8.4 Impacts to Wildlife Movement	NI	S	S	S
3.8.5 Conflict with Local Policies or Ordinances or Conservation Plans	LTS	R	R	S
3.8.6 Cumulative Biological Resource Impacts	LCC	R	R	S

Notes: Significance is identified by the following: NI = No impact, LTS = less than significant, LTS +M = less than significant with mitigation, SU = significant and unavoidable, LCC = less than cumulatively considerable, CC = cumulatively considerable. Comparisons identified by the following: R = reduced impact over the proposed project, S = similar impact, I = Increased impact.

AIR QUALITY

Alternative 1—Reduced

The no project alternative would result in an increase in the operations to the permitted capacity of the facility (2,650 TPD), which would increase trips and operations at the project site compared to existing conditions. However, this would be less than the permitted capacity of 5,500 TPD allowed under the proposed project, so the impact would less than the proposed project.

Alternative 2—Reduced

Alternative 2 assumes that the facility's permitted capacities would not be increased and no new programs would be added to the Recycling Center and Transfer Station or Mixed C&D Processing operations, but the Biomass Gasification Unit and installation of the solar panels would be included. Because the amount of materials processed under this alternative would be less than the proposed project, the number of trips to the facility and the handling of the material would be less than that of the proposed project. The Biomass Gasification Unit would generate emissions similar to those attributed to the Unit under the proposed project analysis. Therefore, emissions associated with operations of the facility would be reduced under this alternative compared to the proposed project.

Alternative 3—Reduced

Because Alternative 3 would limit operations to 55 percent of the permitted operating capacity of the proposed project, the operational emissions under this alternative would be proportionately less than the proposed project.

GREENHOUSE GASES

Alternative 1—Increased

The no project alternative would result in increases in the operations of the facility, which would result in an increase in trips at the project site. Therefore, there would be a direct increase in emissions of greenhouse gases from the facility under the no project alternative, although the increase would be less than the permitted capacity of the proposed project. However, the greenhouse gas emissions that would be avoided under the proposed project, due to increased recycling and benefits of the biogas unit, would not occur at the same extent as the proposed project. In fact, as discussed in Section 3.2, Climate Change and Greenhouse Gases, the proposed project would actually have a beneficial effect related to greenhouse gas emissions due to the increased recycling that would occur under the proposed project. Recycling reduces the demand for raw or virgin materials, while re-manufacturing with recycled materials generally reduces overall energy use. Recycling also results in increased carbon sequestration by forests since fewer trees need to be harvested for wood and paper products. In addition, well-managed composting ultimately results in increased soil carbon storage, and end use of compost results in reduced demand for water, fertilizer, and other soil inputs. The production of biomass energy also reduces the demand for fossil fuels. Therefore, the benefits of avoided emissions would not be achieved under this alternative.

Alternative 2—Increased

Alternative 2 assumes that the facility's permitted capacities would not be increased and no new programs would be added to the Recycling Center and Transfer Station or Mixed C&D Processing operations, but the Biomass Gasification Unit and installation of the solar panels would be included. Because the amount of materials processed under this alternative would be less than the proposed project, the number of trips to the facility and the handling of the material would be reduced compared to the proposed project. The Biomass Gasification Unit would generate emissions similar to the proposed project. However, because recycling rates at the facility would not be increased under this alternative, the operations would not achieve the same level of avoided GHG emissions as the proposed project. Therefore, greenhouse gas emissions associated with operations of the facility would be increased under this alternative compared to the proposed project.

Alternative 3—Increased

The no project alternative would result in increases in the operations of the facility, which would result in an increase in trips at the project site. Therefore, there would be a direct increase in emissions of greenhouse gases from the facility under Alternative 3. Because Alternative 3 would limit operations to 55 percent of the permitted operating capacity of the proposed project, the facility would not achieve recycling rates similar to the proposed project and could therefore not result in beneficial effect related to greenhouse gas emissions due to the increased recycling that would occur under the proposed project. Therefore, this alternative would not achieve the same level of greenhouse gas emissions reductions through avoided emissions as the proposed project.

HAZARDS AND HAZARDOUS MATERIALS

Alternative 1—Reduced

Because Alternative 1 assumes operation of the facility at its current maximum permitted level, compared to existing conditions Alternative 1 would increase the amount of waste processed at the facility, some of which could be hazardous. However, the current capacity is 2,650 TPD compared to 5,500 TPD under the proposed project 5,500 TPD, Therefore, the potential for exposure to hazardous materials during transport and handling under Alternative 1 would be reduced compared to the proposed project..

Alternative 2—Reduced

Alternative 2 assumes that the facility's permitted capacities would not be increased and no new programs would be added to the Recycling Center and Transfer Station, Mixed C&D Processing Facility, or Organics Processing Facility, but the Biomass Gasification Unit and installation of the solar panels would be included. Because the amount of materials processed under this alternative would be less than the proposed project, the potential for exposure to hazardous materials during transport and handling would be reduced compared to the proposed project. This alternative would not result in increased traffic as would the proposed project, so there would be no impact on emergency plans. Because capacity would not be increased under this alternative, the contribution to hazardous materials exposure would be less than the proposed project.

Alternative 3—Reduced

Alternative 3 assumes that the permit for operation of the facility would allow up to 55 percent of the capacity allowed under the proposed project. Because this alternative includes expanded capacity for the transport and handling of solid waste that is less than the proposed project, the impact related to hazardous waste would be reduced relative to the proposed project. Exposure to materials emitted from the gasification unit is discussed above in Air Quality. Improvements to the site would be the same as the proposed project, but trips would be reduced, so impacts related to emergency access and evacuation plans would be reduced compared to the proposed project. Because the capacity would be reduced under this alternative, the contribution to hazardous materials exposure would be less than the proposed project.

HYDROLOGY AND WATER QUALITY

Alternative 1—Reduced

Alternative 1 would increase operations to permitted capacity, but there would not be any changes to the facilities on site and would not alter the capacity of the facility. Therefore, there would be no change to the hydrology on the site or changes to any discharges from the site. This alternative would not result in any changes related to surface water quality, flooding, or groundwater quality or quantity. This alternative's contribution to cumulative hydrologic and water quality effects would be less than the proposed project. Overall, impacts from this alternative would be reduced compared to the proposed project.

Alternative 2—Reduced

Alternative 2 assumes that the facility's permitted capacities would not be increased and no new programs would be added to the Recycling Center and Transfer Station or Mixed C&D Processing operations, but the Biomass Gasification Unit and installation of the solar panels

would be included. This alternative would include construction of the Biomass Gasification Unit, which would alter the amount of impervious surfaces on the project site, but other improvements, such as the concrete pad at the Mixed C&D Processing Facility, would not be constructed. This alternative would include a 3.5-acre expansion of operations outside the current facility boundaries, compared to an 18.5-acres expansion for the project. Therefore, this alternative would result in less improved impervious surface being constructed, which would make this alternative's impact related to hydrology and flooding less than that of the proposed project.

Alternative 3—Similar

Alternative 3 would include construction of the same facilities as identified for the proposed project, but the permit would allow only 55 percent of the capacity as allowed under the permit sought for the proposed project. Because this alternative would include the same amount of impervious surface as the proposed project, its impact related to hydrology and flooding would be the same as that of the proposed project.

LAND USE

Alternative 1—Similar

The proposed project would expand into an area that is currently undeveloped, but the zoning allows the proposed use and there would be no impacts related to land use incompatibility or inconsistency with plans. Alternative 1 would not change any land uses compared to existing conditions. This alternative does not increase the capacity at the facility, the land uses would be the same as under existing conditions. The land use impacts would be the same as the proposed project.

Alternative 2—Similar

Alternative 2 assumes that the facility's permitted capacities would not be increased and no new programs would be added to the Recycling Center and Transfer Station or Mixed C&D Processing operations, but the Biomass Gasification Unit and installation of the solar panels would be included. The land uses would be the same as the proposed project, so the land use impacts would be the same as the proposed project.

Alternative 3—Similar

Alternative 3 would include the same improvements and the same uses as the proposed project, albeit at a reduced capacity. Because this alternative includes the same uses, the land use impacts would be the same as the proposed project.

PUBLIC SERVICES AND UTILITIES

Alternative 1—Reduced

Because Alternative 1 would increase the operations of the facility to the permitted capacity, there would be an increase in demand for public services or facilities. The proposed project permitted capacity would be more than double the current permitted capacity. Therefore, impacts related to public services and utilities would be less than the proposed project.

Alternative 2—Reduced

Alternative 2 assumes that the facility's permitted capacities would not be increased and no new programs would be added to the Recycling Center and Transfer Station or Mixed C&D Processing operations, but the Biomass Gasification Unit and installation of the solar panels would be included. Because Alternative 2 would not increase the capacity of the solid waste handling at the facility, the impacts on services would be less than that of the proposed project.

Alternative 3—Reduced

Alternative 3 would include construction of the same facilities as identified for the proposed project, but the permit would allow only 55 percent of the capacity as allowed under the permit sought for the proposed project. Because the facility would be allowed to handle and process less solid waste than the proposed project, the demand for public services and utilities at the facility would be less than the proposed project.

TRANSPORTATION AND TRAFFIC

Alternative 1—Reduced

Alternative 1 would increase operations on the project site to operate at the permitted capacity of the facility, so there would be an increase in traffic under this alternative. The proposed project permitted capacity would be more than double the current permitted capacity, so there would be a corresponding increase in traffic. Therefore, this impact would be less than that of the proposed project.

Alternative 2—Reduced

Alternative 2 assumes that the facility's permitted capacities would not be increased and no new programs would be added to the Recycling Center and Transfer Station or Mixed C&D Processing operations, but the Biomass Gasification Unit and installation of the solar panels would be included. This alternative would generate some additional trips to the facility to provide the green wood waste to fuel the Biomass Gasification Unit. However, because the other portions of the facility would not be expanded, this alternative would have proportionately fewer trips than the proposed project.

Alternative 3—Reduced

Alternative 3 would include construction of the same facilities as identified for the proposed project, but the permit would allow only 55 percent of the capacity as allowed under the permit sought for the proposed project. As discussed in Section 3.7, Transportation and Circulation, based on Contra Costa Transportation Authority (CCTA) methodology with the addition of project traffic under maximum permitted operating conditions (proposed project), the State Route (SR) 4 Eastbound Ramps/Loveridge Road intersection would degrade to a level of service (LOS) high-D (volume-to-capacity ratio (V/C) of 0.85 to 0.90) during the PM peak hour; the Pittsburg-Antioch Highway/Loveridge Road intersection would degrade from LOS B to LOS F during the AM peak hour and would degrade from LOS E to LOS F (an increase in V/C of more than 0.01) during the PM peak hour; and based on the Highway Capacity Manual (HCM) methodology, both the SR 4 Eastbound Ramps/Loveridge Road and Pittsburg-Antioch Highway/Loveridge Road intersections would operate at LOS F during at least one of the peak hours with the addition of project traffic under maximum permitted operating conditions. These are significant impacts.

Based on CCTA methodology with the addition of project traffic under this alternative, the Pittsburg-Antioch Highway/Loveridge Road intersection would degrade from LOS B to LOS D during the AM peak hour and would degrade from LOS E to LOS F (an increase in V/C of more than 0.01) during the PM peak hour; and based on the HCM methodology, both the SR 4 Eastbound Ramps/Loveridge Road and the Pittsburg-Antioch Highway/Loveridge Road intersections would operate at LOS E or F during at least one of the peak hours with the addition of traffic under typical operating conditions. The level of service under this alternative would not degrade to the extent it would under the proposed project. Therefore, this alternative would result in a reduced impact compared to the proposed project; however, it would still result in significant impacts.

BIOLOGICAL RESOURCES

Alternative 1—Reduced

Alternative 1 would increase operations to permitted capacity, but there would not be any changes to the facilities on site and no construction activities would occur. Therefore, this alternative would not result in any impacts to special-status species, either directly or through habitat modification. This alternative would also have no impact on riparian habitat or other sensitive natural communities. The project site does not contain any federally protected wetlands and does not provide for wildlife movement or nursery sites. Therefore, similar to the proposed project, this alternative would have no impact on wetlands or wildlife movement. Also similar to the proposed project, this alternative would not result in the removal of any trees and would not conflict with the City's tree ordinance or any other City policies related to biological resources. This alternative would not involve any construction activities and would not be subject to ECCC HCP/NCCP mitigation fee requirements. This alternative's contribution to cumulative biological resource effects would be less than the proposed project. Overall, impacts from this alternative would be reduced compared to the proposed project.

Alternative 2—Reduced

Alternative 2 assumes that the facility's permitted capacities would not be increased and no new programs would be added to the Recycling Center and Transfer Station or Mixed C&D Processing operations, but the Biomass Gasification Unit and installation of the solar panels would be included. The proposed site of the Biomass Gasification Unit is unpaved and could, therefore, provide suitable habitat for burrowing owl, Swainson's hawk, golden eagles, and white-tailed kites. Therefore, this alternative could have impacts to special-status species similar to the proposed project requiring similar mitigation. This alternative would not affect the ditch onsite which may be a water of the U.S., therefore, potential impacts to riparian habitat and sensitive natural communities would less than that of the proposed project. The project site does not contain any federally protected wetlands and does not provide for wildlife movement or nursery sites. Therefore, similar to the proposed project, this alternative would have no impact on either wetlands or wildlife movement. Also similar to the proposed project, this alternative would not conflict with the City's tree ordinance or any other City policies related to biological resources but would require payment of the required ECCC HCP/NCCP mitigation fees. This alternative's contribution to cumulative biological resource effects would be less than the proposed project. Overall, impacts from this alternative would be reduced compared to the proposed project.

Alternative 3—Similar

Alternative 3 would include construction of the same facilities as identified for the proposed project, but the permit would allow only 55 percent of the capacity as allowed under the permit

south for the proposed project. Because this alternative would include the same construction activities in the same locations as the proposed project, its impact related to biological resources would be the same as that of the proposed project.

5.3 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Based upon the evaluation in this section, Alternative 1, the no project alternative, is considered to be the environmentally superior alternative. Alternative 1 would have fewer adverse environmental impacts than the proposed project and was determined to have the fewest negative impacts on the physical environment. However, Alternative 1 would not meet the objectives of the proposed project.

Under CEQA Guidelines Section 15126.6(e)(2), if the environmentally superior alternative is the no project alternative, another environmentally superior alternative must be identified. According to the analysis above, Alternative 2 would have the fewest environmental impacts when compared with the proposed project. Because this project would receive no additional waste other than clean wood chips for the biomass facility, resulting in significantly fewer truck trips than the proposed project, many of the impacts identified for the proposed project related to increased traffic and operational impacts at the facility would not occur. However, this alternative would only partially meet the project alternatives by assisting in the reduction of greenhouse gas emissions and would respond to some of the requirements of AB 32 by installing and operating alternative energy systems on site. This alternative also would not increase the solid waste diversion rates of the areas it serves and would not add a business and multi-family residential recycling program. In addition, this alternative would not respond to projected population growth and increased solid waste generation in the facility's service area, would not expand hours of operation at the facility to better serve customers, and would not consolidate facilities under one permit.

Alternative 3 assumes that the facility would be expanded to accept approximately half (55%) of the tonnage accepted under the project at full build-out, resulting in proportionately fewer truck trips and operational impacts. This alternative was analyzed in the Traffic Impact Study and is described as the project operating under "typical operating conditions." With regard to transportation-related impacts, as noted above, this alternative would result in degradation at the Pittsburg-Antioch Highway/Loveridge Road intersection from LOS B to LOS high-D in the AM peak hour. During the PM peak hour, the intersection is projected to experience an increase in V/C of more than 0.01 when already operating at unacceptable levels resulting in a significant impact. Under cumulative conditions, and based on the HCM methodology, the Pittsburg-Antioch Highway/Loveridge Road intersection would operate at LOS F during both AM and PM peak hours with the addition of typical operating condition project traffic under the 55%/typical operating conditions alternative. Mitigation identified for the project, which includes payment of Capital Improvement Program (CIP) fees, would improve level of service at impacted intersections to less than significant. However, while the improvements are listed in the CIP, there is no funding plan identified. Since funding for the full improvement is not certain, the impact would remain significant and unavoidable under this alternative. This alternative would meet many of the project objectives; however, it could also be seen as a missed opportunity to leverage an existing facility that is capable of operating at a much larger scale with relatively little construction. As noted in Section 3.2, Climate Change and Greenhouse Gases, reductions of CH_4 associated with biomass energy projects that utilize wood wastes, such as the proposed project, are considered to have a substantial net reduction of GHG emissions and an overall beneficial greenhouse effect. Mandatory increases in recycling were one of the measures adopted in the AB 32 Scoping Plan by the California Air Resources Board pursuant to the California Global Warming Solutions Act. As a result, projected increases of GHGs emissions

associated with the transport and handling of recycling materials would be projected to occur in future years, whether or not they occur at this or other recycling facilities. However, as noted above, the proposed project's avoided emissions would actually exceed the direct emissions of the project, so the proposed project would be superior in terms of GHG emissions.

6.0 CEQA Mandated Sections

This section discusses topics statutorily required by the California Environmental Quality Act (CEQA) concerning the long-term implications of the proposed project. The topics discussed include growth-inducing impacts, significant irreversible environmental changes, including irretrievable commitment of resources, significant and unavoidable environmental impacts, and effect not found to be significant.

6.1 GROWTH-INDUCING IMPACTS

Public Resources Code (PRC) Section 21100(b)(5) specifies that the growth-inducing impacts of a project must be addressed in an environmental impact report (EIR). State CEQA Guidelines Section 15126(g) states that a proposed project is growth-inducing if it could "foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." Included in the definition are projects that would remove obstacles to population growth. Growth-inducing impacts associated with the proposed project and expansion onto adjacent vacant land are described in Section 13, Population and Housing, of the Initial Study and in the Columbia Solar Project Mitigated Negative Declaration (State Clearinghouse No. 2013012038) (see **Appendix A**). As discussed therein, the proposed project does not include the construction of any housing or new businesses and would not extend infrastructure to other surrounding properties. The project would increase the number of employees at the facility by 62 (from 83 to 145). With an unemployment rate of 9.0 percent or approximately 47,800 people (as of August 2012), Contra Costa County's existing workforce should be sufficient to fill these positions without requiring additional employees moving into the area or otherwise requiring the construction of new housing. Therefore, the proposed project would not directly induce substantial population growth in the city.

The proposed project would increase the capacity of solid waste handling for the cities and unincorporated communities it serves, thereby potentially removing a barrier to future development and growth. However, the availability of solid waste handling capacity would generally not be considered a service that would itself induce population growth. In fact, the proposed increase in the facility's programs and capacities are in response to anticipated growth in the region as projected by the City's General Plan and the Association of Bay Area Governments. Therefore, the proposed project would not induce growth beyond current projections.

6.2 SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL EFFECTS

CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects, including those that can be mitigated but not reduced to a level of less than significant. Section 15093(a) of the CEQA Guidelines allows the decision-making agency to determine whether the benefits of a proposed project outweigh the unavoidable adverse environmental impacts of implementing the project. The City can approve a project with unavoidable adverse impacts if it prepares a Statement of Overriding Considerations setting forth the specific reasons for making such a judgment.

The following impacts of the proposed project have been recognized as significant and unavoidable at the project level or in the cumulative context, and are specifically identified in Sections 3.1 through 3.8 of this Draft EIR. The reader is referred to the specific environmental issue area for further details and analysis of these significant and unavoidable impacts.

AIR QUALITY

Impact 3.1.1 Construction-related emissions of criteria air pollutants and precursors could violate or contribute substantially to an existing or projected air quality violation, expose sensitive receptors to substantial pollutant concentrations, and/or conflict with air quality planning efforts.

The proposed project will result in short-term emissions from construction activities. Construction-generated emissions are short term and of temporary duration, lasting only as long as construction activities occur, but have the potential to represent a significant air quality impact. Emissions commonly associated with construction activities include fugitive dust from soil disturbance, fuel combustion from mobile heavy-duty diesel- and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips. Emissions of airborne particulate matter are largely dependent on the amount of ground disturbance associated with site preparation activities. Off-road construction equipment is often diesel-powered and can be a substantial source of NO_X emissions, in addition to PM_{10} and $PM_{2.5}$ emissions. Worker commute trips and the application of architectural coatings are typically the dominant sources of ROG emissions.

With implementation of mitigation measures identified for the project, maximum daily construction-related emissions of ROG would be reduced to approximately 58 lbs/day and NO_X would be reduced to approximately 61 lbs/day, or less. The proposed mitigation also includes best management practices for the control of fugitive dust emissions, as recommended by the BAAQMD. With mitigation, maximum daily emissions would still be projected to exceed the BAAQMD's significance threshold of 54 lbs/day for each pollutant. It is important to note that to ensure a conservative analysis, maximum daily emissions were calculated assuming that all facility improvements identified for a given year (excluding initial site preparation and grading activities) could potentially occur on the same day. Actual emissions would vary depending on the specific construction activities conducted. Nonetheless, given that detailed construction schedules for the proposed improvements are not yet available and because maximum daily emissions with mitigation would be projected to exceed BAAQMD's significance thresholds, this impact would be considered significant and unavoidable.

TRANSPORTATION AND CIRCULATION

Impact 3.7.1 Implementation of the proposed project would result in the degradation of operations at two study intersections.

Based on Contra Costa Transportation Authority (CCTA) methodology, with the addition of project traffic under typical operating conditions, the Pittsburg-Antioch Highway/Loveridge Road intersection would degrade from LOS B to a LOS high-D during the AM peak hour, and would degrade from LOS E to LOS F (an increase in V/C of more than 0.01) during the PM peak hour, thus resulting in a significant impact.

Based on the Highway Capacity Manual (HCM) methodology, both SR 4 Eastbound Ramps/Loveridge Road and the Pittsburg-Antioch Highway/Loveridge Road intersections would operate at LOS E or F during at least one of the peak hours with the addition of project traffic under typical operating conditions. The project driveways would continue to operate at acceptable service levels.

Based on CCTA methodology with the addition of project traffic under maximum permitted operating conditions, the SR 4 Eastbound Ramps/Loveridge Road intersection would degrade to a LOS high-D (V/C of 0.85 to 0.90) during the PM peak hour, thus resulting in a significant impact.

Additionally, the Pittsburg-Antioch Highway/Loveridge Road intersection would degrade from LOS B to LOS F during the AM peak hour and would degrade from LOS E to LOS F (an increase in V/C of more than 0.01) during the PM peak hour, thus resulting in a significant impact.

Based on the HCM methodology, both the SR 4 Eastbound Ramps/Loveridge Road and Pittsburg-Antioch Highway/Loveridge Road intersections would operate at LOS F during at least one of the peak hours with the addition of project traffic under maximum permitted operating conditions. The project driveways would continue to operate at acceptable service levels.

Impact 3.7.2 Operations at the Pittsburg-Antioch Highway/Loveridge Road intersection are projected to degrade with the addition of project traffic.

With the addition of project traffic under typical operating conditions, based on the CCTA methodology, all study intersections and project driveways are projected to operate at acceptable levels. However, based on the HCM methodology, the Pittsburg-Antioch Highway/ Loveridge Road intersection would operate at LOS F during both AM and PM peak hours with the addition of typical operating condition project traffic, creating a significant impact.

With the addition of project traffic under maximum permitted operating conditions based on CCTA methodology, the Pittsburg-Antioch Highway/Loveridge Road intersection would degrade to LOS D during the AM peak hour and to LOS E during the PM peak hour. Based on the HCM methodology, the Pittsburg-Antioch Highway/Loveridge Road intersection would operate at LOS F during both AM and PM peak hours with the addition of project traffic under maximum permitted and typical operating conditions.

The driveways would continue to operate at acceptable service levels.

6.3 EFFECTS NOT FOUND TO BE SIGNIFICANT

CEQA Guidelines Section 15128 requires an EIR to contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR. The CEQA Guidelines dictate that such a statement may be contained in an attached copy of an Initial Study. An Initial Study was prepared by the City of Pittsburg for the proposed project and was circulated with the Notice of Preparation (NOP) for public comment. A copy of the Initial Study, along with the NOP and comment letters, is attached in **Appendix A** of this Draft EIR. The Initial Study and the Columbia Solar Project Mitigated Negative Declaration concluded that the following issue areas would result in no impact or a less than significant impact given the existing conditions of the project site (e.g., none of the relevant resources are present on the project site) or the nature of the proposed project (e.g., the proposed project would not impact the relevant resources):

- Aesthetics
- Agriculture Resources
- Biological Resources
- Cultural Resources
- Geology and Soils
- Mineral Resources
- Noise
- Population and Housing
- Recreation

In addition, the proposed project would have no impact or a less than significant impact associated with the following topics (see Sections 3.1 through 3.8), in some cases with mitigation:

- Generation of air emissions (mitigated)

7.0 Report Preparers

- Generation of greenhouse gases
- Exposure to hazards or hazardous materials
- Effects on water quality, drainage, and groundwater recharge
- Flooding
- Land use impacts
- Demand for public services or utilities

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