

DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

ALAMEDA CREEK NORTH LEVEE IMPROVEMENT PROJECT

Alameda County Flood Control & Water Conservation District
399 Elmhurst St.
Hayward, CA 94544

November 2014

DRAFT
MITIGATED NEGATIVE DECLARATION

ALAMEDA COUNTY

Alameda County Flood Control & Water Conservation District (Lead Agency)

1. **Project Name:** Alameda Creek North Levee Improvement Project
2. **Description and Location:** The Alameda County Flood Control and Water Conservation District (District) proposes to raise 8,650 linear feet of the north levee of Alameda Creek downstream of Union City Boulevard by approximately 4 feet to provide adequate freeboard to meet Federal Emergency Management Agency (FEMA) 100-year (1% annual chance) flood protection requirements. Approximately 40,000 cubic yards (CY) of imported levee material, will be used to raise the levee height within the project limits. The project would remove approximately 210 trees of various sizes that conflict with the project. Following completion of the project, the existing public access trail atop the levee would be restored.
2. **Responsible Agency:** Alameda County Flood Control & Water Conservation District
399 Elmhurst Street, Hayward, California 94544

3. **Findings:**

Based on the attached Initial Study, the Lead Agency has found that:

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

4. **Mitigation Measures:**

Air Quality

- (1) **BAAQMD Dust Control Measures:** The construction contractor shall reduce construction-related air pollutant emissions by implementing BAAQMD's basic fugitive dust control measures.
- (2) **BAAQMD Exhaust Emissions Reduction Measures:** The project shall implement BAAQMD enhanced exhaust emissions reduction measures during construction to further reduce construction-related exhaust emissions.

Biological Resources

- (1) **Salt Marsh Harvest Mouse:** Prior to commencement of construction activities, a qualified biologist shall conduct a mandatory environmental education program for all construction personnel. To prevent salt marsh harvest mice from entering the construction and staging zone and being harmed, temporary exclusion fencing shall be placed between the project site and suitable habitats. All associated vegetation clearing shall be completed prior to fence installation and completed by using hand tools only.
- (2) **California Black Rail and California Clapper Rail:** Due to the proximity of the project site to suitable California black rail and California clapper rail nesting and foraging habitat, all construction activities within 700 feet of suitable nesting habitat shall be conducted outside of these species' breeding season

(i.e., February 1 through August 31). Alternatively, protocol surveys may be conducted prior to construction, and if these species are not found to be nesting within 700 feet of construction, then construction may occur during the nesting season.

- (3) **Other Nesting Birds:** If possible, trees shall be removed outside of the nesting season of native bird species. If construction activities/tree removal would commence anytime during the nesting/breeding season of native bird species potentially nesting near the site (typically February through August in the project region), a pre-construction survey for nesting birds shall be conducted by a qualified biologist within two weeks of the commencement of construction activities.
- (4) **Wetlands:** Any wetlands on District Agricultural Lands not disked at the time of construction shall be avoided. Any areas temporarily disturbed by staging/soil storage shall be returned to agricultural use upon project completion.
- (5) **Tree Removal:** The District shall prepare and implement a tree replacement plan, which at a minimum will include the replacement of the native trees to be removed.

Noise

- (1) **Hours of Activity:** Limit project construction activity to the hours of 8:00 a.m. to 8:00 p.m. on Monday through Friday, 9:00 a.m. to 8:00 p.m. on Saturdays, and 10:00 a.m. to 6:00 p.m. on Sundays and holidays.
- (2) **Noise Suppression Techniques:** Noise suppression techniques shall be employed to minimize the impact of temporary construction noise on nearby sensitive receptors.

5. **Date of Public Notice of Negative Declaration:** November 1, 2014

6. **End of Review Period:** December 1, 2014

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

Signature

Environmental Services Manager

Date

Environmental Checklist Form

1. Project Title: Alameda Creek North Levee Improvement Project

2. Lead agency name and address:

Alameda County Flood Control and Water Conservation District
399 Elmhurst Street
Hayward, CA 94544

3. Contact person and phone number:

Jim Browne
Phone: (510) 670-5796

4. Project location:

The proposed project is located along the Alameda Creek north levee between Union City Boulevard and the vicinity of Coyote Hills, in the City of Union City, Alameda County (see Figure 1, Location Map).

5. Project sponsor's name and address:

COUNTY OF
ALAMEDA
399 Elmhurst Street
Hayward, CA 94544

ALAMEDA COUNTY FLOOD
CONTROL & WATER CONSERVATION
DISTRICT
399 Elmhurst Street
Hayward, CA 94544

OTHER:

6. General plan designation: Agriculture

7. Zoning: Agriculture

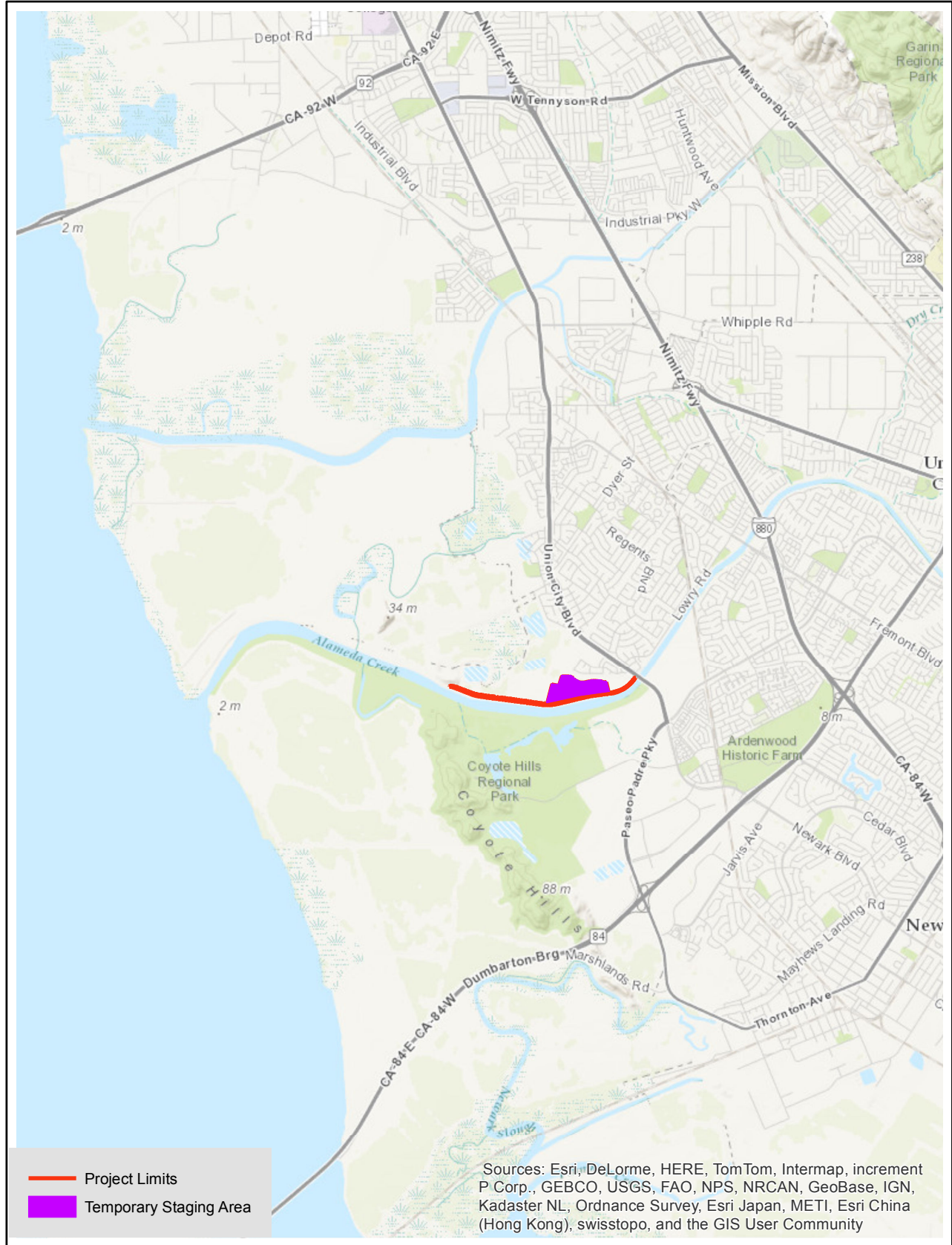
8. Description of project:

The Alameda County Flood Control and Water Conservation District (District) owns and maintains Alameda Creek including its levees. The District proposes to construct remedial levee improvements along an approximately 1.7-mile reach of Alameda Creek's north levee between Union City Boulevard and the vicinity of Coyote Hills, in the City of Union City, Alameda County. The reach is deficient from a hydraulic standpoint, as the north levee does not provide adequate freeboard to meet Federal Emergency Management Agency's (FEMA) 44 Code of Federal Regulations Section 65.10 requirements. The conformance of this levee reach to FEMA standards would enable the District to certify this portion of the levee as providing 100-year (1% annual chance) flood protection.

The project proposes to raise 8,650 linear feet of the north levee by approximately 1 to 4 feet. The levee would be raised by approximately between 4 feet on the west end (tying in to Coyote Hills) to an

FIGURE 1: REGIONAL LOCATION

Alameda Creek North Levee Improvement Project



0 1.5 3 6 Miles



elevation of 21.71, to a raise of approximately 1 foot (to an Elevation of 26.66) at the east end (Union City Blvd. ramp).

The levee raising would require removal of the existing maintenance access road (aggregate base) to subgrade, scarifying (de-grade) the subgrade for approximately 12 inches, placing engineered levee fill material along the top and landside slope of the north levee to finish grade, and restore the aggregate base maintenance road. No fill would be placed on the waterside slope below the degrade limits. The slope on the Creekside is 2.5:1. The slope of the landside would be 3:1 from the west end of the project (Coyote Hills) to about 4,000 feet east, transitioning to 2.5:1 for another 1,800 feet and another transition to 2:1 for the last 2,250 feet (tying into Union City Blvd.).

Construction access would be from Union City Boulevard onto the north levee access road. Construction staging and temporary stockpiling area would be designated along the adjacent open area to the north of the levee reach, within District Agricultural Lands (See Figures 2, Site Plan and Stockpile Area).

Approximately 210 trees of various species (including eucalyptus, willows, pines, oaks, and several ornamental species) within the levee construction limits would be removed for construction of the improvements and in accordance with the U.S. Army Corps of Engineer's policy on levee vegetation management (ETL 1110-2-571).

The District issued a license Agreement to the East Bay Regional Park District for their operation and maintenance of recreational trails atop of the levee access road.

In order to raise the levee the District proposes the following construction sequence:

- The District would implement a temporary trail closure to the public along the north levee trail west of Union City Boulevard. Prior to the trail closure, the District would conduct outreach efforts to notify the public and nearby residents about the upcoming construction project. The south levee trail would remain open during the construction period. The District also would coordinate with East Bay Regional Park District and develop a detour plan when the 70% plans for the project are complete. The District will post signs with the project information along various locations on the trail.

The paved parking lot at the eastern edge of the site is owned and maintained by EBRPD, and the District would not use that lot or impact its use during construction.

- Prior to the mobilization of construction equipment to the site, the District would require the Contractor installation of construction stormwater best management practices (BMPs) in accordance with an approved water pollution control plan prepared for the site by a CASQA Certified QSD. The BMPs would include features such as construction entrance/exit stabilization, storm drain inlet and outlet protection and sediment barriers (typically silt fences and fiber rolls).
- After the BMPs are in-place, trees would be removed and the levee stripping would begin by removing and disposing of the existing aggregate base and levee material that may contain vegetative materials including roots, to the depth of 1 to 1 1/2 feet. Per US Army Corps of

Figure 2: Project Site
Alameda Creek North Levee Improvement Project



0 0.125 0.25 0.5 Miles



Engineers guidelines, levee vegetation removal requirements, the removal of a tree would require, at a minimum, excavation to remove the tree trunks, root ball and roots greater than 1/2” in diameter. The upper 6 inches of the levee prism that is being raised would be stripped to remove any existing gravel or deleterious materials. Additional depth of levee degrading may be necessary along areas where the root systems are deep and substantially embedded in the levee prism. All cleared and grubbed materials removed would be disposed of by the Contractor to a Class II or Class III waste disposal site. The estimated truck trips from this disposal can be approximately 20 full dump trucks (total of 210 trees to be removed, and average of 10 trees per truck).

- Following the levee stripping/degrade, the exposed portions of the levee would be prepared to receive import soil to be used as levee engineered fill.
- The stockpile areas and staging areas would be located within the District’s parcels adjacent to the north of the levee. These areas are all within designated District Agricultural Lands. The import material would be moisture-conditioned, placed along the top of levee in thin lifts and compacted to 90% relative compaction. The fill would be carried by larger earth moving equipment such a trucks and/or loaders which would travel along the levee top. The material would then be spread out with a dozer and then compacted. After the rough grading is completed and the required top of levee elevation is achieved, a bladed dozer or grader would be used for the fine grading along the finished slopes and levee top. Based on the planned landside slope configurations being considered as well as the anticipated extent of levee stripping, the amount of import levee material needed would be approximately 40,000 cubic yards (CY), to be placed over an area of approximately 6.1 to 7.7 acres. About 18,500 CY of material stockpiled to the north (adjacent to school site on Union City Blvd.) would be used. Anticipated haul routes are as shown on Figure 2. Another approx. 20,000 to 25,000 CY needed for the levee raise would be imported from an as-yet undetermined source, to be selected by the project contractor.
- Following placement of the engineered fill, a new layer of Class 2 Aggregate Base would be placed along the top and the trail would be restored to a uniform width of 13 feet. It is estimated that approximately 2,300 CY of Class 2 Aggregate base would be used. The existing aggregate base would not be reused in this project as it is considered unsuitable for levee fill, and because of the difficulty in keeping it from getting mixed with the subgrade material, it would not be considered “clean” to be reused on for the new aggregate base surface. The aggregate material would be disposed of at a non-hazardous waste disposal facility.
- After final grading activities, all temporarily disturbed areas would be revegetated with a mix of annual grasses and forbs, such as yarrow (*Achillea millefolium*), farewell to spring (*Clarkia amoena*), California poppy (*Eschscholzia californica*), arroyo lupine (*Lupinus succulentus*), California fuchsia (*Zauschneria californica*) and creeping wildrye (*Leymus triticoides*) to minimize soil erosion. Seeding would be uniformly distributed and broadcast using a mechanical seed spreader. Immediately following seeding, the seeded areas would be watered sufficiently to moisten the seedbed to a depth of at least two inches. Water would be applied in a manner that provides uniform coverage and minimizes erosion or damage to the final surface.

Construction Schedule

The District anticipates that construction equipment may include dozers, excavators, graders, trucks, loaders and backhoes. The anticipated construction schedule would extend from May 1 to December

15, 2015 (223 Calendar Days), and would include the following phases:

- Installing BMPs and Mobilization – 1st week of May 2015 (3 workers)
- Clearing and Grubbing, Levee Stripping – 2nd and 3rd week of May 2015 (6 to 8 workers)
- Levee Raise – Mid-May through Mid-September 2015 (6 to 8 workers)
- Levee Road Resurfacing – 3rd and 4th week of September 2015 (4 workers)
- Hydroseeding and Demobilization and Clean up – 1st and 2nd week of October 2015 (4 workers).

It is anticipated that construction hours within the District’s right-of-way would be limited to 7 AM to 7 PM. No works will take place on legal holidays. Truck hauling hours would be limited to 9 AM to 5:30 PM Mondays thru Fridays. No hauling operation on City streets would be allowed on Saturdays and Sundays.

Construction Management Activities

Table 1 lists the construction-related BMPs that would be implemented to minimize the introduction of dirt, debris and other construction waste into Alameda Creek. The District’s BMPs would likely consist of silt fences, straw wattles and gravel bags (for perimeter control) and temporary construction driveways (for mud tracking control). The table also includes BMPs to protect air quality during construction.

Monitoring and Maintenance

The District would be responsible for long-term maintenance of the improved flood conveyance facilities, including monitoring for erosion and vandalism. In general, maintenance activities would be performed as needed and always prior to the rainy season. The contractor would provide weed management along the access road and landscape maintenance for one year.

The EBRPD would continue to maintain all public access infrastructure (i.e., pathways) after the proposed project is constructed.

9. Surrounding land uses and setting:

The portion of the Alameda Creek North Levee within the project area is bordered by undeveloped Alameda Creek and open space lands to the south, open space and agricultural lands to the north. A residential subdivision and elementary school lie just north of the proposed staging area. The haul route passes directly adjacent to about five residences and the school playfield.

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

No other public agency permits would be required for the project.

Table 1: Construction-Related Best Management Practices

BMP ID	Name	BMP
BMP - 1	Earthwork and Erosion Control	<ol style="list-style-type: none"> Excavated soils will be kept on site where they will not collect in the street. Transfers to dump trucks will take place onsite and not in the street. Fiber rolls, silt fences, or other erosion control measures will be used to minimize the flow of silt offsite. Erosion of slopes disturbed during construction will be minimized by securing soil with erosion control fabric or seeding with fast-growing native grasses as soon as possible. Fiber rolls will be placed down-slope until the soil is secure. Erosion control fabric will consist of natural fibers that will biodegrade over time. No plastic or other non-porous material will be used as part of a permanent erosion control approach. Erosion control fabric will be anchored in place. Anchors can include U-shaped wire staples, metal geotextiles stake pins, or triangular wooden stakes. Earth moving activities will only occur during dry weather, as approved by an Alameda County Inspector in the Field. Disturbance to existing vegetation will be minimized where possible. The construction site will be monitored for compliance with the County Stormwater Discharge Ordinance, State Cleanwater Act, and the Construction General Permit by District staff, including the Project Inspector, Project Engineer, and Clean Water Staff as well as others hire by the District for such monitoring.
BMP - 2	Staging and Stockpiling of Materials	<ol style="list-style-type: none"> All construction equipment will be staged in upland areas, away from sensitive natural communities or habitats. All construction-related items, including equipment, stockpiled material, temporary erosion control treatments, and trash will be removed within 72 hours of project completion. All residual soils and/or materials will be cleared from the project site. Secondary containment will be provided for building materials and other construction-related materials, including chemicals, and they will not be stockpiled or stored where they could spill into water bodies or storm drains, or where they could cover aquatic or riparian vegetation.
BMP - 3	Stormwater Management	<ol style="list-style-type: none"> Stormwater runoff from or onto the site will be effectively managed. All runoff will be directed away from disturbed areas. The project would be conducted during the dry season.
BMP - 4	Non-Hazardous Materials Management	<ol style="list-style-type: none"> Sand, dirt, and similar materials will be stored at least 10 feet from catch basins. All construction material will be covered with a tarp and contained with a perimeter control during wet weather, when rain is forecast, or when they will not be actively used within 14 days. Reclaimed water will be used for dust control, irrigation, or another on-site purpose as needed and to the extent possible. Streets and paved areas will be swept or vacuumed daily. Water will not be used to wash streets or work areas. Concrete, grout, and mortar will be stored under cover, on pallets, and away from drainage areas. Any water from washing exposed aggregate concrete will be collected and removed for disposal offsite. Secondary containment will be provided for concrete washouts and any other potential water contaminant. Asphalt, concrete, and aggregate base material removed during construction will be recycled in compliance with Alameda County ordinances for recycling construction materials.

BMP ID	Name	BMP
		<ol style="list-style-type: none"> Dumpsters will be checked regularly for leaks and to make sure they are not overfilled. Leaking dumpsters will be repaired or replaced promptly. All dumpsters will be covered with a tarp at the end of every work-day or during wet weather.
BMP - 5	Hazardous Materials Management	<ol style="list-style-type: none"> All hazardous materials and hazardous wastes will be labeled in accordance with city, county, state, and federal regulations. Hazardous materials and wastes will be stored in water-tight containers within appropriate secondary containment structures and will be covered at the end of every work day or during wet weather when rain is forecast. Hazardous materials will be applied in accordance with the manufacturer's application instructions. No more than what is necessary will be used. Chemicals will not be applied outdoors when rain is forecast within 24 hours. All hazardous waste will be appropriately disposed of off-site. For stationary equipment that must be fueled on-site, secondary containment such as a drain pan or drop cloth shall be provided in a manner to prevent accidental spill of fuels to underlying soil, surface water, or the storm drainage system. Secondary containment will be provided for sanitation facilities (e.g., portable toilets), such as surrounding them with a berm, and a direct connection to the storm drainage system or receiving water will be avoided. Sanitation facilities will be regularly cleaned and/or replaced, and inspected regularly for leaks and spills.
BMP - 6	Spill Prevention and Control	<p>A Spill Prevention and Response Plan will be developed prior to commencement of construction activities, and will summarize the measures described below. The work site will be routinely inspected to verify that the Spill Prevention and Response Plan is properly implemented and maintained. Contractors will be notified immediately if there is a noncompliance issue.</p> <ol style="list-style-type: none"> A stockpile of spill cleanup materials will be available at the construction site at all times. Prior to entering the work site, all field personnel shall be trained in spill prevention, hazardous material control, and cleanup of accidental spills. When spills or leaks occur, they will be contained immediately. The contractor will take particular precautions to prevent leaks and spills from reaching the gutter, street, or storm drain. Spilled materials will not be washed into a gutter, street, storm drain, or creek. All containment and cleanup materials will be disposed of properly. Hazardous material spills will be reported immediately to the Alameda County Public Works Agency at (510) 670-5500.
BMP - 7	Vehicle and Equipment Maintenance & Cleaning	<ol style="list-style-type: none"> Vehicles and equipment will be inspected for leaks frequently. Leaks will be repaired promptly, and drip pans will be used to catch leaks until repairs are made. In general, vehicles and equipment will not be washed on-site. If washing must occur on site, it will occur in a bermed area that will not allow rinse water to run into gutters, streets, storm drains, or creeks. Only water will be used to clean equipment onsite (i.e., no soaps, solvents, degreasers, etc. will be used). For stationary equipment that must be fueled on-site, secondary containment such as a drain pan or drop cloth shall be provided to prevent accidental spills of fuels to underlying soil, surface water, or the storm drainage system.
BMP - 8	Construction Entrances & Perimeter	<ol style="list-style-type: none"> Perimeter controls will be established and maintained during construction. All construction entrances and exits will be stabilized sufficiently to control erosion and sediment discharges from the construction site.

BMP ID	Name	BMP
		2. The construction contractor will sweep or vacuum any street tracking immediately and secure the sediment source to prevent further tracking.
BMP - 9	Fire Prevention	<ol style="list-style-type: none"> 1. All earthmoving and portable equipment with internal combustion engines will be equipped with spark arrestors. 2. During the high fire danger period (April 1–December 1), work crews will have appropriate fire suppression equipment available at the work site. 3. On days when the fire danger is high, flammable materials will be kept at least 10 feet away from any equipment that could produce a spark, fire, or flame. 4. On days when the fire danger is high, portable tools powered by gasoline-fueled internal combustion engines will not be used within 25 feet of any flammable materials unless at least one round-point shovel or fire extinguisher is within immediate reach of the work crew (no more 25 feet away from the work area).
BMP – 10	Air Quality Protection	<ol style="list-style-type: none"> 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) will be watered at least two times per day. 2. All haul trucks transporting soil, sand, or other loose material off-site will be covered. 3. All visible mud or dirt track-out onto adjacent public roads will be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4. All vehicle speeds on unpaved roads will be limited to 15 mph. 5. All roadways, driveways, and sidewalks to be paved will be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. 6. Idling times will be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. 7. All construction equipment will be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment shall be checked by a certified visible emissions evaluator. 8. A publicly visible sign will be posted with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD’s phone number shall also be visible to ensure compliance with applicable regulations.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

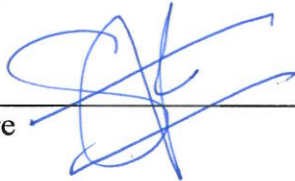
The environmental factors checked below would be potentially affected by this project as indicated by the checklists and responses contained on the following pages:

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

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

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

Signature 

Kwablah Attigbe

Date October 28, 2014

Environmental Services Manager

Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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I. AESTHETICS – Would the project:

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Have a substantial adverse effect on a scenic vista? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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II. AGRICULTURE AND FOREST RESOURCES:

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

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

Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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III. AIR QUALITY:

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

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

Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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IV. BIOLOGICAL RESOURCES – Would the project:

- | | | | | |
|--|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Results in a conversion of Oak Woodlands that will have a significant effect on the environment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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

VI. GEOLOGY AND SOILS – Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

ii) Strong seismic ground shaking?

iii) Seismic-related ground failure, including liquefaction?

iv) Landslides?

b) Result in substantial soil erosion or the loss of topsoil?

c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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VII. GREENHOUSE GAS EMISSIONS – Would the project:

- a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

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

Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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X. LAND USE AND PLANNING – Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Physically divide an established community? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

XI. MINERAL RESOURCES – Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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

- | | | | | |
|---|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Exposure of persons to or generation of excessive ground-born vibration or ground-born noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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XIII. POPULATION AND HOUSING – Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

XIV. PUBLIC SERVICES:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities? The construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services: | | | | |
| i) Fire protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| ii) Police protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iii) Schools? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iv) Parks? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| v) Other public facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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XV. RECREATION:

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

XVI. TRANSPORTATION AND TRAFFIC – Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Exceed, either individually or cumulatively, a level of service standard established by the County Congestion Management Agency for designated roads or highways? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| f) Result in inadequate parking capacity? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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XVII. UTILITIES AND SERVICE SYSTEMS – Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities; the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities; the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| g) Comply with federal, state, and local statutes and regulations related to solid waste? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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XVIII. MANDATORY FINDINGS OF SIGNIFICANCE:

- | | | | | |
|---|--------------------------|-------------------------------------|-------------------------------------|--------------------------|
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

ENVIRONMENTAL EVALUATION

An explanation of the basis for the response to each item in Sections I through XVII and of ways to mitigate any identified significant impacts are provided below unless the item has been checked “NO” Impact and one or more of the references in Section 18 has been cited in the parenthesis following the item.

I. AESTHETICS

- a) **Less Than Significant Impact.** The levee-top trail affords scenic vistas of the Coyote Hills and adjacent agricultural and wetland open space, long-distance views of the hills to the east, and near-field views of the broad channel of Alameda Creek (See Photos 1-4). Other landscape level views include grasslands on the outboard channel slopes that change seasonally with the wet and dry periods. Rock outcroppings can be seen on the Coyote Hill on the north side of Alameda Creek looking towards the west. Project construction would temporarily close the trail to viewers during project construction, however the trail on the south side of the levee would remain open to the public, allowing access to similar views and vistas.

A substantial number of trees in various sizes on the north levee, some of which are visible in views from the south levee would be removed by the project. The project would require the removal of approximately 210 trees, while approximately 450 trees would remain on or adjacent to the project site. This tree removal would open up additional scenic vistas from both levee trails while at the same time eliminating the beneficial aesthetic character of the trees. The grasslands on the outboard slopes of the levee would be restored with grasses and wildflowers so that the visual character of that resource will not be changed.

Some of the nearby homes have views of the levee, including the trees, from their second-story rear windows. However views southward towards the levee from most of the houses are blocked by a large stand of trees near the houses. The project impacts would not be visible from those homes. The focal point of the trail is Alameda Creek and the Coyote Hills, and neither of those would be changed by the project.

The overall impact would be a change in visual character of levee as viewed from the levee and some nearby houses, however, as described above, the change in visual character, views, and vistas would not be significantly adverse.

- b) **Less Than Significant Impact.** There are no state designated scenic routes or highways with views of the project site (California Department of Transportation 2007). However, as described above, the project would remove approximately 210 trees. The loss of this scenic resource would be offset by the improvement of longer-range views from the levee trail, which would result in an overall less-than-significant impact.
- c) **Less Than Significant Impact.** The levee would be raised between one and a half feet and four feet high. The EBRPD recreational trail would be removed and replaced with a pathway in approximately the same location. These project components would not noticeably affect the site’s visual quality. However, the tree removal could adversely affect the visual quality as experienced by trail users and local residents. As described in Item a), above, this impact would be offset by additional expansive views afforded by the tree removal.

- d) **No Impact.** No new permanent structures or sources of lighting are proposed as part of this project. Construction would occur during daylight hours and would not introduce a new source of light. Construction equipment would not create any discernible glare.



Photo 1: View of North Levee Looking West from Parking Area



Photo 2: View of Stockpile Area Looking North from Levee Trail



Photo 3: View Looking North from Levee Trail



Photo 4: View Looking West from Levee Trail

II. AGRICULTURAL AND FOREST RESOURCES

- a) **Less than Significant Impact.** The proposed temporary staging area would occupy approximately 58 acres of prime farmland (California Important Farmland Finder, accessed August 26, 2014) for the duration of construction. This would remove this land from agricultural production potential for up to one growing season. The land would be returned to agricultural use after construction is complete. Therefore this temporary impact would be considered less than significant.
- b) **No Impact.** The proposed project would not change the zoning or current land use of the project area, including agricultural lands. The project is not within Williamson Act land. On the Alameda County map of Williamson Act lands, FY 2013-2014, the project site is within an area identified as non-enrolled land (California Department of Conservation 2014). No substantial conflict with existing agricultural zoning or with a Williamson Act contract would result from project construction (Alameda County Assessor 2006), as the staging areas would be returned to agricultural use after completion of construction.
- c) **No Impact.** The project is limited to the raising of a levee and associated activities and does not propose any activity that directly or indirectly would result in any changes to the existing environment or conflict with existing zoning for, or cause rezoning of, forest land, or timberland.
- d) **No Impact.** The project would neither result in the loss of forest land nor convert forest land to non-forest use. The project is limited to the riparian corridor and not connected to a forest environment.
- e) **Less than Significant Impact.** As described in a), above, the project would temporarily convert agriculturally designated lands to staging areas. However, this temporary change in use would be for one growing season, and no farmland would be permanently converted to non-farmland.

III. AIR QUALITY

- a) **Less Than Significant Impact.** An air quality analysis of the proposed project's potential construction impacts for comparison to applicable CEQA significance thresholds was performed using methodologies and assumptions recommended within the Bay Area Air Quality Management District (BAAQMD) CEQA Air Quality Guidelines (May 2012).¹ The proposed project's operational emissions would be minimal and are not discussed in further detail.

Air quality pollutants evaluated include carbon monoxide (CO), reactive organic compounds (ROG), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter equal to or less than 10 micrometers (coarse particulates or PM₁₀), and particulate matter equal to or less than 2.5 micrometers (fine particulates or PM_{2.5}). Diesel particulate matter (DPM) is also addressed with regard to health risk assessment (HRA). Greenhouse gas (GHG) emissions are also addressed within Section VII.

¹ Although the BAAQMD's adoption of significance thresholds for air quality analysis has been subject to judicial actions, the lead agency has determined that BAAQMD's Revised Draft Options and Justification Report (October 2009) provide substantial evidence to support the BAAQMD recommended thresholds. Therefore, the lead agency has determined the BAAQMD recommended thresholds are appropriate for use in this analysis.

The site is located within the San Francisco Bay Area Air Basin (Air Basin). The project site lies in the City of Union City, in the Southwestern Alameda climatological sub-region of the Bay Area. Pollution potential is relatively high in this region during summer and fall months. When high pressure dominates the weather, low mixing depths and bay and ocean wind patterns can concentrate and carry pollutants from other cities to this area, adding to the locally emitted pollutants. The polluted air is then pushed up against the East Bay hills. Wintertime pollution levels are only moderate.

The Bay Area Air Quality Management District (BAAQMD) maintains a number of air quality monitoring stations and continually measures the ambient concentrations of air pollutants throughout the Bay Area. The closest such monitoring station is at 40733 Chapel Way in Fremont, about six miles southeast of the project site. However, this monitoring station was discontinued after 2010. The monitoring station at 3466 La Mesa Drive in Hayward currently measures ozone only. The measurements showed only one exceedance of the California Ambient Air Quality Standards (CAAQS) in 2013 and no exceedances in 2011 and 2012.

The BAAQMD's *CEQA Air Quality Guidelines* (BAAQMD, 2012) were used to assess the regional significance of the proposed project's construction-related emissions of criteria pollutants and the exposure of local sensitive receptors to toxic air contaminants in the construction equipment exhaust. The *Guidelines* specify that a project generating more than 54 pounds per day of ROG, NO_x or PM_{2.5}, or more than 82 pounds per day of PM₁₀, is deemed to have a significant impact on the Bay Area's regional air quality, whether these emissions are from construction equipment or operational sources (e.g., motor vehicles trips after project completion).

The BAAQMD's *CEQA Air Quality Guidelines* also specify that project emissions of TACs or PM_{2.5} affecting sensitive receptors within 1,000 feet of the project site are considered significant if they exceed any of the following thresholds:

- An excess cancer risk level of more than 10 in one million, or a non-cancer (i.e. chronic or acute) hazard index greater than 1.0; or
- An incremental increase of greater than 0.3 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) annual average PM_{2.5}.

The proposed project would improve local flood protection and, therefore, is not a regionally significant project that would warrant Intergovernmental Review by the Metropolitan Transportation Commission (MTC). The proposed project does not have the potential to substantially affect housing, employment, and population projections within the region, which are the basis of the BAAQMD's Clean Air Plan (CAP). Furthermore, emissions generated during construction of the proposed project would be less than BAAQMD emission thresholds and, therefore, not a regionally significant air pollutant source. Thus, the proposed project would not conflict with or obstruct implementation of the CAP.

- b) **Less Than Significant Impact with Mitigation.** Without implementation of air quality construction BMPs that are recommended by the BAAQMD for all construction projects, air quality impacts could be potentially significant. Unmitigated construction could result in substantial emissions of dust that would be a nuisance and could create localized health impacts. In order to limit the generation of combustion exhaust and fugitive dust with exposure of local sensitive receptors to elevated ROG, NO_x, PM₁₀ and PM_{2.5} levels during construction, best management practices (BMP's) should be implemented consistent with BAAQMD

recommendations of basic construction mitigation measures. With implementation of **Mitigation Measure III-1**, project construction would be in compliance with basic BAAQMD air quality construction standards and the impact would be **less than significant**.

Mitigation Measure III-1: The project shall implement BAAQMD basic construction measures identified below.

BAAQMD Required Dust Control Measures: The construction contractor shall reduce construction-related air pollutant emissions by implementing BAAQMD's basic fugitive dust control measures, including:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off site shall be covered.
- 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.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- A publically visible sign shall be posted with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

BAAQMD Required Exhaust Emissions Reduction Measures: The construction contractor shall implement the following measures during construction to reduce construction-related exhaust emissions:

- 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 the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points.
- 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.

- c) **Less Than Significant Impact with Mitigation.** Proposed project construction activities would produce air pollutant emissions from the following sources: 1) exhaust from diesel-powered construction equipment; 2) fugitive dust (which includes PM₁₀ and PM_{2.5}) generated by earthmoving, excavation, grading and other construction activities; and 3) exhaust from debris-

removal and construction-material delivery trucks, and from construction worker commute vehicles.

The equipment activity levels associated with the proposed project were estimated using the Sacramento Metropolitan Air Quality Management District (SMAQMD) Road Construction Emission Model, (NONROAD model)² based on default model assumptions while accounting for construction details provided in the project descriptions, and assuming a total project area of 7.7 acres. A detailed estimate of the proposed project’s emissions from construction equipment, haul trucks and worker vehicles was produced based on project construction data provided by the lead agency. A usage factor accounting for the percentage of daily operation and a load factor accounting for the average throttle setting relative to full throttle rating were used and based on data within the NONROAD model.

Table III-1 provides the estimated short-term construction emissions that would be associated with the proposed project and compares those emissions to the BAAQMD’s thresholds for construction exhaust emissions. As the construction phases (i.e., grading, building construction, paving, etc.) are sequential, the average daily construction period emissions (i.e., total construction period emissions divided by the number of construction days) were compared to the BAAQMD significance thresholds. The unmitigated emissions would exceed BAAQMD thresholds. **Mitigation Measure III-2** requires the addition of the BAAQMD enhanced emission reduction measures. All construction-related emissions would be below the BAAQMD significance thresholds with basic and enhanced emission reduction measures.

Table III-1: Construction Emissions

Condition	Average Daily Construction Emissions (lbs./day)			
	ROG	NO _x	Exhaust PM ₁₀	Exhaust PM _{2.5}
Unmitigated	6.3	66.5	3.3	3.0
Mitigated	5.0	53.2	0.8	0.7
BAAQMD Daily Threshold	54	54	82	54
Exceeds Threshold	No	No	No	No

Source: Based on project construction phasing, equipment use, and soil/material transport provided by the lead agency and Sacramento Metropolitan Air Quality Management District (SMAQMD) Road Construction Emission Model.

Mitigation Measure III-2: The project shall implement BAAQMD enhanced exhaust emissions reduction measures identified below.

BAAQMD Enhanced Exhaust Emissions Reduction Measures. The construction contractor shall implement the following measures during construction to further reduce construction-related exhaust emissions:

² Sacramento Metropolitan Air Quality Management District (SMAQMD) Road Construction Emission Model (Version 7.1.5.1), December 2013, <http://www.airquality.org/ceqa/>.

All off-road equipment greater than 25 horsepower (hp) and operating for more than 20 total hours over the entire duration of construction activities shall meet the following requirements:

1. Where access to alternative sources of power are available, portable diesel engines shall be prohibited; and
 2. All off-road equipment shall have:
 - a. Engines that meet or exceed either USEPA or CARB Tier 2 off-road emission standards, and
 - b. Engines that are retrofitted with a CARB Level 2 Verified Diesel Emissions Control Strategy (VDECS). Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such are available.
- d) **Less Than Significant Impact.** Exposures to Toxic Air Contaminants (TACs) from project construction activities were evaluated for the closest off-site sensitive receptors to the site, specifically the residential uses just north of Industrial Parkway. Using the USEPA's SCREEN3 air dispersion model,³ receptor concentrations were estimated and excess lifetime cancer risk, non-cancer hazard indexes and PM_{2.5} concentrations were calculated using the TAC emission rates associated with project construction. These risks were then compared to the significance thresholds identified in the BAAQMD *CEQA Guidelines*. Results of the health risk assessment indicate that the highest incremental cancer risks for residents closest to the project site based on the maximum mitigated ground-level TAC concentrations for the six-month, ten-hour work-day outdoor exposure during construction are less than five persons per million and, therefore, less than the significance threshold of ten persons per million. For non-carcinogenic effects, the hazard indices are less than one and, therefore, within acceptable limits, and the PM_{2.5} annual mitigated concentrations would be below the BAAQMD 0.3 µg/m³ significance thresholds. The results are summarized in **Table III-2**. There are no permitted stationary air pollutant sources within 1,000 feet of the project site^{4 5}

Cancer risk is defined as the lifetime probability of developing cancer from exposure to carcinogenic substances. Cancer risks are expressed as the chances in one million of contracting cancer, for example, ten cancer cases among one million people exposed.

³ SCREEN3 is a single source model which provides maximum ground-level concentrations for point, area, flare, and volume sources. http://www.epa.gov/ttn/scram/dispersion_screening.htm#screen3

⁴ Email from Alison Kirk at BAAQMD on August 29, 2014 - Alameda Creek North Levee Improvements Stationary Source Inquiry Form.

⁵ Information (cancer risks and chronic index) was adjusted for distance from source to receptor, based on BAAQMD's *Distance Adjustment Multiplier for Diesel Internal Combustion Engine* and the *Distance Adjustment Multiplier for Gasoline Dispensing Facilities*.

Table III-2: Potential Exposure to Toxic Air Contaminants (TACs) During Construction

Receptor	Cancer Risk	Chronic /Acute Hazard Index	PM_{2.5}
Unmitigated			
Closest Residence (adult/child)	1.8/19.9	0.07	0.14
Delaine Eastin Elementary School	0.63	0.03	0.07
BAAQMD Project-Level Threshold	10	1.0	0.30 µg/m ³
Exceeds Threshold	Yes	No	No
Mitigated			
Closest Residence (adult/child)	0.4/34.4	0.02	0.03
Delaine Eastin Elementary School	0.16	0.01	0.02
BAAQMD Project-Level Threshold	10	1.0	0.30 µg/m ³
Exceeds Threshold	No	No	No

Following HRA guidelines established by California Office of Environmental Health Hazard Assessment (OEHHA) and BAAQMD’s *Health Risk Screening Analysis Guidelines*, incremental cancer risks were calculated by applying toxicity factors to modeled TAC concentrations in order to determine the inhalation dose (milligrams per kilogram of body weight per day [mg/kg-day]).

People that are more susceptible to the effects of air pollution within the general population, deemed ‘sensitive receptors’, include children, elderly, and those that suffer from certain illnesses or disabilities. Therefore, schools, convalescent homes, and hospitals are considered to be typical locations of sensitive receptors to air pollution. Residential areas are also considered sensitive to poor air quality because people usually stay home for extended periods of time, which results in greater exposure to localized air pollutants.

BAAQMD considers the relevant zone of influence for an assessment of air quality health risks to be those areas within 1,000 feet of the proposed project impact area (i.e., centered on the maximum exposed individual receptor). Adjacent properties to the proposed project include farmland, commercial (to the southeast), residential (to the northwest), and open space (Coyote Hills Regional Park). The nearest residential land uses are within 300 feet to the northwest. Delaine Eastin Elementary School is located within 1,500 feet of the project site. Union City Boulevard is located to the northwest of the project site.

- e) **Less Than Significant Impact.** The project would not generate objectionable odors nor be located in an area frequently subject to objectionable odors.

IV. BIOLOGICAL RESOURCES

- a) **Less Than Significant Impact with Mitigation.** A Biological Habitat Evaluation Report for the Alameda Creek North Levee Improvement Project was prepared by Pacific Biology in 2014. The report provides a detailed discussion of the biological resources present on the project site and evaluates potential impacts to these resources from the implementation of the proposed project. The relevant discussions are summarized and incorporated into the below analysis.

Special-Status Wildlife Species

The Biological Habitat Evaluation Report (Pacific Biology 2014) found that the below special-status wildlife species have potential to occur on the project site. Please see the Biological Habitat Evaluation Report (Pacific Biology 2013) included in Appendix A for a discussion of special-status species known from the project region that are not expected to occur due to the absence of suitable habitat.

Salt marsh harvest mouse (*Reithrodontomys raviventris raviventris*), **Federal Endangered, California Endangered, California Fully Protected.** The salt marsh harvest mouse occurs only in the saline emergent wetlands of the San Francisco Bay and its tributaries. The primary habitat for this rodent is pickleweed-dominated salt marsh. The salt marsh harvest mouse also requires higher elevation areas within its habitat where it may escape from high water.

As shown in **Figure 3**, the species has been documented at several locations in the project vicinity, including a location 0.5 mile north of the levee (CNDDDB Occurrence #103) and 0.1 mile south of the levee (CNDDDB Occurrence 25); both of these occurrences are considered to be extant. The occurrence north of the levee was from within the diked salt marsh on the north side of Coyote Hills Slough, while the occurrence south of the levee was from an upland area bordering a pickleweed marsh associated with Alameda Creek (CNDDDB). Given these occurrences, the species may occupy suitable habitats along and near Alameda Creek.

Potentially suitable habitat for the species (i.e., stands of pickleweed) temporarily occurs in portions of the District Agricultural Lands that could be used for construction staging or temporary soil storage. Pickleweed develops in these agricultural areas between ongoing agricultural disking/planting cycles. Therefore, suitable salt marsh harvest mouse habitat may or may not occur in the staging/storage area at the time of construction. Given the known occurrence of salt marsh harvest mouse in nearby areas, it is possible that the species could occupy these onsite areas during times when the land is fallow.

Additionally, suitable habitat for the species occurs near the project area within the Alameda Creek flood control channel and within the tidal marshes north of the project site (and north of the District Agricultural Lands). The pickleweed wetlands immediately north of the levee and adjacent to the project site are small isolated remnant wetlands bordering agricultural fields, and therefore, do not provide optimal salt marsh harvest mouse habitat. Larger pickleweed wetlands occur to the south of the project site within the flood plain of Alameda Creek; these areas provide expected salt marsh harvest mouse habitat.

Figure 3: Local CNDDDB MAP
Alameda Creek North Levee Improvement Project



Note that the wetland mapping only covered areas within and bordering the project site to the north. Habitats south of the project site and associated with Alameda Creek would not be affected by the project.

Given the occurrence of pickleweed habitat on and near the project site, known occurrences of salt marsh harvest mouse in the project vicinity, and because the species utilizes uplands near pickleweed (especially during periods of high tide), impacts to this species are considered to be potentially significant. The implementation of the below measures would reduce related impacts to a less than significant level.

Mitigation Measure IV-1 Prior to commencement of construction activities, a qualified biologist shall conduct a mandatory environmental education program for all construction personnel. The program shall cover the biology, ecology, and habitat of the salt marsh harvest mouse, California black rail, California clapper rail, and other special-status species known from the project vicinity and the restrictions and guidelines that must be followed by all construction personnel to avoid or minimize project effects on these species. The environmental education program shall include a description, representative photographs, and legal status of each species; the avoidance measures being implemented to protect the species; and the penalties for harming a state or federally listed species.

Mitigation Measure IV-2 To prevent salt marsh harvest mice from entering the construction and staging zone and being harmed, temporary exclusion fencing shall be placed between the project site and pickleweed habitats with potential to support salt marsh harvest mice (as determined by a qualified biologist). This includes any areas within the temporary staging/storage areas on District Agricultural Lands that contain pickleweed habitat for the species. The fencing shall be installed prior to the start of construction/grading activities. The fence shall be made of a heavy plastic sheeting material that does not allow salt marsh harvest mice to pass through or climb, and the bottom should be buried to a depth of at least two inches so that animals cannot crawl under the fence. Fence height shall be at least 12 inches higher than the highest adjacent vegetation with a maximum height of 4 feet. The fencing shall be installed under the supervision of a qualified biologist. All associated vegetation clearing shall be completed prior to fence installation and completed by using hand tools only, thus allowing any salt marsh harvest mice present the ability to escape.

California black rail (*Laterallus jamaicensis coturniculus*), **California Threatened**, **California Fully Protected Species**. This species is associated with high overall vegetation cover, high cover of small tidal channels, and low cover of saltgrass. The species typically occurs in large marshes with high proportions of adjacent natural upland or agriculture, and less often in more isolated marshes (Spautz et al in press). Black rails nest commonly in pickleweed and alkali bulrush, both of which occur within the nearby Alameda Creek flood control channel. According to the CNDDDB, an individual black rail was observed in 1993 just to the south of the project, along the north edge of Coyote Hills Regional Park (**Figure 3**).

Suitable California black rail nesting habitat does not occur on the project site, but suitable habitat does occur nearby within portions of the Alameda Creek flood control channel. While the project would not result in the loss or alteration of black rail habitat, construction-related noise could disrupt nesting, should the species nest in the project vicinity. Therefore, impacts to this species are potentially significant. The implementation of the below measure would reduce related impacts to a less than significant level.

Mitigation Measure IV-3 Due to the proximity of the project site to suitable California black rail and California clapper rail nesting and foraging habitat, all construction activities within 700 feet of suitable nesting habitat shall be conducted outside of these species' breeding season (i.e., February 1 through August 31). Alternatively, protocol surveys may be conducted prior to construction, and if these species are not found to be nesting within 700 feet of construction, then construction may occur during the nesting season.

Mitigation Measure IV-1, above, which requires that all construction personnel attend an environmental awareness training session, would further reduce this impact.

California clapper rail (*Rallus longirostris obsoletus*), **California Threatened, California Fully Protected Species**. This species requires the following habitat elements in tidal marshes to establish a breeding territory: a well developed tidal channel system with full tidal influence, cordgrass, and a vegetated upper marsh/upland ecotone (Albertson & Evens 2000; Spautz & McBroom 2006). Based on the CNDDDB, the closest known occurrence of the species is approximately 2.5 miles to the north (**Figure 3**). However, suitable nesting habitat for the species does occur nearby with the Alameda Creek flood control channel.

Suitable California clapper rail nesting habitat does not occur on the project site. However, while the project would not result in the loss or alteration of clapper rail habitat, construction-related noise could disrupt nesting, should the species nest in the project vicinity. Therefore, impacts to this species are potentially significant. Implementation of Mitigation Measure IV.1, above, which requires that all construction personnel attend an environmental awareness training session, and Mitigation Measure IV.3, above, which includes conducting construction activities outside of the clapper rail breeding season, or conducting protocol surveys and prohibiting construction activities from within 700 feet of any identified clapper rail nest, would reduce related impacts to a less than significant level.

Tricolored blackbird (*Agelaius tricolor*), **Federal Bird of Conservation Concern, California Species of Special Concern**. This communal nester generally nests in freshwater marsh and riparian scrub habitats. Based on the CNDDDB, this species has been documented in locations south of the project site (**Figure 3**). Potential nesting habitat for this species may occur in portions of the District Agricultural Lands and in marsh habitats bordering portions of the site to the south. If present, construction-related noise could disturb nesting by the species. Therefore, impacts to this species are potentially significant. The implementation of the below measure would reduce related impacts to a less than significant level.

Mitigation Measure IV-4 Given the extent of required tree removal, if possible, trees shall be removed outside of the nesting season of native bird species. If construction activities/tree removal would commence anytime during the nesting/breeding season of native bird species potentially nesting near the site (typically February through August in the project region), a pre-construction survey for nesting birds shall be conducted by a qualified biologist within two weeks of the commencement of construction activities.

If active nests are found in areas that could be directly affected or are within 300 feet of construction and would be subject to prolonged construction-related noise, a no-disturbance buffer zone shall be created around active nests during the breeding season or until a qualified biologist determines that all young have fledged. The size of the buffer zones and types of

construction activities restricted within them shall be determined by taking into account factors such as the following:

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

Northern harrier (*Circus cyaneus*), **California Species of Special Concern**. This species uses open marsh and grassland areas and nests are built on the ground, preferably near water or in wet areas. This species has been documented nesting in nearby areas (**Figure 3**). Potential nesting habitat for this species is present on and near the project site. If present, construction and/or related noise could disturb nesting by the species. Therefore, impacts to this species are potentially significant. Implementation of Mitigation Measure IV-4, above, which requires a preconstruction survey for nesting birds and avoidance of active bird nests would reduce related impacts to a less than significant level.

White-tailed kite (*Elanus leucurus*), **California Fully Protected**. This species typically nests in trees, often in isolated stands, surrounded by open foraging habitat. Nests are built on top of oaks, willows, or other dense broad-leaved deciduous trees within partially cleared or cultivated fields, grasslands, marsh, riparian, woodland, and savanna habitats. Suitable nesting and foraging habitat is present and the species is known from the project area. The proposed tree removal could result in the loss of an active nest of this species. Therefore, impacts to this species are potentially significant. Implementation Mitigation Measure IV-4, above, which requires a preconstruction survey for nesting birds and avoidance of active bird nests, would reduce related impacts to a less than significant level.

Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*), **Federal Bird of Conservation Concern, California Species of Special Concern**. This species is more commonly associated with fresh and brackish marshes than with saline marshes, except in winter. Based on the CNDDDB, this species has been documented in locations north and south of the project site (**Figure 3**). Potential nesting habitat for this species is present on and near the project site. If present, construction and related noise could disturb nesting by the species. Therefore, impacts to this species are potentially significant. Implementation of Mitigation Measure IV-4, above, which requires a preconstruction survey for nesting birds and avoidance of active bird nests would reduce related impacts to a less than significant level.

Alameda song sparrow (*Melospiza melodia pusillula*), **California Species of Special Concern**. The Alameda song sparrow is one of three subspecies of song sparrow breeding only in salt marsh habitats in the Bay Area. It is associated with the taller vegetation found along tidal sloughs, including salt marsh cordgrass and marsh gumplant, and may also occur in brackish marshes. Alameda song sparrows are generally not present in freshwater marshes; song sparrows occurring within freshwater marshes are typically the subspecies *M.m. gouldi*, which is not considered to be of special-status. Alameda song sparrow is known to nest along Alameda Creek (**Figure 3**). Potential nesting habitat for this species is present on and near the project site. If present, construction and related noise could disturb nesting by the species. Therefore, impacts to this species are potentially significant. Implementation of Mitigation Measure IV-4, above, which requires a preconstruction survey for nesting birds and avoidance of active bird nests would reduce this impact to a less than significant level.

Other nesting birds. The active nests of most native bird species are protected by the Migratory Bird Treaty Act (16 U.S.C. 704) and the California Fish and Game Code (Section 3503). The trees on the project site and nearby emergent marsh habitats provide nesting habitat for numerous bird species. In addition, there is a cliff swallow (*Petrochelidon pyrrhonota*) colony in the Ardenwood Boulevard underpass (near the eastern edge of the project site). The proposed project would result in the removal of 312 trees and other vegetation disturbances. In addition, construction-related noise could disrupt nesting occurring in nearby areas. Therefore, measures should be implemented to protect active nests of birds protected by the Migratory Bird Treaty Act (16 U.S.C. 704) and the California Fish and Game Code (Section 3503). Mitigation Measure IV-4, above, which requires a preconstruction survey for nesting birds and avoidance of active bird nests, would reduce this impact to less than significant.

Special-Status Plant Species

The project's disturbance boundary consists of the existing levee (which consists of imported soils), disturbed areas adjacent to the north of the levee, and District Agricultural Lands. Based on the CNDDDB, no special-status plants have been documented on the project site. Additionally, no special-status plant species are expected to occur given the disturbed and altered condition of the project site. Therefore, special-status species are not expected to occur and related impacts would be less than significant.

- b) **Less Than Significant Impact.** No activity (or disturbance) will occur on the inboard (south side) of the north levee below the degrade limits. Vegetation on the inboard slope within the degrade limits consists of ruderal species such as poison hemlock (*Conium maculatum*) and wild radish (*Raphanus raphanistrum*). Therefore, the proposed project would not result in the loss or riparian habitat and related impacts would be less than significant.
- c) **Less than Significant Impact with Mitigation.** Vollmar Natural Lands Consulting conducted a jurisdictional delineation in 2014 to identify wetlands occurring in the project area. The proposed levee improvements were then designed to avoid most wetland habitats. No fill (or disturbance) will occur on the inboard (south side) slope of the levee below the degrade limits (which is well above the ordinary high water mark); therefore, the wetland delineation did not include this area.

Areas of wetland vegetation occur on the District Agricultural Lands that are identified for potential use for staging and/or temporary soil storage. Wetland vegetation develops in these agricultural areas between ongoing agricultural disking/planting cycles. Therefore, depending on when agricultural disking occurs, wetland vegetation may or may not be present at the time of construction. Disturbances to these potential wetlands from ongoing agricultural activities are exempt under Section 404 of the Clean Water Act. However, as the proposed project could temporarily disturb these areas, related impacts are potentially significant. The implementation of the below measure would reduce related impacts to a less than significant level.

Mitigation Measure IV-5 Any wetlands on District Agricultural Lands not disked at the time of construction shall be avoided. If avoidance of potentially jurisdictional wetlands is not possible, it will then be determined if the proposed temporary use of the area requires authorization from the governing regulatory agencies. In addition, any wetlands occurring adjacent to the north of the levee shall be clearly marked and avoided during construction,

and any areas temporarily disturbed by staging/soil storage shall be returned to agricultural use upon project completion.

- d) **Less Than Significant Impact.** Wildlife corridors are described as pathways or habitat linkages that connect discrete areas of natural open space otherwise separated or fragmented by topography, changes in vegetation, and other natural or manmade obstacles such as urbanization. The Alameda Creek flood control channel may be used by wildlife as a movement corridor. However, the proposed project does not include any work within the flood control channel or the placement of any structures that would obstruct wildlife movement. Therefore, related impacts would be less than significant.

- e) **Less Than Significant Impact with Mitigation.** Vollmar Natural Lands Consulting conducted a tree survey to identify all trees within and near the project site. Many of these trees were planted by the District and some natural recruitment from the planted trees has occurred, resulting in increasing the number of trees present. A total of 672 trees were identified and mapped during the tree survey. Of these, a majority are horticultural varieties that are not native to California. The most abundant introduced tree is *Eucalyptus* (237 trees), with at least three different species occurring on the site. There are 8 species of trees native to California, including coast live oak, narrowleaf willow, Fremont's cottonwood, arroyo willow, California buckeye, blue elderberry, Monterey pine, and Monterey cypress. While Monterey pine and Monterey cypress are native to California, they are not native to the project region.

Based on the results of the tree survey, consideration was given to minimize tree removals to the extent feasible. The project would require the removal of 210 trees. 462 trees would remain adjacent to the project site, including native and non-native trees. Due to the seemingly large number of trees involved, the removal of those trees is potentially significant due to the loss of the associated environmental benefits that trees provide.

Mitigation Measure IV-6. The District shall prepare and implement a tree replacement plan, which at a minimum will include the replacement of the native trees to be removed. The plan shall detail the measures to be implemented to ensure the successful replacement of the trees, including site preparation, planting, irrigation, and monitoring procedures. If feasible, the trees shall be planted in the immediate project vicinity - the District is evaluating a possible planting location adjacent to trees to remain in the eastern portion of the project site.

- f) **No Impact.** The project site is not part of or near an existing Habitat Conservation Plan or Natural Communities Conservation Plan or any other local, regional, or state habitat conservation plan. Therefore, the proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

- g) **Less than Significant.** The proposed project does not include the removal or conversion of oak woodlands. While some oak trees would be removed, most of these trees were originally planted by the District, and given the number of different tree species present, the area is not considered to be an oak woodland. Therefore, related impacts would be less than significant.

V. CULTURAL RESOURCES

- a, b) **Less Than Significant.** A cultural resources database search and assessment has been conducted for the project (Northwest Information Center 2014). That assessment found that there are no known cultural resources on the project site, however there is an archaeological site nearby and there is a potential that such resources may extend onto the staging/stockpile areas. Native soils in the stockpile and staging areas would not be disturbed. Those soils would be protected by either leaving several inches of undisturbed fill on the stockpile areas or placement of a geotextile beneath the soils stockpiles to assure that native soils below the fabric are not disturbed. This would eliminate the potential for the project to affect any archaeological resources on the site.
- c) **No Impact.** The proposed project site is on existing levee fill and recent sediments. Therefore the likelihood of encountering fossil-bearing strata is minimal and no impact is expected.
- d) **Less than Significant.** The proposed project site is not located near a cemetery. Although it is unlikely that the site would have any buried human remains, construction personnel would be informed of the possibility. If any human skeletal remains are encountered during excavation, all activity in the immediate vicinity of the discovery shall be halted and appropriate measures, as required by the County of Alameda, shall be followed.

VI. GEOLOGY AND SOILS

A Geotechnical Evaluation was prepared for the District for the Zone 5 Line A (Alameda Creek) project (Kleinfelder 2009). A supplemental analysis studying seepage, and updating liquefaction and slope stability was prepared in 2010 (Kleinfelder 2010). The report includes the proposed project area but extends upstream a short way and approximately one mile downstream.

- ai) **No Impact.** The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to prevent development of buildings intended for human occupation in active fault zones where there is a potential for fault rupture. The project area is not located within an Alquist-Priolo fault zone shown on the fault zone map of the area (California Department of Conservation 1982). The closest major fault, the Hayward Fault, is approximately two to six miles to the east of the project site. Therefore, the potential for rupture of an earthquake fault at the project site is low. This levee-raising project would not include inhabitable structures.
- aii-aiii) **Less Than Significant Impact.** The project site is within the seismically active San Francisco Bay Area and is potentially subject to strong seismic ground shaking during an earthquake on one of the major active earthquake faults in the area. Ground movements may cause damage to the levees. It is an area identified by the Seismic Hazards Zone map (California Department of Conservation 2003) where liquefaction has occurred or there is potential ground displacement. Soils underlying the levee are subject to substantial liquefaction potential and some portions of the levee could experience substantial deformation due to liquefaction (Kleinfelder 2009, 2010). However, the proposed project would not result in any change that would increase the exposure of people or structures to ground shaking or liquefaction. Additional levee loading would not substantially affect settlement (Kleinfelder 2009, 2010).

- aiv) **No Impact.** There are no landslides within the project area, and the closest are in the Coyote Hills, just west of the project site. Implementation of the project would neither expose people nor structures to landslides. The existing levees were assessed for slope stability hazards and determined to meet applicable safety factors (Kleinfelder 2009, 2010).
- b) **Less Than Significant Impact.** Soil erosion could occur during grading and construction of the levees. A total of about 40,000 cubic yards of fill would be stockpiled on the stockpile areas and used to raise the levee. About 8,000 cubic yards of earth would be cut from the levee and disposed of at an appropriate landfill. In addition, about 210 trees, as well as other vegetation would be removed, increasing the potential for erosion. The site would be most susceptible to erosion during the construction stages, from the initial site grading through excavation, and during placement and compaction of levee fill. Because the work would be on the top and outboard side of the levee, and would be conducted during the dry season, potential erosion impacts would be minimized. With implementation of construction-related best management practices (see BMP-1 and BMP-2), as listed in the project description, no substantial soil erosion would take occur. The site would be re-vegetated after construction is completed.
- c) **Less than Significant Impact.** As described under Item a), above, the project would be located on a geologic unit or soil that is unstable or that would become unstable as a result of subsidence, however this existing hazard would not be substantially affected by the proposed project (Kleinfelder 2009, 2010).
- d) **No Impact.** There would be no substantial risk to life or property associated with implementing this project due to expansive soils. Stockpiled soils to be used in the levee raising would be tested for expansive properties prior to placement on the levee.
- e) **No Impact.** The project would not result in increased development in the area or a need for septic tanks or alternative water disposal systems. This project would improve flooding conditions for the existing occupancy within the watershed.

VII. GREENHOUSE GAS EMISSIONS

- a-b) **Less Than Significant Impact.** The accumulation of GHGs in the atmosphere regulates the earth's temperature; however, emissions from human activities such as electricity production and motor vehicles have elevated the concentration of GHGs in the atmosphere. This accumulation of GHGs has contributed to an increase in the temperature of the earth's atmosphere and contributed to Global Climate Change. GHGs include all of the following gases; carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons, perfluorocarbons, nitrogen trifluoride (NF₃), and sulfur hexafluoride (California Health and Safety Code section 38505(g)). Carbon dioxide is the reference gas for climate change because it has the smallest warming potential. To account for the warming potential of different GHGs, GHG emissions are quantified and reported as CO₂ equivalents (CO₂e). The effects of GHG emission sources (i.e., individual projects) are reported in metric tons/year of CO₂e. This allows for convenient comparisons between projects that have different percentages of the seven GHGs.

Although the BAAQMD has adopted 1,100 metric ton/year as a GHG operational emissions significance criterion for development projects, there is no similar adopted threshold for project construction emissions. Construction of the proposed project would generate about 562 metric tons of GHG during its six-month construction phase. As indicated, 30-year amortized annual construction related GHG emissions would be 19 metric tons of CO₂e. Because construction emissions would be short-term and would cease upon completion, GHG from construction activities would not substantially contribute to the global GHG emissions burden. Additionally, this is a routine capital improvement project that would not conflict with any County or State policy to reduce GHG emissions.

VIII. HAZARDS AND HAZARDOUS MATERIALS

- a-b) **Less Than Significant Impact.** A hazardous material is a substance with certain physical properties that could pose a substantial present or future hazard to human health or the environment when improperly transported, handled, disposed, or otherwise managed. State agencies most involved in enforcing public health and safety laws and regulations concerning designated hazardous waste or identified contaminated sites include the Department of Toxic Substance Control, the California Occupational Safety and Health Administration, the Office of Emergency Services, State Water Resources Control Board and the Regional Water Quality Control Board, the Air Resources Boards, and the California Integrated Waste Management Board. A hazardous material is defined and regulated by the Resource Conservation and Recovery Act (RCRA) and through the California Code of Regulations Title 22. If improperly handled, hazardous materials and waste can result in public health hazards including a release into the soil or groundwater, or through an airborne release in vapors, fumes, or dust.

Construction materials, which could be considered hazardous, may include fuels, motor oil, grease, various lubricants, and solvents. Hazardous materials from construction equipment would be transported, used, and disposed of in accordance with existing State and Federal regulations and requirements. These regulations stipulate appropriate vehicles and containers for transport, necessary transport procedures, worker training, and disposal requirements. By complying with regulations designed to protect human health and safety and the environment, normal construction and operations activities requiring routine transport, use, or disposal of hazardous materials would not pose a significant hazard to the public. With implementation of construction-related best management practices (see BMP-5), as listed in the project description, the proposed project would have a less than significant impact on the transport, use, and disposal of hazardous materials. There would be no transport, use, storage or potential for an accidental release of hazardous materials after completion of construction.

Stockpile materials have been tested for contaminants and are suitable for beneficial reuse.

- c) **Less Than Significant Impact.** One school, Delaine Easton Elementary School, is within one-quarter mile of the project site. Hazardous substances would be used and transported during construction as described above in VIII (a-b). Haul trucks would pass on the roadway adjacent to the ball field of the school and turn right on Union City Boulevard, which also runs adjacent to the ball field and school play area. Implementation of construction-related best management practices (see BMP-5), as listed in the project description, would protect the students, faculty, and visitors who may come to the project vicinity from nearby schools from hazardous materials.

Once the proposed project is completed, there would be no use, storage, or generation of hazardous materials, substances, or waste.

- d) **No Impact.** The project site is not identified by the State of California as a Hazardous Waste and Substances Site, and no substantial safety hazard to the public or the environment related to project implementation would occur at this site (California Environmental Protection Agency 2014).
- e) **No Impact.** There are no airports or an airport land use plan area within two miles of the project site. The nearest airport is Hayward Executive Airport, located approximately eight miles north of the site (Google Earth 2014).
- f) **No Impact.** The project site is not located within the vicinity of a private airstrip (Google Earth 2014).
- g) **No Impact.** The project would not conflict with the City of Union City emergency response and evacuation plans (City of Union City 2011). Emergency access would be maintained at all times. Construction would be on and near the levee adjacent to the creek, and there would be designated staging areas for storage of construction equipment. Vehicles would not block roadways. Construction access would be via an existing limited access roadway from Union City Blvd. (Figure 2) (Alameda County Public Works Agency 2014).
- h) **No Impact.** The proposed project is not located within a high severity fire zone (<http://www.ci.union-city.ca.us/departments/economic-community-development/building>), which is limited to areas east of Mission Boulevard. In addition, BMP-9, listed in Table 1, addresses fire prevention during the construction period. The site would not be occupied with residences or other buildings. Therefore, there is no risk from wildland fires.

IX. HYDROLOGY AND WATER QUALITY

- a) **Less Than Significant Impact.** The proposed project is not anticipated to violate any water quality standards or waste discharge requirements. As part of Section 402 of the Clean Water Act, the U.S. EPA has established regulations under the National Pollution Discharge Elimination System (NPDES) and the State Municipal Regional Permit (MRP) to control pollutant discharges in stormwater, including those associated with construction activities.

The State NPDES stormwater permitting program regulates stormwater quality from construction sites. The State Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) and the use of appropriate best management practices (BMPs) for erosion control and spill prevention during construction and permanent post-construction stormwater management measures following construction. Dischargers whose projects disturb one or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the Construction General Permit (CGP) for Discharges of Stormwater Associated with Construction Activity (CGP Order 2009-0009-DWQ). This permit went into effect July 1, 2010 and replaces Order No. 99-08-DWQ.

Development of the project would require excavation/grading and fill placement on top of and on the outboard side of the North Levee. Excavation/grading and fill placement on the levee top could result in sediment in the creek. Demolition and construction activities would include the use of gasoline and diesel-powered heavy equipment, such as bulldozers, excavators, dump trucks, backhoes, concrete trucks, pick-up trucks and a dust control water hog/tank. Chemicals such as gasoline, diesel fuel, lubricating oil, hydraulic oil, lubricating grease, automatic transmission fluid, solvents, glues, and other substances could be utilized during construction. An accidental release of any of these substances could degrade the water quality of surface water runoff from the site and add pollution into local waterways. On-site portable toilets could leak or spill, releasing sanitary waste, bacteria, solids, nutrients, and pathogens.

Alameda Creek empties into the San Francisco Bay about two miles downstream from the project site. The Bay is on the list of impaired water bodies compiled by the San Francisco Bay Regional Water Quality Control Board (RWQCB) pursuant to the federal Clean Water Act. Alameda Creek is identified in the RWQCB's Basin Plan as having numerous beneficial uses including agriculture, municipal supply, habitat, fish spawning, and recreational uses (RWQCB 2013).

Runoff from the site would enter directly into Alameda Creek or flow into ponds adjacent to the Bay. The most likely runoff pollutant that would be generated from the site would be sediment created by soil disturbance during or immediately after site grading and filling.

Construction activity subject to the State CGP includes clearing, grading, and disturbances to the ground such as stockpiling, excavation or fill placement for projects that affect greater than one acre. The proposed project area of disturbance is 55 acres (about 7 acres of levee and 48 acres of stockpile/staging area), therefore, the District or its contractors would be required to file a Notice of Intent with the RWQCB indicating compliance with the General Permit or prepare a SWPPP. Project construction activity could result in potentially significant water quality impacts. Potential release of sediment into the creek would be reduced by conducting all earth-moving activities during the summer dry months, as approved by an Alameda County Inspector in the field. Because all work would occur on the levee top and outboard side, dewatering would not

be necessary. Implementation of standard erosion control techniques prior to and during project construction activities, as described in the Best Management Practices in Table 1 would reduce the potential water quality impacts to below the level of significance.

Requirements for new development and re-development are defined in Section C.3 of the Municipal Regional Permit (MRP). The City of Union City is part of the Alameda Countywide Clean Water Program under the (December 2009) Municipal Regional Stormwater NPDES Permit (Order R2-2009-0074, NPDES Permit No. CAS612008). This permit requires post-construction controls to protect water quality for projects creating or replacing 10,000 square feet of impervious surface (Alameda Countywide Clean Water Program 2014). The project would use aggregate base for the path replacement and therefore would not require a C.3 permit. Additional runoff from the raised levee, if any, would be negligible. There are no uses proposed at the project site that would require source control. Therefore, after construction the project would have no adverse impact on water quality.

- b) **Less Than Significant Impact.** No groundwater supplies would be required for restoration purposes and the project would not excavate into groundwater-bearing soils.
- c) **Less Than Significant Impact.** The proposed project would improve the conveyance of runoff from upstream areas and reduce flood hazards in the project area. With the implementation of proposed BMP's and revegetation plans, the proposed project would not result in post-construction erosion or siltation or substantially alter the course of the creek.
- d) **Less Than Significant Impact.** The project would not alter drainage patterns or the rate at which runoff is generated. No increase in impervious surfaces would occur, therefore no increase in surface water runoff is anticipated and the proposed project which would not cause flooding on- or off-site. Furthermore, the project is designed to increase flood conveyance in the channel, and thereby reduce flooding.
- e-f) **No Impact.** The project would not create or contribute additional runoff runoff water and would enhance the capacity of stormwater drainage systems. It would not provide substantial additional sources of polluted runoff, or otherwise degrade water quality. The project does not include nor facilitate construction of housing within a 100-year flood hazard area. It is designed to reduce flooding on the north side of Alameda Creek.
- g-h) **No Impact.** The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide flood insurance to communities complying with FEMA regulations that limit development in floodplains. FEMA issues flood insurance rate maps for communities participating in the NFIP. These maps delineate flood hazard zones for each project site. Executive Order 11988 (Floodplain Management) addresses floodplain issues related to public safety, conservation, and economics. It requires:
 - Avoidance of incompatible floodplain development;
 - Consistency with the standards and criteria of the NFIP; and
 - Restoration and preservation of natural and beneficial floodplain values.

The levee and stockpile areas, as well as the proposed haul road and adjacent residences and school are all within Zone AE on the FEMA Flood Insurance Rate Map (FIRM) (FEMA 2009). Zone AE is within the 100-year floodplain, which means that there is a one percent annual chance

of flood discharge in the channel. FEMA has mapped a flood elevation of 10 feet in the project area (FEMA 2009).

Under existing conditions, the north levee cannot be certified and accredited by FEMA since it does not meet the freeboard requirement for the 1% annual chance (100-year) storm event.. After construction of the raised levee, the freeboard requirement for FEMA certification would be met. The purpose of the project is to certify this levee reach as shown on the FIRM as providing protection against a 1% annual chance storm event and to perform repairs needed for levee accreditation by FEMA..

- i) **No Impact.** The proposed project would be located in the area subject to dam failure inundation from Calaveras and Turner Dams (ABAG 2003) but would reduce the effects of dam failure flooding by containing more of the flows in the channel than at present and therefore have no impact.
- j) **No Impact.** A seiche is a standing-wave oscillation of the surface of water in an enclosed or semi-enclosed basin (such as a lake, bay, or harbor) that is initiated by landslides, earthquakes, or other geologic phenomena, and continues after cessation of the originating force. The project site is approximately two miles east of the San Francisco Bay. A seiche is could affect the project area, however the proposed levee-raising project would reduce impacts of a seiche that may travel up the Alameda Creek channel compared with existing conditions.

A tsunami is a sea wave produced by any large scale, short duration disruption of the ocean floor, principally by a shallow submarine earthquake, but also by submarine earth movement, subsidence, or volcanic eruption. The State of California has mapped tsunami runup projections for Alameda Creek and shows runup in the creek channel reaching the project area (California Emergency Management Agency 2009). Tsunami runup is mapped as confined to the creek channel itself in the project alignment. The project would provide additional protection in case of tsunami runup.

The terrain immediately around the project area is generally flat, with the exception of the hill at the western end of the proposed levee work and the levees themselves. Thus, there is low risk of mudflow at the project site. Risks associated with inundation by seiche, tsunami, or mudflow would not occur beyond existing conditions.

X. LAND USE AND PLANNING

- a) **No Impact.** The proposed project involves flood control and restoration of a stream in the City of Hayward within the existing channel, banks and immediately adjacent area. The proposed project does not include new facilities that could divide an existing community.
- b) **No Impact.** The proposed project is within areas designated as Agriculture in the City of Union City General Plan. The purpose of this designation is to conserve lands that should remain as open space because of their value for agricultural production. Uses that would typically be appropriate in this land use designation include but are not limited to agricultural activities and other low intensity open space type uses. The project would not change existing land uses, and is consistent with this land use designation and with the policies of the General Plan (City of Union City February 2002).⁶ The proposed project would not conflict with any plans or policies.
- c) **No Impact.** The project site is not located within an area subject to a known HCP or NCCP. Therefore, there would be no impact.

XI. MINERAL RESOURCES

- a) **No Impact.** The proposed project involves raising an existing levee. No known mineral resources are present on the project site.
- b) **No Impact.** The project site is not a locally important resource recovery site.

XII. NOISE

Existing Noise Levels

To describe noise environments and to assess impacts on noise-sensitive areas, a frequency weighting measure, which simulates human perception, is commonly used. It has been found that A-weighting of sound levels best reflects the human ear's reduced sensitivity to low frequencies, and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel scale (dBA)⁷ is cited in most noise criteria. Decibels are logarithmic units that conveniently compare the wide range of sound intensities to which the human ear is sensitive. **Table XII-1** identifies decibel levels for common sounds heard in the environment.

Several time-averaged scales represent noise environments and consequences of human activities. The most commonly used noise descriptors are the equivalent A-weighted sound level over a given time period (L_{eq});⁸ average day-night 24-hour average sound level (L_{dn})⁹ with a nighttime increase of 10

⁶ City of Union City, 2002 General Plan Policy Document, February 2002.

⁷ A decibel (dB) is a unit of sound energy intensity. Sound waves, traveling outward from a source, exert a sound pressure level (commonly called "sound level") measured in dB. An A-weighted decibel (dBA) is a decibel corrected for the variation in frequency response to the typical human ear at commonly encountered noise levels.

⁸ The Equivalent Sound Level (L_{eq}) is a single value of a constant sound level for the same measurement period duration, which has sound energy equal to the time-varying sound energy in the measurement period.

⁹ L_{dn} is the day-night average sound level that is equal to the 24-hour A-weighted equivalent sound level with a 10-decibel penalty applied to night between 10:00 p.m. and 7:00 a.m.

dBA to account for sensitivity to noise during the nighttime; and community noise equivalent level (CNEL),¹⁰ also a 24-hour average that includes both an evening and a nighttime sensitivity weighting.

The project is located in Union City on the north Alameda Creek levee, west of Union City Boulevard. The project site is surrounded primarily by agricultural land, with a residential development and school located to the north. The primary source of noise in the project vicinity is roadway traffic from Union City Boulevard. Secondary noise sources include aircraft noise from nearby Bay Area airports and noise recreational users of the trail that runs the length of the levee. To quantify the existing noise environment on-site, several short-term, five minute noise measurements were conducted at the project site on September 4, 2014. The five-minute Leq on the top of the levee ranged from 47 to 52 dB. Noise levels measured on the dirt haul route approximately 200 feet from Union City Boulevard were 53 to 54 dB Leq and 48 to 49 dB Leq 340 feet from Union City Boulevard.

Table XII-1: Typical Noise Levels

Noise Level (dBA)	Outdoor Activity	Indoor Activity
90+	Gas lawn mower at 3 feet, jet flyover at 1,000 feet	Rock Band
80-90	Diesel truck at 50 feet	Loud television at 3 feet
70-80	Gas lawn mower at 100 feet, noisy urban area	Garbage disposal at 3 feet, vacuum cleaner at 10 feet
60-70	Commercial area	Normal speech at 3 feet
40-60	Quiet urban daytime, traffic at 300 feet	Large business office, dishwasher next room
20-40	Quiet rural, suburban nighttime	Concert hall (background), library, bedroom at night
10-20		Broadcast / recording studio
0	Lowest threshold of human hearing	Lowest threshold of human hearing

Source: Modified from Caltrans Technical Noise Supplement, 1998

City of Union City Noise Policies

The *Health and Safety Element* of the Union City General Plan contains maximum allowable noise levels based on various land uses and identifies policies and implementation programs to achieve the goal of protecting public health and welfare in the city. The following policies and implementation programs are applicable to the proposed project:

- HS-C.1.1: *The City shall consider the following land uses to be “noise sensitive”*
 - *Single and multi-family residential;*

¹⁰CNEL is the average A-weighted noise level during a 24-hour day, obtained by addition of 5 decibels in the evening from 7:00 to 10:00 p.m., and an addition of a 10-decibel penalty in the night between 10:00 p.m. and 7:00 a.m.

- *Group homes;*
 - *Hospitals and extended medical facilities;*
 - *Libraries; and*
 - *Similar uses as may be determined by the City*
- *HS-C.1.2: the City shall use the standards in Table HS-2 [Maximum Allowable Noise Exposure by Land Use] as the acceptable limits of noise for various land uses throughout the community. These standards specify the maximum exterior noise levels allowable for developments. According to Table HS-2, noise levels of less than 60 dB CNEL are normally acceptable for residential land uses and schools. Noise levels of 61 to 70 dB CNEL are conditionally acceptable for these land uses. For noise sensitive land uses, mitigation shall be included in structural design to reduce interior noise levels to a maximum of 45 dBA CNEL.*
 - *HS-C.1.7: To minimize the impacts of stationary noise, the City shall limit construction activities between the hours of eight a.m. and eight p.m. on Monday through Friday, nine a.m. and eight p.m. on Saturdays, and Sundays and holidays, between ten a.m. and six p.m.*
 - *HS-C.1.10: The City shall develop a Construction Abatement/Mitigation Plan to reduce adverse noise effects from construction activity.*
 - *HS-C.3: The City shall develop a Construction Abatement/Mitigation Plan to reduce adverse noise effects from construction activity. Key elements of the plan shall include but not be limited to the following:*
 - *Construction contractors shall comply with all relevant provisions of applicable local noise policies and ordinances.*
 - *All construction equipment shall have sound-control devices no less effective than those provided on the original equipment. No equipment shall have un-muffled exhaust.*
 - *As directed by the City, the contractor shall implement appropriate additional noise mitigation measures including, but not limited to changing the location of stationary construction equipment, shutting off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, re-routing heavy truck traffic, or installing acoustic barriers around stationary construction noise sources or construction sites.*

Section 9.40.53 of the Union City Community Noise Ordinance contains special provisions for construction noise. Construction, alteration, or repair activities are authorized by valid City permit between the hours of 8:00 a.m. and 8:00 p.m. Monday through Friday, between the hours of 9:00 a.m. and 8:00 p.m. on Saturdays, and between the hours of 10:00 a.m. and 6:00 p.m. on Sundays and holidays if at least one of the following noise limitations are met: 1) No individual piece of equipment shall produce a noise level exceeding eighty-three dBA at a distance of twenty-five feet. 2) The noise level at any point outside the property plane of the project shall not exceed eighty-six dBA. Exception permits are permitted in accordance with Section 9.40.060 of the Union City Community Noise Ordinance as long as appropriate conditions to minimize the public detriment caused by such exceptions are implemented (Union City, 1986).

Construction operations have the potential to result in varying degrees of temporary ground vibration, depending on the specific construction equipment used and operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes quickly in magnitude with increases in distance. The effects of ground vibration may be imperceptible at the lowest levels, low rumbling sounds and detectable vibrations at moderate levels, and slight damage to nearby structures at the highest levels. At the highest levels of vibration, damage to structures is primarily architectural (e.g., loosening and cracking of plaster or stucco coatings) and rarely results in structural damage. For

most structures, a peak particle velocity (ppv) threshold of 0.5 inch per second or less is sufficient to avoid structural damage, with the exception of fragile historic structures or ruins. For the protection of fragile, historic, and residential structures, the California Department of Transportation (Caltrans) recommends a threshold of 0.2 inch per second ppv.

- a) **Less than Significant with Mitigation Incorporation.** Construction activities would include the removal of existing maintenance road and vegetative materials, soil import, placement of aggregate, and re-vegetation of the levee. Such activities would require the use of chainsaws, dozers, excavators, graders, trucks, loaders and backhoes. This equipment generates maximum noise levels ranging from 76 to 85 dB at a distance of 50 feet (FHWA 2006).

Sensitive receptors near project construction include houses in a residential development north of the levee. Houses in this development are located 320 to more than 1,000 feet from the levee, and as close as 150 feet to the temporary construction staging area. There is also a single house located on an adjacent agricultural parcel 100 feet to the northwest of the staging area and 900 feet north of the levee. Delaine Eastin Elementary School is located more than 700 feet to the north of the staging area and 1,200 feet from the levee. Maximum noise levels from construction equipment at these receptors are shown in Table XII-2.

Table XII-2: Noise Levels During Construction

Receptor	Distance from Construction Activities (Feet)	Maximum Exterior Construction Noise level (dB L _{max})	Distance from Haul Route (Feet)	Maximum Exterior Noise Level from Haul Trucks (dB L _{max})
Residential Development (Staging Activities)	150	58-67 ¹	30	73 ¹
Residential Development (Tree Removal) ²	320	57 ¹	-	-
Northwest Residence	100	69-78	150	69
Delaine Eastin Elementary School	700	47-56	500	61

Notes: Noise Levels were estimated assuming 7.5 dB of noise attenuation per doubling of distance for stationary sources (construction equipment) and 4.5 dB attenuation per doubling of distance for mobile sources (haul trucks) due to the soft-site conditions of the project site.

¹An existing eight-foot soundwall surrounding the residential development and school to the north of the staging area provides additional noise attenuation from construction equipment and haul trucks. A noise barrier can achieve a 5 dB noise level reduction when it is tall enough to break the line-of-sight from the source to the receiver. After it breaks the line-of-sight, it can achieve approximately 1.5 dB of additional noise level reduction for each meter of barrier height (FHWA 2001). Therefore, 6.5 dB has been subtracted from maximum noise levels at the residential development to account for the soundwall attenuation.

² Chainsaws generate maximum noise levels of 84 dB at 50 feet (FWWA, 2006). Since chainsaws are one of the louder pieces of construction equipment, noise from tree removal has been calculated at homes in the residential development.

Trucks transporting soil during project construction would also increase noise levels along the project haul route. Dump trucks generate an average maximum noise level of 76 dB at a distance of 50 feet (FHWA, 2006). The haul route includes a dirt road located 150 feet from the residence to the northwest of the staging area, within 30 feet of homes in the residential development, and 500 feet from Delaine Eastin Elementary School. Maximum noise levels from soil haul trips on this road are also shown in Table XII-2. The haul route also travels south along Union City Boulevard for approximately half a mile, however given the current high level of traffic on Union City Boulevard, the noise from the haul trucks would have minimal effect on the average noise levels (less than a 1 dB increase) on that street.

The maximum noise levels at the sensitive receptors closest to the project site and outside the property plane of project construction would not exceed the 86 dB limitation contained in Section 9.40.53 of the Union City Community Noise Ordinance. However noise levels generated by construction equipment and soil haul trips would be significant if they occur outside of the construction hours contained in the Union City General Plan *Health and Safety Element* and Union City Community Noise Ordinance. The inclusion of Mitigation Measure 12-1 would reduce noise impacts to less than significant.

Mitigation Measure 12-1: The following hours of construction would assure compliance with the *Health and Safety Element* of the Union City General Plan and the provisions of Section 9.40.53 of the Union City Community Noise Ordinance.

- Limit project construction activity to the hours of 8:00 a.m. to 8:00 p.m. on Monday through Friday, 9:00 a.m. to 8:00 p.m. on Saturdays, and 10:00 a.m. to 6:00 p.m. on Sundays and holidays.

- b) **Less Than Significant Impact.** The proposed project would not involve the use of any equipment or processes that would result in potentially significant levels of ground vibration (i.e., pile drivers that could be above 0.5 ppv). Ground vibration generated by construction operations would be primarily on-site heavy equipment and trucks hauling soil near residences, which would result in vibration levels of less than 0.1 inch per second ppv at 25 feet (FTA, 2006). The predicted vibration levels at the nearest structure would not be anticipated to exceed the most conservative threshold of 0.2 inch per second ppv. The temporary construction vibration associated with on-site equipment would not be anticipated to expose sensitive receptors to or generate excessive groundborne vibration or groundborne vibration levels. Therefore, a less-than-significant impact would occur.
- c) **No Impact.** The only noise from the project would occur during levee improvement construction. Once the proposed project is complete, there would be no permanent increases from operational noise or vibration impacts.
- d) **Less Than Significant Impact With Mitigation Incorporation.** Levee improvement activities would result in increases in daily average noise levels during the duration of construction. Maximum noise levels at the nearest sensitive receptors during construction are shown in Table XII-2 above. Noise levels during construction would be much higher than existing ambient noise levels at the project site, however maximum noise levels would only occur periodically at sensitive receptors when construction equipment is operating near the existing residential development and northwest residence.

In addition to Mitigation Measure XII-1, the inclusion of Mitigation Measure XII-2 would reduce the project's temporary noise increase impacts to less than significant.

Mitigation Measure XII-2: The following noise suppression techniques shall be employed to minimize the impact of temporary construction noise on nearby sensitive receptors.

- Provide enclosures and noise mufflers for stationary equipment, shrouding or shielding for impact tools, and barriers around particularly noisy activity areas on the site.
- Provide sound-control devices on equipment no less effective than those provided by the manufacturer.
- Locate stationary equipment, material stockpiles, and vehicle staging areas as far as practicable from sensitive receptors.
- Prohibit unnecessary idling of internal combustion engines.
- Require applicable construction-related vehicles and equipment to use designated truck routes when entering/leaving the site.
- Designate a noise (and vibration) disturbance coordinator at the Lead Agency who shall be responsible for responding to complaints about noise (and vibration) during construction. The telephone number of the noise disturbance coordinator shall be conspicuously posted at the construction site. Copies of the project purpose, description and construction schedule shall also be distributed to the nearby residents.

- e) **Less Than Significant Impact.** The proposed project is not located within two miles of a public airport.
- f) **No Impact.** The proposed project is not located in the vicinity of a private airstrip.

XIII. POPULATION AND HOUSING

- a-c) **Less than Significant Impact.** The proposed project involves raising a levee along a channel to reduce flooding in an area that includes urban uses (houses and a school), agricultural uses, and recreation/open space. The project would reduce the current flood hazards, which may be a factor limiting development of adjacent agricultural lands. However those lands are designated for agricultural uses, which also limits their development potential. Therefore the project may have some limited growth-inducing potential. No people or housing would be displaced by the project.

XIV. PUBLIC SERVICES

- ai-av) **No Impact.** The proposed project involves raising an existing levee to reduce flooding on adjacent areas. The project does not include provision of new or physically altered government facilities other than the levee itself. Although the project would reduce one limit to development of adjacent agricultural areas, other limitations to such development would remain and it would not directly induce population growth that could contribute to a need for new or altered government services necessary to maintain acceptable service ratios, response times, or other performance objectives for fire protection, police protection, schools, parks and recreational facilities, or other government facilities. It would not adversely affect any existing public services.

XV. RECREATION

- a) **Less than Significant.** The proposed flood control project would involve any activities or have facilities that could increase the use of existing recreational facilities. The pedestrian path along the channel would be removed and replaced in the same location. During construction, access to the existing north levee path would be prohibited, however visitors would still be able to use the paved path on the south side of the creek. In addition, the EBRPD parking area would remain open to the public, who could then walk or bike along the sidewalk on Union City Boulevard to access the south levee path. Therefore project would have a less-than-significant impact on recreation.
- b) **No Impact.** The project does not include nor require expansion or construction of new recreational facilities. The pedestrian path along the channel would be removed and replaced in the same location with the same surface. Therefore, no impact would occur.

XVI. TRANSPORTATION AND TRAFFIC

The rate at which traffic moves through intersections (quickly or slowly) indicates how well the circulation network is functioning for vehicular traffic. It is standard practice to measure the performance of an intersection in terms of Level of Service (LOS), which is a system by which the level of congestion can be given a letter grade based on vehicle delay. LOS “A” indicates a facility with little congestion and LOS “F” indicates a highly congested facility. The Alameda County Congestion Management Agency (CMA) has a Congestion Management Program (CMP). The CMP includes operating standards for key roads and freeways. Most cities seek to maintain a level of service of “D” or better at peak times. Intersections approaching their capacity are at LOS “E”.

- a) **Less Than Significant Impact.** The proposed flood control project would not generate any additional traffic after the completion of construction (existing periodic maintenance and inspections would continue). During construction, traffic from construction vehicles would be minimal in relation to existing traffic on Union City Blvd. It is anticipated that there would be fewer than 30 haul trucks in any day (sixty one-way trip; about 8 one-way trips in the am and pm peak hours), plus workers’ cars (up to 10 trips in the am and pm peak hours). The project proposes haul truck trips to be limited to between 9:30 am and 5:30 pm., which avoids part of the peak hours of seven to nine a.m. and four to six p.m. As described above, the project would not result in a substantial increase in traffic relative to the existing traffic load and capacity of the local street system. The traffic impact would be less than significant.
- b) **Less Than Significant Impact.** The Alameda County CMA has adopted criteria for evaluating potentially significant impacts to regional roadways in the County (Alameda County CMA 2009). The criteria in the Alameda County CMP states that any project that would generate 100 additional p.m. peak-hour trips could potentially impact the regional system; therefore, a LOS analysis for roadway segments within the project study area must be prepared. Trucks hauling materials to and from the disposal sites, those hauling new materials to the site, and worker trips would not generate over 20 trips during any of the peak hours. The proposed project would not exceed, either individually or cumulatively, an LOS standard established by CMA. The impact would be less than significant.
- c) **No Impact.** The project has no air traffic component and no change in air traffic patterns would occur.

- d) **Less Than Significant Impact.** Project haul truck traffic entering and exiting the haul road could conflict with passing traffic on Union City Boulevard. However, this would not be a significant impact as it would be short-term and the contractor would be required to develop traffic control plans and submit these to the City Traffic Engineer for approval before beginning any work requiring traffic control. The Contractor would give special attention to provide continuous and uninterrupted traffic to and from all schools and businesses on and adjacent to the work. The Contractor would provide watchmen and flagmen as necessary, and would provide and maintain fences, barriers, signs, guardrails, traffic lights and other safety devices to control traffic and prevent accidents to the public.
- e) **Less Than Significant Impact.** The proposed project would not block or alter emergency access. The County is aware of the mandate of first responders, and would contact area first responders to notify them of project startup prior to initiation of construction activities. The impact would be less than significant.
- f) **No Impact.** No parking would be removed under the proposed project, nor would additional parking demand be generated. Construction personnel would park within the designated access and staging area at the northeastern portion of the site (see Figure 2). The existing EBRPD parking area adjacent to the project site would remain accessible to the public, and would not be used for project construction parking or staging.
- g) **No Impact.** The project would not include physical elements or activities that could conflict with adopted policies, plans, or programs supporting alternative transportation. Accessibility to alternative transportation would not be altered by project haul activities during construction. During construction, the public pathway on the north levee would be closed, and detours to the south levee would be provided.

XVII. UTILITIES AND SERVICE SYSTEMS

- a-e) **No Impact.** Because the project is a flood control project, it would have no impact on utilities and service systems. The project would not induce population growth nor does it include people-attracting elements that could contribute to a need for new or altered utilities or service systems, including, but not limited to, wastewater transport and treatment, potable water transport and treatment, stormwater transport, and solid waste disposal.
- f-g) **Less Than Significant Impact.** Approximately 8,000 cubic yards of soil and removed trees would be hauled to a landfill. These soils could be used as cover over materials that are disposed of at the landfill, and would not adversely affect landfill capacity. Trees and other removed vegetation could be composted or chipped for reuse. The proposed project would comply with federal, state, and local statutes and regulations related to solid waste. Other material, such as concrete from the path and creosote-treated lumber from the outlets, would be disposed of in compliance with applicable regulations.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

- a) **Less than Significant with Mitigation Incorporation.** The proposed flood control project is in an urban environment, and with the incorporated mitigation measures, does not have the potential to cause fish or wildlife populations to drop below self-sustaining levels or threaten to eliminate a plant or animal community. With mitigation identified in this Initial Study, the proposed project does not have the potential to degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, reduce the number or restrict the range of a rare or endangered plant or animal, or to eliminate important examples of the major periods of California history or prehistory.
- b) **Less than Significant Impact.** The proposed project would not result in impacts that are individually limited, but cumulatively considerable. Impacts from the project are temporary and would occur during construction. The District has one other planned project along lower Alameda Creek, the Alvarado Crossing Restoration project, which would be located upstream, approximately 300 feet downstream of Alvarado Blvd., about 0.75 miles upstream of the proposed project. The Alvarado project would reconfigure the low flow channel to allow sediment to pass and to better support migration of steelhead. Cumulative impacts during construction may include air quality, biological resources, hydrology and water quality, noise, and traffic, if the two projects construction timetables overlap. However, the proposed project would contribute minimally to any cumulative impacts, if at all, and both projects would include mitigation measures that would limit cumulative effects to less than significant levels.

There are no projects currently under environmental review in the City of Union City that would result in cumulative impacts when combined with the proposed project.

- c) **Less than Significant Impact.** The proposed project would not result in environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly. The proposed project has the potential to result in minor and less than significant short-term adverse impacts to humans relative to biological resources, cultural resources, and noise. Mitigation measures would reduce these impacts to a level that is less than significant. The project would have a positive effect on life and property by reducing potential flooding in the vicinity of the project.

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XIX. These references provide adequate support for the “No Impact” response. References cited are available for review at the Alameda County Public Works Agency, 399 Elmhurst Street, Hayward, CA, unless otherwise noted.

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