Case File Number PLN22188

April 3, 2024

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| Location: | 2430 Willow Street |
| Assessor's Parcel Number(s): | 007 057900110 |
| Proposal: | Conditional Use Permit and Design Review for development of a public utility service center which will include fleet parking for field crew staff, a new 5,921 square foot office building, and a new 754 square foot warehouse. |
| Applicant: | East Bay Municipal Utility District / Maura Bonnarens |
| Contact Person/ Phone Number: | Maura Bonnarens/(510) 287-1023 |
| Owner: | East Bay Municipal Utility District |
| Case File Number: | PLN22188 |
| Planning Permits Required: | Major Conditional Use Permit for Extensive Impact Civic Activity on a site that exceeds one acre. Regular Design Review for new construction exceeding 1,000 square feet of floor area which requires a Conditional Use Permit and Variance(s) Variances for: 1) providing 0 foot street side setback where 10 feet is required, 2) exceeding the maximum driveway width of 35 feet and proposing 40 feet & 3) Replacement of existing wall to exceed the height limit of 12 feet. |
| General Plan: | Business Mix |
| Zoning: | West Oakland Plan Area Commercial Industrial Mix – 1C Industrial Zone / Health and Safety Protection Combining Zone (CIX-1C/S-19) |
| Proposed Environmental | Exempt, CEQA 15303(c) – New Construction not exceeding 10,000 square |
| Determination: | feet in floor area |
| Historic Status: | OCHS Rating D3 |
| City Council District: | CCD3 |
| Finality of Decision: | Appealable to City Council |
| For Further Information: | Oakland Case Planner: Sarah Price, Phone: (510) 238-2955, Email: sprice@oaklandca.gov |



CITY OF OAKLAND PLANNING COMMISSION

| Case File: | PLN22188 |
|------------|--------------------|
| Applicant: | EBMUD |
| Address: | 2430 WILLOW STREET |
| Zone: | CIX-1C/S-19 |

SUMMARY

The East Bay Municipal Utility District (EBMUD) is requesting a Major Conditional Use Permit (with associated Design Review and Variances) to construct and operate a new civic facility at 2430 Willow Street. The proposed facility would primarily function as a public utility service center with office, warehouse, and material storage space, and fleet service parking. The proposal includes a 5,921-square foot office building, 754-square foot warehouse, and employee and fleet parking.

Based on the attached environmental analyses and proposed conditions of approval, the project will have minimal adverse effects on the surrounding community in terms of air quality, traffic, noise, vibrations, or hazardous materials. Therefore, staff recommends approval of the requested permit.

BACKGROUND

The project site is located at 2430 Willow. The parcel is a corner lot with frontage on Willow, 26th Street, and Mandela Parkway. The parcel is zoned CIX-1C (CIX-1C West Oakland Plan Area Commercial Industrial Mix - 1C Industrial Zone (High Intensity Business)) with an S-19 (Health and Safety Protection Combining Zone) overlay. CIX-1C is intended to support industrial areas in the West Oakland Specific Plan. This zone is intended for higher intensity uses and development types. The S-19 overlay zone is intended to protect public health and welfare by precluding potentially hazardous activities, such as electroplating, on sites that are not appropriate locations for those types of activities. The surrounding parcels are primarily industrial, with the adjacent parcels zoned the same. The site is in the West Oakland Specific Plan area. The objectives of the West Oakland Specific Plan include attracting/maintaining viable employment opportunities, providing needed goods and services, and supporting affordable housing resources.

PROJECT DESCRIPTION

The East Bay Municipal Utility District (EBMUD) is requesting a Conditional Use Permit (CUP), Design Review and Variance to locate a public utility service center to an existing approximately 74,000 square foot industrial site. The proposal consists of a new administration building with office and locker room facilities for field staff, and a warehouse and storage space for maintenance and construction equipment and materials, loading docks, and parking for different size vehicles. The proposal includes demolishing the existing improvements on the site and construction of a new staff and maintenance buildings, new perimeter walls, and associated site and sidewalk improvements. The new facility will assist EBMUD in its efforts to continue to provide utility services to the community by having a central operational center to deploy staff for services such as pipeline break response. The project involves construction of a warehouse to the rear of the site and an administrative staff and crew support facility in the street side setback on Mandela Parkway. A majority of the parcel is reserved for fleet parking and maneuvering (see **Attachment C** for the layout of the site). The parking will be shielded from view by the public. The proposed facilities would provide support for EBMUD field staff as well as storage space and loading areas for them to perform their work.

The facility will operate Monday through Friday, from 6:00 Am to 5:00 PM (emergency crews may use the facility outside of the standard hours to respond to pipeline breaks). The proposed project is anticipated to serve a total 49 employees, consisting of five office staff and 44 field crew staff. The site includes parking for all 49 employees and additional parking for the fleet. The fleet on site will include service trucks, large valve trucks, dump trucks, marketing and detection vans, and vactor trucks (see **Attachment C**). The applicant has provided the proposed routes for the fleet vehicles (see **Attachment C**) which will avoid impacting the community by utilizing major arterials. The site is part of EBMUD's overall plan for the area and will help maximize their operational efficiencies while mitigating impact by utilizing the major transportation routes.

The project includes providing new sidewalk on Willow and 26th Street. The project proposes landscaping throughout the site, including: shrub and wall planters on Willow, additional street trees on 26th Street, and replacement and new trees along Mandela Parkway.

PROPERTY DESCRIPTION

The subject property is an approximately 1.7-acre site on Willow, 26th, and Mandela Parkway. The site contains existing improvements for a recycling center which will be cleared by the applicant. The site has been utilized for extensive civic operations for the past approximately 15 years. The most recent Operator, East Bay Resources is no longer in operation. In 1996 the site was granted a Major Conditional Use Permit to establish a large recycling collection center. Topography in the area is relatively flat, with no significant grade changes within the parcel. The surrounding parcels to the west include terminal trucking and light industrial activity. The parcels to the north, south and east include warehouse/storage activity.

GENERAL PLAN ANALYSIS

This proposal meets the LUTE's Industry and Commerce goals in the Land Use and Transportation Element (LUTE) of the General Plan. The LUTE designates the site "Business Mix", which is a flexible economic development zone that is intended to create and preserve a wide variety of businesses and related commercial and industrial uses, including light industrial, business and health services, low impact manufacturing, and warehouse and distribution facilities. It is intended to provide buffering for nearby residential districts from the heavier industrial uses.

WEST OAKLAND SPECIFIC PLAN ANALYSIS

This site is within the Mandela/West Grand opportunity subarea C of the West Oakland Specific Plan (WOSP). The vision for the Mandela/West Grand Opportunity Area includes:

- Promoting a mix of business activities and development types and a range of jobs at varying skill and education levels, in an area that is envisioned as the major business and employment center for West Oakland;
- Retaining existing compatible businesses that have well-paid blue collar and green collar jobs;
- Attracting traditional light industrial and business uses, similar to the types of businesses already well-established in this area, and new industries such as the life sciences, information technology and clean- tech businesses previously described in Chapter 3 of [the WOSP];

According to the WOSP, "Its focus on high employment-generating uses increases potential job opportunities for these immediate neighborhoods as well as for the West Oakland district in general, and increases the likelihood that desirable goods and services will be located closer to the residents who need them." The vision for the area is to relocate recycling operations and other older heavy industries.

The WOSP also analyzes the General Plan "Business Mix" designation in West Oakland, which was mapped with consideration given to existing, contiguous business and residential areas. This resulted in application of the "Business Mix" land use classification in large areas surrounding the intersection of West Grand Avenue and Mandela Parkway, and along the east side of the new I-880 route.

<u>Objective LU-1:</u> Remove obstacles to community and economic development by increasing the attractiveness of the West Oakland business area, encouraging private rehabilitation of under-utilized, vacant and neglected properties, seeking to improve roadway conditions, and partnering with the private development community to remove conditions that constrain business development and revitalization.

<u>Objective LU-2:</u> Retain compatible businesses that provide jobs, that stimulate economic development, and that use existing buildings.

<u>Objective LU-3:</u> Spur private creation of additional living wage job opportunities that provide employment opportunities to West Oakland residents.

<u>Objective LU-4:</u> Attract new businesses to the West Oakland area that will contribute to the community's economic and environmental health.

As described in the "Key Issues and Impacts" section of this report, the proposal is the operation of a civic activity that will have minimal environmental effects to the neighboring residential areas and will provide for employment and other activity in the area. Therefore, the project is consistent with the vision and objectives of the WOSP.

ZONING ANALYSIS

The subject property is in the CIX-1C (West Oakland Plan Area Commercial Industrial Mix – 1C Industrial Zone (High Intensity Business)) and the S-19 Health and Safety Protection Combining Zone. The intent of the CIX-1C zone is to support industrial areas in the West Oakland Specific Plan Area that are appropriate for a broad range of higher intensity commercial, retail, office, and advanced manufacturing-type users.

The proposal has been determined to be an Extensive Impact Civic Activity because it includes public utility fleet storage.

17.10.240 - Extensive Impact Civic Activity

Extensive Impact Civic Activities include the activities typically performed by, or the maintenance and operation of, the following institutions and installations:

- A. Airports, heliports, and helistops;
- B. Cemeteries, mausoleums, columbariums, and crematories;
- C. Colleges, junior colleges, and universities, but excluding business schools or other similar types of trade schools operated as profit-making enterprises;
- D. Detention and correction institutions;
- E. Docks and wharves operated by a public agency;
- F. Electric transmission lines;
- G. Garbage dumps and transfer stations;
- H. Curbside recycling collection centers;
- I. Golf courses and driving ranges;
- J. Major mail-processing centers;
- K. Military installations;
- L. Public and public utility corporation or truck yards;
- M. Radio and television transmission stations;
- N. Railroad and bus terminals;
- O. Railroad rights-of-way and yards and bus storage areas;
- P. Reservoirs and water tanks;
- Q. Sewage disposal tanks;
- R. Stadiums, sports arenas, auditoriums, and bandstands;
- S. Truck terminals operated by a public agency;
- T. Zoological gardens and wildlife preserves;
- U. Campgrounds;
- V. Stormwater detention ponds and facilities;
- W. Facilities supervised by or under contract with the State Department of Corrections, including alternative sentencing and community work release programs.

Based on this land use activity classification and the requirements of the CIX-1C Zone, the project requires a Major CUP. The CIX-1C Zone requires a Major CUP to allow Extensive Impact Civic activity and for uses where the project site exceeds one acre. The proposal requires the approval of Regular Design Review per Planning Code 17.136.040 which requires Design Review for any construction, of structures requiring a conditional use permit or variance. The proposal is also requesting variances from development standards for CIX-1C to increase the driveway width (40 feet where the maximum is 35 feet); to locate construction within the Mandela Parkway street-side setback (0 feet where 10 is required); and to replace an existing wall that exceeds the height limit of 12 feet.

The site is also located in the S-19 Health and Safety Protection Combining Zone. The S-19 Combining Zone is intended to control the storage or use of hazardous materials and wastes within 300 feet of a residential, institutional, or open space zoning district. The proposed activity does not fall under the potentially hazardous activities prohibited by code.

ENVIRONMENTAL DETERMINATION

The California Environmental Quality Act (CEQA) Guidelines categorically exempts specific types of projects from environmental review. This project is determined exempt per the following sections of the State CEQA Guidelines.

Section 15303 exempts new construction of office and similar structures not exceeding 10,000 square feet in floor area. The proposal falls under this section as it does not involve the use of significant amounts of hazardous substances, all necessary public services and facilities are available, and the surrounding area is not environmentally sensitive.

The anticipated environmental effects of the project have been evaluated by the West Oakland Specific Plan Final Environmental Impact Report (Final EIR) (certified June 2014).

Guidelines Section 15183 (Projects consistent with a Community Plan, General Plan or Zoning) is also applicable as noted in the "General Plan Analysis", "West Oakland Specific Plan Analysis", and "Zoning Analysis" sections above.

These analyses and exemptions satisfy CEQA requirements on a separate and independent basis.

KEY ISSUES AND IMPACTS

In considering applications that require a Conditional Use Permit for a new Extensive Impact Civic Activity, staff considers factors including, but not limited to, air quality, vehicle trip generation, and car traffic and parking. The applicant has prepared an environmental assessment to analyze these issues, which staff summarizes below along with issues relating to parking and design.

Air Quality

Major traffic routes to and from the Project site will include Willow Street, 26th Street, and 28th Street. The residential receptors are located along 28th Street between Mandela Parkway and Ettie Street. According to the consultant Yorke Engineering's report, attached hereto as **Attachment C**, the construction of the facility and the operation of the activity will have minimal negative effects on air quality, and do not reach the City's thresholds of significance for mitigations under the California Environmental Quality Act (CEQA). The consultant also analyzed health assessment related to the operation which was found to be below Bay Area Air Quality Management District thresholds.

Trip Generation

The proposal will generate additional vehicle trips to allow EBMUD staff to serve their customers and maintain their facilities and equipment. Staff does not anticipate these trips to create a large negative effect on residential neighborhoods or air quality because of the site's location and proposed routes. Further, staff has conditioned that the applicant must provide a route map to drivers requiring that trucks follow all authorized routes and not drive through residential neighborhoods.

<u>Parking</u>

The site includes parking for the employees on site as well as fleet parking for various EBMUD vehicles. The following is proposed:

- Twelve (12) 12' X 30' Parking Spaces (service trucks, vacuum extractors, dump trucks and pipeline groups)
- Six (6) 12' x 60' Parking Spaces (dump truck/trailers)
- Twenty-five (25) 10' x 20' Parking Spaces (foreman vehicles, small vans, large vans, arrow board trailers, patch pavers, trailers, etc.)
- Forty-nine (49) 9' X 18' Parking Spaces (employee parking)

The site has ample parking to accommodate all employees even if they were all traveling as single car occupants.

<u>Design</u>

According to the West Oakland Specific Plan, the following Design Guidelines apply particularly to properties and buildings facing onto Mandela Parkway.

- The most distinguished public features of a building should be oriented towards and visible from Mandela Parkway.
- Projects are encouraged to have dramatic architectural features visible along the Parkway.
- Taller buildings are encouraged along the Parkway.
- Incorporate large openings that create visual connections to Mandela Parkway.
- Landscaping should be coordinated with that of the public landscaped areas along Parkway, and the new planting and paving should be of a similarly high quality.

Design Guidelines Applicable to all Industrial/Business/Commercial Opportunity Areas include:

- New construction should be built to the edge of sidewalks to maintain the continuity of the area's street walls. Small ground-level inset bays for entrances, outdoor seating, and special corner features are appropriate variations within the street wall. In addition, an occasional plaza may be also appropriate.
- Service areas should be hidden from view from sidewalks whenever possible.

The required findings for Regular Design Review are discussed in **Attachment A**, Findings for Approval. The proposed plan has been designed in a way that adheres to the design guidelines. The project includes new facilities at the edge of sidewalk, screened service areas, new sidewalks to improve pedestrian circulation, and a distinguished architectural feature of a "lantern" that that is oriented to Mandela Parkway. High quality planting is proposed to screen the perimeter wall, there are trees and landscaping proposed along the street frontages and the two trees proposed for removal will be replaced. Landscaping and flag poles are used to create a green edge along Mandela Parkway sidewalk to buffer the building face and mirror the green median space. The proposed administrative building is located with a 0-foot setback on Mandela Parkway where 10 feet is normally required. The intent of the reduced setback is to adhere to the design guidelines and respect the building's presence on Mandela Parkway and edge of sidewalk. The primary vehicle entrance has been oriented away from Mandela Parkway and onto Willow Street.

Based on staff's analysis of the proposal in relation to the Zoning Code, General and Specific Plans, and the key issues and impacts, staff is recommending approval of the project based on the findings in **Attachment A** and Conditions of approval in **Attachment B**.

RECOMMENDATIONS:

- 1. Affirm staff's environmental determination.
- 2. Approve the Conditional Use Permit, Design Review, and Variances subject to the attached findings and conditions.

Prepared by:

S. Price

Sarah Price Planner IV

Reviewed by:

Robert Merkamp Zoning Manager Bureau of Planning

Approved for forwarding to the Planning Commission:

Ed Manasse Deputy Director Bureau of Planning

ATTACHMENTS:

- A. Findings Approval
- B. Conditions for Approval
- C. Project Plans, Supplemental Questionnaire, and supporting materials

FINDINGS FOR APPROVAL

This proposal meets all the required findings under the section 17.134.050, General Use Permit Criteria, 17.136.050 Regular Design Review Criteria, and 17.148.050 Variance Findings Required of the Oakland Planning Code (OMC Title 17) as set forth below and which are required to approve your application. Required findings are shown in **bold** type; reasons your proposal satisfies them are shown in normal type.

SECTION 17.134.050 – GENERAL USE PERMIT CRITERIA:

A. That the location, size, design, and operating characteristics of the proposed development will be compatible with and will not adversely affect the livability or appropriate development of abutting properties and the surrounding neighborhood, with consideration to be given to harmony in scale, bulk, coverage, and density; to the availability of civic facilities and utilities; to harmful effect, if any, upon desirable neighborhood character; to the generation of traffic and the capacity of surrounding streets; and to any other relevant impact of the development;

As discussed in the "Key Issues and Impacts" section of this report, the facility will have minimal effects on trip generation, parking, or air quality. The impact on the surrounding neighborhood will be less than that of the previously approved recycling center. The proposed development will improve the site which has suffered from blight in the past. The development is of appropriate scale and is consistent with the character of the neighborhood.

B. That the location, design, and site planning of the proposed development will provide a convenient and functional living, working, shopping, or civic environment, and will be as attractive as the nature of the use and its location and setting warrant;

The proposal includes site improvements such as sidewalks along Willow and 26th streets and new landscaping on the street frontages. The project is designed in such a way to respect the location on Mandela Parkway and to be consistent with adjacent properties and historical context. The location will further the West Oakland Specific Plan goal of bringing employment to West Oakland by bringing in 49 new workers to the area.

C. That the proposed development will enhance the successful operation of the surrounding area in its basic community functions, or will provide an essential service to the community or region;

The project will allow East Bay Municipal Utility District (EBMUD) to provide essential service to Oakland and the surrounding community. The location will also allow for timely response for pipe breaks within the community. The new center will also increase presence and occupancy to the area which will add eyes on the street, increasing natural surveillance which is a principle of Crime Prevention through Environmental Design (or CPTED).

D. That the proposal conforms to all applicable regular design review criteria set forth in the regular design review procedure at Section 17.136.050;

Please see the Design Review findings below.

E. That the proposal conforms in all significant respects with the Oakland General Plan and with any other applicable guidelines or criteria, district plan or development control map which has been adopted by the Planning Commission or City Council.

See the "General Plan Analysis" and "West Oakland Specific Plan Analysis" sections of this report.

- F. For proposals involving a One- or Two-Family Residential Facility: If the conditional use permit concerns a regulation governing maximum height, minimum yards, maximum lot coverage, or maximum floor area ratio, the proposal also conforms with at least one of the following additional criteria:
 - 1. The proposal when viewed in its entirety will not adversely impact abutting residences to the side, rear, or directly across the street with respect to solar access, view blockage and privacy to a degree greater than that which would be possible if the residence were built according to the applicable regulation, and, for conditional use permits that allow height increases, the proposal provides detailing, articulation or other design treatments that mitigate any bulk created by the additional height; or
 - 2. 2.At least sixty percent (60%) of the lots in the immediate context are already developed and the proposal would not exceed the corresponding as-built condition on these lots, and, for conditional use permits that allow height increases, the proposal provides detailing, articulation or other design treatments that mitigate any bulk created by the additional height. The immediate context shall consist of the five (5) closest lots on each side of the project site plus the ten (10) closest lots on the opposite side of the street (see illustration I-4b); however, the Director of City Planning may make an alternative determination of immediate context based on specific site conditions. Such determination shall be in writing and included as part of any decision on any conditional use permit.

Not Applicable to this project.

SECTION 17.136.050- REGULAR DESIGN REVIEW CRITERIA:

1. That the proposal will help achieve or maintain a group of facilities which are well related to one another and which, when taken together, will result in a well-composed design, with consideration given to site, landscape, bulk, height, arrangement, texture, materials, colors, and appurtenances; the relation of these factors to other facilities in the vicinity; and the relation of the proposal to the total setting as seen from key points in the surrounding area. Only elements of design which have some significant relationship to outside appearance shall be considered, except as otherwise provided in Section 17.136.060;

The proposed project is located within an industrial zoning district and improves the streetscape along Mandela Parkway near 26th Street. The height and scale of the project respects other adjacent buildings and improves the visual continuity looking west / southwest from the corner of Mandela and 26th Street. Project siting allows for EBMUD to utilize the site for their needs while screening the impact from view and while providing a green landscape buffer along the street frontage. The proposed building materials are intended to reflect a clean, contemporary layering of landscaping, staggered concrete wall forms and a dramatic backlit translucent glazed volume to create a glowing "lantern" effect to visually anchor the intersection of Mandela and 26th. As discussed in the Zoning Analysis discussion of the West Oakland Design Guidelines, the proposed building forms focus the most distinguished architectural features of the building toward Mandela Parkway as described above.

2. That the proposed design will be of a quality and character which harmonizes with, and serves to protect the value of, private and public investments in the area;

The proposed project will use high-quality building materials with extremely high durability and longevity. The features of the proposed materials include weather resistance and paint durability. The scale and height of building forms have been designed to be in keeping with scale of adjacent industrial buildings in the area. The redevelopment of the site will increase investment in the area and will improve the walkability and site aesthetics by adding new landscaping, sidewalks, and property maintenance. The entrance on Willow allows more active movement of people and vehicles on the Willow Street to bring more life and people presence to the corridor.

3. That the proposed design conforms in all significant respects with the Oakland General Plan and with any applicable design review guidelines or criteria, district plan, or development control map which have been adopted by the Planning Commission or City Council.

See the "General Plan Analysis" and "West Oakland Specific Plan Analysis" sections of this report.

SECTION 17.148.050– VARIANCE FINDINGS REQUIRED

1. That strict compliance with the specified regulation would result in practical difficulty or unnecessary hardship inconsistent with the purposes of the zoning regulations, due to unique physical or topographic circumstances or conditions of design; or, as an alternative in the case of a minor variance, that such strict compliance would preclude an effective design solution improving livability, operational efficiency, or appearance.

The project proposes a 0-foot street side setback on Mandela Parkway. Strict compliance with the 10-foot street side setback would result in practical difficulty due to the site planning for the extensive civic activity which requires space for fleet parking and maneuvering of vehicles and equipment. The proposed design will allow for maximization of the site for the operational need of the public utility while providing an effective design solution that is aesthetically an improvement to the appearance of the prominent corner. In addition, this would be inconsistent with the design guideline adopted in the West Oakland Specific Plan. The project proposes a driveway width of 40 feet where the maximum is 35 feet. Due to the unique nature of the activity, reducing the driveway width will create a hardship in using the various equipment and vehicles required to service our public utilities. In addition, the project proposes a perimeter wall up to 18 feet in height, over the 12 foot maximum permitted by Industrial zoning for walls located within the regulation would preclude the effective site planning of the lot thus rendering the project not viable in terms of operational efficiency.

2. That strict compliance with the regulations would deprive the applicant of privileges enjoyed by owners of similarly zoned property; or, as an alternative in the case of a minor variance, that such strict compliance would preclude an effective design solution fulfilling the basic intent of the applicable regulation.

The majority of the surrounding neighbors in the area and in the same zoning district enjoy the benefit of zero street side setback along any street, including Mandela Parkway. Existing corner lot buildings at 2607, 2855, 2534, 2606, and 2792 Mandela Parkway all extend to the property line and sidewalk edge. This development would be consistent with the surrounding context and recent development.

3. That the variance, if granted, will not adversely affect the character, livability, or appropriate development of abutting properties or the surrounding area, and will not be detrimental to the public welfare or contrary to adopted plans or development policy.

If granted, the variance will be consistent with the existing character of the surrounding blocks and corner lots and will not adversely affect abutting properties in the surrounding areas. The reduced setback is consistent with surrounding development as well as the West Oakland Design Guidelines "new construction should be built to the edge of sidewalks to maintain continuity of the area's street walls." The variances for the street side setback, driveway width, and wall height will allow for development that is consistent with the zoning of the site and the goals of the specific plan to increase employment opportunities since the site planning allows for operational success of the activity.

4. That the variance will not constitute a grant of special privilege inconsistent with limitations imposed on similarly zoned properties or inconsistent with the purposes of the zoning regulations.

The variances will not constitute a special privilege based on the surrounding area and context of the site. The proposal complies with the purpose of the zoning regulations, including allowed activity and facility types and respecting the sensitive transition of Business/Industrial to residential areas. The development is consistent with corner lots along Mandela Parkway. The surrounding lots are already built to sidewalk edge which is consistent with West Oakland Design Guidelines.

5. That the elements of the proposal requiring the variance (e.g., elements such as buildings, walls, fences, driveways, garages and carports, etc.) conform with the regular design review criteria set forth in the design review procedure at Section 17.136.050.

See required findings above.

6. That the proposal conforms in all significant respects with the Oakland General Plan and with any other applicable guidelines or criteria, district plan, or development control map which have been adopted by the Planning Commission or City Council.

See the "General Plan Analysis" and "West Oakland Specific Plan Analysis" sections of this report.

- 7. For proposals involving one (1) or two (2) residential dwelling units on a lot: That, if the variance would relax a regulation governing maximum height, minimum yards, maximum lot coverage or maximum floor area ratio, the proposal also conforms with at least one of the following additional criteria:
 - a. The proposal when viewed in its entirety will not adversely impact abutting residences to the side, rear, or directly across the street with respect to solar access, view blockage and privacy to a degree greater than that which would be possible if the residence were built according to the applicable regulation and, for height variances, the proposal provides detailing, articulation or other design treatments that mitigate any bulk created by the additional height; or
 - b. Over sixty percent (60%) of the lots in the immediate vicinity are already developed and the proposal does not exceed the corresponding as-built condition on these lots and, for height variances, the proposal provides detailing, articulation or other design treatments that mitigate any bulk created by the additional height. The immediate context shall consist of the five (5) closest lots on each side of the project site plus the ten (10) closest lots on the opposite side of the street (see illustration I-4b); however, the Director of City Planning may make an alternative determination of immediate context based on specific site conditions. Such determination shall be in writing and included as part of any decision on any variance.

Not applicable to this project.

CONDITIONS OF APPROVAL

1. <u>Approved Use</u>

The project shall be constructed and operated in accordance with the authorized use as described in the approved application materials, staff report, and the approved plans reviewed by the Planning Commission April 3, 2024, as amended by the following conditions of approval and mitigation measures, if applicable ("Conditions of Approval" or "Conditions").

2. Effective Date, Expiration, Extensions and Extinguishment

This Approval shall become effective immediately, unless the Approval is appealable, in which case the Approval shall become effective in ten (10) calendar days unless an appeal is filed. Unless a different termination date is prescribed, this Approval shall expire two calendar years from the Approval date, or from the date of the final decision in the event of an appeal, unless within such period a complete building permit application has been filed with the Bureau of Building and diligently pursued towards completion, or the authorized activities have commenced in the case of a permit not involving construction or alteration. Upon written request and payment of appropriate fees submitted no later than the expiration date of this Approval, the Director of City Planning or designee may grant a one-year extension of this date, with additional extensions subject to approval by the approving body. Expiration of any necessary building permit or other construction-related permit for this project may invalidate this Approval if said Approval has also expired. If litigation is filed challenging this Approval, or its implementation, then the time period stated above for obtaining necessary permits for construction or alteration and/or commencement of authorized activities is automatically extended for the duration of the litigation.

3. Compliance with Other Requirements

The project applicant shall comply with all other applicable federal, state, regional, and local laws/codes, requirements, regulations, and guidelines, including but not limited to those imposed by the City's Bureau of Building, Fire Marshal, Department of Transportation, and Public Works Department. Compliance with other applicable requirements may require changes to the approved use and/or plans. These changes shall be processed in accordance with the procedures contained in Condition #4.

4. Minor and Major Changes

- a. Minor changes to the approved project, plans, Conditions, facilities, or use may be approved administratively by the Director of City Planning
- b. Major changes to the approved project, plans, Conditions, facilities, or use shall be reviewed by the Director of City Planning to determine whether such changes require submittal and approval of a revision to the Approval by the original approving body or a new independent permit/approval. Major revisions shall be reviewed in accordance with the procedures required for the original permit/approval. A new independent permit/approval shall be reviewed in accordance with the procedures required for the new permit/approval.

5. <u>Compliance with Conditions of Approval</u>

- a. The project applicant and property owner, including successors, (collectively referred to hereafter as the "project applicant" or "applicant") shall be responsible for compliance with all the Conditions of Approval and any recommendations contained in any submitted and approved technical report at his/her sole cost and expense, subject to review and approval by the City of Oakland.
- b. The City of Oakland reserves the right at any time during construction to require certification by a licensed professional at the project applicant's expense that the as-built project conforms to all applicable requirements, including but not limited to, approved maximum heights and minimum setbacks. Failure to construct the project in accordance with the Approval may result in remedial reconstruction, permit revocation, permit modification, stop work, permit suspension, or other corrective action.
- c. Violation of any term, Condition, or project description relating to the Approval is unlawful, prohibited, and a violation of the Oakland Municipal Code. The City of Oakland reserves the right to initiate civil and/or criminal enforcement and/or abatement proceedings, or after notice and public hearing, to revoke the Approval or alter these Conditions if it is found that there is violation of any of the Conditions or the provisions of the Planning Code or Municipal Code, or the project operates as or causes a public nuisance. This provision is not intended to, nor does it, limit in any manner whatsoever the ability of the City to take appropriate enforcement actions. The project applicant shall be responsible for paying fees in accordance with the City's Master Fee Schedule for inspections conducted by the City or a City-designated third-party to investigate alleged violations of the Approval or Conditions.

6. Signed Copy of the Approval/Conditions

A copy of the Approval letter and Conditions shall be signed by the project applicant, attached to each set of permit plans submitted to the appropriate City agency for the project, and made available for review at the project job site at all times.

7. <u>Blight/Nuisances</u>

The project site shall be kept in a blight/nuisance-free condition. Any existing blight or nuisance shall be abated within sixty (60) days of approval, unless an earlier date is specified elsewhere.

8. Indemnification

a. To the maximum extent permitted by law, the project applicant shall defend (with counsel acceptable to the City), indemnify, and hold harmless the City of Oakland, the Oakland City Council, the Oakland Redevelopment Successor Agency, the Oakland City Planning Commission, and their respective agents, officers, employees, and volunteers (hereafter collectively called "City") from any liability, damages, claim, judgment, loss (direct or indirect), action, causes of action, or proceeding (including legal costs, attorneys' fees, expert witness or consultant fees, City Attorney or staff time, expenses or costs) (collectively called "Action") against the City to attack, set aside, void or annul this Approval or implementation of this Approval. The City may elect, in its sole discretion, to participate in the defense of said Action and the project applicant shall reimburse the City for its reasonable legal costs and attorneys' fees.

b. Within ten (10) calendar days of the filing of any Action as specified in subsection (a) above, the project applicant shall execute a Joint Defense Letter of Agreement with the City, acceptable to the Office of the City Attorney, which memorializes the above obligations. These obligations and the Joint Defense Letter of Agreement shall survive termination, extinguishment, or invalidation of the Approval. Failure to timely execute the Letter of Agreement does not relieve the project applicant of any of the obligations contained in this Condition or other requirements or Conditions of Approval that may be imposed by the City.

9. Severability

The Approval would not have been granted but for the applicability and validity of each and every one of the specified Conditions, and if one or more of such Conditions is found to be invalid by a court of competent jurisdiction this Approval would not have been granted without requiring other valid Conditions consistent with achieving the same purpose and intent of such Approval.

10. <u>Special Inspector/Inspections, Independent Technical Review, Project Coordination and</u> <u>Monitoring</u>

The project applicant may be required to cover the full costs of independent third-party technical review and City monitoring and inspection, including without limitation, special inspector(s)/inspection(s) during times of extensive or specialized plan-check review or construction, and inspections of potential violations of the Conditions of Approval. The project applicant shall establish a deposit with Engineering Services and/or the Bureau of Building, if directed by the Director of Public Works, Building Official, Director of City Planning, Director of Transportation, or designee, prior to the issuance of a construction-related permit and on an ongoing as-needed basis.

11. <u>Public Improvements</u>

The project applicant shall obtain all necessary permits/approvals, such as encroachment permits, obstruction permits, curb/gutter/sidewalk permits, and public improvement ("p-job") permits from the City for work in the public right-of-way, including but not limited to, streets, curbs, gutters, sidewalks, utilities, and fire hydrants. Prior to any work in the public right-of-way, the applicant shall submit plans for review and approval by the Bureau of Planning, the Bureau of Building, Engineering Services, Department of Transportation, and other City departments as required. Public improvements shall be designed and installed to the satisfaction of the City.

12. Trash and Blight Removal

Requirement: The project applicant and his/her successors shall maintain the property free of blight, as defined in chapter 8.24 of the Oakland Municipal Code. For nonresidential and multi-family residential projects, the project applicant shall install and maintain trash receptacles near public entryways as needed to provide sufficient capacity for building users.

When Required: Ongoing

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

13. Graffiti Control

Requirement:

- a. During construction and operation of the project, the project applicant shall incorporate best management practices reasonably related to the control of graffiti and/or the mitigation of the impacts of graffiti. Such best management practices may include, without limitation:
 - i. Installation and maintenance of landscaping to discourage defacement of and/or protect likely graffiti-attracting surfaces.
 - ii. Installation and maintenance of lighting to protect likely graffiti-attracting surfaces.
 - iii. Use of paint with anti-graffiti coating.
 - iv. Incorporation of architectural or design elements or features to discourage graffiti defacement in accordance with the principles of Crime Prevention Through Environmental Design (CPTED).
 - v. Other practices approved by the City to deter, protect, or reduce the potential for graffiti defacement.
- b. The project applicant shall remove graffiti by appropriate means within seventy-two (72) hours. Appropriate means include the following:
 - i. Removal through scrubbing, washing, sanding, and/or scraping (or similar method) without damaging the surface and without discharging wash water or cleaning detergents into the City storm drain system.
 - ii. Covering with new paint to match the color of the surrounding surface.
 - iii. Replacing with new surfacing (with City permits if required).

When Required: Ongoing

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

14. <u>Landscape Plan</u>

a. Landscape Plan Required

• <u>Requirement</u>: The project applicant shall submit a final Landscape Plan for City review and approval that is consistent with the approved Landscape Plan. The Landscape Plan shall be included with the set of drawings submitted for the construction-related permit and shall comply with the landscape requirements of chapter 17.124 of the Planning Code. Proposed plants shall be predominantly drought-tolerant. Specification of any street trees shall comply with the Master Street Tree List and Tree Planting Guidelines (which can be viewed at http://www2.oaklandnet.com/oakca1/groups/pwa/documents/report/oak042662. http://www2.oaklandnet.com/oakca1/groups/pwa/documents/report/oak042662. http://www2.oaklandnet.com/oakca1/groups/pwa/documents/report/oak042662. http://www2.oaklandnet.com/oakca1/groups/pwa/documents/report/oak042662. http://www2.oaklandnet.com/oakca1/groups/pwa/documents/report/oak042662. http://www2.oaklandnet.com/oakca1/groups/pwa/documents/report/oak042662.

<u>http://www2.oaklandnet.com/oakca1/groups/pwa/documents/form/oak025595.p</u> <u>df</u>, respectively), and with any applicable streetscape plan.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning

Monitoring/Inspection: N/A

b. Landscape Installation

<u>Requirement</u>: The project applicant shall implement the approved Landscape Plan unless a bond, cash deposit, letter of credit, or other equivalent instrument acceptable to the Director of City Planning, is provided. The financial instrument shall equal the greater of \$2,500 or the estimated cost of implementing the Landscape Plan based on a licensed contractor's bid.

When Required: Prior to building permit final

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Building

c. Landscape Maintenance

<u>Requirement</u>: All required planting shall be permanently maintained in good growing condition and, whenever necessary, replaced with new plant materials to ensure continued compliance with applicable landscaping requirements. The property owner shall be responsible for maintaining planting in adjacent public rights-of-way. All required fences, walls, and irrigation systems shall be permanently maintained in good condition and, whenever necessary, replaced.

When Required: Ongoing

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

15. Lighting

<u>Requirement</u>: Proposed new exterior lighting fixtures shall be adequately shielded to a point below the light bulb and reflector to prevent unnecessary glare onto adjacent properties.

<u>When Required</u>: Prior to building permit final

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

1. <u>Dust Controls – Construction Related</u>

<u>Requirement</u>: The project applicant shall implement all of the following applicable dust control measures during construction of the project:

- a) Water all exposed surfaces of active construction areas at least twice daily. Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever feasible.
- b) Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer).
- c) 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.
- d) Limit vehicle speeds on unpaved roads to 15 miles per hour.
- e) All demolition activities (if any) shall be suspended when average wind speeds exceed 20 mph.

- f) All trucks and equipment, including tires, shall be washed off prior to leaving the site.
- g) Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

2. Criteria Air Pollutant Controls - Construction Related

<u>Requirement</u>: The project applicant shall implement all of the following applicable basic control measures for criteria air pollutants during construction of the project as applicable:

- a) Idling times on all diesel-fueled commercial vehicles over 10,000 lbs. shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to two minutes (as required by the California airborne toxics control measure Title 13, Section 2485, of the California Code of Regulations). Clear signage to this effect shall be provided for construction workers at all access points.
- b) Idling times on all diesel-fueled off-road vehicles over 25 horsepower shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to two minutes and fleet operators must develop a written policy as required by Title 23, Section 2449, of the California Code of Regulations ("California Air Resources Board Off-Road Diesel Regulations").
- c) All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. Equipment check documentation should be kept at the construction site and be available for review by the City and the Bay Area Air Quality District as needed.
- d) Portable equipment shall be powered by grid electricity if available. If electricity is not available, propane or natural gas generators shall be used if feasible. Diesel engines shall only be used if grid electricity is not available and propane or natural gas generators cannot meet the electrical demand.
- e) Low VOC (i.e., ROG) coatings shall be used that comply with BAAQMD Regulation 8, Rule 3: Architectural Coatings.
- f) All equipment to be used on the construction site shall comply with the requirements of Title 13, Section 2449, of the California Code of Regulations ("California Air Resources Board Off-Road Diesel Regulations") and upon request by the City (and the Air District if specifically requested), the project applicant shall provide written documentation that fleet requirements have been met.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

3. <u>Exposure to Air Pollution (Toxic Air Contaminants)</u>

a. Health Risk Reduction Measures

<u>Requirement</u>: The project applicant shall incorporate appropriate measures into the project design in order to reduce the potential health risk due to exposure to toxic air contaminants. The project applicant shall choose <u>one</u> of the following methods:

i. The project applicant shall retain a qualified air quality consultant to prepare a Health Risk Assessment (HRA) in accordance with California Air Resources Board (CARB) and Office of Environmental Health and Hazard Assessment requirements to determine the health risk of exposure of project residents/occupants/users to air pollutants. The HRA shall be submitted to the City for review and approval. If the HRA concludes that the health risk is at or below acceptable levels, then health risk reduction measures are not required. If the HRA concludes that the health risk reduction measures shall be identified to reduce the health risk to acceptable levels. Identified risk reduction measures shall be submitted to the City for review and approval and be included on the project drawings submitted for the construction-related permit or on other documentation submitted to the City. The approved risk reduction measures shall be implemented during construction and/or operations as applicable.

- or -

- ii. The project applicant shall incorporate the following health risk reduction measures into the project. These features shall be submitted to the City for review and approval and be included on the project drawings submitted for the constructionrelated permit or on other documentation submitted to the City:
 - Installation of air filtration to reduce cancer risks and Particulate Matter (PM) exposure for residents and other sensitive populations in the project that are in close proximity to sources of air pollution. Air filter devices shall be rated MERV-16 or higher. As part of implementing this measure, an ongoing maintenance plan for the building's HVAC air filtration system shall be required.
 - Where appropriate, install passive electrostatic filtering systems, especially those with low air velocities (i.e., 1 mph).
 - Phasing of residential developments when proposed within 500 feet of freeways such that homes nearest the freeway are built last, if feasible.
 - The project shall be designed to locate sensitive receptors as far away as feasible from the source(s) of air pollution. Operable windows, balconies, and building air intakes shall be located as far away from these sources as feasible. If near a distribution center, residents shall be located as far away as feasible from a loading dock or where trucks concentrate to deliver goods.
 - Sensitive receptors shall be located on the upper floors of buildings, if feasible.
 - Planting trees and/or vegetation between sensitive receptors and pollution source, if feasible. Trees that are best suited to trapping PM shall be planted, including one or more of the following: Pine (*Pinus nigra* var. *maritima*), Cypress (*X Cupressocyparis leylandii*), Hybrid poplar (*Populus deltoids X trichocarpa*), and Redwood (*Sequoia sempervirens*).
 - Sensitive receptors shall be located as far away from truck activity areas, such as loading docks and delivery areas, as feasible.
 - Existing and new diesel generators shall meet CARB's Tier 4 emission standards, if feasible.

- Emissions from diesel trucks shall be reduced through implementing the following measures, if feasible:
 - Installing electrical hook-ups for diesel trucks at loading docks.
 - Requiring trucks to use Transportation Refrigeration Units (TRU) that meet Tier 4 emission standards.
 - Requiring truck-intensive projects to use advanced exhaust technology (e.g., hybrid) or alternative fuels.
 - Prohibiting trucks from idling for more than two minutes.
 - Establishing truck routes to avoid sensitive receptors in the project. A truck route program, along with truck calming, parking, and delivery restrictions, shall be implemented.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Building

b. Maintenance of Health Risk Reduction Measures

<u>Requirement</u>: The project applicant shall maintain, repair, and/or replace installed health risk reduction measures, including but not limited to the HVAC system (if applicable), on an ongoing and as-needed basis. Prior to occupancy, the project applicant shall prepare and then distribute to the building manager/operator an operation and maintenance manual for the HVAC system and filter including the maintenance and replacement schedule for the filter.

When Required: Ongoing

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

4. Truck-Related Risk Reduction Measures (Toxic Air Contaminants)

a. Truck Loading Docks

<u>Requirement</u>: The project applicant shall locate proposed truck loading docks as far from nearby sensitive receptors as feasible.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Building

b. Truck Fleet Emission Standards

<u>Requirement</u>: The project applicant shall comply with all applicable California Air Resources Board (CARB) requirements to control emissions from diesel engines and demonstrate compliance to the satisfaction of the City. Methods to comply include, but are not limited to, new clean diesel trucks, higher-tier diesel engine trucks with added Particulate Matter (PM) filters, hybrid trucks, alternative energy trucks, or other methods that achieve the applicable CARB emission standard. Compliance with this requirement shall be verified through CARB's Verification Procedures for In-Use Strategies to Control Emissions from Diesel Engines.

When Required: Prior to building permit final; ongoing

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Building

5. <u>Asbestos in Structures</u>

<u>Requirement</u>: The project applicant shall comply with all applicable laws and regulations regarding demolition and renovation of Asbestos Containing Materials (ACM), including but not limited to California Code of Regulations, Title 8; California Business and Professions Code, Division 3; California Health and Safety Code sections 25915-25919.7; and Bay Area Air Quality Management District, Regulation 11, Rule 2, as may be amended. Evidence of compliance shall be submitted to the City upon request.

When Required: Prior to approval of construction-related permit

Initial Approval: Applicable regulatory agency with jurisdiction

Monitoring/Inspection: Applicable regulatory agency with jurisdiction

6. Tree Removal During Bird Breeding Season

Requirement: To the extent feasible, removal of any tree and/or other vegetation suitable for nesting of birds shall not occur during the bird breeding season of February 1 to August 15 (or during December 15 to August 15 for trees located in or near marsh, wetland, or aquatic habitats). If tree removal must occur during the bird breeding season, all trees to be removed shall be surveyed by a qualified biologist to verify the presence or absence of nesting raptors or other birds. Pre-removal surveys shall be conducted within 15 days prior to the start of work and shall be submitted to the City for review and approval. If the survey indicates the potential presence of nesting raptors or other birds, the biologist shall determine an appropriately sized buffer around the nest in which no work will be allowed until the young have successfully fledged. The size of the nest buffer will be determined by the biologist in consultation with the California Department of Fish and Wildlife, and will be based to a large extent on the nesting species and its sensitivity to disturbance. In general, buffer sizes of 200 feet for raptors and 50 feet for other birds should suffice to prevent disturbance to birds nesting in the urban environment, but these buffers may be increased or decreased, as appropriate, depending on the bird species and the level of disturbance anticipated near the nest.

When Required: Prior to removal of trees

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Building

7. <u>Tree Permit</u>

a. Tree Permit Required

<u>Requirement</u>: Pursuant to the City's Tree Protection Ordinance (OMC chapter 12.36), the project applicant shall obtain a tree permit and abide by the conditions of that permit.

When Required: Prior to approval of construction-related permit

<u>Initial Approval</u>: Permit approval by Public Works Department, Tree Division; evidence of approval submitted to Bureau of Building

Monitoring/Inspection: Bureau of Building

b. Tree Protection During Construction

<u>Requirement</u>: Adequate protection shall be provided during the construction period for any trees which are to remain standing, including the following, plus any recommendations of an arborist:

- i. Before the start of any clearing, excavation, construction, or other work on the site, every protected tree deemed to be potentially endangered by said site work shall be securely fenced off at a distance from the base of the tree to be determined by the project's consulting arborist. Such fences shall remain in place for duration of all such work. All trees to be removed shall be clearly marked. A scheme shall be established for the removal and disposal of logs, brush, earth and other debris which will avoid injury to any protected tree.
- ii. Where proposed development or other site work is to encroach upon the protected perimeter of any protected tree, special measures shall be incorporated to allow the roots to breathe and obtain water and nutrients. Any excavation, cutting, filling, or compaction of the existing ground surface within the protected perimeter shall be minimized. No change in existing ground level shall occur within a distance to be determined by the project's consulting arborist from the base of any protected tree at any time. No burning or use of equipment with an open flame shall occur near or within the protected perimeter of any protected tree.
- iii. No storage or dumping of oil, gas, chemicals, or other substances that may be harmful to trees shall occur within the distance to be determined by the project's consulting arborist from the base of any protected trees, or any other location on the site from which such substances might enter the protected perimeter. No heavy construction equipment or construction materials shall be operated or stored within a distance from the base of any protected trees to be determined by the project's consulting arborist. Wires, ropes, or other devices shall not be attached to any protected tree, except as needed for support of the tree. No sign, other than a tag showing the botanical classification, shall be attached to any protected tree.
- iv. Periodically during construction, the leaves of protected trees shall be thoroughly sprayed with water to prevent buildup of dust and other pollution that would inhibit leaf transpiration.
- v. If any damage to a protected tree should occur during or as a result of work on the site, the project applicant shall immediately notify the Public Works Department and the project's consulting arborist shall make a recommendation to the City Tree Reviewer as to whether the damaged tree can be preserved. If, in the professional opinion of the Tree Reviewer, such tree cannot be preserved in a healthy state, the Tree Reviewer shall require replacement of any tree removed with another tree or trees on the same site deemed adequate by the Tree Reviewer to compensate for the loss of the tree that is removed.
- vi. All debris created as a result of any tree removal work shall be removed by the project applicant from the property within two weeks of debris creation, and such debris shall be properly disposed of by the project applicant in accordance with all applicable laws, ordinances, and regulations.

When Required: During construction

Initial Approval: Public Works Department, Tree Division

Monitoring/Inspection: Bureau of Building

c. Tree Replacement Plantings

<u>Requirement</u>: Replacement plantings shall be required for tree removals for the purposes of erosion control, groundwater replenishment, visual screening, wildlife habitat, and preventing excessive loss of shade, in accordance with the following criteria:

- i. No tree replacement shall be required for the removal of nonnative species, for the removal of trees which is required for the benefit of remaining trees, or where insufficient planting area exists for a mature tree of the species being considered.
- ii. Replacement tree species shall consist of Sequoia sempervirens (Coast Redwood), Quercus agrifolia (Coast Live Oak), Arbutus menziesii (Madrone), Aesculus californica (California Buckeye), Umbellularia californica (California Bay Laurel), or other tree species acceptable to the Tree Division.
- iii. Replacement trees shall be at least twenty-four (24) inch box size, unless a smaller size is recommended by the arborist, except that three fifteen (15) gallon size trees may be substituted for each twenty-four (24) inch box size tree where appropriate.
- iv. Minimum planting areas must be available on site as follows:
 - For Sequoia sempervirens, three hundred fifteen (315) square feet per tree;
 - For other species listed, seven hundred (700) square feet per tree.
- v. In the event that replacement trees are required but cannot be planted due to site constraints, an in lieu fee in accordance with the City's Master Fee Schedule may be substituted for required replacement plantings, with all such revenues applied toward tree planting in city parks, streets and medians.
- vi. The project applicant shall install the plantings and maintain the plantings until established. The Tree Reviewer of the Tree Division of the Public Works Department may require a landscape plan showing the replacement plantings and the method of irrigation. Any replacement plantings which fail to become established within one year of planting shall be replanted at the project applicant's expense.

<u>When Required</u>: Prior to building permit final <u>Initial Approval</u>: Public Works Department, Tree Division Monitoring/Inspection: Bureau of Building

8. <u>Archaeological and Paleontological Resources – Discovery During Construction</u>

<u>Requirement</u>: Pursuant to CEQA Guidelines section 15064.5(f), in the event that any historic or prehistoric subsurface cultural resources are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and the project applicant shall notify the City and consult with a qualified archaeologist or paleontologist, as applicable, to assess the significance of the find. In the case of discovery of paleontological resources, the assessment shall be done in accordance with the Society of Vertebrate Paleontology standards. If any find is determined to be significant, appropriate avoidance measures recommended by the consultant and approved by the City must be followed unless avoidance is determined unnecessary or infeasible by the City. Feasibility of avoidance shall be determined with considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery, excavation) shall be instituted. Work may proceed on other parts of the project site while measures for the cultural resources are implemented.

In the event of data recovery of archaeological resources, the project applicant shall submit an Archaeological Research Design and Treatment Plan (ARDTP) prepared by a qualified archaeologist for review and approval by the City. The ARDTP is required to identify how the proposed data recovery program would preserve the significant information the archaeological resource is expected to contain. The ARDTP shall identify the scientific/historic research questions applicable to the expected resource, the data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. The ARDTP shall include the analysis and specify the curation and storage methods. Data recovery, in general, shall be limited to the portions of the archaeological resource that could be impacted by the proposed project. Destructive data recovery methods shall not be applied to portions of the archaeological resources if nondestructive methods are practicable. Because the intent of the ARDTP is to save as much of the archaeological resource as possible, including moving the resource, if feasible, preparation and implementation of the ARDTP would reduce the potential adverse impact to less than significant. The project applicant shall implement the ARDTP at his/her expense.

In the event of excavation of paleontological resources, the project applicant shall submit an excavation plan prepared by a qualified paleontologist to the City for review and approval. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and/or a report prepared by a qualified paleontologist, as appropriate, according to current professional standards and at the expense of the project applicant.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

9. <u>Human Remains – Discovery During Construction</u>

<u>Requirement</u>: Pursuant to CEQA Guidelines section 15064.5(e)(1), in the event that human skeletal remains are uncovered at the project site during construction activities, all work shall immediately halt and the project applicant shall notify the City and the Alameda County Coroner. If the County Coroner determines that an investigation of the cause of death is required or that the remains are Native American, all work shall cease within 50 feet of the remains until appropriate arrangements are made. In the event that the remains are Native American, the City shall contact the California Native American Heritage Commission (NAHC), pursuant to subdivision (c) of section 7050.5 of the California Health and Safety Code. If the agencies determine that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and timeframe required to resume construction activities. Monitoring, data recovery, determination of significance, and avoidance measures (if applicable) shall be completed expeditiously and at the expense of the project applicant.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

10. <u>Construction-Related Permit(s)</u>

<u>Requirement</u>: The project applicant shall obtain all required construction-related permits/approvals from the City. The project shall comply with all standards, requirements and conditions contained in construction-related codes, including but not limited to the Oakland Building Code and the Oakland Grading Regulations, to ensure structural integrity and safe construction.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

11. <u>Project Compliance with the Equitable Climate Action Plan (ECAP) Consistency</u> <u>Checklist</u>

<u>Requirement:</u> The project applicant shall implement all the measures in the Equitable Climate Action Plan (ECAP) Consistency Checklist that was submitted during the Planning entitlement phase.

a. For physical ECAP Consistency Checklist measures to be incorporated into the design of the project, the measures shall be included on the drawings submitted for construction-related permits.

When Required: Prior to approval of construction-related permit.

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Planning

b. For physical ECAP Consistency Checklist measures to be incorporated into the design of the project, the measures shall be implemented during construction.

When Required: During construction

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Building

c. For ECAP Consistency Checklist measures that are operational but not otherwise covered by these SCAs, including but not limited to the requirement for transit passes or additional Transportation Demand Management measures, the applicant shall provide notice of these measures to employees and/or residents and post these requirements in a public place such as a lobby or work area accessible to the employees and/or residents.

When Required: Ongoing

Monitoring/Inspection: Bureau of Planning

12. Hazardous Materials Related to Construction

<u>Requirement</u>: The project applicant shall ensure that Best Management Practices (BMPs) are implemented by the contractor during construction to minimize potential negative effects on groundwater, soils, and human health. These shall include, at a minimum, the following:

- a. Follow manufacture's recommendations for use, storage, and disposal of chemical products used in construction;
- b. Avoid overtopping construction equipment fuel gas tanks;
- c. During routine maintenance of construction equipment, properly contain and remove grease and oils;
- d. Properly dispose of discarded containers of fuels and other chemicals;
- e. Implement lead-safe work practices and comply with all local, regional, state, and federal requirements concerning lead (for more information refer to the Alameda County Lead Poisoning Prevention Program); and
- f. If soil, groundwater, or other environmental medium with suspected contamination is encountered unexpectedly during construction activities (e.g., identified by odor or visual

staining, or if any underground storage tanks, abandoned drums or other hazardous materials or wastes are encountered), the project applicant shall cease work in the vicinity of the suspect material, the area shall be secured as necessary, and the applicant shall take all appropriate measures to protect human health and the environment. Appropriate measures shall include notifying the City and applicable regulatory agency(ies) and implementation of the actions described in the City's Standard Conditions of Approval, as necessary, to identify the nature and extent of contamination. Work shall not resume in the area(s) affected until the measures have been implemented under the oversight of the City or regulatory agency, as appropriate.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

13. Hazardous Building Materials and Site Contamination

a. Hazardous Building Materials Assessment

Requirement: The project applicant shall submit a comprehensive assessment report to the Bureau of Building, signed by a qualified environmental professional, documenting the presence or lack thereof of asbestos-containing materials (ACMs), lead-based paint, polychlorinated biphenyls (PCBs), and any other building materials or stored materials classified as hazardous materials by State or federal law. If lead-based paint, ACMs, PCBs, or any other building materials or stored materials classified as hazardous materials are present, the project applicant shall submit specifications prepared and signed by a qualified environmental professional, for the stabilization and/or removal of the identified hazardous materials in accordance with all applicable laws and regulations. The project applicant shall implement the approved recommendations and submit to the City evidence of approval for any proposed remedial action and required clearances by the applicable local, state, or federal regulatory agency.

When Required: Prior to approval of demolition, grading, or building permits

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

b. Environmental Site Assessment Required

<u>Requirement</u>: The project applicant shall submit a Phase I Environmental Site Assessment report, and Phase II Environmental Site Assessment report if warranted by the Phase I report, for the project site for review and approval by the City. The report(s) shall be prepared by a qualified environmental assessment professional and include recommendations for remedial action, as appropriate, for hazardous materials. The project applicant shall implement the approved recommendations and submit to the City evidence of approval for any proposed remedial action and required clearances by the applicable local, state, or federal regulatory agency.

When Required: Prior to approval of construction-related permit.

Initial Approval: Applicable regulatory agency with jurisdiction

Monitoring/Inspection: Applicable regulatory agency with jurisdiction

c. Health and Safety Plan Required

<u>Requirement</u>: The project applicant shall submit a Health and Safety Plan for the review and approval by the City in order to protect project construction workers from risks

associated with hazardous materials. The project applicant shall implement the approved Plan.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

d. Best Management Practices (BMPs) Required for Contaminated Sites

<u>Requirement</u>: The project applicant shall ensure that Best Management Practices (BMPs) are implemented by the contractor during construction to minimize potential soil and groundwater hazards. These shall include the following:

- i. Soil generated by construction activities shall be stockpiled on-site in a secure and safe manner. All contaminated soils determined to be hazardous or non-hazardous waste must be adequately profiled (sampled) prior to acceptable reuse or disposal at an appropriate off-site facility. Specific sampling and handling and transport procedures for reuse or disposal shall be in accordance with applicable local, state, and federal requirements.
- ii. Groundwater pumped from the subsurface shall be contained on-site in a secure and safe manner, prior to treatment and disposal, to ensure environmental and health issues are resolved pursuant to applicable laws and policies. Engineering controls shall be utilized, which include impermeable barriers to prohibit groundwater and vapor intrusion into the building.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

14. Erosion and Sedimentation Control Measures for Construction

<u>Requirement</u>: The project applicant shall implement Best Management Practices (BMPs) to reduce erosion, sedimentation, and water quality impacts during construction to the maximum extent practicable. At a minimum, the project applicant shall provide filter materials deemed acceptable to the City at nearby catch basins to prevent any debris and dirt from flowing into the City's storm drain system and creeks.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

15. State Construction General Permit

<u>Requirement</u>: The project applicant shall comply with the requirements of the Construction General Permit issued by the State Water Resources Control Board (SWRCB). The project applicant shall submit a Notice of Intent (NOI), Stormwater Pollution Prevention Plan (SWPPP), and other required Permit Registration Documents to SWRCB. The project applicant shall submit evidence of compliance with Permit requirements to the City.

When Required: Prior to approval of construction-related permit

<u>Initial Approval</u>: State Water Resources Control Board; evidence of compliance submitted to Bureau of Building

Monitoring/Inspection: State Water Resources Control Board

16. NPDES C.3 Stormwater Requirements for Regulated Projects

a. Post-Construction Stormwater Management Plan Required

Requirement: The project applicant shall comply with the requirements of Provision C.3 of the Municipal Regional Stormwater Permit issued under the National Pollutant Discharge Elimination System (NPDES). The project applicant shall submit a Post-Construction Stormwater Management Plan to the City for review and approval with the project drawings submitted for site improvements, and shall implement the approved Plan during construction. The Post-Construction Stormwater Management Plan stall include and identify the following:

- i. Location and size of new and replaced impervious surface;
- ii. Directional surface flow of stormwater runoff;
- iii. Location of proposed on-site storm drain lines;
- iv. Site design measures to reduce the amount of impervious surface area;
- v. Source control measures to limit stormwater pollution;
- vi. Stormwater treatment measures to remove pollutants from stormwater runoff, including the method used to hydraulically size the treatment measures; and
- vii. Hydromodification management measures, if required by Provision C.3, so that post-project stormwater runoff flow and duration match pre-project runoff.

<u>When Required</u>: Prior to approval of construction-related permit <u>Initial Approval</u>: Bureau of Planning; Bureau of Building <u>Monitoring/Inspection</u>: Bureau of Building

b. Maintenance Agreement Required

<u>Requirement</u>: The project applicant shall enter into a maintenance agreement with the City, based on the Standard City of Oakland Stormwater Treatment Measures Maintenance Agreement, in accordance with Provision C.3, which provides, in part, for the following:

- i. The project applicant accepting responsibility for the adequate installation/construction, operation, maintenance, inspection, and reporting of any on-site stormwater treatment measures being incorporated into the project until the responsibility is legally transferred to another entity; and
- ii. Legal access to the on-site stormwater treatment measures for representatives of the City, the local vector control district, and staff of the Regional Water Quality Control Board, San Francisco Region, for the purpose of verifying the implementation, operation, and maintenance of the on-site stormwater treatment measures and to take corrective action if necessary.

The maintenance agreement shall be recorded at the County Recorder's Office at the applicant's expense.

When Required: Prior to building permit final

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

Monitoring/Inspection: Bureau of Building

17. <u>Structures in a Flood Zone</u>

<u>Requirement</u>: The project shall be designed to ensure that new structures within a 100-year flood zone do not interfere with the flow of water or increase flooding. The project applicant shall submit plans and hydrological calculations for City review and approval with the construction-related drawings that show finished site grades and floor elevations elevated above the Base Flood Elevation (BFE).

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

18. Construction Days/Hours

<u>Requirement</u>: The project applicant shall comply with the following restrictions concerning construction days and hours:

- a. Construction activities are limited to between 7:00 a.m. and 7:00 p.m. Monday through Friday, except that pier drilling and/or other extreme noise generating activities greater than 90 dBA shall be limited to between 8:00 a.m. and 4:00 p.m.
- b. Construction activities are limited to between 9:00 a.m. and 5:00 p.m. on Saturday. In residential zones and within 300 feet of a residential zone, construction activities are allowed from 9:00 a.m. to 5:00 p.m. only within the interior of the building with the doors and windows closed. No pier drilling or other extreme noise generating activities greater than 90 dBA are allowed on Saturday.
- c. No construction is allowed on Sunday or federal holidays.

Construction activities include, but are not limited to, truck idling, moving equipment (including trucks, elevators, etc.) or materials, deliveries, and construction meetings held onsite in a non-enclosed area.

Any construction activity proposed outside of the above days and hours for special activities (such as concrete pouring which may require more continuous amounts of time) shall be evaluated on a case-by-case basis by the City, with criteria including the urgency/emergency nature of the work, the proximity of residential or other sensitive uses, and a consideration of nearby residents'/occupants' preferences. The project applicant shall notify property owners and occupants located within 300 feet at least 14 calendar days prior to construction activity proposed outside of the above days/hours. When submitting a request to the City to allow construction activity outside of the above days/hours, the project applicant shall submit information concerning the type and duration of proposed construction activity and the draft public notice for City review and approval prior to distribution of the public notice.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

19. Construction Noise

<u>Requirement</u>: The project applicant shall implement noise reduction measures to reduce noise impacts due to construction. Noise reduction measures include, but are not limited to, the following:

- a. Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds) wherever feasible.
- b. Except as provided herein, impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used, <u>if such jackets are commercially available</u>, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever <u>such procedures are available and consistent with construction procedures</u>.
- c. Applicant shall use temporary power poles instead of generators where feasible.
- d. Stationary noise sources shall be located as far from adjacent properties as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or <u>use_other measures as determined by the City to provide equivalent noise reduction</u>.
- e. <u>The</u> noisiest phases of construction shall be limited to less than 10 days at a time. <u>Exceptions may be allowed if the City determines an extension is necessary and all</u> <u>available noise reduction controls are implemented.</u>

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

20. Extreme Construction Noise

a. Construction Noise Management Plan Required

<u>Requirement</u>: Prior to any extreme noise generating construction activities (e.g., pier drilling, pile driving and other activities generating greater than 90dBA), the project applicant shall submit a Construction Noise Management Plan prepared by a qualified acoustical consultant for City review and approval that contains a set of site-specific noise attenuation measures to further reduce construction impacts associated with extreme noise generating activities. The project applicant shall implement the approved Plan during construction. Potential attenuation measures include, but are not limited to, the following:

- i. Erect temporary plywood noise barriers around the construction site, particularly along on sites adjacent to residential buildings;
- ii. Implement "quiet" pile driving technology (such as pre-drilling of piles, the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions;
- iii. Utilize noise control blankets on the building structure as the building is erected to reduce noise emission from the site;

- iv. Evaluate the feasibility of noise control at the receivers by temporarily improving the noise reduction capability of adjacent buildings by the use of sound blankets for example <u>and implement such measure if such measures are feasible and would noticeably reduce noise impacts</u>; and
- v. Monitor the effectiveness of noise attenuation measures by taking noise measurements.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

b. Public Notification Required

<u>Requirement</u>: The project applicant shall notify property owners and occupants located within 300 feet of the construction activities at least 14 calendar days prior to commencing extreme noise generating activities. Prior to providing the notice, the project applicant shall submit to the City for review and approval the proposed type and duration of extreme noise generating activities and the proposed public notice. The public notice shall provide the estimated start and end dates of the extreme noise generating activities and describe noise attenuation measures to be implemented.

When Required: During construction

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

21. Operational Noise

<u>Requirement</u>: Noise levels from the project site after completion of the project (i.e., during project operation) shall comply with the performance standards of chapter 17.120 of the Oakland Planning Code and chapter 8.18 of the Oakland Municipal Code. If noise levels exceed these standards, the activity causing the noise shall be abated until appropriate noise reduction measures have been installed and compliance verified by the City.

<u>When Required</u>: Ongoing <u>Initial Approval</u>: N/A Monitoring/Inspection: Bureau of Building

22. Capital Improvements Impact Fee

<u>Requirement</u>: The project applicant shall comply with the requirements of the City of Oakland Capital Improvements Fee Ordinance (chapter 15.74 of the Oakland Municipal Code).

When Required: Prior to issuance of building permit

Initial Approval: Bureau of Building

Monitoring/Inspection: N/A

23. Construction Activity in the Public Right-of-Way

a. Obstruction Permit Required

<u>Requirement</u>: The project applicant shall obtain an obstruction permit from the City prior to placing any temporary construction-related obstruction in the public right-of-way, including City streets, sidewalks, bicycle facilities, and bus stops.

When Required: Prior to approval of construction-related permit

Initial Approval: Department of Transportation

Monitoring/Inspection: Department of Transportation

b. Traffic Control Plan Required

<u>Requirement</u>: In the event of obstructions to vehicle or bicycle travel lanes, bus stops, or sidewalks, the project applicant shall submit a Traffic Control Plan to the City for review and approval prior to obtaining an obstruction permit. The project applicant shall submit evidence of City approval of the Traffic Control Plan with the application for an obstruction permit. The Traffic Control Plan shall contain a set of comprehensive traffic control measures for auto, transit, bicycle, and pedestrian accommodations (or detours, if accommodations are not feasible), including detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes. The Traffic Control Plan shall be in conformance with the City's Supplemental Design Guidance for Accommodating Pedestrians, Bicyclists, and Bus Facilities in Construction Zones. The project applicant shall implement the approved Plan during construction.

Initial Approval: Department of Transportation

Monitoring/Inspection: Department of Transportation

c. Repair of City Streets

<u>Requirement</u>: The project applicant shall repair any damage to the public right-of way, including streets and sidewalks, caused by project construction at his/her expense within one week of the occurrence of the damage (or excessive wear), unless further damage/excessive wear may continue; in such case, repair shall occur prior to approval of the final inspection of the construction-related permit. All damage that is a threat to public health or safety shall be repaired immediately.

When Required: Prior to building permit final

Initial Approval: N/A

Monitoring/Inspection: Department of Transportation

24. <u>Transportation Impact Fee</u>

<u>Requirement</u>: The project applicant shall comply with the requirements of the City of Oakland Transportation Impact Fee Ordinance (chapter 15.74 of the Oakland Municipal Code).

When Required: Prior to issuance of building permit

Initial Approval: Bureau of Building

Monitoring/Inspection: N/A

25. Plug-In Electric Vehicle (PEV) Charging Infrastructure

а. **PEV-Capable Parking Spaces**

Requirement: The applicant shall submit, for review and approval of the Building Official, plans that show the location of inaccessible conduit to supply PEV-capable parking spaces per the requirements of Chapter 15.04 of the Oakland Municipal Code. Building electrical plans shall indicate sufficient electrical capacity to supply the required PEV-capable parking spaces.

When Required: Prior to Issuance of Building Permit Initial Approval: Bureau of Building Monitoring/Inspection: Bureau of Building

26. Construction and Demolition Waste Reduction and Recycling

Requirement: The project applicant shall comply with the City of Oakland Construction and Demolition Waste Reduction and Recycling Ordinance (chapter 15.34 of the Oakland Municipal Code) by submitting a Construction and Demolition Waste Reduction and Recycling Plan (WRRP) for City review and approval, and shall implement the approved WRRP. Projects subject to these requirements include all new construction, renovations/alterations/modifications with construction values of \$50,000 or more (except R-3 type construction), and all demolition (including soft demolition) except demolition of type R-3 construction. The WRRP must specify the methods by which the project will divert construction and demolition debris waste from landfill disposal in accordance with current requirements. The submitted electronically City WRRP may be at www.greenhalosystems.com or manually at the City's Green Building Resource Center. Current standards, FAQs, and forms are available on the City's website and in the Green Building Resource Center.

When Required: Prior to approval of construction-related permit

Initial Approval: Public Works Department, Environmental Services Division

Monitoring/Inspection: Public Works Department, Environmental Services Division

27. Underground Utilities

Requirement: The project applicant shall place underground all new utilities serving the project and under the control of the project applicant and the City, including all new gas, electric, cable, and telephone facilities, fire alarm conduits, street light wiring, and other wiring, conduits, and similar facilities. The new facilities shall be placed underground along the project's street frontage and from the project structures to the point of service. Utilities under the control of other agencies, such as PG&E, shall be placed underground if feasible. All utilities shall be installed in accordance with standard specifications of the serving utilities.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

28. Green Building Requirements – Small Projects

a. Compliance with Green Building Requirements During Plan-Check

The project applicant shall comply with the requirements of the California Green Building Standards (CALGreen) mandatory measures and the applicable requirements of the City of Oakland Green Building Ordinance (chapter 18.02 of the Oakland Municipal Code) for projects using the Small Commercial Checklist

- i. The following information shall be submitted to the City for review and approval with application for a building permit:
 - Documentation showing compliance with Title 24 of the current version of the California Building Energy Efficiency Standards.
 - Completed copy of the green building checklist approved during the review of a Planning and Zoning permit.
 - Permit plans that show in general notes, detailed design drawings and specifications as necessary compliance with the items listed in subsection (b) below.
 - Other documentation to prove compliance.
- ii. The set of plans in subsection (a) shall demonstrate compliance with the following:
 - CALGreen mandatory measures.
 - All applicable green building measures identified on the checklist approved during the review of a Planning and Zoning permit, or submittal of a Request for Revision Plan-check application that shows the previously approved points that will be eliminated or substituted.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Building

Monitoring/Inspection: N/A

b. Compliance with Green Building Requirements During Construction

<u>Requirement</u>: The project applicant shall comply with the applicable requirements of CALGreen and the Green Building Ordinance during construction.

The following information shall be submitted to the City for review and approval:

- i. Completed copy of the green building checklists approved during review of the Planning and Zoning permit and during the review of the Building permit.
- ii. Other documentation as deemed necessary by the City to demonstrate compliance with the Green Building Ordinance.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

29. Water Efficient Landscape Ordinance (WELO)

<u>Requirement</u>: The project applicant shall comply with California's Water Efficient Landscape Ordinance (WELO) in order to reduce landscape water usage. For the specific ordinance requirements, see the link below:

http://www.water.ca.gov/wateruseefficiency/landscapeordinance/docs/Title%2023%20extract%20-%20Official%20CCR%20pages.pdf

For any landscape project with an aggregate (total noncontiguous) landscape area equal to 2,500 sq. ft. or less, the project applicant may implement either the Prescriptive Measures or the Performance Measures, of, and in accordance with the California's Model Water Efficient Landscape Ordinance. For any landscape project with an aggregate (total noncontiguous) landscape area over 2,500 sq. ft., the project applicant shall implement the Performance Measures in accordance with the WELO.

Prescriptive Measures: Prior to construction, the project applicant shall submit the Project Information (detailed below) and documentation showing compliance with Appendix D of California's Model Water Efficient Landscape Ordinance (see page 38.14(g) in the link above).

Performance Measures: Prior to construction, the project applicant shall prepare and submit a Landscape Documentation Package for review and approval, which includes the following

- *a.* Project Information:
 - i. Date,
 - ii. Applicant and property owner name,
 - iii. Project address,
 - iv. Total landscape area,
 - v. Project type (new, rehabilitated, cemetery, or home owner installed),
 - vi. Water supply type and water purveyor,
 - vii. Checklist of documents in the package, and
 - viii. Project contacts
 - ix. Applicant signature and date with the statement: "I agree to comply with the requirements of the water efficient landscape ordinance and submit a complete Landscape Documentation Package."
- b. Water Efficient Landscape Worksheet
 - i. Hydrozone Information Table
 - ii. Water Budget Calculations with Maximum Applied Water Allowance (MAWA) and Estimated Total Water Use
- c. Soil Management Report
- *d.* Landscape Design Plan
- e. Irrigation Design Plan, and
- f. Grading Plan

Upon installation of the landscaping and irrigation systems, and prior to the final of a construction-related permit, the Project applicant shall submit a Certificate of Completion (see page 38.6 in the link above) and landscape and irrigation maintenance schedule for review and
approval by the City. The Certificate of Completion shall also be submitted to the local water purveyor and property owner or his or her designee.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Building

30. Employee Rights

<u>Requirement</u>: The project applicant and business owners in the project shall comply with all state and federal laws regarding employees' right to organize and bargain collectively with employers and shall comply with the City of Oakland Minimum Wage Ordinance (chapter 5.92 of the Oakland Municipal Code).

<u>When Required</u>: Ongoing <u>Initial Approval</u>: N/A Monitoring/Inspection: N/A

31. <u>Public Art for Private Development</u>

<u>Requirement</u>: The project is subject to the City's Public Art Requirements for Private Development, as codified in Chapter 15.78 of the Oakland Municipal Code, which requires that nonresidential building developments involving (2,000) square feet or more of new floor area and subject to design review approval pursuant to Chapter 17.136 of the Oakland Planning Code shall devote an amount not less than one percent (1.0%) of building development costs for acquisition and installation of freely accessible art on the development site or the adjacent right-of-way (within one-fourth (1/4) mile).

The contribution requirement can be met through: 1) the installation of freely accessible art at the site; 2) the installation of freely accessible art within one-quarter mile of the site; or 3) satisfaction of alternative compliance methods described in the Ordinance, including, but not limited to, payment of an in-lieu fee contribution. The applicant shall provide proof of full payment of the in-lieu contribution and/or provide plans, for review and approval by the Planning Director, showing the installation or improvements required by the Ordinance prior to issuance of a building permit.

Proof of installation of artwork, or other alternative requirement, is required prior to the City's issuance of a final certificate of occupancy for each phase of a project unless a separate, legal binding instrument is executed ensuring compliance within a timely manner subject to City approval.

<u>When Required:</u> Payment of in-lieu fees and/or plans showing fulfillment of public art requirement – Prior to Issuance of Building permit Installation of art/cultural space – Prior to Issuance of a Certificate of Occupancy. <u>Initial Approval:</u> Bureau of Planning <u>Monitoring/Inspection:</u> Bureau of Building

32. Vehicle Travel Routes

<u>Requirement:</u> Operator shall provide a route map to drivers requiring that trucks follow all authorized routes and not drive through residential neighborhoods

When Required: Ongoing

Initial Approval: N/A

Monitoring/Inspection: Bureau of Planning

33. Exterior Wall Finish

<u>Requirement:</u> A material sample of the perimeter wall shall be submitted to the Planning Department for final approval to ensure it is high quality and is compatible with what is shown in EBMUD's supplemental response dated 1/24/24.

<u>When Required:</u> Prior to Building Permit Issuance

Initial Approval: Bureau of Planning

Monitoring/Inspection: Bureau of Planning

Applicant Statement

I have read and accept responsibility for the Conditions of Approval. I agree to abide by and conform to the Conditions of Approval, as well as to all provisions of the Oakland Planning Code and Oakland Municipal Code pertaining to the project.

Name of Project Applicant

Signature of Project Applicant

Date





3D VIEW - SITE Scale: N.T.S.



PROJECT LOCATION —

EBMUD WILLOW SERVICE CENTER

OWNER EBMUD 375 11TH ST. OAKLAND, CA 94607 510.287.0352 AGNES WAN

ARCHITECT RPR ARCHITECTURE 1629 TELEGRAPH AVE, MEZZANINE OAKLAND, CA 94612 510.272.0654 ADAM CARR

CIVIL ENGINEER SANDIS ENGINEER, SURVEY, PLAN 636 9TH STEET OAKLAND, CA 94607 510.910.3605 SUSAN ULVENES

LANDSCAPE ARCHITECT JETT LANDSCAPE ARCHITECTURE + DESIGN 2 THEATRE SQUARE, SUITE 218 ORINDA, CA 94563 925.254.5422X106 JESSE MARKMAN

STRUCTURAL ENGINEER IDA STRUCTURAL ENGINEERS, INC. 1629 TELEGRAPH AVE, SUITE 300 OAKLAND, CA 94612 510.834.1629X102 STEPHEN DEJESSE

MECH/PLUMB ENGINEER ELMENDORF & ASSOCIATES, INC 517 PINE STREET SAUSALITO, CA 94965 415.332.8388

ELECTRICAL ENGINEER UPLIGHT ELECTRICAL ENGINEERING 3130 TWITCHELL ISLAND ROAD WEST SACRAMENTO, CA 95691 916.371.3202 JIM PUGA

JEFF ELMENDORF



PROJECT SCOPE AND SUMMARY

| PROJECT SCOPE: Demolition of all existing site and Willow, solar panel can | e elements ar opies, sidewa |
|----------------------------------------------------------------------------------|-------------------------------------------------|
| SITE ADDRESS: | 2430 WILLO |
| ASSESSORS PARCEL #: | 7-579-1-10 a |
| SITE AREA: | 74,013 S.F |
| GROSS BUILDING AREA: | TOTAL: 9470 |
| NO. OF STORIES: | 1 |
| CONSTRUCTION TYPE: | VB-FULLY S |
| CAL GREEN: | YES |
| <u>OPERATIONS:</u> | Public utility & concrete se Hours of ope |
| ZONING: | CIX-1C/S-19 |
| <u>SETBACKS:</u> | FRONT YAR SIDE YARD: REAR YARD |
| | |

| | SHEET IND |
|--------------|------------------------------------------|
| Sheet Number | |
| | |
| 00 CUP | |
| CUP - A0.00 | TITLE SHEET |
| CUP - A1.01 | EXISTING - SITE PLAN |
| CUP - A1.02 | EXISTING - SITE / VICINITY IMAGES |
| CUP - A2.00 | SITE PLAN - PROPOSED |
| CUP - A2.01 | FLOOR PLANS |
| CUP - A2.02 | SITE ELEVATIONS - PROPOSED |
| CUP - A2.03 | ELEVATIONS / SIGNAGE |
| CUP - A2.04 | 3D VIEWS |
| | |
| | |
| | |
| | PRELIMINARY GRADING AND DRAI |
| C2.0 | PRELIMINARY UTILITY PLAN |
| C3.0 | PRELIMINARY STORMWATER MGM |
| E3.0 | SITE LIGHTING PLAN |
| L.1 | PRELIMINARY LANDSCAPE PLAN |
| L.2 | PRELIMINARY PLANT PALETTER |
| L.3 | TREE REMOVAL PLAN |

2430 WILLOW ST, OAKLAND, CA, 94607

and preparation for new strutures. Work to include, new staff and maintenance crew building with support structures, new perimeter wall with entrances on 26th alk improvements.

OW ST., OAKLAND, CA

and 7-579-4

70 S.F. / OFFICE SERVICE BUILDING: 6000 S.F. / MAINTENANCE STORAGE: 3400 S.F. / SECURITY BOOTH: 70 S.F.

SPRINKLERED

y service center with; office, warehouse, material storage, employee parking, fleet service parking security walls. peration 6 am - 5 pm. Total of 49 employees: Five office staff and 44 field crew staff.

RD: 0 RD: 0

| DEX - CUP |
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| Sheet Name |
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| NAGE PLAN |
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| IT PLAN |
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GENERAL NOTES - EXISTING CONDITIONS

- 1. EXISTING STRUCTURE FLOOR PLANS NOT SHOWN ENLARGED. SEE SITE PLAN FOR
- STRUCTURE LOCATIONS.
 ALL EXISTING STRUCTURES AND WALLS TO BE DEMOLISHED.
- 3. EXISTING STRUCTURES; WINDOWS, DOORS AND WALLS ARE ALL TO BE
- DEMOLISHED NO EXISTING STRUCTURES DISTANCE TO PROPERTY BOUNDRIES ARE IDENTIFIED
- AS STRUCTURES ARE TO BE DEMOLISHED 5. NO EXISTING MAJOR FUNCTIONAL COMPENENTS ARE TO REMAIN AND HAVE

NOT BEEN SURVEYED; SEATING,

MECHANICAL, ETC..





WILLOW @ 26TH - LOOKING SOUTH



26TH AND WILLOW - LOOKING EAST



WILLOW - LOOKING NORTH



WILLOW @ 24TH - LOOKING NORTH







Scale: N.T.S.





<u> 24TH - LOOKING WEST</u>

EXISTING ADJACENT STRUCTURES Scale: N.T.S.



26TH - LOOKING SOUTH ON MANDELA

26TH AND WILLOW

EXISTING INTERIOR IMAGES



26TH - LOOKING SOUTH ON MANDELA



26TH AND WILLOW

EXISTING SITE IMAGES Scale: N.T.S.



<u> 24TH - LOOKING EAST</u>



MANDELA - OPERATIONS AT 2525



MANDELA - LOOKING NORTH



26TH TOWARDS WILLOW



24TH AND WILLOW



<u> 26TH - LOOKING WEST</u>















1 FLOOR PLAN - MAINTENANCE SUPPORT 1/8" = 1'-0"



























26TH STREET Scale: N.T.S.



BIRDSEYE VIEW FROM MANDELA Scale: N.T.S.



WILLOW STREET ENTRANCE Scale: N.T.S.



MANDELA STREET Scale: N.T.S.





SURVEY NOTES

- 1. EXISTING TOPOGRAPHIC SURVEY INFORMATION SHOWN HEREON IS BASED UPON TOPOGRAPHIC SURVEY COMPLETED BY EBMUD, DATED FEBRUARY 2020. SURVEY WAS SUPPLEMENTED BY SANDIS WITH PERMISSION FROM EBMUD TO SHOW ADDITIONAL ELEVATION INFORMATION. NO LIABILITY IS ASSUMED FOR THE INFORMATION PROVIDED IN SURVEY FROM EBMUD. SUPPLEMENTAL SURVEY FOR UTILITY INFORMATION BY SANDIS DATED DECEMBER 2021.
- 2. UTILITIES SHOWN ON THIS SURVEY ARE BASED ON SURFACE OBSERVATIONS. NO WARRANTIES ARE EXPRESSED OR IMPLIED CONCERNING THE EXISTENCE, SIZE, DEPTH, CONDITION, CAPACITY, OR LOCATION OR ANY UTILITY EXISTING ON THE SITE, WHETHER PRIVATE, MUNICIPAL, OR PUBLIC OWNED.
- 3. CONTRACTOR SHALL VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION AND REPORT BACK TO CIVIL ENGINEER ANY DISCREPANCIES WITH PLAN PRIOR TO COMMENCEMENT OF WORK.

BASIS OF BEARINGS

HORIZONTAL CONTROL FOR THIS PROJECT IS BASED ON THE NORTH AMERICAN DATUM OF 1983 AS REALIZED AT EPOCH 2017.50. SPECIFICALLY, CALIFORNIA REAL TIME NETWORK (CRTN) STATION P224 AS PUBLISHED BY THE CALIFORNIA SPATIAL REFERENCE CENTER (CSRC) WAS USED TO CONTROL THE SURVEY. THE COORDINATE SYSTEM USED IS THE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83), ZONE 3. UNITS ARE U.S. SURVEY FEET. THE PROJECT AVERAGE COMBINED SCALE FACTOR = 0.99993477

BENCHMARK

THE DATUM FOR VERTICAL CONTROL FOR THIS PROJECT IS THE CITY OF OAKLAND. ELEVATIONS ARE BASED ON CITY OF OAKLAND BENCHMARK 23/A, ELEVATION 2.45 FEET. SAID BENCHMARK IS A FOUND 2.5" BRASS DISK WITH PUNCH STAMPED "SEC 23 STA A" DOWN 0.9' IN A STANDARD MONUMENT WELL WITH NO LID AT THE INTERSECTION OF 32ND STREET AND WOOD STREET.

UNDERGROUND UTILITY NOTE

THE TYPES, LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS TOPOGRAPHIC SURVEY ARE APPROXIMATE AND WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS AND DEPTHS OF SUCH UNDERGROUND UTILITIES. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES. HOWEVER, THE ENGINEER CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF ITS DELINEATION OF SUCH UNDERGROUND UTILITIES WHICH MAY BE ENCOUNTERED, BUT WHICH ARE NOT SHOWN ON THIS SURVEY.

| | CONTROL TABLE | | | | | | |
|-------|---------------|-------------|-------|---------------------------|--|--|--|
| POINT | NORTHING | EASTING | ELEV. | DESCRIPTION | | | |
| 11 | 2126237.655 | 6044908.460 | 4.641 | Set Nail & Washer 4481/74 | | | |
| 12 | 2126355.261 | 6044693.274 | 4.274 | Set Nail & Washer 4481/74 | | | |
| 13 | 2125857.497 | 6044371.056 | 2.970 | Set Nail & Washer 4481/74 | | | |
| 21 | 2126288.981 | 6044780.429 | 5.403 | Set Nail & Washer 4481/76 | | | |
| | | | | | | | |

NOTE: CONTROL SURVEYED BY EBMUD.





File: X: \P\620072\4_ENGINEERING\2_PLAN SETS\3_SHEET SET\ONSITE\C1.0 GRADING PLAN.dwg Date:Nov 17, 2023

LEGEND

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PROPERTY LINE SAWCUT LINE DIRECTION OF STEEP SLOPE FLOW LINE GRADE BREAK CONTOURS

AC PAVEMENT

PLANTING

BIO-TREATMENT AREA

AC DEEP LIFT





File: X: \P\620072\4_ENGINEERING\2_PLAN SETS\3_SHEET SET\ONSITE\C2.0 UTILITY PLAN.dwg Date:Nov 17, 2023

LEGEND

----- PROPERTY LINE

BIO-TREATMENT AREA

STORM DRAIN NOTES

- 1. PRIVATE STORM DRAIN LINE 4-INCH THROUGH 12-INCH WITH A MINIMUM OF TWO (2) FEET OF COVER IN NON-TRAFFIC AREAS SHALL BE POLYVINYL CHLORIDE (PVC) SDR 35 GREEN PIPE AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION D 3034–73 WITH BELLS AND SPIGOT CONNECTIONS. ALL DIRECTION CHANGES SHALL BE MADE WITH WYE CONNECTIONS, 22.5° ELBOWS, 45° ELBOWS OR LONG SWEEP ELBOWS, 90° ELBOWS AND TEE'S ARE PROHIBITED.
- 2. PRIVATE STORM DRAIN LINE 6-INCH THROUGH 12-INCH WITH LESS THAN THREE (3) FEET OF COVER IN VEHICULAR TRAFFIC AREAS SHALL BE POLYVINYL CHLORIDE (PVC) C900, RATED FOR 150 PSI CLASS PIPE. PROVIDE AND INSTALL "STORM DRAIN" MARKER TAPE FOR THE ENTIRE LENGTH OF PIPE TRENCH. ALL DIRECTION CHANGES SHALL BE MADE WITH WYE CONNECTIONS, OBTUSE ELBOWS OR LONG SWEEP ELBOWS, 90° ELBOWS AND TEE'S ARE PROHIBITED.
- 3. ALL AREA DRAINS AND CATCH BASINS GRATES WITHIN PEDESTRIAN ACCESSIBLE
- 4. ALL TRENCHES SHALL BE BACK FILLED PER THE SPECIFICATIONS WITH APPROPRIATE TESTS BY THE GEOTECHNICAL ENGINEER TO VERIFY COMPACTION VALUES.
- CB, TC@CB: 5. FOR GRAVITY FLOW SYSTEMS CONTRACTOR SHALL VERIFY (POTHOLE IF NECESSARY) SIZE, MATERIAL, LOCATION AND DEPTH OF ALL SYSTEMS THAT ARE TO BE CONNECTED TO OR CROSSED PRIOR TO THE TRENCHING OR INSTALLATION OF ANY GRAVITY FLOW SYSTEM.
- SDMH, RIM=4.25 6. DRAINS SHOWN ON CIVIL PLANS ARE NOT INTENDED TO BE THE FINAL NUMBER AND LOCATION OF ALL DRAINS. PLACEMENT AND NUMBER OF LANDSCAPING DRAINS ARE HIGHLY DEPENDENT ON GROUND COVER TYPE AND PLANT MATERIAL. CONTRACTOR SHALL ADD ADDITIONAL AREA DRAINS AS NEEDED AND AS DIRECTED BY THE LANDSCAPE ARCHITECT.
 - 7. INSTALL SEPARATE SUB-DRAIN SYSTEM BEHIND RETAINING WALLS PER GEOTECHNICAL REPORT AND CONNECT TO STORM DRAIN SYSTEM AS SHOWN ON PLANS.
 - 8. ALL DOWN SPOUTS SHALL DISCHARGE DIRECTLY ON TO ADJACENT PERVIOUS SURFACES OR SPLASH BLOCKS UNLESS OTHERWISE NOTED ON PLANS. SEE ARCHITECTURE PLANS FOR EXACT LOCATION OF THE DOWN SPOUTS.

SANITARY SEWER NOTES

- 1. ALL SEWER WORK SHALL BE IN CONFORMANCE WITH THE COUNTY ENVIRONMENTAL HEALTH DEPARTMENT STANDARDS.
- 2. PRIVATE SANITARY SEWER MAIN AND SERVICE LINE 4-INCH THROUGH 8-INCH SHALL BE HDPE SDR 26 GREEN SEWER PIPE AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION D 3034-73 WITH BELL AND SPIGOT CONNECTIONS. ALL DIRECTION CHANGES SHALL BE MADE WITH WYE CONNECTIONS, 22.5' ELBOWS OR 45: ELBOWS, 90° ELBOWS AND TEE'S ARE PROHIBITED.
- ALL LATERALS SHALL HAVE A TWO WAY CLEANOUT AT FACE OF BUILDING AND AS SHOWN ON PLANS.
- 4. IF (E) SEWER LATERAL IS TO BE USED, CONTRACTOR SHALL VIDEO INSPECT, PERFORM PRESSURE TEST ON (E) SEWER LATERAL, AND SHALL PERFORM ANY NEEDED REPAIRS.

WATER SYSTEM NOTES

- 1. MAINTAIN WATER MAIN LINES 10' AWAY FROM SANITARY SEWER MAIN LINES. LATERALS SHALL BE SEPARATED PER PLAN DIMENSIONS.
- 2. WHERE WATER LINES HAVE TO CROSS SANITARY SEWER LINES, DO SO AT A 90 DEGREE ANGLE AND WATER LINES SHALL BE MINIMUM OF 12" ABOVE TOP OF SANITARY SEWER LINES.
- 3. ALL WATER SERVICE CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE WATER DISTRICT STANDARDS.
- 4. ALL WATER LINES SHALL BE INSTALLED WITH 36" MINIMUM COVER.
- 5. THRUST RESTRAINTS SHALL BE DESIGNED AND INSTALLED AT ALL TEES, CROSSES, BENDS (HORIZONTAL AND VERTICAL), AT SIZE CHANGES AND AT FIRE HYDRANTS.





File: X:\P\620072\4_ENGINEERING\2_PLAN SETS\3_SHEET SET\ONSITE\C3.0 STORMWATER PLAN.dwg Date:Nov 17, 2023



STORMWATER MANAGEMENT PLAN LEGEND



HYDROMODIFICATION NOTE:

THE PROJECT IS EXEMPT FROM HYDROMODIFICATION REQUIREMENTS PER THE ALAMEDA COUNTY C.3 TECHNICAL GUIDANCE DOCUMENT, HYDRO MODIFICATION SUSCEPTIBILITY MAP.

SITE TREATMENT AREA NOTE:

THIS PROJECT IS REPLACING MORE THAN 50% OF THE EXISTING IMPERVIOUS AREA AND THEREFORE MUST TREAT THE ENTIRE SITE/ONLY THE AREA THAT IS REDEVELOPED.

STORMWATER MANAGEMENT NOTES:

- 1. THIS PLAN PRESENTS METHODS AND CALCULATIONS FOR COMPLYING WITH THE REQUIREMENTS OF PROVISION C.3 OF THE MUNICIPAL REGIONAL STORMWATER PERMIT IN ACCORDANCE WITH THE ALAMEDA COUNTY PROGRAM AND THE CITY OF OAKLAND REQUIREMENTS.
- 2. THE FOLLOWING TREATMENT MEASURES ARE PROPOSED TO REGULATE THE QUALITY OF STORM WATER LEAVING THE SITE
- 2.1. BIO-RETENTION AREA RUNOFF IN THIS AREA IS DIRECTED TO A BIO-RETENTION PLANTER/AREA FOR FILTRATION, INFILTRATION AND EVAPOTRANSPIRATION PRIOR TO EXISTING THE SITE. PLANTING AND SOIL REQUIREMENTS APPLY, SEE DETAIL
- 3. PERMEABLE PAVEMENT IS NOT ALLOWED AT HIGH GROUNDWATER LEVEL SITE PER ALAMEDA COUNTY C.3 REQUIREMENTS.

C.3 STORMWATER TREATMENT MEASURES

| jon _5. | | | | | | | |
|---------|---------|-------------------------|-----------------------|--------------------|--------|------------------------------------------------|---------------------------|
| 5.35 | AREA ID | IMPERVIOUS AREA (SF) | PERVIOUS AREA (SF) | TOTAL AREA (SF) | BMP ID | REQUIRED BMP AREA (4% IMPERVIOUS AREA) (SF) | BMP AREA PROVIDED (SF) |
| CONC | DMA-1 | 15,053 | 0 | 15,053 | B-1 | 602 | 605 |
| | DMA-2 | 9,553 | 0 | 9,553 | B-2 | 382 | 384 |
| | DMA-3 | 9, <i>312</i> | 0 | 9,312 | В-3 | 372 | 384 |
| | DMA-4 | 11,356 | 0 | 11,356 | B-4 | 454 | 475 |
| | DMA-5 | 16,329 | 0 | 16,329 | B-5 | 653 | 656 |
| | DMA-6 | 2,465 | 0 | 2,465 | FP-6 | 99 | 446 |
| | DMA-7 | 4,879 | 0 | 4,879 | FP-7 | 195 | 356 |

<u>CB, TC@CB=4.50</u> 12" INV. OUT=0.60 (N)

TC 5.17

OFFSITE IMPROVEMENTS TO DRAIN TOWARD NEW LANDSCAPE AREAS AS SELF-RETAINING





6/27/2022 9:45:06 AM









TREES



CERCIS CANADENSIS 'FOREST PANSY' FOREST PANSY REDBUD USE ON WILLOW STREET

LARGE SHRUBS



PLATANUS X ACERFOLIA 'COLUMBIA' LONDON PLANE TREE USE ON MANDELA PARKWAY





ARCTOSTAPHYLOS 'SUNSET' SUNSET MANZANITA



LOMANDRA LONGIFOLIA 'BREEZE' DWARF MAT RUSH



IRIS DOUGLASIA DOUGLAS IRIS

GROUNDCOVERS



MYOPORUM PARVIFOLIUM FINE LEAF MYOPORUM



LUPINUS LATIFOLIUS RIVERBANK LUPINE

STORMWATER PLANTING MIX



CAREX TUMULICOLA





LOMANDRA LONGIFOLIA 'PLATINUM BEAUTY' VARIEGATED DWARF MAT RUSH



MAHONIA LONGIFOLIA OREGON GRAPE



POLYSTICHUM MUNITUM SWORD FERN



AQUILEGIA FORMOSA WESTERN COLUMBINE





CHONDROPETALUM TECTORUM

TRITELEIA LAXA ITHURIEL'S SPEAR





SARCOCOCCA HOOKERIA SWEETBOX



| SYMBOL | BOTANICAL NAME | COMMON NAME | SIZE | SPACING | WTR USE |
|---------|------------------------------------------|------------------------------|--------|----------|---------|
| TREES | | | | | |
| 0 | CERCIS 'FOREST PANSY' MULTI | FOREST PANSY REDBUD | 15 GAL | PER PLAN | Ĺ |
| | PLATANUS X ACERFOLIA | LONDON PLANE TREE | 24 GAL | PER PLAN | М |
| LARGE S | HRUBS | | | | |
| | RIBES SPECIOSUM | FUCHSIA FLOWER GOOSEBERRY | 5 GAL | 5'-0" OC | Ĺ |
| 0 | ARCTOSTAPHYLOS 'SUNSET' | SUNSET MANZANITA | 5 GAL | AS SHOWN | L |
| MEDIUM | SHRUBS, GRASSES, & PERENNIALS | | | | |
| | LOMANDRA LONGIFOLIA | DWARF MAT RUSH | 1 GAL | 3'-0" OC | L. |
| | LOMANDRA LONGIFOLIA 'PLATINUM BEAUTY' | VARIEGATED DWARF MAT RUSH | 1 GAL | 3'-0" OC | L |
| | MAHONIA LONGIFOLIA | OREGON GRAPE | 1 GAL | 3'-0" OC | L |
| | POLYSTICHUM MUNITUM | SWORD FERN | 1 GAL | 3'-0" OC | L |
| SMALL S | HRUBS, GRASSES, & PERENNIALS | | | | |
| | IRIS DOUGLASIA | DOUGLAS IRIS | 1 GAL | 3'-0" OC | Ĺ. |
| | LUPINUS LATIFOLIUS | RIVERBANK LUPINE | 1 GAL | 2'-0" OC | Ļ |
| | AQUILEGIA FORMOSA | WESTERN COLUMBINE | 1 GAL | 2'-0" OC | Ļ |
| | TRITELEIA LAXA | ITHURIEL'S SPEAR | 1 GAL | 2'-0" OC | L |
| _ | SARCOCOCCA HOOKERIA | SWEETBOX | 1 GAL | 3'-0" OC | L. |
| GROUNDO | OVERS | | | | |
| | MYOPORUM PARVIFOLIUM | FINE LEAF MYOPORUM | 1 GAL | 5'-0" OC | L |
| STORMWA | TER PLANTING MIX | | | | |
| | CAREX TUMULICOLA | BERKELEY SEDGE | 1 GAL | 2'-0" OC | Ļ |
| | CHONDROPETALUM TECTORUM | CAPE RUSH | 1 GAL | 3'-0" OC | L |
| | JUNCUS PATENS | CALIFORNIA GRAY RUSH | 1 GAL | 2'-0" OC | L. |



IRRIGATION DESIGN STATEMENT & MWELO COMPLIANCE

- 1. LANDSCAPE AND IRRIGATION PLANS SHALL COMPLY WITH THE CRITERIA OF THE CALIFORNIA MODEL WATER EFFICIENCY ORDINANCE (MWELO) AND APPLY THOSE CRITERIA FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE DESIGN PLAN.
- 2. FINAL IRRIGATION DESIGN PLANS WILL BE PROVIDED FOR BUILDING PERMIT AND WILL INCLUDE WELO CALCULATIONS SHOWING CONFORMANCE WITH THE MAXIMUM APPLIED WATER ALLOWANCE (MAWA) AND WUCOLS.
- 3. LANDSCAPE AND IRRIGATION PLANS SHALL COMPLY WITH ALL APPLICABLE CITY CODES AND ORDINANCES.
- 4. ALL PLANTING AREAS SHALL BE TOP-DRESSED WITH A 3" LAYER OFORGANIC, UN-DYED MULCH RECYCLED FROM LOCAL ORGANIC MATERIALS SUCH AS TREE TRIMMINGS, PLANT, OR CLEAN WOOD WASTE.
- 5. IRRIGATION SYSTEM IS TO BE A FULLY AUTOMATIC WEATHER-BASED SYSTEM USING LOW FLOW DRIP FOR SHRUBS AND GROUNDCOVERS WITH BUBBLERS FOR TREES.
- 6. THE SYSTEM SHALL INCLUDE A MASTER CONTROL VALVE AND FLOW SENSING CAPABILITY WHICH WILL SHUT DOWN ALL OR PART OF THE SYSTEM IF LEAKS ARE DETECTED.
- 7. PLANTS SHALL BE GROUPED ON COMMON HYDROZONES.
- 8. STREET TREES SHALL BE TIED TO IRRIGATION SYSTEM.

<u>TOTAL SITE AREA = 74,000 SF</u> TOTAL LANDSCAPE AREA = 6,044 SFTOTAL LANDSCAPE AREA % OF SITE = 8.1% TOTAL





EXISTING TREE REPLACEMENT RATIOS

| | REMOVED TREE SPECIES | TRUNK DIA | REPLACEMENT TREE SPECIES | SIZE |
|----|-------------------------|--------------|-------------------------------------------------------------|---------|
| 1. | QUERCUS LOBATA | 8" | PLATANUS ACERIFOLIA 'COLUMBIA' (OR AS PER CITY ARBORIST) | 24" BOX |
| | | | PLATANUS ACERIFOLIA 'COLUMBIA' (OR AS PER CITY ARBORIST) | 24" BOX |
| | | | PLATANUS ACERIFOLIA 'COLUMBIA' (OR AS PER CITY ARBORIST) | 24" BOX |
| 2. | QUERCUS LOBATA | 7" | PLATANUS ACERIFOLIA 'COLUMBIA' (OR AS PER CITY ARBORIST) | 24" BOX |
| | | | TRISTANIA LAURINA 'ELEGANS' (OR AS PER CITY ARBORIST) | 24" BOX |
| | | | TRISTANIA LAURINA 'ELEGANS' (OR AS PER CITY ARBORIST) | 24" BOX |



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BASIC APPLICATION FOR DEVELOPMENT REVIEW

250 Frank H. Ogawa Plaza, Suite 2114, Oakland, CA 94612-2031 Online Permit Center: https://aca-prod.accela.com/OAKLAND/Default.aspx

CERTAIN APPLICATIONS ARE ACCEPTED BY APPOINTMENT ONLY!

Submit a Zoning Worksheet (ZW) through the Online Permit Center if your project involves any of the following:

- Conditional Use Permit
- Variance
- Parcel Map Waiver
- Regular Design Review

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TREE PERMIT FEE:

CREEK PERMIT FEE:

TOTAL FEES DUE:

- Tentative Parcel/Tract Map • New dwelling unit(s)
- 1,000 sq. ft. or more of new floor area/footprint • Additions \geq 100% of existing floor area/footprint
- Creek Protection Permit (Category 3 or 4)

Staff will contact you to schedule an appointment within 3-5 business days. Applicants must cancel at least 24 hours in advance.

Submit a Zoning Worksheet (ZW) through the Online Permit Center for the following application types: Design Review Exemption (DRX) or Small Project Design Review (DS)

| 1. TYPE OF APPLICATION** | | | | | | |
|-------------------------------------------------------------|-----------------------------------------------------------------------|--|--|--|--|--|
| (Check all that apply) | | | | | | |
| Development Permits | Subdivision Applications | | | | | |
| Conditional Use Permit (CUP) (Major or Minor) | □ Parcel Map Waiver (PMW) (Lot Line Adjustment/Merger) | | | | | |
| □ Variance (Major or Minor) | □ Tentative Parcel Map (TPM) (subdivision for 1-4 lots) | | | | | |
| Regular Design Review (DR) | Tentative Tract Map (TTM) (subdivision 5 or more lots) | | | | | |
| □ Small Project Design Review (DS) (Type 1, 2, 3) | Other Applications | | | | | |
| □ Special Project Design Review (SP) (West Oakland) | Request for Environmental Review | | | | | |
| Design Review Exemption (DRX) | General Plan Amendment GRezoning | | | | | |
| Tree Preservation or Removal Permit (T) | Creek Protection Permit (separate application required) | | | | | |
| Determination (DET) | Density Bonus State Bill 35 Streamlining | | | | | |
| □ Planned Unit Development/Mini-Lot Development | • Other: | | | | | |
| **FOR AFFORDABLE HOUSING PROJECTS, PLEASE INDICATE ANY | FUNDING DEADLINE DATE:** | | | | | |
| 2. GENERAL INFORMATION | | | | | | |
| APPLICANT'S NAME/COMPANY: | | | | | | |
| Property Address: | | | | | | |
| Assessor's Parcel Number(s): | | | | | | |
| EXISTING USE OF PROPERTY: | | | | | | |
| DESCRIPTION OF PROPOSAL (including type of use, hours of op | eration, number of employees, etc., on additional sheets if needed.): | | | | | |
| | | | | | | |
| | | | | | | |
| To Re Combie | TED By STAFE | | | | | |
| Course of Decourse Line Co | | | | | | |
| GENERAL PLAN LAND USE CLASS: SPECIF | IC PLAN:ZONING: | | | | | |
| HISTORIC DESIGNATION: HOUSING ELEME | ENT OPPORTUNITY SITE: | | | | | |
| FEES ¹ : EXPECT | ED PROCESSING TIME ³ : | | | | | |
| POSTER DEPOSIT ² : \$ | | | | | | |

Page 1 of 15

days and in good condition to claim a refund of the deposit.

²For permit applications requiring public notice, a refundable security deposit is required

for the on-site poster containing the public notice. Posters MUST be returned within 180

³Expected processing time is only an estimate and is subject to change without notice due to staff workload, public hearing availability, and the completeness or complexity of the

3. PROPERTY OWNER AND APPLICANT INFORMATION

Original signatures or clear & legible copies are required.

| Owner(s): | | | | | | |
|------------------------------------------|----------------------------------|-----------------------------|--|--|--|--|
| Owner Mailing Address: | | | | | | |
| City/State: | | Zip: | | | | |
| Phone No.: | Fax No.: | E-mail: | | | | |
| | | | | | | |
| To be completed only if Applic | ant is not the Property O | wner: | | | | |
| I authorize the applicant indicated belo | w to submit the application on r | ny behalf | | | | |
| | | Signature of Property Owner | | | | |
| Applicant (Authorized Agent), if di | fferent from Owner: | | | | | |
| Applicant Mailing Address: | Applicant Mailing Address: | | | | | |
| City/State: | | Zip: | | | | |
| Phone No.: | | E-mail: | | | | |
| | | | | | | |

I understand that approval of this application does not constitute approval for any administrative review, Conditional Use Permit, Variance, or exception from any other City regulations which are not specifically the subject of this application. I understand further that I remain responsible for satisfying requirements of any private restrictions or covenants appurtenant to the property. I understand that the Applicant and/or Owner phone number listed above will be included on any public notice for the project.

I certify that I am the Applicant and that the information submitted with this application is true and accurate to the best of my knowledge and belief. I understand that the City is not responsible for inaccuracies in information presented, and that inaccuracies may result in the revocation of planning permits as determined by the Planning Director. I further certify that I am the Owner or purchaser (or option holder) of the property(ies) involved in this application, or the lessee or agent fully authorized by the owner to make this submission, as indicated by the owner's signature above. If this application involves more than one property, I certify that all property owners have signed above.

I understand that statements made to me about the time it takes to review and process this application are general. I am aware that the City has attempted to request everything necessary for an accurate and complete review of my proposal; however, that after my application has been submitted and reviewed by City staff, it may be necessary for the City to request additional information and/or materials. I understand that any failure to submit the additional information and/or materials in a timely manner may render the application inactive and that periods of inactivity do not count towards statutory time limits applicable to the processing of this application.

I understand that the proposed project and/or property may be subject to other laws, codes, regulations, guidelines, restrictions, agreements, or other requirements of other public agencies within or outside of the City of Oakland, and that the project and/or property may also be subject to requirements enforced by private parties, including but not limited to private easements/agreements and Covenants, Conditions and Restrictions (CC&Rs) of a homeowners' association. I am aware and acknowledge that the City recommends that I become fully aware of any other potential requirements before I submit this application and that I comply with all other requirements prior to commencing the proposed project.

I HEREBY CERTIFY, UNDER PENALTY OF PERJURY, THAT I HAVE READ THE ABOVE AND THAT ALL THE INFORMATION PROVIDED IN THIS APPLICATION IS TRUE AND CORRECT.

Signature of Owner or Authorized Agent

Date

| 4. PROJECT & LOT INFORMATION | | | | | |
|---------------------------------------------------|-----------------------------|-----------------|-----------------|---------------------------|-----------------------------------|
| CALCULATIONS | Existing Pre- Project | Demolition | New Proposed | Total Post- Project | % Change (Existing / Total) |
| Type/Size of Dwelling Units (Please fill in the r | number of eac | eh type) | | | |
| Rooming Units | | | | | |
| Efficiency Units | | | | | |
| 1-Bedroom Units | | | | | |
| 2-Bedroom Units | | | | | |
| 3-Bedroom Units | | | | | |
| \geq 4-Bedroom Units | | | | | |
| Total Number of Dwelling Units | | | | | |
| Are Any of the Project Units Affordable? If Ye | es, Please Fill | Out the Section | on Below (incl | ude number of | f each type) |
| Market-Rate/Unrestricted Dwelling Units (DU) | | | | | · · · |
| Moderate-Income Restricted DU (80%-120% AMI) | | | | | |
| Low-Income Restricted DU (50%-80% AMI) | | | | | |
| Very Low-Income Restricted DU (30%-50% AMI) | | | | | |
| Extremely Low-Income Restricted DU (<30% AMI) | | | | | |
| Total Affordable Units | | | | | |
| Total Affordable Units located Onsite: | | | | | |
| Other Types of Units/Rooms (if applicable) (no | ot counted tow | ards density) - | include numb | er of each type | |
| Accessory Dwelling Units (ADUs) | | | | | |
| Live/Work Units | | | | | |
| Work/Live Units | | | | | |
| Mobile Homes | | | | | |
| Hotel Rooms | | | | | |
| Floor Area | | | | | |
| Office Floor Area (square feet) | | | | | |
| Retail Floor Area (square feet) | | | | | |
| Industrial Floor Area (square feet) | | | | | |
| Other Non-Residential Floor Area (sq. ft.) | | | | | |
| Total Non-Residential Floor Area (sq. ft.) | | | | | |
| Residential Floor Area (sq. ft.) | | | | | |
| Total Res. & Non-Res. Floor Area (sq. ft.) | | | | | |
| Other Project Information | | | | | |
| Total Building Footprint Area (square feet) | | | | | |
| Building Height (feet) | | | | | |
| Building Stories (number) | | | | | |
| Total Lot Area (square feet) | | | | | |
| Number of Lots | | | | | |
| Automobile Parking Spaces (number) | | | | | |
| Bicycle Parking Spaces (number) | | | | | |
| New Landscape Square Footage (WELO see pg. 13) | n | /a | | n/a | n/a |
| Setback Slope (for hillside properties only) | | | | n/a | n/a |
| Structure Slope (for hillside properties only) | | | | n/a | n/a |

Definitions For Table 4 on Page 3

"Building Height" means the vertical distance measured from any point on top of the facility to a line directly below which meets finished grade on the outside perimeter of the facility, or intersects with a perpendicular plane connecting opposite points of finished grade at the outside perimeter of the facility.

"Floor Area" for all projects with <u>one or two dwelling units on a lot</u> means the total square footage of all levels of all buildings on the lot, measured horizontally from the outside surface of exterior walls and supporting columns, but excluding: (a) unenclosed living areas such as balconies, decks, and porches; (b) carports that are unenclosed on two or more sides; (c) 440 square feet within an attached or detached garage or carport that is enclosed on three sides or more; (d) non-habitable accessory structures of less than 120 square feet; (e) unfinished understories, attics and basements; and (f) finished basements if the height from finished grade at the exterior perimeter of the building to the finish floor elevation above is six (6) feet or less for at least 50% of the perimeter and does not exceed twelve (12) feet above grade at any point. For new floor area, only include new floor area located outside of the existing building envelope.

"Floor Area" for all projects <u>except those with one or two dwelling units on a lot</u> means the total of the gross horizontal areas of all floors, including usable basements and cellars, below the roof and within the outer surfaces of the main walls of principal or accessory buildings, or the center line of party walls separating such buildings, but excluding: (a) areas used for off-street parking spaces, loading berths, driveways, and maneuvering aisles; (b) areas which qualify as usable open space in Chapter 17.126; and (c) arcades, porticoes, and similar open areas which are located at or near street level of Nonresidential Facilities, are accessible to the general public, and are not designed or used as sales, display, storage, or production areas. For new floor area, only include new floor area located outside of the existing building envelope.

"Footprint" means the total land area covered by all structures on a lot, measured from outside of all exterior walls and supporting columns, including residences, garages, covered carports, and accessory structures, except that the following shall not be considered in determining footprint:

1. The portions of any uncovered and unenclosed decks, porches, landings, or patios, not including railings, which are less than thirty (30) inches above finished grade; 2. The portions of any uncovered and unenclosed balconies and stairways, including railings, which are less than six (6) feet above finished grade; 3. Eaves and roof overhangs; and 4. Trellises and similar structures which do not have solid roofs and which would not otherwise be included in this definition.

"Market-Rate/Unrestricted Dwelling Units" are residential units for which the rent/price is set by the real estate market and not limited to certain household incomes.

"**Restricted Dwelling Units**" are residential units for which the rent/price is legally restricted to households earning a certain income expressed as a percentage of the Area Median Income or AMI. For more information, visit the Housing and Community Development Department's website at https://www.oaklandca.gov/services/housing-index-a-z/housing-policies-plans-and-data/rent-and-income-limits-for-affordable-housing

"Setback Slope" means the slope between edge of pavement and the front setback line, at the midpoint and perpendicular to the front property line. "Structure Slope" means the steepest slope across building footprint measured from one side of the building to another.

5. IMPERVIOUS SURFACE INFORMATION

PROJECT CHARACTERISTICS: (check one)

- □ (1) The project will create or replace <u>10,000 square feet or more</u> of new or existing impervious surface area* (not including projects involving one single-family dwelling).
- □ (2) The project will create or replace <u>5,000 square feet or more but less than 10,000 square feet</u> of new or existing impervious surface area* AND involves the following:
 - Auto servicing, auto repair, or gas station;
 - Restaurant (full service, limited service, or fast-food); or
 - Uncovered parking (stand-alone parking lot or parking serving an activity; including uncovered parking garages).
 - If you checked (1) or (2) the project is considered a "Regulated Project" and must comply with NPDES C.3 stormwater requirements. You must submit a completed <u>Stormwater Supplemental Form</u> and a <u>Preliminary</u> <u>Post-Construction Stormwater Management Plan</u> with your application (see page 14).
- □ (3) The project will create or replace <u>2,500 square feet or more but less than 5,000 square feet</u> of new or existing impervious surface (including projects involving one single-family dwelling), unless the project meets the definition of (1) or (2) above.
 - If you checked (3) site design measures to retain stormwater on-site are required. Refer to the City's "Overview of Provision C.3" for more information. <u>https://www.oaklandca.gov/documents/overview-of-provision-c-3-requirements-for-stormwater-management</u>
- $\Box \quad (4) \quad \text{None of the above.}$
- * Impervious Surface = Any surface that cannot be effectively (easily) penetrated by water. Permeable paving (such as permeable concrete and interlocking pavers) underlain with permeable soil or permeable storage material, and green roofs with a minimum of three inches of planting media, are <u>not</u> considered impervious surfaces. Do not include existing impervious surface to be replaced as part of routine maintenance/repair activities when calculating the amount of new/replaced impervious surface.

6. **TREE PRESERVATION ORDINANCE**

Pursuant to the Tree Preservation Ordinance (§12.36 O.M.C.) a Tree Preservation/Removal Permit is required for any proposed construction activity (including buildings, driveways, paths, decks, construction vehicle routes, sidewalk improvements, & perimeter grading) within 10 feet of a Protected Tree, even if such trees are not being removed or if they are located on a neighbor's property.

The following are Protected Trees:

- a. Any Coast Live Oak tree that is larger than 4 inches dbh*
- b. Any tree (except Eucalyptus) that is larger than 9 inches dbh* (Eucalyptus trees and up to 5 Monterey Pines per acre are not considered Protected Trees under this section. Monterey Pines must be inspected and verified by the Public Works Agency Tree Division prior to their removal. Contact the Tree Division at (510) 615-5934 for more information or to schedule an inspection).
- c. Any tree of any size located in the public right-of-way (including street trees).

I ATTEST THAT: (check one)

- □ (1) There are <u>no</u> existing Protected Trees anywhere on the subject property or within 10 feet of the proposed construction activities** (including neighbor's properties or the adjacent public right-of-way).
- □ (2) There <u>are</u> Protected Trees on the subject property or within 10 feet of the proposed construction activities**, and their location is indicated on the site plan and landscape plan **and** *(check one)*;
 - □ (a) <u>No</u> Protected Trees are to be removed and <u>No</u> construction activity** will occur within 10 feet of any Protected Tree.
 - □ (b) <u>No</u> Protected Trees are to be removed and Construction activity** <u>will</u> occur within 10 feet of any Protected Tree.
 - \Box (c) Protected Trees <u>will</u> be removed.

If you checked (2b) or (2c), a Tree Preservation/Removal Permit is required. Please complete the section below.

DESCRIPTION OF TREES (Identification numbers and letters must be consistent with the Tree Survey, see submittal requirements in Section 8)

| Trees proposed for removal | | | lo | Trees <u>not</u> proposed for removal but cated within 10 feet of Construction Activity | ** |
|----------------------------|---------|------|----|--------------------------------------------------------------------------------------------|------|
| # | Species | dbh* | # | Species | dbh* |
| 1 | | | А | | |
| 2 | | | В | | |
| 3 | | | С | | |
| 4 | | | D | | |
| 5 | | | Е | | |
| 6 | | | F | | |
| 7 | | | G | | |

Reason for removal/impacting of trees:

****** Construction Activity: Any proposed building, driveway, path, deck, construction vehicle route, sidewalk improvement, grading, or demolition.

^{*} *dbh*: "diameter at breast height" is determined by measuring the trunk at 4'-6" from the ground. Multi-trunked trees are measured by combining the diameters of all trunks at 4'-6" from the ground.

7. CREEK PROTECTION ORDINANCE

Pursuant to the Creek Protection, Storm Water Management and Discharge Control Ordinance (§13.16 O.M.C.) a Creek Protection Permit is required for any proposed construction activity occurring on a Creekside property. The extent to which your development will be regulated by the Creek Protection Ordinance depends upon the location and type of proposed work.

WHAT IS A CREEK?

"A **Creek** is a watercourse that is a naturally occurring swale or depression, or engineered channel that carries fresh or estuarine water either seasonally or year around."

A creek must include the following two components:

- 1. The channel is part of a contiguous waterway. It is hydrologically connected to a waterway above or below the site or is connected to lakes, the estuary, or Bay. Creek headwaters, found at the top of watersheds, are connected in the downhill direction. Additionally, creeks in Oakland are often connected through underground culverts. Only the open sections of creeks are subject to the permit, and
- 2. There is a creek bed, bank and topography such as a u-shape, v-shape channel, ditch or waterway (identified through field investigation, topographical maps, and aerial photos). To help with identification in the field a creek may also have the following features (the absence of these features does NOT mean there is no creek):
 - A riparian corridor, which is a line of denser vegetation flowing downhill. This is sometimes missing due to landscaping or vegetation removal practices, landslide or fire.
 - The channel has a bed with material that differs from the surrounding material (i.e. more rocky, or gravelly, little or no vegetation).
 - There are man-made structures common to waterways, for example bank retaining walls, trash racks, culverts, inlets, rip rap, etc.

I ATTEST THAT: (check one)

- □ (1) <u>I do not know if there is a Creek on or near the proposed project site.</u> I have submitted a request for a Creek Determination by the City of Oakland (separate form and fee required).
- □ (2) <u>No Creek exists on or near the project site;</u> (check one)
 - □ (a) Based on my review of the characteristics of the project site, as well as all relevant maps and plans, and the Creek Determination criteria provided in the "What is a Creek?" section above; or
 - **(**b) Based on the attached report prepared by a relevant licensed professional.

However, if the City determines that a Creek exists on or near the project site, a Creek Protection Permit is required.

(3) <u>A Creek DOES exist on or near the project site and;</u> (check one)

- □ (a) The proposed project only entails <u>interior</u> construction and/or alterations (including remodeling), and therefore requires a <u>Category 1 Creek Permit</u> (this is a no fee permit and only requires distribution of educational materials); or
- □ (b) The proposed project entails exterior work that <u>does not</u> include earthwork and is located more than 100 feet from the centerline of the Creek, and therefore requires a <u>Category 2 Creek Permit</u> (this permit requires a site plan and distribution of educational materials); or
- □ (c) The proposed project entails (a) exterior work that is located between 20 feet from the top of the Creek bank and 100 feet from the centerline of the Creek, and/or (b) exterior work that includes earthwork involving more than three (3) cubic yards of material located beyond 20 feet from the top of the Creek bank, and therefore requires a <u>Category 3 Creek Permit</u> (this permit requires a site plan and creek protection plan and may require environmental review); or
- □ (d) The project entails exterior work conducted from the centerline of the Creek to within 20 feet from the top of the Creek bank, and therefore requires a <u>Category 4 Creek Permit</u> (this permit requires a site plan and creek protection plan and may require environmental review and a hydrology report).

The Creek Permit requirements for your project are subject to verification by the City of Oakland and may differ from what you have indicated above. Additionally, you are responsible for contacting and obtaining all required permits from the relevant state and federal permitting agencies for Category 3 and Category 4 Creek Permits.

8. HAZARDOUS WASTE AND SUBSTANCES STATEMENT

| STATE COVERNMENT CODE SECTION 65962.5 (f): Before a lead agency accepts as complete an application for any developm | nent |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| project which will be used by any person, the applicant shall consult the lists sent to the appropriate city or county and shall subn | nit a |
| signed statement to the local agency indicating whether the project and any alternatives are located on a site that is included on any of | f the |
| lists compiled pursuant to this section and shall specify any list. | |
| Please refer to the following State-maintained websites: | |
| https://calepa.ca.gov/SiteCleanup/CorteseList/ | |
| http://geotracker.waterboards.ca.gov/ | |
| or contact the CalEPA at (916) 323-2514 to determine if your project is on any list of properties containing hazardous waste, to substances or underground fuel tanks. <u>NOTE: YOU MUST REVIEW ALL LISTS</u> | oxic |
| L have reviewed ALL the lists and my site does not appear on them (sign below). City Verification Required | |
| My site does appear on the list(s) (please complete the following statement and sign below). | |
| HAZARDOUS WASTE AND SUBSTANCES STATEMENT | |
| Name of applicant: | |
| Applicant's address: | |
| Phone number: | |
| Address of site on list: | |
| Local agency (city/county): | |
| Specify any list pursuant to Section 65962.5 of the Government Code: | |
| Regulatory identification number: | |
| Date of list: | |
| Status of regulatory action: | |
| | |
| | |
| Signature of Owner or Authorized Agent Date | |
| _ | |
| | |

9. **RECYCLING SPACE REQUIREMENTS**

Applicants are required to provide sufficient space for the storage and collection of recyclable materials to comply with Ordinance No. 11807 – Recycling Space Allocation Requirements. This space should be in addition to that provided for garbage service.

Affected projects:

- 1. New multifamily buildings in excess of five (5) units
- 2. New commercial and industrial projects that require a building permit
- 3. New public facilities
- 4. Additions and alternations for a single or multiple permits that add 30% or more to the gross floor area

Requirements:

For residential projects, two (2) cubic feet of storage per unit, with a minimum requirement of not less than ten (10) cubic feet. Additionally, Oakland Municipal Code Section 8.28.140 requires the provision of 32 gallons or 4.3 cubic feet of storage per unit for garbage. For affected commercial, industrial and public facility project, two (2) cubic feet of storage and collection space per each one thousand (1,000) square feet of the total gross building footage, with a minimum requirement not less than ten (10) cubic feet. For these projects, the space for storage and collection of garbage varies based on the type and operation of the facility. Space for storage of recyclables should be separated into the following categories: paper and cardboard (mixed together); plastic bottles, glass bottles and metal cans (mixed together); and organics/plant material.

10. GREEN BUILDING ORDINANCE

If GreenPoint Rater is required, this sheet must be filled in and signed by the GreenPoint Rater along with the checklist and is due at the Intake appointment or over the counter approval, the submittal will not be accepted if this is not complete at intake and the applicant will need to come back for another appointment.

If there is an addition and/or remodel that total over 1,000 square feet, the project is over 1,000 square feet, or there is a new unit; a GreenPoint Rater is required. Please read the guidelines from the code as listed below.

Pursuant to the Ordinance 'Sustainable Green Building Requirements for Private Development,' (Chapter 18.02 of the Oakland Municipal Code), a Green Building Permit is required for any proposed construction activity within certain categories. The extent to which your development will be regulated by the Green Building Ordinance depends upon the location, type of proposed work, and size of proposed work.

A. PROPERTY ADDRESS:

| B. | PROJECT TYPE OF DEVELOPMENT (check one): New Construction Existing Building Historic | New Construction-Mixed Use Tenant Improvement Landscape Project | AdditionRemodel | |
|----|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|--------------------------------------------|--|
| C. | TOTAL NEW AND ALTERED FLOOR AREA (square feet): | | | |

I, THE APPLICANT/OWNER, ATTEST THAT: (check one)

- (1) I have reviewed the Green Building Ordinance and the project **DOES NOT** fall within the list of applicable project types.
- (2) I have reviewed the Green Building Ordinance and the project <u>MUST</u> comply with the ordinance, AND I'm submitting the required additional green building materials with this application.
- (3) I have reviewed the Green Building Ordinance and the project must comply with the ordinance, AND I'm submitting the required additional green building materials with this application, but a GreenPoint Rater or LEED AP is not required as the project uses the Small Commercial Checklist or the Bay Friendly Basic Checklist.

D. Name of Greepoint Rater (required for Greenpoint Rated Projects)*:______

Name of LEED Accredited Professional (AP)(required for LEED projects) *

MAILING ADDRESS:

PHONE: _____ E-MAIL: _____

RATING SYSTEM:

OF POINTS THE PROJECT IS ANTICIPATED TO RECEIVE:

E. GREEN BUILDING FEATURES NOT SHOWN ON PLANS BUT PART OF CHECKLIST (include additional sheets if needed):

I, hereby certify under the penalty of perjury that I have reviewed the project and appropriate checklist and attest that to the best of my knowledge the proposed project would likely comply with the City of Oakland's Green Building Ordinance and attain green building certification. I, hereby further certify under the penalty of perjury, that I: 1) have no vested financial interest in the project other than my green building services, 2) have reviewed the project and appropriate green building checklist, and 3) attest that to the best of my knowledge the proposed project would likely comply with City of Oakland's Green Building Ordinance and attain green building certification.

X

Signature of the GreenPoint Rater or LEED Accredited Professional

Date

This permit is issued pursuant to all provisions of City of Oakland Ordinance No. 13040 C.M.S., "Sustainable Green Building Requirements for Private Development." This permit is granted upon the express condition that the permittee shall be responsible for all claims and liabilities arising out of work performed under this permit or arising out of permittee's failure to perform the obligations with respect to this permit. The permittee shall, and by acceptance of this permit agrees to defend, indemnify, save and hold harmless the City, its officers and employees, from and against any and all suits, claims or actions brought by any reason for or on account of any bodily injuries, disease or illness or damage to persons and/or property sustained or arising in the construction of the work performed under this permit or in consequence of permittee's failure to perform the obligations with respect to this permit. Violations of the provisions of the Green Building Ordinance are subject to fines and penalties specified under Section 20-3.030 of the Ordinance.

| TO BE COMPLETED BY CITY STAFF: | |
|-------------------------------------------------------------------|---------------------------------------------------------------|
| CASE NUMBER(S): | CASE PLANNER'S NAME: |
| Note to Case Planner: Please route a copy of this form to the gro | een building coordinator in the Planning and Zoning Division. |

11. PUBLIC ART FOR PRIVATE DEVELOPMENT REQUIREMENTS

Effective February 9, 2015, Ordinance No. 13275 requires a public art allocation for <u>private</u> developments. (OMC Chapter 15.78). The following reflects the Ordinance updated through Ordinance No. 13491, which was adopted by the City Council on June 15, 2018.

| Applicant information | Project information |
|-----------------------|-------------------------------|
| Name: | Address: |
| Phone: | Number of dwelling units: |
| Email: | Floor area of nonresidential: |
| | Floor area of residential: |

Applicability

The public art for private development requirement applies to:

- 1) Private <u>non-residential</u> developments of 2,000 square feet or more of new floor area that are subject to Regular Design Review approval; and
- 2) Private residential developments of 20 or more new dwelling units that are subject to Regular Design Review approval.

The public art requirements do not apply to affordable housing if the developer demonstrates that they would cause the project to be economically infeasible.

Contribution Requirements

- 1) For non-residential developments, at least 1.0% of "building development costs."
- 2) For residential developments, at least 0.5% of "building development costs."

The "building development cost" is the construction cost declared on the building permit application and accepted by the Building Official.

CHECK ONE OF THE FOLLOWING COMPLIANCE METHODS:

| On-site | Art in the public | In-lieu | Combination of in- | Contribution to | Not applicable |
|---------|---------------------|--------------|--------------------|---------------------|----------------|
| art | right of way within | contribution | lieu payment and | City-owned art | |
| | .25 miles from the | | on-site cultural | facility within 0.5 | |
| | site | | space and/or art | miles from site | |
| | | | gallery | | |

Compliance Methods

Compliance with art requirement shall be demonstrated when filing the Building Permit application through one of the following:

- An approved public art plan and contractual agreement to install the artwork at the site or in the public right of way within .25 miles from the site. Note that development in the public right of way requires additional permits and approval from the City's Public Art Advisory Committee. The installation of the artwork must be complete prior to issuance of certificate of occupancy; or
- 2) Full payment of an in-lieu contribution; or
- 3) Provide <u>up to 75%</u> of the contribution as follows, with the remaining to be fulfilled through an in-lieu payment*:
 - a. Space within the development project that is generally open to the public during regular business hours for use as a rotating art gallery can satisfy <u>up to 25% of total contribution</u>; and/or
 - b. A minimum of 500 square feet of arts and cultural programming space within the development that is made available to the public can satisfy <u>up to 50% of the total contribution</u>; or
- 4) Capital improvements to a City-owned arts facility(s) within 0.5 miles of the development.

*All proposals must be approved by the City in advance. Please contact Kristen Zaremba, the Public Art Coordinator, at <u>kzaremba@oaklandca.gov</u> or (510)238-2155 for more information regarding approval of a public art plan or compliance requirements.

I, hereby certify under the penalty of perjury that I have reviewed the project and appropriate checklist and attest that to the best of my knowledge the proposed project would likely comply with the City of Oakland's Public Art Requirements Ordinance.

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12. RESIDENTIAL TENANT PROTECTIONS

The City of Oakland has laws to protect residential tenants, including the Rent Adjustment Ordinance (OMC Chap. 8.22, Article I), Just Cause Eviction Ordinance (OMC Chap. 8.22, Articles II & III), Tenant Protection Ordinance (OMC Chap. 8.22, Article V) and Code Compliance Relocation Ordinance (OMC Chap. 15.60). These laws may apply to development projects under certain circumstances.

| | Yes | No |
|-------------------------------------------------------------------------------------------------------------|-----|----|
| A. Will the project affect existing residential units on the site, including Live/Work Units, | | |
| Work/Live Units, Joint Living and Working Quarters, or unpermitted units? | | |
| ➢ If "Yes," go to Question B. | 3 | |
| If "No," you do not need to complete the remainder of this section. | | |
| B. Are there existing residential tenants in the affected residential units, including Live/Work | | |
| Units, Work/Live Units, Joint Living and Working Quarters, or unpermitted units; or did | | |
| residential tenants occupy the affected residential units within the past 5 years? | | |
| ➢ If "Yes," go to Question C. | - | - |
| If "No," you do not need to complete the remainder of this section. | | |
| C. Will existing residential tenants in the affected residential units, including Live/Work Units, | | |
| Work/Live Units, Joint Living and Working Quarters, or unpermitted units, be | | |
| temporarily or permanently evicted or relocated due to the project, or were residential | | |
| tenants previously occupying the affected units within the past 5 years temporarily or | | |
| permanently evicted or relocated due to the project? | | |
| ➢ If "Yes," provide the information below about these units and complete the remainder of | | |
| this section. | | |
| 1) Number of Affected Units: | | |
| 2) Number of Affected Tenants: | | |
| If "No," you do not need to complete the remainder of this section. | | |
| D. Replacement Unit Determination (Housing Crisis Act of 2019) | | |
| Have any dwelling units on the property been subject to a recorded agreement restricting rents by | | |
| affordability at any time during the past five years? | | |
| Have any existing dwelling units or dwelling units demolished in the past five years received a | | |
| Certificate of Occupancy issued before January 1, 1983? | | |
| Have any existing or demolished dwelling units been occupied by persons other than the property | | |
| owner within the past five years? If "Yes," provide documentation to verify occupants' income. | | |
| Have any existing or demolished dwelling units been withdrawn from the rental market in the past ten years? | | |
| | | |
| E. Project Information (to be completed if any questions above are marked "Yes"): | | |

- 1) Property Address: ____
- 2) Assessor's Parcel Number:
- 3) Applicant's Name:
- 4) Applicant's Address:
- 5) Applicant's Phone: ______6) Applicant's Email: _____

Existing and former tenants on the site may be entitled to protections and benefits, including relocation payments and the right to return to previous units. The property owner may be required to submit evidence of compliance with applicable tenant protection laws upon the request of the City. For more information, please contact the Oakland Housing Assistance Center: 250 Frank H. Ogawa Plaza, 6th Floor, Oakland, California, 94612; (510) 238-6182.

I, hereby certify under the penalty of perjury that I have reviewed the information presented in this section and certify that the information presented is true and accurate to the best of my knowledge.

| X | | | |
|---------------------------------|-----------------------------------------------|------------------------------------------------|---|
| Signature of Applicant | | Date | |
| To be completed by staff: | | | |
| Case Number(s): | Case Planner's Name: | Date: | |
| Note to Case Planer: If any Oue | stions above are marked "Yes." please route a | copy of this page to the Housing and Community | , |
| Development Department. | ····· ··· ··· ··· ··· ··· ··· ··· ··· | | |

13. EQUITABLE CLIMATE ACTION PLAN CONSISTENCY

The California Environmental Quality Act (CEQA) requires the analysis of greenhouse gas (GHG) emissions and potential climate change impacts from new development. The Oakland 2030 Equitable Climate Action Plan (ECAP) serves as a citywide plan for the reduction of GHG emissions and may be used in qualitative cumulative impact analysis pertaining to development projects. Projects that demonstrate consistency with the ECAP will be considered to have no significant environmental effect pertaining to greenhouse gas emissions. Projects that do not demonstrate consistency may, at the City's discretion, prepare a more comprehensive project-specific analysis of GHG emissions consistent with CEQA requirements.

I, THE APPLICANT/OWNER, HAVE REVIEWED THE ECAP CHECKLIST AND TO THE BEST OF MY KNOWLEDGE BELIEVE THE FOLLOWING APPLIES TO THE PROJECT: (check one)

- (1) The project demonstrates consistency with the ECAP through the ECAP Checklist, which I am submitting with this application.
- (2) The project does not demonstrate consistency with one or more items on the ECAP Checklist, which I am submitting with this application, and the GHG Standard Condition of Approval will apply to the project.
- (3) The project is exempt from CEQA analysis or otherwise is not required to demonstrate consistency with the ECAP.

(Case Planner and Environmental Review Officer to Verify)

14. COMMUNITY ENGAGEMENT

Although community engagement is important for all development projects requiring discretionary approval, it is especially important for larger projects, controversial projects, and projects with the potential to cause substantial community impacts. Applicants proposing the following project types will be <u>required</u> to submit a written statement to the City describing the community engagement efforts undertaken to date:

| | Yes | <u>No</u> |
|---------------------------------------------------------------------------------------|-----|-----------|
| A. Does the application involve any of the following? | | |
| • New residential project with 100 or more dwelling units; | | |
| • New nonresidential project with 100,000 square feet or more of floor area; | | |
| • New Planned Unit Development (PUD); | | |
| • New subdivision of 25 or more lots; | | |
| • Proposed regulatory change (Development Agreement, Rezoning, and/or General Plan | | |
| Amendment); or | | |
| • Any other new project requiring discretionary approval that the Planning Bureau has | | |
| determined may potentially cause substantial community impacts. | | |
| | | |
| ➢ If "Yes," complete Section B below. | | |

B. Community Engagement Efforts. Please summarize community engagement efforts undertaken to date concerning the project, community input received concerning the project, and how the project has or has not been modified in response to community input (attach additional sheets if necessary):

15. SUBMITTAL REQUIREMENTS: WHAT TO SUBMIT

The following information and drawings must be included in the submittal package for your application. Planning staff reserves the right to require additional plans and information as needed for certain development proposals.

The following items are required for <u>ALL</u> applications unless otherwise noted. Each and every item is required at the time of application submittal. APPLICATIONS WITH MISSING ITEMS WILL NOT BE ACCEPTED. All fees are due at the time of application submittal. Unless otherwise noted, all documents must be submitted electronically.

(1) Basic Application for Development Review

This application form signed and completed (including impervious surface, protected tree, creek information, the Hazardous Waste and Substances Statement, and green building sections). Clear and legible scanned copies or copies with secure electronic signatures are required.

(2) Supplemental Forms and Findings

- Explanation describing how the proposal complies with City requirements (forms provided by staff).
- DRX, DS, DR, or SP supplemental findings.
- □ CUP and/or Variance supplemental findings.
- □ TPM/TTM supplemental findings.
- □ Other extra CUP or DR findings, such as alcohol, ground floor use, extra units, telecom (mini, micro, macro), etc.
- □ Specific Plans Design Guidelines Checklist (Broadway Valdez District, Central Estuary, Lake Merritt Station, or West Oakland).
- □ Affordable Housing Density Bonus Requirements and Checklist.
- Oakland 2030 Equitable Climate Action Plan (ECAP) Consistency Checklist

(3) Assessor's Parcel Map

Available at the City of Oakland Engineering Services or Zoning counters, the County Assessor's Office, 1221 Oak St. or the County Assessor's website at http://acgov.org/MS/prop/index.aspx

(4) Photographs

- □ Color photographs showing the existing structure or lot as seen from across the street and from the front, side and rear property lines. Label each photograph with the view pictured (e.g., front, side, rear, across the street).
- □ Color photographs showing the 20 nearest neighbors from the street (5 nearest lots on either side, 10 nearest lots across the street). Label each photograph with the address pictured.

(5) Plans (see supplemental requirements for all Tentative Parcel Map (TPM), Tentative Tract Map (TTM), Parcel Map Waiver (PMW) applications).

- Full-sized plans and reduced plans (11" x 17") are required for all applications. For Major Permits, a color 11"x17" rendering <u>MUST</u> be submitted.
- Include north arrow, date prepared and scale.
- Acceptable drawing scales are: 1/4" = 1', 3/16" = 1', 1/8" = 1', and 1" = 10'. Other scales may be appropriate, but should be discussed with Planning staff before filing. Also, please limit the range of scales used, so Planning staff can more easily analyze your project in relation to adjacent properties.
- Include the name and phone number of person preparing the plan(s). As appropriate or required, include the stamp and "wet signature" of any licensed architect, landscape architect, surveyor and/or civil engineer preparing final plans.
- Show all encroachments over the public Right-of-Way.
- All submittals are required to provide an electronic submission of all the required submittal items at time of intake. Plan sets will have two copies submitted, one (1) low resolution and one (1) high resolution in .PDF format. Each item will be scanned separately and clearly identified. For each revision of the project, the applicant will be required to submit an electronic submittal of all the material being revised as directed by Planning staff.
- (a) **Survey** (required only for the following project types listed below)
 - Must be no more than 3 years old from the time of submittal date of survey must be included.
 - Must be prepared by a California State licensed Land Surveyor or by a Civil Engineer with a license number below 33966 (licensed prior to January 1, 1982).
 - Include the wet stamp and signature of the Land Surveyor or Civil Engineer who prepared the survey.
 - Include the applicable surveyor's statement in accordance with the Professional Land Surveyors Act.
 - In addition to paper copies, the survey must also be submitted on a CD.
 - Required for all new buildings and >100% footprint additions to existing buildings (except small non-habitable buildings):

- □ Full boundary & topographic survey with field-verifiable monuments set or found by the surveyor.
- □ Location, dimensions, and dimensions to property lines of all existing buildings and similar structures.

Required for any building or addition within any required setback:

- □ Applicable line survey with field-verifiable monuments set or found by the surveyor.
- Location, dimensions, & dimensions to property line of existing buildings & similar structures adjacent to relevant property line.

Required for any building or addition located on a lot with a slope of 20% or more:

- Site topography for all areas of proposed work and for all existing driveways, buildings, and similar structures.
- □ Location and dimensions for all existing driveways, buildings, and similar structures.

(b) Site Plan

- Location and dimensions of all property boundaries.
- □ Location and dimensions of all existing and proposed buildings, decks, stairs, and patios.
- Dimensions of all existing and proposed building setbacks from property lines.
- □ Location of building footprints and approximate height of buildings on adjacent lots.
- □ Location, dimensions, and paving materials of all adjacent sidewalks, curbs, curb-cuts (including curb-cuts on adjacent neighbor's lots), and streets.
- Location and dimension of all existing and proposed driveways, garages, carports, vehicle parking spaces, bicycle parking spaces, maneuvering aisles, wheel-stops, pavement striping/marking, and directional signage. Indicate existing and proposed paving materials.
- □ Location, height, and building materials of all existing and proposed fencing and walls.
- □ Location, height (including top and bottom elevation measurements), and building materials of all existing and proposed retaining walls.
- □ Location and size (dbh) of all existing trees and indication of any trees to be removed, include trees on neighboring properties that are within 10 feet of construction.
- Location of drainage ways, creeks, and wetlands (check with the Engineering Services Division for this information)
- □ Roof plan showing roof slope and direction, and location of mechanical equipment, ducts, and vents.
- □ For projects located on a lot with a slope of 20% or more: Show existing and proposed topographic contours overlaid with proposed roof plan and indicating roof ridge spot elevations.
- For multi-family residential projects: Show the location, dimension, slope, and site area of all existing and proposed Group Usable Open Space and Private Usable Open Space, including a summary table of site area.
- □ For projects in all Residential, Commercial, and Industrial Zones, including the CIX-1A Zone, show any building to be demolished, both historic and non-historic.
- □ Location and size of storage area for recycling containers (see page 7 for more information).
- □ (c) Landscape Plan (required for new buildings, new dwellings, residential additions of more than 500 sq. ft., and nonresidential additions of more than 1,000 sq. ft.)
 - □ Indicate any existing landscaping and new landscaping.
 - □ Indicate the size, species, location, and <u>method of irrigation</u> for all plantings.
 - □ Include the square footage of new landscaping, if over 500 square feet or over 2,500 square feet of new landscaping please provide all requirements per the Water Efficiency Landscape Ordinance (WELO), visit <u>https://water.ca.gov/LegacyFiles/wateruseefficiency/docs/MWELO09-10-09.pdf</u>
 - □ Include all existing and proposed groundcovers, driveways, walkways, patios, and other surface treatments.

d (d) **Floor Plan**

- □ Include complete floor plan of all floors of entire building, including existing and proposed work.
- □ Label all rooms (e.g., bedroom, kitchen, bathroom), and include dimensions of room sizes.
- □ Show the location of all existing and proposed doors, windows, and walls.
- Location of and distance to all adjacent property boundaries.
- □ <u>For non-residential projects:</u> show all existing and proposed seating areas, mechanical/kitchen equipment, and/or other major functional components of the proposed project.
- (e) **Elevations** (required only for new construction, additions, or exterior alterations)
 - □ Show all structure elevations (front, sides and rear) that will be affected by the proposed project.
 - **•** <u>For additions/alterations:</u> label existing and new construction, as well as items to be removed.
 - Identify all existing and proposed exterior materials including roofing, roof eaves, eave brackets, siding, doors, trim, sills, windows, fences, and railings. Show details of proposed new exterior elements, including a complete window and door schedule.
 - □ Show any exterior mechanical, duct work, and/or utility boxes.
 - □ Include dimensions for building height and wall length.
- (f) **Cross Sections** (required only for buildings or additions located on a lot with a slope of 20% or more)
 - □ Include all critical cross sections, including at least one passing through the tallest portion of the building.
 - □ Include floor plate and roof plate elevation heights.

- Location of and distance to all adjacent property boundaries.
- □ Label the location of the cross-sections on the site plan.
- (g) **Tree Survey** (required only for projects which involve a Tree Preservation/Removal Permit [see page 5])
 - Include north arrow, date prepared and scale (Tree Survey should be drawn to the same scale as the Site Plan).
 - Include the name & phone number of person preparing the plan(s). As appropriate or required, include the stamp & "wet signature" of any licensed architect, landscape architect, surveyor and/or civil engineer preparing final plans.
 - □ For new construction on an undeveloped lot: include the stamp and "wet signature" of the licensed architect, landscape architect and/or civil engineer preparing the survey.
 - □ Indicate the size (dbh), species, and location of all protected trees within 30 feet of development activity on the subject lot, regardless of whether or not the protected trees are included on any tree preservation/removal permit application.
 - □ Label all protected trees that are located within 10 feet of construction (including trees located on neighbor's properties or the adjacent public right-of-way) with the matching number or letter from the Tree Preservation/Removal Permit application (see section 6 of this application).

(h) Shadow Study (for DS-III projects and other two-story DR projects for one- and two-units)

- □ Include a roof plan of proposed house/addition with adjacent homes and show the shadows at different times of the day as shown in the Design Review Manual for One- and Two-Unit Residences on page 2.1 and 2.2.
- (i) **Grading Plan** (required only if the project proposes any site grading)
 - □ Show proposed grading plan and/or map showing existing and proposed topographic contours (this may be combined with the Site Plan for small projects with only minor grading).
 - □ Include an erosion & sedimentation control plan.
 - □ Include a summary table of all proposed excavation, fill, and off-haul volumes.

The following are required only for non-residential, mixed-use, and/or multi-family residential projects.

- (j) **Sign Plan** (required only for non-residential and mixed-use projects)
 - □ Include fully dimensioned color elevations for all proposed signs.
 - □ Indicate proposed sign location(s) on site plan.
 - \Box Indicate proposed material(s) and method of lighting for all proposed signs.
- (k) Lighting Plan (required only for non-residential, multi-family residential, and mixed-use projects)
 Show the type and location of all proposed exterior lighting fixtures (this may be combined with the Site Plan for small projects).
- □ (1) Materials & Color Board (required only for non-residential, multi-family residential, and mixed-use projects involving new construction or an addition/alteration that does not match existing materials and colors).
 - Limit board(s) to a maximum size of 9" x 12". Large projects (generally more than 25 dwelling units or 50,000 square feet of floor area) should also submit a large sized materials & color board (24" x 36") for use at public hearings.
 - □ Include samples of proposed exterior building materials and paint colors.
 - □ Include manufacturer's brochures as appropriate.
- □ (m) **Three-dimensional Exhibits** (required only for large projects with more than 25 dwelling units or 50,000 square feet of floor area).
 - Provide color perspective drawings showing the project from all major public vantage points, or provide a scale model of the proposed project.

□ (6) **Preliminary Post-Construction Stormwater Management Plan*** (required only for "Regulated Projects" subject to NPDES C.3 stormwater requirements [see page 4 for more information])

- Show location and size of new and replaced impervious surface.
- □ Show directional surface flow of stormwater runoff.
- □ Show location of proposed on-site storm drain lines.
- □ Show preliminary type and location of proposed site design measures, source control measures, and stormwater treatment measures.
- □ Show preliminary type and location of proposed hydromodification management measures (if applicable).
- * Please refer to the Stormwater Supplemental Form for more information concerning NPDES C.3 requirements. The Stormwater Supplemental Form must also be submitted with the application.
- □ (7) **Preliminary Title Report or deed not more than 60 days old** (required for all Tentative Parcel Map (TPM), Tentative Tract Map (TTM), Parcel Map Waiver (PMW), Rezoning, and General Plan Amendment applications, and any application where the owner information does not match the current Alameda County Assessor's records)
- (8) Fees (all fees are due at the time of application submittal)

- Additional fees may be required if the project changes or based on staff's environmental determination.
- (9) Additional Telecom Information Required (See full requirements in Chapter 17.128 in the Oakland Planning Code)
 For Telecom facilities on private property, for the whole parcel, indicate the total number of existing and proposed antennas and equipment cabinets, their location, and the carriers they serve (please include <u>all</u> wireless carriers). Also indicate area, height, and width of all equipment cabinets and antennas (existing and proposed).

Additional Telecom CUP & DR findings for either: Mini, Micro, Macro, Monopole, or Tower (See definitions in 17.10.860).

□ For Small Wireless Facilities (SWF) in the public right-of-way, complete the SWF Design Guidelines Checklist.

□ Include Radio Frequency emissions report (RF), see Section 17.128.130 and the SWF Design Guidelines Checklist for requirements.

□ If a revision, please include previous approved case number if applicable and can be obtained.

□ If swapping out & replacing existing antennas, include existing & proposed heights of antennas (per Federal Section 6409).

(10) Replacement Unit Documentation

□ Information to prove vacancy or occupancy status of existing units or units demolished within the past five years. Examples include utility bills, property tax bills, IRS forms with W2s, lease agreements.

(11) Transportation Demand Management (TDM) Plan (required for all project generating 50 or more net new a.m. or p.m. peak hour vehicle trips)

TDM Plan requirements are provided in the City of Oakland Transportation Impact Review Guidelines.

For any questions regarding this application, contact us via our Permit & Services Questions Portal or call the Zoning Information Line below.

Zoning Information Line:

(510) 238-3911 Mon, Tues, Thurs & Friday: 9am-Noon & 1pm-4pm Wednesday 9:30am-Noon & 1pm-4pm

Planning & Building Department website: https://www.oaklandca.gov/departments/planning-and-building

Rev Aug 2022

CONDITIONAL USE PERMIT INFORMATION

What is a Conditional Use Permit? The Zoning Ordinance describes two different types of uses in each zoning district: 1) permitted uses; and 2) conditional uses. Conditional uses are those which require special consideration from the City. The Conditional Use Permit (CUP) process provides the City with the flexibility to determine if a specific use at a certain location will be compatible with the neighborhood.

In reviewing a CUP, the Planning Department relies upon the specific findings of Section 17.134.050 of the Zoning Ordinance.

REQUIRED C.U.P. FINDINGS PURSUANT TO SECTION 17.134.050

Conditional Use Permits are granted only when all of the following findings can be made:

| Compatible with the Neighborhood | That the location, size, design, and operating characteristics of the proposed development will be compatible with and will not adversely affect the livability or appropriate development of abutting properties and the surrounding neighborhood, with consideration to be given to: |
|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | harmony in scale, bulk, coverage, and density; to harmful effect, if any, upon desirable neighborhood character; the generation of traffic and the capacity of surrounding streets; and any other relevant impact of the development. |
| An Asset for the Neighborhood | That the location, design, and site planning of the proposed development will provide a convenient and functional living, working, shopping, or civic environment, and will be as attractive as the nature of the use and its location and setting warrant. |
| Enhances the Area | That the proposed development will enhance the successful operation of the surrounding area in its basic community functions, or will provide an essential service to the community or region. |
| Meets Design Review Standards | That the proposal conforms to all applicable Regular Design Review criteria set forth in the design review procedure in Section 17.136.050. |
| Complies with the General Plan and other adopted City Plans | That the proposal conforms in all significant respects with the Oakland General Plan and with any other applicable plan or development control map which has been adopted by the City Council. |



CITY OF OAKLAND CONDITIONAL USE PERMIT FINDINGS

The Zoning Ordinance describes two different types of uses in each zoning district: 1) permitted uses; and 2) conditional uses. Conditional uses are those which require special consideration from the City.

The Conditional Use Permit (CUP) process provides the City with the flexibility to determine if a specific use at a certain location will be compatible with the neighborhood. Conditional Use Permits can only be granted if all of the following general Use Permit findings from Section 17.134.050 can be made:

Please indicate the way in which the proposal meets the following required criteria. Attach additional sheets if necessary.

A. The location, size, design, and operating characteristics of the proposed development will be compatible with, and will not adversely affect, the livability or appropriate development of abutting properties and the surrounding neighborhood, with consideration to be given to harmony in scale, bulk, coverage, and density; to the availability of civic facilities and utilities; to harmful effect, if any upon desirable neighborhood character; to the generation of traffic and the capacity of surrounding streets; and to any other relevant impact of the development:

B. The location, design, and site planning of the proposed development will provide a convenient and functional living, working, shopping, or civic environment, and will be as attractive as the nature of the use and its location and setting warrant:

C. The proposed development will enhance the successful operation of the surrounding area in its basic community functions, or will provide an essential service to the community or region:

D. The proposal conforms with all applicable Regular Design Review criteria set forth in Section 17.136.050 of the Oakland Planning Code:

E. The proposal conforms in all significant respects with the Oakland General Plan and with any other applicable plan or development control map which has been adopted by the City Council.

- F. <u>For proposals involving a One- or Two-Family Residential Facility:</u> If the Conditional Use Permit concerns a regulation governing maximum height, minimum yards, or maximum lot coverage or building length along side lot lines, the proposal also conforms with at least <u>one</u> of the following criteria:
- 1. The proposal when viewed in its entirety will not adversely impact abutting residences to the side, rear, or directly across the street with respect to solar access, view blockage and privacy to a degree greater than that which would be possible if the residence were built according to the applicable regulation, and, for conditional use permits that allow height increases, the proposal provides detailing, articulation or other design treatments that mitigate any bulk created by the additional height;

- OR -

2. At least sixty (60) percent of the lots in the immediate context are already developed and the proposal would not exceed the corresponding as-built condition on these lots, and, for conditional use permits that allow height increases, the proposal provides detailing, articulation or other design treatments that mitigate any bulk created by the additional height. The immediate context shall consist of the five closest lots on each side of the project site plus the ten closest lots on the opposite side of the street (see illustration I-4b); however, the Director of City Planning may make an alternative determination of immediate context based on specific site conditions. Such determination shall be in writing and included as part of any decision on any conditional use permit.


CITY OF OAKLAND JUSTIFICATION FOR GRANTING Non-Residential Design Review

Design Review is intended to ensure high quality attractive designs that will compliment and benefit the surrounding neighborhood and city as a whole. Design Review is primarily focused on site planning and the exterior appearance of structures. This can include things such as architectural style; design quality; building materials; building mass and bulk; façade articulation; landscaping; preservation of sunlight, views, and privacy; screening of parking and loading areas; and other design related issues. Design Review approval can only be granted if all of the following findings can be made.

Please indicate the way in which the proposal meets the following required criteria. Attach additional sheets if necessary.

1. The proposal will help achieve or maintain a group of facilities which are well related to one another and which, when taken together, will result in a well-composed design, with consideration given to site, landscape, bulk, height, arrangement, texture, materials, colors, and appurtenances; the relation of these factors to other facilities in the vicinity; and the relation of the proposal to the total setting as seen from key points in the surrounding area. Only elements of design which have some significant relationship to outside appearance shall be considered:

EBMUD's proposal maintains a group of facilities within the industrial zoning district and improves the streetscape along Mandela Parkway near 26th Street. The height and scale of the project respects other adjacent buildings and improves the visual continuity looking west / southwest from the corner of Mandela and 26th Street. Project siting reflects the direct needs of EBMUD to maximize the usable area available while providing a green landscape buffer between the building façade and sidewalk edge with raised planter beds, new street trees, and the rehabilitation of an existing planter on Mandela Parkway immediately in front of the property between the sidewalk and curb. Building materials, colors, and textures are intended to reflect a clean, contemporary layering of landscaping, staggered concrete wall forms and a dramatic backlit translucent glazed volume to create a glowing "lantern" effect to visually anchor the intersection of Mandela and 26th. Relative to the WOSP, the proposed building forms focus the most distinguished architectural features of the building toward Mandela Parkway as described above.

2. The proposed design will be of a quality and character which harmonizes with, and serves to protect the value of, private and public investments in the area:

The proposed project utilizes very high-quality building materials with extremely high durability and longevity. The scale and height of building forms are in keeping with scale of adjacent industrial buildings in the area while reflecting a decidedly more contemporary aesthetic reflective of our time and EBMUD's corporate image. The project will protect and enhance the value of surrounding buildings and businesses by virtue of the commitment of EBMUD to improve the streetscape along Mandela, 26th, and Willow Streets with landscaping, new sidewalks where none currently exist, continued property maintenance, more security, and long-term occupancy. The project will also bring 49 employees to the neighborhood, consisting of five full-time office staff and 44 crew employees. The entrance on Willow allows more active movement of people and vehicles on the Willow Street corridor, something that has been specifically requested by at least one of the property owners on Willow Street in order to reduce crime and loitering on this corridor.

3. The proposed design conforms in all significant respects with the Oakland General Plan and with any applicable district plan or development control map which has been adopted by the City Council:

The proposed design conforms in all significant respects with the intent and vision of the WOSP. Specifically, the project retains industrial land within the opportunity zone and is compatible with the desire for new developments

to not be speculative in nature, ensures long-term occupancy and property maintenance, and also retains an existing business with well-paid blue-collar jobs in the opportunity zone. Relative to the intent of the WOSP in the CIX-IC zoning district, the project achieves an intensification of use and infill of an existing blighted and underutilized property and has no residential neighbors, making the site conducive to more intensive commercial or industrial use. Relative to land-use policies in the zoning district, the proposal increases parcel utilization; minimizes vacancies in the neighborhood by virtue of EBMUD's long-term occupancy of the site; and brings permanent sidewalk, pedestrian circulation, landscape, and street edge improvements to the opportunity zone. Other components of the WOSP that were considered are that vehicular/service circulation and the primary vehicle entrance to the site are oriented away from Mandela Parkway onto Willow Street. The building footprint comes to the edge of the sidewalk as suggested in the WOSP and maintains continuity of street walls.

Additional criteria for retaining walls:

4. That the retaining wall is consistent with the overall building and site design and respects the natural landscape and topography of the site and surrounding areas;

One retaining wall is needed along the eastern side of the property and will be integrated with the perimeter wall on that side of the property. It will be concrete, consistent with the wall materials, so it will not be visible as a retaining wall. It is needed to respect the elevation differential between EBMUD's property and the neighboring property.

5. That the retaining wall is responsive to human scale, avoiding large, blank, uninterrupted or undesigned vertical surfaces;

The maximum height of the retaining wall (grade differential) is approximately 2 feet.

That the retaining wall respects the natural topography, avoiding obvious scars on the land.
 The wall is required to maintain the current grades on the adjoining property.



CITY OF OAKLAND SUPPLEMENTAL QUESTIONNAIRE FOR PROPOSED ACTIVITIES/USES

The applicant may submit a detailed narrative that addresses the characteristics listed below or complete the following questionnaire. Attach additional pages as needed. This questionnaire is a supplement to the Basic Application for Development Review.

PROJECT ADDRESS: 2430 Willow Street

PROPOSED PROJECT: \boxtimes Establish a New Activity \square Modify an Existing Activity(Check all that apply) \square In an Existing Structure \square In a New or Modified Structure

I. Activities and Users

- 1. Proposed hours and days of operation: Monday through Friday, 6 a.m. to 5 p.m.
- 2. If proposed activity is occasional, how often will the proposed activity occur? N/A
- 3. Is the proposed activity <u>temporary</u> or <u>permanent</u>? (circle one)
- 4. Number of individuals involved with the events or operations (employees, clients, residents, spectators, students, teachers, animals, etc.): 49 employees.
- 5. Will there be other activities on-site? If yes, describe (ex. catering from a restaurant). N/A

Specifically, if the proposal involves <u>Residential Care</u> (or related use), <u>Medical Care</u>, <u>Child Care</u> or <u>Education</u>, describe all services to be provided on-site (for example, tutoring, regular visits by physicians). N/A

- 6. Is the proposed activity part of a master plan or part of a program with multiple sites? If yes, describe. Yes, the activities are associated with existing EBMUD facilities on West Grand and Adeline Street.
- 7. Is the activity <u>for profit</u> or <u>not for profit</u>? circle one)
- 8. Previous use on the project site, and date of closure, if known.

Paper recycling transfer station which closed in 2020. Prior to that, it was an auto salvage yard.

II. Physical Characteristics (All shown on drawings)

In addition to the required detailed site plan, floor plans and exterior elevations, indicate:

- 9. Floor and/or site areas associated with different components of the proposed activity (dining area, kitchen, dance floor, assembly, office, etc.) with total area measurements indicated for each component.
- 10. Location of driveways, parking, walkways, and doorways; show how vehicles and pedestrians will move through the site.
- 11. Proposed exterior lighting, signage, landscaping, screening, recycling and trash storage areas, etc.

III. Parking and Circulation

12. Anticipated number of vehicle or pedestrian trips to the site per day: 85

÷.

- 13. Number of parking spaces on the site or on another site but reserved for the proposed operation *(indicated also on site plan)*: **49 employee parking spaces and 43 District fleet vehicle spaces**.
- If reserved parking is proposed off-site, describe location of parking and distance from the proposed activity and attach copy of off-site parking agreement.
 N/A
- Describe the primary mode of travel (e.g., auto, transit, bike, and walking) the majority of users are likely to use get to the site.
 Primary mode of travel is automobile.

IV. Operations

- Projected volumes of sound in decibels and any soundproofing or noise mitigation measures proposed.
 18-foot-high walls around the entire site act as a noise barrier for the vehicles on the site. 19 gasoline-powered vehicles and 17 diesel-powered vehicles will be stationed at the facility. Excessive idling will not be allowed.
- Provisions for site maintenance or safety (trash cleanup, landscaping maintenance, call boxes, security personnel, caretakers, etc.)
 EBMUD has trash clean-up and landscape maintenance crew and protocols in place. EBMUD intends to monitor the site with cameras and/or security guards.
- 18. Types of materials used in the operation and any waste products created or emitted. Site is primarily a truck yard with some enclosed material storage that includes metal pipes, pipe fittings, and tools for crew use. There are no waste products created or emitted. There is no fuel storage on site.

The above statements represent to the best of my knowledge are accurate.

APPLICANT'S SIGNATURE:

5/19/2023

DATE: _____



CITY OF OAKLAND VARIANCE FINDINGS

REQUEST FOR MINOR VARIANCE FOR 40-FOOT-WIDE DRIVEWAY ENTRANCE/EXIT TO PROPERTY ON WILLOW STREET

A Variance is permission to depart from the development regulations in the zoning district. Variances provide the discretion and flexibility to resolve difficulties or hardships that may be inappropriate where special or extraordinary circumstances occur on the property. These circumstances do not mean economic hardship; rather, they refer to topographic or physical attributes of the site that do not allow for the development standards of the Zoning District to be applied.

Proposals requiring a Variance may only be granted upon determination that the proposal conforms to the following Variance criteria set forth in Section 17.148.050:

Please indicate the way in which the proposal meets the following required criteria. Attach additional sheets if necessary.

1. Strict compliance with the specified regulations would result in practical difficulty or unnecessary hardship inconsistent with the purposes of the Zoning Regulations, due to unique physical or topographic circumstances or conditions of design; or, as an alternative in the case of a minor variance, that such strict compliance would preclude an effective design solution improving livability, operational efficiency, or appearance:

EBMUD requests a minor variance for the width of the driveway on Willow Street.

The primary entrance/exit to the site is located on Willow Street. The parcel has frontage on three rights-of-way: Willow Street, 26th Street, and Mandela Parkway. For consistency with the West Oakland Specific Plan, the project features its most aesthetically dramatic and attractive elements on the parcel's 120-foot frontage on Mandela Parkway. Along the 26th Street frontage that is 200 feet in length, an emergency entrance is proposed. This is not a good location for a primary ingress or egress to the site due to its close proximity to Mandela Parkway. The Willow Street frontage is over 550 feet long and provides the best frontage for ingress and egress to the site since the access point can be located a sufficient distance from either 26th Street or 24th Street to provide for some amount of vehicle stacking and turn movements that do not create gridlock on intersecting streets.

In table 17.73.030 of the Oakland Planning Code, the property development standard for maximum driveway width is 35 feet. The proposed project has one 40-foot-wide driveway on Willow Street. However, it should be noted this is the only driveway that EBMUD proposes on Willow Street. The Willow Street driveway serves as both the primary entrance and exit from the proposed development. Having one 40-foot-wide driveway in lieu of two separate driveways (as would be required if there were two separate vehicle access points to the property) provides the following benefits for the project which would not be realized if two separate access points to the site were created on Willow Street:

- 1. Creates a central driveway on the property for ingress and egress;
- 2. Creates a separation between employee parking and fleet parking/maintenance operations for safety of District personnel;
- 3. Maximizes number of on-site parking spaces for employee and fleet vehicles, eliminating the need for parking on adjoining streets;
- 4. Creates adequate space to accommodate the turning radius for large fleet vehicles as well as emergency vehicles such as fire trucks to access the facility; and
- 5. Creates one central location for security personnel to monitor from the security booth located adjacent to the driveway.

2. Strict compliance with the regulations would deprive the applicant of privileges enjoyed by owners of similarly zoned property; or as an alternative in the case of a minor variance, that such strict compliance would preclude an effective design solution fulfilling the basic intent of the applicable regulation:

As noted in the response to item #1, strict compliance with a maximum driveway width of 35 feet would preclude an effective design solution and limit EBMUD's use of the site. If EBMUD is required to reduce the width of the proposed 40-foot-wide driveway to 35 feet, a second driveway will be required on Willow Street. This will reduce available on-site parking (likely requiring on-street parking); create unsafe vehicle circulation within the site by not being able to separate employee parking from fleet parking; and create more driveways on the EBMUD parcel that do not align with driveways on the west side of Willow Street, thereby creating possible visibility issues and unsafe conditions. This ultimately would not fulfill the basic intent of limiting a driveway width to 35 feet.

3. The variance, if granted, will not adversely affect the character, livability, or appropriate development of abutting properties or the surrounding area, and will not be detrimental to the public welfare or contrary to adopted plans or development policy:

If granted, the requested variance of an additional five feet to create one 40-foot-wide driveway instead of multiple driveways that comply with the 35-foot-wide requirement will not adversely affect the character, livability, or development of the surrounding area. The one driveway used for ingress and egress to the site is situated midway between 26th and 24th Streets, there by not impacting the intersections. One driveway also provides for more landscaping along the Willow Street frontage of the project.

4. The variance will not constitute a grant of special privilege inconsistent with limitations imposed on similarly zoned properties or inconsistent with the purposes of the Zoning Regulations:

If granted, this minor variance will not constitute a special privilege inconsistent with limitations imposed on similarly zoned properties or inconsistent with the purposes of the Zoning Regulations. There are other properties in the zoned area that have driveways wider than 35 feet.

5. That the elements of the proposal requiring the variance (e.g. elements such as buildings, walls, fences, driveways, garages and carports, etc.) conform with the Regular Design Review criteria set forth in the design review procedure at Section 17.136.050:

This minor variance request is for a 40-foot-wide driveway, which is five feet wider than the maximum width allowed by the Oakland Planning Code. In all other respects, the driveway conforms with the Regular Design Review criteria set forth in Section 17.136.050 for non-residential facilities. Providing one entrance/exit driveway on Willow Street instead of two driveways that comply with the 35-foot width requirement provides for an aesthetically attractive façade on Willow Street that provides landscaping to enhance the pedestrian experience. 6. That the proposal conforms in all significant respects with the Oakland General Plan and with any other applicable guidelines or criteria, district plan, or development control map which have been adopted by the Planning Commission or City Council:

The project proposal conforms in all significant respects with the Oakland General Plan and with the West Oakland Specific Plan as noted in the responses above.

In the West Oakland Specific Plan, Appendix A: Design Guidelines, the proposal specifically complies with the following design guidelines applicable to all industrial/business/commercial opportunity areas:

- 1. The project provides sidewalks along 26th Street and Willow Street where none currently exist to promote pedestrian circulation in the area. It should be noted that this property is only accessed by District personnel or delivery trucks; it is not a facility that the general public will come to. Hence, there are no public entries to the site.
- 2. Primary vehicular access to the project is on Willow Street, which ensures that it is not visible from Mandela Parkway and is not prominent. The access on 26th Street is for emergency services only.
- 3. All service areas are screened by the perimeter walls that are proposed.
- 4. No surface parking is visible from any street.
- 5. The project footprint extends to the sidewalk edge on all street frontages.
- 6. The building and site walls relate to others in the neighborhood in scale and materials.
- 7. The massing is composed of simple shapes reflecting the industrial heritage of the area.
- 8. The site development extends to the edge of the sidewalks to maintain the continuity of the area's street walls with inset bays for landscaping.
- 9. Primary building volume along Mandela is single story, built to the sidewalk edge matching other adjacent structures, and has rooftop light monitors creating an interesting roof line and providing natural light to the interior building space.
- 10. The most distinguished feature of the building is oriented toward and visible from Mandela Parkway. It is a dramatic architectural feature that is differentiated from the remaining building volume and site walls and is intended to act as a "lantern" with backlit translucent walls anchoring the important corner of 26th and Mandela.
- 11. Landscaping and flagpoles create a green edge along the Mandela Parkway sidewalk buffering the building face from the street while being compatible with the green median space on Mandela Parkway.
- 12. Proposed building materials are concrete and glass and are modern in their lines and design.
- 13. Walls and volumes are articulated in height and planar orientation and incorporate landscape elements directly into the building facade by means of planters on the sidewalk.
- 14. The project enhances the landscaping in the area for improved aesthetics.
- 15. The project will bring 49 new workers to this area of the West Oakland community.

In addition, the project complies with the West Oakland Specific Plan for the CIX-IC zoning district encouragement for intensification of use and infill of existing blighted and underutilized property. There are no residential neighbors to the property which makes the site conducive to more intensive commercial or industrial use. Relative to land-use policies in the zoning district, the proposal increases parcel utilization; will minimize vacancies in the neighborhood by virtue of EBMUD's long-term occupancy of the site; and brings permanent sidewalk, pedestrian circulation, landscape, and street edge improvements to the opportunity zone.

7. For proposals involving one or two residential dwelling units on a lot: That, if the variance would relax a regulation governing maximum height, minimum yards, maximum lot coverage or building length along side lot lines, the proposal also conforms with at least one of the following criteria:

a. The proposal when viewed in its entirety will not adversely impact abutting residences to the side, rear, or directly across the street with respect to solar access, view blockage and privacy to a degree greater than that which would be possible if the residence were built according to the applicable regulation and, for height variances, the proposal provides detailing, articulation or other design treatments that mitigate any bulk created by the additional height:

N/A

-OR-

b. Over 60 percent of the lots in the immediate vicinity are already developed and the proposal does not exceed the corresponding as-built condition on these lots and, for height variances, the proposal provides detailing, articulation or other design treatments that mitigate any bulk created by the additional height. The immediate context shall consist of the five closest lots on each side of the project site, plus the ten closest lots on the opposite side of the street (see Illustration I-4b); however, the Director of City Planning may make an alternative determination of immediate context based on specific site conditions. Such determination shall be in writing and included as part of any decision on any variance.

N/A



CITY OF OAKLAND VARIANCE FINDINGS

MINOR VARIANCE REQUEST FOR 0-FOOT STREET SIDE YARD SETBACK ON A CORNER LOT

A Variance is permission to depart from the development regulations in the zoning district. Variances provide the discretion and flexibility to resolve difficulties or hardships that may be inappropriate where special or extraordinary circumstances occur on the property. These circumstances do not mean economic hardship; rather, they refer to topographic or physical attributes of the site that do not allow for the development standards of the Zoning District to be applied.

Proposals requiring a Variance may only be granted upon determination that the proposal conforms to the following Variance criteria set forth in Section 17.148.050:

Please indicate the way in which the proposal meets the following required criteria. Attach additional sheets if necessary.

1. Strict compliance with the specified regulations would result in practical difficulty or unnecessary hardship inconsistent with the purposes of the Zoning Regulations, due to unique physical or topographic circumstances or conditions of design; or, as an alternative in the case of a minor variance, that such strict compliance would preclude an effective design solution improving livability, operational efficiency, or appearance:

EBMUD requests a minor variance for the street side yard setback from Mandela Parkway.

Per Oakland Planning Code table 17.73.030, zone CIX-IC, a minimum street side yard setback of a corner lot is 10'-0". For the proposed project, this would require a 10-foot setback along Mandela Parkway. Strict compliance with this requirement presents an unnecessary hardship regarding the conditions of design and effective implementation of EBMUD's desired project program.

To maximize effective traffic circulation within the property, EBMUD is siting the administration building and crew locker rooms/break room in the northeast corner of the property. The exterior wall of the administration building will be integral with the concrete perimeter walls and set back 15 feet from the property line along Mandela Parkway. However, a portion of the building has a translucent facade, which is the most aesthetically dramatic and interesting element of the project, that is within the 10-foot setback area on Mandela Parkway. This part of the building with the translucent fenestration will be surrounded by complementary landscaping elements. In addition to landscaping on either side of the translucent building element, EBMUD is proposing a 4'-0" landscaped buffer within the public right of way between the face of the translucent building element and the sidewalk edge. This overall design element allows EBMUD to maximize the operational use of the property, improve operational efficiency within the perimeter of the site, and provide an aesthetically attractive and unique visual element to the Mandela Parkway corridor while still providing an "illusion" of a 15-foot setback to the concrete wall forming the remainder of the northeast corner of the administration building. A variance from the 10-foot setback requirement will allow EBMUD to fully realize its intended use of the property while also enhancing the pedestrian and vehicle transportation experience along Mandela Parkway.

2. Strict compliance with the regulations would deprive the applicant of privileges enjoyed by owners of similarly zoned property; or as an alternative in the case of a minor variance, that such strict compliance would preclude an effective design solution fulfilling the basic intent of the applicable regulation:

The majority of the surrounding neighbors in the area and in the same zoning district enjoy the benefit of zero street side setback along any street, including Mandela Parkway. Existing corner lot buildings at 2607, 2855, 2534, 2606, and 2792

Mandela Parkway all extend to the property line and sidewalk edge. Although these are legacy buildings that were built generations ago, they define the context and set the precedent of building to the property line on corner lots. There is also a more recent project building along the entire 2900 block of Mandela Parkway that has no setback from Mandela Parkway at neither the corner of 28th nor Ambler. This is a housing project and was allowed to maximize the full buildable extent of their property while also maintaining a consistent street wall along the property line with no corner lot setback requirements required.

3. The variance, if granted, will not adversely affect the character, livability, or appropriate development of abutting properties or the surrounding area, and will not be detrimental to the public welfare or contrary to adopted plans or development policy:

If granted, the variance will be consistent with the existing character of the surrounding blocks and corner lots and will not adversely affect abutting properties in the surrounding areas. As mentioned above in item #2, building to the lot line along Mandela Parkway is consistent with current and legacy development in the area. In addition, the proposal is consistent with the intent of Appendix A of the West Oakland Specific Plan Design Guidelines that suggest in site planning note #4 – Building Footprint that "new construction should be built to the edge of sidewalks to maintain continuity of the area's street walls."

4. The variance will not constitute a grant of special privilege inconsistent with limitations imposed on similarly zoned properties or inconsistent with the purposes of the Zoning Regulations:

As noted in the response to item #2 above, given that most of the adjacent and surrounding properties are already built to the sidewalk edge on corner lots along Mandela Parkway, the project is following existing precedent and granting the variance will not constitute granting EBMUD a special privilege for the purposes of the project. In addition, as noted in the response to item #3 above, the proposed building location is consistent with the West Oakland Specific Plan's suggestion to build to the sidewalk edge along Mandela Parkway.

5. That the elements of the proposal requiring the variance (e.g. elements such as buildings, walls, fences, driveways, garages and carports, etc.) conform with the Regular Design Review criteria set forth in the design review procedure at Section 17.136.050:

The elements of EBMUD's project proposal requiring the variance from the street side yard setback for a corner lot represent one of the primary architectural features of the project, namely a backlit translucent volume that conceptually represents a "lantern" marking the corner of Mandela Parkway and 26th Street. The importance of this feature to the overall relationship of the street face and the corner cannot be overstated. With that in mind, this feature conforms to the Regular Design Review criteria in that its character and quality serves to protect the value of other investments in the area. It also fits within the framework of the West Oakland Specific Plan's desire that buildings facing Mandela Parkway are encouraged to have massing that reflects dramatic architectural features visible along the Parkway. Hence, the proposal achieves the criteria outlined in section 17.136.050-B.

6. That the proposal conforms in all significant respects with the Oakland General Plan and with any other applicable guidelines or criteria, district plan, or development control map which have been adopted by the Planning Commission or City Council:

The project proposal conforms in all significant respects with the Oakland General Plan and with the West Oakland Specific Plan as noted in the responses above.

In the West Oakland Specific Plan, Appendix A: Design Guidelines, the proposal specifically complies with the following design guidelines applicable to all industrial/business/commercial opportunity areas:

- 1. The project provides sidewalks along 26th Street and Willow Street where none currently exist to promote pedestrian circulation in the area. It should be noted that this property is only accessed by District personnel or delivery trucks; it is not a facility that the general public will come to. Hence, there are no public entries to the site.
- 2. Primary vehicular access to the project is on Willow Street, which ensures that it is not visible from Mandela Parkway and is not prominent. The access on 26th Street is for emergency services only.
- 3. All service areas are screened by the perimeter walls that are proposed.
- 4. No surface parking is visible from any street.
- 5. The project footprint extends to the sidewalk edge on all street frontages.
- 6. The building and site walls relate to others in the neighborhood in scale and materials.
- 7. The massing is composed of simple shapes reflecting the industrial heritage of the area.
- 8. The site development extends to the edge of the sidewalks to maintain the continuity of the area's street walls with inset bays for landscaping.
- 9. Primary building volume along Mandela is single story, built to the sidewalk edge matching other adjacent structures, and has rooftop light monitors creating an interesting roof line and providing natural light to the interior building space.
- 10. The most distinguished feature of the building is oriented toward and visible from Mandela Parkway. It is a dramatic architectural feature that is differentiated from the remaining building volume and site walls and is intended to act as a "lantern" with backlit translucent walls anchoring the important corner of 26th and Mandela.
- **11.** Landscaping and flagpoles create a green edge along the Mandela Parkway sidewalk buffering the building face from the street while being compatible with the green median space on Mandela Parkway.
- 12. Proposed building materials are concrete and glass and are modern in their lines and design.
- 13. Walls and volumes are articulated in height and planar orientation and incorporate landscape elements directly into the building facade by means of planters on the sidewalk.
- 14. The project enhances the landscaping in the area for improved aesthetics.
- 15. The project will bring 49 new workers to this area of the West Oakland community.

In addition, the project complies with the West Oakland Specific Plan for the CIX-IC zoning district encouragement for intensification of use and infill of existing blighted and underutilized property. There are no residential neighbors to the property which makes the site conducive to more intensive commercial or industrial use. Relative to land-use policies in the zoning district, the proposal increases parcel utilization; will minimize vacancies in the neighborhood by virtue of EBMUD's long-term occupancy of the site; and brings permanent sidewalk, pedestrian circulation, landscape, and street edge improvements to the opportunity zone.

- 7. For proposals involving one or two residential dwelling units on a lot: That, if the variance would relax a regulation governing maximum height, minimum yards, maximum lot coverage or building length along side lot lines, the proposal also conforms with at least one of the following criteria:
 - a. The proposal when viewed in its entirety will not adversely impact abutting residences to the side, rear, or directly across the street with respect to solar access, view blockage and privacy to a degree greater than that which would be possible if the residence were built according to the applicable regulation and, for height variances, the proposal provides detailing, articulation or other design treatments that mitigate any bulk created by the additional height:

N/A

-OR-

b. Over 60 percent of the lots in the immediate vicinity are already developed and the proposal does not exceed the corresponding as-built condition on these lots and, for height variances, the proposal provides detailing, articulation or other design treatments that mitigate any bulk created by the additional height. The immediate context shall consist of the five closest lots on each side of the project site, plus the ten closest lots on the opposite



CITY OF OAKLAND VARIANCE FINDINGS

MINOR VARIANCE REQUEST FOR CONSTRUCTION OF A WALL UP TO EIGHTEEN (18) FEET HIGH WITHIN TEN (10) FEET OF THE PUBLIC RIGHT-OF-WAY

A Variance is permission to depart from the development regulations in the zoning district. Variances provide the discretion and flexibility to resolve difficulties or hardships that may be inappropriate where special or extraordinary circumstances occur on the property. These circumstances do not mean economic hardship; rather, they refer to topographic or physical attributes of the site that do not allow for the development standards of the Zoning District to be applied.

Proposals requiring a Variance may only be granted upon determination that the proposal conforms to the following Variance criteria set forth in Section 17.148.050:

Please indicate the way in which the proposal meets the following required criteria. Attach additional sheets if necessary.

1. Strict compliance with the specified regulations would result in practical difficulty or unnecessary hardship inconsistent with the purposes of the Zoning Regulations, due to unique physical or topographic circumstances or conditions of design; or, as an alternative in the case of a minor variance, that such strict compliance would preclude an effective design solution improving livability, operational efficiency, or appearance:

EBMUD requests a minor variance for construction of a wall up to eighteen (18) feet high within ten (10) feet of the public rights-of-way on Willow Street and 26th Street.

Per Oakland Planning <u>Section 17.108.140 Fences</u>, dense hedges, barriers, and similar freestanding walls, Section D. <u>Industrial Zones</u>, 1. Height, a. "The maximum height allowed by right of any fence, dense hedge, barrier, or similar freestanding wall located within ten (10) feet of the public right-of-way is eight (8) feet. A fence higher than eight (8) feet but no more than twelve (12) feet may only be permitted in these locations if installed with additional landscape screening...."

For the proposed project, this would require a 10-foot setback along Willow Street and 26th Street and would limit the height of the wall to twelve (12) feet. Strict compliance with this requirement presents an unnecessary hardship regarding the conditions of design and effective implementation of EBMUD's desired project program.

The existing property has a twenty-two (22)-foot-four (4)-inch high perimeter wall surrounding the property. These walls are built on the property line with no setback from the Willow Street and 26th Street rights-of-way. As shown on the plans, the landscape buffers vary in width with wall undulations and are between 4'-6" and 6'-0" between the back of the new sidewalks and the face of the new walls except where there is a vehicular opening, pedestrian opening, or walls preserved for public art.

For several years, EBMUD had been seeking land in West Oakland to relocate its existing service yard that is located at Union and West Grand. EBMUD is committed to keeping employment opportunities in West Oakland and the location is good since it is in the area with some of its older pipes. Thus, the West Oakland location provides the ability to provide fast response times for unplanned emergencies.

EBMUD identified the parcel at Willow and 26th as a viable candidate; it was a good size and the strongest point was the 22-foot-4-inch high walls that surrounded the property. EBMUD is a victim of frequent theft at its current facilities

along West Grand via breaches of the existing fence. The solid wall would provide improved security for EBMUD personnel and equipment. In December 2018, prior to finalizing purchase of the property, EBMUD reached out to the City requesting a formal determination letter for the property with a specific request regarding a determination on possibly rebuilding the existing wall.

In February 2019, the Zoning Manager issued a determination that stated that the perimeter wall can be demolished and rebuilt to a height of 22 feet. Relying on this letter, the District proceeded with the final steps to procure the property. This determination letter was critical to EBMUD's decision to purchase the property and proceed with the project since it had been determined that the existing walls were not seismically safe and it was more cost-effective to replace the walls than reinforce them.

EBMUD, with RPR, has developed a very attractive project that complements the surrounding area, is consistent with the West Oakland Specific Plan, and meets the needs of the District, particularly with respect to the following: security; onsite parking for all EBMUD vehicles/equipment and employee vehicles, consistent with other service yards; materials storage; and administrative functions.

The proposed project has a total of 468 linear feet of perimeter walls along Willow Street and 26th Street that have a zero (0)-foot setback from the rights-of-way so are within the required ten (10)-foot setback. These walls will be constructed of precast panels that are seventeen (17) or eighteen (18) feet high; this is to provide visual interest along the tops of the walls. In addition, the wall panels are offset in the vertical plane and there will be strip lighting in the offset to again provide visual interest in the façade.

The zero-foot setback shown on the project plans is necessary to meet the program requirements for the facility. Over twenty different space planning studies were conducted to arrive at the proposed site layout. Enforcing a ten (10)-foot setback will make the project not viable due to constraints on operational efficiency.

The proposed wall height is required for security of the premises. This area of the City has high crime. It is essential that the people and equipment within the facility are protected to be available to provide essential public services. A wall lower than that proposed is too easy to scale, thereby negating the enhanced security and diminishing the operational efficiency of the site.

A variance from the 10-foot setback requirement and the wall height restrictions will allow EBMUD to fully realize its intended use of the property as a secure, efficient operating facility while also enhancing the pedestrian and vehicle transportation experience in this area of West Oakland.

2. Strict compliance with the regulations would deprive the applicant of privileges enjoyed by owners of similarly zoned property; or as an alternative in the case of a minor variance, that such strict compliance would preclude an effective design solution fulfilling the basic intent of the applicable regulation:

The majority of the surrounding neighbors in the area and in the same zoning district enjoy the benefit of zero street side setback along any street, including Mandela Parkway. Existing corner lot buildings at 2607, 2855, 2534, 2606, and 2792 Mandela Parkway all extend to the property line and sidewalk edge. Although these are legacy buildings that were built generations ago, they define the context and set the precedent of building to the property line on corner lots. There is also a more recent project building along the entire 2900 block of Mandela Parkway that has no setback from Mandela Parkway at neither the corner of 28th nor Ambler. This is a housing project and was allowed to maximize the full buildable extent of their property while also maintaining a consistent street wall along the property line with no corner lot setback requirements required.

The proposed project's walls are attractive, appealing, and are buffered with the proposed landscaping. From the perspective of an individual traveling the area on foot, bicycle, or vehicle, the experience is similar to that of other

neighboring properties; the individual does not know if there is a roof above the walls creating one building or if the walls are freestanding.

Strict compliance with the with Planning Code will preclude an effective design solution, as articulated in the response to item #1 above.

3. The variance, if granted, will not adversely affect the character, livability, or appropriate development of abutting properties or the surrounding area, and will not be detrimental to the public welfare or contrary to adopted plans or development policy:

If granted, the variance will be consistent with the existing character of the surrounding blocks and corner lots and will not adversely affect abutting properties in the surrounding areas. As mentioned above in item #2, building to the lot lines is consistent with current and legacy development in the area. In addition, the proposal is consistent with the intent of Appendix A of the West Oakland Specific Plan Design Guidelines that suggest in site planning note #4 – Building Footprint that "new construction should be built to the edge of sidewalks to maintain continuity of the area's street walls."

4. The variance will not constitute a grant of special privilege inconsistent with limitations imposed on similarly zoned properties or inconsistent with the purposes of the Zoning Regulations:

As noted in the response to item #2 above, given that most of the adjacent and surrounding properties are already built to the sidewalk edge, the project is following existing precedent and granting the variance will not constitute granting EBMUD a special privilege for the purposes of the project.

5. That the elements of the proposal requiring the variance (e.g. elements such as buildings, walls, fences, driveways, garages and carports, etc.) conform with the Regular Design Review criteria set forth in the design review procedure at Section 17.136.050:

The wall elements of the project that require the variance are essential to achieving a project that results in a wellcomposed design, with careful consideration given to site, landscape, bulk, height, arrangement, texture, and colors that relate harmoniously to other facilities in the vicinity and will provide an improved, aesthetically pleasing experience for individuals in the area. The proposed design is of a quality and character that harmonizes with and will protect, and likely increase, the value of private and public investments in the area. Finally, as noted in item #6 below, the proposed design conforms in all significant respects with the Oakland General Plan and with the West Oakland Specific Plan.

6. That the proposal conforms in all significant respects with the Oakland General Plan and with any other applicable guidelines or criteria, district plan, or development control map which have been adopted by the Planning Commission or City Council:

The project proposal conforms in all significant respects with the Oakland General Plan and the West Oakland Specific Plan as noted in the responses above.

In the West Oakland Specific Plan, Appendix A: Design Guidelines, the proposal specifically complies with the following design guidelines applicable to all industrial/business/commercial opportunity areas:

- 1. The project provides sidewalks along 26th Street and Willow Street where none currently exist to promote pedestrian circulation in the area. It should be noted that this property is only accessed by District personnel or delivery trucks; it is not a facility that the general public will come to. Hence, there are no public entries to the site.
- 2. Primary vehicular access to the project is on Willow Street, which ensures that it is not visible from Mandela

Parkway and is not prominent. The access on 26th Street is for emergency services only.

- 3. All service areas are screened by the perimeter walls that are proposed.
- 4. No surface parking is visible from any street.
- 5. The project footprint extends to the sidewalk edge on all street frontages.
- 6. The building and site walls relate to others in the neighborhood in scale and materials.
- 7. The massing is composed of simple shapes reflecting the industrial heritage of the area.
- 8. The site development extends to the edge of the sidewalks to maintain the continuity of the area's street walls with inset bays for landscaping.
- 9. Primary building volume along Mandela is single-story, built to the sidewalk edge matching other adjacent structures, and has rooftop light monitors creating an interesting roof line and providing natural light to the interior building space.
- 10. The most distinguished feature of the building is oriented toward and visible from Mandela Parkway. It is a dramatic architectural feature that is differentiated from the remaining building volume and site walls and is intended to act as a "lantern" with backlit translucent walls anchoring the important corner of 26th and Mandela.
- 11. Landscaping and flagpoles create a green edge along the Mandela Parkway sidewalk buffering the building face from the street while being compatible with the green median space on Mandela Parkway.
- 12. Proposed building materials are concrete and glass and are modern in their lines and design.
- 13. Walls and volumes are articulated in height and planar orientation and incorporate landscape elements directly into the building façade by means of planters on the sidewalk.
- 14. The project enhances the landscaping in the area for improved aesthetics.
- 15. The project will bring 49 new workers to this area of the West Oakland community.

In addition, the project complies with the West Oakland Specific Plan for the CIX-IC zoning district encouragement for intensification of use and infill of existing blighted and underutilized property. There are no residential neighbors to the property which makes the site conducive to more intensive commercial or industrial use. Relative to land-use policies in the zoning district, the proposal increases parcel utilization; will minimize vacancies in the neighborhood by virtue of EBMUD's long-term occupancy of the site; and brings permanent sidewalk, pedestrian circulation, landscape, and street edge improvements to the opportunity zone.

- 7. For proposals involving one or two residential dwelling units on a lot: That, if the variance would relax a regulation governing maximum height, minimum yards, maximum lot coverage or building length along side lot lines, the proposal also conforms with at least one of the following criteria:
 - a. The proposal when viewed in its entirety will not adversely impact abutting residences to the side, rear, or directly across the street with respect to solar access, view blockage and privacy to a degree greater than that which would be possible if the residence were built according to the applicable regulation and, for height variances, the proposal provides detailing, articulation or other design treatments that mitigate any bulk created by the additional height:

N/A

-OR-

b. Over 60 percent of the lots in the immediate vicinity are already developed and the proposal does not exceed the corresponding as-built condition on these lots and, for height variances, the proposal provides detailing, articulation or other design treatments that mitigate any bulk created by the additional height. The immediate context shall consist of the five closest lots on each side of the project site, plus the ten closest lots on the opposite side of the street (see Illustration I-4b); however, the Director of City Planning may make an alternative determination of immediate context based on specific site conditions. Such determination shall be in writing and included as part of any decision on any variance.



Architectural Specification Manual



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PILKINGTON PROFILIT GLAZING SYSTEM

Pilkington Profilit^{**} architectural glazing systems have been designed for worldwide architectural markets. They incorporate the latest window and material technology. The framing and component details shown in this manual can only be obtained from Technical Glass Products.

The Pilkington Profilit glazing system is based on a range of unique cast glass channels, which have high structural strength and are contained within a custom designed aluminum perimeter frame. A unique feature of the Pilkington Profilit system is the wide range of glazing designs that can be achieved without the need to incorporate vertical or horizontal aluminum members.

For specifications, photographs, videos and additional information contact:

TECHNICAL GLASS PRODUCTS8107 Bracken Place SESnoqualmie, WA 98065Office:800.426.0279425.396.8200Fax:800.451.9857425.396.8300E-mail:sales@tgpamerica.comInternet:tgpamerica.com

CSI-SPECIFICATION

Full copies of our CSI 08 45 11 specification can be downloaded from our Web site or obtained from our office.

This Architectural Specification Manual provides a summary of the specification, design and applications that can be achieved with Pilkington Profilit. Many special finishes and components are available, please consult Technical Glass Products.

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SECTION 1 | INTRODUCTION

SECTION 1

Introduction

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Introduction

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The Pilkington Profilit[™] translucent linear channel glazing system consists of unique, self supporting cast glass channels and an extruded metal perimeter frame. The end result is an opaque but light-transmitting wall. Pilkington Profilit can be used in interior or exterior applications. The "U-shaped" channels can be installed either vertically or horizontally.

The glass is available in a variety of colors and textures with varying translucency allowing for the passage of natural light without the loss of privacy. Pilkington Profilit is energy efficient, provides excellent sound reduction, and it's one of the most cost-efficient glass wall systems available. Single or dual glazing options are available for interior and exterior applications, including cladding and screen walls.

TRANSLUCENT LINEAR CHANNEL GLAZING SYSTEM

FEATURES

- Available in long channel lengths (23 feet/7 meters)
- Allows natural light while maintaining privacy
- Can be tempered to meet impact safety requirements
- **Energy efficient**

ARCHITECTURAL

- Excellent light transmission
- Sound insulation (up to 44 db)
- Can be utilized in curved walls
- Installs vertically or horizontally
- Aluminum perimeter frame with full range of finish options
- Minimal maintenance
- Proven performance -- used in Europe for more than 40 years

PROFILE OPTIONS

| Series | Flange | Glass Thickness |
|--------------|--------------------------------|-----------------|
| K-60 K-41 | 2.36" (60 mm) 1.61" (41 mm) | 7 mm 6 mm |
| | | |



SECTION

Introduction

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Introduction

2 PAGE

All textures can be sandblasted unless they have a surface applied specialty coating.

- Standard: lightly dimpled surface • Macro: netted screen surface
- Slim Line: thin, linear grooves
- Wave: well defined ridge texture
- Clear: no visible texture

FUNCTIONAL COATINGS

these design options.

SURFACE TEXTURES

Optional performance coatings improve U-values or better control solar heat gain. These options can't be sandblasted.

DESIGN OPTIONS

Pilkington Profilit comes in a broad spectrum of colors, textures and finishes. Please visit tgpamerica.com to view any of

- Low-E: improved u-values
- Antisol®: improved solar heat gain

7777 COLOR COATINGS/SANDBLASTED

All coatings can be applied onto all available textures.

- Amethyst-slight blue transparent coating
- Opaque Enameled Frit-a variety of opaque colored frits that are heat tempered to the glass

Opaque Color Coating-a variety of high performance opaque colors that don't require tempering, most RAL color system . options are available

Metallic Color Coating-opaque custom-blended, high-performance metallic colors that don't require tempering

Sandblasted-improves privacy while allowing light transmission; can be applied to all textures (unless they have a • surface-applied specialty coating)

GLASS COLORS

- Standard Cast: Standard channel glass has an inherent slight green hue
- Low Iron: Pilkington Profilit[™] OW (Low-Iron) is a low iron composition glass that creates a nearly colorless product with improved light transmission. Please see Pilkington Profilit OW (Low-Iron) fact sheet for more information.

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Typical Vertical Installation

PAGE 3





SECTION A-A

(Non-thermally broken)



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GLASS INSTALLED VERTICALLY SHOWN IN SECTIONAL VIEWS



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Performance Values

DUAL GLAZED K-60 PERFORMANCE VALUES

| GLASS TYPE | U-VALUE GLASS ONLY | LIGHT TRANSMISSION | SOLAR HEAT GAIN COEFFICIENT | STC RATING | SHADING COEFFICIENT |
|----------------------------------------|--------------------|--------------------|--------------------------------|------------|------------------------|
| STANDARD CAST | 0.49 | 75% | 0.70 | 42 | .75 |
| CLEAR | 0.49 | 75% | 0.70 | 42 | .75 |
| AMETHYST | 0.49 | 52% | 0.51 | 42 | .59 |
| ANTISOL | 0.49 | 41% | 0.38 | 42 | .52 |
| PLUS 1.7 (LOW-E) COATING ON #3 SURFACE | 0.40 | 70% | 0.45 | 42 | .73 |
| LOW-IRON | 0.49 | 90% | 0.70 | 42 | ** |

See Page 6 for information on Lumira® aerogel insulation which maximizes the performance values for the Pilkington Profilit system.

*K-41 Series is typically used in interior installations, thus performance values are not listed.

** Performance details coming soon.

3M S20SIAR400 Film is available for Solar Heat Gain control. Contact TGP at 1-800-426-0279 for performance information.

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Lumira Aerogel Insulation

LUMIRA® AEROGEL

Lumira aerogel, formerly Nanogel[®] aerogel, a translucent surface-treated amorphous silica, is a safe and non-hazardous material. It is encased in 16 mm polycarbonate sheeting, which is centered in the Pilkington Profilit channel glass cavity. Combined with Pilkington Profilit channel glass, all the components of the system are safe, recyclable and environmentally friendly. For projects requiring extra thermal performance, contact TGP for custom Lumira aerogel information.



What is Aerogel?

Aerogel is a unique form of highly porous, non-hazardous silica, described as a lattice work of glass strands with very small pores and extremely low solids content (5% solid, 95% air). It is known as the lightest weight and best insulating solid in the world.

| PERFORMANCE ANALYSIS: PRELIMINARY TEST RESULTS 🦲 |
|--------------------------------------------------|
|--------------------------------------------------|

| K 25/60 Series Profilit | Uninsulated | Lumira® Aerogel Panel* 16 mm(Clear) | Lumira® Aerogel Panel* 25 mm(Clear) |
|-----------------------------------------------------------|--------------|----------------------------------------|----------------------------------------|
| U Value (Glass Only) | 0.49 | 0.21 | 0.19 |
| Light Transmission | 70% | 50% | 38% |
| Solar Heat Gain Coeff. (SHGC) Coeff. (SHGC) (NFRC 200) | 0.63 | 0.42 | 0.31 |
| Sound Transmission Coeff. (STC) - (E 90) | 42 | 44 | 44 |
| Condensation Resistance Factor (CRF) (AAMA 1503) | G 70 F 60 | G 79 F 60 | G 79 F 60 |

* Additional Lumira aerogel options, including polycarbonate colors and 25 mm panels for increased performance, are available. Please contact TGP.

KEY BENEFITS

- Reduces overall energy consumption
- Enhances daylight design
- Provides cost-effective daylighting solutions
- Simplifies installation
- Improves thermal and acoustic insulation

ARCHITECTURAL

• Improves ability to meet building codes without tradeoffs





Testing / Certifications

SAFETY GLAZING

National Building Codes reference ANSI Z 97.1-1984 and Consumer Products Safety Commission: Title 16 part 1201, 16 CFR 1201 safety standards for architectural glazing materials. Pilkington Profilit is available in tempered or filmed options to meet these impact safety requirements.

TEMPERING

Pilkington Profilit T Tempered Glass:

- Meets ASTM C1048-97B "STANDARD SPECIFICATION FOR HEAT TREATED GLASS"
- Meets ANSI Z97:1 and CPSC CFR 1201 (Cat. I and II)

HEAT SOAKING

• Optional heat soaking of tempered Pilkington Profilit can be supplied according to standard Bauregelliste 11.4.2.

SAFETY FILM

3M Scotchshield Ultra Safety (SCLARL 400) can be laminated to the inside surface of Pilkington Profilit. Film is factory applied except in special circumstances.

Meets ANSI Z97:1 and CPSC CFR 1201 (Cat. I and II)

PRODUCT CERTIFICATION

The Pilkington Profilit Translucent Linear Glazing System has been installed throughout the world for over 40 years and has been tested in the United States, Great Britain and Germany for:

- Air, Water and Structural Performance
- Sound Reduction
- Thermal Performance
- Glazing Safety
- Impact Safety
- Hurricane Impact
- Seismic Performance

TESTING

Pilkington Profilit has been tested to meet the following standards:

- AAMA 501.4
- AAMA 101
- AAMA 1801-97
- AAMA/NWWDA 101/1
- S.297
- ASTM F 588-97
- NFRC 100-97
- ANSI Z97.1-1984
- CPSC 16CFR1201, Cat II
- Category II impact safety (with safety film or tempering)
- NOA #06-0810.12
- Miami Dade large missile impact TSA 202, 203 and 204

Formal test reports are available by contacting Technical Glass Products at 1-800-426-0279.

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ALUMINUM FRAMING SYSTEMS

Aluminum perimeter frames are extruded from window grade alloy 6063 complying with the requirements of ASTM B221. The frames consist of a basic channel system with a plastic insert for the glass. Various frame finishes are offered including anodized, painted and mill finish.

The profiles are available in two sizes for both the K-41 and K-60 Series glass types with many variations of extrusion to suit any installation condition. The profiles are also available with a thermal break, preventing cold bridging through the Pilkington Profilit system. The PVC insert locates the glass within the aluminum frame, preventing glass-to-metal contact and is impact and weather resistant. The simplicity of the aluminum framework, with the small number of components, allows for a quick easy installation.

Note: TGP framing systems are designed to meet or exceed the AAMA industry standards and US perimeter detailing.

FINISHES

MILL FINISH

Frame profiles may be supplied for finishing in accordance with individual contract requirements.

ANODIZED

Frame profiles can also be supplied with anodized finish in a full range of anodized colors. This is classified as a "superior external architectural" finish and has a surface penetration of .007 or greater inches.

ARCHITECTURAL PAINTED COATINGS

A wide range of architectural painting specifications can be pre-applied to the finish, including a wide range of PPG Architectural paint systems and colors.

Systems



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Systems

Systems

CONTENTS

SECTION

03|16

DATE



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Sealant Details

SEALANTS

The sealant used is a high quality translucent silicone, which picks up the natural tint of the glass. The sealant is applied to all glass-to-glass, glass-to-aluminum and aluminum-to-structure joints, providing a completely weather-tight seal to the Pilkington Profilit system. The silicone recommended is a one-part moisture curing sealant. The sealant has outstanding durability, resisting chemical and atmospheric deterioration.

Recommended Sealants: Schnee Moorhead S731, Dow Corning 1199, GE Sil-Glaze SCS 2801, and Tremco Tremsil 600.





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SECTION 2 | DESIGN





Design Options

PAGE 1

SINGLE GLAZED TEMPERED MAXIMUM GLASS PROFILE LENGTHS IN FEET (Unsupported Glass Length for Vertical Installations)

| DESIGN WIND LOAD LB/FT ² | DESIGN WIND SPEED MPH | SINGLE GLAZING - Non Wired | | | | | |
|-------------------------------------|-----------------------|----------------------------|--------|--------|--------|--------|--------|
| Pilkington Prof | ilit Glass Type | K25/41 | K32/41 | K50/41 | K22/60 | K25/60 | K32/60 |
| 12.50 | 70.00 | 11.47 | 10.27 | 8.50 | 19.09 | 18.07 | 16.24 |
| 15.00 | 77.50 | 10.75 | 9.37 | 7.76 | 17.42 | 16.50 | 14.83 |
| 17.50 | 83.00 | 9.66 | 8.67 | 7.19 | 16.14 | 15.27 | 13.72 |
| 20.00 | 90.00 | 9.03 | 8.67 | 6.72 | 15.09 | 14.28 | 12.84 |
| 25.00 | 100.00 | 8.07 | 7.26 | 6.01 | 13.50 | 12.78 | 11.48 |
| 30.00 | 110.00 | 7.38 | 6.64 | 5.40 | 12.32 | 11.66 | 10.49 |
| 35.00 | 120.00 | 6.82 | 6.14 | 5.09 | 11.41 | 10.80 | 9.70 |
| 40.00 | 127.00 | 6.38 | 5.75 | 4.75 | 10.67 | 10.10 | 9.08 |
| 50.00 | 140.00 | 5.71 | 5.13 | 4.25 | 9.54 | 9.04 | 8.12 |
| 60.00 | 153.00 | 5.22 | 4.69 | 3.88 | 8.71 | 8.24 | 7.41 |

These tables give maximum installation lengths in feet for vertically glazed tempered Pilkington Profilit glass within closed buildings and should be used as a guide only. All design details should be confirmed by Technical Glass Products' technical service department. All installation lengths have been calculated to accommodate a 50% overload safety factor in accordance with National Testing protocol.

Please Note: Longer installation lengths may be achieved with the use of wind anchors. Contact TGP for further information

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Design Options

PAGE 12

DOUBLE GLAZED TEMPERED MAXIMUM GLASS PROFILE LENGTHS IN FEET (Unsupported Glass Length for Vertical Installations)

| DESIGN WIND LOAD LB/FT ² | DESIGN WIND SPEED MPH | DOUBLE GLAZING - Non Wired | | | | | |
|-------------------------------------|-----------------------|----------------------------|--------|--------|--------|--------|--------|
| Pilkington Prof | ilit Glass Type | K25/41 | K32/41 | K50/41 | K22/60 | K25/60 | K32/60 |
| 12.50 | 70.00 | 16.16 | 14.53 | 12.02 | 22.95 | 22.95 | 22.95 |
| 15.00 | 77.50 | 14.74 | 13.26 | 10.98 | 22.95 | 22.95 | 20.97 |
| 17.50 | 83.00 | 13.65 | 12.27 | 10.16 | 22.39 | 21.60 | 19.41 |
| 20.00 | 90.00 | 12.78 | 11.48 | 9.50 | 20.94 | 20.20 | 18.16 |
| 25.00 | 100.00 | 11.42 | 10.27 | 8.50 | 18.73 | 18.07 | 16.24 |
| 30.00 | 110.00 | 10.42 | 9.37 | 7.76 | 17.10 | 16.50 | 14.83 |
| 35.00 | 120.00 | 9.66 | 8.67 | 7.18 | 15.82 | 15.27 | 13.72 |
| 40.00 | 127.00 | 9.03 | 8.12 | 6.72 | 14.80 | 14.28 | 12.84 |
| 50.00 | 140.00 | 8.07 | 7.26 | 6.01 | 13.24 | 12.78 | 11.48 |
| 60.00 | 153.00 | 7.38 | 6.63 | 5.49 | 12.09 | 11.66 | 10.48 |

These tables give maximum installation lengths in feet for vertically glazed tempered Pilkington Profilit glass within closed buildings and should be used as a guide only. All design details should be confirmed by Technical Glass Products' technical service department. All installation lengths have been calculated to accommodate a 50% overload safety factor in accordance with National Testing protocol.

Maximum span (width) for horizontal Pilkington Profilit is 13'-0" or lesser lengths as indicated by the chart.

Please Note: Longer installation lengths may be achieved with the use of wind anchors. Contact TGP for further information



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Design Options

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It is possible to curve the aluminum profiles successfully on plan. Non thermally broken profiles can also be curved on elevation to form arches; glass is cut at an angle to accommodate the arch and fit within the profile.

The minimum radius that the aluminum profiles may be bent is 6'6''. This radius is measured to the outside of the frame as shown in the drawing below.:



IG



SECTION 3 | THE PRODUCT PROFILES AND COMPONENTS


K-41 Series Glass

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CONTENTS | K-41 Series Glass

CHANNEL GLASS AVAILABLE IN .24 IN (6 mm) THICKNESS







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Pilkington **Profilit**[™] K-41 Series WA Framing Profiles

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K-41 Series WA Framing Profiles





2.44" [62] -

2.2" [56]

U

U

961WA SILL



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K-41 Series WT Thermal Framing Profiles





950WT HEAD / JAMB



961WT SILL





K-60 Series Glass

CHANNEL GLASS AVAILABLE IN .28 IN (7 mm) THICKNESS







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Pilkington **Profilit**[™] K-60 Series WA Framing Profiles



980WA HEAD / JAMB OR SILL FOR INTERIOR APPLICATIONS

984WA HEAD / JAMB FOR HORIZONTAL INSTALLATION ONLY







K-60 Series WT Thermal Framing Profiles

Pilkington **Profilit**[™]





SECTION 4 | CONSTRUCTION APPLICATIONS AND DETAILS



SHIM, BACKER ROD



FASTENER WITH RUBBER WASHER INSTALLED ON 12" TO 18" CENTERS STRUCTURAL CONDITION AT HEAD TO BE PROJECT SPECIFIC

> SECTION 03|16

K-41 Interior Head Detail

CONTENTS

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K-41 Interior Sill Detail



NOTE: USE WOOD BLOCKING TO MAINTAIN A MINIMUM 1/2" GLASS BITE INTO FRAMING.



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- 950WA FRAME





NOTE: MINIMUM 3/4" GLASS BITE INTO FRAMING



Pilkington **Profilit**[™] K-60 Exterior Head Detail

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NOTE: MAINTAIN A 3/4" GLASS BITE INTO FRAMING



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K-60 Exterior Sill Detail

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K-60 SERIES GLASS INSTALLED INTO 981WA FRAME PROFILE WITH 981-2 VINYL INSERT.



NOTE: MAINTAIN A 1/2" GLASS BITE INTO FRAMING



K-60 Exterior Jamb Detail

PAGE 25



NOTE: MAINTAIN A 3/4" GLASS BITE INTO FRAMING

2.17" [55] ____ .25" [6]



K-60 SERIES GLASS



NOTE: USE WOOD BLOCKING TO MAINTAIN 1/2" GLASS BITE INTO FRAMING



K-60 Exterior Thermal Stacking Detail



NOTE: SEE PAGE 37 FOR A HEAD RECEPTOR DETAIL TO ACCOMODATE INTERSTORY MOVEMENT.



Pilkington **Profilit**TM K-60 Exterior Thermal Head Detail



4



NOTE: MAINTAIN A 3/4" GLASS BITE INTO FRAMING



Pilkington **Profilit**[™] K-60 Exterior Thermal Sill Detail

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NOTE: MAINTAIN A 1/2" GLASS BITE INTO FRAMING



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Pilkington **Profilit**[™] K-60 Exterior Thermal Jamb Detail



NOTE: MAINTAIN A 3/4" GLASS BITE INTO FRAMING



K-60 Horizontal Head Detail

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K-60 Horizontal Sill Detail

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4

Pilkington **Profilit**[™] K-60 Horizontal Jamb Detail



NOTE: MAINTAIN A MINIMUM 3/4" GLASS BITE INTO FRAMING

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Glass Corner Detail

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GLASS SHOWN ON A CORNER WHERE FLANGES GIVE VERTICAL STRENGTH, TYPICAL OF BOTH K-41 AND K-60 GLASS





Window into Pilkington **Profilit Wall**

WINDOW GLASS INSTALLED INTO THE PILKINGTON PROFILIT SYSTEM WITH STRUCTURAL ANGLE USED AS SUPPORTS





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Window into Pilkington Profilit Wall Details





K-60 Exterior Thermal Head Receptor Detail

Pilkington **Profilit**[™]



NOTE: GAP BETWEEN PROFILES IS DRAWN AND CALCULATED FOR .59" [15] MAXIMUM EXPANDED CONDITION: 1.11" [28] MAXIMUM COLLAPSED CONDITION: .12" [3]



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CONTENTS



K-60 Exterior Non-Thermal Wind Anchors for High Walls



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K-60 Exterior Non-Thermal Single Glaze Details





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K-60 Exterior Non-Thermal Single Glaze Details (cont.)

Pilkington **Profilit**[™]





STAGGERED SINGLE GLAZING

03|16



Pilkington **Profilit**^T HURRICANE



SECTION 5 PILKINGTON PROFILIT[™] HURRICANE

Pilkington Profilit Hurricane



Pilkington **Profilit** HURRICANE

INTRODUCTION

Pilkington Profilit[™] Hurricane is the only tested and approved hurricane impact channel glazing system in North America. It is used in exterior building applications in hurricane-prone regions and resists the possibility of penetration from wind borne debris commonly associated with hurricane force winds. The system consists of unique, self-supporting cast glass channels and an extruded metal perimeter frame. The end result is an impact resistant translucent glass wall. The glass is available in a variety of colors and textures with varying translucency, allowing for the passage of natural light without the loss of privacy.

Pilkington Profilit Hurricane is energy efficient and provides excellent sound reduction. It is dual glazed for exterior applications and is available with optional light transmitting insulation.

FEATURES

- · Rated for Miami-Dade at 60 PSF design load and maximum glass length of 10'
- Rated for Florida State Product approval for non impact glass as well as impact-rated glass, restricted to vertical orientation only
- Colors: Standard Cast (patterned surface with slight green hue); Macro Cast (slight green color with netted screen texture); Amethyst (standard cast with a blue coating); Antisol[®] (standard cast with bronze coating); Clear (no pattern or hue) and Opaque (opaque polycarbonate laminate decreases translucency)
- · Polycarbonate laminated to the interior surface of the glass
- · Allows passage of light while maintaining privacy
- · May be insulated with Lumira® aerogel insulation for energy efficiency
- · Excellent light transmission
- · Sound insulation (up to 42 db uninsulated, 44 db with Lumira aerogel insulation)
- · Aluminum perimeter frame provides additional structural strength
- · Minimal maintenance

| PROFILE OPTIONS | | | | | |
|-----------------|---------------|----------------|----------------------------|--|--|
| Series | Flange | Face Dimension | Reinforced Glass Thickness | | |
| K-70 | 2.36" (60 mm) | 10.31 (262 mm) | .52" (13.35 mm) | | |

GLASS COLOR OPTIONS

| Standard Cast | Patterned surface with slight green hue | | |
|---------------|---------------------------------------------------------------------|--|--|
| Macro Cast | Netted screen texture with slight green hue | | |
| Clear | No pattern and slight green hue | | |
| Amethyst | Standard Cast with blue coating | | |
| Antisol® | Standard Cast with a bronze color control coating for solar control | | |
| Opaque | Opaque polycarbonate laminate (decreases translucency) | | |
| Low Iron | Nearly colorless and available in Macro and Standard Cast textures | | |





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PAGE

Introduction

Pilkington **Profilit**^T HURRICANE

Typical Vertical Installation





SECTION A-A

CONTENTS

Typical Vertical Installation



Pilkington **Profilit**[™] HURRICANE

Typical Vertical Installation



GLASS INSTALLED VERTICALLY SHOWN IN SECTIONAL VIEWS



SECTION B-B



SECTION C-C



SECTION D-D



Pilkington **Profilit**[®] HURRICANE Performance Values

| DUAL GLAZED K-60 PERFORMANCE VALUES | | | | | | | | |
|-------------------------------------|--------------------|--------------------|--------------------------------|------------|-----------------------|--|--|--|
| GLASS TYPE | U-VALUE GLASS ONLY | LIGHT TRANSMISSION | SOLAR HEAT GAIN COEFFICIENT | STC RATING | SHADING COEFFICIEN | | | |
| STANDARD CAST | 0.49 | 75% | 0.70 | 42 | .75 | | | |
| MICRO CAST* | - | - | - | - | - | | | |
| CLEAR | 0.49 | 75% | 0.70 | 42 | .75 | | | |
| AMETHYST | 0.49 | 52% | 0.51 | 42 | .59 | | | |
| ANTISOL | 0.49 | 41% | 0.38 | 42 | .52 | | | |
| OPAQUE* | - | - | - | - | - | | | |
| LOW-IRON | 0.49 | 90% | 0.70 | 42 | - | | | |

See Page 45 for information on Lumira® aerogel insulation which maximizes the performance values for the Pilkington Profilit Hurricane system.

* Performance values coming soon

We will need to make some decisions about the glass type. Please weigh-in on what you think might work

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Pilkington **Profilit**[®] HURRICANE Lumira Aerogel Insulation

LUMIRA® AEROGEL

Lumira aerogel, formerly Nanogel[®] aerogel, a surface-treated amorphous silica, is a safe and non-hazardous material. It is encased in 16 mm polycarbonate sheeting, which is centered in the Pilkington Profilit Hurricane channel glass cavity. Combined with Pilkington Profilit Hurricane channel glass, all the components of the system are safe, recyclable and environmentally friendly. For projects requiring extra thermal performance, contact TGP for custom Lumira aerogel information.



What is Aerogel?

Aerogel is a unique form of highly porous, non-hazardous silica, described as a lattice work of glass strands with very small pores and extremely low solids content (5% solid, 95% air). It is known as the lightest weight and best insulating solid in the world.

PERFORMANCE ANALYSIS: PRELIMINARY TEST RESULTS

| | | | ~~~~~~~~~ |
|-----------------------------------------------------------|--------------|-----------------------------------------|-----------------------------------------|
| K 25/60 Series Profilit | Uninsulated | Lumira® Aerogel Panel* 16 mm (Clear) | Lumira® Aerogel Panel* 25 mm (Clear) |
| U Value (Glass Only) | 0.49 | 0.21 | 0.19 |
| Light Transmission | 70% | 50% | 38% |
| Solar Heat Gain Coeff. (SHGC) Coeff. (SHGC) (NFRC 200) | 0.63 | 0.42 | 0.31 |
| Sound Transmission Coeff. (STC) - (E 90) | 42 | 44 | 44 |
| Condensation Resistance Factor (CRF) (AAMA 1503) | G 70 F 60 | G 79 F 60 | G 79 F 60 |

* Additional Lumira aerogel options, including polycarbonate colors and 25 mm panels for increased performance, are available.

FEATURES

- Reduces overall energy consumption
- Enhances daylight design
- Provides cost-effective daylighting solutions
- Simplifies installation
- Improves thermal and acoustic insulation
- Improves ability to meet building codes without tradeoffs

ARCHITECTURAL



Pilkington **Profilit** HURRICANE Testing / Certifications

SAFETY GLAZING

Meets or exceeds the requirements of the National Building Code reference ANSI 97.1-1984 and Consumer Products Safety Commission: Title 16 part 1201, 16 CFR safety standards for architectural glazing materials.

PRODUCT CERTIFICATION

The Pilkington Profilit Hurricane channel glass system is a unique translucent glass specifically designed to conform to the hurricane impact regulations and is used in regions requiring resistance to wind borne debris.

This system has been tested in the United States for:

- · Air, water and structural performance
- Sound reduction
- · Thermal performance
- · Glazing safety
- · Hurricane impact, NOA # 06-0810.12
- · Florida State product approval # FL 10792
- · Seismic performance

TESTING

Pilkington Profilit Hurricane has been tested to meet the following standards:

- · AAMA 501.4
- · AAMA 101
- · AAMA 1801-97
- · AAMA/NWWDA 101/1
- · S297
- · ASTM F 588-97
- · NFRC 100-97
- · ANSI Z97.1-1984
- CSPC 16 CFR 1201. Cat. II
- · TAS 201, TAS 202, TAS 203

For copies of these tests and other testing not listed, please contact Technical Glass Products at 1-800-426-0279.



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Pilkington **Profilit**[™] HURRICANE

Systems

The profiles are also available with a thermal break, preventing cold bridging through the Pilkington Profilit Hurricane system. The PVC insert locates the glass within the aluminum frame, preventing glass-to-metal contact and is impact and weather resistant. The simplicity of the aluminum framework, with the small number of components, allows for a quick easy installation. Note: TGP framing systems are designed to meet or exceed the AAMA industry standards and US perimeter detailing.

The profiles are available for the K-70 Series glass types with many variations of extrusion to suit any installation condition.

ALUMINUM FRAMING SYSTEMS

Aluminum perimeter frames are extruded from window grade alloy 6063 complying with the requirements of ASTM B221. The frames consist of a basic channel system with a plastic insert for the glass. Various frame finishes are offered including

FINISHES

MILL FINISH

Frame profiles may be supplied for finishing in accordance with individual contract requirements.

ANODIZED

Frame profiles can also be supplied with anodized finish in a full range of anodized colors. This is classified as a "superior external architectural" finish and has a surface penetration of .007 or greater inches.

ARCHITECTURAL PAINTED COATINGS

anodized, painted and mill finish.

A wide range of architectural painting specifications can be pre-applied to the finish, including a wide range of PPG Architectural paint systems and colors.

Systems

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Pilkington **Profilit**[™] HURRICANE

CORNER BRACKET

(USED AT HEAD CORNERS ONLY)

Systems





K-70 SYSTEMS ISOMETRIC VIEW

NOTE: REFER TO "MATERIAL HANDLING, FRAME

FABRICATION AND SYSTEM INSTALLATION"

Pilkington **Profilit**[™] HURRICANE

Sealant Details

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DATE

SEALANTS

The sealant used is a high quality translucent silicone, which picks up the natural tint of the glass. The sealant is applied to all glass-to-glass, glass-to-aluminum and aluminum-to-structure joints, providing a completely weather-tight seal to the Pilkington Profilit Hurricane system. The silicone recommended is a one-part moisture curing sealant. The sealant has outstanding durability, resisting chemical and atmospheric deterioration.

Recommended Sealants: Schnee Moorhead S731, Dow Corning 795, Dow Corning 1199, GE Sil-Glaze SCS 2801, and Tremco Tremsil 600.





Pilkington **Profilit**[®] HURRICANE Profiles and Components







991WT-R SILL



Profiles and Components

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Pilkington **Profilit** HURRICANE Applications and Details

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Applications and Details

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DATE











Date:

The **Commercial Green Building Checklist** provides 10 green building strategies applicable to most commercial construction projects in Alameda County.

Instructions: Applicants must fill out the entire checklist based on the planned scope of work, and projects must meet all applicable measures (including "A" and "B" portions of number measures unless otherwise stated). The Commercial Checklist includes three check-boxes per measure. Indicate selections for "Yes," "No," or "N/A" (Not Applicable) depending on the scope of work for the project. Indicate where on the plans and/or specifications a particular measure can be located by providing a reference or description in the "Notes" field. Use additional space on Page 10 if more notes are needed. The Documentation column provides suggested ways to document compliance for applicants. The Verification column provides suggested verification steps that the enforcing agency will undertake during review.

Note for Projects that trigger the California Green Building Standards Code (CALGreen, Title 24, Part 11) mandatory requirements: The Small Commercial Checklist measures herein are required in addition to the CALGreen requirements and are not a substitute for meeting CALGreen mandatory provisions. Several of the green strategies in this Checklist are similar or equivalent to CALGreen requirements and have been marked as such. Measures with overlap are notated with a reference to the similar CALGreen section and the designation "relates to" CALGreen. Measures which are equivalent to CALGreen are notated with a reference to the CALGreen section and the designation "relates to" CALGreen code provisions at www.bsc.ca.gov/CALGreen.

About the Checklist: The <u>Commercial Green Building Checklist</u> was developed for Alameda County jurisdictions by StopWaste.Org (the Alameda County Waste Management Authority & Recycling Board acting as one public agency). This Checklist leverages incentives and resources available in Alameda County, including the Small Commercial Green Materials Rebate Program. To view rebate program details, download an electronic copy of this Checklist, or find links to referenced information in this Checklist, visit <u>www.StopWaste.org/SmallCommercial</u>.

Project:

Address:

| | | General Requirement | 5 | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Yes No N/A Measure & R | equirement | Documentation | Verification | References & Notes |
| A. Required for All Pro | jects: Include This | Checklist on Plans | | |
| Include a copy of the comp Building Checklist on buildir | leted Commercial Green ng plans. | The Commercial Checklist is available as a fillable PDF form from the <u>Commercial</u> <u>Checklist</u> website. Complete the form and insert it into the building plan set. Indicate the location of the Checklist within the plans in the box at right. | Review at Plan Check: Review the plan page indicated on the Checklist and verify it is attached to the set that will go into the field for verification. | |
| B. Operations & Maint | enance Plan | | | |
| For all projects, develop a Maintenance (O&M) Plan fo Download a guide to green www.stopwaste.org/docs/gr Also investigate participatio Alameda County Green Bu: (www.greenbiz.ca.gov), Sm Material Rebate program (www.stopwaste.org/smallo utility incentive programs. If EnergyStar's portfolio mana performance tracking progr encouraged (www.energysi Consider utilizing a green le guidebooks, best practices, green leases are available Library (www.greenleaselib | an Operations & or the building. O&M at reenmaintguide.pdf. siness Program nall Commercial Green commercial), and local Participation in ager benchmarking and ram is strongly tar.gov/buildings). ease. Numerous , toolkits and samples of from the Green Lease rary.com). | Develop an O&M plan for the project. The plan should address all that apply: building lighting, heating, cooling, plumbing, solar, rainwater catchment, irrigation/landscaping practices and other systems as well as more general building policies (such as green cleaning, environmental purchasing, etc). The plan should describe accessibility of units, proper maintenance techniques, descriptions of proper use, model numbers & cut sheets, manufacturer contact information for replacement/repair/questions. The plan should include switching/controls diagrams, lighting plans, heating, cooling, plumbing, solar, rainwater, irrigation/landscaping practices. Submit signed O&M plan from the owner saying that the O&M plan will be followed once occupied. | Review at Plan Check: Review O&M plan. Verify that all applicable parts of the building are listed in the plan (lighting, heating, maintenance, etc.) <u>Verify On-Site:</u> Verify that all systems are included in the plan. Identify any areas missing and inform owner to correct or supplement the plan as necessary. | |









| Yes No N/A | Measure & Requirement | Documentation | Verification | References & Notes |
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| | | Water | | |
| Water-efficient fixtur | es reduce water use and sewer costs and reduce demand | on water supplies and treatment facilities. | | |
| 4. V | Nater Efficient Plumbing Fixtures [Al here are 2 paths for improving water efficienc | igns with CALGreen Base Code, y: Choose one path (Prescriptive or Pe | Section 5.303.2.3] rformance) and mark the other path a | as "N/A." |
| F | Path 1: Prescriptive measures [Aligns with | CALGreen Table 5.303.2.3, mandator | y 20% reduction max flow rates] | |
| F 1 ((2 0 3 3 n k 4 5 5 9 6 6 7 7 8 8 9 9 | or projects installing new plumbing fixtures, the following maximum thresholds are required for II new fixtures: . Toilets (water closets): High Efficiency Toilets HETs) with flush rate ≤1.28 gallons per flush (gpf). . Urinals: Waterless or low-flow with flush rate ≤ .5 gpf. . Lavatory Faucets: flow rates ≤0.4 gallons per tinute (gpm) @ 60 psi for all faucets except itchen sinks. . Kitchen faucets: flow rates 1.8 gpm @ 60 psi. . Wash fountains: flow rates 1.8 [rim space (in.)/20 pm @60 psi] . Metering faucets flow rates 0.2 gallons/cycle . Metering faucets for wash fountains: 0.20 [rim pace (in)/20 gpm @60 psi] . Pre-rinse Spray Valves: flow rates 2.0 gpm @80 psi | Hoor plan(s) showing location of all new toilets, urinals, faucets and kitchen pre-rinse spray valves in the project. Specification sections or fixture schedules showing that low-flow fixtures (are specified for all new fixtures (if specifications are created for the project). Manufacturer literature (cut sheets) showing flush rate of toilets and urinals to be installed, and flow rates for faucets and spray valves. See the CALGreen code section 5.303.2 for more on the prescriptive requirements for water efficient fixtures. | Review at Plan Check: 1. Floor plan to ensure that all new fixtures are identified. 2. Specifications or fixture schedule clearly states that new fixtures are comply with maximum flush and flow rates. 3. Cross-check the specified fixtures to the manufacturer cut sheets to verify flow and flush rates. <u>Verify On-Site:</u> 1. Verify flow and flush rates. Flush rates for toilets and urinals should be printed on the units or on the flush valve. Flow rates on faucets may be printed on the aerators or elsewhere, but not likely. Match the picture from the manufacturer cut sheet to the installed unit to be sure. | |
| F | Path 2: Performance measures | | | |
| F 2 2 3 4 6 5 5 5 7 7 8 9 8 8 8 | or projects installing new plumbing fixtures, rovide a calculation demonstrating a minimum 0% reduction in the building "water use baseline" ased on the following flow rates: . Showerheads: 2.5 gpm @ 80 psi . Lavatory faucets: 0.5 gpm @ 60 psi . Kitchen faucets: 2.2 gpm @ 60 psi . Wash fountains: 2.2 [rim space (in.)/20 gpm @ 0 psi] . Metering faucets: 0.25 gallons/cycle . Metering faucets: 0.25 gallons/cycle . Metering faucets: 0 rwash fountains: 0.25 [rim pace (in.)/20 gpm @60 psi] . Gravity tank type water closets, flushometer tank rater closets, flushometer valve water closets, lectromechanical hydraulic water closets: 1.6 allons/flush . Urinals: 1.0 gpf | Provide a plumbing calculation on the plans demonstrating an overall minimum 20% water use reduction for all fixture types 1-8. Utilize the CALGreen water calculation guidelines to determine percent savings, found in code section table 5.303.2.2. | Review at Plan Check: Review water reduction calculations and confirm that performance calculations achieve the minimum 20% water reduction compliance. <u>Verify On-Site:</u> Verify that fixtures or systems used to reduce overall water use by 20% have been installed. The inspector may review the fixture specifications to verify compliance or accept self-certification form. | |

Energy

Exceeding energy efficiency minimums results in reduced greenhouse gas emissions, lower utility costs and increased comfort. Another benefit is higher quality construction, thanks to better air sealing, increased insulation, and high efficiency equipment.

5. Improved Energy Efficiency [Relates to CALGreen Section 5.201.1]

There are 2 paths for improving energy efficiency:

Path 1. Performance: Buildings for which energy code compliance modeling is performed, complete Path 1. Check "N/A" in the Path 2 box. Path 2. Prescriptive: Projects for which energy modeling is not employed, complete Path 2. Check "N/A" in the Path 1 box.

Path 1: Building Energy Modeling or On-site Power Generation

| 0 0, 0 | | |
|---------------------------------------------------|----------------------------------------------|-----------------------------------------|
| For all whole building or comprehensive | Submit Title 24 report for whole building or | Review at Plan Check: |
| system projects, beat California minimum | by component. Percent better than code | Review T24 report and check for |
| energy efficiency standards (Title 24, Part 6) by | is determined by TDV from ECON-1 | percent margin better than code. |
| 10% or more. | report. | Review ECON-1 report. |
| | | Verify On-Site: |
| | | Verify Title 24 report by inspecting in |
| | | the field. |



| Yes No N/A | Measure & Requirement | Documentation | Verification | References & Notes |
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| | OR, offset the total project energy demand that exceeds the annual average of 10% better than Title 24, Part 6 threshold via an on-site renewable energy generation (solar, wind, etc.) system. | Provide estimated output and percent of building load to be offset with renewable energy system. Calculations to be provided by a licensed solar installer, electrical contractor, or from the CEC rebate application. Provide manufacturer cut sheets for generation equipment including inverters. | Review at Plan Check: Review estimate of energy generation. <u>Verify On-Site:</u> 1. Verify panels/equipment: manufacturer, model number, and quantity. 2. Verify inverter: manufacturer, model number, quantity. | |
| | Path 2: For projects that DO NOT require bu LIGHTING | uilding energy modeling: Complete al | Il parts below as applicable per pro | vject scope. |
| | For projects retrofitting existing and/or installing all new lighting, reduce Lighting Power Density (LPD) in the facility to 90% of code. | Provide lighting design plans and/or specifications. Calculate the total LPD and include on plans or in other format. The LPD can be calculated from lighting design plans or from Title 24 submissions. Must be a maximum of 90% of Title 24 LPD. Do not include occupancy sensor or other switches/control strategies in this calculation. Where display lighting is used it must be calculated separately and installed lighting shall not exceed the 90% of the maximum display lighting allowed by Title 24 part 6. | Review at Plan Check: Ensure that lighting power density is no more than 90% of that allowed by code by reviewing lighting plans. <u>Verify On-Site:</u> Compare lighting plan to actual installed lighting. Verify wattages, fixture counts, placement, etc. | |
| | For projects with 50% or more occupied space within 30 feet of building perimeter and installing new lighting controls Automatic daylight sensors are installed in at least 75% of spaces with exterior windows, automatic sensors must turn lights on, off, or dim depending on amount of daylight. | Highlight areas to be daylit on plans (those areas or rooms within 15 feet of skylights or exterior windows). Highlight locations of daylight sensors. Provide calculation showing that 75% or more of the space in daylit areas (by square feet or rooms) are under daylighting control. | Review at Plan Check: Review plans for daylight area calculation and sensor/control placement. <u>Verify On-Site:</u> Verify correct placement of daylight sensors. | |
| | For projects where lighting replacement occurs in outside of occupied space, locate occupancy sensors in 40% of intermittent or non- regularly occupied spaces (hallways, bathrooms, closets, conference rooms). Exclude areas containing mechanical equipment or electrical panels which require light for maintenance activities. | Provide lighting plans with intermittent/non-regularly occupied spaces highlighted. Highlight occupancy sensors on plans that serve these spaces. Provide calculation showing that 40% or more of the spaces are controlled by occupancy sensors. | Review at Plan Check: Review plans for intermittent/non- regularly occupied area calculation. <u>Verify On-Site:</u> Verify placement of occupancy controls. | |
| | For projects installing exit signs, all new exit signs in the project are to be LED or luminescent. Recommend replacing all existing exit signs as well, even if not in project scope. | Provide lighting plans specifying correct signage product. | <u>Review at Plan Check:</u> Review plans for correct signage. <u>Verify On-Site:</u> Verify correct product was installed. | |
| | ENVELOPE | | | |
| | For projects replacing windows, all new windows must have a U-factor no higher than 0.47. Solar Heat Gain Coefficient (SHGC) is dependent on glazing percentage and climate zone. Climate Zone 3, for buildings with: - less than 20% glazing, SHGC \leq 0.41. - more than 20% glazing, SHGC \leq 0.35. Climate Zone 12, for buildings with: - less than 20% glazing, SHGC \leq 0.35. - more than 20% glazing, SHGC \leq 0.31. <i>Glazing: non-north window-wall ratio.</i> | Provide plans and/or specifications with a window schedule. Provide manufacturer cut sheets, NFRC label or other documentation showing U-factor and SHGC for windows chosen. | Review at Plan Check: 1. Review plans and/or specifications and manufacturer literature to ensure compliance with U-factor and SHGC. 2. Check the window-wall ratio against the applicable U-factor and SHGC. <u>Verify On-Site:</u> Verify U-factor and SHGC on-site. Inspect before stickers are removed from windows. | |



| Yes No N/A | Measure & Requirement | Documentation | Verification | References & Notes |
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| | HVAC | | | |
| | For projects installing new HVAC Equipment, all new HVAC equipment must comply with the Consortium for Energy Efficiency (CEE) Tier 1 commercial HVAC standards. See <u>www.stopwaste.org/CommercialChecklist</u> for a link to the CEE standards or download them at <u>www.cee1.org/com/com-main.php3</u> . | Provide plans and specifications showing equipment schedule and performance specifications. Provide manufacturer literature confirming compliance with CEE Tier 1 standards. | Review at Plan Check: Review efficiency, model number, and HVAC equipment type. <u>Verify On-Site:</u> Confirm installation of correct equipment. | |
| | For projects replacing a furnace, meet the following high performance minimums. when units being replaced were manufactured after 2001 (<10 years old), replace with units that have a minimum energy efficiency of 92 AFUE. For furnace replacements to units manufactured before 2001 (>10 years old), replace with at least the code required minimum efficiency units. | Submit plans or specifications highlighting efficiency of forced air furnace(s). Submit manufacturer cut sheet for furnace(s) and highlight efficiency. | Review at Plan Check: Review plans/specs for furnace efficiency. <u>Verify On-Site:</u> Check nameplate data and model number to verify equipment efficiency. | |
| | For projects where existing HVAC equipment will be used that is dedicated to the project tenant or space, tune-up HVAC by verifying outside air economizer operation. | Evaluate economizer operation upon startup. Confirm operation of actuator from minimum position to 100% open. Verify economizer operates per control sequence (outside air, room set point) to meet space requirements. | Review at Plan Check: Review economizer start up documentation. <u>Verify On-Site:</u> Verify damper operation: check that damper moves and has the proper stops installed. | |
| | For projects where new ductwork will be installed that is dedicated to the project tenant or space, test and seal all ductwork. | Submit evidence (HERS duct testing contract or report or other documentation that ducts will been sealed and tested) that duct sealing and testing will be performed. Provide final Title 24-2008 Non- Residential Acceptance Form for Duct Testing. | Review at Plan Check: Review documentation of planned duct testing/sealing. <u>Verify On-Site:</u> Review final duct testing report to verify duct testing was completed. | |
| | EQUIPMENT, APPLIANCES, WATER HEATI | NG | | |
| | For projects installing new equipment or appliances, install ENERGY STAR rated office equipment and appliances. For eligible equipment, at least 75% of all new office equipment and 90% of all new appliances must be ENERGY STAR rated. See www.energystar.gov for product lists. | Submit list of all planned new office equipment and appliances. Calculate the percent of planned office equipment and appliances that are to be ENERGY STAR. If ENERGY STAR products are not available for a particular appliance or piece of equipment, note that on the list and do not include those in the percentage calculation. | Review at Plan Check: Review list of appliances and office equipment. Confirm the 75%/90% mark has been reached. <u>Verify On-Site:</u> Look for the ENERGY STAR label on new office equipment and appliances. | |
| | For projects installing new water heating systems, specify gas water heaters above 0.65 EF or preferably a condensing water heater at 0.86. Specify boilers with efficiency of 90% or more. (This excludes all tankless water heaters and any small kitchen or bathroom water heaters under 5 gallons.) | Submit plans or specifications highlighting efficiency of water heater(s) or boiler(s). Submit manufacturer cut sheet for water heaters/boilers and highlight efficiency. | Review at Plan Check: 1. Review plans/specs for efficiency of water heater/boiler. <u>Verify On-Site:</u> 1. Check nameplate data and model number to verify equipment efficiency. | |



| Yes No N/A | Measure & Requirement | Documentation | Verification | References & Notes |
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| | | Materials | | |
| Construction mate save money for b | erials constitute about 22% of the disposed waste stream sta uilding owners through reduced disposal and operating fees. | atewide. Many of these materials can be reduced, Buying environmentally preferable new products | reused or recycled. Recycling reduces the amo can reduce the impact on raw materials extract | ount of material entering landfills and can ion and disposal at end of life. |
| 6 | . Construction Waste Management [Ali | ians with CALGreen Section 5.40 | 081 | |
| | For all projects, during construction, divert at least 50% of job site construction and demolition waste from landfill via recycling or reuse. Check local ordinances for more stringent requirements and additional tools for compliance, such as online submittal and tracking forms. | Prior to construction, complete a construction waste management plan. The City should provide a sample template, or one can be downloaded at <u>www.stopwaste.org/C&D</u>. After construction, provide final waste management plan and verification (service provider weight tags and/or receipts) that 100% of concrete and asphalt concrete were diverted and at least 50% of remaining job site construction waste diverted from landfill via recycling or reuse. If material was taken to a transfer station, a facility average recycling rate must be applied to the amount of material sent to that facility. See <u>www.RecyclingRulesAC.org</u> for a list of mixed-waste diversion recycling rates and locations. | Review at Plan Check: 1. Review the pre-construction waste management plan. 2. Verify final waste management plan once completed. <u>Verify On-Site:</u> Check that materials are being sorted (if applicable) and collected and that contractor is keeping track of waste tags. | |
| 7 | Environmentally Preferable Materials When the materials listed below are within the Renovation projects: <u>At least 2</u> items in scop New Construction projects: <u>At least 5</u> of iter Measures in this section may qualify for a rehe | scope of a building renovation or const e achieve the thresholds listed below; ns in scope achieve the thresholds liste ate under the Green Materials Rebate P | ruction project, follow the guidelines and below. | as listed. |
| | i. Salvaged and Reclaimed Materials. Reuse and/ repurpose materials salvaged from the site, other sites, or purchased at a local salvage yard. | Provide finish schedule or specifications with applicable material(s) highlighted. Provide manufacturer literature to support environmental claims of material. Provide calculation of applicable material percentage. | Review at Plan Check: Finish schedule, manufacturer literature, and quantity calculation. <u>Verify On-Site:</u> Verify manufacturer, product name, and quantity. | |
| | ii. Recycled Content. Use products with a minimum recycled content of 25% by weight. Post-consumer recycled content is preferable. | Provide finish schedule or specifications with applicable material(s) highlighted. Provide manufacturer literature to support environmental claims of material. Provide calculation of applicable material percentage. | Review at Plan Check: Finish schedule, manufacturer literature, and quantity calculation. <u>Verify On-Site:</u> Verify manufacturer, product name, and quantity. | |
| | iii. Low-Emitting Resilient Flooring. (Exceeds the 50% requirement of CALGreen section 5.504.4.6) At least 75% of new flooring should be low- emitting and meet the 2009 Collaborative for High Performance Schools (CHPS) VOC criteria and listed on its Low-Emitting Materials List or certified under the FloorScore program of the Resilient Floor Covering Institute. | Provide finish schedule or specifications with applicable material(s) highlighted. Provide manufacturer literature to support environmental claims of material. Provide calculation of applicable material percentage. | Review at Plan Check: Finish schedule, manufacturer literature, and quantity calculation. <u>Verify On-Site:</u> Verify manufacturer, product name, and quantity. | |



| Yes No N/A | Measure & Requirement | Documentation | Verification | References & Notes |
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| | iv. Exterior Paint. At least 50% of all exterior paint (by square footage or volume) is recycled content (40%+). For new construction projects, this credit is superseded by CALGreen's low-emitting paint requirements and may not be achievable. | Provide finish schedule or specifications with applicable material(s) highlighted. Provide manufacturer literature showing recycled content. Provide calculation of applicable material percentage. | Review at Plan Check: Finish schedule, manufacturer literature, and quantity calculation. <u>Verify On-Site:</u> Verify manufacturer, product name, and quantity. | |
| | v. Low-Emitting Interior Paint. (Relates to CALGreen Section 5.504.4.3) All interior paints are low emitting: < 50 grams/liter for flat paints, < 150 g/L for non-flat high gloss coatings, and < 100 g/L for non-flat coatings. | Provide finish schedule or specifications with applicable material(s) highlighted. Provide manufacturer literature to support environmental claims of material. Provide documentation that all paints and coatings are low-emitting. Provide MSDS sheets. | Review at Plan Check: Finish schedule and manufacturer literature. <u>Verify On-Site:</u> Verify manufacturer and product name. | |
| | vi. Low-Emitting Adhesives & Sealants. (Aligns with CALGreen Section 5.504.4.1) All adhesives and sealants are low-emitting according to the South Coast Air Quality Management District Rule 1168 (see www.agmd.gov/rules/reg/reg11/r1168.pdf for VOC limits). | Provide finish schedule or specifications with applicable material(s) highlighted. Provide manufacturer literature to support environmental claims of material. Provide documentation that all adhesives and sealants are low-emitting. Provide MSDS sheets. | Review at Plan Check: Finish schedule and manufacturer literature. <u>Verify On-Site:</u> Verify manufacturer and product name. | |
| | vii. Low-Emitting Carpeting. (Aligns with CALGreen section 5.504.4.4) All carpet installed in the building interior shall meet the testing and product requirements of one of the following: 1. Carpet and Rug Institute's Green Label Plus Program. See <u>www.carpet-rug.org</u> for label requirements and product lists. 2. California Department of Public Health Standard Practice for the testing of VOCs (Specification 01350). 3. NSF/ANSI 140 at the Gold level 4. Scientific Certifications Systems Sustainable Choice. All carpet cushion installed in the building interior shall meet the requirements of Carpet and Rug Institute Green Label Program. All carpet adhesive shall meet 50 g/L VOC limit. | Provide finish schedule or specifications with applicable material(s) highlighted. Provide manufacturer literature to support environmental claims of material. Provide CRI Green Label Plus, Spec 01350, NSF/ANSI 140 Gold, or SCS Sustainable Choice documentation. | Review at Plan Check: Finish schedule and manufacturer literature. <u>Verify On-Site:</u> Verify manufacturer and product name. | |
| | viii. Low-Emitting Composite Wood. (Aligns with CALGreen section 5.504.4.5) Where complying composite wood product is readily available for non-residential occupancies, meet current formaldehyde limits (ppm) as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.): Hardwood plywood veneer core: 0.05 Hardwood plywood veneer core: 0.08 Particle board: 0.09 Medium density fiberboard: 0.11 Thin medium density fiberboard: 0.21 | Provide finish schedule or specifications with applicable material(s) highlighted. (Specify levels of formaldehyde in composite wood products on the plans or in the project specifications.) Provide manufacturer literature to support environmental claims of material. Provide MSDS sheets of composite wood. | Review at Plan Check: Finish schedule and manufacturer literature. Review plans and specifications to confirm that the composite wood products and/or resins are specified to beat the CARB timetable or meet the ultra-low formaldehyde limits. <u>Verify On-Site:</u> Verify manufacturer, product name, and quantity, or at least stored on site with the ability to be verified. | |



| Yes No N/A | Measure & Requirement | Documentation | Verification | References & Notes |
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| | ix. Responsible Sourcing of New Materials. Purchase materials that include responsible extraction, harvesting, and manufacturing processes with reputable standards and tracking, such as Forest Stewardship Council (FSC) wood products. | Provide finish schedule or specifications with applicable material(s) highlighted. Provide manufacturer literature to support environmental claims of material (recycled content %, FSC certification, etc.). Provide calculation of applicable material percentage. | Review at Plan Check: Finish schedule, manufacturer literature, and quantity calculation. <u>Verify On-Site:</u> Verify manufacturer, product name, and quantity. | |
| 8. | Collection of Recyclables [CALGreen S | Section 5.410.1] | | |
| | For all projects, encourage ongoing recycling by providing at least as much bin volume for recycling as for waste. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non- hazardous materials for recycling, including paper, corrugated cardboard, glass, plastics, and metals. Additionally, where feasible, recycle at least 1 of the following material streams: food scraps, household hazardous waste (fluorescent lamps, batteries, oil, etc.), or e-waste (computer equipment). | Provide plans showing recycling receptacles and signage are provided in all applicable areas: offices, private rooms, meeting rooms, kitchens, etc. Recycling areas shall be secure; be protected from the elements, such as rain; and be adequately separated from occupied spaces for protection against impacts such as noise, odor, and pests. Where feasible, recycling areas should be located adjacent to solid waste collection areas. Provide calculation of adequate recycling volume. Provide calculation of recycling for at least 6 (the 5 required materials plus the additional 1) of the material streams. Submit recycling hauler information for recyclables and food scraps. Provide a short narrative on how the facility will collect and recycle hazardous and e- waste. | Review at Plan Check: 1. Review plans and confirm that the appropriate recycling areas and signage for those areas have been provided on the plans. 2. Assess that the central collection space is large enough to fit recycling and waste bins and that it is appropriately sized to fit commercial space (including tenants, if applicable.). At least half the total bin volume must be dedicated to recycling. 3. Verify recycling hauler/collection information. Verify On-Site: 1. Look for recycling bins throughout the site and verify that the central collection area has at least half its volume dedicated to recycling. 2. Based on the permit set, verify recycling areas and signage for those areas on the plans and specifications are installed. | |

Indoor Environment & Air

Effective daylighting and natural ventilation may improve indoor environmental quality. Natural ventilation can reduce heating and cooling requirements and may justify smaller, simpler HVAC systems, which can reduce the project's first costs. Ventilation (natural or mechanical) improves indoor air quality. Daylighting can offset some of the electric lighting load.

| Daylight, Views & Natural Ventilation | | |
|----------------------------------------------------|--------------------------------------------|----------------------------------------|
| For projects that are replacing windows and | For spaces where windows are installed | Review at Plan Check: |
| (re)configuring interior work spaces/layout, | or replaced: | 1. Check submitted plans for views and |
| provide access to views to the outdoors (any | 1. Provide window schedule showing | operable windows. |
| window or skylight can provide a view) from 80% of | operable and non-operable windows. | 2. Review the calculation of views. |
| regularly occupied areas (i.e. offices, reception | 2. Provide site plan and/or calculation on | Verify On-Site: |
| areas, bedrooms, kitchens, living rooms, dining | the number of occupants within 15 feet of | Look for windows and skylights and |
| rooms, but not bathrooms or storage areas). | windows, showing that at least half of the | test that some windows on every floor |
| Operable windows are recommended for all | workers have access to an operable | are operable. Ensure that there are |
| projects but are strongly encouraged in spaces | window. | appropriate extension tools necessary |
| where 2 or more walls have windows or access to | 3. Calculate percent of regularly occupied | for opening hard-to-reach windows. |
| outdoor air and there is not a security compromise | areas with/without access to views. | |
| by having operable windows. | | |
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| Yes No N/A Measure & Requirement | Documentation | Verification | References & Notes |
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| 10. Fresh Air Monitors for Densely O | ccupied Spaces [Relates to CALGre | en Section 5.506.2] | |
| For new building systems with moveable outside air dampers, provide the following: For densely occupied spaces, such as multi-purpos rooms or conference rooms, provide CO2 mon with alarms (example: small visual indicator sur a light to alert building occupants or building operator), and the ability to manually adjust air [Note that for buildings equipped with demand control ventilation, CO2 sensors and ventilation controls are required, under CALGreen and Tit 24, Part 6, Section 121(c).] | Provide mechanical plans with CO2 an anitors highlighted. Confirm alarm function (user adjustable) of Building Automation ch as System. Verify control sequence resulting from "alarm" in Sequence of Operations. Written confirmation that testing, adjusting and balancing (TAB) contractor will adjust and balance the moveable outside air damper to provide cooling as required for air conditioning the space. When CO2 monitor located within referenced AC unit's conditioned space sends an alarm signal the economizer damper actuator shall open outside air damper to provide 30% more air than the minimum damper setting. | Review at Plan Check: 1. Check plans for airflow adjustment technology and alarming potential. 2. Review Title 24 "Acceptance" forms. <u>Verify On-Site:</u> 1. Confirm operation of CO2 monitors. 2. Ensure that the AC system has a movable outside air damper and CO2 monitor and that the AC control sequence specifies that the CO2 monitor alarm overrides outside air damper position. | |

| | Additional Notes & References |
|-------------------------------|--------------------------------------------------------------------------------------------|
| Use this section to provide a | additional comments, notes, or indicate references to plan or specification sheet numbers. |
| Measure Number/Title | Additional Notes & References |
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CITY OF OAKLAND STORMWATER SUPPLEMENTAL FORM

This form must be submitted with all Planning and Zoning applications for projects defined as Regulated Projects by Provision C.3 of the Municipal Regional Stormwater Permit issued under the National Pollutant Discharge Elimination System (NPDES). Regulated Projects are: • Projects that create or replace <u>10,000 square feet or more</u> of new or existing impervious surface area; and

- Since December 1, 2011, the following projects that create or replace <u>5,000 square feet or more</u> of new or impervious surface area:
 Auto servicing, auto repair, and gas stations;
 - o Restaurants (full service, limited service, and fast-food); and
 - Uncovered parking lots (including stand-alone parking lots, parking lots serving an activity, and uncovered portions of parking structures unless drainage from the uncovered portion of the parking structure is connected to the sanitary sewer system).

Regulated Projects <u>do not</u> include individual single-family dwellings (that are not part of a larger multi-unit development) or routine maintenance activities. For more information about the C.3 stormwater requirements, please refer to the City of Oakland's Overview of Provision C.3 and the website of the Alameda Countywide Clean Water Program: <u>http://www.cleanwaterprogram.org/</u>

GENERAL INFORMATION

| 1. Project Name (if applicable): EBMUD Willow Service Center |
|--------------------------------------------------------------------------------------------------------------------------|
| 2. Project Address (including cross street): 2430 Willow Street & 26th Street |
| 3. Assessor's Parcel Number(s): 007 057900110 |
| 4. Applicant's Name: Adam Carr, RPR Architects |
| 5. Applicant's Address: 1629 Telegraph Avenue, Mezzanine, Oakland, CA 94602 |
| 6. Applicant's Phone: (510) 272-0654 Email: awc@rprarchitects.com |
| 7. Project Type (check all that apply): 🗌 Residential 🗹 Commercial 🗹 Industrial 🗍 Mixed Use 🗌 Streets/Roads ¹ |
| 8. Project Description (Also note any past or future phases of project): |
| construction of an office building, a storage building, and site improvements |
| |
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| |
| 9. Slope on Site: 0.57 % 10: Project Watershed: ² West Oakland Watershed |
| 11 Total Site Area (acres): 1.84 12: Total L and Area Disturbed ³ (acres) 1.84 |
| 12. Total Datu Area (acres) |
| Special Projects Worksheet Completed by: |
| 07/08/2022 |

| Signature | Date |
|-------------|----------------------------------------------------------------------------------------------------------|
| Ayanda M | cheke, |
| SANDIS | |
| Print or Ty | e Name |
| To Be Com | eted By City Staff: |
| Date Applie | ion Submitted: |
| Case Numb | (s): |
| ▹ Note to | aff: Please route a copy of this form to the stormwater coordinator in the Planning and Zoning Division. |

1 Roadway projects that replace existing impervious surface are subject to C.3 requirements only if one or more lanes of travel are added.

² Project Watershed information is available via the following link. http://acfloodcontrol.org/resources/explore-watersheds

³ Includes clearing, grading, excavating and stockpiling.

SUPPLEMENTAL PROJECT INFORMATION

1. Type of Development (check one):

Development on previously <u>undeveloped</u> land
 Development on previously <u>developed</u> land

2. Site Calculations:

| Type of Impervious Surface | Pre-Project Impervious Surface (sq.ft.) | Existing Impervious Surface to be Replaced ⁷ (sq.ft.) | New Impervious Surface to be Created ⁷ (sq.ft.) | Post- project pervious surface (sq.ft.) |
|-----------------------------------------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------|-----------------------------------------------------|
| Roof area(s) – excluding any portion of the roof that is vegetated ("green roof") | 11,116 | 0 | 10,042 | |
| Impervious ⁵ sidewalks, patios, paths, driveways | 53,763 | 1,839 | 48,884 | |
| Impervious ⁵ uncovered parking ⁶ | 0 | 0 | 16,150 | N/A |
| Streets (public) | N/A | N/A | N/A | |
| Streets (private) | N/A | N/A | N/A | |
| Totals: | 64,879 | 1,839 | 75,076 | 3,235 |
| Area of Existing Impervious Surface to remain in place | 0 | | N/A | |
| Total New Impervious Surface (sum of totals for co | olumns b and c): | | 76,915 | |

Impervious Surface = Any surface that cannot be effectively (easily) penetrated by water. Permeable paving (such as permeable concrete and interlocking pavers) underlain with permeable soil or permeable storage material, and green roofs with a minimum of three inches of planting media, are <u>not</u> considered impervious surfaces.

Yes

No

 \mathbf{M}

- **3.** Does the total amount of Replaced impervious surface equal 50 percent or more of the Pre-Project Impervious Surface? If YES, stormwater treatment requirements apply to the whole site; if NO, these requirements apply only to the impervious surface created and/or replaced.
- 4. Is the project installing a total of 3,000 sq. ft. or more (excluding private-use patios in single family homes, townhomes, or condominiums) of new pervious pavement systems? (Pervious pavement systems include pervious concrete, pervious asphalt, pervious pavers and grid pavers etc. and are described in the C3 Technical Guidance at www.cleanwaterprogram.org) If YES, stormwater treatment system inspection requirements (C.3.h) apply⁴; If NO, inspection requirements only apply if there are other treatment systems installed on the project.
- **5.** Is the site a "Hillside Site" that disturbs 5,000 sq. ft. or more, but less than 1.0 acre (43,560 sq.ft.) of land? "Hillside Sites" in the City of Oakland are sites with a footprint slope of greater than 20%.⁵

⁴ Planning staff to notify Inspection staff that O&M inspections are required.

⁵ Planning staff to notify Inspection staff that storm water inspections are required during the wet weather season (October 1 through April 30) and other times as appropriate.

APPLICABILITY OF C.3 REQUIREMENTS TO PROJECT

This section of the form will determine which requirements of Provision C.3 apply to the project.

SITE DESIGN MEASURES

Site design measures are site planning techniques that conserve natural spaces and/or limit the amount of impervious surface in development projects in order to minimize the amount of stormwater runoff.

10. Site Design Measures. The following site design measures are required for <u>all</u> C.3 Regulated Projects as applicable; Projects that create and/or replace 2,500 - 10,000 sq. ft. of impervious surface, and stand-alone single family homes that create/replace 2,500 sq. ft. or more of impervious surface, must include one of Site Design Measures a through g.i through g.vi (check "Applicable" if the measure is applicable to the project; check "Not Applicable" if the measure is not applicable):

| | <u>Applicable</u> | Not Applicable |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------|
| a. Minimize land disturbance and impervious surfaces (especially parking lots). | | ⊻ |
| b. Maximize permeability by clustering development and preserving open space. | | S |
| c. Use micro-detention, including distributed landscape based detention | | |
| d. Protect sensitive areas, including wetland and riparian areas, and minimize changes to natural topography. | | |
| e. Use self-treating or self-retaining areas ⁶ | | |
| f. Plant or preserve receptor trees. ⁷ | | ≤ |
| g. Minimize stormwater runoff by implementing one or more of the following site design measures (check "Applicable" for <u>at least one</u> measure below): | | |
| i. Direct roof runoff into cisterns or rain barrels and reuse for irrigation or other non-potable use. | | ≤ |
| ii. Direct roof runoff onto vegetated areas. | | |
| iii. Direct runoff from sidewalks, walkways, and/or patios onto vegetated areas. | S | |
| iv. Direct runoff from driveways and/or uncovered parking lots onto vegetated areas. | ` | |
| v. Construct sidewalks, walkways, and/or patios with permeable surfaces. ⁸ | | 5 |
| vi. Construct driveways, bike lanes, and/or uncovered parking lots with permeable surfaces. ⁹ | | ≤ |
| | | |

 $^{^{6}}_{-}$ Use the specifications in the C3 Technical Guidance (Version 4.1) (Sections 4.1 and 4.2)

 $^{^7}$ Use the specifications in the C3 Technical Guidance (Version 4.1) (Section 4.5)

⁸ Use the specifications in the C3 Technical Guidance (Version 4.1) or for small projects see the BASMAA Pervious Paving Factsheet. www.cleanwaterprogram.org and click on "Resources."

⁹ See Footnote 5.

SOURCE CONTROL MEASURES

Source control measures are structural and operational measures that aim to prevent stormwater runoff pollution by reducing contact between runoff and the source of pollution.

11. Source Control Measures. The following source control measures are required for <u>all</u> projects as applicable (check "Applicable" if the measure is applicable to the project; check "Not Applicable" if the measure is not applicable):

| | | <u>Applicable</u> | Not Applicable |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------|
| a. | Install stenciling at storm drain inlets, such as "No Dumping – Drains to Bay." | ☑ | |
| b. | Plumb interior floor drains to sanitary sewer | | |
| c. | Plumb interior parking garage floor drains to sanitary sewer. | | |
| d. | Cover and enclose trash/recycling storage areas and design these areas to prevent storm water run-on and run-off into the trash area. Connect any drains to sanitary sewer. | | |
| e. | Cover outdoor equipment and material storage area or design to avoid pollutant contact with stormwater runoff. Locate area only on paved and contained areas. | | ⊻ |
| f. | Cover and/or grade to minimize run-on to and runoff from the loading area. Position downspouts to direct stormwater away from the loading area. Drain water from loading docks to the sanitary sewer. Install door skirts between the trailers and the building. | | ⊻ |
| g. | Provide sink or other area for restaurant and food service equipment cleaning, which is: connected to a grease interceptor prior to sanitary sewer discharge and large enough for the equipment to be cleaned. Clean indoors or outdoors in a roofed area designed to prevent stormwater run-on and run-off, and signed to require washing in this area. | | ⊻ |
| h. | Perform outdoor process activities including machine shops, auto repair, industries with pretreatment facilities either indoors or in roofed outdoor area, designed to prevent stormwater run-on and runoff, and to drain to the sanitary sewer. | | 5 |
| i. | Commercial car wash facilities shall discharge to the sanitary sewer. Roofed, pave and berm vehicle equipment wash area to prevent stormwater run-on and runoff and sign as wash area. | | 1 |
| j. | Designate vehicle repair/maintenance area indoors, or an outdoors area designed to prevent stormwater run-on and runoff and provide secondary containment. Do not install drains in the secondary containment areas. No floor drains unless pretreated prior to discharge to the sanitary sewer. Connect parts cleaning areas to sanitary sewer. | | 1 |
| k. | Discharge swimming pool water to on-site vegetated areas or to the sanitary sewer. | | |
| 1. | Discharge fire sprinkler test water to on-site vegetated areas or to the sanitary sewer if discharge to on-site vegetated areas is not feasible. | ₫ | |
| m | . Incorporate sustainable landscaping practices, retain existing vegetation, use efficient irrigation systems to minimize runoff, promote surface infiltration, minimize the use of pesticides and fertilizers, and other practices of Bay Friendly Landscaping. ¹⁰ | ⊻ | |
| n. | Discharge architectural copper rinse water to sanitary sewer, or collect and dispose offsite. | | ⊻ |
| 0. | Drain air conditioning unit water to landscaping or discharge to the sanitary sewer. Drain roofs to unpaved area where practicable. Drain boiler drain lines, roof top equipment, all wash water to sanitary sewer. | | a |
| p. | Fuel dispensing areas shall have impermeable surface that is graded to prevent ponding and separated from the rest of the site by a grade break. Canopies shall extend at least | | ⊻ |

10' in each direction from pumps and drain away from fueling area.

¹⁰ More information about Bay Friendly Landscaping is available on the StopWaste.Org website: <u>http://www.stopwaste.org/home/index.asp?page=8</u>

SPECIAL PROJECTS

Provision C.3 requires development projects to incorporate stormwater treatment measures into the project in order to remove pollutants from stormwater runoff. Since December 1, 2011, only Low Impact Development (LID) treatment measures are allowed. LID treatment measures are rainwater harvesting, infiltration, evapotranspiration, and biotreatment. Non-LID treatment measures include high flowrate tree well filters and mechanical vault-type media filters. Non-LID treatment measures are only allowed for Special Projects as defined by Provision C.3. This section of the form will determine if the project qualifies as a Special Project and non-LID treatment measures are allowed.

| 12. Density (check one): | Residential Project – Dwelling Units (DU) per Acre: | | | | |
|--------------------------|------------------------------------------------------------------------|--|--|--|--|
| | □ Mixed-Use Project: Indicate either DU or FAR above. | | | | |
| Special Project Category | <u>y "A"</u> | | | | |
| 13. Does the project hav | 3. Does the project have ALL the following characteristics? | | | | |

| | | Yes | (No) |
|----|--------------------------------------------------------------------------------------|-----|--------|
| a. | Located in a CBD, D-BV1, D-BV-2, D-LM-2, CN-1, CN-2, CN-3, RU-5, or S-15 | | \Box |
| | zone; or | | |
| | Located in a Retail, Dining, and Entertainment district in Jack London Square on | | |
| | the City's General Plan map; or | | |
| | Located in a City-designated historic district (either an Area of Primary Importance | | |
| | or an Area of Secondary Importance); or | | |
| | Located on a site listed on the City's Local Register of Historical Resources (as | | • |
| | defined by the Oakland Planning Code)? | | |
| b. | Create and/or replaces 0.5 acres or less of impervious surface? | | |
| c. | Include no surface parking, except for incidental parking for emergency vehicle | | |
| | access, ADA access, and passenger or freight loading zones? | | |
| d. | Have at least 85% lot coverage by permanent structures? | | |
| | | | |

➤ If you checked "yes" for <u>all</u> of the above questions, the project qualifies as a <u>Category "A" Special Project</u>.

> If you checked "no" for <u>any</u> of the above questions, the project is not a <u>Category "A" Special Project</u>.

Special Project Category "B"

14. Does the project have ALL the following characteristics? Yes a. Located in a CBD, D-BV-1, D-BV-2, D-LM-2, CN-1, CN-2, CN-3, RU-5, or S-15 zone; or Located in a Retail, Dining, and Entertainment district in Jack London Square on the City's General Plan map; or Located in a City-designated historic district (either an Area of Primary Importance or an Area of Secondary Importance); or Located on a site listed on the City's Local Register of Historical Resources (as defined by the Oakland Planning Code)? b. Create and/or replace more than 0.5 acres of impervious surface but no more than 2.0 acres of impervious surface? c. Include no surface parking, except for incidental parking for emergency vehicle access, ADA access, and passenger or freight loading zones? d. Have at least 85% lot coverage by permanent structures? e. Have a minimum Gross Density $(\widehat{GD})^{11}$ of 50 dwelling units per acre (for residential projects) or a floor area ratio (FAR)¹² of 2.0 (for commercial projects)? Either criterion may be used for mixed-use projects¹³.

- > If you checked "yes" for <u>all</u> of the above questions, the project qualifies as a <u>Category "B" Special Project</u>.
- ➢ If you checked "no" for any of the above questions, the project is not a <u>Category "B" Special Project</u>.

Special Project Category "C"

15. Does the project have ALL the following characteristics?

| a. | At least 50% of the project area is located within $\frac{1}{2}$ mile of an existing or planned transit hub: ¹⁴ or | <u>Yes</u> | |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---|
| b. | 100% of the project is located within a planned Priority Development Area (PDA)? ¹⁵ . Characterized as a non-auto-related project? ¹⁶ | | |
| c. | Have a minimum Gross Density of 25 dwelling units per acre (for residential projects) or a floor area ratio (FAR) of 2.0 (for nonresidential projects)? Either criterion may be used for mixed-use projects. | | ⊻ |

➤ If you checked "yes" for <u>all</u> of the above questions, the project qualifies as a <u>Category "C" Special Project</u>.

> If you checked "no" for any of the above questions, the project is not a Category "C" Special Project.

¹¹ Gross Density (GD) is the total number of residential units divided by the acreage of the entire site area, including land occupied by public right-of-ways, recreational, civic, commercial, and other non-residential uses.

⁸ Floor Area Ratio (FAR) is the ratio of the total floor area on all floors of all buildings at a project site (except structures, floors, or floor areas dedicated to parking) to the total project site area.

¹³ Mixed-use project is the development or redevelopment of property to be used for two or more different uses, all intended to be harmonious and complementary.

¹⁴ A transit hub is a rail station, ferry terminal, or bus transfer station served by three or more bus routes. (A bus stop with no supporting services does not qualify.)

¹⁵ A planned PDA is an infill development area formally designated by the Association of Bay Area Governments (ABAG). A map of the planned PDAs in Oakland is attached to this form (see Attachment A).

¹⁶ Category "C" Special Projects excludes auto-related uses including stand-alone surface parking lots, car dealerships, auto and truck rental facilities with on-site surface vehicle storage, fast-food restaurants, activities with drive-through facilities, gas stations, car wash facilities, auto servicing, auto repair, and other auto-related uses.

16. Calculate the amount of stormwater runoff that can be treated with non-LID treatment measures by using the worksheet below. If the project does not quality as a Special Project, skip this step and go to no. 17 and check "no."

Check the Special Project Category(ies) the project qualifies for based on the information from pages 3-4 and circle the Treatment Reduction Credit amount that corresponds to the project's characteristics.

| | Treatment Reduction Credit |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| Category "A" Special Project | |
| All Category "A" Special Projects | 100% |
| Category "B" Special Project | |
| \geq 50 dwellings per acre (residential); or \geq 2.0 floor area ratio (FAR) (nonresidential) | 50% |
| \geq 75 dwellings per acre (residential); or \geq 3.0 floor area ratio (FAR) (nonresidential) | 75% |
| \geq 100 dwellings per acre (residential); or \geq 4.0 floor area ratio (FAR) (nonresidential) | 100% |
| Category "C" Special Project ¹⁷ | |
| a. <u>Location</u> | |
| Within ¹ / ₄ mile of existing transit hub | 50% |
| Between ¹ / ₄ mile and ¹ / ₂ mile of existing transit hub | 25% |
| Within Planned PDA | 25% |
| b. <u>Density</u> | |
| \geq 30 units per acre (residential); or \geq 2.0 floor area ratio (FAR) (nonresidential/mixed-use) | 10% |
| \geq 60 units per acre (residential); or \geq 4.0 floor area ratio (FAR) (nonresidential/mixed-use) | 20% |
| \geq 100 units per acre (residential); or \geq 6.0 floor area ratio (FAR) (nonresidential/mixed-use) | 30% |
| c. <u>Parking</u> | |
| Surface parking occupies $\leq 10\%$ of total post-project impervious surface | 10% |
| No surface parking (except for incidental parking for emergency vehicle access, ADA access, and passenger or freight loading zones) | 20% |
| Total Category "C" (sum of location, density, and parking treatment reduction credits): | |
| Does the project qualify as a Special Project (check one)? | |
| ₩ No | |
| □ Yes: | |
| $\Delta = \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{i=1}^{n} \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} $ | |

| a. special | Floject Ca | alegory (A | $, \mathbf{D}, \mathbf{O}(\mathbf{C}).$ |
|------------|------------|------------|-----------------------------------------|
| | | | |

b. LID Treatment Reduction Credit:

c. Maximum Impervious Surface Area Allowed to be Treated with Non-LID Treatment Measures (multiply the amount in [b] by the Total Post-Project Impervious Surface Area [see no. 9 on page 1]):¹⁹ %

sq. ft.

¹⁷ Category "C" Special Projects are only allowed to claim one location credit, one density credit, and one parking credit even if the project qualifies for more than one.

¹⁸ If the project qualifies for more than one category of Special Projects, the project applicant may choose which category applies to the project.

¹⁹ The remaining stormwater runoff requiring treatment must be treated with LID treatment measures. The project applicant may choose to treat stormwater runoff with LID treatment measures even if non-LID treatment measures are allowed.

HYDROMODIFICATION MANAGEMENT

Changes to the timing and volume of stormwater runoff from a site are known as "hydrograph modification" or "hydromodification." Provision C.3 requires certain development projects to incorporate measures to manage hydromodification. This section of the form will determine if hydromodification management measures are required for the project.

24. Does the project have the following characteristics?

| | Yes | <u>No</u> |
|-------------------------------------------------------------------------------------------------------------------------------|-----|-----------|
| a. Create and/or replace one acre or more of impervious surface? | | |
| b. The total post-project amount of impervious surface would exceed the amount of existing/pre-project impervious surface? | ≤ | |
| c. Located in a susceptible area on the Hydromodification Susceptibility Map? ²⁰ | | |

- If you checked "no" for any of the questions above, hydromodification management measures are <u>not</u> required. Go to no. 25 and check "no."
- If you checked "yes" for all of the questions above, hydromodification management measures are required. Go to no. 25 and check "yes."

25. Are Hydromodification Management Measures Required (check one)?

🖬 No

□ Yes. Hydromodification management measures must be designed to meet the following standard:

Hydromodification Management Standard

Hydromodification management measures shall be designed such that post-project stormwater discharge rates and durations match pre-project discharge rates and durations from 10% of the pre-project two-year peak flow up to the pre-project 10-year peak flow.

To assist in the design of hydromodification management measures, the Alameda Countywide Clean Water Program, in collaboration with other clean water agencies, has developed a computer software program called the Bay Area Hydrology Model (BAHM). The BAHM is available at <u>www.bayareahyrologymodel.com</u>. Please refer to the "C.3 Stormwater Technical Guidance" manual available on the Alameda Countywide Clean Water Program's website <u>http://www.cleanwaterprogram.org/</u> for more information about the BAHM and hydromodification management measures.

Hydraulic calculations for hydromodification management measures are not required to be submitted with applications for Planning and Zoning permits/approvals. However, adequate area for hydromodification management measures must be provided in the project drawings submitted with applications for Planning and Zoning permits/approvals.

²⁰ The Hydromodification Susceptibility Map is a tool created by the Alameda Countywide Clean Water Program to locate areas susceptible to hydromodification. The Hydromodification Susceptibility Map is attached to this form (see Attachment B) and is located on the Alameda Countywide Clean Water Program's website: http://www.cleanwaterprogram.org.

PROPOSED STORMWATER MANAGEMENT MEASURES

Use this section to identify the stormwater measures that will be incorporated into the project to comply with Provision C.3.

26. Proposed Site Design Measures. List the required measures from page 2 along with any other proposed site design measures:

Direct runoff from roof, sidewalk, walkway, driveway, and uncovered parking lot onto vegetated

areas.

27. Proposed Source Control Measures. List the required measures from pages 2 and 3 along with any other proposed source control measures:

Discharge fire sprinkler test water to the sanitary sewer, incorporate sustainable landscaping practices, such as minimizing irrigation and runoff, promoting surface infiltration, minimizing the use of pesticides and fertilizers and other practices of Bay Friendly Landscaping, use efficient irrigation systems and install stenciling at storm drain inlets.

28. Proposed Non-LID Treatment Measures. Non-LID treatment measures are only allowed for Special Projects (see pages 3 to 5) <u>AND</u> if it is infeasible to incorporate 100% LID treatment. Are non-LID treatment measures proposed (check one)?

🖬 No

□ Yes (describe):

a. If both non-LID and LID treatment proposed, percentage of drainage area treated with non-LID treatment:

- b. Non-LID treatment measures must meet minimum design criteria published by a government agency or be certified by a government agency. Identify the government agency and the applicable criteria/certification:
- c. If non-LID treatment measures are proposed, provide a discussion explaining why it is infeasible to incorporate 100% LID treatment in the project (attach additional sheets if necessary) as described in Attachment C.²¹ Technical Guidance document attached. Select a treatment measure certified for "Basic" General Use Level Designation (GULD) by the Washington State Department of Ecology's Technical Assessment Protocol Ecology (TAPE). Guidance is provided in Section Appendix J of the C.3 Technical Guidance (download at www.cleanwaterprogram.com excerpt attached).²²

²¹ Both technical and economic factors may be considered in the discussion of the feasibility of 100% LID treatment.

²² TAPE certification is used in order to satisfy Special Project's reporting requirements in the MRP.

30. Proposed Biotreatment Measures. Biotreatment measures may be used to treat stormwater runoff requiring LID treatment. Are biotreatment measures proposed (check one)?

🛛 No

Yes (describe):

All the stormwater runoff from the project site is being treated at bioretention areas before it

leaves the site.

- **31. Numeric Sizing for Stormwater Treatment Measures.** Stormwater treatment measures—both non-LID treatment measures and LID treatment measures (including rainwater harvesting and biotreatment)—must be designed to capture a specified amount of stormwater runoff using one of the design criteria in Provision C.3. Indicate the method to be used to size the proposed stormwater treatment measures (check one):²³
 - a. <u>Volume Hydraulic Design Basis</u> Treatment measures whose primary mode of action depends on *volume capacity*:
 - i. The maximized stormwater capture volume for the area, on the basis of historical rainfall records, determined using the formula and volume capture coefficients set forth in Urban Runoff Quality Management, WEF Manual of Practice No. 23 / ASCE Manual of Practice No 87 (1998), pages 175-178 (e.g., approximately the 85th percentile 24-hour storm runoff event);
 - □ ii. The volume of annual runoff required to achieve 80 percent or more capture, determined in accordance with the methodology set forth in Section 5 of the California Stormwater Quality Association's Stormwater Best Management Practice Handbook, New Development and Redevelopment (2003), using local rainfall data;
 - b. <u>Flow Hydraulic Design Basis</u> Treatment measures whose primary mode of action depends on *flow capacity*:
 - □ i. 10 percent of the 50-year peak flowrate;
 - □ ii. The flow of runoff produced by a rain event equal to at least two times the 85th percentile hourly rainfall intensity for the applicable area, based on historical records of hourly rainfall depths;
 - iii. The flow of runoff resulting from a rain event equal to at least 0.2 inches per hour intensity; or
 - c. Combination Flow and Volume Design Basis Treatment measures using a combination of flow and volume capacity sized to treat at least 80 percent of the total runoff over the life of the project, using local rainfall data.
- **32. Proposed Hydromodification Management Measures.** Hydromodification management measures are required for certain projects (see page 9). Are hydromodification management measures proposed (check one)?

🗹 No

□ Yes (describe):

²³ Hydraulic calculations for proposed stormwater treatment measures are not required to be submitted with applications for Planning and Zoning permits/approvals. However, Provision C.3 requires that the *preliminary* proposed hydraulic sizing method be identified with the Planning and Zoning application.

SUBMITTAL REQUIREMENTS

This section of the form identifies the stormwater-related information required to be submitted with the project application.

- **33.** Submittal Requirements. The following materials/information must be submitted with the application for Planning and Zoning permit(s)/approval:
 - ▲ a. Stormwater Supplemental Form A completed copy of this form.
 - □ b. Preliminary Post-Construction Stormwater Management Plan A project drawing containing the following information (shown and labeled):
 - Location and size of new and replaced impervious surface;
 - Directional surface flow of stormwater runoff;
 - Location of proposed on-site storm drain lines;
 - Preliminary type and location of proposed site design measures;
 - Preliminary type and location of proposed source control measures;
 - Preliminary type and location of proposed stormwater treatment measures; and
 - □ Preliminary type and location of proposed hydromodification management measures (if applicable).

ATTACHMENT A

MAP OF OAKLAND PLANNED PRIORITY DEVELOPMENT AREAS (PDAS)



Department of Planning and Building December 2015

Priority Development Areas (PDAs)

ATTACHMENT B

HYDROMODIFICATION SUSCEPTIBILITY MAP

Map Instructions

Use the map on the following pages to determine if the project is located in a susceptible area. The map is divided into three areas:

High Susceptibility Area (Light Grey) – This area generally consists of steep slopes. Applicable projects in this area are required to incorporate hydromodification management measures.

Potential Susceptibility Area (White) – This area is located between the hills and the tidal zone of San Francisco Bay. This area may be susceptible to hydromodification depending upon the nature of the drainage system. Applicable projects in this area are required to incorporate hydromodification management measures *unless* project stormwater runoff will flow through fully hardened, engineered channels from the project site to the tidal zone. If stormwater runoff from the project site will flow through a natural creek or stream (shown as a thick black line on the map), hydromodification management measures are required.

Tidal Influence / Depositional Area (Dark Grey) – This area is located in the tidal zone of San Francisco Bay. Creeks in this area are generally tidally influenced or primarily depositional. Projects in this area are exempt from hydromodification management measures.



CITY OF OAKLAND Hydromodification Susceptibility Map - West

Map by: City of Oakland, Department of Planning, Building, and Neighborhood Preservation Source: Alameda Countywide Clean Water Program March 2012



CITY OF OAKLAND Hydromodification Susceptibility Map - East

Map by: City of Oakland, Department of Planning, Building, and Neighborhood Preservation Source: Alameda Countywide Clean Water Program March 2012

LOW IMPACT DEVELOPMENT INFEASIBILITY EXCERPTS FROM APPENDIX J OF THE C.3 TECHNICAL GUIDANCE

J.6 LID Infeasibility Requirement for Special Projects

In order to be considered a Special Project, in addition to documenting that all applicable criteria for one of the above-described Special Project categories have been met, the applicant must provide a narrative discussion of the feasibility or infeasibility of using 100 percent LID treatment onsite, offsite, or at a Regional Project. The narrative discussion is required to address the following:

- 1. The infeasibility of treating 100% of the amount of runoff identified in Provision C.3.d for the Regulated Project's drainage area with LID treatment measures onsite;
- 2. The infeasibility of treating 100% of the amount of runoff identified in Provision C.3.d for the Regulated Project's drainage area with LID treatment measures offsite or paying inlieu fees to treat 100% of the Provision C.3.d runoff with LID treatment measures at an offsite or Regional Project; and
- 3. The infeasibility of treating 100% of the amount of runoff identified in Provision C.3.d for the Regulated Project's drainage area with some combination of LID treatment measures onsite, offsite, and/or paying in-lieu fees towards at an offsite or Regional Project.

The discussion is required to contain enough technical and/or economic detail to document the basis of any infeasibility that is determined.

J.6.1 On-site LID Treatment

The narrative discussion should describe how the routing of stormwater runoff has been optimized to route as much runoff as possible to LID treatment measures. A discussion should also be provided for each area of the site for which runoff must be treated with non-LID treatment measures, and should include the following:

- 1. Uses of impervious surfaces that preclude the use of LID treatment; and
- 2. Technical constraints that preclude the use of any landscaped areas for LID treatment, such as:
 - a. Inadequate size to accommodate bio-treatment facilities that meet the sizing requirements for the drainage area;
 - b. Slopes too steep to terrace;
 - c. Proximity to an unstable bank or slope;
 - d. Environmental constraints (e.g., landscaped area is within riparian corridor);
 - e. High groundwater or shallow bedrock;
 - f. Conflict with subsurface utilities;
 - g. Cap over polluted soil or groundwater;
 - h. Lack of head or routing path to move collected runoff to the landscaped area or from the landscaped area to the disposal point;
 - i. Other conflicts or required uses that preclude use for stormwater treatment (explain).
J.6.2 Off-site LID Treatment.

The applicant must demonstrate to the municipality performing the project review that it is infeasible to provide LID treatment of an equivalent amount of runoff offsite either by paying inlieu fees to a regional project or on other property owned by the project proponent in the same watershed (in other words, that alternative compliance, as described in Chapter 9, is infeasible).

Check with the local municipality to determine if there are any regional projects available for alternative compliance purposes (at the time of completion of this Appendix, there were none in Alameda County). These considerations should be documented in the narrative discussion of the feasibility and infeasibility of providing 100% LID treatment.

J.6.3 Combination of On-site and Off-site LID Treatment

The applicant must also demonstrate to the municipality performing the project review that it is infeasible to provide LID treatment of 100% of the amount of runoff specified in Provision C.3.d with some combination of LID measures on-site, offsite, and or paying in-lieu fees to a regional project.

After determining the extent to which stormwater runoff can be optimized to route as much runoff as possible to LID treatment measures, if that amount is less than 100%, and if there are no options to provide LID treatment off-site on a property owned by the project proponent in the same watershed, check with the municipality to determine if there are any regional projects available for alternative compliance purposes for the remainder of the C.3.d amount of runoff. These considerations should be documented in the narrative discussion of the feasibility and infeasibility of providing 100% LID treatment.

.J.7 Select Non-LID Treatment Measures Certified by a Government Agency

MRP Provision C.3.e.vi.(3)(i) requires municipalities to report to the Regional Water Board, for each non-LID treatment measure that the municipality approves, "whether the treatment system either meets minimum design criteria published by a government agency or received certification issued by a government agency, and reference the applicable criteria or certification."

For Special Projects that are allowed to use non-LID treatment measures, applicants are advised to use treatment measures that have been certified by the Washington State Department of Ecology's Technical Assessment Protocol – Ecology (TAPE), under General Use Level Designation (GULD) for Basic Treatment.24 You can identify proprietary media filters and high flow rate tree well filters currently holding this certification at the following link: http://www.ecy.wa.gov/programs/wq/stormwater/newtech/technologies.html.

The municipality may require that any non-LID treatment measures used in a Special Project be TAPE-certified, or the municipality may allow the use of non-LID treatment measures certified by another governmental program.

If the TAPE system is used, treatment measures must be sized based on the hydraulic sizing criteria specified in MRP Provision C.3.d and the design operating rate for which the product received TAPE GULD certification for Basic Treatment. If a different certification program is used, specify the design operating rate for which the product received the relevant certification.

²⁴ "General Use" is distinguished from a pilot or conditional use designation. "Basic Treatment" is distinguished from treatment effectiveness for phosphorus removal. Basic treatment is intended to achieve 80 percent removal of total suspended solids (TSS) for influent concentrations from 100 mg/L to 200 mg/L TSS and achieve 20 mg/L TSS for less heavily loaded influents.



CITY OF OAKLAND Equitable Climate Action Plan Consistency Checklist

250 Frank H. Ogawa Plaza, Suite 2114, Oakland, CA 94612-2031 Zoning Information: 510-238-3911 <u>https://www.oaklandca.gov/topics/planning</u>

The purpose of this Equitable Climate Action Plan Consistency Review Checklist is to determine, for purposes of compliance with the California Environmental Quality Act (CEQA), whether a development project complies with the City of Oakland Equitable Climate Action Plan (ECAP) and the City of Oakland's greenhouse gas (GHG) emissions reduction targets. CEQA Guidelines require the analysis of GHG emissions and potential climate change impacts from new development.

- If a development project completes this Checklist and can qualitatively demonstrate compliance with the Checklist items as part of the project's design, or alternatively, demonstrate to the City's satisfaction why the item is not applicable, then the project will be considered in compliance with the City's CEQA GHG Threshold of Significance.
- If a development project cannot meet all of the Checklist items, the project will alternatively need to demonstrate consistency with the ECAP by complying with the City of Oakland GHG Reduction Plan Condition of Approval.
- If the project cannot demonstrate consistency with the ECAP in either of those two ways, the City will consider the project to have a significant effect on the environment related to GHG emissions.

Application Submittal Requirements

1. The ECAP Consistency Checklist applies to all development projects needing a CEQA GHG emissions analysis, including a specific plan consistency analysis.

2. If required, the ECAP Consistency Review Checklist must be submitted concurrently with the City of Oakland Basic Application.

Application Information

| Applicant's Name/ | Company: Maura Bonnarens / East Bay Municipal Utility District | |
|---------------------|----------------------------------------------------------------|---|
| Property Address: | 2430 Willow Street, Oakland, CA | |
| Assessor's Parcel N | umber:007-0579-01-10 & 007-0579-04-00 | |
| Phone Number: | 510.287.1023 | |
| E-mail: maura. | connarens@ebmud.com | - |

| Checklist Item (Check the appropriate box and provide explanation for your answer). | | | | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|------|--|--|--|
| Transportation & Land Use | | | | | | |
| 1. Is the proposed project substantially consistent with the City's over-all goals for land use and urban form, and/or taking advantage of allowable density | Yes | No | N/A | | | |
| and/or floor area ratio (FAR) standards in the City's General Plan? (TLU1) | | | X | | | |
| Please explain how the proposed project is substantially consistent with the respect to density and FAR standards, land use, and urban form. | City's Gen | eral Plan | with | | | |
| Project is industrial in nature for a local public utility. The project type i to the General Plan density and FAR standards in question. | s not subj | ect | | | | |
| 2. For developments in "Transit Accessible Areas" as defined in the Planning | Yes | No | N/A | | | |
| Code, would the project provide: 1) less than half the maximum allowable parking, ii) the minimum allowable parking, or iii) take advantage of available parking reductions? (TLU1) | | | x | | | |
| Please explain how the proposed project meets this action item. | | | | | | |
| Project is not in a Transit Accessible Area. | | | | | | |
| | | I | I | | | |
| 3. For projects including structured parking, would the structured parking be designed for future adaptation to other uses? (Examples include, but are not | Yes | No | N/A | | | |
| limited to: the use of speed ramps instead of sloped floors.). (TLU1) | | | Х | | | |
| Please explain how the proposed project meets this action item. | | | | | | |
| Project does not include a parking garage. | | | | | | |
| 4. For projects that <i>are</i> subject to a Transportation Demand Management Program, would the project include transit passes for employees and/or | Yes | No | N/A | | | |
| residents? (TLU1) | | | х | | | |
| Please explain how the proposed project meets this action item. | | | | | | |
| | | | | | | |

| 5. For projects that are <i>not</i> subject to a Transportation Demand Management Program, would the project incorporate one or more of the optional | Yes | No | N/A |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|----------|
| Transportation Demand Management measures that reduce dependency on single-occupancy vehicles? (Examples include but are not limited to transit passes or subsidies to employees and/or residents; carpooling; vanpooling; or shuttle programs; on-site carshare program; guaranteed ride home programs) (TLU1 & TLU8) | x | | |
| Please explain how the proposed project meets this action item. | ronoit ou | haidiaa | oro oloo |
| available to employees. | ransit su | DSIGIES | are also |
| 6. Does the project comply with the Plug-In Electric Vehicle (PEV) Charging Infrastructure requirements (Chapter 15.04 of the Oakland Municipal Code), | Yes | No | N/A |
| 1f applicable? (TLU2 & TLU-5) | x | | |
| Please explain how the proposed project meets this action item. | | | |
| Project provides four (4) employee parking stalls for E.V. charging. Project implementation of additional E.V. charging of EBMUD fleet vehicles. | ct also pl | ans for f | uture |
| 7. Would the project reduce or prevent the direct displacement of residents and essential businesses? (For residential projects, would the project comply | Yes | No | N/A |
| with SB 330, if applicable? For projects that demolish an existing commercial space, would the project include comparable square footage of neighborhood serving commercial floor space.) (TLU3) | | | x |
| Please explain how the proposed project meets this action item. | <u> </u> | | |
| Project is located on an existing industrial site. | | | |
| | | | |

| 9 Would the project prioritize sidewalls and such appear consistent with the | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------|---------------|--|--|
| 6. Would the project prioritize sidewark and curb space consistent with the City's adopted Bike and Pedestrian Plans? (The project should not prevent | Yes | No | N/A | | |
| the City's Bike and Pedestrian Plans from being implemented. For example, do not install a garage entrance where a planned bike path would be unless otherwise infeasible due to Planning Code requirements, limited frontage or other constraints.) (TLU7) | х | | | | |
| Please explain how the proposed project meets this action item. | <u> </u> | I | <u> </u> | | |
| Project provides new sidewalks w/ accessible curb ramps, trees, planter & gutters per City standards on Willow & 26th Streets where no sidewalk | s, street <s currer<="" td=""><td>lighting htly exist</td><td>, curbs t.</td></s> | lighting htly exist | , curbs t. | | |
| Buildings | | | | | |
| 9. Does the project not create any new natural gas connections/hook-ups? | Yes | No | N/A | | |
| (B1 & B2) | х | | | | |
| Please explain how the proposed project meets this action item. | | | <u> </u> | | |
| Project HVAC system is comprised of electric heat pumps & condensing water heating is electric heat pump hot water heater. There are no gas b building components that utilize gas. Project to provide photovoltaic arra parking stalls for site power & EV charging needs. | g units. F poilers o ty's over | Project r other employ | ee | | |
| 10. Does the project comply with the City of Oakland Green Building Ordinance (Chapter 18.02 of the Oakland Municipal Code), if applicable? | | | N/A | | |
| (B4) | х | | | | |
| Please explain how the proposed project meets this action item. | | | <u> </u> | | |
| Project will comply w/ all pertinent requirements of 2019 CalGreen & Stop Waste.org Commercial Green Building Checklist per City of Oakland green building standards. Green Building Checklist is attached as part of this MCUP submittal. | | | | | |
| 11. For retrofits of City-owned or City-controlled buildings: Would the project be all-electric eliminate gas infrastructure from the building and integrate | Yes | No | N/A | | |
| (B5) | | | х | | |
| Please explain how the proposed project meets this action item. | | | | | |
| Project is not a City-owned or controlled building. | | | | | |

| Material Consumption & Waste | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|----------|--|--|
| 12. Would the project reduce demolition waste from construction and renovation and facilitate material reuse in compliance with the Construction Demolition | Yes | No | N/A | | |
| (MCW6) | | | х | | |
| Please explain how the proposed project meets this action item. | | | <u> </u> | | |
| There is are no re-usable materials on the existing site. Recycling of demolished concrete on site will be recycled per 2019 CalGreen requirements. | | | | | |
| City Leadership | | | | | |
| 13. For City projects: Have opportunities to eliminate/minimize fossil fuel dependency been analyzed in project design and construction? | Yes | No | N/A | | |
| (CL2) | | | Х | | |
| Please explain how the proposed project meets this action item. | | | | | |
| This is not a City project. | | | | | |
| Adaptation | | | | | |
| 14. For new projects in the Designated Very High Wildfire Severity Zone: Would the project incorporate wildfire safety requirements such creation of defensible space around the house, pruning, clearing and removal of | | No | N/A | | |
| Vegetation, replacement of fire resistant plants, as required in the Vegetation Management Plan? (A4) | | | х | | |
| Please explain how the proposed project meets this action item. | | | | | |
| Project is not in a Designated Very High Wildfire Severity Zone. | | | | | |

| Carbon Removal | | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|--|--|--|
| 15. Would the project replace a greater number of trees than will be removed in compliance with the Tree Preservation Ordinance (Chapter 12.36 of the Oakland Municipal Code) and Planning Code if applicable and feasible | Yes | No | N/A | | | |
| (CR-2) given competing site constraints? | x | | | | | |
| Please explain how the proposed project meets this action item. | | | | | | |
| Project proposes removal of two (2) dying sidewalk trees & replace them w/ three (3) new trees in the same planter. There are an additional three (3) sidewalk trees proposed, plus six (6) small trees proposed in raised planters adjacent to the building wall along the Willow St. sidewalk. | | | | | | |
| 16. Does the project comply with the Creek Protection, Stormwater Management and Discharge Control Ordinance (Chapter 13.16 of the Oakland Municipal Code), as applicable?YesNoN | | | | | | |
| (CR-3) | х | | | | | |
| Please explain how the proposed project meets this action item. | | | | | | |
| Project complies w/ Stormwater Management & Discharge Control Ordinance. See Stormwater Control Plan & City of Oakland Supplemental Stormwater Form attached as part of this MCUP submittal. | | | | | | |

I understand that answering *yes* to all of these questions, means that the project *is in compliance with* the City's Energy and Climate Action Plan as adopted on to July 28, 2020 and requires that staff apply the Project Compliance with the Equitable Climate Action Plan (ECAP) Consistency Checklist Condition of Approval as adopted by the Planning Commission on December 16, 2020 and all Checklist items must be incorporated into the project

I understand that answering *no* to any of these questions, means that the project *is not in compliance* with the City's Energy and Climate Action Plan as adopted on to July 28, 2020 and requires that staff apply the Greenhouse Gas (GHG) Reduction Plan Condition of Approval as adopted by the Planning Commission on December 16, 2020 which will require that the applicant prepare a quantitative GHG analysis and GHG Reduction Plan for staff's review and approval. The GHG Reduction Plan and all GHG Reduction measures shall be incorporated into the project and implemented during construction and after construction for the life of the project.

Adam W. Carr Project Manager

08.31.22

Name and Signature of Preparer

Date

Willow Service Center Project

EAST BAY MUNICIPAL UTILITY DISTRICT



Community Outreach Meeting

August 4, 2022



Opening Comments

- Provide a service yard facility to accommodate the District's pipeline construction and meet the needs of pipeline maintenance
 - Allows District to advance its Long-Term Infrastructure Investment goals



Meeting Agenda



- Project overview
- · Conceptual site plan & design
- Tentative Schedule
- Community Benefits
- EBMUD Contract Equity Program
- Project Contacts

Project Team Introductions (EBMUD)

EBMUD Team

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- · Elizabeth Bialek, Engineering Services
- · Maura Bonnarens, Facilities Engineering
- · Agnes Wan, Facilities Engineering
- · David Rehnstrom, Planning
- · Mona Favorite-Hill, Community Affairs
- · Beverly Johnson, Contract Equity
- RPR Architects Team
 - Adam Carr, Design Lead
 - Tasion Kwamilele, Community Outreach



- Property is close to Adeline Facilities and major transportation routes
- Maximizes operational efficiencies and storage for equipment, vehicles, and materials



Typical Facility Truck Route



BMUD

Service Center Operations (EBMUD)

- Normal Work Hours: 6 am-5 pm
 - Emergency Crews may use the facility outside of these hours to respond to pipeline breaks
- Staffing
 - 44 Crew Staff
 - 5 Office & Support Staff

Types of Vehicles at Site





Service Truck



Large Valve Truck



10 Yard Dump Truck with Trailer and Backhoe



USA Marking Van



Leak Detection Van



Vactor Truck

Preliminary Conceptual Site Plan

EBMUD









Birdseye view looking south at corner of 26th and Mandela Parkway



Street level view looking west at corner of 26th and Mandela Parkway



Street level view looking southeast at corner of 26th and Willow Street



Street level view looking northeast at main entry on Willow Street

Tentative Schedule



- · 1st community meeting May 26, 2022
- · 2nd community meeting Aug 4, 2022
- Design completion Summer 2023
- Start of Construction Fall 2024

Community Benefits (Tasion - RPR)





Corner of 26th & Mandela - Before



Corner of 26th & Mandela - After

- Enhanced pedestrian experience including upgrades to sidewalks & landscape
- Enhanced security through improved lighting and active use of the property
- Provides new opportunity for Public Art
- Potentially increases commerce for businesses in area

Diversity, Equity, and Inclusion Efforts

- Contract Equity Program
 - Establishes contracting objectives to promote diversity in contract awards
 - Provides small business incentives
 - SBE First
 - 7% Bid Discount
 - Has a 50% goal for local hires on

construction projects



Diversity, Equity, and Inclusion Efforts Cont.

- Workforce Development
 - Partners with pre-apprenticeship trades training organizations, such as Cypress Mandela Training Center, Richmond Build, and Rising Sun Opportunity Center
 - Partners with workforce development agencies such as Civicorps, Goodwill Industries, and Alameda County Social Services
 - Partners with local community colleges to provide students enrolled in skilled trades training programs with paid internship opportunities





Project contacts:

Email:

<u>Construction-south@ebmud.com</u>

Phone:

• Mona Favorite-Hill Tel: (510) 287-0135

February 7, 2023



Ms. Kathleen Rousseau RPR Architects Phone: (510) 272-0654 Mobile: (510) 504-4998 E-mail: <u>KAR@RPRArchitects.com</u>

Subject: Updated Air Quality, Greenhouse Gas, and Health Risk Assessment for the East Bay Municipal Utility District Willow Street Service Center Project at 2430 Willow Street in Oakland, California

Dear Ms. Rousseau:

Yorke Engineering, LLC (Yorke) is pleased to provide this letter Air Quality (AQ), Greenhouse Gas (GHG), and Health Risk Assessment (HRA) Report. This AQ/GHG/HRA Report includes California Emissions Estimation Model[®] (CalEEMod) emissions estimates, criteria pollutant analysis, GHG analysis, and a stationary and mobile source HRA for the proposed East Bay Municipal Utility District (EBMUD) Willow Street Service Center Project (Project) at 2430 Willow Street (at 26th Street), Oakland, California (the City), which is in Alameda County and the Bay Area Air Quality Management District (BAAQMD).

PROJECT DESCRIPTION

RPR Architects is providing architectural and design services to EBMUD for the Project. The Project will include a new building with office facilities for office staff and locker room facilities for field staff. Additionally, the Project will provide storage for maintenance and construction equipment and materials, loading docks, and parking for different sizes of vehicles. The Project will involve grading, paving, a new drainage system, security system, demolition of an existing perimeter wall, landscaping, lighting, and other miscellaneous site improvements. The site is approximately 1.84 acres (about 80,150 sf). During facility operation, EBMUD estimates that 50 daytime employees will report to the Project site, comprising of 5 office staff and 45 field staff.

Since the site is greater than 1 acre, the Project requires a Major Condition Use Permit (MCUP) to be approved by the City of Oakland Planning Commissions prior to obtaining a building permit and starting construction.

Due to the relatively close proximity of residential receptors (approximately 460 feet, 140 meters) northeast of the Project site, localized emissions for the mobile source HRA screening are assessed on a 1,000-foot radius as shown in Figure 1. Major traffic routes to and from the Project site will include Willow Street, 26th Street, and 28th Street. The residential receptors are located along 28th Street between Mandela Parkway and Ettie Street.

RPR Architects – EBMUD Willow Service Center February 7, 2023 Page 2 of 16



Figure 1: HRA Screening Radius and Project Site Perimeter

ASSUMPTIONS

The following basic assumptions were used in developing the emission estimates for the proposed Project using CalEEMod:

- Project design features including square footages of the office building, warehouse and storage areas, parking, and total lot area were defined by the Architect.
- Default construction equipment horsepower ratings and load factors contained in CalEEMod were applied to all phases of the Project.
- Energy efficiency and water conservation measures generally required by codes are implemented.
- Use of low-volatile organic compound (VOC) architectural coatings (rule-compliant).
- Localized emissions (onsite and offsite) are assessed on the basis of a 1,000-foot radius from the Project site.
- Onsite diesel engine exhaust emissions are derived from calculated offroad construction equipment and 250 kW (420 BHP) emergency generator emissions (onsite construction and operational emissions, respectively).
- Offsite mobile source emissions are calculated with CalEEMod for a 0.2-mile (~1,000-ft) travel distance. This includes gasoline and diesel service trucks dispatched by EBMUD (Sandis 2022).

The CalEEMod output files for this analysis are contained in Attachment 1.

RPR Architects – EBMUD Willow Service Center February 7, 2023 Page 3 of 16

LIST OF TABLES

The Project analyses and results are summarized in the following tables:

- Table 1: Land Use Data for CalEEMod Input 2430 Willow Street
- Table 2: BAAQMD California Environmental Quality Act Thresholds of Significance
- Table 3: Construction Emissions Summary and Threshold Evaluation
- Table 4: Operational Emissions Summary and Threshold Evaluation
- Table 5: Operational GHG Emissions Summary and Threshold Evaluation
- Table 6: Localized Construction Emissions Summary and Threshold Evaluation
- Table 7: Localized Operational Emissions Summary and Threshold Evaluation
- Table 8: Localized Emissions for HRA (1,000-foot radius)
- Table 9: Project Construction Health Risk Assessment Results (1-Year)
- Table 10: Project Operation Health Risk Assessment Results (30-Year, 25-Year)

AIR QUALITY AND GREENHOUSE GAS IMPACTS ANALYSES

In order to evaluate the potential for Air Quality and Greenhouse Gas impacts of a proposed project, quantitative significance criteria established by the local air quality agency, such as the BAAQMD, may be relied upon to make significance determinations based on mass emissions of criteria pollutants and GHGs, as presented in this report. As shown below, approval of the Project would not result in any significant effects relating to air quality or greenhouse gases.

Project Emissions Estimation

The construction and operational analysis was performed using CalEEMod, version 2020.4.0, the official statewide land use computer model designed to provide a uniform platform for estimating potential criteria pollutant and GHG emissions associated with both construction and operations of land use projects under CEQA. The model quantifies direct emissions from construction and operations (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. The mobile source emission factors used in the model -published by the California Air Resources Board (CARB) - include the Pavley standards and Low Carbon Fuel standards. The model also identifies project design features, regulatory measures, and measures to reduce criteria pollutant and GHG emissions along with calculating the benefits achieved from the selected measures. CalEEMod was developed by the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the South Coast Air Quality Management District (SCAQMD), the BAAQMD, the San Joaquin Valley Air Pollution Control District (SJVAPCD), and other California air districts. Default land use data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) were provided by the various California air districts to account for local requirements and conditions. As the official assessment methodology for land use projects in California, CalEEMod is relied upon herein for construction and operational emissions quantification, which forms the basis for the impact analysis.

RPR Architects – EBMUD Willow Service Center February 7, 2023 Page 4 of 16

Based on information received from EBMUD, land use data used for CalEEMod input is presented in Table 1. The BAAQMD quantitative significance thresholds shown in Table 2 were used to evaluate Project emissions impacts (BAAQMD 2017).

| Table 1: Land Use Data for CalEEMod Input – 2430 Willow Street | | | | | | | |
|----------------------------------------------------------------|------------------|-----------------------------------|---------------------|---------------------|----------------------------|--------------------------|--|
| Project Element | Land Use Type | Land Use Subtype | Unit Size Amount | Unit Size Metric | Lot Acreage (footprint) | Square Feet (est.) | |
| Office Building | Commercial | Government Office Building | 6.00 | 1,000 sq. ft. | 0.14 | 6,000 | |
| Warehouse, Loading Dock, and Guard Station | Industrial | General Light Industry | 3.59 | 1,000 sq. ft. | 0.08 | 3,590 | |
| Parking & Driveway Areas | Parking | Parking Lot | 65.92 | 1,000 sq. ft. | 1.51 | 65,920 | |
| Laydown & Utility Areas | Parking | Other Asphalt Surfaces | 2.32 | 1,000 sq. ft. | 0.05 | 2,320 | |
| Bioretention & Landscaped Areas | Parking | Other Non- Asphalt Surfaces | 2.32 | 1,000 sq. ft. | 0.05 | 2,320 | |
| | I | Project Site | | | 1.84 | 80,150 | |

Source: EBMUD, CalEEMod version 2020.4.0

Notes:

Utility PG&E

Climate Zone 5 - Oakland, Alameda County

1 acre = 43,560 sf

| Table 2: BAAQMD CEQA Thresholds of Significance - May 2017 | | | | |
|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|--|
| Criteria Pollutants, Precursors, GHGs, | Construction | Oper | ration | |
| Risks and Odors | lbs/day | lbs/day | tons/year | |
| Reactive Organic Gases (ROG) | 54 | 54 | 10 | |
| Nitrogen Oxides (NO _X) | 54 | 54 | 10 | |
| Sulfur Dioxide (SO ₂) ¹ | None | None | 40 | |
| PM ₁₀ | 82 (exhaust) | 82 (total) | 15 (total) | |
| PM _{2.5} | 54 (exhaust) | 54 (total) | 10 (total) | |
| PM ₁₀ / PM _{2.5} (fugitive dust) ² | BMPs | N | one | |
| Local Carbon Monoxide (CO) ³ | None | CAAQS: 9 ppmv (8 | 3-hr); 20 ppmv (1-hr) | |
| GHGs - Stationary Sources | None | 10,000 M7 | ΓCO ₂ e/year | |
| GHGs - Other than Stationary Sources (Land Use Projects) | NoneCompliance with GHG Reduction Str OR 1,100 MT of CO2e/yr OR 4.6 MT CO2e/SP/yr (residents + employees) | | | |
| Risks & Hazards (individual project within 1,000-foot zone of influence) | bject within bject within b | | | |
| Risks & Hazards (cumulative threshold within 1,000-foot zone of influence) | Compliance with Community Risk Reduction Plan OR Increased cancer risk of >100.0 in a million; Increased non-cancer risk of >10.0 Hazard Index (Chronic or Acute); Ambient $PM_{2.5}$ increase: >0.8 µg/m ³ annual average | | | |
| Accidental Release of Acutely Hazardous Air Pollutants/Materials | lous None Storage or use of acutely hazardous materials located near receptors or ne receptors locating near stored or used AHMs are considered significant | | | |
| Odors | None | 5 confirmed complain over 3 years | nts per year averaged | |

Source: BAAQMD 2017, 40 CFR 51.166 (see note 1)

Notes:

¹ Prevention of Significant Deterioration (PSD), annual only

² BMPs - Best Management Practices for control of fugitive dust

³ Not to exceed California Ambient Air Quality Standards for CO

Criteria Pollutants from Project Construction

A project's construction phase produces many types of emissions, but PM_{10} (including $PM_{2.5}$) in fugitive dust and diesel engine exhaust are the pollutants of greatest concern. Fugitive dust emissions can result from a variety of construction activities, including excavation, grading, demolition, vehicle travel on paved and unpaved surfaces, and vehicle exhaust. Constructionrelated emissions can cause substantial increases in localized concentrations of PM_{10} , as well as affecting PM_{10} compliance with ambient air quality standards on a regional basis. Particulate RPR Architects – EBMUD Willow Service Center February 7, 2023 Page 6 of 16

emissions from construction activities can lead to adverse health effects as well as nuisance concerns such as reduced visibility and soiling of exposed surfaces. The use of diesel-powered construction equipment emits ozone precursors oxides of nitrogen (NO_x) and reactive organic gases (ROG), and diesel particulate matter (DPM), the latter being a composite of toxic air contaminants (TACs) containing a variety of hazardous substances. Large construction projects using multiple large earthmoving equipment are evaluated to determine if operations may exceed the BAAQMD's daily threshold for NO_x emissions and could temporarily expose area residents to hazardous levels of DPM. Use of architectural coatings and other materials associated with finishing buildings may also emit ROG and TACs. CEQA significance thresholds address the impacts of construction activity emissions on local and regional air quality. Thresholds are also provided for other potential impacts related to project construction, such as odors and TACs.

For construction projects that involve substantial earthmoving, the BAAQMD's approach to CEQA analyses of fugitive dust impacts is to require implementation of effective and comprehensive dust control measures rather than to require detailed quantification of emissions. PM_{10} emitted during construction can vary greatly depending on the level of activity, the specific operations taking place, the equipment being operated, local soils, weather conditions, and other factors, making quantification difficult. Despite this variability in emissions, experience has shown that there are several feasible control measures that can be reasonably implemented to significantly reduce fugitive dust emissions from construction The BAAQMD has determined that implementing Best Management Practices (BMPs), primarily through frequent water application, constitutes sufficient control to reduce PM_{10} impacts to a level considered less than significant.

In accordance with established BMPs defined by BAAQMD, EBMUD has documented its standard Construction environmental practices applicable to all EBMUD construction projects, including construction dust control measures, for the proposed Project activities (EBMUD 2021). This document is provided in Attachment 2.

Criteria Pollutants from Project Operation

The term "project operations" refers to the full range of activities that can or may generate criteria pollutant, GHG, and TAC emissions when the project is functioning in its intended use. For projects such as office parks, shopping centers, apartment buildings, residential subdivisions, hotels, and other indirect sources, motor vehicles traveling to and from the Project represents the primary source of air pollutant emissions. For industrial projects and some commercial projects, equipment operation and manufacturing processes, i.e., permitted stationary sources, can be of greatest concern from an emissions standpoint. CEQA significance thresholds address the impacts of operational emission sources on local and regional air quality. Thresholds are also provided for other potential impacts related to project operations, such as odors.

Results of Criteria Emissions Analyses

The San Francisco Bay Area Air Basin (SFBAAB) is in state and federal attainment for SO₂ and CO (BAAQMD 2021). As shown in Table 2 for Project operation, the BAAQMD (2017) specifies the 40 ton per year Prevention of Significant Deterioration (PSD)¹ threshold for SO₂ (SO_X), which is equivalent to 219 pounds per day. For internal consistency in Table 3 below, this daily mass threshold for SO_X is used to assess numerical significance for construction and operation (SO_X)

¹ Title 40 Code of Federal Regulations Part 51.166 (40 CFR 51.166)

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emissions are negligible for the Project). Also shown in Table 2 for Project operation, the BAAQMD (2017) specifies 9 ppmv (8-hr) and 20 ppmv (1-hr) ambient CO concentrations as thresholds. Since the SFBAAB is in attainment for CO, in lieu of dispersion modeling, the PSD threshold of 100 tons per year (548 pounds per day) is used as an internally consistent numerical threshold for assessing CO significance for construction and operation (CO emissions are low for the Project).

Table 3 shows estimated criteria construction emissions impacts and evaluates emissions against BAAQMD and PSD significance thresholds. Table 4 shows estimated criteria operational emissions impacts and evaluates emissions against BAAQMD and PSD significance thresholds.

| Table 3: Construction Emissions Summary and Threshold Evaluation | | | | | |
|------------------------------------------------------------------|------------------|---------------------|------------------------|--|--|
| Criteria Pollutants | Impact (lbs/day) | Threshold (lbs/day) | Threshold Exceeded? | | |
| ROG (VOC) | 13.2 | 54 | No | | |
| NO _X | 22.8 | 54 | No | | |
| СО | 14.1 | 548 | No | | |
| SO_X | 0.1 | 219 | No | | |
| Exhaust PM ₁₀ | 0.7 | 82 | No | | |
| Exhaust PM _{2.5} | 0.6 | 54 | No | | |

Sources: BAAQMD 2017, 40 CFR 51.166, CalEEMod version 2020.4.0

Notes:

lbs/day are winter or summer maxima for planned land use

Conforming CO and SO_x mass thresholds equivalent to 100 tpy PSD & 40 tpy PSD, respectively

| Table 4: Operational Emissions Summary and Threshold Evaluation | | | | | |
|-----------------------------------------------------------------|------------------|---------------------|------------------------|--|--|
| Criteria Pollutants | Impact (lbs/day) | Threshold (lbs/day) | Threshold Exceeded? | | |
| ROG (VOC) | 0.8 | 54 | No | | |
| NO _X | 2.4 | 54 | No | | |
| СО | 2.5 | 548 | No | | |
| SO _X | 0.01 | 219 | No | | |
| Total PM ₁₀ | 0.6 | 82 | No | | |
| Total PM _{2.5} | 0.2 | 54 | No | | |

Sources: BAAQMD 2017, 40 CFR 51.166, CalEEMod version 2020.4.0

Notes:

lbs/day are winter or summer maxima for planned land use

Conforming CO and SO_x mass thresholds equivalent to 100 tpy PSD & 40 tpy PSD, respectively

As shown in Tables 3 and 4, mass emissions of criteria pollutants from construction and operation are below applicable BAAQMD and PSD significance thresholds.

<u>FINDING</u>: No criteria emissions impacts related to the Project are expected to exceed the significance thresholds.

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Greenhouse Gas Emissions from Project Operation

Greenhouse gases – primarily carbon dioxide (CO₂), methane (CH₄), and nitrous (N₂O) oxide, collectively reported as carbon dioxide equivalents (CO₂e) – are directly emitted from stationary source combustion of natural gas in equipment such as water heaters, boilers, process heaters, and furnaces. GHGs are also emitted from mobile sources such as on-road vehicles and off-road construction equipment burning fuels such as gasoline, diesel, biodiesel, propane, or natural gas (compressed or liquefied). Indirect GHG emissions result from electric power generated elsewhere (i.e., power plants) used to operate process equipment, lighting, and utilities at a facility. Also, included in GHG quantification is electric power used to pump the water supply (e.g., aqueducts, wells, pipelines) and disposal and decomposition of municipal waste in landfills. (CARB 2017)

California's Building Energy Efficiency Standards are updated on an approximately three-year cycle. The 2019 standards improved upon the 2016 standards for new construction of, and additions and alterations to, residential, commercial, and industrial buildings. The 2019 standards went into effect on January 1, 2020 (CEC 2019).

Since the Title 24 standards require energy conservation features in new construction (e.g., highefficiency LED² lighting, high-efficiency heating, ventilating, and air-conditioning (HVAC) systems, thermal insulation, double-glazed windows, water conserving plumbing fixtures, etc.), they indirectly regulate and reduce GHG emissions.

Using CalEEMod, direct on-site and off-site GHG emissions were estimated for construction and operation, and indirect off-site GHG emissions were estimated to account for electric power used by the proposed Project, water conveyance, and solid waste disposal.

Results of Greenhouse Gas Emissions Analyses

The BAAQMD has adopted a stationary source (industrial facility) mass emissions threshold of 10,000 metric tons (MT) CO₂e per year and a land use project (e.g., residential, commercial, or recreational) mass emissions threshold of 1,100 MT CO₂e per year. Alternatively, land use projects can be evaluated against a criterion of 4.6 MT CO₂e per service population (residents + employees) per year. No thresholds apply to construction GHG emissions. (BAAQMD 2017)

Senate Bill (SB) 32 (2016) amended provisions of Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006 (Health and Safety Code Division 25.5), to require CARB to reduce statewide GHG emissions to 40% below 1990 levels by 2030, which supports the long-term target of carbon neutrality by 2045 (Executive Order B-55-18). Thus, as shown in Table 5, the 2017 BAAQMD land use threshold is discounted from 1,100 to 660 MT CO₂e per year.

Table 5 shows estimated operational GHG emissions impacts and evaluates emissions against the discounted BAAQMD GHG significance threshold. Operational efficiency measures incorporate typical code-required energy and water conservation features. Off-site traffic impacts are included in these emissions estimates.

² Where used, light emitting diode (LED) lamps use approximately 23-31% less electrical energy than equivalent fluorescent lamps with the same light output, e.g., 9-10 watts versus 13 watts for an 800-lumen output.

| Table 5: Operational GHG Emissions Summary and Threshold Evaluation | | | | | |
|---------------------------------------------------------------------|----------------|-------------------|------------------------|--|--|
| Greenhouse Gases | Impact (MT/yr) | Threshold (MT/yr) | Threshold Exceeded? | | |
| CO ₂ | 141 | — | — | | |
| CH ₄ | 0.10 | — | — | | |
| N ₂ O | 0.01 | — | _ | | |
| CO ₂ e | 148 | 660 | No | | |

Sources: BAAQMD 2017, CalEEMod version 2020.4.0

Notes:

Annual operational GHG emissions comprise direct area + direct stationary + direct mobile + indirect energy + indirect waste + indirect water usage

As shown in Table 5, operational GHG mass emissions are below the discounted GHG significance threshold for a land use project.

<u>FINDING</u>: No GHG emissions impacts related to the Project are expected to exceed the significance threshold.

HEALTH RISK ASSESSMENT

Due to the proximity of residential receptors (approximately 460 feet, 140 meters) northeast of the Project site, localized emissions for mobile source HRA screening were assessed on a 1,000-foot radius as shown in Figure 1. Major traffic routes for EBMUD vehicles (diesel trucks) to and from the Project site will include Willow Street, 26th Street, and 28th Street. The residential receptors are located along 28th Street between Mandela Parkway and Ettie Street.

In addition to trucks emitting DPM, the facility will include a stationary 250 kW (420 BHP) standby diesel emergency generator, which would also emit DPM at the south corner of the property during operation for routine testing and during power outages. Because of its size, i.e., over 50 BHP, this generator will require a Permit to Operate (PTO) from the BAAQMD. It is expected that the permit conditions will limit non-emergency operation to 20 hours per year for maintenance (e.g., monthly exercising) and testing under the statewide Air Toxics Control Measure (ATCM) for diesel emergency generators. The ATCM limit, developed by CARB, is designed to reduce health risks from diesel emergency generator operations. In addition to DPM, the BAAQMD also requires total PM_{2.5} impacts from fugitive dust and fuel combustion (e.g., engine exhaust) to be assessed for risk.

Tables 6 and 7 show localized Project construction and operational criteria emissions impacts, respectively, and evaluates emissions against BAAQMD and PSD significance thresholds, where mobile source emissions from Project generated traffic is quantified within a 1,000-foot radius of the Project site.

| Table 6: Localized Construction Emissions Summary and Threshold Evaluation | | | | | |
|----------------------------------------------------------------------------|-------------------------------|---------------------|------------------------|--|--|
| Criteria Pollutants | Localized Impact (lbs/day) | Threshold (lbs/day) | Threshold Exceeded? | | |
| ROG (VOC) | 13.1 | 54 | No | | |
| NO _X | 15.7 | 54 | No | | |
| СО | 13.7 | 548 | No | | |
| SO _X | 0.02 | 219 | No | | |
| Exhaust PM ₁₀ | 0.7 | 82 | No | | |
| Exhaust PM _{2.5} | 0.6 | 54 | No | | |

Sources: BAAQMD 2017, 40 CFR 51.166, CalEEMod version 2020.4.0

Notes:

lbs/day are winter or summer maxima for planned land use

Offsite mobile source emissions calculated in CalEEMod for 0.2-mile travel distance (1,056 feet)

Conforming CO and SO_x mass thresholds equivalent to 100 tpy PSD & 40 tpy PSD, respectively

| Table 7: Localized Operational Emissions Summary and Threshold Evaluation | | | | | | |
|---------------------------------------------------------------------------|-------------------------------|---------------------|------------------------|--|--|--|
| Criteria Pollutants | Localized Impact (lbs/day) | Threshold (lbs/day) | Threshold Exceeded? | | | |
| ROG (VOC) | 0.8 | 54 | No | | | |
| NO _X | 1.5 | 54 | No | | | |
| СО | 2.2 | 548 | No | | | |
| SO_X | 0.00 | 219 | No | | | |
| Total PM ₁₀ | 0.07 | 82 | No | | | |
| Total PM _{2.5} | 0.06 | 54 | No | | | |

Sources: BAAQMD 2017, 40 CFR 51.166, CalEEMod version 2020.4.0

Notes:

lbs/day are winter or summer maxima for planned land use

Offsite mobile source emissions calculated in CalEEMod for 0.2-mile travel distance (1,056 feet)

Conforming CO and SO_x mass thresholds equivalent to 100 tpy PSD & 40 tpy PSD, respectively

Table 8 shows estimated onsite and offsite operational DPM emissions and total PM_{2.5} impacts from Project construction and operation. For construction, onsite emissions emanate from offroad equipment and offsite emissions emanate from vehicles, including trucks. For operation, onsite emissions emanate from the diesel emergency generator and offsite emissions emanate from vehicles, including gasoline and diesel service trucks dispatched by EBMUD (Sandis 2022). These values were used as input to the HRA, as summarized in the following section.

| Table 8: Localized Emissions for HRA (1,000-foot radius) | | | | | | |
|----------------------------------------------------------|------------------------------|---------------|-----------------|------------------|--|--|
| Localized Emissions | Construction (1 year) | | Operation | | | |
| | Onsite (lbs) | Offsite (lbs) | Onsite (lbs/yr) | Offsite (lbs/yr) | | |
| DPM | 123.75 | 0.05 | 2.02 | 0.21 | | |
| Total PM _{2.5} | 129.25 | 0.35 | 2.02 | 1.72 | | |
| Source: CalEEMod version 2020.4.0 | | | | | | |

Notes:

Total PM_{2.5} comprises engine exhaust + fugitive dust

Offsite mobile source emissions calculated in CalEEMod for 0.2-mile travel distance (1,056 feet)

Onsite construction DPM is offroad construction equipment

Onsite operational DPM is 250 kW emergency generator, 20 hrs/yr maintenance & testing ATCM
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Methodology

For the Project, an HRA was conducted to evaluate potential health risks from exposures to emissions of TACs (as DPM) and particulate matter less than 2.5 microns (as total $PM_{2.5}$) from the new facility, and associated traffic within a 1,000-foot radius, to nearby residents, offsite workers, and sensitive receptors. Both Project construction and operation were assessed.

The HRA was prepared in accordance with the BAAQMD CEQA Air Quality Guidelines (May 2017), the BAAQMD Air Toxics NSR Program Health Risk Assessment Guidelines (December 2016), the BAAQMD Recommended Methods for Screening and Modeling Local Risks and Hazards (May 2012), and the Office of Health and Hazard Assessment (OEHHA) Air Toxics Hot Spots Program Guidance Manual (February 2015). The HRA used refined air dispersion analysis and health risk modeling. Dispersion modeling was also conducted to determine the Project PM_{2.5} annual concentration impact.

The United States Environmental Protection Agency (U.S. EPA) American Meteorological Society/EPA Regulatory Model (AERMOD) air dispersion model was used to estimate the ground-level air concentrations. The Hotspots Analysis and Reporting Program, Version 2 (HARP2) software was used to perform the calculations for this step for comparison to the current OEHHA risk threshold values.

Air Dispersion Modeling

The air dispersion modeling was performed using Lakes AERMOD View Version 10.2.1. Local dispersion modeling parameters are consistent with other projects in the BAAQMD, including urban dispersion coefficients for cities. The modeling analysis was performed using meteorological data provided by the BAAQMD for the "Coast & Central Bay Zone" (Oakland West) air monitoring and meteorological station.

The dispersion modeling used a combination of uniform and discrete receptor grids. Uniform receptor grids capture health effects at the facility boundary and general vicinity. Discrete receptor grids capture health effects to nearby residences, sensitive land uses (schools, daycares, and hospitals), and off-site workers, which may not be captured by the uniform receptor grids.

For the HRA, AERMOD was run with a unit emission rate [1 gram per second (g/s)] for each source to calculate the concentration of TACs from each source per unit emission rate, known as X/Q (Chi/Q) in units of micrograms per cubic meter per gram per second [(μ g/m³)/(g/s)], for 1-hour and period (annual) averaging time options per receptor. The modeled X/Q concentration was calculated for each source, at each receptor, for each averaging time.

The X/Q values determined for each source using AERMOD were imported into the HARP2 Air Dispersion Modeling and Risk Tool (ADMRT) module and combined with hourly and annual emissions to determine the ground level concentration (GLC) for each pollutant. The GLCs were then used to estimate the long-term cancer risks and noncancer Chronic Hazard Index (HIC).

For the $PM_{2.5}$ modeling, AERMOD was run with annual $PM_{2.5}$ emission rates in gram per second (g/s) per source to estimate the annual $PM_{2.5}$ GLC. Both engine exhaust and fugitive dust emissions were included in $PM_{2.5}$.

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Project Construction Modeling

The principal TAC emitted during Project construction will be DPM from diesel-powered offroad equipment and onroad trucks. Also emitted during construction will be total $PM_{2.5}$ in the form of fugitive dust and engine exhaust. AERMOD was run with unit emissions to predict the X/Q concentrations for import into HARP2. The construction sources were modeled as area-volume sources for the construction site and line-volume sources for vehicle exhaust on streets, as shown in Figure 1.

The construction HRA cancer risk was assessed for a 1-year construction period as the planned length of onsite work. Cancer risk was estimated using the "High-end" or 95th percentile method for the first year of life per BAAQMD guidelines for short duration projects. This ensures the evaluation is protective for unborn and young children at residential and sensitive receptors. The HIC was also estimated using the "High-end" method.

Project Operation Modeling

For the Project operational sources, AERMOD was run with unit emissions to predict the X/Q concentrations for import into HARP2. The diesel emergency generator was modeled as a point source using standard CARB release parameters, and vehicle exhaust on streets was modeled as line-volume sources, as shown in Figure 1.

Residential cancer risk was estimated for a 30-year period using the Risk Management Policy (RMP) Derived Method at all receptors for an annual exposure duration, per BAAQMD guidance. Cancer risk at offsite workplaces was estimated for a 25-year period using the OEHHA Derived Method for an annual exposure duration. The noncancer HIC was calculated using the "OEHHA Derived" Method for an annual exposure duration.

Results of Health Risk Assessment

Project Construction

The Project construction HRA and $PM_{2.5}$ modeling results for residential, sensitive, and worker receptors are presented for the maximally exposed individual (MEI) in Table 9. Attachment 3 contains the detailed HRA results.

| Table 9: Pr | oject Construction H | ealth Risk Assessment Re | sults (1-Year |) |
|------------------------------------------|----------------------|-------------------------------|---------------|------------------------|
| Risk Parameter | Receptor Type | Maximum Exposed Individual | Threshold | Threshold Exceeded? |
| | Residential | 0.007 | 0.3 | No |
| $PM_{2.5}$ Concentration $(\mu g/m^3)^1$ | Sensitive | 0.001 | 0.3 | No |
| | Worker | 0.079 | 0.3 | No |
| | Residential (1-year) | 6.1 | 10 | No |
| Cancer Risk (in one million) | Sensitive (1-year) | 1.3 | 10 | No |
| | Worker (1-year) | 4.9 | 10 | No |
| | Residential | 0.008 | 1 | No |
| Chronic Hazard Index (HIC) | Sensitive | 0.002 | 1 | No |
| | Worker | 0.091 | 1 | No |

Sources: BAAQMD 2012, 2016, 2017; OEHHA 2015

Note:

¹Highest emissions occur for a two-month period during demolition, site preparation, and grading

As shown in Table 9, cancer and HIC impacts for Project construction at residential, sensitive, and worker receptors are predicted to be below the BAAQMD thresholds. For construction, average $PM_{2.5}$ impacts to residential, sensitive, and worker receptors are predicted to be below the 0.3 $\mu g/m^3$ annual threshold. The time-weighted $PM_{2.5}$ impacts due to fugitive dust and engine exhaust generated during the initial stages of construction (i.e., demolition, site preparation, and grading) would occur for less than two months (26 working days in CalEEMod), and $PM_{2.5}$ impacts are not expected to exceed the health risk significance threshold of 0.3 $\mu g/m^3$ on an annual average basis.

<u>FINDING</u>: No health risk impacts related to Project construction are expected to exceed the cancer, noncancer, and PM_{2.5} significance thresholds.

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Project Operation

The Project operation HRA and PM_{2.5} modeling results for residential, sensitive, and worker receptors are presented for the maximally exposed individual (MEI) in Table 10.

| Table 10: Proje | ct Operation Health R | isk Assessment Results (| 30-Year, 25-Y | (ear) |
|------------------------------------------|-----------------------|-------------------------------|---------------|------------------------|
| Risk Parameter | Receptor Type | Maximum Exposed Individual | Threshold | Threshold Exceeded? |
| | Residential | 0.0025 | 0.3 | No |
| $PM_{2.5}$ Concentration $(\mu g/m^3)^1$ | Sensitive | 0.0002 | 0.3 | No |
| | Worker | 0.0081 | 0.3 | No |
| | Residential (30-year) | 0.26 | 10 | No |
| Cancer Risk (in one million) | Sensitive (30-year) | 0.05 | 10 | No |
| | Worker (25-year) | 1.48 | 10 | No |
| | Residential | 0.00009 | 1 | No |
| Chronic Hazard Index (HIC) | Sensitive | 0.00002 | 1 | No |
| | Worker | 0.00114 | 1 | No |

Sources: BAAQMD 2012, 2016, 2017; OEHHA 2015

 $\frac{\text{Note:}}{^{1}\text{ Annual average during routine operations}}$

As shown in Table 10, operational risk impacts at residential, sensitive, and worker receptors are predicted to be below the BAAQMD thresholds.

FINDING: No health risk impacts related to Project operation are expected to exceed the cancer, noncancer, and PM_{2.5} significance thresholds.

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CLOSING

Thank you very much for the opportunity to be of assistance to RPR Architects and EBMUD. Should you have any questions, please contact me at (805) 217-4947 (mobile).

Sincerely,

Bradford Boyes, BSEnvE, MBA, QEP | Ventura Office Principal Engineer Yorke Engineering, LLC <u>BBoyes@YorkeEngr.com</u>

cc: Raj Rangaraj, Yorke Engineering, LLC

Enclosures/Attachments:

- 1. CalEEMod Outputs
- 2. Section 01 35 44 Environmental Requirements
- 3. Detailed HRA Results
- 4. Willow Traffic Analysis Memorandum (Sandis 2022)

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ATTACHMENT 1 – CALEEMOD OUTPUTS

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

East Bay Municipal Utility District - Willow Service Center

Alameda County, Winter

1.0 Project Characteristics

1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|----------------------------|-------|----------|-------------|--------------------|------------|
| Government Office Building | 6.00 | 1000sqft | 0.14 | 6,000.00 | 0 |
| General Light Industry | 3.59 | 1000sqft | 0.08 | 3,590.00 | 0 |
| Other Asphalt Surfaces | 2.32 | 1000sqft | 0.05 | 2,320.00 | 0 |
| Other Non-Asphalt Surfaces | 2.32 | 1000sqft | 0.05 | 2,320.00 | 0 |
| Parking Lot | 65.92 | 1000sqft | 1.51 | 65,920.00 | 0 |

1.2 Other Project Characteristics

| Urbanization | Urban | Wind Speed (m/s) | 2.2 | Precipitation Freq (Days) | 63 |
|----------------------------|-----------------------------|----------------------------|-------|----------------------------|-------|
| Climate Zone | 5 | | | Operational Year | 2024 |
| Utility Company | Pacific Gas and Electric Co | mpany | | | |
| CO2 Intensity (Ib/MWhr) | 203.98 | CH4 Intensity (Ib/MWhr) | 0.033 | N2O Intensity (Ib/MWhr) | 0.004 |

1.3 User Entered Comments & Non-Default Data

Grading - Parcel area 1.83 acres; 2,970 CY soil excavated

Trips and VMT - 1,000 ft radius = 0.2 mile

Vehicle Trips - Per PD & Sandis Traffic Analysis Memo (July 20, 2022); 1,000 ft radius = 0.2 mile

Fleet Mix - Per PD & Sandis Traffic Analysis Memo (July 20, 2022)

Water And Wastewater - No water use for non-office structures

Solid Waste - No solid waste generated by non-office structures

Construction Off-road Equipment Mitigation - BMPs, AP-42

Stationary Sources - Emergency Generators and Fire Pumps EF - 250 Kw (0.8 PF); ATCM 20 hrs/yr; Maintenance 30 min/mo

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Stationary Sources - Emergency Generators and Fire Pumps - 250 Kw (0.8 PF); ATCM 20 hrs/yr; Maintenance 30 min/mo

| Table Name | Column Name | Default Value | New Value | | |
|---------------------------------|--------------------------------|---------------|-----------|--|--|
| tblAreaMitigation | UseLowVOCPaintParkingCheck | False | True | | |
| tblConstDustMitigation | CleanPavedRoadPercentReduction | 0 | 75 | | |
| tblFleetMix | HHD | 0.01 | 0.10 | | |
| tblFleetMix | LDA | 0.57 | 0.29 | | |
| tblFleetMix | LDT1 | 0.06 | 0.14 | | |
| tblFleetMix | LDT2 | 0.18 | 0.14 | | |
| tblFleetMix | LHD1 | 0.02 | 0.00 | | |
| tblFleetMix | LHD2 | 5.1690e-003 | 0.00 | | |
| tblFleetMix | MCY | 0.02 | 0.00 | | |
| tblFleetMix | MDV | 0.11 | 0.22 | | |
| tblFleetMix | МН | 2.4510e-003 | 0.00 | | |
| tblFleetMix | MHD | 0.01 | 0.10 | | |
| tblFleetMix | OBUS | 7.9200e-004 | 0.00 | | |
| tblFleetMix | SBUS | 3.3700e-004 | 0.00 | | |
| tblFleetMix | UBUS | 5.7000e-004 | 0.00 | | |
| tblGrading | AcresOfGrading | 4.00 | 1.83 | | |
| tblGrading | AcresOfGrading | 1.88 | 1.83 | | |
| tblGrading | MaterialExported | 0.00 | 1,980.00 | | |
| tblGrading | MaterialExported | 0.00 | 990.00 | | |
| tblSolidWaste | SolidWasteGenerationRate | 4.45 | 0.00 | | |
| tblStationaryGeneratorsPumpsUse | HorsePowerValue | 0.00 | 420.00 | | |
| tblStationaryGeneratorsPumpsUse | HoursPerDay | 0.00 | 0.50 | | |
| tblStationaryGeneratorsPumpsUse | HoursPerYear | 0.00 | 20.00 | | |
| tblStationaryGeneratorsPumpsUse | NumberOfEquipment | 0.00 | 1.00 | | |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 0.20 | | |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 0.20 | | |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| tblTripsAndVMT | HaulingTripLength | 20.00 | 0.20 |
|-----------------|-------------------|-------|------|
| tblTripsAndVMT | HaulingTripLength | 20.00 | 0.20 |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 0.20 |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 0.20 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 0.20 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 0.20 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 0.20 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 0.20 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 0.20 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 0.20 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 0.20 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 0.20 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 0.20 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 0.20 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 0.20 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 0.20 |
| tblVehicleTrips | CC_TL | 7.30 | 0.20 |
| tblVehicleTrips | CC_TL | 7.30 | 0.20 |
| tblVehicleTrips | CC_TL | 7.30 | 0.20 |
| tblVehicleTrips | CC_TL | 7.30 | 0.20 |
| tblVehicleTrips | CC_TL | 7.30 | 0.20 |
| tblVehicleTrips | CNW_TL | 7.30 | 0.20 |
| tblVehicleTrips | CNW_TL | 7.30 | 0.20 |
| tblVehicleTrips | CNW_TL | 7.30 | 0.20 |
| tblVehicleTrips | CNW_TL | 7.30 | 0.20 |
| tblVehicleTrips | CNW_TL | 7.30 | 0.20 |
| tblVehicleTrips | CW_TL | 9.50 | 0.20 |
| tblVehicleTrips | CW_TL | 9.50 | 0.20 |
| tblVehicleTrips | CW_TL | 9.50 | 0.20 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| tblVehicleTrips | CW_TL | 9.50 | 0.20 |
|-----------------|--------------------|------------|-------|
| tblVehicleTrips | CW_TL | 9.50 | 0.20 |
| tblVehicleTrips | ST_TR | 1.99 | 0.00 |
| tblVehicleTrips | ST_TR | 0.00 | 14.17 |
| tblVehicleTrips | SU_TR | 5.00 | 0.00 |
| tblVehicleTrips | SU_TR | 0.00 | 14.17 |
| tblVehicleTrips | WD_TR | 4.96 | 0.00 |
| tblVehicleTrips | WD_TR | 22.59 | 28.33 |
| tblWater | IndoorWaterUseRate | 830,187.50 | 0.00 |

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e | |
|---------|---------|---------|---------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------------|----------------|--------|--------|----------------|--|
| Year | lb/day | | | | | | | | | | | lb/day | | | | | |
| 2023 | 13.1445 | 15.6945 | 13.7193 | 0.0245 | 6.5770 | 0.6770 | 7.1829 | 3.3750 | 0.6331 | 3.9324 | 0.0000 | 2,367.242 5 | 2,367.242 5 | 0.6511 | 0.0339 | 2,384.128 5 | |
| Maximum | 13.1445 | 15.6945 | 13.7193 | 0.0245 | 6.5770 | 0.6770 | 7.1829 | 3.3750 | 0.6331 | 3.9324 | 0.0000 | 2,367.242 5 | 2,367.242 5 | 0.6511 | 0.0339 | 2,384.128 5 | |

Mitigated Construction

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------|---------|---------|---------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------------|----------------|--------|--------|----------------|
| Year | | lb/day | | | | | | | | | | | lb/c | day | | |
| 2023 | 13.1445 | 15.6945 | 13.7193 | 0.0245 | 2.5663 | 0.6770 | 3.1721 | 1.3169 | 0.6331 | 1.8743 | 0.0000 | 2,367.242 5 | 2,367.242 5 | 0.6511 | 0.0339 | 2,384.128 5 |
| Maximum | 13.1445 | 15.6945 | 13.7193 | 0.0245 | 2.5663 | 0.6770 | 3.1721 | 1.3169 | 0.6331 | 1.8743 | 0.0000 | 2,367.242 5 | 2,367.242 5 | 0.6511 | 0.0339 | 2,384.128 5 |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|----------------------|------|------|------|------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 60.98 | 0.00 | 55.84 | 60.98 | 0.00 | 52.34 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

| | ROG | NOx | со | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|------------|-----------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|----------|
| Category | | | | | lb/d | | | lb/c | day | | | | | | | |
| Area | 0.2664 | 7.0000e- 005 | 8.1700e- 003 | 0.0000 | | 3.0000e- 005 | 3.0000e- 005 | | 3.0000e- 005 | 3.0000e- 005 | | 0.0175 | 0.0175 | 5.0000e- 005 | | 0.0187 |
| Energy | 6.0000e- 003 | 0.0546 | 0.0458 | 3.3000e- 004 | | 4.1500e- 003 | 4.1500e- 003 | | 4.1500e- 003 | 4.1500e- 003 | | 65.4654 | 65.4654 | 1.2500e- 003 | 1.2000e- 003 | 65.8544 |
| Mobile | 0.1878 | 0.4888 | 1.2308 | 8.3000e- 004 | 0.0179 | 8.9000e- 004 | 0.0188 | 4.8400e- 003 | 8.3000e- 004 | 5.6700e- 003 | | 87.9147 | 87.9147 | 0.0217 | 0.0181 | 93.8484 |
| Stationary | 0.3446 | 0.9632 | 0.8787 | 1.6600e- 003 | | 0.0507 | 0.0507 | | 0.0507 | 0.0507 | | 176.2980 | 176.2980 | 0.0247 | | 176.9159 |
| Total | 0.8049 | 1.5067 | 2.1635 | 2.8200e- 003 | 0.0179 | 0.0558 | 0.0737 | 4.8400e- 003 | 0.0557 | 0.0606 | | 329.6956 | 329.6956 | 0.0477 | 0.0193 | 336.6374 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|------------|-----------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Category | | | | | lb/d | | | lb/c | day | | | | | | | |
| Area | 0.2660 | 4.0000e- 005 | 4.7400e- 003 | 0.0000 | | 1.0000e- 005 | 1.0000e- 005 | | 1.0000e- 005 | 1.0000e- 005 | | 9.4500e- 003 | 9.4500e- 003 | 2.0000e- 005 | | 9.9400e- 003 |
| Energy | 5.7500e- 003 | 0.0522 | 0.0439 | 3.1000e- 004 | | 3.9700e- 003 | 3.9700e- 003 | | 3.9700e- 003 | 3.9700e- 003 | | 62.6890 | 62.6890 | 1.2000e- 003 | 1.1500e- 003 | 63.0615 |
| Mobile | 0.1878 | 0.4888 | 1.2308 | 8.3000e- 004 | 0.0179 | 8.9000e- 004 | 0.0188 | 4.8400e- 003 | 8.3000e- 004 | 5.6700e- 003 | | 87.9147 | 87.9147 | 0.0217 | 0.0181 | 93.8484 |
| Stationary | 0.3446 | 0.9632 | 0.8787 | 1.6600e- 003 | | 0.0507 | 0.0507 | | 0.0507 | 0.0507 | | 176.2980 | 176.2980 | 0.0247 | | 176.9159 |
| Total | 0.8042 | 1.5043 | 2.1581 | 2.8000e- 003 | 0.0179 | 0.0556 | 0.0735 | 4.8400e- 003 | 0.0555 | 0.0604 | | 326.9111 | 326.9111 | 0.0477 | 0.0192 | 333.8358 |

| | ROG | NOx | со | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|----------------------|------|------|------|------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.09 | 0.16 | 0.25 | 0.71 | 0.00 | 0.36 | 0.27 | 0.00 | 0.36 | 0.33 | 0.00 | 0.84 | 0.84 | 0.17 | 0.26 | 0.83 |

3.0 Construction Detail

Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|-----------------|-----------------------|-----------------------|------------|------------|------------------|----------|-------------------|
| 1 | Demolition | Demolition | 1/9/2023 | 2/3/2023 | 5 | 20 | |
| 2 | Site Preparation | Site Preparation | 2/4/2023 | 2/7/2023 | 5 | 2 | |
| 3 | Grading | Grading | 2/8/2023 | 2/13/2023 | 5 | 4 | |
| 4 | Building Construction | Building Construction | 2/14/2023 | 11/20/2023 | 5 | 200 | |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| 5 | Paving | Paving | 11/21/2023 | 12/4/2023 | 5 | 10 | |
|---|-----------------------|-----------------------|------------|------------|---|----|--|
| 6 | Architectural Coating | Architectural Coating | 12/5/2023 | 12/18/2023 | 5 | 10 | |

Acres of Grading (Site Preparation Phase): 1.83

Acres of Grading (Grading Phase): 1.83

Acres of Paving: 1.61

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 14,385; Non-Residential Outdoor: 4,795; Striped Parking Area: 4,234 (Architectural Coating – sqft)

OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------|---------------------------|--------|-------------|-------------|-------------|
| Demolition | Concrete/Industrial Saws | 1 | 8.00 | 81 | 0.73 |
| Demolition | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Demolition | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Site Preparation | Graders | 1 | 8.00 | 187 | 0.41 |
| Site Preparation | Rubber Tired Dozers | 1 | 7.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Grading | Tractors/Loaders/Backhoes | 2 | 7.00 | 97 | 0.37 |
| Building Construction | Cranes | 1 | 6.00 | 231 | 0.29 |
| Building Construction | Forklifts | 1 | 6.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | 1 | 6.00 | 97 | 0.37 |
| Building Construction | Welders | 3 | 8.00 | 46 | 0.45 |
| Paving | Cement and Mortar Mixers | 1 | 6.00 | 9 | 0.56 |
| Paving | Pavers | 1 | 6.00 | 130 | 0.42 |
| Paving | Paving Equipment | 1 | 8.00 | 132 | 0.36 |
| Paving | Rollers | 1 | 7.00 | 80 | 0.38 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Paving | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |
|-----------------------|---------------------------|---|------|----|------|
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |

Trips and VMT

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------|----------------------------|-----------------------|-----------------------|------------------------|-----------------------|-----------------------|------------------------|-------------------------|-------------------------|--------------------------|
| Demolition | 5 | 13.00 | 0.00 | 228.00 | 0.20 | 0.20 | 0.20 | LD_Mix | HDT_Mix | HHDT |
| Site Preparation | 3 | 8.00 | 0.00 | 124.00 | 0.20 | 0.20 | 0.20 | LD_Mix | HDT_Mix | HHDT |
| Grading | 4 | 10.00 | 0.00 | 248.00 | 0.20 | 0.20 | 0.20 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 7 | 33.00 | 13.00 | 0.00 | 0.20 | 0.20 | 0.20 | LD_Mix | HDT_Mix | HHDT |
| Paving | 5 | 13.00 | 0.00 | 0.00 | 0.20 | 0.20 | 0.20 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 7.00 | 0.00 | 0.00 | 0.20 | 0.20 | 0.20 | LD_Mix | HDT_Mix | HHDT |

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------|---------|-------------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------------|----------------|--------|-----|----------------|
| Category | | | | | lb/e | day | | | | | | | lb/c | day | | |
| Fugitive Dust | | | 1 1 1 | | 2.4716 | 0.0000 | 2.4716 | 0.3742 | 0.0000 | 0.3742 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.4725 | 14.3184 | 13.4577 | 0.0241 | | 0.6766 | 0.6766 | | 0.6328 | 0.6328 | | 2,324.395 9 | 2,324.395 9 | 0.5893 | | 2,339.127 8 |
| Total | 1.4725 | 14.3184 | 13.4577 | 0.0241 | 2.4716 | 0.6766 | 3.1482 | 0.3742 | 0.6328 | 1.0070 | | 2,324.395 9 | 2,324.395 9 | 0.5893 | | 2,339.127 8 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|--------|-----------------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|---------|
| Category | lb/day | | | | | | | | | | | | lb/d | day | | |
| Hauling | 0.0106 | 0.2245 | 0.1734 | 3.6000e- 004 | 2.2400e- 003 | 2.6000e- 004 | 2.5000e- 003 | 6.4000e- 004 | 2.5000e- 004 | 8.8000e- 004 | | 38.7142 | 38.7142 | 7.8000e- 004 | 6.1100e- 003 | 40.5531 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0148 | 7.5900e- 003 | 0.0883 | 4.0000e- 005 | 2.1000e- 003 | 7.0000e- 005 | 2.1700e- 003 | 5.7000e- 004 | 6.0000e- 005 | 6.4000e- 004 | | 4.1324 | 4.1324 | 1.9400e- 003 | 8.9000e- 004 | 4.4476 |
| Total | 0.0254 | 0.2321 | 0.2617 | 4.0000e- 004 | 4.3400e- 003 | 3.3000e- 004 | 4.6700e- 003 | 1.2100e- 003 | 3.1000e- 004 | 1.5200e- 003 | | 42.8466 | 42.8466 | 2.7200e- 003 | 7.0000e- 003 | 45.0007 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------|---------|-------------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------------|----------------|--------|-----|----------------|
| Category | | | | | lb/e | day | | | | | | | lb/d | day | | |
| Fugitive Dust | | | 1 1 1 | | 0.9639 | 0.0000 | 0.9639 | 0.1460 | 0.0000 | 0.1460 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.4725 | 14.3184 | 13.4577 | 0.0241 | | 0.6766 | 0.6766 | | 0.6328 | 0.6328 | 0.0000 | 2,324.395 9 | 2,324.395 9 | 0.5893 | | 2,339.127 8 |
| Total | 1.4725 | 14.3184 | 13.4577 | 0.0241 | 0.9639 | 0.6766 | 1.6406 | 0.1460 | 0.6328 | 0.7787 | 0.0000 | 2,324.395 9 | 2,324.395 9 | 0.5893 | | 2,339.127 8 |

Mitigated Construction Off-Site

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|--------|-----------------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|---------|
| Category | | | | | lb/e | day | | | | | | lb/d | day | | | |
| Hauling | 0.0106 | 0.2245 | 0.1734 | 3.6000e- 004 | 1.1100e- 003 | 2.6000e- 004 | 1.3700e- 003 | 3.6000e- 004 | 2.5000e- 004 | 6.1000e- 004 | | 38.7142 | 38.7142 | 7.8000e- 004 | 6.1100e- 003 | 40.5531 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0148 | 7.5900e- 003 | 0.0883 | 4.0000e- 005 | 8.1000e- 004 | 7.0000e- 005 | 8.8000e- 004 | 2.6000e- 004 | 6.0000e- 005 | 3.2000e- 004 | | 4.1324 | 4.1324 | 1.9400e- 003 | 8.9000e- 004 | 4.4476 |
| Total | 0.0254 | 0.2321 | 0.2617 | 4.0000e- 004 | 1.9200e- 003 | 3.3000e- 004 | 2.2500e- 003 | 6.2000e- 004 | 3.1000e- 004 | 9.3000e- 004 | | 42.8466 | 42.8466 | 2.7200e- 003 | 7.0000e- 003 | 45.0007 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------|-------------|-------------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------------|----------------|--------|-----|----------------|
| Category | | | | | lb/e | day | | | | | | | lb/d | day | | |
| Fugitive Dust | | 1 1 1 | 1 1 1 | | 6.2957 | 0.0000 | 6.2957 | 3.0097 | 0.0000 | 3.0097 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.1339 | 12.4250 | 6.6420 | 0.0172 | | 0.5074 | 0.5074 | 1 1 1 | 0.4668 | 0.4668 | | 1,666.057 3 | 1,666.057 3 | 0.5388 | | 1,679.528 2 |
| Total | 1.1339 | 12.4250 | 6.6420 | 0.0172 | 6.2957 | 0.5074 | 6.8030 | 3.0097 | 0.4668 | 3.4765 | | 1,666.057 3 | 1,666.057 3 | 0.5388 | | 1,679.528 2 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------------|-----------------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|----------|
| Category | | | | | lb/ | day | | | | | lb/d | day | | | | |
| Hauling | 0.0576 | 1.2210 | 0.9429 | 1.9700e- 003 | 0.0122 | 1.4200e- 003 | 0.0136 | 3.4500e- 003 | 1.3500e- 003 | 4.8100e- 003 | | 210.5509 | 210.5509 | 4.2300e- 003 | 0.0332 | 220.5522 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 9.1300e- 003 | 4.6700e- 003 | 0.0543 | 2.0000e- 005 | 1.2900e- 003 | 4.0000e- 005 | 1.3400e- 003 | 3.5000e- 004 | 4.0000e- 005 | 3.9000e- 004 | | 2.5430 | 2.5430 | 1.1900e- 003 | 5.5000e- 004 | 2.7370 |
| Total | 0.0667 | 1.2257 | 0.9972 | 1.9900e- 003 | 0.0135 | 1.4600e- 003 | 0.0149 | 3.8000e- 003 | 1.3900e- 003 | 5.2000e- 003 | | 213.0939 | 213.0939 | 5.4200e- 003 | 0.0338 | 223.2891 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------|-------------|--------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------------|----------------|--------|-----|----------------|
| Category | | | | | lb/e | day | | | | | | | lb/c | lay | | |
| Fugitive Dust | | , , , | | | 2.4553 | 0.0000 | 2.4553 | 1.1738 | 0.0000 | 1.1738 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.1339 | 12.4250 | 6.6420 | 0.0172 | | 0.5074 | 0.5074 | | 0.4668 | 0.4668 | 0.0000 | 1,666.057 3 | 1,666.057 3 | 0.5388 | | 1,679.528 2 |
| Total | 1.1339 | 12.4250 | 6.6420 | 0.0172 | 2.4553 | 0.5074 | 2.9627 | 1.1738 | 0.4668 | 1.6406 | 0.0000 | 1,666.057 3 | 1,666.057 3 | 0.5388 | | 1,679.528 2 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------------|-----------------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|----------|
| Category | | | | | lb/ | day | | | | | | | lb/c | day | | |
| Hauling | 0.0576 | 1.2210 | 0.9429 | 1.9700e- 003 | 6.0200e- 003 | 1.4200e- 003 | 7.4400e- 003 | 1.9400e- 003 | 1.3500e- 003 | 3.3000e- 003 | | 210.5509 | 210.5509 | 4.2300e- 003 | 0.0332 | 220.5522 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 9.1300e- 003 | 4.6700e- 003 | 0.0543 | 2.0000e- 005 | 5.0000e- 004 | 4.0000e- 005 | 5.4000e- 004 | 1.6000e- 004 | 4.0000e- 005 | 2.0000e- 004 | | 2.5430 | 2.5430 | 1.1900e- 003 | 5.5000e- 004 | 2.7370 |
| Total | 0.0667 | 1.2257 | 0.9972 | 1.9900e- 003 | 6.5200e- 003 | 1.4600e- 003 | 7.9800e- 003 | 2.1000e- 003 | 1.3900e- 003 | 3.5000e- 003 | | 213.0939 | 213.0939 | 5.4200e- 003 | 0.0338 | 223.2891 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------|---------|--------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------------|----------------|--------|-----|----------------|
| Category | | | | | lb/e | day | | | | | | | lb/d | day | | |
| Fugitive Dust | | | | | 6.5632 | 0.0000 | 6.5632 | 3.3711 | 0.0000 | 3.3711 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.3330 | 14.4676 | 8.7038 | 0.0206 | | 0.6044 | 0.6044 | | 0.5560 | 0.5560 | | 1,995.614 7 | 1,995.614 7 | 0.6454 | | 2,011.750 3 |
| Total | 1.3330 | 14.4676 | 8.7038 | 0.0206 | 6.5632 | 0.6044 | 7.1676 | 3.3711 | 0.5560 | 3.9271 | | 1,995.614 7 | 1,995.614 7 | 0.6454 | | 2,011.750 3 |

Unmitigated Construction Off-Site

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|--------|-----------------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|----------|
| Category | | | | | lb/ | day | | | | | | | lb/o | day | | |
| Hauling | 0.0576 | 1.2210 | 0.9429 | 1.9700e- 003 | 0.0122 | 1.4200e- 003 | 0.0136 | 3.4500e- 003 | 1.3500e- 003 | 4.8100e- 003 | | 210.5509 | 210.5509 | 4.2300e- 003 | 0.0332 | 220.5522 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0114 | 5.8400e- 003 | 0.0679 | 3.0000e- 005 | 1.6200e- 003 | 5.0000e- 005 | 1.6700e- 003 | 4.4000e- 004 | 5.0000e- 005 | 4.9000e- 004 | | 3.1788 | 3.1788 | 1.4900e- 003 | 6.9000e- 004 | 3.4212 |
| Total | 0.0690 | 1.2268 | 1.0108 | 2.0000e- 003 | 0.0138 | 1.4700e- 003 | 0.0153 | 3.8900e- 003 | 1.4000e- 003 | 5.3000e- 003 | | 213.7297 | 213.7297 | 5.7200e- 003 | 0.0339 | 223.9734 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------|---------|--------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------------|----------------|--------|-----|----------------|
| Category | | | | | lb/e | day | | | | | | | lb/c | day | | |
| Fugitive Dust | | | 1 | | 2.5597 | 0.0000 | 2.5597 | 1.3147 | 0.0000 | 1.3147 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.3330 | 14.4676 | 8.7038 | 0.0206 | | 0.6044 | 0.6044 | | 0.5560 | 0.5560 | 0.0000 | 1,995.614 7 | 1,995.614 7 | 0.6454 | | 2,011.750 3 |
| Total | 1.3330 | 14.4676 | 8.7038 | 0.0206 | 2.5597 | 0.6044 | 3.1640 | 1.3147 | 0.5560 | 1.8707 | 0.0000 | 1,995.614 7 | 1,995.614 7 | 0.6454 | | 2,011.750 3 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|--------|-----------------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|----------|
| Category | | | | | lb/e | day | | | | | | | lb/c | day | | |
| Hauling | 0.0576 | 1.2210 | 0.9429 | 1.9700e- 003 | 6.0200e- 003 | 1.4200e- 003 | 7.4400e- 003 | 1.9400e- 003 | 1.3500e- 003 | 3.3000e- 003 | | 210.5509 | 210.5509 | 4.2300e- 003 | 0.0332 | 220.5522 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0114 | 5.8400e- 003 | 0.0679 | 3.0000e- 005 | 6.3000e- 004 | 5.0000e- 005 | 6.8000e- 004 | 2.0000e- 004 | 5.0000e- 005 | 2.5000e- 004 | | 3.1788 | 3.1788 | 1.4900e- 003 | 6.9000e- 004 | 3.4212 |
| Total | 0.0690 | 1.2268 | 1.0108 | 2.0000e- 003 | 6.6500e- 003 | 1.4700e- 003 | 8.1200e- 003 | 2.1400e- 003 | 1.4000e- 003 | 3.5500e- 003 | | 213.7297 | 213.7297 | 5.7200e- 003 | 0.0339 | 223.9734 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|--------|---------|---------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------------|----------------|--------|-----|----------------|
| Category | | | | | lb/ | day | | | | | | | lb/d | day | | |
| Off-Road | 1.5233 | 11.7104 | 12.6111 | 0.0221 | | 0.5145 | 0.5145 | 1 1 1 | 0.4968 | 0.4968 | | 2,001.787 7 | 2,001.787 7 | 0.3399 | | 2,010.285 8 |
| Total | 1.5233 | 11.7104 | 12.6111 | 0.0221 | | 0.5145 | 0.5145 | | 0.4968 | 0.4968 | | 2,001.787 7 | 2,001.787 7 | 0.3399 | | 2,010.285 8 |

Unmitigated Construction Off-Site

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------------|--------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|---------|
| Category | | | | | lb/d | day | | | | | | | lb/c | day | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 7.2000e- 003 | 0.1666 | 0.1186 | 2.6000e- 004 | 2.7500e- 003 | 1.8000e- 004 | 2.9300e- 003 | 8.3000e- 004 | 1.8000e- 004 | 1.0000e- 003 | | 27.7947 | 27.7947 | 6.0000e- 004 | 4.3500e- 003 | 29.1046 |
| Worker | 0.0377 | 0.0193 | 0.2241 | 1.0000e- 004 | 5.3400e- 003 | 1.7000e- 004 | 5.5100e- 003 | 1.4600e- 003 | 1.6000e- 004 | 1.6200e- 003 | | 10.4901 | 10.4901 | 4.9200e- 003 | 2.2700e- 003 | 11.2900 |
| Total | 0.0449 | 0.1859 | 0.3427 | 3.6000e- 004 | 8.0900e- 003 | 3.5000e- 004 | 8.4400e- 003 | 2.2900e- 003 | 3.4000e- 004 | 2.6200e- 003 | | 38.2848 | 38.2848 | 5.5200e- 003 | 6.6200e- 003 | 40.3947 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|--------|---------|---------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------------|----------------|--------|-----|----------------|
| Category | | | | | lb/e | day | | | | | | | lb/d | lay | | |
| Off-Road | 1.5233 | 11.7104 | 12.6111 | 0.0221 | | 0.5145 | 0.5145 | - - - - | 0.4968 | 0.4968 | 0.0000 | 2,001.787 7 | 2,001.787 7 | 0.3399 | | 2,010.285 8 |
| Total | 1.5233 | 11.7104 | 12.6111 | 0.0221 | | 0.5145 | 0.5145 | | 0.4968 | 0.4968 | 0.0000 | 2,001.787 7 | 2,001.787 7 | 0.3399 | | 2,010.285 8 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------------|--------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|---------|
| Category | | | | | lb/e | day | | | | | | | lb/c | day | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 7.2000e- 003 | 0.1666 | 0.1186 | 2.6000e- 004 | 1.4600e- 003 | 1.8000e- 004 | 1.6400e- 003 | 5.1000e- 004 | 1.8000e- 004 | 6.9000e- 004 | | 27.7947 | 27.7947 | 6.0000e- 004 | 4.3500e- 003 | 29.1046 |
| Worker | 0.0377 | 0.0193 | 0.2241 | 1.0000e- 004 | 2.0700e- 003 | 1.7000e- 004 | 2.2400e- 003 | 6.6000e- 004 | 1.6000e- 004 | 8.1000e- 004 | | 10.4901 | 10.4901 | 4.9200e- 003 | 2.2700e- 003 | 11.2900 |
| Total | 0.0449 | 0.1859 | 0.3427 | 3.6000e- 004 | 3.5300e- 003 | 3.5000e- 004 | 3.8800e- 003 | 1.1700e- 003 | 3.4000e- 004 | 1.5000e- 003 | | 38.2848 | 38.2848 | 5.5200e- 003 | 6.6200e- 003 | 40.3947 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|--------|--------|--------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------------|----------------|--------|-----|----------------|
| Category | | | | | lb/d | day | | | | | | | lb/d | lay | | |
| Off-Road | 0.6446 | 6.2357 | 8.8024 | 0.0136 | | 0.3084 | 0.3084 | 1 1 1 | 0.2846 | 0.2846 | | 1,297.688 0 | 1,297.688 0 | 0.4114 | | 1,307.972 5 |
| Paving | 0.4087 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Total | 1.0533 | 6.2357 | 8.8024 | 0.0136 | | 0.3084 | 0.3084 | | 0.2846 | 0.2846 | | 1,297.688 0 | 1,297.688 0 | 0.4114 | | 1,307.972 5 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|--------|-----------------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|--------|
| Category | | | | | lb/e | day | | | | | | | lb/d | day | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0148 | 7.5900e- 003 | 0.0883 | 4.0000e- 005 | 2.1000e- 003 | 7.0000e- 005 | 2.1700e- 003 | 5.7000e- 004 | 6.0000e- 005 | 6.4000e- 004 | | 4.1324 | 4.1324 | 1.9400e- 003 | 8.9000e- 004 | 4.4476 |
| Total | 0.0148 | 7.5900e- 003 | 0.0883 | 4.0000e- 005 | 2.1000e- 003 | 7.0000e- 005 | 2.1700e- 003 | 5.7000e- 004 | 6.0000e- 005 | 6.4000e- 004 | | 4.1324 | 4.1324 | 1.9400e- 003 | 8.9000e- 004 | 4.4476 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|--------|--------|--------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------------|----------------|--------|-----|----------------|
| Category | | | | | lb/ | day | | | | | | | lb/d | day | | |
| Off-Road | 0.6446 | 6.2357 | 8.8024 | 0.0136 | | 0.3084 | 0.3084 | | 0.2846 | 0.2846 | 0.0000 | 1,297.688 0 | 1,297.688 0 | 0.4114 | | 1,307.972 5 |
| Paving | 0.4087 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Total | 1.0533 | 6.2357 | 8.8024 | 0.0136 | | 0.3084 | 0.3084 | | 0.2846 | 0.2846 | 0.0000 | 1,297.688 0 | 1,297.688 0 | 0.4114 | | 1,307.972 5 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|--------|-----------------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|--------|
| Category | | | | | lb/e | day | | | | | | | lb/d | day | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0148 | 7.5900e- 003 | 0.0883 | 4.0000e- 005 | 8.1000e- 004 | 7.0000e- 005 | 8.8000e- 004 | 2.6000e- 004 | 6.0000e- 005 | 3.2000e- 004 | | 4.1324 | 4.1324 | 1.9400e- 003 | 8.9000e- 004 | 4.4476 |
| Total | 0.0148 | 7.5900e- 003 | 0.0883 | 4.0000e- 005 | 8.1000e- 004 | 7.0000e- 005 | 8.8000e- 004 | 2.6000e- 004 | 6.0000e- 005 | 3.2000e- 004 | | 4.1324 | 4.1324 | 1.9400e- 003 | 8.9000e- 004 | 4.4476 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------|---------|-------------|--------|-----------------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|-----------|-----------|--------|-----|----------|
| Category | | | | | lb/e | day | | | | | | | lb/d | day | | |
| Archit. Coating | 12.9449 | , , , | 1 | | | 0.0000 | 0.0000 | 1 | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.1917 | 1.3030 | 1.8111 | 2.9700e- 003 | | 0.0708 | 0.0708 | | 0.0708 | 0.0708 | | 281.4481 | 281.4481 | 0.0168 | | 281.8690 |
| Total | 13.1365 | 1.3030 | 1.8111 | 2.9700e- 003 | | 0.0708 | 0.0708 | | 0.0708 | 0.0708 | | 281.4481 | 281.4481 | 0.0168 | | 281.8690 |

Unmitigated Construction Off-Site

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------------|-----------------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|--------|
| Category | | | | | lb/e | day | | | | | | | lb/d | day | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 7.9900e- 003 | 4.0900e- 003 | 0.0475 | 2.0000e- 005 | 1.1300e- 003 | 4.0000e- 005 | 1.1700e- 003 | 3.1000e- 004 | 3.0000e- 005 | 3.4000e- 004 | | 2.2252 | 2.2252 | 1.0400e- 003 | 4.8000e- 004 | 2.3949 |
| Total | 7.9900e- 003 | 4.0900e- 003 | 0.0475 | 2.0000e- 005 | 1.1300e- 003 | 4.0000e- 005 | 1.1700e- 003 | 3.1000e- 004 | 3.0000e- 005 | 3.4000e- 004 | | 2.2252 | 2.2252 | 1.0400e- 003 | 4.8000e- 004 | 2.3949 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------|---------|-------------|--------|-----------------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|-----------|-----------|--------|-----|----------|
| Category | | | | | lb/e | day | | | | | | | lb/c | lay | | |
| Archit. Coating | 12.9449 | , , , | | , , , | | 0.0000 | 0.0000 | 1 | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.1917 | 1.3030 | 1.8111 | 2.9700e- 003 | | 0.0708 | 0.0708 | | 0.0708 | 0.0708 | 0.0000 | 281.4481 | 281.4481 | 0.0168 | | 281.8690 |
| Total | 13.1365 | 1.3030 | 1.8111 | 2.9700e- 003 | | 0.0708 | 0.0708 | | 0.0708 | 0.0708 | 0.0000 | 281.4481 | 281.4481 | 0.0168 | | 281.8690 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------------|-----------------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|--------|
| Category | | | | | lb/e | day | | | | | | | lb/d | day | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 7.9900e- 003 | 4.0900e- 003 | 0.0475 | 2.0000e- 005 | 4.4000e- 004 | 4.0000e- 005 | 4.8000e- 004 | 1.4000e- 004 | 3.0000e- 005 | 1.7000e- 004 | | 2.2252 | 2.2252 | 1.0400e- 003 | 4.8000e- 004 | 2.3949 |
| Total | 7.9900e- 003 | 4.0900e- 003 | 0.0475 | 2.0000e- 005 | 4.4000e- 004 | 4.0000e- 005 | 4.8000e- 004 | 1.4000e- 004 | 3.0000e- 005 | 1.7000e- 004 | | 2.2252 | 2.2252 | 1.0400e- 003 | 4.8000e- 004 | 2.3949 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|--------|--------|--------|-----------------|------------------|-----------------|---------------|-------------------|------------------|-----------------|----------|-----------|-----------|--------|--------|---------|
| Category | | | | | lb/e | day | | | | | | | lb/d | lay | | |
| Mitigated | 0.1878 | 0.4888 | 1.2308 | 8.3000e- 004 | 0.0179 | 8.9000e- 004 | 0.0188 | 4.8400e- 003 | 8.3000e- 004 | 5.6700e- 003 | | 87.9147 | 87.9147 | 0.0217 | 0.0181 | 93.8484 |
| Unmitigated | 0.1878 | 0.4888 | 1.2308 | 8.3000e- 004 | 0.0179 | 8.9000e- 004 | 0.0188 | 4.8400e- 003 | 8.3000e- 004 | 5.6700e- 003 | | 87.9147 | 87.9147 | 0.0217 | 0.0181 | 93.8484 |

4.2 Trip Summary Information

| | Aver | age Daily Trip Ra | ite | Unmitigated | Mitigated |
|----------------------------|---------|-------------------|--------|-------------|------------|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| General Light Industry | 0.00 | 0.00 | 0.00 | | |
| Government Office Building | 169.98 | 85.02 | 85.02 | 7,054 | 7,054 |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Other Non-Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Total | 169.98 | 85.02 | 85.02 | 7,054 | 7,054 |

4.3 Trip Type Information

| | | Miles | | | Trip % | | | Trip Purpos | e % |
|----------------------------|------------|------------|-------------|------------|------------|-------------|---------|-------------|---------|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| General Light Industry | 0.20 | 0.20 | 0.20 | 59.00 | 28.00 | 13.00 | 92 | 5 | 3 |
| Government Office Building | 0.20 | 0.20 | 0.20 | 33.00 | 62.00 | 5.00 | 50 | 34 | 16 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| | | Miles | | | Trip % | | | Trip Purpos | e % |
|----------------------------|------------|------------|-------------|------------|------------|-------------|---------|-------------|---------|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Other Asphalt Surfaces | 0.20 | 0.20 | 0.20 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Other Non-Asphalt Surfaces | 0.20 | 0.20 | 0.20 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Parking Lot | 0.20 | 0.20 | 0.20 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|----------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| General Light Industry | 0.569946 | 0.056495 | 0.180011 | 0.112201 | 0.020944 | 0.005169 | 0.013608 | 0.012941 | 0.000792 | 0.000570 | 0.024535 | 0.000337 | 0.002451 |
| Government Office Building | 0.288235 | 0.144118 | 0.144118 | 0.223529 | 0.000000 | 0.000000 | 0.100000 | 0.100000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Other Asphalt Surfaces | 0.569946 | 0.056495 | 0.180011 | 0.112201 | 0.020944 | 0.005169 | 0.013608 | 0.012941 | 0.000792 | 0.000570 | 0.024535 | 0.000337 | 0.002451 |
| Other Non-Asphalt Surfaces | 0.569946 | 0.056495 | 0.180011 | 0.112201 | 0.020944 | 0.005169 | 0.013608 | 0.012941 | 0.000792 | 0.000570 | 0.024535 | 0.000337 | 0.002451 |
| Parking Lot | 0.569946 | 0.056495 | 0.180011 | 0.112201 | 0.020944 | 0.005169 | 0.013608 | 0.012941 | 0.000792 | 0.000570 | 0.024535 | 0.000337 | 0.002451 |

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------------------|-----------------|--------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|---------|
| Category | | | | | lb/e | day | | | | | | | lb/c | lay | | |
| NaturalGas Mitigated | 5.7500e- 003 | 0.0522 | 0.0439 | 3.1000e- 004 | | 3.9700e- 003 | 3.9700e- 003 | | 3.9700e- 003 | 3.9700e- 003 | | 62.6890 | 62.6890 | 1.2000e- 003 | 1.1500e- 003 | 63.0615 |
| NaturalGas Unmitigated | 6.0000e- 003 | 0.0546 | 0.0458 | 3.3000e- 004 | | 4.1500e- 003 | 4.1500e- 003 | | 4.1500e- 003 | 4.1500e- 003 | | 65.4654 | 65.4654 | 1.2500e- 003 | 1.2000e- 003 | 65.8544 |

5.2 Energy by Land Use - NaturalGas

<u>Unmitigated</u>

| | NaturalGa s Use | ROG | NOx | со | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e | | |
|--------------------------------|--------------------|-----------------|--------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|---------|--|--|
| Land Use | kBTU/yr | | lb/day | | | | | | | | | | lb/day | | | | | | |
| General Light Industry | 241.661 | 2.6100e- 003 | 0.0237 | 0.0199 | 1.4000e- 004 | | 1.8000e- 003 | 1.8000e- 003 | | 1.8000e- 003 | 1.8000e- 003 | | 28.4307 | 28.4307 | 5.4000e- 004 | 5.2000e- 004 | 28.5997 | | |
| Government Office Building | 314.795 | 3.3900e- 003 | 0.0309 | 0.0259 | 1.9000e- 004 | | 2.3500e- 003 | 2.3500e- 003 | | 2.3500e- 003 | 2.3500e- 003 | | 37.0347 | 37.0347 | 7.1000e- 004 | 6.8000e- 004 | 37.2547 | | |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | |
| Other Non- Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | |
| Total | | 6.0000e- 003 | 0.0546 | 0.0458 | 3.3000e- 004 | | 4.1500e- 003 | 4.1500e- 003 | | 4.1500e- 003 | 4.1500e- 003 | | 65.4654 | 65.4654 | 1.2500e- 003 | 1.2000e- 003 | 65.8544 | | |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

| | NaturalGa s Use | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------------------------|--------------------|-----------------|--------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|---------|
| Land Use | kBTU/yr | | | | | lb/e | day | | | | | | | lb/c | day | | |
| General Light Industry | 0.232971 | 2.5100e- 003 | 0.0228 | 0.0192 | 1.4000e- 004 | | 1.7400e- 003 | 1.7400e- 003 | | 1.7400e- 003 | 1.7400e- 003 | | 27.4084 | 27.4084 | 5.3000e- 004 | 5.0000e- 004 | 27.5713 |
| Government Office Building | 0.299885 | 3.2300e- 003 | 0.0294 | 0.0247 | 1.8000e- 004 | | 2.2300e- 003 | 2.2300e- 003 | | 2.2300e- 003 | 2.2300e- 003 | | 35.2806 | 35.2806 | 6.8000e- 004 | 6.5000e- 004 | 35.4902 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Other Non- Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 5.7400e- 003 | 0.0522 | 0.0439 | 3.2000e- 004 | | 3.9700e- 003 | 3.9700e- 003 | | 3.9700e- 003 | 3.9700e- 003 | | 62.6890 | 62.6890 | 1.2100e- 003 | 1.1500e- 003 | 63.0615 |

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|--------|-----------------|-----------------|--------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------------|-----------------|-----------------|-----|-----------------|
| Category | | lb/day | | | | | | | | | | | lb/d | day | | |
| Mitigated | 0.2660 | 4.0000e- 005 | 4.7400e- 003 | 0.0000 | | 1.0000e- 005 | 1.0000e- 005 | | 1.0000e- 005 | 1.0000e- 005 | | 9.4500e- 003 | 9.4500e- 003 | 2.0000e- 005 | | 9.9400e- 003 |
| Unmitigated | 0.2664 | 7.0000e- 005 | 8.1700e- 003 | 0.0000 | | 3.0000e- 005 | 3.0000e- 005 | | 3.0000e- 005 | 3.0000e- 005 | | 0.0175 | 0.0175 | 5.0000e- 005 | | 0.0187 |

6.2 Area by SubCategory

Unmitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------------------|-----------------|-----------------|-----------------|--------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------------|-----------|-----------------|-----|--------|
| SubCategory | | | | | lb/o | day | | | | | | | lb/e | day | | |
| Architectural Coating | 0.0355 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 0.2302 | | , | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | - - - | 0.0000 | | | 0.0000 |
| Landscaping | 7.5000e- 004 | 7.0000e- 005 | 8.1700e- 003 | 0.0000 | | 3.0000e- 005 | 3.0000e- 005 | 1 | 3.0000e- 005 | 3.0000e- 005 | | 0.0175 | 0.0175 | 5.0000e- 005 | | 0.0187 |
| Total | 0.2664 | 7.0000e- 005 | 8.1700e- 003 | 0.0000 | | 3.0000e- 005 | 3.0000e- 005 | | 3.0000e- 005 | 3.0000e- 005 | | 0.0175 | 0.0175 | 5.0000e- 005 | | 0.0187 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------------------|-----------------|-----------------|-----------------|--------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|---------------------|-----------------|-----------------|-----|-----------------|
| SubCategory | | | | | lb/e | day | | | | | | | lb/e | day | | |
| Architectural Coating | 0.0355 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 0.2302 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 3.2000e- 004 | 4.0000e- 005 | 4.7400e- 003 | 0.0000 | | 1.0000e- 005 | 1.0000e- 005 | | 1.0000e- 005 | 1.0000e- 005 | | 9.4500e- 003 | 9.4500e- 003 | 2.0000e- 005 | | 9.9400e- 003 |
| Total | 0.2660 | 4.0000e- 005 | 4.7400e- 003 | 0.0000 | | 1.0000e- 005 | 1.0000e- 005 | | 1.0000e- 005 | 1.0000e- 005 | | 9.4500e- 003 | 9.4500e- 003 | 2.0000e- 005 | | 9.9400e- 003 |

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Turf Reduction

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
| | | | | | | |

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---------------------|--------|-----------|------------|-------------|-------------|-----------|
| Emergency Generator | 1 | 0.5 | 20 | 420 | 0.73 | Diesel |

Boilers

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|

User Defined Equipment

| Equipment Type | Number |
|----------------|--------|
| | |

10.1 Stationary Sources

Unmitigated/Mitigated

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|------------------------------------------------------|--------|--------|--------|-----------------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|-----------|-----------|--------|-----|----------|
| Equipment Type | | | | | lb/d | day | | | | | | | lb/c | lay | | |
| Emergency Generator - Diesel (300 - 600 HP) | 0.3446 | 0.9632 | 0.8787 | 1.6600e- 003 | | 0.0507 | 0.0507 | | 0.0507 | 0.0507 | | 176.2980 | 176.2980 | 0.0247 | | 176.9159 |
| Total | 0.3446 | 0.9632 | 0.8787 | 1.6600e- 003 | | 0.0507 | 0.0507 | | 0.0507 | 0.0507 | | 176.2980 | 176.2980 | 0.0247 | | 176.9159 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

East Bay Municipal Utility District - Willow Service Center

Alameda County, Summer

1.0 Project Characteristics

1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|----------------------------|-------|----------|-------------|--------------------|------------|
| Government Office Building | 6.00 | 1000sqft | 0.14 | 6,000.00 | 0 |
| General Light Industry | 3.59 | 1000sqft | 0.08 | 3,590.00 | 0 |
| Other Asphalt Surfaces | 2.32 | 1000sqft | 0.05 | 2,320.00 | 0 |
| Other Non-Asphalt Surfaces | 2.32 | 1000sqft | 0.05 | 2,320.00 | 0 |
| Parking Lot | 65.92 | 1000sqft | 1.51 | 65,920.00 | 0 |

1.2 Other Project Characteristics

| Urbanization | Urban | Wind Speed (m/s) | 2.2 | Precipitation Freq (Days) | 63 |
|----------------------------|-----------------------------|----------------------------|-------|----------------------------|-------|
| Climate Zone | 5 | | | Operational Year | 2024 |
| Utility Company | Pacific Gas and Electric Co | mpany | | | |
| CO2 Intensity (Ib/MWhr) | 203.98 | CH4 Intensity (Ib/MWhr) | 0.033 | N2O Intensity (Ib/MWhr) | 0.004 |

1.3 User Entered Comments & Non-Default Data

Grading - Parcel area 1.83 acres; 2,970 CY soil excavated

Trips and VMT - 1,000 ft radius = 0.2 mile

Vehicle Trips - Per PD & Sandis Traffic Analysis Memo (July 20, 2022); 1,000 ft radius = 0.2 mile

Fleet Mix - Per PD & Sandis Traffic Analysis Memo (July 20, 2022)

Water And Wastewater - No water use for non-office structures

Solid Waste - No solid waste generated by non-office structures

Construction Off-road Equipment Mitigation - BMPs, AP-42

Stationary Sources - Emergency Generators and Fire Pumps EF - 250 Kw (0.8 PF); ATCM 20 hrs/yr; Maintenance 30 min/mo

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Stationary Sources - Emergency Generators and Fire Pumps - 250 Kw (0.8 PF); ATCM 20 hrs/yr; Maintenance 30 min/mo

| Table Name | Column Name | Default Value | New Value |
|---------------------------------|--------------------------------|---------------|-----------|
| tblAreaMitigation | UseLowVOCPaintParkingCheck | False | True |
| tblConstDustMitigation | CleanPavedRoadPercentReduction | 0 | 75 |
| tblFleetMix | HHD | 0.01 | 0.10 |
| tblFleetMix | LDA | 0.57 | 0.29 |
| tblFleetMix | LDT1 | 0.06 | 0.14 |
| tblFleetMix | LDT2 | 0.18 | 0.14 |
| tblFleetMix | LHD1 | 0.02 | 0.00 |
| tblFleetMix | LHD2 | 5.1690e-003 | 0.00 |
| tblFleetMix | MCY | 0.02 | 0.00 |
| tblFleetMix | MDV | 0.11 | 0.22 |
| tblFleetMix | МН | 2.4510e-003 | 0.00 |
| tblFleetMix | MHD | 0.01 | 0.10 |
| tblFleetMix | OBUS | 7.9200e-004 | 0.00 |
| tblFleetMix | SBUS | 3.3700e-004 | 0.00 |
| tblFleetMix | UBUS | 5.7000e-004 | 0.00 |
| tblGrading | AcresOfGrading | 4.00 | 1.83 |
| tblGrading | AcresOfGrading | 1.88 | 1.83 |
| tblGrading | MaterialExported | 0.00 | 1,980.00 |
| tblGrading | MaterialExported | 0.00 | 990.00 |
| tblSolidWaste | SolidWasteGenerationRate | 4.45 | 0.00 |
| tblStationaryGeneratorsPumpsUse | HorsePowerValue | 0.00 | 420.00 |
| tblStationaryGeneratorsPumpsUse | HoursPerDay | 0.00 | 0.50 |
| tblStationaryGeneratorsPumpsUse | HoursPerYear | 0.00 | 20.00 |
| tblStationaryGeneratorsPumpsUse | NumberOfEquipment | 0.00 | 1.00 |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 0.20 |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 0.20 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| tblTripsAndVMT | HaulingTripLength | 20.00 | 0.20 |
|-----------------|-------------------|-------|------|
| tblTripsAndVMT | HaulingTripLength | 20.00 | 0.20 |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 0.20 |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 0.20 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 0.20 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 0.20 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 0.20 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 0.20 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 0.20 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 0.20 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 0.20 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 0.20 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 0.20 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 0.20 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 0.20 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 0.20 |
| tblVehicleTrips | CC_TL | 7.30 | 0.20 |
| tblVehicleTrips | CC_TL | 7.30 | 0.20 |
| tblVehicleTrips | CC_TL | 7.30 | 0.20 |
| tblVehicleTrips | CC_TL | 7.30 | 0.20 |
| tblVehicleTrips | CC_TL | 7.30 | 0.20 |
| tblVehicleTrips | CNW_TL | 7.30 | 0.20 |
| tblVehicleTrips | CNW_TL | 7.30 | 0.20 |
| tblVehicleTrips | CNW_TL | 7.30 | 0.20 |
| tblVehicleTrips | CNW_TL | 7.30 | 0.20 |
| tblVehicleTrips | CNW_TL | 7.30 | 0.20 |
| tblVehicleTrips | CW_TL | 9.50 | 0.20 |
| tblVehicleTrips | CW_TL | 9.50 | 0.20 |
| tblVehicleTrips | CW_TL | 9.50 | 0.20 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| tblVehicleTrips | CW_TL | 9.50 | 0.20 |
|-----------------|--------------------|------------|-------|
| tblVehicleTrips | CW_TL | 9.50 | 0.20 |
| tblVehicleTrips | ST_TR | 1.99 | 0.00 |
| tblVehicleTrips | ST_TR | 0.00 | 14.17 |
| tblVehicleTrips | SU_TR | 5.00 | 0.00 |
| tblVehicleTrips | SU_TR | 0.00 | 14.17 |
| tblVehicleTrips | WD_TR | 4.96 | 0.00 |
| tblVehicleTrips | WD_TR | 22.59 | 28.33 |
| tblWater | IndoorWaterUseRate | 830,187.50 | 0.00 |

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------|---------|---------|---------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------------|----------------|--------|--------|----------------|
| Year | | | | | lb/e | day | | | | | | | lb/d | day | | |
| 2023 | 13.1463 | 15.6038 | 13.6864 | 0.0245 | 6.5770 | 0.6770 | 7.1828 | 3.3750 | 0.6331 | 3.9323 | 0.0000 | 2,366.573 8 | 2,366.573 8 | 0.6512 | 0.0331 | 2,383.374 5 |
| Maximum | 13.1463 | 15.6038 | 13.6864 | 0.0245 | 6.5770 | 0.6770 | 7.1828 | 3.3750 | 0.6331 | 3.9323 | 0.0000 | 2,366.573 8 | 2,366.573 8 | 0.6512 | 0.0331 | 2,383.374 5 |

Mitigated Construction

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------|---------|---------|---------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------------|----------------|--------|--------|----------------|
| Year | | | | | lb/e | day | | | | | | | lb/c | day | | |
| 2023 | 13.1463 | 15.6038 | 13.6864 | 0.0245 | 2.5663 | 0.6770 | 3.1720 | 1.3169 | 0.6331 | 1.8742 | 0.0000 | 2,366.573 8 | 2,366.573 8 | 0.6512 | 0.0331 | 2,383.374 5 |
| Maximum | 13.1463 | 15.6038 | 13.6864 | 0.0245 | 2.5663 | 0.6770 | 3.1720 | 1.3169 | 0.6331 | 1.8742 | 0.0000 | 2,366.573 8 | 2,366.573 8 | 0.6512 | 0.0331 | 2,383.374 5 |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|----------------------|------|------|------|------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 60.98 | 0.00 | 55.84 | 60.98 | 0.00 | 52.34 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

| | ROG | NOx | со | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|------------|-----------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|----------|
| Category | | | | | lb/e | day | | | | | | | lb/c | day | | |
| Area | 0.2664 | 7.0000e- 005 | 8.1700e- 003 | 0.0000 | | 3.0000e- 005 | 3.0000e- 005 | | 3.0000e- 005 | 3.0000e- 005 | | 0.0175 | 0.0175 | 5.0000e- 005 | | 0.0187 |
| Energy | 6.0000e- 003 | 0.0546 | 0.0458 | 3.3000e- 004 | | 4.1500e- 003 | 4.1500e- 003 | | 4.1500e- 003 | 4.1500e- 003 | | 65.4654 | 65.4654 | 1.2500e- 003 | 1.2000e- 003 | 65.8544 |
| Mobile | 0.2204 | 0.4479 | 0.9054 | 8.3000e- 004 | 0.0179 | 8.6000e- 004 | 0.0188 | 4.8400e- 003 | 8.0000e- 004 | 5.6500e- 003 | | 86.9570 | 86.9570 | 0.0166 | 0.0166 | 92.3169 |
| Stationary | 0.3446 | 0.9632 | 0.8787 | 1.6600e- 003 | | 0.0507 | 0.0507 | | 0.0507 | 0.0507 | | 176.2980 | 176.2980 | 0.0247 | | 176.9159 |
| Total | 0.8375 | 1.4658 | 1.8381 | 2.8200e- 003 | 0.0179 | 0.0557 | 0.0737 | 4.8400e- 003 | 0.0557 | 0.0605 | | 328.7379 | 328.7379 | 0.0426 | 0.0178 | 335.1059 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|------------|-----------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Category | | | | | lb/d | day | | | | | | | lb/c | day | | |
| Area | 0.2660 | 4.0000e- 005 | 4.7400e- 003 | 0.0000 | | 1.0000e- 005 | 1.0000e- 005 | | 1.0000e- 005 | 1.0000e- 005 | | 9.4500e- 003 | 9.4500e- 003 | 2.0000e- 005 | | 9.9400e- 003 |
| Energy | 5.7500e- 003 | 0.0522 | 0.0439 | 3.1000e- 004 | | 3.9700e- 003 | 3.9700e- 003 | | 3.9700e- 003 | 3.9700e- 003 | | 62.6890 | 62.6890 | 1.2000e- 003 | 1.1500e- 003 | 63.0615 |
| Mobile | 0.2204 | 0.4479 | 0.9054 | 8.3000e- 004 | 0.0179 | 8.6000e- 004 | 0.0188 | 4.8400e- 003 | 8.0000e- 004 | 5.6500e- 003 | | 86.9570 | 86.9570 | 0.0166 | 0.0166 | 92.3169 |
| Stationary | 0.3446 | 0.9632 | 0.8787 | 1.6600e- 003 | | 0.0507 | 0.0507 | | 0.0507 | 0.0507 | | 176.2980 | 176.2980 | 0.0247 | | 176.9159 |
| Total | 0.8368 | 1.4634 | 1.8327 | 2.8000e- 003 | 0.0179 | 0.0555 | 0.0735 | 4.8400e- 003 | 0.0555 | 0.0603 | | 325.9534 | 325.9534 | 0.0425 | 0.0177 | 332.3043 |

| | ROG | NOx | со | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|----------------------|------|------|------|------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.08 | 0.16 | 0.29 | 0.71 | 0.00 | 0.36 | 0.27 | 0.00 | 0.36 | 0.33 | 0.00 | 0.85 | 0.85 | 0.19 | 0.28 | 0.84 |

3.0 Construction Detail

Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|-----------------|-----------------------|-----------------------|------------|------------|------------------|----------|-------------------|
| 1 | Demolition | Demolition | 1/9/2023 | 2/3/2023 | 5 | 20 | |
| 2 | Site Preparation | Site Preparation | 2/4/2023 | 2/7/2023 | 5 | 2 | |
| 3 | Grading | Grading | 2/8/2023 | 2/13/2023 | 5 | 4 | |
| 4 | Building Construction | Building Construction | 2/14/2023 | 11/20/2023 | 5 | 200 | |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| 5 | Paving | Paving | 11/21/2023 | 12/4/2023 | 5 | 10 | |
|---|-----------------------|-----------------------|------------|------------|---|----|--|
| 6 | Architectural Coating | Architectural Coating | 12/5/2023 | 12/18/2023 | 5 | 10 | |

Acres of Grading (Site Preparation Phase): 1.83

Acres of Grading (Grading Phase): 1.83

Acres of Paving: 1.61

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 14,385; Non-Residential Outdoor: 4,795; Striped Parking Area: 4,234 (Architectural Coating – sqft)

OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------|---------------------------|--------|-------------|-------------|-------------|
| Demolition | Concrete/Industrial Saws | 1 | 8.00 | 81 | 0.73 |
| Demolition | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Demolition | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Site Preparation | Graders | 1 | 8.00 | 187 | 0.41 |
| Site Preparation | Rubber Tired Dozers | 1 | 7.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Grading | Tractors/Loaders/Backhoes | 2 | 7.00 | 97 | 0.37 |
| Building Construction | Cranes | 1 | 6.00 | 231 | 0.29 |
| Building Construction | Forklifts | 1 | 6.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | 1 | 6.00 | 97 | 0.37 |
| Building Construction | Welders | 3 | 8.00 | 46 | 0.45 |
| Paving | Cement and Mortar Mixers | 1 | 6.00 | 9 | 0.56 |
| Paving | Pavers | 1 | 6.00 | 130 | 0.42 |
| Paving | Paving Equipment | 1 | 8.00 | 132 | 0.36 |
| Paving | Rollers | 1 | 7.00 | 80 | 0.38 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Paving | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |
|-----------------------|---------------------------|---|------|----|------|
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |

Trips and VMT

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------|----------------------------|-----------------------|-----------------------|------------------------|-----------------------|-----------------------|------------------------|-------------------------|-------------------------|--------------------------|
| Demolition | 5 | 13.00 | 0.00 | 228.00 | 0.20 | 0.20 | 0.20 | LD_Mix | HDT_Mix | HHDT |
| Site Preparation | 3 | 8.00 | 0.00 | 124.00 | 0.20 | 0.20 | 0.20 | LD_Mix | HDT_Mix | HHDT |
| Grading | 4 | 10.00 | 0.00 | 248.00 | 0.20 | 0.20 | 0.20 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 7 | 33.00 | 13.00 | 0.00 | 0.20 | 0.20 | 0.20 | LD_Mix | HDT_Mix | HHDT |
| Paving | 5 | 13.00 | 0.00 | 0.00 | 0.20 | 0.20 | 0.20 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 7.00 | 0.00 | 0.00 | 0.20 | 0.20 | 0.20 | LD_Mix | HDT_Mix | HHDT |

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------|-------------|---------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------------|----------------|--------|-----|----------------|
| Category | | | | | lb/e | day | | | | | | | lb/d | day | | |
| Fugitive Dust | | , , , | | | 2.4716 | 0.0000 | 2.4716 | 0.3742 | 0.0000 | 0.3742 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.4725 | 14.3184 | 13.4577 | 0.0241 | | 0.6766 | 0.6766 | | 0.6328 | 0.6328 | | 2,324.395 9 | 2,324.395 9 | 0.5893 | | 2,339.127 8 |
| Total | 1.4725 | 14.3184 | 13.4577 | 0.0241 | 2.4716 | 0.6766 | 3.1482 | 0.3742 | 0.6328 | 1.0070 | | 2,324.395 9 | 2,324.395 9 | 0.5893 | | 2,339.127 8 |

Unmitigated Construction Off-Site

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|--------|-----------------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|---------|
| Category | | | | | lb/e | day | | | | | | | lb/d | day | | |
| Hauling | 0.0122 | 0.2081 | 0.1679 | 3.5000e- 004 | 2.2400e- 003 | 2.4000e- 004 | 2.4800e- 003 | 6.4000e- 004 | 2.3000e- 004 | 8.7000e- 004 | | 37.9099 | 37.9099 | 8.6000e- 004 | 5.9800e- 003 | 39.7131 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0181 | 6.1100e- 003 | 0.0608 | 4.0000e- 005 | 2.1000e- 003 | 7.0000e- 005 | 2.1700e- 003 | 5.7000e- 004 | 6.0000e- 005 | 6.4000e- 004 | | 4.2681 | 4.2681 | 1.4500e- 003 | 7.7000e- 004 | 4.5336 |
| Total | 0.0303 | 0.2142 | 0.2287 | 3.9000e- 004 | 4.3400e- 003 | 3.1000e- 004 | 4.6500e- 003 | 1.2100e- 003 | 2.9000e- 004 | 1.5100e- 003 | | 42.1780 | 42.1780 | 2.3100e- 003 | 6.7500e- 003 | 44.2467 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------|---------|-------------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------------|----------------|--------|-----|----------------|
| Category | | | | | lb/e | day | | | | | | | lb/d | day | | |
| Fugitive Dust | | | , , , | | 0.9639 | 0.0000 | 0.9639 | 0.1460 | 0.0000 | 0.1460 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.4725 | 14.3184 | 13.4577 | 0.0241 | | 0.6766 | 0.6766 | | 0.6328 | 0.6328 | 0.0000 | 2,324.395 9 | 2,324.395 9 | 0.5893 | | 2,339.127 8 |
| Total | 1.4725 | 14.3184 | 13.4577 | 0.0241 | 0.9639 | 0.6766 | 1.6406 | 0.1460 | 0.6328 | 0.7787 | 0.0000 | 2,324.395 9 | 2,324.395 9 | 0.5893 | | 2,339.127 8 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|--------|-----------------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|---------|
| Category | | | | | lb/e | day | | | | | | | lb/d | day | | |
| Hauling | 0.0122 | 0.2081 | 0.1679 | 3.5000e- 004 | 1.1100e- 003 | 2.4000e- 004 | 1.3500e- 003 | 3.6000e- 004 | 2.3000e- 004 | 5.9000e- 004 | | 37.9099 | 37.9099 | 8.6000e- 004 | 5.9800e- 003 | 39.7131 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0181 | 6.1100e- 003 | 0.0608 | 4.0000e- 005 | 8.1000e- 004 | 7.0000e- 005 | 8.8000e- 004 | 2.6000e- 004 | 6.0000e- 005 | 3.2000e- 004 | | 4.2681 | 4.2681 | 1.4500e- 003 | 7.7000e- 004 | 4.5336 |
| Total | 0.0303 | 0.2142 | 0.2287 | 3.9000e- 004 | 1.9200e- 003 | 3.1000e- 004 | 2.2300e- 003 | 6.2000e- 004 | 2.9000e- 004 | 9.1000e- 004 | | 42.1780 | 42.1780 | 2.3100e- 003 | 6.7500e- 003 | 44.2467 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------|-------------|-------------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------------|----------------|--------|-----|----------------|
| Category | | | | | lb/e | day | | | | | | | lb/d | day | | |
| Fugitive Dust | | 1 1 1 | 1 1 1 | | 6.2957 | 0.0000 | 6.2957 | 3.0097 | 0.0000 | 3.0097 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.1339 | 12.4250 | 6.6420 | 0.0172 | | 0.5074 | 0.5074 | 1 1 1 | 0.4668 | 0.4668 | | 1,666.057 3 | 1,666.057 3 | 0.5388 | | 1,679.528 2 |
| Total | 1.1339 | 12.4250 | 6.6420 | 0.0172 | 6.2957 | 0.5074 | 6.8030 | 3.0097 | 0.4668 | 3.4765 | | 1,666.057 3 | 1,666.057 3 | 0.5388 | | 1,679.528 2 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|--------|-----------------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|----------|
| Category | | | | | lb/e | day | | | | | | | lb/d | day | | |
| Hauling | 0.0662 | 1.1315 | 0.9133 | 1.9200e- 003 | 0.0122 | 1.3200e- 003 | 0.0135 | 3.4500e- 003 | 1.2600e- 003 | 4.7200e- 003 | | 206.1764 | 206.1764 | 4.6800e- 003 | 0.0325 | 215.9835 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0111 | 3.7600e- 003 | 0.0374 | 3.0000e- 005 | 1.2900e- 003 | 4.0000e- 005 | 1.3400e- 003 | 3.5000e- 004 | 4.0000e- 005 | 3.9000e- 004 | | 2.6265 | 2.6265 | 8.9000e- 004 | 4.7000e- 004 | 2.7899 |
| Total | 0.0773 | 1.1352 | 0.9507 | 1.9500e- 003 | 0.0135 | 1.3600e- 003 | 0.0148 | 3.8000e- 003 | 1.3000e- 003 | 5.1100e- 003 | | 208.8030 | 208.8030 | 5.5700e- 003 | 0.0330 | 218.7734 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------|-------------|--------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------------|----------------|--------|-----|----------------|
| Category | | | | | lb/e | day | | | | | | | lb/c | lay | | |
| Fugitive Dust | | , , , | | | 2.4553 | 0.0000 | 2.4553 | 1.1738 | 0.0000 | 1.1738 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.1339 | 12.4250 | 6.6420 | 0.0172 | | 0.5074 | 0.5074 | | 0.4668 | 0.4668 | 0.0000 | 1,666.057 3 | 1,666.057 3 | 0.5388 | | 1,679.528 2 |
| Total | 1.1339 | 12.4250 | 6.6420 | 0.0172 | 2.4553 | 0.5074 | 2.9627 | 1.1738 | 0.4668 | 1.6406 | 0.0000 | 1,666.057 3 | 1,666.057 3 | 0.5388 | | 1,679.528 2 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|--------|-----------------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|----------|
| Category | | | | | lb/ | day | | | | | | | lb/d | day | | |
| Hauling | 0.0662 | 1.1315 | 0.9133 | 1.9200e- 003 | 6.0200e- 003 | 1.3200e- 003 | 7.3400e- 003 | 1.9400e- 003 | 1.2600e- 003 | 3.2100e- 003 | | 206.1764 | 206.1764 | 4.6800e- 003 | 0.0325 | 215.9835 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0111 | 3.7600e- 003 | 0.0374 | 3.0000e- 005 | 5.0000e- 004 | 4.0000e- 005 | 5.4000e- 004 | 1.6000e- 004 | 4.0000e- 005 | 2.0000e- 004 | | 2.6265 | 2.6265 | 8.9000e- 004 | 4.7000e- 004 | 2.7899 |
| Total | 0.0773 | 1.1352 | 0.9507 | 1.9500e- 003 | 6.5200e- 003 | 1.3600e- 003 | 7.8800e- 003 | 2.1000e- 003 | 1.3000e- 003 | 3.4100e- 003 | | 208.8030 | 208.8030 | 5.5700e- 003 | 0.0330 | 218.7734 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Unmitigated Construction On-Site

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------|---------|--------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------------|----------------|--------|-----|----------------|
| Category | | | | | lb/o | day | | | | | | | lb/d | lay | | |
| Fugitive Dust | | | | | 6.5632 | 0.0000 | 6.5632 | 3.3711 | 0.0000 | 3.3711 | | 1 1 1 | 0.0000 | | | 0.0000 |
| Off-Road | 1.3330 | 14.4676 | 8.7038 | 0.0206 | | 0.6044 | 0.6044 | | 0.5560 | 0.5560 | | 1,995.614 7 | 1,995.614 7 | 0.6454 | | 2,011.750 3 |
| Total | 1.3330 | 14.4676 | 8.7038 | 0.0206 | 6.5632 | 0.6044 | 7.1676 | 3.3711 | 0.5560 | 3.9271 | | 1,995.614 7 | 1,995.614 7 | 0.6454 | | 2,011.750 3 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|--------|-----------------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|----------|
| Category | | | | | lb/ | day | | | | | | | lb/d | day | | |
| Hauling | 0.0662 | 1.1315 | 0.9133 | 1.9200e- 003 | 0.0122 | 1.3200e- 003 | 0.0135 | 3.4500e- 003 | 1.2600e- 003 | 4.7200e- 003 | | 206.1764 | 206.1764 | 4.6800e- 003 | 0.0325 | 215.9835 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0139 | 4.7000e- 003 | 0.0468 | 3.0000e- 005 | 1.6200e- 003 | 5.0000e- 005 | 1.6700e- 003 | 4.4000e- 004 | 5.0000e- 005 | 4.9000e- 004 | | 3.2832 | 3.2832 | 1.1100e- 003 | 5.9000e- 004 | 3.4874 |
| Total | 0.0801 | 1.1362 | 0.9600 | 1.9500e- 003 | 0.0138 | 1.3700e- 003 | 0.0152 | 3.8900e- 003 | 1.3100e- 003 | 5.2100e- 003 | | 209.4596 | 209.4596 | 5.7900e- 003 | 0.0331 | 219.4709 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Mitigated Construction On-Site

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------|-------------|--------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------------|----------------|--------|-----|----------------|
| Category | | | | | lb/e | day | | | | | | | lb/c | lay | | |
| Fugitive Dust | | , , , | | | 2.5597 | 0.0000 | 2.5597 | 1.3147 | 0.0000 | 1.3147 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.3330 | 14.4676 | 8.7038 | 0.0206 | | 0.6044 | 0.6044 | | 0.5560 | 0.5560 | 0.0000 | 1,995.614 7 | 1,995.614 7 | 0.6454 | | 2,011.750 3 |
| Total | 1.3330 | 14.4676 | 8.7038 | 0.0206 | 2.5597 | 0.6044 | 3.1640 | 1.3147 | 0.5560 | 1.8707 | 0.0000 | 1,995.614 7 | 1,995.614 7 | 0.6454 | | 2,011.750 3 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|--------|-----------------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|----------|
| Category | | | | | lb/e | day | | | | | | | lb/c | day | | |
| Hauling | 0.0662 | 1.1315 | 0.9133 | 1.9200e- 003 | 6.0200e- 003 | 1.3200e- 003 | 7.3400e- 003 | 1.9400e- 003 | 1.2600e- 003 | 3.2100e- 003 | | 206.1764 | 206.1764 | 4.6800e- 003 | 0.0325 | 215.9835 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0139 | 4.7000e- 003 | 0.0468 | 3.0000e- 005 | 6.3000e- 004 | 5.0000e- 005 | 6.8000e- 004 | 2.0000e- 004 | 5.0000e- 005 | 2.5000e- 004 | | 3.2832 | 3.2832 | 1.1100e- 003 | 5.9000e- 004 | 3.4874 |
| Total | 0.0801 | 1.1362 | 0.9600 | 1.9500e- 003 | 6.6500e- 003 | 1.3700e- 003 | 8.0200e- 003 | 2.1400e- 003 | 1.3100e- 003 | 3.4600e- 003 | | 209.4596 | 209.4596 | 5.7900e- 003 | 0.0331 | 219.4709 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|--------|---------|---------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------------|----------------|--------|-----|----------------|
| Category | | | | | lb/ | day | | | | | | | lb/d | day | | |
| Off-Road | 1.5233 | 11.7104 | 12.6111 | 0.0221 | | 0.5145 | 0.5145 | 1 1 1 | 0.4968 | 0.4968 | | 2,001.787 7 | 2,001.787 7 | 0.3399 | | 2,010.285 8 |
| Total | 1.5233 | 11.7104 | 12.6111 | 0.0221 | | 0.5145 | 0.5145 | | 0.4968 | 0.4968 | | 2,001.787 7 | 2,001.787 7 | 0.3399 | | 2,010.285 8 |

Unmitigated Construction Off-Site

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------------|--------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|---------|
| Category | | | | | lb/d | day | | | | | | | lb/d | day | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 8.0400e- 003 | 0.1564 | 0.1121 | 2.6000e- 004 | 2.7500e- 003 | 1.7000e- 004 | 2.9200e- 003 | 8.3000e- 004 | 1.7000e- 004 | 9.9000e- 004 | | 27.3272 | 27.3272 | 6.3000e- 004 | 4.2600e- 003 | 28.6134 |
| Worker | 0.0459 | 0.0155 | 0.1543 | 1.1000e- 004 | 5.3400e- 003 | 1.7000e- 004 | 5.5100e- 003 | 1.4600e- 003 | 1.6000e- 004 | 1.6200e- 003 | | 10.8344 | 10.8344 | 3.6700e- 003 | 1.9500e- 003 | 11.5084 |
| Total | 0.0540 | 0.1720 | 0.2664 | 3.7000e- 004 | 8.0900e- 003 | 3.4000e- 004 | 8.4300e- 003 | 2.2900e- 003 | 3.3000e- 004 | 2.6100e- 003 | | 38.1616 | 38.1616 | 4.3000e- 003 | 6.2100e- 003 | 40.1219 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|--------|---------|---------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------------|----------------|--------|-----|----------------|
| Category | | | | | lb/e | day | | | | | | | lb/d | lay | | |
| Off-Road | 1.5233 | 11.7104 | 12.6111 | 0.0221 | | 0.5145 | 0.5145 | | 0.4968 | 0.4968 | 0.0000 | 2,001.787 7 | 2,001.787 7 | 0.3399 | | 2,010.285 8 |
| Total | 1.5233 | 11.7104 | 12.6111 | 0.0221 | | 0.5145 | 0.5145 | | 0.4968 | 0.4968 | 0.0000 | 2,001.787 7 | 2,001.787 7 | 0.3399 | | 2,010.285 8 |

Mitigated Construction Off-Site

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------------|--------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|---------|
| Category | | | | | lb/e | day | | | | | | | lb/d | day | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 8.0400e- 003 | 0.1564 | 0.1121 | 2.6000e- 004 | 1.4600e- 003 | 1.7000e- 004 | 1.6300e- 003 | 5.1000e- 004 | 1.7000e- 004 | 6.8000e- 004 | | 27.3272 | 27.3272 | 6.3000e- 004 | 4.2600e- 003 | 28.6134 |
| Worker | 0.0459 | 0.0155 | 0.1543 | 1.1000e- 004 | 2.0700e- 003 | 1.7000e- 004 | 2.2400e- 003 | 6.6000e- 004 | 1.6000e- 004 | 8.1000e- 004 | | 10.8344 | 10.8344 | 3.6700e- 003 | 1.9500e- 003 | 11.5084 |
| Total | 0.0540 | 0.1720 | 0.2664 | 3.7000e- 004 | 3.5300e- 003 | 3.4000e- 004 | 3.8700e- 003 | 1.1700e- 003 | 3.3000e- 004 | 1.4900e- 003 | | 38.1616 | 38.1616 | 4.3000e- 003 | 6.2100e- 003 | 40.1219 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|--------|----------------------------|--------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------------|----------------|--------|-----|----------------|
| Category | | | | | lb/e | day | | | | | | | lb/d | day | | |
| Off-Road | 0.6446 | 6.2357 | 8.8024 | 0.0136 | | 0.3084 | 0.3084 | | 0.2846 | 0.2846 | | 1,297.688 0 | 1,297.688 0 | 0.4114 | | 1,307.972 5 |
| Paving | 0.4087 | 1 1 1 1 1 1 | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Total | 1.0533 | 6.2357 | 8.8024 | 0.0136 | | 0.3084 | 0.3084 | | 0.2846 | 0.2846 | | 1,297.688 0 | 1,297.688 0 | 0.4114 | | 1,307.972 5 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|--------|-----------------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|--------|
| Category | | | | | lb/e | day | | | | | | | lb/d | day | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0181 | 6.1100e- 003 | 0.0608 | 4.0000e- 005 | 2.1000e- 003 | 7.0000e- 005 | 2.1700e- 003 | 5.7000e- 004 | 6.0000e- 005 | 6.4000e- 004 | | 4.2681 | 4.2681 | 1.4500e- 003 | 7.7000e- 004 | 4.5336 |
| Total | 0.0181 | 6.1100e- 003 | 0.0608 | 4.0000e- 005 | 2.1000e- 003 | 7.0000e- 005 | 2.1700e- 003 | 5.7000e- 004 | 6.0000e- 005 | 6.4000e- 004 | | 4.2681 | 4.2681 | 1.4500e- 003 | 7.7000e- 004 | 4.5336 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|--------|--------|--------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------------|----------------|--------|-----|----------------|
| Category | | | | | lb/e | day | | | | | | | lb/d | day | | |
| Off-Road | 0.6446 | 6.2357 | 8.8024 | 0.0136 | | 0.3084 | 0.3084 | | 0.2846 | 0.2846 | 0.0000 | 1,297.688 0 | 1,297.688 0 | 0.4114 | | 1,307.972 5 |
| Paving | 0.4087 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Total | 1.0533 | 6.2357 | 8.8024 | 0.0136 | | 0.3084 | 0.3084 | | 0.2846 | 0.2846 | 0.0000 | 1,297.688 0 | 1,297.688 0 | 0.4114 | | 1,307.972 5 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|--------|-----------------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|--------|
| Category | | | | | lb/e | day | | | | | | | lb/d | day | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0181 | 6.1100e- 003 | 0.0608 | 4.0000e- 005 | 8.1000e- 004 | 7.0000e- 005 | 8.8000e- 004 | 2.6000e- 004 | 6.0000e- 005 | 3.2000e- 004 | | 4.2681 | 4.2681 | 1.4500e- 003 | 7.7000e- 004 | 4.5336 |
| Total | 0.0181 | 6.1100e- 003 | 0.0608 | 4.0000e- 005 | 8.1000e- 004 | 7.0000e- 005 | 8.8000e- 004 | 2.6000e- 004 | 6.0000e- 005 | 3.2000e- 004 | | 4.2681 | 4.2681 | 1.4500e- 003 | 7.7000e- 004 | 4.5336 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------|---------|-------------|--------|-----------------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|-----------|-----------|--------|-----|----------|
| Category | | | | | lb/e | day | | | | | | | lb/d | day | | |
| Archit. Coating | 12.9449 | 1 1 1 | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.1917 | 1.3030 | 1.8111 | 2.9700e- 003 | | 0.0708 | 0.0708 | | 0.0708 | 0.0708 | | 281.4481 | 281.4481 | 0.0168 | | 281.8690 |
| Total | 13.1365 | 1.3030 | 1.8111 | 2.9700e- 003 | | 0.0708 | 0.0708 | | 0.0708 | 0.0708 | | 281.4481 | 281.4481 | 0.0168 | | 281.8690 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------------|-----------------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|--------|
| Category | | | | | lb/e | day | | | | | | | lb/d | day | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 9.7400e- 003 | 3.2900e- 003 | 0.0327 | 2.0000e- 005 | 1.1300e- 003 | 4.0000e- 005 | 1.1700e- 003 | 3.1000e- 004 | 3.0000e- 005 | 3.4000e- 004 | | 2.2982 | 2.2982 | 7.8000e- 004 | 4.1000e- 004 | 2.4412 |
| Total | 9.7400e- 003 | 3.2900e- 003 | 0.0327 | 2.0000e- 005 | 1.1300e- 003 | 4.0000e- 005 | 1.1700e- 003 | 3.1000e- 004 | 3.0000e- 005 | 3.4000e- 004 | | 2.2982 | 2.2982 | 7.8000e- 004 | 4.1000e- 004 | 2.4412 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------|---------|-------------|--------|-----------------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|-----------|-----------|--------|-----|----------|
| Category | | | | | lb/e | day | | | | | | | lb/c | lay | | |
| Archit. Coating | 12.9449 | , , , | | , , , | | 0.0000 | 0.0000 | 1 | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.1917 | 1.3030 | 1.8111 | 2.9700e- 003 | | 0.0708 | 0.0708 | | 0.0708 | 0.0708 | 0.0000 | 281.4481 | 281.4481 | 0.0168 | | 281.8690 |
| Total | 13.1365 | 1.3030 | 1.8111 | 2.9700e- 003 | | 0.0708 | 0.0708 | | 0.0708 | 0.0708 | 0.0000 | 281.4481 | 281.4481 | 0.0168 | | 281.8690 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------------|-----------------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|--------|
| Category | | | | | lb/e | day | | | | | | | lb/d | day | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 9.7400e- 003 | 3.2900e- 003 | 0.0327 | 2.0000e- 005 | 4.4000e- 004 | 4.0000e- 005 | 4.8000e- 004 | 1.4000e- 004 | 3.0000e- 005 | 1.7000e- 004 | | 2.2982 | 2.2982 | 7.8000e- 004 | 4.1000e- 004 | 2.4412 |
| Total | 9.7400e- 003 | 3.2900e- 003 | 0.0327 | 2.0000e- 005 | 4.4000e- 004 | 4.0000e- 005 | 4.8000e- 004 | 1.4000e- 004 | 3.0000e- 005 | 1.7000e- 004 | | 2.2982 | 2.2982 | 7.8000e- 004 | 4.1000e- 004 | 2.4412 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|--------|--------|--------|-----------------|------------------|-----------------|---------------|-------------------|------------------|-----------------|----------|-----------|-----------|--------|--------|---------|
| Category | | | | | lb/e | day | | | | | | | lb/c | day | | |
| Mitigated | 0.2204 | 0.4479 | 0.9054 | 8.3000e- 004 | 0.0179 | 8.6000e- 004 | 0.0188 | 4.8400e- 003 | 8.0000e- 004 | 5.6500e- 003 | | 86.9570 | 86.9570 | 0.0166 | 0.0166 | 92.3169 |
| Unmitigated | 0.2204 | 0.4479 | 0.9054 | 8.3000e- 004 | 0.0179 | 8.6000e- 004 | 0.0188 | 4.8400e- 003 | 8.0000e- 004 | 5.6500e- 003 | | 86.9570 | 86.9570 | 0.0166 | 0.0166 | 92.3169 |

4.2 Trip Summary Information

| | Aver | age Daily Trip Ra | ite | Unmitigated | Mitigated |
|----------------------------|---------|-------------------|--------|-------------|------------|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| General Light Industry | 0.00 | 0.00 | 0.00 | | |
| Government Office Building | 169.98 | 85.02 | 85.02 | 7,054 | 7,054 |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Other Non-Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Total | 169.98 | 85.02 | 85.02 | 7,054 | 7,054 |

4.3 Trip Type Information

| | | Miles | | | Trip % | | | Trip Purpos | e % |
|----------------------------|------------|------------|-------------|------------|------------|-------------|---------|-------------|---------|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| General Light Industry | 0.20 | 0.20 | 0.20 | 59.00 | 28.00 | 13.00 | 92 | 5 | 3 |
| Government Office Building | 0.20 | 0.20 | 0.20 | 33.00 | 62.00 | 5.00 | 50 | 34 | 16 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| | | Miles | | | Trip % | | | Trip Purpos | e % |
|----------------------------|------------|------------|-------------|------------|------------|-------------|---------|-------------|---------|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Other Asphalt Surfaces | 0.20 | 0.20 | 0.20 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Other Non-Asphalt Surfaces | 0.20 | 0.20 | 0.20 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Parking Lot | 0.20 | 0.20 | 0.20 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|----------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| General Light Industry | 0.569946 | 0.056495 | 0.180011 | 0.112201 | 0.020944 | 0.005169 | 0.013608 | 0.012941 | 0.000792 | 0.000570 | 0.024535 | 0.000337 | 0.002451 |
| Government Office Building | 0.288235 | 0.144118 | 0.144118 | 0.223529 | 0.000000 | 0.000000 | 0.100000 | 0.100000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Other Asphalt Surfaces | 0.569946 | 0.056495 | 0.180011 | 0.112201 | 0.020944 | 0.005169 | 0.013608 | 0.012941 | 0.000792 | 0.000570 | 0.024535 | 0.000337 | 0.002451 |
| Other Non-Asphalt Surfaces | 0.569946 | 0.056495 | 0.180011 | 0.112201 | 0.020944 | 0.005169 | 0.013608 | 0.012941 | 0.000792 | 0.000570 | 0.024535 | 0.000337 | 0.002451 |
| Parking Lot | 0.569946 | 0.056495 | 0.180011 | 0.112201 | 0.020944 | 0.005169 | 0.013608 | 0.012941 | 0.000792 | 0.000570 | 0.024535 | 0.000337 | 0.002451 |

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------------------|-----------------|--------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|---------|
| Category | | | | | lb/e | day | | | | | | | lb/c | lay | | |
| NaturalGas Mitigated | 5.7500e- 003 | 0.0522 | 0.0439 | 3.1000e- 004 | | 3.9700e- 003 | 3.9700e- 003 | | 3.9700e- 003 | 3.9700e- 003 | | 62.6890 | 62.6890 | 1.2000e- 003 | 1.1500e- 003 | 63.0615 |
| NaturalGas Unmitigated | 6.0000e- 003 | 0.0546 | 0.0458 | 3.3000e- 004 | | 4.1500e- 003 | 4.1500e- 003 | | 4.1500e- 003 | 4.1500e- 003 | | 65.4654 | 65.4654 | 1.2500e- 003 | 1.2000e- 003 | 65.8544 |

5.2 Energy by Land Use - NaturalGas

<u>Unmitigated</u>

| | NaturalGa s Use | ROG | NOx | со | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------------------------|--------------------|-----------------|--------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|---------|
| Land Use | kBTU/yr | | | | | lb/o | day | | | | | | | lb/c | lay | | |
| General Light Industry | 241.661 | 2.6100e- 003 | 0.0237 | 0.0199 | 1.4000e- 004 | | 1.8000e- 003 | 1.8000e- 003 | | 1.8000e- 003 | 1.8000e- 003 | | 28.4307 | 28.4307 | 5.4000e- 004 | 5.2000e- 004 | 28.5997 |
| Government Office Building | 314.795 | 3.3900e- 003 | 0.0309 | 0.0259 | 1.9000e- 004 | | 2.3500e- 003 | 2.3500e- 003 | | 2.3500e- 003 | 2.3500e- 003 | | 37.0347 | 37.0347 | 7.1000e- 004 | 6.8000e- 004 | 37.2547 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Other Non- Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 6.0000e- 003 | 0.0546 | 0.0458 | 3.3000e- 004 | | 4.1500e- 003 | 4.1500e- 003 | | 4.1500e- 003 | 4.1500e- 003 | | 65.4654 | 65.4654 | 1.2500e- 003 | 1.2000e- 003 | 65.8544 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

| | NaturalGa s Use | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------------------------|--------------------|-----------------|--------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|---------|
| Land Use | kBTU/yr | | | | | lb/e | day | | | | | | | lb/d | lay | | |
| General Light Industry | 0.232971 | 2.5100e- 003 | 0.0228 | 0.0192 | 1.4000e- 004 | | 1.7400e- 003 | 1.7400e- 003 | | 1.7400e- 003 | 1.7400e- 003 | | 27.4084 | 27.4084 | 5.3000e- 004 | 5.0000e- 004 | 27.5713 |
| Government Office Building | 0.299885 | 3.2300e- 003 | 0.0294 | 0.0247 | 1.8000e- 004 | | 2.2300e- 003 | 2.2300e- 003 | | 2.2300e- 003 | 2.2300e- 003 | | 35.2806 | 35.2806 | 6.8000e- 004 | 6.5000e- 004 | 35.4902 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Other Non- Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 5.7400e- 003 | 0.0522 | 0.0439 | 3.2000e- 004 | | 3.9700e- 003 | 3.9700e- 003 | | 3.9700e- 003 | 3.9700e- 003 | | 62.6890 | 62.6890 | 1.2100e- 003 | 1.1500e- 003 | 63.0615 |

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|--------|-----------------|-----------------|--------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------------|-----------------|-----------------|-----|-----------------|
| Category | lb/day | | | | | | | lb/day | | | | | | | | |
| Mitigated | 0.2660 | 4.0000e- 005 | 4.7400e- 003 | 0.0000 | | 1.0000e- 005 | 1.0000e- 005 | | 1.0000e- 005 | 1.0000e- 005 | | 9.4500e- 003 | 9.4500e- 003 | 2.0000e- 005 | | 9.9400e- 003 |
| Unmitigated | 0.2664 | 7.0000e- 005 | 8.1700e- 003 | 0.0000 | | 3.0000e- 005 | 3.0000e- 005 | | 3.0000e- 005 | 3.0000e- 005 | | 0.0175 | 0.0175 | 5.0000e- 005 | | 0.0187 |

6.2 Area by SubCategory

Unmitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------------------|-----------------|-----------------|-----------------|--------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----|--------|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.0355 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 0.2302 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 7.5000e- 004 | 7.0000e- 005 | 8.1700e- 003 | 0.0000 | | 3.0000e- 005 | 3.0000e- 005 | 1 | 3.0000e- 005 | 3.0000e- 005 | | 0.0175 | 0.0175 | 5.0000e- 005 | | 0.0187 |
| Total | 0.2664 | 7.0000e- 005 | 8.1700e- 003 | 0.0000 | | 3.0000e- 005 | 3.0000e- 005 | | 3.0000e- 005 | 3.0000e- 005 | | 0.0175 | 0.0175 | 5.0000e- 005 | | 0.0187 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------------------|-----------------|-----------------|-----------------|--------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------------|-----------------|-----------------|-----|-----------------|
| SubCategory | lb/day | | | | | | | | | lb/day | | | | | | |
| Architectural Coating | 0.0355 | 1 | 1 1 1 | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 0.2302 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 3.2000e- 004 | 4.0000e- 005 | 4.7400e- 003 | 0.0000 | | 1.0000e- 005 | 1.0000e- 005 | | 1.0000e- 005 | 1.0000e- 005 | | 9.4500e- 003 | 9.4500e- 003 | 2.0000e- 005 | | 9.9400e- 003 |
| Total | 0.2660 | 4.0000e- 005 | 4.7400e- 003 | 0.0000 | | 1.0000e- 005 | 1.0000e- 005 | | 1.0000e- 005 | 1.0000e- 005 | | 9.4500e- 003 | 9.4500e- 003 | 2.0000e- 005 | | 9.9400e- 003 |

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Turf Reduction

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
| | | | | | | 1 |

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---------------------|--------|-----------|------------|-------------|-------------|-----------|
| Emergency Generator | 1 | 0.5 | 20 | 420 | 0.73 | Diesel |

Boilers

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|

User Defined Equipment

| Equipment Type | Number |
|----------------|--------|
| | |

10.1 Stationary Sources

Unmitigated/Mitigated

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|------------------------------------------------------|--------|--------|--------|-----------------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|-----------|-----------|--------|-----|----------|
| Equipment Type | | | | | lb/d | day | | | | | | | lb/c | lay | | |
| Emergency Generator - Diesel (300 - 600 HP) | 0.3446 | 0.9632 | 0.8787 | 1.6600e- 003 | | 0.0507 | 0.0507 | | 0.0507 | 0.0507 | | 176.2980 | 176.2980 | 0.0247 | | 176.9159 |
| Total | 0.3446 | 0.9632 | 0.8787 | 1.6600e- 003 | | 0.0507 | 0.0507 | | 0.0507 | 0.0507 | | 176.2980 | 176.2980 | 0.0247 | | 176.9159 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

East Bay Municipal Utility District - Willow Service Center

Alameda County, Annual

1.0 Project Characteristics

1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|----------------------------|-------|----------|-------------|--------------------|------------|
| Government Office Building | 6.00 | 1000sqft | 0.14 | 6,000.00 | 0 |
| General Light Industry | 3.59 | 1000sqft | 0.08 | 3,590.00 | 0 |
| Other Asphalt Surfaces | 2.32 | 1000sqft | 0.05 | 2,320.00 | 0 |
| Other Non-Asphalt Surfaces | 2.32 | 1000sqft | 0.05 | 2,320.00 | 0 |
| Parking Lot | 65.92 | 1000sqft | 1.51 | 65,920.00 | 0 |

1.2 Other Project Characteristics

| Urbanization | Urban | Wind Speed (m/s) | 2.2 | Precipitation Freq (Days) | 63 |
|----------------------------|-----------------------------|----------------------------|-------|----------------------------|-------|
| Climate Zone | 5 | | | Operational Year | 2024 |
| Utility Company | Pacific Gas and Electric Co | mpany | | | |
| CO2 Intensity (Ib/MWhr) | 203.98 | CH4 Intensity (Ib/MWhr) | 0.033 | N2O Intensity (Ib/MWhr) | 0.004 |

1.3 User Entered Comments & Non-Default Data

Grading - Parcel area 1.83 acres; 2,970 CY soil excavated

Trips and VMT - 1,000 ft radius = 0.2 mile

Vehicle Trips - Per PD & Sandis Traffic Analysis Memo (July 20, 2022); 1,000 ft radius = 0.2 mile

Fleet Mix - Per PD & Sandis Traffic Analysis Memo (July 20, 2022)

Water And Wastewater - No water use for non-office structures

Solid Waste - No solid waste generated by non-office structures

Construction Off-road Equipment Mitigation - BMPs, AP-42

Stationary Sources - Emergency Generators and Fire Pumps EF - 250 Kw (0.8 PF); ATCM 20 hrs/yr; Maintenance 30 min/mo

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Stationary Sources - Emergency Generators and Fire Pumps - 250 Kw (0.8 PF); ATCM 20 hrs/yr; Maintenance 30 min/mo

| Table Name | Column Name | Default Value | New Value | | |
|---------------------------------|--------------------------------|---------------|-----------|--|--|
| tblAreaMitigation | UseLowVOCPaintParkingCheck | False | True | | |
| tblConstDustMitigation | CleanPavedRoadPercentReduction | 0 | 75 | | |
| tblFleetMix | HHD | 0.01 | 0.10 | | |
| tblFleetMix | LDA | 0.57 | 0.29 | | |
| tblFleetMix | LDT1 | 0.06 | 0.14 | | |
| tblFleetMix | LDT2 | 0.18 | 0.14 | | |
| tblFleetMix | LHD1 | 0.02 | 0.00 | | |
| tblFleetMix | LHD2 | 5.1690e-003 | 0.00 | | |
| tblFleetMix | MCY | 0.02 | 0.00 | | |
| tblFleetMix | MDV | 0.11 | 0.22 | | |
| tblFleetMix | МН | 2.4510e-003 | 0.00 | | |
| tblFleetMix | MHD | 0.01 | 0.10 | | |
| tblFleetMix | OBUS | 7.9200e-004 | 0.00 | | |
| tblFleetMix | SBUS | 3.3700e-004 | 0.00 | | |
| tblFleetMix | UBUS | 5.7000e-004 | 0.00 | | |
| tblGrading | AcresOfGrading | 4.00 | 1.83 | | |
| tblGrading | AcresOfGrading | 1.88 | 1.83 | | |
| tblGrading | MaterialExported | 0.00 | 1,980.00 | | |
| tblGrading | MaterialExported | 0.00 | 990.00 | | |
| tblSolidWaste | SolidWasteGenerationRate | 4.45 | 0.00 | | |
| tblStationaryGeneratorsPumpsUse | HorsePowerValue | 0.00 | 420.00 | | |
| tblStationaryGeneratorsPumpsUse | HoursPerDay | 0.00 | 0.50 | | |
| tblStationaryGeneratorsPumpsUse | HoursPerYear | 0.00 | 20.00 | | |
| tblStationaryGeneratorsPumpsUse | NumberOfEquipment | 0.00 | 1.00 | | |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 0.20 | | |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 0.20 | | |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| tblTripsAndVMT | HaulingTripLength | 20.00 | 0.20 |
|-----------------|-------------------|-------|------|
| tblTripsAndVMT | HaulingTripLength | 20.00 | 0.20 |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 0.20 |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 0.20 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 0.20 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 0.20 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 0.20 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 0.20 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 0.20 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 0.20 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 0.20 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 0.20 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 0.20 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 0.20 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 0.20 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 0.20 |
| tblVehicleTrips | CC_TL | 7.30 | 0.20 |
| tblVehicleTrips | CC_TL | 7.30 | 0.20 |
| tblVehicleTrips | CC_TL | 7.30 | 0.20 |
| tblVehicleTrips | CC_TL | 7.30 | 0.20 |
| tblVehicleTrips | CC_TL | 7.30 | 0.20 |
| tblVehicleTrips | CNW_TL | 7.30 | 0.20 |
| tblVehicleTrips | CNW_TL | 7.30 | 0.20 |
| tblVehicleTrips | CNW_TL | 7.30 | 0.20 |
| tblVehicleTrips | CNW_TL | 7.30 | 0.20 |
| tblVehicleTrips | CNW_TL | 7.30 | 0.20 |
| tblVehicleTrips | CW_TL | 9.50 | 0.20 |
| tblVehicleTrips | CW_TL | 9.50 | 0.20 |
| tblVehicleTrips | CW_TL | 9.50 | 0.20 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| tblVehicleTrips | CW_TL | 9.50 | 0.20 |
|-----------------|--------------------|------------|-------|
| tblVehicleTrips | CW_TL | 9.50 | 0.20 |
| tblVehicleTrips | ST_TR | 1.99 | 0.00 |
| tblVehicleTrips | ST_TR | 0.00 | 14.17 |
| tblVehicleTrips | SU_TR | 5.00 | 0.00 |
| tblVehicleTrips | SU_TR | 0.00 | 14.17 |
| tblVehicleTrips | WD_TR | 4.96 | 0.00 |
| tblVehicleTrips | WD_TR | 22.59 | 28.33 |
| tblWater | IndoorWaterUseRate | 830,187.50 | 0.00 |

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------|--------|--------|--------|-----------------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|-----------|-----------|--------|-----------------|----------|
| Year | | | | | ton | s/yr | | | | | | | МТ | /yr | | |
| 2023 | 0.2470 | 1.4170 | 1.5097 | 2.6300e- 003 | 0.0450 | 0.0619 | 0.1069 | 0.0137 | 0.0594 | 0.0732 | 0.0000 | 219.4154 | 219.4154 | 0.0403 | 7.4000e- 004 | 220.6444 |
| Maximum | 0.2470 | 1.4170 | 1.5097 | 2.6300e- 003 | 0.0450 | 0.0619 | 0.1069 | 0.0137 | 0.0594 | 0.0732 | 0.0000 | 219.4154 | 219.4154 | 0.0403 | 7.4000e- 004 | 220.6444 |

Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------|---------|--------|--------|-----------------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|-----------|-----------|--------|-----------------|----------|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2023 | 0.2470 | 1.4170 | 1.5097 | 2.6300e- 003 | 0.0176 | 0.0619 | 0.0795 | 5.3900e- 003 | 0.0594 | 0.0648 | 0.0000 | 219.4151 | 219.4151 | 0.0403 | 7.4000e- 004 | 220.6441 |
| Maximum | 0.2470 | 1.4170 | 1.5097 | 2.6300e- 003 | 0.0176 | 0.0619 | 0.0795 | 5.3900e- 003 | 0.0594 | 0.0648 | 0.0000 | 219.4151 | 219.4151 | 0.0403 | 7.4000e- 004 | 220.6441 |

| | ROG | NOx | со | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|----------------------|------|------|------|------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 60.91 | 0.00 | 25.64 | 60.77 | 0.00 | 11.41 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---------|------------|-----------|----------------------------------------------|--------------------------------------------|
| 1 | 1-9-2023 | 4-8-2023 | 0.4665 | 0.4665 |
| 2 | 4-9-2023 | 7-8-2023 | 0.4374 | 0.4374 |
| 3 | 7-9-2023 | 9-30-2023 | 0.4038 | 0.4038 |
| | | Highest | 0.4665 | 0.4665 |

2.2 Overall Operational

Unmitigated Operational

| | ROG | NOx | со | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e | | |
|------------|-----------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------------|-----------------|-----------------|-----------------|-----------------|--|--|
| Category | | | | | ton | s/yr | | | | | MT/yr | | | | | | | |
| Area | 0.0486 | 1.0000e- 005 | 7.4000e- 004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 1.4300e- 003 | 1.4300e- 003 | 0.0000 | 0.0000 | 1.5300e- 003 | | |
| Energy | 1.1000e- 003 | 9.9600e- 003 | 8.3600e- 003 | 6.0000e- 005 | | 7.6000e- 004 | 7.6000e- 004 | | 7.6000e- 004 | 7.6000e- 004 | 0.0000 | 22.1251 | 22.1251 | 2.0300e- 003 | 4.2000e- 004 | 22.3011 | | |
| Mobile | 0.0298 | 0.0729 | 0.1699 | 1.3000e- 004 | 2.7000e- 003 | 1.4000e- 004 | 2.8300e- 003 | 7.3000e- 004 | 1.3000e- 004 | 8.6000e- 004 | 0.0000 | 12.3035 | 12.3035 | 2.7800e- 003 | 2.4700e- 003 | 13.1088 | | |
| Stationary | 6.8900e- 003 | 0.0193 | 0.0176 | 3.0000e- 005 | | 1.0100e- 003 | 1.0100e- 003 | | 1.0100e- 003 | 1.0100e- 003 | 0.0000 | 3.1987 | 3.1987 | 4.5000e- 004 | 0.0000 | 3.2099 | | |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 1.1327 | 0.0000 | 1.1327 | 0.0669 | 0.0000 | 2.8062 | | |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.3782 | 0.8333 | 1.2115 | 0.0390 | 9.3000e- 004 | 2.4640 | | |
| Total | 0.0864 | 0.1022 | 0.1966 | 2.2000e- 004 | 2.7000e- 003 | 1.9100e- 003 | 4.6000e- 003 | 7.3000e- 004 | 1.9000e- 003 | 2.6300e- 003 | 1.5108 | 38.4620 | 39.9729 | 0.1112 | 3.8200e- 003 | 43.8916 | | |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

| | ROG | NOx | со | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e | | |
|------------|-----------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------------|-----------------|-----------------|-----------------|-----------------|--|--|
| Category | | | | | ton | s/yr | | | | | MT/yr | | | | | | | |
| Area | 0.0485 | 0.0000 | 4.3000e- 004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 7.7000e- 004 | 7.7000e- 004 | 0.0000 | 0.0000 | 8.1000e- 004 | | |
| Energy | 1.0500e- 003 | 9.5300e- 003 | 8.0100e- 003 | 6.0000e- 005 | | 7.2000e- 004 | 7.2000e- 004 | | 7.2000e- 004 | 7.2000e- 004 | 0.0000 | 21.2902 | 21.2902 | 1.9600e- 003 | 4.0000e- 004 | 21.4597 | | |
| Mobile | 0.0298 | 0.0729 | 0.1699 | 1.3000e- 004 | 2.7000e- 003 | 1.4000e- 004 | 2.8300e- 003 | 7.3000e- 004 | 1.3000e- 004 | 8.6000e- 004 | 0.0000 | 12.3035 | 12.3035 | 2.7800e- 003 | 2.4700e- 003 | 13.1088 | | |
| Stationary | 6.8900e- 003 | 0.0193 | 0.0176 | 3.0000e- 005 | | 1.0100e- 003 | 1.0100e- 003 | | 1.0100e- 003 | 1.0100e- 003 | 0.0000 | 3.1987 | 3.1987 | 4.5000e- 004 | 0.0000 | 3.2099 | | |
| Waste | n | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 1.1327 | 0.0000 | 1.1327 | 0.0669 | 0.0000 | 2.8062 | | |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.3025 | 0.6996 | 1.0021 | 0.0312 | 7.5000e- 004 | 2.0044 | | |
| Total | 0.0863 | 0.1017 | 0.1959 | 2.2000e- 004 | 2.7000e- 003 | 1.8700e- 003 | 4.5600e- 003 | 7.3000e- 004 | 1.8600e- 003 | 2.5900e- 003 | 1.4352 | 37.4926 | 38.9279 | 0.1033 | 3.6200e- 003 | 42.5899 | | |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|----------------------|------|------|------|------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.10 | 0.43 | 0.34 | 0.00 | 0.00 | 2.09 | 0.87 | 0.00 | 2.11 | 1.52 | 5.01 | 2.52 | 2.61 | 7.06 | 5.24 | 2.97 |

3.0 Construction Detail

Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|-----------------|------------------|------------------|------------|----------|------------------|----------|-------------------|
| 1 | Demolition | Demolition | 1/9/2023 | 2/3/2023 | 5 | 20 | |
| 2 | Site Preparation | Site Preparation | 2/4/2023 | 2/7/2023 | 5 | 2 | |
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| 3 | Grading | Grading | 2/8/2023 | 2/13/2023 | 5 | 4 | |
|---|-----------------------|-----------------------|------------|------------|---|-----|--|
| 4 | Building Construction | Building Construction | 2/14/2023 | 11/20/2023 | 5 | 200 | |
| 5 | Paving | Paving | 11/21/2023 | 12/4/2023 | 5 | 10 | |
| 6 | Architectural Coating | Architectural Coating | 12/5/2023 | 12/18/2023 | 5 | 10 | |

Acres of Grading (Site Preparation Phase): 1.83

Acres of Grading (Grading Phase): 1.83

Acres of Paving: 1.61

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 14,385; Non-Residential Outdoor: 4,795; Striped Parking Area: 4,234 (Architectural Coating – sqft)

OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------|---------------------------|--------|-------------|-------------|-------------|
| Demolition | Concrete/Industrial Saws | 1 | 8.00 | 81 | 0.73 |
| Demolition | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Demolition | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Site Preparation | Graders | 1 | 8.00 | 187 | 0.41 |
| Site Preparation | Rubber Tired Dozers | 1 | 7.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Grading | Tractors/Loaders/Backhoes | 2 | 7.00 | 97 | 0.37 |
| Building Construction | Cranes | 1 | 6.00 | 231 | 0.29 |
| Building Construction | Forklifts | 1 | 6.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | 1 | 6.00 | 97 | 0.37 |
| Building Construction | Welders | 3 | 8.00 | 46 | 0.45 |
| Paving | Cement and Mortar Mixers | 1 | 6.00 | 9 | 0.56 |
| Paving | Pavers | 1 | 6.00 | 130 | 0.42 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| Paving | Paving Equipment | 1 | 8.00 | 132 | 0.36 |
|-----------------------|---------------------------|---|------|-----|------|
| Paving | Rollers | 1 | 7.00 | 80 | 0.38 |
| Paving | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |

Trips and VMT

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------|----------------------------|-----------------------|-----------------------|------------------------|-----------------------|-----------------------|------------------------|-------------------------|-------------------------|--------------------------|
| Demolition | 5 | 13.00 | 0.00 | 228.00 | 0.20 | 0.20 | 0.20 | LD_Mix | HDT_Mix | HHDT |
| Site Preparation | 3 | 8.00 | 0.00 | 124.00 | 0.20 | 0.20 | 0.20 | LD_Mix | HDT_Mix | HHDT |
| Grading | 4 | 10.00 | 0.00 | 248.00 | 0.20 | 0.20 | 0.20 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 7 | 33.00 | 13.00 | 0.00 | 0.20 | 0.20 | 0.20 | LD_Mix | HDT_Mix | HHDT |
| Paving | 5 | 13.00 | 0.00 | 0.00 | 0.20 | 0.20 | 0.20 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 7.00 | 0.00 | 0.00 | 0.20 | 0.20 | 0.20 | LD_Mix | HDT_Mix | HHDT |

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------|--------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|--------|---------|
| Category | | | | | ton | s/yr | | | | | | | МТ | /yr | | |
| Fugitive Dust | | | | | 0.0247 | 0.0000 | 0.0247 | 3.7400e- 003 | 0.0000 | 3.7400e- 003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0147 | 0.1432 | 0.1346 | 2.4000e- 004 | | 6.7700e- 003 | 6.7700e- 003 | | 6.3300e- 003 | 6.3300e- 003 | 0.0000 | 21.0866 | 21.0866 | 5.3500e- 003 | 0.0000 | 21.2202 |
| Total | 0.0147 | 0.1432 | 0.1346 | 2.4000e- 004 | 0.0247 | 6.7700e- 003 | 0.0315 | 3.7400e- 003 | 6.3300e- 003 | 0.0101 | 0.0000 | 21.0866 | 21.0866 | 5.3500e- 003 | 0.0000 | 21.2202 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------------|-----------------|-----------------|--------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|--------|
| Category | | | | | ton | s/yr | | | | | | | МТ | /yr | | |
| Hauling | 1.2000e- 004 | 2.1500e- 003 | 1.7000e- 003 | 0.0000 | 2.0000e- 005 | 0.0000 | 2.0000e- 005 | 1.0000e- 005 | 0.0000 | 1.0000e- 005 | 0.0000 | 0.3470 | 0.3470 | 1.0000e- 005 | 5.0000e- 005 | 0.3635 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.5000e- 004 | 7.0000e- 005 | 7.6000e- 004 | 0.0000 | 2.0000e- 005 | 0.0000 | 2.0000e- 005 | 1.0000e- 005 | 0.0000 | 1.0000e- 005 | 0.0000 | 0.0374 | 0.0374 | 2.0000e- 005 | 1.0000e- 005 | 0.0401 |
| Total | 2.7000e- 004 | 2.2200e- 003 | 2.4600e- 003 | 0.0000 | 4.0000e- 005 | 0.0000 | 4.0000e- 005 | 2.0000e- 005 | 0.0000 | 2.0000e- 005 | 0.0000 | 0.3844 | 0.3844 | 3.0000e- 005 | 6.0000e- 005 | 0.4036 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------|--------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|--------|---------|
| Category | | | | | ton | s/yr | | | | | | | МТ | /yr | | |
| Fugitive Dust | | | | | 9.6400e- 003 | 0.0000 | 9.6400e- 003 | 1.4600e- 003 | 0.0000 | 1.4600e- 003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0147 | 0.1432 | 0.1346 | 2.4000e- 004 | | 6.7700e- 003 | 6.7700e- 003 | | 6.3300e- 003 | 6.3300e- 003 | 0.0000 | 21.0865 | 21.0865 | 5.3500e- 003 | 0.0000 | 21.2202 |
| Total | 0.0147 | 0.1432 | 0.1346 | 2.4000e- 004 | 9.6400e- 003 | 6.7700e- 003 | 0.0164 | 1.4600e- 003 | 6.3300e- 003 | 7.7900e- 003 | 0.0000 | 21.0865 | 21.0865 | 5.3500e- 003 | 0.0000 | 21.2202 |

Mitigated Construction Off-Site

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------------|-----------------|-----------------|--------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|--------|
| Category | | | | | ton | s/yr | | | | | | | МТ | /yr | | |
| Hauling | 1.2000e- 004 | 2.1500e- 003 | 1.7000e- 003 | 0.0000 | 1.0000e- 005 | 0.0000 | 1.0000e- 005 | 0.0000 | 0.0000 | 1.0000e- 005 | 0.0000 | 0.3470 | 0.3470 | 1.0000e- 005 | 5.0000e- 005 | 0.3635 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.5000e- 004 | 7.0000e- 005 | 7.6000e- 004 | 0.0000 | 1.0000e- 005 | 0.0000 | 1.0000e- 005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0374 | 0.0374 | 2.0000e- 005 | 1.0000e- 005 | 0.0401 |
| Total | 2.7000e- 004 | 2.2200e- 003 | 2.4600e- 003 | 0.0000 | 2.0000e- 005 | 0.0000 | 2.0000e- 005 | 0.0000 | 0.0000 | 1.0000e- 005 | 0.0000 | 0.3844 | 0.3844 | 3.0000e- 005 | 6.0000e- 005 | 0.4036 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|-----------------|--------|-----------------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|--------|--------|
| Category | | | | | ton | s/yr | | | | | | | MT | /yr | | |
| Fugitive Dust | | | 1 1 1 | | 6.3000e- 003 | 0.0000 | 6.3000e- 003 | 3.0100e- 003 | 0.0000 | 3.0100e- 003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.1300e- 003 | 0.0124 | 6.6400e- 003 | 2.0000e- 005 | | 5.1000e- 004 | 5.1000e- 004 | | 4.7000e- 004 | 4.7000e- 004 | 0.0000 | 1.5114 | 1.5114 | 4.9000e- 004 | 0.0000 | 1.5236 |
| Total | 1.1300e- 003 | 0.0124 | 6.6400e- 003 | 2.0000e- 005 | 6.3000e- 003 | 5.1000e- 004 | 6.8100e- 003 | 3.0100e- 003 | 4.7000e- 004 | 3.4800e- 003 | 0.0000 | 1.5114 | 1.5114 | 4.9000e- 004 | 0.0000 | 1.5236 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------------|-----------------|-----------------|--------|------------------|-----------------|-----------------|-------------------|------------------|----------------|----------|-----------------|-----------------|--------|-----------------|-----------------|
| Category | tons/yr MT/yr | | | | | | | | | | | | | | | |
| Hauling | 6.0000e- 005 | 1.1700e- 003 | 9.3000e- 004 | 0.0000 | 1.0000e- 005 | 0.0000 | 1.0000e- 005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.1887 | 0.1887 | 0.0000 | 3.0000e- 005 | 0.1977 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.0000e- 005 | 0.0000 | 5.0000e- 005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 2.3000e- 003 | 2.3000e- 003 | 0.0000 | 0.0000 | 2.4700e- 003 |
| Total | 7.0000e- 005 | 1.1700e- 003 | 9.8000e- 004 | 0.0000 | 1.0000e- 005 | 0.0000 | 1.0000e- 005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.1910 | 0.1910 | 0.0000 | 3.0000e- 005 | 0.2002 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|-----------------|--------|-----------------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|--------|--------|
| Category | | | | | ton | s/yr | | | | | | | МТ | /yr | | |
| Fugitive Dust | | | 1 1 1 | | 2.4600e- 003 | 0.0000 | 2.4600e- 003 | 1.1700e- 003 | 0.0000 | 1.1700e- 003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.1300e- 003 | 0.0124 | 6.6400e- 003 | 2.0000e- 005 | | 5.1000e- 004 | 5.1000e- 004 | | 4.7000e- 004 | 4.7000e- 004 | 0.0000 | 1.5114 | 1.5114 | 4.9000e- 004 | 0.0000 | 1.5236 |
| Total | 1.1300e- 003 | 0.0124 | 6.6400e- 003 | 2.0000e- 005 | 2.4600e- 003 | 5.1000e- 004 | 2.9700e- 003 | 1.1700e- 003 | 4.7000e- 004 | 1.6400e- 003 | 0.0000 | 1.5114 | 1.5114 | 4.9000e- 004 | 0.0000 | 1.5236 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------------|-----------------|-----------------|--------|------------------|-----------------|-----------------|-------------------|------------------|----------------|----------|-----------------|-----------------|--------|-----------------|-----------------|
| Category | | | | | ton | s/yr | | | | | | | MT | /yr | | |
| Hauling | 6.0000e- 005 | 1.1700e- 003 | 9.3000e- 004 | 0.0000 | 1.0000e- 005 | 0.0000 | 1.0000e- 005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.1887 | 0.1887 | 0.0000 | 3.0000e- 005 | 0.1977 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.0000e- 005 | 0.0000 | 5.0000e- 005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 2.3000e- 003 | 2.3000e- 003 | 0.0000 | 0.0000 | 2.4700e- 003 |
| Total | 7.0000e- 005 | 1.1700e- 003 | 9.8000e- 004 | 0.0000 | 1.0000e- 005 | 0.0000 | 1.0000e- 005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.1910 | 0.1910 | 0.0000 | 3.0000e- 005 | 0.2002 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|-----------------|--------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|--------|--------|
| Category | | | | | ton | s/yr | | | | | | | МТ | 7/yr | | |
| Fugitive Dust | | | | | 0.0131 | 0.0000 | 0.0131 | 6.7400e- 003 | 0.0000 | 6.7400e- 003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 2.6700e- 003 | 0.0289 | 0.0174 | 4.0000e- 005 | | 1.2100e- 003 | 1.2100e- 003 | | 1.1100e- 003 | 1.1100e- 003 | 0.0000 | 3.6208 | 3.6208 | 1.1700e- 003 | 0.0000 | 3.6501 |
| Total | 2.6700e- 003 | 0.0289 | 0.0174 | 4.0000e- 005 | 0.0131 | 1.2100e- 003 | 0.0143 | 6.7400e- 003 | 1.1100e- 003 | 7.8500e- 003 | 0.0000 | 3.6208 | 3.6208 | 1.1700e- 003 | 0.0000 | 3.6501 |

Unmitigated Construction Off-Site

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------------|-----------------|-----------------|--------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Category | | | | | ton | s/yr | | | | | | | МТ | /yr | | |
| Hauling | 1.3000e- 004 | 2.3400e- 003 | 1.8500e- 003 | 0.0000 | 2.0000e- 005 | 0.0000 | 3.0000e- 005 | 1.0000e- 005 | 0.0000 | 1.0000e- 005 | 0.0000 | 0.3774 | 0.3774 | 1.0000e- 005 | 6.0000e- 005 | 0.3954 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 2.0000e- 005 | 1.0000e- 005 | 1.2000e- 004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 5.7600e- 003 | 5.7600e- 003 | 0.0000 | 0.0000 | 6.1700e- 003 |
| Total | 1.5000e- 004 | 2.3500e- 003 | 1.9700e- 003 | 0.0000 | 2.0000e- 005 | 0.0000 | 3.0000e- 005 | 1.0000e- 005 | 0.0000 | 1.0000e- 005 | 0.0000 | 0.3832 | 0.3832 | 1.0000e- 005 | 6.0000e- 005 | 0.4015 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|-----------------|--------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|--------|--------|
| Category | | | | | ton | s/yr | | | | | | | МТ | /yr | | |
| Fugitive Dust | | | | | 5.1200e- 003 | 0.0000 | 5.1200e- 003 | 2.6300e- 003 | 0.0000 | 2.6300e- 003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 2.6700e- 003 | 0.0289 | 0.0174 | 4.0000e- 005 | | 1.2100e- 003 | 1.2100e- 003 | | 1.1100e- 003 | 1.1100e- 003 | 0.0000 | 3.6208 | 3.6208 | 1.1700e- 003 | 0.0000 | 3.6501 |
| Total | 2.6700e- 003 | 0.0289 | 0.0174 | 4.0000e- 005 | 5.1200e- 003 | 1.2100e- 003 | 6.3300e- 003 | 2.6300e- 003 | 1.1100e- 003 | 3.7400e- 003 | 0.0000 | 3.6208 | 3.6208 | 1.1700e- 003 | 0.0000 | 3.6501 |

Mitigated Construction Off-Site

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------------|-----------------|-----------------|--------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Category | | | | | ton | s/yr | | | | | | | MT | /yr | | |
| Hauling | 1.3000e- 004 | 2.3400e- 003 | 1.8500e- 003 | 0.0000 | 1.0000e- 005 | 0.0000 | 1.0000e- 005 | 0.0000 | 0.0000 | 1.0000e- 005 | 0.0000 | 0.3774 | 0.3774 | 1.0000e- 005 | 6.0000e- 005 | 0.3954 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 2.0000e- 005 | 1.0000e- 005 | 1.2000e- 004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 5.7600e- 003 | 5.7600e- 003 | 0.0000 | 0.0000 | 6.1700e- 003 |
| Total | 1.5000e- 004 | 2.3500e- 003 | 1.9700e- 003 | 0.0000 | 1.0000e- 005 | 0.0000 | 1.0000e- 005 | 0.0000 | 0.0000 | 1.0000e- 005 | 0.0000 | 0.3832 | 0.3832 | 1.0000e- 005 | 6.0000e- 005 | 0.4015 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|--------|--------|--------|-----------------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|-----------|-----------|--------|--------|----------|
| Category | | | | | ton | s/yr | | | | | | | МТ | /yr | | |
| Off-Road | 0.1523 | 1.1710 | 1.2611 | 2.2100e- 003 | | 0.0515 | 0.0515 | 1 1 1 | 0.0497 | 0.0497 | 0.0000 | 181.5991 | 181.5991 | 0.0308 | 0.0000 | 182.3701 |
| Total | 0.1523 | 1.1710 | 1.2611 | 2.2100e- 003 | | 0.0515 | 0.0515 | | 0.0497 | 0.0497 | 0.0000 | 181.5991 | 181.5991 | 0.0308 | 0.0000 | 182.3701 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------------|-----------------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|--------|
| Category | | | | | ton | s/yr | | | | | | | МТ | '/yr | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 7.7000e- 004 | 0.0161 | 0.0115 | 3.0000e- 005 | 2.7000e- 004 | 2.0000e- 005 | 2.9000e- 004 | 8.0000e- 005 | 2.0000e- 005 | 1.0000e- 004 | 0.0000 | 2.4969 | 2.4969 | 6.0000e- 005 | 3.9000e- 004 | 2.6145 |
| Worker | 3.8600e- 003 | 1.7700e- 003 | 0.0194 | 1.0000e- 005 | 5.2000e- 004 | 2.0000e- 005 | 5.3000e- 004 | 1.4000e- 004 | 2.0000e- 005 | 1.6000e- 004 | 0.0000 | 0.9504 | 0.9504 | 4.0000e- 004 | 1.9000e- 004 | 1.0184 |
| Total | 4.6300e- 003 | 0.0179 | 0.0309 | 4.0000e- 005 | 7.9000e- 004 | 4.0000e- 005 | 8.2000e- 004 | 2.2000e- 004 | 4.0000e- 005 | 2.6000e- 004 | 0.0000 | 3.4472 | 3.4472 | 4.6000e- 004 | 5.8000e- 004 | 3.6329 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|--------|--------|--------|-----------------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|-----------|-----------|--------|--------|----------|
| Category | | | | | ton | s/yr | | | | | | | МТ | /yr | | |
| Off-Road | 0.1523 | 1.1710 | 1.2611 | 2.2100e- 003 | | 0.0515 | 0.0515 | 1 1 1 | 0.0497 | 0.0497 | 0.0000 | 181.5989 | 181.5989 | 0.0308 | 0.0000 | 182.3698 |
| Total | 0.1523 | 1.1710 | 1.2611 | 2.2100e- 003 | | 0.0515 | 0.0515 | | 0.0497 | 0.0497 | 0.0000 | 181.5989 | 181.5989 | 0.0308 | 0.0000 | 182.3698 |

Mitigated Construction Off-Site

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------------|-----------------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|--------|
| Category | | | | | ton | s/yr | | | | | | | MT | '/yr | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 7.7000e- 004 | 0.0161 | 0.0115 | 3.0000e- 005 | 1.4000e- 004 | 2.0000e- 005 | 1.6000e- 004 | 5.0000e- 005 | 2.0000e- 005 | 7.0000e- 005 | 0.0000 | 2.4969 | 2.4969 | 6.0000e- 005 | 3.9000e- 004 | 2.6145 |
| Worker | 3.8600e- 003 | 1.7700e- 003 | 0.0194 | 1.0000e- 005 | 2.0000e- 004 | 2.0000e- 005 | 2.2000e- 004 | 6.0000e- 005 | 2.0000e- 005 | 8.0000e- 005 | 0.0000 | 0.9504 | 0.9504 | 4.0000e- 004 | 1.9000e- 004 | 1.0184 |
| Total | 4.6300e- 003 | 0.0179 | 0.0309 | 4.0000e- 005 | 3.4000e- 004 | 4.0000e- 005 | 3.8000e- 004 | 1.1000e- 004 | 4.0000e- 005 | 1.5000e- 004 | 0.0000 | 3.4472 | 3.4472 | 4.6000e- 004 | 5.8000e- 004 | 3.6329 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------------|--------|--------|-----------------|------------------|-----------------|-----------------|-----------------------|------------------|-----------------|----------|-----------|-----------|-----------------|--------|--------|
| Category | | | | | ton | s/yr | | | | | | | МТ | /yr | | |
| Off-Road | 3.2200e- 003 | 0.0312 | 0.0440 | 7.0000e- 005 | | 1.5400e- 003 | 1.5400e- 003 | | 1.4200e- 003 | 1.4200e- 003 | 0.0000 | 5.8862 | 5.8862 | 1.8700e- 003 | 0.0000 | 5.9329 |
| Paving | 2.0400e- 003 | | | | | 0.0000 | 0.0000 | 1 1 1 1 1 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | 5.2600e- 003 | 0.0312 | 0.0440 | 7.0000e- 005 | | 1.5400e- 003 | 1.5400e- 003 | | 1.4200e- 003 | 1.4200e- 003 | 0.0000 | 5.8862 | 5.8862 | 1.8700e- 003 | 0.0000 | 5.9329 |

Unmitigated Construction Off-Site

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------------|-----------------|-----------------|--------|------------------|-----------------|-----------------|-------------------|------------------|----------------|----------|-----------|-----------|-----------------|--------|--------|
| Category | | | | | ton | s/yr | | | | | | | МТ | /yr | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 8.0000e- 005 | 3.0000e- 005 | 3.8000e- 004 | 0.0000 | 1.0000e- 005 | 0.0000 | 1.0000e- 005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0187 | 0.0187 | 1.0000e- 005 | 0.0000 | 0.0201 |
| Total | 8.0000e- 005 | 3.0000e- 005 | 3.8000e- 004 | 0.0000 | 1.0000e- 005 | 0.0000 | 1.0000e- 005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0187 | 0.0187 | 1.0000e- 005 | 0.0000 | 0.0201 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------------|--------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|--------|--------|
| Category | | | | | tons | s/yr | | | | | | | МТ | /yr | | |
| Off-Road | 3.2200e- 003 | 0.0312 | 0.0440 | 7.0000e- 005 | | 1.5400e- 003 | 1.5400e- 003 | | 1.4200e- 003 | 1.4200e- 003 | 0.0000 | 5.8862 | 5.8862 | 1.8700e- 003 | 0.0000 | 5.9329 |
| Paving | 2.0400e- 003 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | 5.2600e- 003 | 0.0312 | 0.0440 | 7.0000e- 005 | | 1.5400e- 003 | 1.5400e- 003 | | 1.4200e- 003 | 1.4200e- 003 | 0.0000 | 5.8862 | 5.8862 | 1.8700e- 003 | 0.0000 | 5.9329 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------------|-----------------|-----------------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|-----------|-----------|-----------------|--------|--------|
| Category | | | | | ton | s/yr | | | | | | | МТ | /yr | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 8.0000e- 005 | 3.0000e- 005 | 3.8000e- 004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0187 | 0.0187 | 1.0000e- 005 | 0.0000 | 0.0201 |
| Total | 8.0000e- 005 | 3.0000e- 005 | 3.8000e- 004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0187 | 0.0187 | 1.0000e- 005 | 0.0000 | 0.0201 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

| | ROG | NOx | со | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|--------|--------|
| Category | | | | | ton | s/yr | | | | | | | МТ | /yr | | |
| Archit. Coating | 0.0647 | 1 | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 9.6000e- 004 | 6.5100e- 003 | 9.0600e- 003 | 1.0000e- 005 | | 3.5000e- 004 | 3.5000e- 004 | | 3.5000e- 004 | 3.5000e- 004 | 0.0000 | 1.2766 | 1.2766 | 8.0000e- 005 | 0.0000 | 1.2785 |
| Total | 0.0657 | 6.5100e- 003 | 9.0600e- 003 | 1.0000e- 005 | | 3.5000e- 004 | 3.5000e- 004 | | 3.5000e- 004 | 3.5000e- 004 | 0.0000 | 1.2766 | 1.2766 | 8.0000e- 005 | 0.0000 | 1.2785 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------------|-----------------|-----------------|--------|------------------|-----------------|-----------------|-------------------|------------------|----------------|----------|-----------|-----------|--------|--------|--------|
| Category | | | | | ton | s/yr | | | | | | | МТ | /yr | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 4.0000e- 005 | 2.0000e- 005 | 2.1000e- 004 | 0.0000 | 1.0000e- 005 | 0.0000 | 1.0000e- 005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0101 | 0.0101 | 0.0000 | 0.0000 | 0.0108 |
| Total | 4.0000e- 005 | 2.0000e- 005 | 2.1000e- 004 | 0.0000 | 1.0000e- 005 | 0.0000 | 1.0000e- 005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0101 | 0.0101 | 0.0000 | 0.0000 | 0.0108 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Mitigated Construction On-Site

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|--------|--------|
| Category | | | | | ton | s/yr | | | | | | | МТ | /yr | | |
| Archit. Coating | 0.0647 | , , , | | | | 0.0000 | 0.0000 | , , , | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 9.6000e- 004 | 6.5100e- 003 | 9.0600e- 003 | 1.0000e- 005 | | 3.5000e- 004 | 3.5000e- 004 | 1 1 1 1 | 3.5000e- 004 | 3.5000e- 004 | 0.0000 | 1.2766 | 1.2766 | 8.0000e- 005 | 0.0000 | 1.2785 |
| Total | 0.0657 | 6.5100e- 003 | 9.0600e- 003 | 1.0000e- 005 | | 3.5000e- 004 | 3.5000e- 004 | | 3.5000e- 004 | 3.5000e- 004 | 0.0000 | 1.2766 | 1.2766 | 8.0000e- 005 | 0.0000 | 1.2785 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------------|-----------------|-----------------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|-----------|-----------|--------|--------|--------|
| Category | | | | | ton | s/yr | | | | | | | МТ | /yr | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 4.0000e- 005 | 2.0000e- 005 | 2.1000e- 004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0101 | 0.0101 | 0.0000 | 0.0000 | 0.0108 |
| Total | 4.0000e- 005 | 2.0000e- 005 | 2.1000e- 004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0101 | 0.0101 | 0.0000 | 0.0000 | 0.0108 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|--------|--------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|---------|
| Category | | | | | ton | s/yr | | | | | | | МТ | /yr | | |
| Mitigated | 0.0298 | 0.0729 | 0.1699 | 1.3000e- 004 | 2.7000e- 003 | 1.4000e- 004 | 2.8300e- 003 | 7.3000e- 004 | 1.3000e- 004 | 8.6000e- 004 | 0.0000 | 12.3035 | 12.3035 | 2.7800e- 003 | 2.4700e- 003 | 13.1088 |
| Unmitigated | 0.0298 | 0.0729 | 0.1699 | 1.3000e- 004 | 2.7000e- 003 | 1.4000e- 004 | 2.8300e- 003 | 7.3000e- 004 | 1.3000e- 004 | 8.6000e- 004 | 0.0000 | 12.3035 | 12.3035 | 2.7800e- 003 | 2.4700e- 003 | 13.1088 |

4.2 Trip Summary Information

| | Aver | age Daily Trip Ra | ite | Unmitigated | Mitigated |
|----------------------------|---------|-------------------|--------|-------------|------------|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| General Light Industry | 0.00 | 0.00 | 0.00 | | |
| Government Office Building | 169.98 | 85.02 | 85.02 | 7,054 | 7,054 |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Other Non-Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Total | 169.98 | 85.02 | 85.02 | 7,054 | 7,054 |

4.3 Trip Type Information

| | | Miles | | | Trip % | | | Trip Purpos | e % |
|----------------------------|------------|------------|-------------|------------|------------|-------------|---------|-------------|---------|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| General Light Industry | 0.20 | 0.20 | 0.20 | 59.00 | 28.00 | 13.00 | 92 | 5 | 3 |
| Government Office Building | 0.20 | 0.20 | 0.20 | 33.00 | 62.00 | 5.00 | 50 | 34 | 16 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| | | Miles | | | Trip % | | | Trip Purpos | e % |
|----------------------------|------------|------------|-------------|------------|------------|-------------|---------|-------------|---------|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Other Asphalt Surfaces | 0.20 | 0.20 | 0.20 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Other Non-Asphalt Surfaces | 0.20 | 0.20 | 0.20 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Parking Lot | 0.20 | 0.20 | 0.20 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|----------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| General Light Industry | 0.569946 | 0.056495 | 0.180011 | 0.112201 | 0.020944 | 0.005169 | 0.013608 | 0.012941 | 0.000792 | 0.000570 | 0.024535 | 0.000337 | 0.002451 |
| Government Office Building | 0.288235 | 0.144118 | 0.144118 | 0.223529 | 0.000000 | 0.000000 | 0.100000 | 0.100000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Other Asphalt Surfaces | 0.569946 | 0.056495 | 0.180011 | 0.112201 | 0.020944 | 0.005169 | 0.013608 | 0.012941 | 0.000792 | 0.000570 | 0.024535 | 0.000337 | 0.002451 |
| Other Non-Asphalt Surfaces | 0.569946 | 0.056495 | 0.180011 | 0.112201 | 0.020944 | 0.005169 | 0.013608 | 0.012941 | 0.000792 | 0.000570 | 0.024535 | 0.000337 | 0.002451 |
| Parking Lot | 0.569946 | 0.056495 | 0.180011 | 0.112201 | 0.020944 | 0.005169 | 0.013608 | 0.012941 | 0.000792 | 0.000570 | 0.024535 | 0.000337 | 0.002451 |

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| | ROG | NOx | со | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------------------------|-----------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|---------|
| Category | | | | | ton | s/yr | | | | | | | МТ | /yr | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 10.9113 | 10.9113 | 1.7700e- 003 | 2.1000e- 004 | 11.0192 |
| Electricity Unmitigated | Fi | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 11.2866 | 11.2866 | 1.8300e- 003 | 2.2000e- 004 | 11.3982 |
| NaturalGas Mitigated | 1.0500e- 003 | 9.5300e- 003 | 8.0100e- 003 | 6.0000e- 005 | | 7.2000e- 004 | 7.2000e- 004 | | 7.2000e- 004 | 7.2000e- 004 | 0.0000 | 10.3789 | 10.3789 | 2.0000e- 004 | 1.9000e- 004 | 10.4405 |
| NaturalGas Unmitigated | 1.1000e- 003 | 9.9600e- 003 | 8.3600e- 003 | 6.0000e- 005 | | 7.6000e- 004 | 7.6000e- 004 | | 7.6000e- 004 | 7.6000e- 004 | 0.0000 | 10.8385 | 10.8385 | 2.1000e- 004 | 2.0000e- 004 | 10.9029 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

| | NaturalGa s Use | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------------------------|--------------------|-----------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|---------|
| Land Use | kBTU/yr | | | | | ton | s/yr | | | | | | | МТ | /yr | | |
| General Light Industry | 88206.3 | 4.8000e- 004 | 4.3200e- 003 | 3.6300e- 003 | 3.0000e- 005 | | 3.3000e- 004 | 3.3000e- 004 | | 3.3000e- 004 | 3.3000e- 004 | 0.0000 | 4.7070 | 4.7070 | 9.0000e- 005 | 9.0000e- 005 | 4.7350 |
| Government Office Building | 114900 | 6.2000e- 004 | 5.6300e- 003 | 4.7300e- 003 | 3.0000e- 005 | | 4.3000e- 004 | 4.3000e- 004 | | 4.3000e- 004 | 4.3000e- 004 | 0.0000 | 6.1315 | 6.1315 | 1.2000e- 004 | 1.1000e- 004 | 6.1679 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Other Non- Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 1.1000e- 003 | 9.9500e- 003 | 8.3600e- 003 | 6.0000e- 005 | | 7.6000e- 004 | 7.6000e- 004 | | 7.6000e- 004 | 7.6000e- 004 | 0.0000 | 10.8385 | 10.8385 | 2.1000e- 004 | 2.0000e- 004 | 10.9029 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

| | NaturalGa s Use | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------------------------|--------------------|-----------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|-----------------|---------|
| Land Use | kBTU/yr | | | | | ton | s/yr | | | | | | | MT | /yr | | |
| General Light Industry | 85034.5 | 4.6000e- 004 | 4.1700e- 003 | 3.5000e- 003 | 3.0000e- 005 | | 3.2000e- 004 | 3.2000e- 004 | | 3.2000e- 004 | 3.2000e- 004 | 0.0000 | 4.5378 | 4.5378 | 9.0000e- 005 | 8.0000e- 005 | 4.5647 |
| Government Office Building | 109458 | 5.9000e- 004 | 5.3700e- 003 | 4.5100e- 003 | 3.0000e- 005 | | 4.1000e- 004 | 4.1000e- 004 | | 4.1000e- 004 | 4.1000e- 004 | 0.0000 | 5.8411 | 5.8411 | 1.1000e- 004 | 1.1000e- 004 | 5.8758 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Other Non- Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 1.0500e- 003 | 9.5400e- 003 | 8.0100e- 003 | 6.0000e- 005 | | 7.3000e- 004 | 7.3000e- 004 | | 7.3000e- 004 | 7.3000e- 004 | 0.0000 | 10.3789 | 10.3789 | 2.0000e- 004 | 1.9000e- 004 | 10.4405 |

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|--------------------------------|--------------------|-----------|-----------------|-----------------|---------|
| Land Use | kWh/yr | | MT | /yr | |
| General Light Industry | 26673.7 | 2.4680 | 4.0000e- 004 | 5.0000e- 005 | 2.4924 |
| Government Office Building | 72240 | 6.6839 | 1.0800e- 003 | 1.3000e- 004 | 6.7500 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Other Non- Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 23072 | 2.1347 | 3.5000e- 004 | 4.0000e- 005 | 2.1558 |
| Total | | 11.2866 | 1.8300e- 003 | 2.2000e- 004 | 11.3982 |

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5.3 Energy by Land Use - Electricity

Mitigated

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|--------------------------------|--------------------|-----------|-----------------|-----------------|---------|
| Land Use | kWh/yr | | MT | /yr | |
| General Light Industry | 25943.1 | 2.4004 | 3.9000e- 004 | 5.0000e- 005 | 2.4241 |
| Government Office Building | 70068 | 6.4830 | 1.0500e- 003 | 1.3000e- 004 | 6.5471 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Other Non- Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 21918.4 | 2.0280 | 3.3000e- 004 | 4.0000e- 005 | 2.0480 |
| Total | | 10.9113 | 1.7700e- 003 | 2.2000e- 004 | 11.0192 |

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|--------|-----------------|-----------------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|-----------------|-----------------|--------|--------|-----------------|
| Category | | | | | ton | s/yr | | | | | | | МТ | /yr | | |
| Mitigated | 0.0485 | 0.0000 | 4.3000e- 004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 7.7000e- 004 | 7.7000e- 004 | 0.0000 | 0.0000 | 8.1000e- 004 |
| Unmitigated | 0.0486 | 1.0000e- 005 | 7.4000e- 004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 1.4300e- 003 | 1.4300e- 003 | 0.0000 | 0.0000 | 1.5300e- 003 |

6.2 Area by SubCategory

Unmitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------------------|-----------------|-----------------|-----------------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|-----------------|-----------------|--------|--------|-----------------|
| SubCategory | | | | | ton | s/yr | | | | | | | МТ | /yr | | |
| Architectural Coating | 6.4700e- 003 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 0.0420 | | , | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 7.0000e- 005 | 1.0000e- 005 | 7.4000e- 004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 1.4300e- 003 | 1.4300e- 003 | 0.0000 | 0.0000 | 1.5300e- 003 |
| Total | 0.0486 | 1.0000e- 005 | 7.4000e- 004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 1.4300e- 003 | 1.4300e- 003 | 0.0000 | 0.0000 | 1.5300e- 003 |

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

| | ROG | NOx | СО | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------------------|-----------------|-------------|-----------------|--------|------------------|-----------------|---------------|-------------------|------------------|----------------|----------|-----------------|-----------------|--------|--------|-----------------|
| SubCategory | | | | | ton | s/yr | | | | | | | МТ | /yr | | |
| Architectural Coating | 6.4700e- 003 | 1 1 1 | 1 1 1 | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 0.0420 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 3.0000e- 005 | 0.0000 | 4.3000e- 004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 7.7000e- 004 | 7.7000e- 004 | 0.0000 | 0.0000 | 8.1000e- 004 |
| Total | 0.0485 | 0.0000 | 4.3000e- 004 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 7.7000e- 004 | 7.7000e- 004 | 0.0000 | 0.0000 | 8.1000e- 004 |

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Turf Reduction

Use Water Efficient Irrigation System

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

| | Total CO2 | CH4 | N2O | CO2e |
|-------------|-----------|--------|-----------------|--------|
| Category | | MT | /yr | |
| Mitigated | 1.0021 | 0.0312 | 7.5000e- 004 | 2.0044 |
| Unmitigated | 1.2115 | 0.0390 | 9.3000e- 004 | 2.4640 |

7.2 Water by Land Use <u>Unmitigated</u>

| | Indoor/Out door Use | Total CO2 | CH4 | N2O | CO2e |
|--------------------------------|------------------------|-----------|--------|-----------------|--------|
| Land Use | Mgal | | MT | /yr | |
| General Light Industry | 0/0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Government Office Building | 1.19196 / 0.730555 | 1.2115 | 0.0390 | 9.3000e- 004 | 2.4640 |
| Other Asphalt Surfaces | 0/0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Other Non- Asphalt Surfaces | 0/0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 0/0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 1.2115 | 0.0390 | 9.3000e- 004 | 2.4640 |

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7.2 Water by Land Use

Mitigated

| | Indoor/Out door Use | Total CO2 | CH4 | N2O | CO2e | | |
|--------------------------------|------------------------|-----------|--------|-----------------|--------|--|--|
| Land Use | Mgal | MT/yr | | | | | |
| General Light Industry | 0/0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | |
| Government Office Building | 0.953566 / 0.685991 | 1.0021 | 0.0312 | 7.5000e- 004 | 2.0044 | | |
| Other Asphalt Surfaces | 0/0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | |
| Other Non- Asphalt Surfaces | 0/0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | |
| Parking Lot | 0/0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | |
| Total | | 1.0021 | 0.0312 | 7.5000e- 004 | 2.0044 | | |

8.0 Waste Detail

8.1 Mitigation Measures Waste

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

| | Total CO2 | CH4 | N2O | CO2e |
|-------------|-----------|--------|--------|--------|
| | | MT | /yr | |
| Mitigated | 1.1327 | 0.0669 | 0.0000 | 2.8062 |
| Unmitigated | 1.1327 | 0.0669 | 0.0000 | 2.8062 |

8.2 Waste by Land Use <u>Unmitigated</u>

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|--------------------------------|-------------------|-----------|--------|--------|--------|
| Land Use | tons | | МТ | /yr | |
| General Light Industry | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Government Office Building | 5.58 | 1.1327 | 0.0669 | 0.0000 | 2.8062 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Other Non- Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 1.1327 | 0.0669 | 0.0000 | 2.8062 |

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e | | | |
|--------------------------------|-------------------|-----------|--------|--------|--------|--|--|--|
| Land Use | tons | | MT/yr | | | | | |
| General Light Industry | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | | |
| Government Office Building | 5.58 | 1.1327 | 0.0669 | 0.0000 | 2.8062 | | | |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | | |
| Other Non- Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | | |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | | |
| Total | | 1.1327 | 0.0669 | 0.0000 | 2.8062 | | | |

9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|---------------------|--------|-----------|------------|-------------|-------------|-----------|
| Emergency Generator | 1 | 0.5 | 20 | 420 | 0.73 | Diesel |

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| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type | |
|------------------------|--------|----------------|-----------------|---------------|-----------|--|
| User Defined Equipment | | | | | | |

Equipment Type Number

10.1 Stationary Sources

Unmitigated/Mitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|------------------------------------------------------|-----------------|--------|--------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|----------|-----------|-----------|-----------------|--------|--------|
| Equipment Type | tons/yr | | | | | | MT/yr | | | | | | | | | |
| Emergency Generator - Diesel (300 - 600 HP) | 6.8900e- 003 | 0.0193 | 0.0176 | 3.0000e- 005 | | 1.0100e- 003 | 1.0100e- 003 | | 1.0100e- 003 | 1.0100e- 003 | 0.0000 | 3.1987 | 3.1987 | 4.5000e- 004 | 0.0000 | 3.2099 |
| Total | 6.8900e- 003 | 0.0193 | 0.0176 | 3.0000e- 005 | | 1.0100e- 003 | 1.0100e- 003 | | 1.0100e- 003 | 1.0100e- 003 | 0.0000 | 3.1987 | 3.1987 | 4.5000e- 004 | 0.0000 | 3.2099 |

11.0 Vegetation

ATTACHMENT 2 – SECTION 01 35 44 ENVIRONMENTAL REQUIREMENTS

SECTION 01 35 44

ENVIRONMENTAL REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Work includes:
 - 1. Be responsible for maintaining compliance with applicable Federal, State and Local environmental regulations in its execution of the Work.
 - 2. Implement mitigations for construction impacts detailed in the Mitigation Monitoring and Report Plan (MMRP) certified under the California Environmental Quality Act (CEQA) for this project.
 - 3. Proper and lawful disposal of all water, including but not limited to water from EBMUD facilities that may have been intended for drinking water supply.
 - 4. Procurement of, payment for, compliance with, and where necessary at the end of the Work, proper termination of all necessary local, state and federal permits to perform the Work as specified.
 - 5. Implement all required environmental plans, procedures, and controls during performance of the Work.
 - 6. Meet with the Engineer prior to commencement of the Work to review the project environmental requirements as applicable to the Contractor's procedures and to develop mutual understandings relative to compliance with the environmental protection requirements and administration of the Contractor's environmental pollution control programs.
- B. Site Activities
 - 1. No debris including, but not limited to, demolition material, treated wood waste, stockpile leachate, soil, silt, sand, bark, slash, sawdust, asphalt, rubbish, paint, oil, cement, concrete or washings thereof, oil or petroleum products, or other organic or earthen materials from construction activities shall be allowed to enter into storm drains or surface waters or be placed where it may be washed by rainfall or runoff outside the construction limits. When operations are completed, excess materials or debris shall be removed from the work area as specified in the Construction and Demolition Waste Disposal Plan.
 - 2. Excess material shall be disposed of in locations approved by the Engineer consistent with all applicable legal requirements and disposal facility permits.
 - 3. Do not create a nuisance or pollution as defined in the California Water Code. Do not cause a violation of any applicable water quality standards for receiving

waters adopted by the Regional Board or the State Water Resources Control Board, as required by the Clean Water Act.

- 4. Clean up all spills and immediately notify the Engineer in the event of a spill.
- 5. Stationary equipment such as motors, pumps, and generators, shall be equipped with drip pans.
- 6. Divert or otherwise control surface water and waters flowing from existing projects, structures, or surrounding areas from coming onto the work and staging areas. The method of diversions or control shall be adequate to ensure the safety of stored materials and of personnel using these areas. Following completion of Work, ditches, dikes, or other ground alterations made by the Contractor shall be removed and the ground surfaces shall be returned to their former condition, or as near as practicable, in the Engineer's opinion.
- 7. Maintain construction sites to ensure that drainage from these sites will minimize erosion of stockpiled or stored materials and the adjacent native soil material.
- 8. Furnish all labor, equipment, and means required and shall carry out effective measures wherever, and as often as necessary, to prevent Contractor's operations from causing visible dust emissions to leave the work areas. These measures shall include, but are not limited to, providing additional watering equipment, reducing vehicle speeds on haul roads, restricting traffic on haul roads, covering haul vehicles, and applying a dust palliative to well-traveled haul roads. The Contractor shall provide the specifications of the dust palliative for Engineer approval prior to use. The Contractor shall be responsible for damage resulting from dust originating from its operations. The dust abatement measures shall be continued for the duration of the Contract. Water the site in the morning and evening, and as often as necessary, and clean vehicles leaving the site as necessary to prevent the transportation of dust and dirt onto public roads. Dust control involving water shall be done in such a manner as to minimize waste and runoff from the site.
- 9. Construction staging areas shall be graded, or otherwise protected with Best Management Practices (BMPs), to contain surface runoff so that contaminants such as oil, grease, and fuel products do not drain towards receiving waters including wetlands, drainages, and creeks.
- 10. All construction equipment shall be properly serviced and maintained in good operating condition to reduce emissions. Contractor shall make copies of equipment service logs available upon request.
- 11. Any chemical or hazardous material used in the performance of the Work shall be handled, stored, applied, and disposed of in a manner consistent with all applicable federal, state, and local laws and regulations.

- 12. Contaminated materials excavated and/or removed from the construction area shall be disposed of in a manner consistent with all applicable local, state, and federal laws and regulations.
- C. Pre-Construction biological or cultural resources surveys
 - 1. If the pre-construction biological or cultural resources surveys, or construction monitoring indicate the need for additional restricted areas in addition to those specified in the Contract Documents, and if the Contractor is required to stop work and relocate work activities, the Contractor's costs associated with these protective measures will be borne by the District and payment will be made in accordance with Article 7 of the General Conditions unless specified elsewhere.
 - 2. Any delays to the Contractor's progress due to protection of biological or cultural resources not specified in the Contract Documents will be treated as differing site conditions. Refer to Article 7 of the General Conditions. Contractor shall be responsible for enforcement of work restrictions with all its subcontractors and suppliers of any tiers.
- D. Related Sections
 - 1. Document 00 31 24 Materials Assessment Information
 - 2. Document 00 62 00 Insurance Requirements
 - 3. Section 01 14 00 Work Restrictions
 - 4. Section 01 35 24 Project Safety Requirements
 - 5. Section 01 50 00 Temporary Facilities and Controls
 - 6. Section 01 74 19 Construction Waste Management and Disposal
 - 7. Section 02 82 13 Asbestos Control Activities
 - 8. Section 02 83 13 Lead Hazard Control Activities

1.2 DEFINITIONS

- A. Characterization: Identification of chemical, microbiological, or radiological constituents of solid wastes, liquid wastes, and imported fill materials. Characterization typically involves sampling and analysis performed by a laboratory that complies with and is certified under the Environmental Laboratory Accreditation Program (ELAP) of the California Department of Health Services.
- B. Hazardous waste: A waste or combination of wastes as defined in 40 CFR 261.3, or regulated as hazardous waste in California pursuant to Chapter 11, Division 4.5, Title 22, California Code of Regulations, and Chapter 6.5, Division 20, California

Health and Safety Code, or those substances defined as hazardous wastes in 49 CFR 171.8.

- C. State Water Resources Control Board (SWRCB) Order WQ 2014-0194-DWQ/General Order No. CAG 140001 (General Drinking Water Discharges Permit) – NPDES Permit for Drinking Water System Discharges: Authorizes discharges from drinking water systems. Provides regulatory coverage for shortterm or seasonal planned and emergency (unplanned) discharges resulting from a water purveyor's essential operations and maintenance activities undertaken to comply with the federal Safe Drinking Water Act, the California Health and Safety Code, and the State Water Board's Division of Drinking Water permitting requirements for providing reliable delivery of safe drinking water.
- D. State Water Resources Control Board ORDER NO. 2012-0006-DWQ NPDES NO. CAS00002 – NPDES Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit): Authorizes discharges of storm water associated with construction activity so long as the dischargers comply with all requirements, provisions, limitations and prohibitions in the permit. Provides regulatory coverage for construction sites or Linear Underground/Overhead Projects that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface.
- E. Sanitary Sewer Discharge Permit: Required for any discharges to a sanitary sewer system.
- F. Also see Section 01 35 24 Project Safety Requirements, Article 1.2.
- G. Cultural Resources (include architectural resources, archaeological resources, tribal cultural resources, and human remains):
 - 1. Architectural resources include buildings, structures, objects, and historic districts. Residences, cabins, barns, lighthouses, military-related features, industrial buildings, and bridges are examples of architectural resources. An architectural resource can be considered a historic property if it is at least 50 years old and listed in, or eligible for listing in, the National Register of Historic Places or the California Register of Historical Resources.
 - 2. Archaeological resources consist of prehistoric and historic-era archaeological resources.
 - a. Prehistoric archaeological resources consist of village sites, temporary camps, lithic scatters, roasting pits/hearths, milling features, petroglyphs, rock features, and burials. Associated artifacts include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs).

- b. Historic-era archaeological resources consist of townsites, homesteads, agricultural or ranching features, mining-related features, refuse concentrations, and features or artifacts associated with early military and industrial land uses. An archaeological resource can also be considered a historic property if it is at least 50 years old and listed in, or eligible for listing in, the National Register of Historic Places or the California Register of Historical Resources.
- 3. Tribal cultural resources are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are listed, or determined to be eligible for listing, on the National Register of Historic Places, the California Register of Historical Resources, or a local register of historical resources.
- 4. Human Remains consist of skeletal remains, burials, cremations, and/or associated objects.
- H. Certified Arborist: Individual designated by the District and certified by the International Society of Arboriculture who will provide professional tree services (trimming, caring, planting, monitoring, etc.).
- I. Environmentally Sensitive Areas: Areas of ecological or cultural sensitivity where Work is restricted or prohibited.
- J. Paleontological Resources: Of the fossilized evidence of past life found in the geologic record. Fossils are preserved in sedimentary rocks, which are the most abundant rock type exposed at the surface of the earth. Despite the abundance of these rocks, and the vast numbers of organisms that have lived through time, preservation of plant or animal remains as fossils can be a rare occurrence. In many cases, fossils of animals and plants occur only in limited areas and in small numbers relative to the distribution of the living organisms they represent. In particular, fossils of vertebrates animals with backbones are sufficiently rare to be considered nonrenewable resources.
- K. Pre-Construction Survey: Field evaluation of construction area in advance of construction activities.
- L. Protected Trees: Trees designated as protected as shown on the drawings.
- M. Staging Area: That area shown on the plans for the use of the contractors where construction-related activities will occur, including long-term and short-term equipment storage and maintenance, materials storage (both temporary and long term), parking, office space, etc.
- N. Tree Drip Line: Outside perimeter of tree branch spread.

1.3 SUBMITTALS

A. Storm Water Management

- 1. Construction General Permit
 - a. The Contractor shall create a user account on the SWRCB's Storm Water Multi-Application & Report Tracking System (SMARTS). The Engineer will link the Contractor to the District's account as a Data Submitter. The Contractor shall prepare and upload to SMARTS Permit Registration Documents (PRDs), including, but not limited to, a Notice of Intent, a Site Specific Risk Assessment, a Site Map, and a Storm Water Pollution Prevention Plan (SWPPP) for the Engineer's review which meets the requirements of the SWRCB, for coverage under the General Construction Stormwater Permit (Order No. 2009-0009-DWQ) and amendments thereto. Upon acceptance by the Engineer, the Engineer will electronically certify and file the PRDs to gain permit coverage and the Contractor shall submit the registration and the subsequent annual fees as required by the SWRCB.
 - b. The Contractor shall be responsible for complying with the requirements of the Construction General Permit. The Contractor's responsibilities include, but are not limited to, providing qualified professionals as described in the permit to prepare and certify all permit-required documents/submittals and to implement effective stormwater/non-stormwater management practices, and conducting inspections and monitoring as required by the permit. The Contractor shall, in compliance with the permit, prepare and upload to SMARTS all required documents, photos, data, and/or reports (including the Annual Reports) and ensure permit coverage termination upon construction completion by preparing a Notice of Termination on SMARTS. The Contractor shall inform the Engineer when documents/reports are available on SMARTS for Engineer certification and submittal.
- 2. Storm Water Pollution Prevention Plan
 - a. Submit a Stormwater Pollution Prevention Plan that describes measures that shall be implemented to prevent the discharge of contaminated storm water runoff from the jobsite. Contaminants to be addressed include, but are not limited to, soil, sediment, concrete residue, pH less than 6.5 or greater than 8.5, and chlorine residual and all other contaminants known to exist at the jobsite location as described in Document 00 31 24 Materials Assessment Information.
- 3. Alameda County Stormwater Permit
 - a. In addition to the State's General Construction Stormwater Permit, the Contractor shall obtain and comply with Alameda County Public Works Agency's Stormwater Permit to enable the inspection of C.6 construction stormwater BMPs.
- B. Water Control and Disposal Plan:

- 1. The Contractor shall submit a detailed Water Control and Disposal Plan for the Engineer's acceptance prior to any work at the jobsite.
 - a. Plan shall comply with all requirements of the Specification and applicable discharge permits. Table 1 summarizes discharge permits that may be applicable to District projects.

| PERMIT* SWRCB Order WQ 2014- 0194-DWQ/General Order No. CAG 140001 – NPDES Permit for Drinking Water System Discharges | PERMIT COVERAGE Discharges from a drinking water system of water that has been dedicated for drinking water purposes. | PERMIT OWNER EBMUD |
|----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| SWRCB ORDER NO. 2012-0006-DWQ NPDES NO. CAS000002 – Construction General Permit | Discharges from construction sites and linear underground/overhead projects greater than 1 acre. | EBMUD – Contractor will provide Qualified SWPPP Practitioner/Developer |
| Sanitary Sewer Discharge Permit | Publicly Owned Treatment Works approved discharges. | Contractor |

 TABLE 1 - Discharge Permit Summary Table

* The most recent version of applicable permits shall be referenced for compliance.

- b. Contractor shall maintain proper control of the discharge at the discharge point to prevent erosion, scouring of bank, nuisance, contamination, and excess sedimentation in the receiving waters.
- 2. Drinking Water System Discharges
 - a. Plan shall include the estimated flow rate and volume of all proposed discharges to surface waters, including discharges to storm drains. All receiving waters shall be clearly identified.
 - b. Contractor shall track all discharges directly to a surface water body or a storm drain system that drains to a surface water body. A record consisting of discharge locations and volumes shall be submitted to the Engineer prior to Contract Acceptance.
 - c. A monitoring program is required for drinking water system discharges greater than 325,850 gallons in conformance with Attachment E, Monitoring and Reporting Program, of the General Drinking Water Discharges Permit, when the water will be discharged either directly into a surface water body or a storm drain system that drains to a surface
water body. A record consisting of discharge locations, volumes and Water Quality (WQ) data shall be submitted to the Engineer. The Planned Discharge Tracking Form, attached to the end of this section, may be used to fulfill this requirement. All monitoring results shall be submitted to the Engineer prior to Contract Acceptance.

- 1) Contractor shall notify the Engineer, at least one week prior to the start of a planned discharge equal to or greater than 325,850 gallons, of the following:
 - a) The discharge start date;
 - b) The discharge location and the applicable receiving water;
 - c) The flow rate and volume to be discharged; and
 - d) The reason(s) for discharge.
- d. Contractor shall dechlorinate all drinking water system discharges to achieve a total chlorine residual concentration of < 0.1 mg/L measured with a handheld chlorine meter utilizing a US EPA approved method and provide effective erosion & sediment control to achieve a visual turbidity concentration of $\leq 100 \text{ NTU}$ by implementing BMPs which meet the District minimum standards (see Figure 1 attached to the end of this section) or better.
- e. Instead of discharging to surface waters, where feasible, Contractor shall beneficially reuse water derived from drinking water systems as defined in the General Drinking Water Discharges Permit. Potential reuse strategies include, but are not limited to, landscape irrigation, agricultural irrigation, dust control, and discharge to stormwater capture basins or other groundwater recharge systems. Contractor shall do so without impacting property or the environment. Contractor shall provide a record of reuse location(s) and volume(s) and submit it to the Engineer prior to Contract Acceptance.
- f. Contractor shall ensure that the pH level of any discharges shall not be depressed below 6.5, nor elevated above 8.5. If there is potential for discharges to be below 6.5 or above 8.5, Contractor shall employ pH adjustment best management practices to ensure discharges are within the range of 6.5 and 8.5. Contractor shall conduct onsite field measurements for pH per quality assurance and quality control (QA/QC) protocol that conform to U.S. EPA guidelines, or procedures approved by the American Water Works Association or other professional drinking water industry association. Contractor shall submit all monitoring results to the Engineer prior to Contract Acceptance.
- 3. Non-Stormwater Discharges

- a. Plan shall describe measures for containment, handling, treatment (as necessary), and disposal of discharges such as groundwater (if encountered), runoff of water used for dust control, stockpile leachate, tank heel water, wash water, sawcut slurry, test water and construction water or other liquid that has been in contact with any interior surfaces of District facilities. Contractor shall provide the Engineer with containment, handling, treatment and disposal designs and a sampling & analysis plan for approval before commencing the Work. Sampling and analysis shall be in conformance with Sections 1.3 (K) *Analytical Test Results* and 3.1 *SAMPLING AND ANALYSIS*.
- 4. Sanitary Sewer Discharges
 - a. It is District policy to send superchlorinated discharges from pipeline disinfection to the sanitary sewer system. Plan shall include a sampling and analytical program for superchlorinated discharges in conformance with the Sanitary Sewer Discharge Permit. All monitoring results shall be submitted to the Engineer prior to the end of the Work.
 - b. Obtain and provide to the Engineer documentation from the agency (e.g., wastewater treatment plant, local sewer owner) having jurisdiction, authorizing the Contractor to dispose of the liquid and describing the method of disposal. Discharges destined for the District's main wastewater treatment plant in Oakland can reference Special Discharge Permit (SDP) #50333261, issued to the District's Regulatory Compliance Office, when obtaining authorization from the pertinent local jurisdiction that owns the sewers to be used. Contractor shall, prior to the end of the Work, report to the Engineer the volumes of all discharges performed pursuant to the said SDP along with copies of any profile forms and/or correspondence between Contractor and disposal facility.
- C. Construction and Demolition Waste Disposal Plan:
 - 1. Prepare a Construction and Demolition Waste Disposal Plan and submit a copy of the plan for the Engineer's acceptance prior to disposing of any material (except for water wastes which shall be addressed in the Water Control and Disposal Plan).
 - a. The plan shall identify how the Contractor will remove, handle, transport, and dispose of all materials required to be removed under this contract in a safe, appropriate, and lawful manner in compliance with all applicable regulations of local, state, and federal agencies having jurisdiction over the disposal of removed materials.
 - b. The Contractor shall procure the necessary permits required by the local, state, and federal agencies having jurisdiction over the handling, transportation, and disposal of construction and demolition waste. At a minimum, the following permits are required:

- 1)

 2)

 3)

- c. Include a list of reuse facilities, recycling facilities and processing facilities that will be receiving recovered materials.
- d. Identify materials that are not recyclable or not recovered which will be disposed of in a landfill (or other means acceptable by the State of California and local ordinance and regulations).
- e. Identify how the Contractor will comply with The California Department of Toxic Substances Control's (DTSC) Alternative Management Strategies (AMS) when handling and disposing of treated wood waste (TWW) in compliance with 22 CCR 66261.9.5.
- f. TWW records including but not limited to manifests, bills of lading should be submitted to the Engineer within 5 working days of off-haul. Records should include: (1) name and address of the TWW facility to which the TWW was sent; (2) estimated weight of TWW, or the weight of the TWW as measured by the receiving TWW facility; and (3) date of the shipment of TWW. (Cal. Code Regs., tit. 22, §§ 67386.8(a) and (e)(1)).
- g. List the permitted landfill, or other permitted disposal facilities, that will be accepting the disposed waste materials.
- h. Identify each type of waste material to be reused, recycled or disposed of and estimate the amount, by weight.
- i. Plan shall include the sampling and analytical program for characterization of any waste material, as needed, prior to reuse, recycle or disposal.
- 2. Materials or wastes shall only be recycled, reused, reclaimed, or disposed of at facilities approved of by the District, as provided in Appendix _____.
- 3. Submit permission to reuse, recycle, reclaim, or dispose of material from reuse, recycling, reclamation, or disposal site owner along with any other information needed by the District to evaluate the acceptability of the proposed reuse, recycling, or disposal site and obtain acceptance of the Engineer prior to removing any material from the project site.
- 4. All information pertinent to the characterization of the material or waste shall be disclosed to the District and the reuse, recycling, reclamation, or disposal facility. Submit copies of any profile forms and/or correspondence between the Contractor and the reuse, recycling, reclamation, or disposal facility.

- 5. Submit name and Environmental Laboratory Accreditation Program Certificate number of laboratory that will analyze samples for suspected hazardous substances. Include statement of laboratory's certified testing areas and analyses that laboratory is qualified to perform. Submit prior to any laboratory testing.
- D. Spill Prevention and Response Plan
 - 1. Submit plan detailing the means and methods for preventing and controlling the spilling of known hazardous substances used on the jobsite or staging areas. The plan shall include a list of the hazardous substances proposed for use or generated by the Contractor on site, including petroleum products, and measures that will be taken to prevent spills, monitor hazardous substances, and provide immediate response to spills. Spill response measures shall address notification of the Engineer and appropriate agencies including phone numbers; spill-related worker, public health, and safety issues; spill control, and spill cleanup.
 - 2. Submit a Safety Data Sheet (SDS) for each hazardous substance proposed to be used prior to delivery of the material to the jobsite.
- E. Dust Control and Monitoring Plan:
 - 1. Submit a plan detailing the means and methods for controlling and monitoring dust generated by demolition and other work on the site for the Engineer's acceptance prior to any work at the jobsite. The plan shall comply with all applicable regulations including but not limited to the Bay Area Air Quality Management District (BAAQMD) visible emissions regulation and Public Nuisance Rule. The plan shall include items such as mitigation measures to control fugitive dust emissions generated by construction activities. The Plan shall outline best management practices for preventing dust emissions, provide guidelines for training of employees, and procedures to be used during operations and maintenance activities. The plan shall also include measures for the control of paint overspray generated during the painting of exterior surfaces. The plan shall detail the equipment and methods used to monitor compliance with the plan. The handling and disposal of water used in compliance with the Dust Control Plan shall be addressed in the Water Control and Disposal Plan.
 - 2. Containment, as described in Article 3.3, shall be utilized during any abrasive blasting of the exterior of structures.
- F. Emissions Control
 - 1. Submit a list of all combustion equipment with regulated emissions to be used on the Project, and a BAAQMD permit or proof of exemption for each piece of equipment.

- G. Noise Control and Monitoring Plan
 - 1. Submit a plan detailing the means and methods for controlling and monitoring noise generated by construction activities, including demolition, alteration, repair or remodeling of or to existing structures and construction of new structures, as well as by items of machinery, equipment or devices used during construction activities on the site for the Engineer's acceptance prior to any work at the jobsite. The plan shall detail the equipment and methods used to monitor compliance with the plan.
- H. Vibration Control and Monitoring Plan
 - 1. Submit a plan detailing the means and methods for controlling and monitoring surface vibration generated by demolition and other work on the site for the Engineer's acceptance prior to any work at the jobsite. The plan shall detail the equipment and methods used to monitor compliance with the plan.
- I. Tuneup Logs
 - 1. The Contractor shall submit a log of required tune-ups for all construction equipment, particularly haul and delivery trucks, on a quarterly basis for review.
- J. Hazardous Waste Manifests:
 - 1. Contractor shall use the "Uniform Hazardous Waste Manifest," EPA form 8700-22. The manifest must be printed by a USEPA approved printer as listed at <u>https://www.epa.gov/hwgenerators/approved-registered-printers-epas-</u> <u>manifest-registry</u>. Contractor shall prepare and District will review all hazardous waste manifests for acceptability prior to use.
 - 2. Submit the "Generator's Initial Copy" and a legible photocopy of the first page of hazardous waste manifests, land disposal restriction forms, or other documentation required by applicable regulations governing transport and disposal of hazardous wastes for disposal of hazardous substances within 5 days of offhaul.
 - 3. Submit proof that the transporter is certified by the State to transport hazardous wastes prior to any offhaul of hazardous wastes.
 - 4. Submit name of disposal site where hazardous waste will be disposed of for Engineer's approval. Hazardous waste shall only be disposed of at hazardous waste disposal facilities approved by the District.
- K. Analytical Test Results:
 - 1. Submit laboratory analysis results of samples taken and analyzed, include collection methods, locations, and frequencies.

- a. Include analytical methods for each material sampled.
- b. Include sampling chain of custody from testing laboratory and QA/QC reports.
- c. Specify any follow-up analysis to be run based on results.
- d. Submit results of all follow-up analysis.
- 2. Provide characterization of all solid wastes, liquid wastes, and imported fill materials to the Engineer prior to movement of those materials.

PART 2 - NOT USED

PART 3 - EXECUTION

3.1 SAMPLING AND ANALYSIS

- A. Contractor is responsible for characterizing all solid wastes, liquid wastes, and imported fill materials as described in Article 1.2 above.
 - 1. Imported fill materials shall be sampled and tested prior to delivering on site.
- B. Sampling and Testing of Materials:
 - 1. All sampling and testing shall be performed by a laboratory that complies with and is certified under the Environmental Laboratory Accreditation Program (ELAP) of the California Department of Health Services.
 - 2. Sampling and analysis of wastes shall be conducted according to methods listed in Environmental Protection Agency Document SW 846. Sampling and analysis of wastes and solids shall be representative of total waste volume.
 - a. At a minimum, analytical work, conducted on spent abrasive, paint debris and soil shall include EPA 8080 STLC, TTLC, and TCLP; EPA 6010 and 7000 series for 17 metals (see below), STLC, TTLC, and TCLP.
 - b. Metal analysis shall include the following metals: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Cobalt, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium and Zinc.
 - 3. Each sample shall have an identifying sample number assigned by the Contractor when the sample is taken. Sample number shall be included on the sampling chain of custody and in all reports, correspondence, and other documentation related to the sample. Each sample shall have a sampling chain of custody. Chain of custody shall show the name and organization of each person having custody of the sample, and shall also show the sample number,

job name and location, time of day and date sample taken, material sampled, and tests to be performed.

4. Engineer may witness sampling and may take samples for District records and for additional analyses if required. Notify the Engineer at least 3 working days prior to sampling.

3.2 WASTE DISPOSAL

- A. Engineer will review laboratory analysis results for District acceptance of Contractor Characterization of waste classification.
- B. Engineer will obtain a Hazardous Waste Generator's EPA ID Number if required for disposal of hazardous wastes.
- C. Engineer will give Contractor written notice to dispose of all or a portion of the waste material at a Class I disposal site if the Engineer determines that such disposal is required based on review of Contractors waste characterization and the analytical results of samples collected.
 - 1. Additional payment for disposal (transport and dispose) at Class I site will be under Bid Items _____.

OR

- 1. Additional payment for disposal (transport and dispose) at Class I site will be in accordance with Article 7 of the General Conditions.
- 2. Non-hazardous waste shall be disposed as outlined in the approved Construction and Demolition Waste Disposal Plan.
- D. Waste materials from different sites shall not be transported or mixed until the material is determined to be non-hazardous. Excavation materials shall be stored or stockpiled at each site until classified and accepted for movement by the Engineer.
- E. Transport materials and/or wastes in accordance with all local, state, and federal laws, rules, and regulations.
- F. Contractor shall be responsible for all costs of disposal of construction and demolition waste material and liquid wastes, along with any waste generated by the Contractor's work including Hazardous Waste generated from hazardous materials identified in Document 00 31 24 Material Assessment Information except as outlined in paragraph C.

3.3 DUST CONTROL AND MONITORING

A. Dust Control during Abrasive Blasting:

- 1. Provide a containment system for the structure prior to beginning abrasive blasting operations. The system shall remain in place during the abrasive blasting operations and the painting of exterior surfaces.
- B. Dust Control
 - 1. Contractor shall implement all necessary dust control measures, including but not limited to the following:
 - a. All exposed surfaces with the potential of dust-generating shall be watered at least twice daily, or be covered with coarse rock, or as directed by the Engineer to reduce the potential for airborne dust from leaving the site.
 - b. The simultaneous occurrence of more than two ground disturbing construction phases on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time, as appropriate.
 - c. Cover all haul trucks entering/leaving the site and trim their loads as necessary.
 - d. Using wet power vacuum street sweepers to:
 - 1) Sweep all paved access road, parking areas and staging areas at the construction site daily or as often as necessary.
 - 2) Sweep public roads adjacent to the site at least twice daily or as often as necessary.
 - e. The use of dry power sweeping is prohibited.
 - f. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
 - g. Gravel or apply non-toxic soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
 - h. Water and/or cover soil stockpiles daily.
 - i. Site accesses to a distance of 100 feet from the paved road shall be treated with 12-inches layer of compacted coarse rock.
 - j. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
 - k. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible.

- 1. Building pads shall be laid as soon as possible after grading.
- m. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
- n. Wind breaks (e.g., fences) shall be installed on the windward sides(s) of actively disturbed areas of construction. Wind breaks should have a maximum 50 percent air porosity.
- o. All vehicle speeds shall be limited to fifteen (15) mph or less on the construction site and any adjacent unpaved roads.
- C. Dust Monitoring During Demolition and Construction:
 - 1. Provide air monitoring per the Dust Control and Monitoring Plan along the perimeter of the job site. A minimum of 4 stations, one on each side of the District property, shall be established, capable of continuous measurement of total particulate concentration when any dust generating activity is occurring.
 - a. Ringelmann No. 1 Limitation: Contractor shall not emit from any source for a period or periods aggregating more than three minutes in any hour, a visible emission which is as dark or darker than No. 1 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree.
 - b. Opacity Limitation: Contractor shall not emit from any source for a period or periods aggregating more than three minutes in an hour an emission equal to or greater than 20% opacity as perceived by an opacity sensing device, where such device is required by Air Quality Management District regulations.
 - c. All environmental and personal air sampling equipment shall be in conformance with the Association of Industrial Hygiene and National Institute of Safety and Health (NIOSH) standards.
 - d. All analysis shall be completed by a California Department of Health Services certified laboratory for the specific parameters of interest.
 - e. The Contractor shall provide to the Engineer, within 72 hours of sampling all test results.
- D. The dust control system shall comply with the Dust Control and Monitoring Plan, the requirements of this section, and any applicable laws and regulations.

3.4 LIGHTING USED DURING NIGHTTIME WORK

A. Ensure that temporary stationary lighting used during nighttime construction is only used when needed. All lighting used for nighttime construction shall be

designed, installed, and operated to minimize glare that affects traffic near the work zone or that causes annoyance or discomfort for residences near the work zone. Lighting fixtures shall be located and aimed to provide the required level of illumination and uniformity in the work zone without the creation of unnecessary glare.

3.5 EMISSIONS CONTROL

- A. Air Quality and Emissions Control
 - 1. The Contractor shall ensure that line power is used instead of diesel generators at all construction sites where line power is available.
 - 2. The Contractor shall ensure that for operation of any stationary, compressionignition engines as part of construction, comply with Section 93115, Title 17, California Code of Regulations, Airborne Toxic Control Measure for Stationary Compression Ignition Engines, which specifies fuel and fuel additive requirements as well as emission standards.
 - 3. Fixed temporary sources of air emissions (such as portable pumps, compressors, generators, etc.) shall be electrically powered unless the Contractor submits documentation and receives approval from the Engineer that the use of such equipment is not practical, feasible, or available. All portable engines and equipment units used as part of construction shall be properly registered with the California Air Resources Board or otherwise permitted by the appropriate local air district, as required.
 - 4. Contractor shall implement standard air emissions controls such as:
 - a. Minimize the use of diesel generators where possible.
 - b. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes as required by the California Airborne Toxics Control Measure (ATCM) Title 13, Section 2485 of California Code of Regulations. Clear signage shall be provided for construction workers at all access points.
 - c. Follow applicable regulations for fuel, fuel additives, and emission standards for stationary, diesel-fueled engines.
 - d. Locate generators at least 100 feet away from adjacent homes and sports fields.
 - e. Perform regular low-emission tune-ups on all construction equipment, particularly haul trucks and earthwork equipment.
 - 5. Contractor shall implement the following measures to reduce greenhouse gas emissions from fuel combustion:

- a. On road and off-road vehicle tire pressures shall be maintained to manufacturer specifications. Tires shall be checked and re-inflated at regular intervals.
- b. Construction equipment engines shall be maintained to manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- c. All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of Oxide of Nitrogen (NOx) and Particulate Matter (PM).
- d. Demolition debris shall be recycled for reuse to the extent feasible. See the Construction and Demolition Waste Disposal Plan paragraphs above for requirements on wood treated with preservatives.
- B. Architectural Coatings
 - 1. Architectural coatings used shall comply with appropriate Volatile Organic Compound limits as established in the Bay Area Air Quality Management District's Regulation 8, Rule 3 and/or the San Joaquin Valley Air Pollution Control District's Regulation IV, Rule 4601, and any amendments thereto.

3.6 VIBRATION CONTROL

A. Limit surface vibration to no more than 0.5 in/sec Peak Particle Velocity (PPV), measured at the nearest residence or other sensitive structure.

3.7 NOISE CONTROL

- A. Comply with sound control and noise level rules, regulations and ordinances as required herein and in the CEQA documents which apply to any work performed pursuant to the contract.
- B. Contractor is responsible for taking appropriate measures, including muffling of equipment, selecting quieter equipment, erecting noise barriers, modifying work operations, and other measures as needed to bring construction noise into compliance.
- C. Each internal combustion engine, used for any purpose on the job or related to the job, shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the project without said muffler.
- D. Best available noise control techniques (including mufflers, intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds) shall be used for all equipment and trucks, as necessary.

- E. Truck operations (haul trucks and concrete delivery trucks) will be limited to the daytime hours specified in Section 01 14 00.
- F. Stationary noise sources (e.g chippers, grinders, compressors) shall be located as far from sensitive receptors as possible. If they must be located near receptors, adequate muffling (with enclosures) shall be used. Enclosure opening or venting shall face away from sensitive receptors. Enclosures shall be designed by a registered engineer regularly involved in noise control analysis and design.
- G. Material stockpiles as well as maintenance/equipment staging and parking areas (all on-site) shall be located as far as practicable from residential receptors.
- H. If impact equipment (e.g., jack hammers, pavement breakers, rock drills etc.) is used during project construction, Contractor is responsible for taking appropriate measures, including but not limited to the following:
 - 1. Hydraulically or electric-powered equipment shall be used wherever feasible to avoid the noise associated with compressed-air exhaust from pneumatically powered tools. However, where use of pneumatically powered tools is unavoidable, an exhaust muffler on the compressed-air exhaust shall be used (a muffler can lower noise levels from the exhaust by up to about 10 dB). External jackets on the tools themselves shall be used, where feasible, which could achieve a reduction of 5 dB. Quieter procedures, such as drilling rather than impact equipment, will be used whenever feasible. It is the Contractor's responsibility to implement any measures necessary to meet applicable noise requirements.
 - 2. Impact construction including jackhammers, hydraulic backhoe, concrete crushing/recycling activities, vibratory pile drivers etc. shall be limited to the day time hours specified in Section 01 14 00.
 - 3. Erect temporary noise barriers or noise control blankets around the construction site, particularly along areas adjacent to residential buildings.
 - 4. Utilize noise control blankets around the major noise sources to reduce noise emission from the site.
 - 5. Evaluate the feasibility of noise control at the receivers by temporarily improving the noise reduction capability of adjacent buildings by the use of sound blankets for example.
 - 6. Limit the noisiest phases of construction to 10 work days at a time, where feasible.
 - 7. Notify neighbors/occupants within 300 feet of project construction at least thirty days in advance of extreme noise generating activities about the estimated duration of the activity.

8. Noise Monitoring shall be conducted periodically during noise generating activities. Monitoring shall be conducted using a precision sound-level meter that is in conformance with the American National Standards Institute (ANSI) Standard S1.4, Specification for Sound Level Meters. Monitoring results shall be submitted weekly to the Engineer

3.8 PROTECTION OF NATIVE AND NON-NATIVE PROTECTED TREES

A. Tree Protection

- 1. Locations of trees to be removed and protected are shown in the construction drawings. Pruning and trimming shall be completed by the Contractor and approved by the Engineer. Pruning shall adhere to the Tree Pruning Guidelines of the International Society of Arboriculture.
- 2. Erect exclusion fencing five feet outside of the drip lines of trees to be protected. Erect and maintain a temporary minimum 3-foot high orange plastic mesh exclusion fence at the locations as shown in the drawings. The fence posts shall be six-foot minimum length steel shapes, installed at 10-feet minimum on center, and be driven into the ground. The Contractor shall be prohibited from entering or disturbing the protected area within the fence except as directed by the Engineer. Exclusion fencing shall remain in place until construction is completed and the Engineer approves its removal.
- 3. No grading, construction, demolition, trenching for irrigation, planting or other work, except as specified herein, shall occur within the tree protection zone established by the exclusion fencing installed shown in the drawings. In addition, no excess soil, chemicals, debris, equipment or other materials shall be dumped or stored within the tree protection zone.
- 4. In areas that are within the tree drip line and outside the tree protection zone that are to be traveled over by vehicles and equipment, the areas shall be covered with a protective mat composed of a 12-inch thickness of wood chips or gravel and covered by a minimum ³/₄-inch-thick steel traffic plate. The protective mat shall remain in place until construction is completed and the Engineer approves its removal.
- 5. Tree roots exposed during trench excavation shall be pruned cleanly at the edge of the excavation and treated to the satisfaction of a certified arborist provided by the District.
- 6. Any tree injured during construction shall be evaluated as soon as possible by a certified arborist provided by the District, and replaced as deemed necessary by the certified arborist.

1.4 PROTECTION OF BIRDS PROTECTED UNDER THE MIGRATORY BIRD TREATY ACT AND ROOSTING BATS

- A. Provide 30 days' written notice to the Engineer prior to ground disturbing activities, pruning, and trimming.
 - 1. The District will conduct biological reconnaissance in advance of construction and will conduct biologic monitoring during construction as necessary.
 - a. Monitoring will be performed by a designated biologist (provided by the District).
 - b. Monitoring will be (full time, seasonal, part time)
- B. Protected Species
 - 1. If protected species or suitable habitat for protected species is found during biological reconnaissance surveys:
 - a. Before beginning construction, all Contractor construction personnel are required to attend an environmental training program provided by the District of up to one-day for site supervisors, foreman and project managers, and up to 30-minutes for non-supervisory contractor personnel. The training program will be completed in person or by watching a video at a District-designated location, conducted by a designated biologist. The program will discuss all sensitive habitats and sensitive species that may occur within the project work limits, including the responsibilities of Contractor's construction personnel, applicable mitigation measures, and notification requirements. The Contractor is responsible for ensuring that all workers requiring training are identified to the District. Prior to accessing or performing construction work, all Contractor personnel shall:
 - Sign a wallet card provided by the Engineer verifying that all Contractor construction personnel have attended the appropriate level of training relative to their position; have read and understood the contents of the ______; and shall comply with all project environmental requirements.
 - 2) Display an environmental training hard hat decal (provided by the District after completion of the training) at all times.
 - b. Birds Protected under the Migratory Bird Treaty Act (MBTA):
 - 1) It is unlawful to pursue, hunt, take, capture, or kill any migratory bird without a permit issued by the U.S. Department of the Interior.
 - 2) If construction commences between February 1 and August 31, during the nesting season, the District will conduct a preconstruction

survey for nesting birds within 7 days prior to construction to ensure that no nest will be disturbed during construction.

- 3) If active nests of migratory bird species (listed in the MBTA) are found within the project site, or in areas subject to disturbance from construction activities, an avoidance buffer to avoid nest disturbance shall be constructed. The buffer size shall be determined by the Designated Biologist in consultation with California Department of Fish and Wildlife (CDFW) and is based on the nest location, topography, cover and species' tolerance to disturbance.
- 4) If an avoidance buffer is not achievable, the Designated Biologist shall monitor the nest(s) to document that no take of the nest (nest failure) has occurred. Active nests shall not be taken or destroyed under the MBTA and, for raptors, under the CDFW Code. If it is determined that construction activity is resulting in nest disturbance, work should cease immediately, and the Contractor shall notify the Engineer who will consult with the Designated Biologist and appropriate regulatory agencies.
- 5) If preconstruction surveys indicate that nests are inactive or potential habitat is unoccupied during the construction period, no further action is required. Trees and shrubs within the construction footprint that have been determined to be unoccupied by special-status birds or that are located outside the avoidance buffer for active nests may be removed. Nests initiated during construction (while significant disturbance from construction activities persist) may be presumed to be unaffected, and only a minimal buffer, determined by the Designated Biologist, would be necessary.
- c. Roosting Bats:
 - 1) If construction commences between March 1 and July 31, during the bat maternity period, the District will conduct a preconstruction survey for roosting bats within two weeks prior to construction to ensure that no roosting bats will be disturbed during construction.
 - 2) If roosting surveys indicate potential occupation by a special-status bat species, and/or identify a large day roosting population or maternity roost by any bat species within 200 feet of a construction work area, the Designated Biologist shall conduct focused dayand/or night-emergence surveys, as appropriate.
 - 3) If active maternity roosts or day roosts are found within the project site, or in areas subject to disturbance from construction activities, an avoidance buffers shall be constructed. The buffer size will be determined by the Designated Biologist in consultation with CDFW.

- 4) If a non-breeding bat roost is found in a structure scheduled for modification or removal, the bats shall be safety evicted, under the direction of the Designated Biologist, in consultation with CDFW to ensure that the bats are not injured.
- 5) If preconstruction surveys indicate that no roosting is present, or potential roosting habitat is unoccupied during the construction period, no further action is required. Trees and shrubs within the construction footprint that have been determined to be unoccupied by roosting bats, or that are located outside the avoidance buffer for active roosting sites may be removed. Roosting initiated during construction is presumed to be unaffected, and no buffer would be necessary.

3.9 PROTECTION OF CULTURAL AND PALEONTOLOGICAL RESOURCES

- A. Confidentiality of Information on Cultural and Paleontological Resources
 - 1. In conjunction with Contractor's performance under this contract, the Contractor may obtain information as to the location and/or nature of certain cultural or paleontological resources, including Native American artifacts and remains. This information may be provided to the Contractor by the District or a third party, or may be discovered directly by the Contractor through its performance under the contract. All such information shall be considered "Confidential Information" for the purposes of this Article.
 - 2. Pursuant to California Government Code Section 6254.10, cultural resource information is protected from public disclosure. The Contractor agrees that the Contractor, its subcontractors, and their respective agents and employees shall not publish or disclose any Confidential Information to any person, unless specifically authorized in advance, in writing by the Engineer.
- B. Conform to the requirements of statutes as they relate to the protection and preservation of cultural and paleontological resources. Unauthorized collection of prehistoric or historic artifacts or fossils along the Work Area, or at Work facilities, is strictly prohibited.
- C. Before beginning construction, all Contractor construction personnel involved in ground disturbing activities shall attend a cultural resources training course provided by the District of up to two hours for site supervisors, foreman, project managers, and non-supervisory contractor personnel. The training program will be completed in person or by watching a video, at a District designated location, conducted by a qualified archaeologist provided by the District, or by District staff. The program will discuss cultural resources awareness within the project work limits, including the responsibilities of Contractor's construction personnel, applicable mitigation measures, confidentiality, and notification requirements. The Contractor is responsible for ensuring that all workers requiring training are identified to the

District. Prior to accessing the construction site, or performing site work, all Contractor personnel shall:

- 1. Sign an attendance sheet provided by the Engineer verifying that all Contractor construction personnel involved in ground disturbing activities have attended the appropriate level of training; have read and understood the contents of the training; have read and understood the contents of the "Confidentiality of Information on Archaeological Resources" and shall comply with all project environmental requirements.
- D. In the event that potential cultural or paleontological resources are discovered at the site of construction, the following procedures shall be instituted:
 - 1. Discovery of prehistoric or historic-era archaeological resources requires that all construction activities shall immediately cease at the location of discovery and within 100 feet of the discovery.
 - a. The Contractor shall immediately notify the Engineer who will engage a qualified archaeologist provided by the District to evaluate the find. The Contractor is responsible for stopping work and notifying the Engineer, and shall not recommence work until authorized to do so by the Engineer.
 - b. The District will retain a qualified archaeologist to inspect the findings within 24 hours of discovery. If it is determined that the Project could damage a historical resource as defined by CEQA (or a historic property as defined by the National Historic Preservation Act of 1966, as amended), construction shall cease in an area determined by the archaeologist until a management plan has been prepared, approved by the District, and implemented to the satisfaction of the archaeologist (and Native American representative if the resource is prehistoric, who shall be identified by the Native American Heritage Commission [NAHC]). In consultation with the District, the archaeologist (and Native American representative) will determine when construction can resume.
 - 2. Discovery of human remains requires that all construction activities immediately cease at, and within 100 feet of the location of discovery.
 - a. The Contractor shall immediately notify the Engineer who will engage a qualified archaeologist provided by the District to evaluate the find. The Contractor is responsible for stopping work and notifying the Engineer, and shall not recommence work until authorized to do so by the Engineer.
 - b. The District will contact the County Coroner, who will determine whether or not the remains are Native American. If the remains are determined to be Native American, the Coroner will contact the Native American Heritage Commission (NAHC). The NAHC will then identify the person or persons it believes to be the most likely descendant from the deceased Native American, who in turn would make recommendations to the

District for the appropriate means of treating the human remains and any associated funerary objects.

- 3. Discovery of paleontological resources requires that all construction activities immediately cease at, and within 100 feet of the location of discovery.
 - a. The Contractor shall immediately notify the Engineer who will engage a qualified paleontologist provided by the District to evaluate the find. The Contractor is responsible for stopping work and notifying the Engineer, and shall not recommence work until authorized to do so by the Engineer.
 - b. The District will retain a qualified paleontologist to inspect the findings within 24 hours of discovery. The qualified paleontologist, in accordance with Society of Vertebrate Paleontology guidelines (Society of Vertebrate Paleontology 2010), will assess the nature and importance of the find and recommend appropriate salvage, treatment, and future monitoring and management. If it is determined that construction activities could damage a paleontological resource as defined by the Society of Vertebrate Paleontology guidelines (Society of Vertebrate Paleontology 2010), construction shall cease in an area determined by the paleontologist until a salvage, treatment, and future monitoring and management plan has been prepared, approved by the District, and implemented to the satisfaction of the paleontologist. In consultation with the paleontologist, the District will determine when construction can resume.
- E. If the District determines that the find requires further evaluation, at the direction of Engineer, the Contractor shall suspend all construction activities at the location of the find and within a larger radius, as required.

3.10 SUPPLEMENTS

- A. The following supplements follow END OF SECTION are a part of this Section:
 - 1. Drinking Water Discharge Minimum Required BMPs
 - 2. Planned Potable Water Discharge Volume & WQ Data Tracking Form

END OF SECTION

ATTACHMENT 3 – DETAILED HRA RESULTS



Maximum Cancer Risk by Pollutant at PMI, MEIR, MEIW and Sensitive Receptor EBMUD CEQA - Construction (1-Year)

| | | Point of Maximum Impact (PMI) Maximall Re | | Maximally Exp Residen | Maximally Exposed Individual Resident (MEIR) | | Sensitive Receptor | | Maximally Exposed Individual Worker (MEIW) | |
|---------------|-------------|----------------------------------------------|------------------|--------------------------|-------------------------------------------------|-----------------|--------------------|-----------------|-----------------------------------------------|--|
| Pollutant CAS | Pollutant | receptor # | 1966 | receptor # | 1 | receptor # | 1353 | receptor # | 186 | |
| I onutant CAS | Tonatant | UTM Easting (m) | UTM Northing (m) | UTM Easting (m) | UTM Northing (m) | UTM Easting (m) | UTM Northing (m) | UTM Easting (m) | UTM Northing (m) | |
| | | 562518 | 4186091 | 562607 | 4186290 | 563240 | 4185968 | 562515 | 4186068 | |
| | | 30-Year Cancer | Contribution (%) | 30-Year Cancer | Contribution (%) | 30-Year Cancer | Contribution (%) | 25-Year Cancer | Contribution (%) | |
| | | Risk | Contribution (%) | Risk | Contribution (%) | Risk | Contribution (%) | Risk | Contribution (%) | |
| - | ALL | 1.04E-04 | 100% | 6.06E-06 | 100% | 1.28E-06 | 100% | 4.91E-06 | 100% | |
| 9901 | DieselExhPM | 1.04E-04 | 100.00% | 6.06E-06 | 100.00% | 1.28E-06 | 100.00% | 4.91E-06 | 100.00% | |



Cancer Risk by Source for All Pollutants Combined at PMI, MEIR, MEIW and Sensitive Receptor EBMUD CEQA - Construction (1-Year)

| | Point of Maximum Impact (PMI) | | Maximally Exposed Individual Resident (MEIR) | | Sensitive | Receptor | Maximally Exposed Individual Worker (MEIW) | |
|---------|-------------------------------|------------------|-------------------------------------------------|------------------|-----------------|------------------|-----------------------------------------------|------------------|
| Sources | receptor # | 1966 | receptor # | 1 | receptor # | 1353 | receptor # | 186 |
| Jources | UTM Easting (m) | UTM Northing (m) | UTM Easting (m) | UTM Northing (m) | UTM Easting (m) | UTM Northing (m) | UTM Easting (m) | UTM Northing (m) |
| | 562518 | 4186091 | 562607 | 4186290 | 563240 | 4185968 | 562515 | 4186068 |
| | 30-Year Cancer | Contribution (%) | 30-Year Cancer | Contribution (%) | 30-Year Cancer | Contribution (%) | 25-Year Cancer | Contribution (%) |
| | Risk | contribution (%) | Risk | contribution (%) | Risk | Contribution (%) | Risk | Contribution (%) |
| ALL | 1.04E-04 | 100% | 6.06E-06 | 100% | 1.28E-06 | 100% | 4.91E-06 | 100% |
| OnRoad | 6.57E-09 | 0.01% | 9.62E-09 | 0.16% | 5.74E-10 | 0.04% | 4.06E-10 | 0.01% |
| OffRoad | 1.04E-04 | 99.99% | 6.05E-06 | 99.84% | 1.28E-06 | 99.95% | 4.91E-06 | 99.99% |

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Maximum Chronic Hazard Index by Pollutant at PMI, MEIR, MEIW and Sensitive Receptor EBMUD CEQA - Construction (1-Year)

| | | Point of Maxim | aximum Impact (PMI) Maximally Resi | | osed Individual t (MEIR) | Sensitive Receptor | | Maximally Exposed Individual Worker (MEIW) | | |
|----------------|-------------|-----------------|---------------------------------------|-----------------|-----------------------------|--------------------|------------------|-----------------------------------------------|------------------|---------|
| Pollutant CAS | Pollutant | receptor # | 1966 | receptor # | 1 | receptor # | 1353 | receptor # | 186 | |
| i oliutant CAS | | UTM Easting (m) | UTM Northing (m) | UTM Easting (m) | UTM Northing (m) | UTM Easting (m) | UTM Northing (m) | UTM Easting (m) | UTM Northing (m) | |
| | | | 562518 | 4186091 | 562607 | 4186290 | 563240 | 4185968 | 562515 | 4186068 |
| | | Chronic Hazard | Contribution (0() Ch | Chronic Hazard | Contribution (%) | Chronic Hazard | Contribution (%) | Chronic Hazard | Contribution (%) | |
| | | Index | Contribution (%) | Index | Contribution (%) | Index | Contribution (%) | Index | Contribution (%) | |
| - | ALL | 1.38E-01 | 100% | 8.01E-03 | 100% | 1.70E-03 | 100% | 9.06E-02 | 100% | |
| 9901 | DieselExhPM | 1.38E-01 | 100.00% | 8.01E-03 | 100.00% | 1.70E-03 | 100.00% | 9.06E-02 | 100.00% | |

Notes:

Individual pollutants are not additive because risk is based on specific target organs, which may be different per pollutant.

| Chronic Hazard Index by Source for All Pollutants Combined at PMI, MEIR, MEIW and Sensitive Receptor EBMUD CEQA - Construction (1-Year) | | | | | | | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------------------|-------------------------------------------------|------------------|-------------------------|------------------|-----------------------------------------------|------------------|--|--|--|
| | | | | | | | | | | | |
| | Point of Maxim | um Impact (PMI) | Maximally Exposed Individual Resident (MEIR) | | Sensitive Receptor | | Maximally Exposed Individual Worker (MEIW) | | | | |
| | receptor # | 1966 | receptor # | 1 | receptor # | 1353 | receptor # | 186 | | | |
| Sources | UTM Easting (m) | UTM Northing (m) | UTM Easting (m) | UTM Northing (m) | UTM Easting (m) | UTM Northing (m) | UTM Easting (m) | UTM Northing (m) | | | |
| | 562518 | 4186091 | 562607 | 4186290 | 563240 | 4185968 | 562515 | 4186068 | | | |
| | Chronic Hazard Index | Contribution (%) | Chronic Hazard Index | Contribution (%) | Chronic Hazard Index | Contribution (%) | Chronic Hazard Index | Contribution (%) | | | |
| ALL | 1.38E-01 | 100% | 8.01E-03 | 100% | 1.70E-03 | 100% | 9.06E-02 | 100% | | | |
| OnRoad | 8.69E-06 | 0.01% | 1.27E-05 | 0.16% | 7.59E-07 | 0.04% | 7.48E-06 | 0.01% | | | |
| OffRoad | 1.38E-01 | 99.99% | 8.00E-03 | 99.84% | 1.70E-03 | 99.95% | 9.05E-02 | 99.99% | | | |

Notes:

Individual sources are not additive because risk is based on specific target organs, which may be different per source.



Maximum Cancer Risk by Pollutant at PMI, MEIR, MEIW and Sensitive Receptor EBMUD CEQA - Operation (30-Year)

| | | Point of Maxim | um Impact (PMI) Maximally Expos | | osed Individual t (MEIR) | Sensitive Receptor | | Maximally Exposed Individual Worker (MEIW) | |
|---------------|-------------|-----------------|---------------------------------|-----------------|-----------------------------|--------------------|------------------|-----------------------------------------------|------------------|
| Pollutant CAS | Pollutant | receptor # | 169 | receptor # | 6 | receptor # | 1353 | receptor # | 169 |
| i onutant CAS | ronatant | UTM Easting (m) | UTM Northing (m) | UTM Easting (m) | UTM Northing (m) | UTM Easting (m) | UTM Northing (m) | UTM Easting (m) | UTM Northing (m) |
| | | 562515 | 4186043 | 562676 | 4186269 | 563240 | 4185968 | 562515 | 4186043 |
| | | 30-Year Cancer | ncer | 30-Year Cancer | 30-Year Cancer | Contribution (%) | 25-Year Cancer | Contribution (%) | |
| | | Risk | Contribution (%) | Risk | Contribution (%) | Risk | Contribution (%) | Risk | Contribution (%) |
| - | ALL | 3.37E-06 | 100% | 2.64E-07 | 100% | 5.37E-08 | 100% | 1.48E-06 | 100% |
| 9901 | DieselExhPM | 3.37E-06 | 100.00% | 2.64E-07 | 100.00% | 5.37E-08 | 100.00% | 1.48E-06 | 100.00% |



Cancer Risk by Source for All Pollutants Combined at PMI, MEIR, MEIW and Sensitive Receptor EBMUD CEQA - Operation (30-Year)

| | Point of Maximum Impact (PMI) | | Maximally Exposed Individual Resident (MEIR) | | Sensitive | Receptor | Maximally Exposed Individual Worker (MEIW) | |
|---------|-------------------------------|-------------------|-------------------------------------------------|-------------------|-----------------|-------------------|-----------------------------------------------|-------------------|
| Sources | receptor # | 169 | receptor # | 6 | receptor # | 1353 | receptor # | 169 |
| Jources | UTM Easting (m) | UTM Northing (m) | UTM Easting (m) | UTM Northing (m) | UTM Easting (m) | UTM Northing (m) | UTM Easting (m) | UTM Northing (m) |
| | 562515 | 4186043 | 562676 | 4186269 | 563240 | 4185968 | 562515 | 4186043 |
| | 30-Year Cancer | Contribution (%) | 30-Year Cancer | Contribution (%) | 30-Year Cancer | Contribution (%) | 25-Year Cancer | Contribution (%) |
| | Risk | contribution (78) | Risk | contribution (78) | Risk | contribution (78) | Risk | Contribution (78) |
| ALL | 3.37E-06 | 100% | 2.64E-07 | 100% | 5.37E-08 | 100% | 1.48E-06 | 100% |
| OnRoad | 7.94E-08 | 2.36% | 1.69E-07 | 63.84% | 9.43E-09 | 17.56% | 3.49E-08 | 2.36% |
| Engine | 3.29E-06 | 97.64% | 9.56E-08 | 36.16% | 4.43E-08 | 82.44% | 1.45E-06 | 97.64% |

1 of 2

Maximum Chronic Hazard Index by Pollutant at PMI, MEIR, MEIW and Sensitive Receptor EBMUD CEQA - Operation (30-Year)

| | | Point of Maxim | imum Impact (PMI) Maximally Resi | | osed Individual t (MEIR) | Sensitive Receptor | | Maximally Exposed Individual Worker (MEIW) | |
|---------------|-------------|-----------------|-------------------------------------|-----------------|-----------------------------|--------------------|------------------|-----------------------------------------------|------------------|
| Pollutant CAS | Pollutant | receptor # | 169 | receptor # | 6 | receptor # | 1353 | receptor # | 169 |
| | ronatant | UTM Easting (m) | UTM Northing (m) | UTM Easting (m) | UTM Northing (m) | UTM Easting (m) | UTM Northing (m) | UTM Easting (m) | UTM Northing (m) |
| | | 562515 | 4186043 | 562676 | 4186269 | 563240 | 4185968 | 562515 | 4186043 |
| | | Chronic Hazard | Contribution (%) | Chronic Hazard | Contribution (%) | Chronic Hazard | Contribution (%) | Chronic Hazard | Contribution (%) |
| | | Index | Contribution (%) | Index | Contribution (%) | Index | Contribution (%) | Index | Contribution (%) |
| - | ALL | 1.14E-03 | 100% | 8.94E-05 | 100% | 1.82E-05 | 100% | 1.14E-03 | 100% |
| 9901 | DieselExhPM | 1.14E-03 | 100.00% | 8.94E-05 | 100.00% | 1.82E-05 | 100.00% | 1.14E-03 | 100.00% |

Notes:

Individual pollutants are not additive because risk is based on specific target organs, which may be different per pollutant.

| Chronic Hazard Index by Source for All Pollutants Combined at PMI, MEIR, MEIW and Sensitive Receptor EBMUD CEQA - Operation (30-Year) | | | | | | | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------------------|-------------------------------------------------|------------------|-------------------------|------------------|-----------------------------------------------|------------------|--|--|
| | | | | | | | | | | |
| | Point of Maxim | um Impact (PMI) | Maximally Exposed Individual Resident (MEIR) | | Sensitive | Receptor | Maximally Exposed Individual Worker (MEIW) | | | |
| | receptor # | 169 | receptor # | 6 | receptor # | 1353 | receptor # | 169 | | |
| Sources | UTM Easting (m) | UTM Northing (m) | UTM Easting (m) | UTM Northing (m) | UTM Easting (m) | UTM Northing (m) | UTM Easting (m) | UTM Northing (m) | | |
| | 562515 | 4186043 | 562676 | 4186269 | 563240 | 4185968 | 562515 | 4186043 | | |
| | Chronic Hazard Index | Contribution (%) | Chronic Hazard Index | Contribution (%) | Chronic Hazard Index | Contribution (%) | Chronic Hazard Index | Contribution (%) | | |
| ALL | 1.14E-03 | 100% | 8.94E-05 | 100% | 1.82E-05 | 100% | 1.14E-03 | 100% | | |
| OnRoad | 2.68E-05 | 2.36% | 5.71E-05 | 63.84% | 3.19E-06 | 17.56% | 2.68E-05 | 2.36% | | |
| Engine | 1.11E-03 | 97.64% | 3.23E-05 | 36.16% | 1.50E-05 | 82.44% | 1.11E-03 | 97.64% | | |

Notes:

Individual sources are not additive because risk is based on specific target organs, which may be different per source.

Max total risk from all pollutants and sources at a given receptor - Construction

| Receptor | Receptor Type | Max Conc | Adj. (2 mo. peak) | Max Conc (adj.) |
|----------|---------------|----------|-------------------|-----------------|
| 1 | Resident | 4.22E-02 | 0.167 | 0.007 |
| 1353 | Sensitive | 8.89E-03 | 0.167 | 0.001 |
| 186 | Worker | 4.73E-01 | 0.167 | 0.079 |

| Residential, | Percenter Turc | Max Conc | Worker | |
|--------------|----------------|----------|----------|---------------------------|
| receptor | Receptor Type | 4 22E 02 | worker | |
| 2 | Resident | 4.22E-02 | | |
| 2 | Resident | 4.04E-02 | | |
| 1 | Resident | 3.33L-02 | | |
| 5 | Resident | 3.74L-02 | | |
| 5 | Resident | 3.04E-02 | | |
| 7 | Resident | 3.400-02 | | |
| 0 | Resident | 2 70E 02 | | |
| 0 | Resident | 3.70E-02 | | |
| 9 10 | Resident | 3.47E-02 | | |
| 10 | Resident | 2 255 02 | | |
| 12 | Resident | 3.33E-02 | | |
| 12 | Resident | 3.19E-02 | | |
| 13 | Resident | 2.03E-02 | | |
| 14 | Resident | 3.44E-02 | | |
| 15 | Resident | 3.33E-02 | | |
| 10 | Resident | 3.15E-02 | | |
| 1/ | Resident | 3.06E-02 | | |
| 18 | Resident | 2.69E-02 | | |
| 319 | Resident | 3.27E-02 | | |
| 335 | Resident | 4.01E-02 | | |
| 222 | Resident | 3.39E-02 | | |
| 337 | Resident | 3.20E-02 | | |
| 330 | Resident | 2.80E-02 | | |
| 350 | Resident | 3.37E-02 | | |
| 357 | Resident | 3.07E-02 | | |
| 300 | Resident | 2.785-02 | | |
| 309 | Resident | 2.52E-02 | | |
| 377 | Resident | 2.875-02 | | |
| 270 | Resident | 2.03E-02 | | |
| 379 | Resident | 2.44E-02 | | |
| 200 | Resident | 2.476-02 | | |
| 400 | Resident | 2.516-02 | | |
| 400 | Consitivo | 2.13E-02 | 0 005 02 | McChumonds High School |
| 1353 | Sensitive | 0.09E-03 | 0.09E-03 | Micciymonus High School |
| 130 | Worker | | 1 18F-01 | MS Commercial |
| 1/9 | Worker | | 1.10L 01 | MS Commercial |
| 154 | Worker | | 1.51E 01 | Storage Mart |
| 167 | Worker | | 1.13E 01 | Cereske Flectric Cable |
| 168 | Worker | | 2 /0F-01 | SE Enternrises |
| 169 | Worker | | 2.40E 01 | SF Enterprises |
| 186 | Worker | | / 73F-01 | SF Enterprises |
| 190 | Worker | | 1.80F-01 | Vovage Foods |
| 191 | Worker | | 1 39F-01 | Voyage Foods |
| 200 | Worker | | 1.55E 01 | Trade Winds Import Export |
| 200 | Worker | | 1.90F-01 | Vovage Foods |
| 204 | Worker | | 1 39F-01 | Voyage Foods |
| 205 | Worker | | 2 /7F-01 | Horn Barbecue |
| 210 | Worker | | 2.47E 01 | Trade Winds Import Export |
| 231 | Worker | | 1 48F-01 | 4&20 Blackhirds |
| 26/ | Worker | | 1.975-01 | Original Timber Co |
| 284 | Worker | | 1.37E-01 | Semolina Design |
| 204 | Worker | | 6.96F-02 | OCHO Candy Inc |
| 210 | worker | J | 0.90E-02 | OCHO Canuy, Inc |

Max total risk from all pollutants and sources at a given receptor - Operation

| Receptor | Receptor Type | Max Conc | Adj. (update) | Max Conc (adj.) |
|----------|---------------|----------|---------------|-----------------|
| 6 | Resident | 2.01E-03 | 1.26 | 0.0025 |
| 1353 | Sensitive | 1.80E-04 | 1.26 | 0.0002 |
| 169 | Worker | 6.43E-03 | 1.26 | 0.0081 |

| Residential, | sensitive and wo | rker recepto | rs | |
|--------------|------------------|--------------|----------|---------------------------------------|
| Receptor | Receptor Type | Max Conc | Worker | |
| 1 | Resident | 1.87E-03 | | |
| 2 | Resident | 1.89E-03 | | |
| 3 | Resident | 1.93E-03 | | |
| 4 | Resident | 1.92E-03 | | |
| 5 | Resident | 1.95E-03 | | |
| 6 | Resident | 2.01E-03 | | |
| 7 | Resident | 1.37E-03 | | |
| 8 | Resident | 1.42E-03 | | |
| 9 | Resident | 1.47E-03 | | |
| 10 | Resident | 1.41E-03 | | |
| 11 | Resident | 1.42E-03 | | |
| 12 | Resident | 1.42E-03 | | |
| 13 | Resident | 1.16E-03 | | |
| 14 | Resident | 1.05E-03 | | |
| 15 | Resident | 1.08E-03 | | |
| 16 | Resident | 1.11E-03 | | |
| 17 | Resident | 1.10E-03 | | |
| 18 | Resident | 9.60E-04 | | |
| 319 | Resident | 1.85E-03 | | |
| 335 | Resident | 1.67E-03 | | |
| 336 | Resident | 1.47E-03 | | |
| 337 | Resident | 1.28E-03 | | |
| 338 | Resident | 1.12E-03 | | |
| 356 | Resident | 1.04E-03 | | |
| 357 | Resident | 9.80E-04 | | |
| 358 | Resident | 9.00E-04 | | |
| 359 | Resident | 8.10E-04 | | |
| 377 | Resident | 7.40E-04 | | |
| 378 | Resident | 7.20E-04 | | |
| 379 | Resident | 6.80E-04 | | |
| 398 | Resident | 5.80E-04 | | |
| 399 | Resident | 5.70E-04 | | |
| 400 | Resident | 5.40E-04 | | |
| 1353 | Sensitive | 1.80E-04 | 1.80E-04 | McClymonds High School |
| | | | | i i i i i i i i i i i i i i i i i i i |
| 130 | Worker | | 1.95E-03 | MS Commercial |
| 149 | Worker | | 1.80E-03 | MS Commercial |
| 154 | Worker | | 1.79E-03 | Storage Mart |
| 167 | Worker | | 1.45E-03 | Cereske Electric Cable |
| 168 | Worker | | 2.31E-03 | SF Enterprises |
| 169 | Worker | | 6.43E-03 | SF Enterprises |
| 186 | Worker | | 2.16E-03 | SF Enterprises |
| 190 | Worker | | 1.93E-03 | Voyage Foods |
| 191 | Worker | | 1.98E-03 | Voyage Foods |
| 200 | Worker | | 1.52E-03 | Irade Winds Import Export |
| 204 | Worker | | 2.21E-03 | voyage Foods |
| 205 | worker | | 2.63E-03 | voyage Foods |
| 218 | Worker | | 2.46E-03 | Horn Barbecue |
| 231 | Worker | | 1.58E-03 | Trade Winds Import Export |
| 247 | Worker | | 2.46E-03 | 4&20 Blackbirds |
| 264 | worker | | 2.88E-03 | Original Timper Co |
| 284 | Worker | | 2.56E-03 | Semolina Design |
| 318 | Worker | l | 1.37E-03 | UCHU Candy, Inc |

ATTACHMENT 4 – WILLOW TRAFFIC ANALYSIS MEMORANDUM



TRAFFIC ANALYIS EBMUD WILLOW SERVICE CENTER 2430 WILLOW ST., OAKLAND

Prepared For: EBMUD

Prepared By: SANDIS 636 9th Street Oakland, CA 94607 (510) 873-8866 July 20, 2022

BUILD ON. |1



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|--------------------------------------|------|
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| Net Increase in trips | 8 |
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BUILD ON. | 2



Introduction

This report presents the traffic analysis prepared for the new EBMUD Willow St Service Center at 2430 Willow St in Oakland, CA.

The site is approximately 1.5+/- acres and was previously used as a paper collection and recycling facility. EBMUD will be repurposing the site into a service center which will provide support/dispatch facilities for employees to perform maintenance, repair, and construction of distribution pipelines in the area.

The new site will include a building with offices and locker rooms. The site will also include storage for construction equipment and materials, loading docks, and parking. The District estimates 49 employees will report to the new Service Center. Of these employees, 5 employees will be office staff and 44 employees will be field staff. Employees will report to the office at the start and end of the work day (approximately 7:00 AM and 4:30 PM respectively). The Service Center will be in operation 24/7 for emergency repair work, but the majority of employees will only work day-time hours. Figure 1 shows a vicinity map and Figure 2 shows the proposed site plan.

Site Access

The site is situated in the block between Willow St, 26th St, Mandela Parkway, Campbell St & 24th St. The sole site access driveway will be on Willow St as shown in Figure 2. Willow St is connected to Mandela Parkway on both sides of the site by 24th St and 26th St. Mandela Parkway will be the primary arterial roadway serving the project site. From a more regional perspective, Mandela Parkway connects to Grand Ave and Market St to provide arterial connections to several adjacent freeways including I-80, I-580, I-880, I-980, SR-24. This network of roadways will provide adequate access to the site.

Site Layout and Circulation

The site's sole driveway on Willow St will be two way and will allow for both left and right inbound traffic as well as left and right outbound traffic. A combination of different types of vehicles will enter and exit the site. Employees are expected to drive their personal vehicles to the site and park in the employee parking stalls located at the North end of the site. Service vehicles will park in the stalls on the south end of the site. There will be elongated stalls in the center of the site for vehicles with trailers to park. At the south end of the site there will be stalls in front of a loading dock for service vehicles to be loaded with materials and equipment. On the eastern edge of the site there will be additional general-purpose stalls which will be available for both service vehicle and personal vehicle use. Figure 3 identifies these areas throughout the site and shows circulation paths for both personal and service vehicles.

A circulation analysis was performed using the Autoturn software package to ensure that each type of vehicle can successfully navigate the site to the appropriate areas. The results of this analysis can be found in Appendix A of this report. No geometric issues were identified as part of this effort.

BUILD ON. 3



Figure 1: Vicinity Map





Figure 2: Site Plan





Figure 3: Site Circulation




Project Traffic Volumes

Trips for the existing site were estimated and compared to the anticipated trips from the proposed site to forecast the anticipated net increase in weekday daily trips as well as weekday AM & PM peak hour trips. The Institute of Transportation Engineers (ITE) has empirically established that on most roadways the AM peak hour occurs somewhere between 7:00AM and 9:00AM (Traditional AM peak hour window) and the PM peak hour occurs somewhere between 4:00PM to 6:00PM (Traditional PM peak hour window). Because of this, only trips occurring within these windows were assumed to impact peak hour traffic conditions along the adjacent roadways.

Existing Facility Trip Approximation

The existing facility was a recycling processing center focusing on wastepaper products.

The facility had approximately 11 employees. Employee commutes were assumed to conform to traditional commuter traffic patterns meaning that all employees arrive during the Traditional AM peak hour window and depart during the Traditional AM peak hour window.

Based on information received from the site's previous owner, it's estimated that somewhere between 39 and 47 trucks visited the site per day. For this analysis, it was assumed that 47 trucks visited the site on an average day. It was assumed that each truck visiting the site arrived and left within the same hour meaning that each visiting truck generated one inbound and one outbound trip during the same hour. Of the truck traffic, 25% was assumed to have occurred within the Traditional AM peak hour window and 25% was assumed to have occurred within the Traditional PM peak hour window with the remaining 50% occurring somewhere during the mid-day period. This is primarily based on the assumption that truck traffic for the existing facility is approximately evenly distributed throughout the day with slight increases near opening and closing times which likely fall within the AM and PM peak hours respectively. This was used as reasonable assumption in the absence of more specific empirical data about the existing facility's traffic patterns.

This equated to 24 AM and 24 PM truck trips (12 in/12 out) in addition to the previously noted employee trips.

The resulting total estimated trips for the existing site after combining both employee trips and commercial truck traffic is **35 AM Peak hour trips** and **35 PM Peak hour trips**.

Proposed Facility Trip Approximation

The proposed facility will be an EBMUD Service Center with a combination of office staff and field staff. The proposed facility will have approximately 49 employees. Of these, approximately 5 are anticipated to be office staff and 44 field staff. Employees are scheduled to arrive at the site between the 6:00 AM and 7:00 AM to begin the workday at 7:00 AM. Once the workday begins, approximately 36 service vehicles will head into the field between 7:00 AM and 8:00 AM. Similarly, at the end of the day, approximately 36 service vehicles will arrive at the site from the field. Around 20% of the vehicles will arrive between 3:30 and 4:00 (outside of the PM peak hour) and the remaining 80% will arrive sometime between 4:00 PM and 5:00PM (within the PM peak hour). At the end of the workday, employees will leave the site in their private vehicles primarily between 4:30 PM and 5:30 PM.

Because employees will arrive at the site before 7:00 AM, the AM inbound trips to the site were assumed to occur outside of the AM Peak hour. However, AM service vehicle trips out into the field from the site were assumed to occur during the AM Peak hour. This results in 36 AM Peak hour trips being generated by the site.

BUILD ON. |7



For the PM Peak hour, 20% of the returning service vehicle trip back to the site were assumed to occur before the PM peak hour. The remaining 80% of returning PM service vehicle trips along with all of the PM private vehicle trips from the site were assumed to occur within the PM peak hour. This results in 78 PM Peak hour trips being generated by the site.

The above methodology results in forecasted totals of **36 AM Peak hour trips** and **78 PM Peak hour trips**.

Net Increase in trips

To determine the net increase in trips resulting from the project, the existing facility trips were compared to the proposed facility trips.

This yields a net increase of **1 AM Peak hour trips** and **43 PM Peak hour trips**. These increases were considered to be less than significant because the combined total increase in AM and PM peak hour trips was less than 100. Because the increase in traffic is less than significant, further traffic analysis was not deemed to be necessary for this project.

The details of this trip generation can be found in Table 1.





Table 1: Trip Generation Table

| | | | Da | ily | | AM Pea | ak Hou | r | Р | M Pe | ak Hou | ır |
|-----------------------------------------|-------|-----------------------------|-------------------|-------|-------------------|--------|--------|-------|-------------------|------|--------|-------|
| Land Use | Units | Unit Type | Rate ¹ | Trips | Rate ¹ | In | Out | Total | Rate ¹ | In | Out | Total |
| Existing Facility | | | | | | | | | | | | |
| Recycling Center (Employee Commute) | 11 | Employee | 2.00 | 22 | 1.00 | 11 | 0 | 11 | 1.00 | 0 | 11 | 11 |
| Recycling Center (Service Trucks) | 47 | Trucks | 2.00 | 94 | 0.50 | 12 | 12 | 24 | 0.50 | 12 | 12 | 24 |
| Existing Facility Total | | | | 116 | | 23 | 12 | 35 | | 12 | 23 | 35 |
| | | | | | | | | | | | | |
| Proposed Facility | | | | | | | | | | | | |
| EBMUD Service Center (Employee Commute) | 49 | Employees | 2.00 | 98 | 0.00 | 0 | 0 | 0 | 1.00 | 0 | 49 | 49 |
| EBMUD Service Center (Field Visit) | 19 | Gasoline Service Vehicle | 2.00 | 38 | 1.00 | 0 | 19 | 19 | 0.8 | 15 | 0 | 15 |
| EBMUD Service Center (Field Visit) | 17 | Diesel Service Vehicle | 2.00 | 34 | 1.00 | 0 | 17 | 17 | 0.8 | 14 | 0 | 14 |
| Proposed Facility Total | | | | 170 | | 0 | 36 | 36 | | 29 | 49 | 78 |
| | | | | | | | | | | | | |
| Net Increase in trips | | | | 54 | | -23 | 24 | 1 | | 17 | 26 | 43 |

Notes:

1. Trips per unit



Summary

This report presented the traffic analysis prepared for the new EBMUD Willow St Service Center at 2430 Willow St in Oakland, CA. Several aspects of the site were analyzed including site access, site circulation and traffic volumes. There were no issues found with the geometric layout or programming of the site. The combined net increase in AM and PM peak hour trips related to the project was forecasted to be less than 100. Traffic impacts were therefore, considered to be less than significant.



BUILD ON. | 10



Appendix A - Autoturn Exhibits



BUILD ON. | 11



File: X:\P\620072\4_ENGINEERING\3_EXHIBITS\2021-11-30 TRAFFIC EXHIBITS\EX-4.dwg Date: Dec 03, 2021 - 2:39 PM



File: X: \P\620072\4_ENGINEERING\3_EXHIBITS\2021-11-30 TRAFFIC EXHIBITS\EX-4.dwg Date: Dec 03, 2021 - 2:39 PM



File: X: \P\620072\4_ENGINEERING\3_EXHIBITS\2021-11-30 TRAFFIC EXHIBITS\EX-4.dwg Date: Dec 03, 2021 - 2:39 PM



ATTACHMENT 10

EAST BAY MUNICIPAL UTILITY DISTRICT

| DATE: | April 28, 2023 |
|----------|---------------------------------------------------------------------------------------------------------|
| TO: | File |
| FROM: | Maura Bonnarens, Senior Civil Engineer |
| SUBJECT: | History of Selection of Property at 2430 Willow Street, Oakland, CA for New Central Area Service Center |

SUMMARY

In 2018, the District approved the purchase of two parcels of land in West Oakland to provide an improved service center for its critical maintenance and construction crews serving the cities of Oakland, Berkeley, Albany, and Piedmont. The attached Board Memo summarizes the action taken by the Board to approve the purchase of these properties.

DISCUSSION

East Bay Municipal Utility District (District)'s Central Area Service Center (CASC) is located at 2149 Union Street, near the intersection of West Grand and 21st Street. This service center provides support to crews performing critical maintenance and construction for the District's water pipeline infrastructure. Crews assigned to the CASC support pipeline work in the cities of Oakland, Berkeley, Piedmont, and Albany. The current CASC is not large enough to support the increasing needs for the personnel and vehicles to support the work needed to maintain and improve the District's aging infrastructure in those cities.

The CASC is adjacent to the District's Adeline Maintenance Center (AMC). AMC provides key support for District personnel, including a warehouse for parts and supplies, the shops for the technical trades, the fleet maintenance facility, offices, and training resources and venues. The District desired to acquire additional land near the AMC in order to minimize travel between any new land acquired and the AMC complex.

For some years prior to the purchase of the two parcels at the intersection of Mandela Parkway and 26th Street, the District had been exploring alternatives to expand its CASC, including acquiring additional parcels of land.

Prior to procuring the new property at 2430 Willow Street, the District investigated other parcels including: 2140 Mandela Parkway, 1255 21st Street, and 2201 Poplar Street. These are shown on the attached sheets. However, these parcels were determined to be unsuitable to meet the District's needs based on size, existing facilities already on the site, and cost.



| 1255 21ST ST, OAKLA | AND, CA 94607 😤 🔞 🕄 |
|------------------------------------------|---------------------------------------------------|
| Site Address | 1255 21ST ST OAKLAND, CA 94607 |
| Parcel No. (APN) | 5-403-1 |
| Land Use | COMMERCIAL |
| | MISCELLANEOUS COMMERCIAL |
| Building Area | 98,967 SF 1 Units |
| Lot Area | 30,040 SF (0.83 ACRES) |
| Year Built | 1948 |
| Owner (Assessor) | WEST OAKLAND ASSOCIATES LLC |
| Owner Address (Assessor) | 155 MONTGOMERY ST # 16 SAN FRANCISCO, CA 94104 |
| Total Assd. Value | \$10,544,475 |
| Last Market Sale | 8/24/01 |
| Opportunity Zone | Yes (Low-Income Community) |
| Hazards | 2/4 Present |
| Add to List | Full Property Detail V More |
| ▲ Reports | |
| Full Property Detail | View Report |
| Transaction History | View Report |
| Tax Maps | View Map |
| ∧ Ownership | |
| Owner 1 | WEST OAKLAND ASSOCIATES LLC |
| Owner 2 | |
| Owner Address | 155 MONTGOMERY ST # 16 SAN FRANCISCO, CA 94104 |
| Vesting Code | со |
| Vesting Code Desc | COMPANY/CORPORATION |
| Results at this Loca | ation 1 |





AGENDA NO.12.1-12.3MEETING DATE:December 11, 2018

TITLE ACQUISITION OF WILLOW STREET PROPERTIES

□MOTION _____ □ ORDINANCE _

RECOMMENDED ACTION

- 1. Authorize the purchase of 2430 Willow Street (Yard property) in Oakland from East Bay Holding, LLC (APN 7-579-1-10) for \$5,900,000, plus closing costs, not to exceed \$5,920,000;
- 2. Authorize the purchase of the Union Pacific Railroad (Railroad) spur property adjacent to the Yard property in Oakland (APN 7-579-4) for \$235,000 plus closing costs, not to exceed \$245,000; and
- 3. Amend the Fiscal Year 2019 budget in the total amount not to exceed \$9,665,000 for the purchase of the Yard and Railroad properties which includes \$3,500,000 to make the necessary repairs to the properties.

SUMMARY

The District's Adeline Maintenance Center (AMC) in West Oakland is a key facility that supports the District's maintenance and construction activities. The AMC facility covers 10.75 acres across three city blocks. As the District advances its Long-Term Infrastructure Investment Strategic Plan goal, additional space is needed to support the increasing pipeline maintenance and construction activities. The District identified three West Oakland properties near AMC that recently became available for purchase. Two properties are next to a main traffic artery (Mandela Parkway) with easy access to the freeway. The Yard property is a 67,267 square foot parcel with an open lot, the abandoned railroad spur property is a 6,839 square foot parcel of vacant land owned by Railroad.

A third property of interest to the District, referred to as the Warehouse property, contains a 25,000 square foot warehouse and office space. However, staff is unable to negotiate a purchase price for the Warehouse property as the owner is currently unwilling to sell. All three parcels are zoned for commercial/industrial use and meet the long-term operational needs of the District.

DISCUSSION

The District has long been exploring alternatives to expand its Central Yard at the AMC to support increasing pipeline maintenance and construction activities. Central Yard is responsible for the maintenance and construction of distribution pipelines in the cities of Oakland, Berkeley, Piedmont

| Funds Available: FY19 | Budget Code: | |
|----------------------------------------------------|--------------------------------|---------------------------------------------------|
| DEPARTMENT SUBMITTING Customer and Community Svcs. | DEPARTMENT MANAGER or DIRECTOR | APPROVED Alugunfur R. Cerro General Manager |

Contact the Office of the District Secretary with questions about completing or submitting this form.

Acquisition of Willow Street Properties December 11, 2018 Page 2

and Albany. The current Central Yard location cannot accommodate the growth of the District's pipeline construction and maintenance needs. The availability of these properties presents a unique opportunity for the District to construct a new Central Yard and expand its facilities. The new location would allow sufficient space to securely store equipment, vehicles, materials, and maximize operational efficiencies.

West Oakland is experiencing resurgence in demand for residential and industrial development. This demand has driven out heavy and light industrial users and has constrained the AMC within its existing footprint and limited the District's expansion opportunities. Purchasing these properties would provide the District with a long-term solution to its expansion needs. The Yard property is located near the AMC, has frontage on two public streets and convenient freeway access, has zoning that meets the District's use, and is fully-walled and gated for security. Purchase of the Yard and Railroad properties supports the District's Long-Term Infrastructure Investment Strategic Plan goal.

Yard Property

The owner of Yard property has agreed to a purchase price of \$5,900,000. The negotiated purchase price is within the market comparisons for the West Oakland area. The Yard property would require additional improvements to ensure the site is "ready to occupy" for District use. Improvements required include removal of existing structures, repaving, and reinforcement of sections of the perimeter wall. These improvements are anticipated to cost an additional \$3,500,000. Therefore, the total cost for the Yard property with improvements is estimated at \$9,400,000 plus closing costs. The District will complete the improvements to the property after the close of escrow.

Railroad Spur Property

The railroad spur property is owned by the Railroad. The property wraps around the southern portion of the Yard property and has been abandoned by the Railroad. The Railroad agreed to a purchase price of \$235,000 plus closing costs. This property offers additional needed parking.

Warehouse Property

Based on recent comparable sales in the West Oakland area, staff is expecting the Warehouse property to have an estimated value of \$4,600,000. However, staff is unable to negotiate a purchase price as the owner is currently unwilling to sell. Since the Yard property could meet the District's current operational needs, staff will focus on completing the transactions with the Yard property and the railroad spur. If the District is able to reach an agreement on an acceptable purchase price with the Warehouse property owner, staff will request Board authority for the purchase in a future Board meeting.

Acquisition of Willow Street Properties December 11, 2018 Page 3

SUSTAINABILITY

Economic

The new costs totaling \$9,665,000 for the proposed acquisitions are expected to be funded from the general fund. The purchase of these properties provides a cost-effective long-term solution for expanding the AMC facilities. Funds to purchase these properties were not specifically included in the FY19 budget. The property improvements could be paid through capital contingency without an amendment to the budget. However, as it is still relatively early in the fiscal year, it is recommended that the purchase and improvements be paid through a budget amendment. There will be no rate impact as a result of approval of these actions.

Social

These properties will support the District's growing infrastructure investment. In addition, these properties are ideally located to minimize impacts to the neighborhood and the surrounding area.

Environmental

These properties will support the District's pipeline maintenance and construction activities, which over the long-term, will reduce the District's water loss and main break rate.

ALTERNATIVE

Do not execute or pursue the purchases. This alternative is not recommended as purchasing these properties will increase operational efficiencies and provide space needed to support the District's growing maintenance and construction activities.

Attachment

I:\SEC\2018 Board Related Items\Committee 2018\2018_planning ctte\CCS BD-1 Acquisition of Willow Street Properties

Willow Street Properties

Attachment



PROP 162 • 12/2018

Draft Prepared By Office of General Couns

RESOLUTION NO.

AUTHORIZING THE ACQUISITION OF REAL PROPERTY IN OAKLAND IN ALAMEDA COUNTY, CALIFORNIA AND AMENDING THE FISCAL YEAR 2019 CAPITAL BUDGET TO APPROPRIATE FOR EXPENDITURE AN ADDITIONAL \$9,665,000

Introduced by Director

; Seconded by Director

WHEREAS, East Bay Holding, LLC owns a 67,267 square foot parcel with an open lot at 2430 Willow Street in Oakland, Alameda County, California, as more particularly shown on Exhibit A, attached hereto (Yard Property); and

WHEREAS, Union Pacific Railroad owns a 6,839 square foot parcel of vacant land adjacent to the Yard Property in Oakland, Alameda County, California, as more particularly shown on Exhibit A, attached hereto (Railroad Property); and

WHEREAS, the East Bay Municipal Utility District's (District) Adeline Maintenance Center (AMC) in West Oakland covers 10.75 acres across three city blocks and includes the District's Central Yard, which is a key facility in supporting the District's maintenance and construction activities in the cities of Oakland, Berkeley, Piedmont and Albany; and

WHEREAS, as the District advances its Long-Term Infrastructure Investment goals, the current Central Yard location cannot accommodate the growth of the District's pipeline construction and maintenance needs, and additional space in the vicinity of the AMC is needed to support the District's increasing pipeline maintenance and construction activities; and

WHEREAS, the Yard Property and the Railroad Property are located near AMC, have frontage on two public streets, have convenient access to the freeway, are zoned for commercial/industrial use consistent with the District's needs and are fully-walled and gated for security; and

WHEREAS, acquisition of the Yard Property and the Railroad Property will allow the District to plan and construct a new Central Yard in order to expand the District's facilities to allow sufficient space to securely store equipment, vehicles, materials and maximize operational efficiencies; and

WHEREAS, in December 2018 the District presented an offer for the Yard Property in the amount of \$5,900,000 plus closing costs of up to \$20,000 to East Bay Holding, LLC; and

WHEREAS, the District's offer was accepted by East Bay Holding, LLC, the offer and acceptance being contingent on the approval of the District's Board of Directors; and

WHEREAS, in December 2018 the District presented an offer for the Railroad Property in the amount of \$235,000 plus closing costs of up to \$10,000 to Union Pacific Railroad, and the offer was accepted, the offer and acceptance being contingent on the approval of the District's Board of Directors; and

WHEREAS, upon acquisition of the Yard Property from East Bay Holding, LLC, the District will need to complete certain cleanup of and repairs to the site in order to utilize it, in an estimated amount not to exceed \$3,500,000; and

WHEREAS, the Fiscal Year 2019 Capital Budget must be amended to appropriate an expenditure for the two properties and the cleanup to and repair of the Yard Property in the amount of an additional \$9,665,000;

NOW, THEREFORE, BE IT RESOLVED that upon conveyance of the Yard Property to the District in a form approved by the General Counsel, the proper officials of the District are hereby authorized and directed to issue payment to East Bay Holding, LLC for the Yard Property in the amount of \$5,900,000 plus closing costs, according to the terms of a purchase agreement between the District and East Bay Holding, LLC.

BE IT FURTHER RESOLVED that upon conveyance of the Railroad Property to the District in a form approved by the General Counsel, the proper officials of the District are hereby authorized and directed to issue payment to Union Pacific Railroad for the Railroad Property in the amount of \$235,000 plus closing costs.

BE IT FURTHER RESOLVED that the Manager of Real Estate Services and the Secretary of the District are authorized to execute any and all documents, in a form approved by the General Counsel, prior to, in or after escrow, necessary or appropriate to the close of these transactions.

BE IT FURTHER RESOLVED that the District will not approve or consider approving any project for the expansion of the Central Yard, including any future use of the two properties, until it has complied with the California Environmental Quality Act (CEQA). The District retains absolute discretion to modify such a project as may be necessary to comply with CEQA, require mitigation measures and/or pursue other feasible alternatives to avoid significant environmental impacts associated with the project, balance project benefits against any significant environmental impacts prior to taking any project approval action, and/or determine not to proceed with the project.

BE IT FURTHER RESOLVED that the Capital Budget for the Water System for Fiscal Year

2019 is hereby amended so as to appropriate an expenditure in the amount of \$9,665,000 for the purchase, cleanup and repair of the two properties.

ADOPTED this 11th day of December, 2018 by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

President

ATTEST:

Secretary

APPROVED AS TO FORM AND PROCEDURE:

General Counsel

{00033238;1}







side of the street (see Illustration I-4b); however, the Director of City Planning may make an alternative determination of immediate context based on specific site conditions. Such determination shall be in writing and included as part of any decision on any variance.

N/A





DALZIEL BUILDING • 250 FRANK H. OGAWA PLAZA • SUITE 3315 • OAKLAND, CALIFORNIA 94612

Planning and Building Department Bureau of Planning (510) 238-3941 FAX (510) 238-6538 TDD (510) 238-3254

Sent via U.S. Mail and Electronic Mail

February , 2019

Agnes Wan, EBMUD 375 11TH Street Oakland. CA 94607

RE: Case File No. DET190010; 2430 Willow Street; APN: 7-579-1-10

Dear Ms. Wan,

You have submitted a request for a formal Determination from the Zoning Manager regarding permitted use for a 1.54-acre service yard for staff and equipment at 2430 Willow Street.

Current zone on the property:

• CIX-1C West Oakland Plan Area Commercial Industrial Mix - 1C Industrial Zone (High Intensity Business).

Abutting zoning districts:

- CIX-1A
- CIX-1C

Overlay Districts:

• S-19 Health and Safety Protection Combining Zone

Records on File:

• CM96004 -Major CUP to establish a large paper recycling collection center (Extensive Impact Civic Activity) in the M-30 General Industrial Zone.

| Code Section | Activity | Facility | | |
|--------------|------------------------|-------------------------|--|--|
| 17.10.240 | Extensive Impact Civic | | | |
| 17.10.720 | | Enclosed Nonresidential | | |
| 17.10.730 | | Open Nonresidential | | |

Truck Yard Use Classification with office work:

A truck yard is an Extensive Impact Activity in the CIX-1C zone. Such activity is permitted only upon the granting of a conditional use permit per section 17.73.020. Both enclosed and open nonresidential facilities are permitted in the CIX-1C zone.

The proposed project will be subject to:

- A Design Review
- Conditional Use Permit for Extensive Impact Activity. The previous Conditional Use Permit cannot be grandfathered because your proposed activity is significantly different than the prior activity.
- A Major Conditional Use Permit for project over 1 acre. This means the proposal will require approval from the Planning Commission.

The perimeter wall can be demolished and rebuilt to existing height of 22'-0". There is no height requirement for fences in an industrial zone unless the property is adjacent to a residential zone.

Staff has attached the required applications for a Conditional Use Permit. If you choose to move forward, please also include a detailed description of the project, including any activities that may result in traffic, noise, air quality, or other impacts.

If you have further questions regarding this matter, please contact Eva Wu, Planner II at (510) 238-3785 or ewu@oaklandca.gov

Sincerely,

Robert D. M kamp Zoning Manager

CC:

Attachments:

- A. Basic Application
- B. Supplemental Questionnaire
- C. Justification for granting non-residential design review
- D. Stormwater supplemental form
- E. CIX zone planning code
- F. Conditional use permit findings